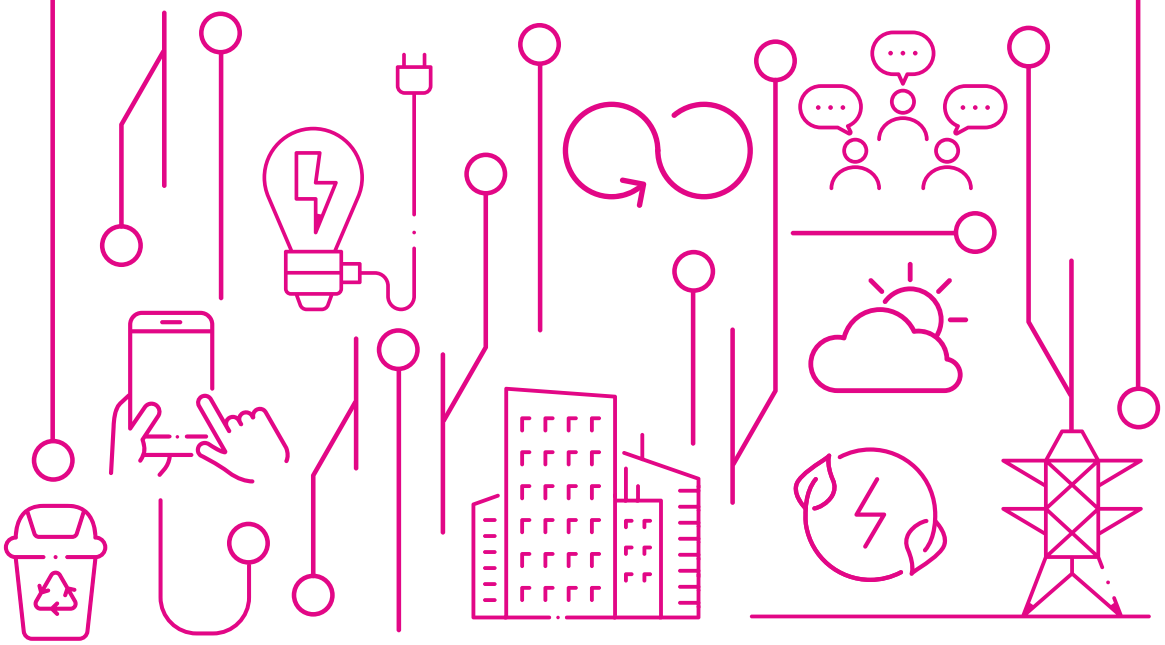
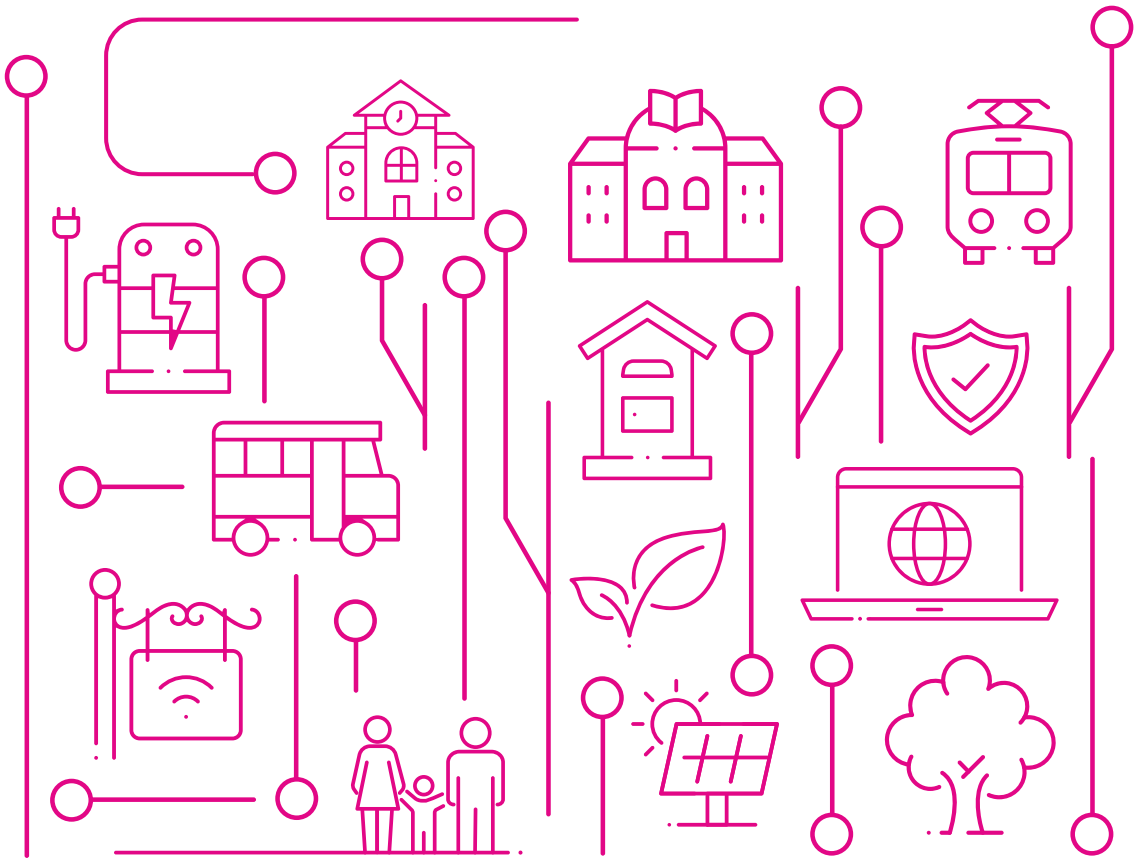
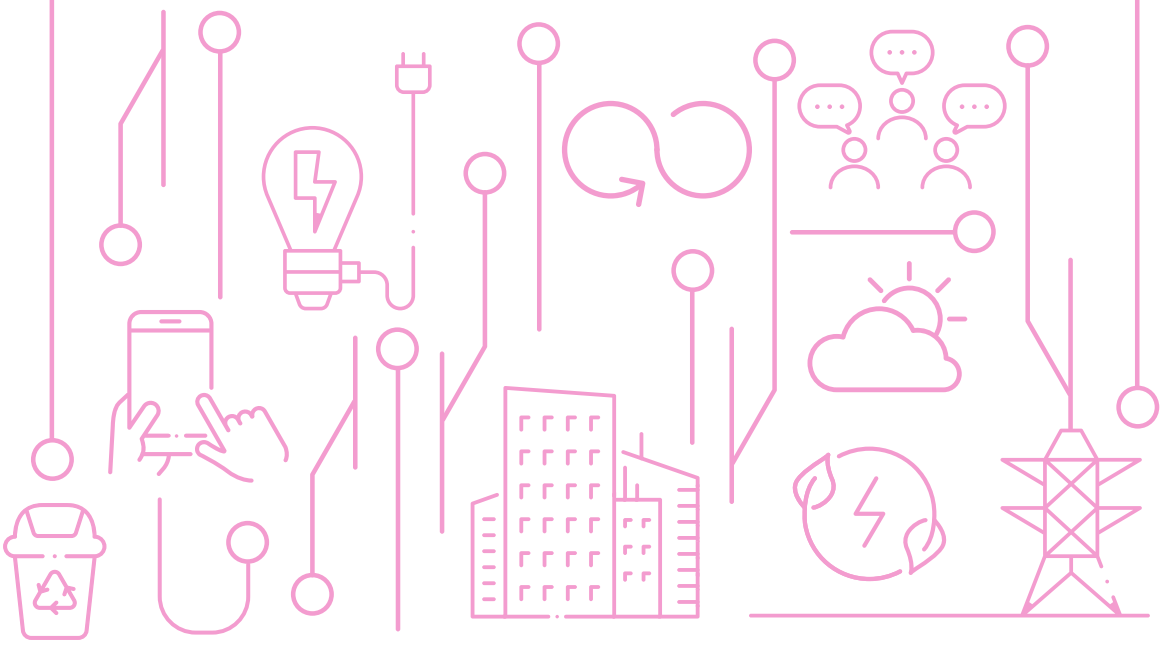


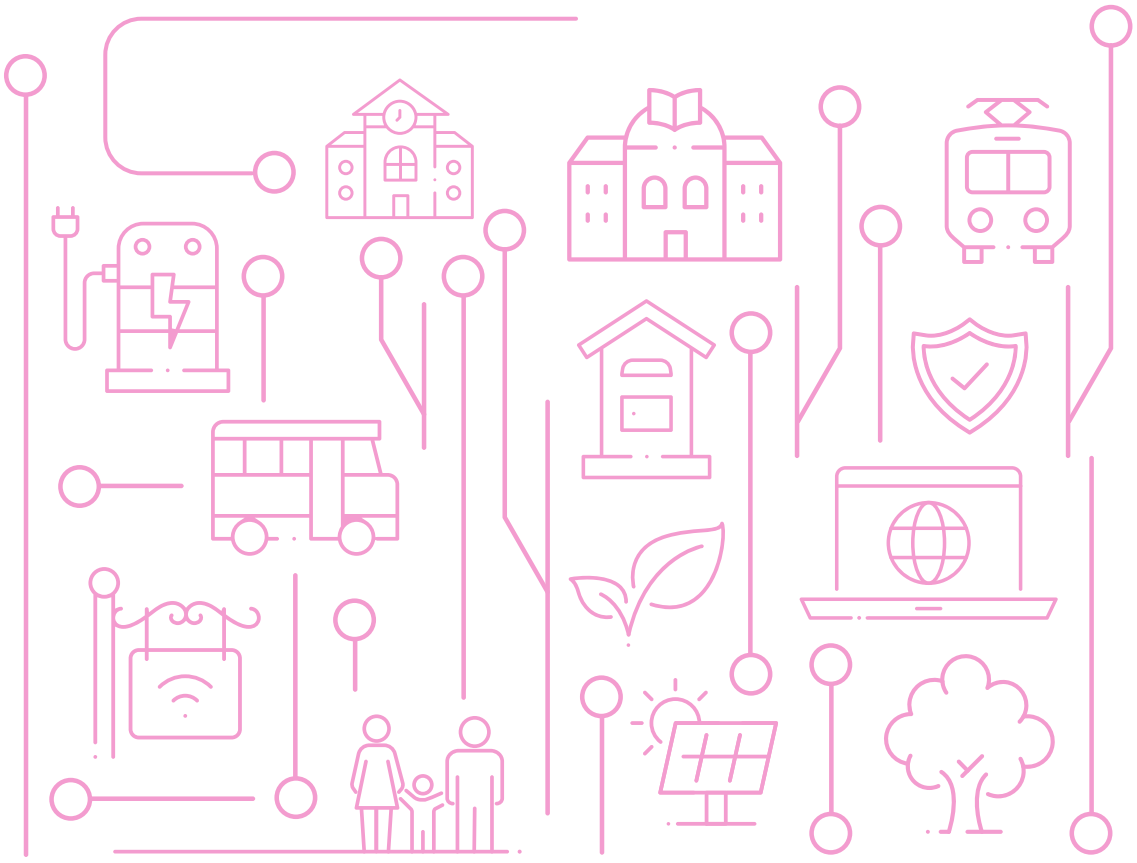
SUSTAINABILITY REPORT 20**24**



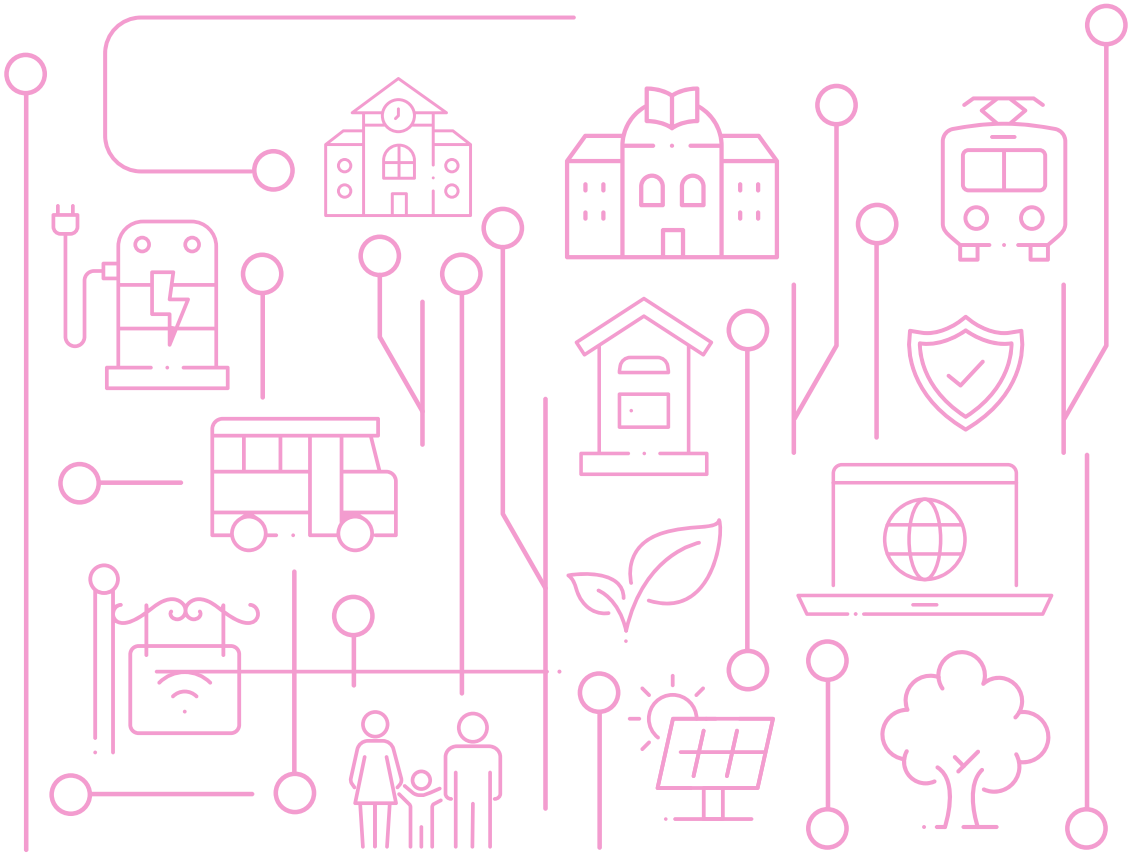
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SUSTAINABILITY REPORT 20**24**



open fiber



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LETTER TO THE **STAKEHOLDERS**

As regards the closely related issues of ecological and digital transition, the global scenario is evolving. Open Fiber, a company that since its establishment has decided to focus on FTTH optical fiber, creating a network that is intrinsically sustainable due to its reduced impact and the positive effects on the communities and areas where it operates, in 2024 continued to develop its plan aimed at the digital and therefore social development of the country, creating value to be shared with all its stakeholders. Open Fiber's TLC infrastructure is sustainable in all respects, the environmental, the economic and the social one, ensuring energy savings and lower CO_2 emissions, thus contributing to bridging the digital divide in Italy and to generating a level playing field between city dwellers and the people living in the more isolated internal areas.

At the end of 2024, Open Fiber had connected 18.7 million households in large and medium-sized cities, where it operates with a private investment, and in rural areas and industrial districts, where it operates as a public concessionaire respectively with the plans "Ultra Broadband" (*Banda Ultra Larga*, BUL) and "*Italia a 1 Giga*". The BUL plan, in particular, is approaching its conclusion, with a completion rate of over 90%, while in the areas of the plan Italia a 1 Giga, covered by PNRR (National Recovery and Resilience Plan, *Piano Nazionale di Ripresa e Resilienza*) funds, activities are continuing with the aim of completing the infrastructure by mid-2026.

During the year, Open Fiber approved its first Sustainability Plan, a document implementing the sustainability strategy by integrating ESG commitments into the company's business and responding to current and future environmental challenges and social needs. For the first time, all of Open Fiber's actions in the field of sustainability have been brought together in a comprehensive Plan that outlines objectives and timelines for their achievement: from the fight against climate change, to the protection and development of human capital, from the issues of Diversity, Equity & Inclusion, to Governance systems and responsible communication.

In 2024, Open Fiber reached important milestones such as its participation in the UN Global Compact, an initiative aimed at promoting a more inclusive and sustainable global economy, and in the Open-es platform, as Value Chain Leader Partner, a digital alliance supporting the sustainable development of all companies, from SMEs to large players.
Its commitment to decarbonisation is unwavering, as confirmed by the purchase of 100% of electricity from renewable sources also in 2024, as well as by the implementation of the Beyond Value Chain Mitigation strategy defined within the company's Net Zero Plan for the offsetting of residual Scope 1 and 2 emissions through the purchase of carbon credits aimed at financing climate action.
An essential factor in achieving these results is the company's culture in relation to ESG topics, which was further strengthened during the year through the provision of dedicated training courses, such as those on stakeholder engagement and sustainable procurement.
This was also a busy year in terms of technological development: in partnership with Nokia, Open Fiber was the first wholesale only operator in Europe and the first TLC operator in Italy to test the record speed of a fiber optic connection, reaching up to 100 Gbps. The collaboration signed with Namex will allow the enhancement of network infrastructures throughout the country, with particular attention to the periphery of the network (Edge Networking). The goal is to ensure more effective and faster communication





between the various operators at the edge of the network, with significant benefits in terms of reduced latency and improved quality of service. The results of project MEGLIO, launched by Open Fiber with INRiM and INGV to use optical fiber as a sensor for detecting seismic waves, were published by the Nature group, the publisher of some of the most prestigious journals in the international scientific community, as recognition of their scientific value. Open Fiber is also pursuing its commitment to RESTART, an R&D programme involving academic and industrial partners in experiments on Quantum Key Distribution, edge computing, fiber sensing and smart grids.
The focus on people remains central, as demonstrated by the maintenance of the certifications for Gender Equality according to the UNI/PdR 125:2022 standard and for Health and Safety Management according to the ISO 45001 standard, as well as by the awarding of recognitions such as Top Employer and Great Place to Work.

While the availability of VHCN (Very High Capacity Network) networks in Italy is increasing more and more, the next step on the path towards the completion of the digitalisation process in the country - which has so far attracted a large amount of public and private investment - is the use of these networks, a transition that will have a concrete impact on the sustainability of the country's economic system. For this reason, Open Fiber is working with institutions, local administrations and operators to build pathways that allow for an ever-increasing migration of users from the old copper networks to the new fiber networks, to seize all the opportunities offered by the new digital services for which Open Fiber is an enabling platform.

Paolo Ciocca
Chairman

Giuseppe Gola
Chief Executive Officer and General Manager

2024

HIGHLIGHTS

18.7 Millions
Households Passed
(FTTH and FWA)

Open Fiber
is the Main
FTTH Operator
in Italy

Over
140,000 km
of fiber optics
infrastructure
realised

Over
300 client **operators**

240 large and medium-sized
municipalities
being marketed

Over **6,600**
small municipalities
being marketed

Best in Media Communication
Certification obtained
for the **fifth year** in a row

Maintenance of the
QHSE system certifications
(ISO 9001, ISO 14001, ISO 45001)

Training courses on
sustainability and **sustainable procurement** were provided

WE SUPPORT
UN GLOBAL COMPACT

Participation of Open Fiber in the
UN Global Compact

Participation in
Open-es
as a
Value Chain Leader Partner

Research and innovation through the
RESTART programme
(Pesco, Net4Future,
Sensing Net,
Graphics, Telesmeg)

5G Fréjus inception
study project
first European funded
project involving Open Fiber

EcoVadis
platinum medal
rating obtained

Validation by
Science Based
Targets initiative (SBTi)
of the emission reduction targets

Approval of the
first Sustainability Plan

Obtainment of
GHG inventory
certification (ISO 14064) 2023
and CDP rating

Offsetting of 2023
scope 1 and 2
emissions through
the purchase
of carbon credits

100% electricity
bought
by Open Fiber derives
from renewable sources

Maintenance of energy
management system certification
(ISO 50001)

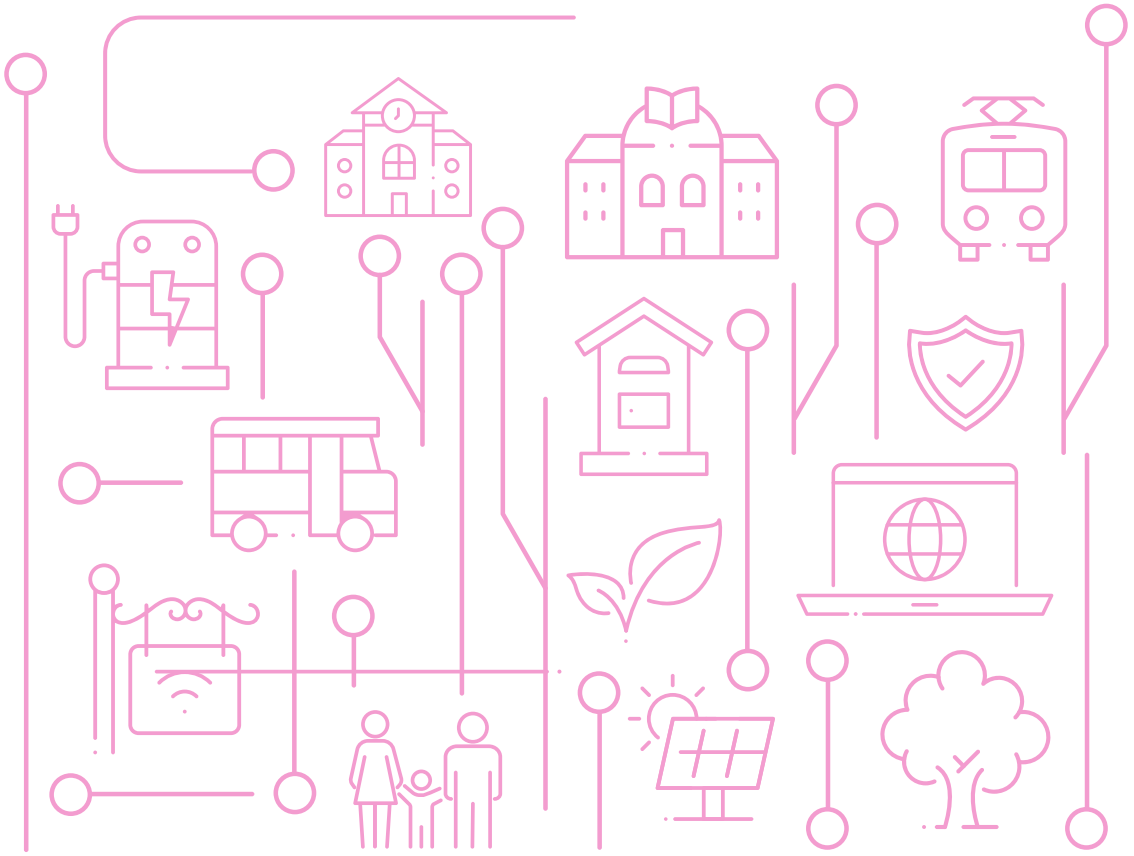
Top Employers and
Great Place To Work
certifications

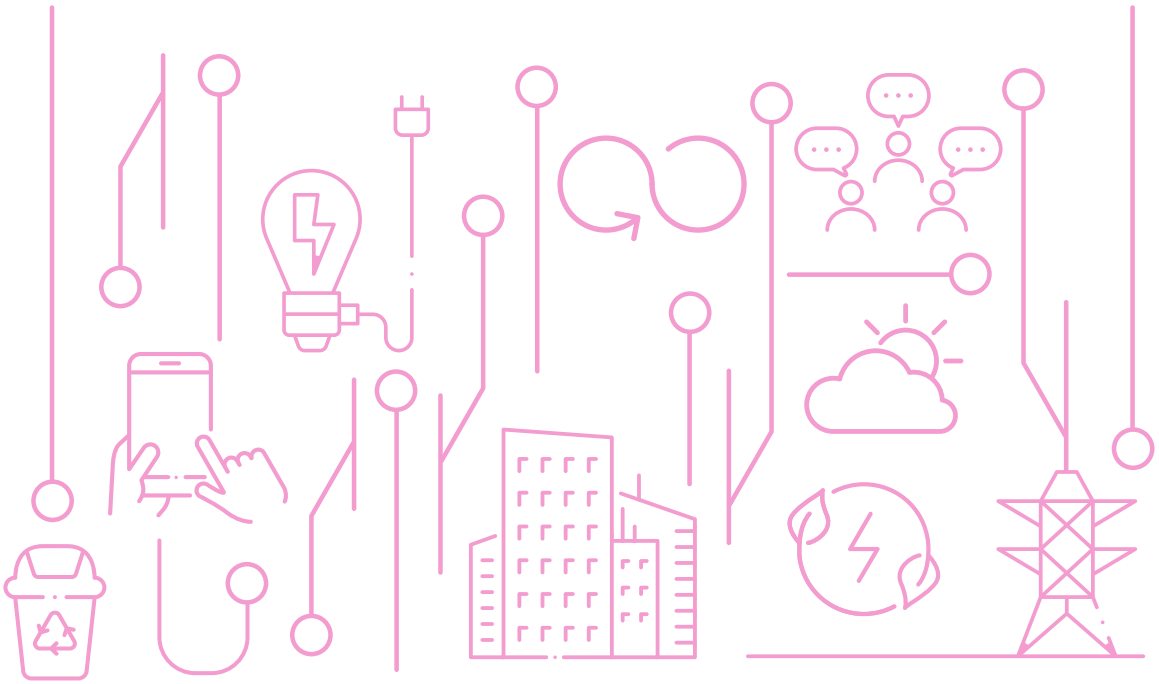
+26,500 hours
of training within HSE
Open Fiber and
Open Fiber Network Solutions

Maintenance of
Gender Equality
Certification
(UNI/PdR 125:2022)

+4% Open Fiber
employees

Around 34% of Open Fiber
workforce are women





ENABLING SUSTAINABLE **FUTURE**

OPEN FIBER STRATEGY

Since its establishment, Open Fiber has followed a clear and well-defined path. Its entire strategy is planned out on a daily basis to generate value shared with its stakeholders, respond to environmental challenges and social needs of the present and future, and position Italy among the most technologically advanced countries. Thanks to the use of cutting-edge, high-performance and environmentally sustainable infrastructures, the Company contributes to reduce the digital divide, promoting fair, widespread and high-quality access to the web. Its work is not limited to mere technological innovation, but extends to the creation and widespread diffusion of an inclusive digital ecosystem, capable of promoting the economic, social and cultural growth of the country.

Bridging the digital divide in the national landscape is a social mission and a challenge that Open Fiber faces every day, deploying all available resources. From large metropolitan cities to small villages, the Company works to connect the whole country with its large-scale project of inclusivity throughout the Italian territory, pursuing its **purpose** of contributing to improve the quality of life of individuals, families, businesses and workers, thanks to a cutting-edge, safe and reliable network infrastructure, fully respecting the environment and free competition.

Optical fiber is a powerful tool for reducing inequalities, guaranteeing a more equitable distribution of opportunities and promoting a sustainable digital transformation, respecting the environment and the people. From this point of view, Open Fiber actively contributes to the achievement of the **Sustainable Development Goals (SDGs)**, defined in 2015 by the United Nations in the 2030 Agenda.

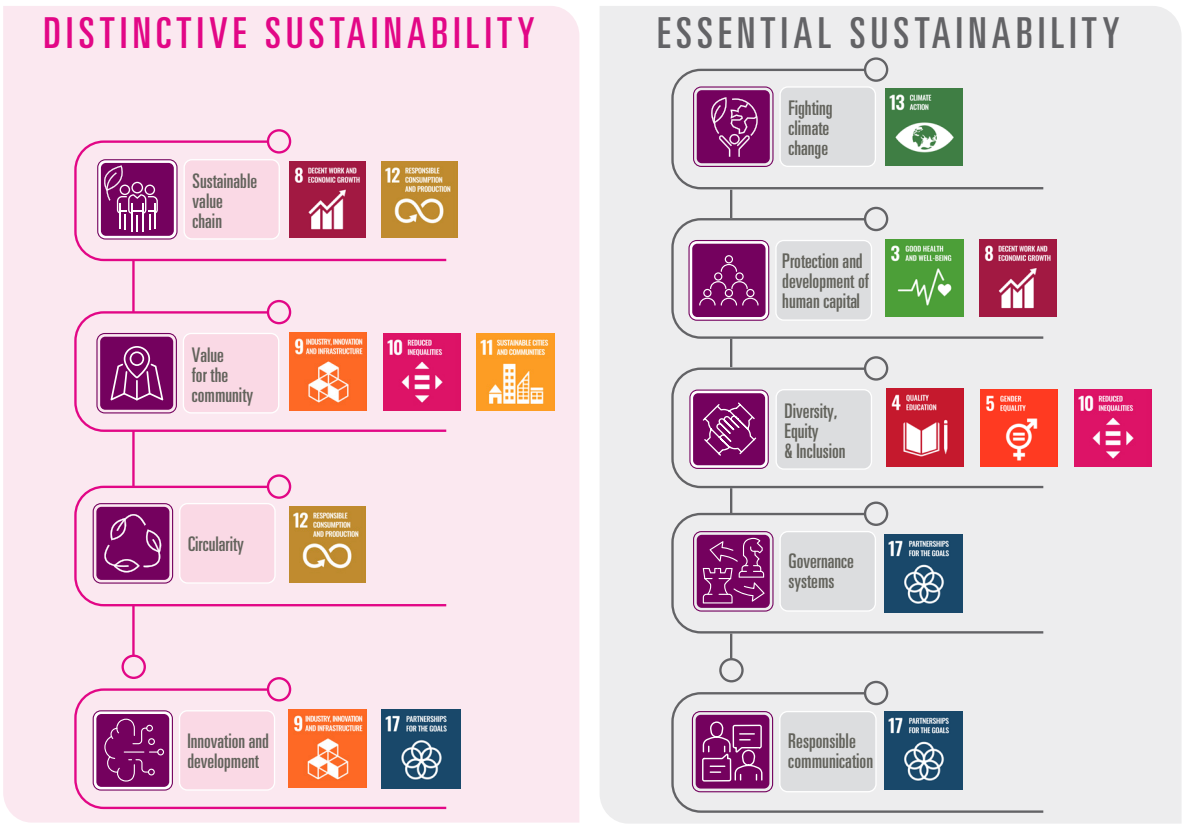
It is not only the widespread network created in just a few years, but also the quest for innovation and ongoing development, with the aim of progressively reducing its negative impacts and creating a business able to contribute positively and concretely to sustainable growth: these are the strengths on which the Company's operations are based for the sustainable digital development of the entire country.

That is why the Company's **Sustainability Strategy** has been boosted, by identifying the real pillars upon which to build its medium and long-term commitment[1], split into two areas of action that represent the concept of sustainability for Open Fiber: **essential sustainability** - i.e. the issues on which private and public organisations, regardless of sector, are universally committed - and **distinctive sustainability** - i.e. issues that characterise not only organisations operating in the TLC sector, but that can differentiate Open Fiber's commitment to conducting a sustainable business. Each pillar, concrete and ambitious, is aimed at creating added value and fully integrating sustainability into the way the business is run. The foundations of Open Fiber's Sustainability Strategy are based on the following values:

1. **Fighting climate change:** devising a long-term decarbonisation strategy starting from mapping the emissions of the value chain and defining a path for reducing direct and indirect emissions.
2. **Protection and development of human capital:** guaranteeing the well-being and safety of people, enhancing the talent of human capital and individual skills and ensuring the personal and professional development of its resources.
3. **Diversity, Equity & Inclusion**: strengthening programmes dedicated to valuing the uniqueness and differences that distinguish people, guaranteeing equal opportunities and reinforcing an inclusive culture in line with company values.

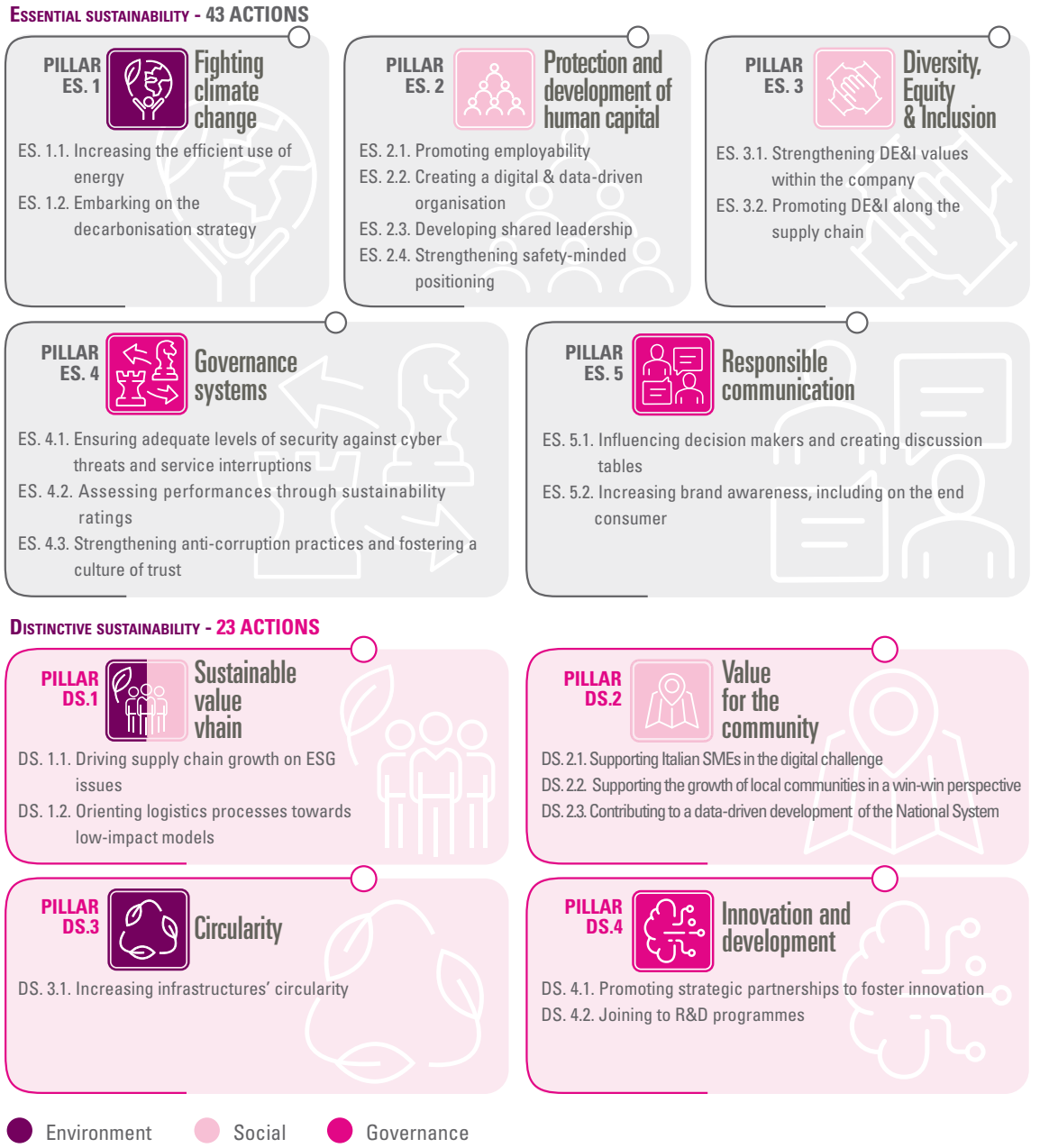
1 The sustainability strategy pillars were validated by the Sustainability Committee in January 2023 and approved by the Board of Directors as part of the 2022 Sustainability Report.

FIGURE 1: SUSTAINABILITY STRATEGY PILLARS



4. **Governance systems:** increasing oversight in the management of relevant ESG issues, renewing its commitment to adopt policies and practices that reflect the company's mission, vision and values with the aim of preserving and increasing value for its stakeholders, maintaining trust in the territory and guaranteeing environmental, social and economic sustainability.
5. **Responsible communication:** maintaining an ongoing dialogue with stakeholders, communicating the results achieved and the commitments made in a responsible manner, and conveying the Company's brand identity in an effective, clear and transparent way.
6. **Sustainable value chain:** devising a sustainable value chain model, increasing the awareness of the players involved on ESG issues and involving the entire supply chain in the adoption of the highest standards of quality and environmental and social responsibility.
7. **Value for the community:** supporting the country in its digitalisation process and in overcoming the digital divide, strengthening stakeholder engagement programmes and creating value for the communities where we operate in order to respond to the social needs of the territory.
8. **Circularity:** devising a resource management strategy to increase infrastructure sustainability, developing business models that respond to the challenges of the circular economy.
9. **Innovation and development:** continuously investing in research with the aim of providing constant technological innovation, establishing collaborations with leading companies in the sector, focusing on cutting-edge techniques and technologies and identifying solutions that guarantee a high-performance network infrastructure.

FIGURE 2: SUSTAINABILITY PLAN OVERVIEW



FROM THE STRATEGY TO THE SUSTAINABILITY PLAN

Starting from the Sustainability Strategy pillars, during 2024 Open Fiber defined a structured ESG planning process that was formalised within the company's **first Sustainability Plan**, issued in September 2024.

The Sustainability Plan, validated by the Sustainability Committee and approved by the Board of Directors, is developed within the **time horizon of the business plan** and identifies a set of **sustainability objectives** related to the pillars of the Strategy that outline the organisation's course of action. In order to make the Sustainability Plan a solid **tool for planning, measuring and monitoring**, **specific actions** have been identified for each objective, accompanied by **KPIs**, **qualitative and quantitative**

PARTICIPATION IN THE UNITED NATIONS GLOBAL COMPACT - UNGC

In 2024, **Open Fiber** joined **the United Nations Global Compact**, a voluntary initiative that invites companies based all over the world to align their strategies and activities with ten principles universally recognised in the areas of human rights, labour, environment and anti-corruption, and to act in support of the Sustainable Development Goals (SDGs).
With this step, the company officially becomes part of the **global network of over 20,000 companies**, based in over 160 countries, and **more than 60 Global Compact Networks** that are committed to implement universal sustainability principles and adopt measures in support of the United Nations' goals.

ESG CERTIFICATION

At the beginning of 2023, Open Fiber was the first company in Italy to obtain the **ESG certification** (Environmental, Social, Governance). This is a non-accredited standard developed by SGS - world leader in inspection, verification, analysis and certification services - to evaluate the management of environmental, social and governance aspects within an organisation. The certificate is issued to an organisation that meets criteria that summarise the requirements of ESG best practices and the most widespread sustainability standards.
This important recognition came after a careful analysis of the policies and practices implemented by Open Fiber and, in addition to confirming the commitment made in recent years in the field of sustainability, has allowed the Company to develop consolidated and verifiable internal processes, with a view to continuous improvement to achieve its ESG objectives and to progressively enhance performance.
Confirming the **responsible management of sustainability topics**, in 2025 Open Fiber once again passed the appropriate third-party audits, thus maintaining ESG certification.

targets, **timing**, **expenditure forecasts** and a clear attribution of **responsibilities** within the organisation, as well as **direct and indirect impacts** produced by the action itself.
The document includes:

- **9 pillars** of which 4 relate to distinctive sustainability and 5 to essential sustainability;
- **21 objectives** of which 8 relate to distinctive sustainability and 13 to essential sustainability;
- **66 actions** of which 43 relate to distinctive sustainability and 23 to essential sustainability.

The Sustainability Plan is reviewed and updated once a year in order to ensure its constant adherence to the business evolutions and the business plan.



ESG RATING - GRESB INFRASTRUCTURE ASSET ASSESSMENT

In 2023, Open Fiber signed up, for the first year, to the international Assessment developed by the independent organisation GRESB (Global Real Estate Sustainability Benchmark) with the aim of evaluating its ESG performance and management processes. This benchmarking tool provides an evaluation based on information and data that is useful for comparing ESG performance worldwide, identifying areas for improvement, and attracting and engaging investors. Compared to its peer group, Open Fiber scored above average.
Also in 2024, the second year of the rating, Open Fiber confirmed its position **above the average score of its peer group** and also of all participants.

2024 ESG RATING - ECOVADIS

In 2024, for the first year, Open Fiber joined **EcoVadis**, the ESG vendor rating platform that has developed an assessment aimed at evaluating performance in four areas: environment, ethics, labour practices and human rights, sustainable procurement. Open Fiber obtained the **platinum medal**, ranking among the **top 1% of companies** in the areas of assessment.

ESG RATING - OPEN-ES

At the end of 2023, Open Fiber joined Open-es as a Value Chain Leader Partner with the aim of promoting the sustainability of its supply chain and understanding the extent to which the values of its business are integrated into it. Furthermore, in line with the spirit of collaboration and transparency promoted by the alliance, it measured its sustainability performance obtaining a **sustainability score of 89/100**, also validated by the certification body RINA.

ESG RATING - CDP

CDP (formerly Carbon Disclosure Project) is an international non-profit organisation that offers a system for measuring, understanding and improving the environmental impact of investors, companies and local authorities through four programmes: Climate Change Programme, Water Programme, Forests Programme and Supply Chain Programme. In 2024, Open Fiber completed the **CDP Climate Change** questionnaire for the first time, obtaining a "**B**", the highest score for the Management level.

SUSTAINABILITY POLICY

Open Fiber's Sustainability Policy, a fundamental pillar for the creation of a corporate culture focused on sustainability topics and for the active involvement of stakeholders, aims to translate the company's *mission statement* into **seven commitments** that reflect the company's values, the ethical and social principles stated in the Code of Ethics, the fundamental principles of the Global Compact and the Sustainable Development Goals of the United Nations 2030 Agenda.

1) **We are committed to connect the country to bridge the digital divide**, building a world in which new fiber optic technology can improve people's lives and represent an engine of change and economic, social and cultural development for the country.
2) **We value our human capital and support fair and inclusive** work practices, striving to create a unique environment in which everyone can express their skills and talent, condemning any form of discrimination and promoting fairness and equal opportunities right from the selection phase.
3) **We protect the environment and the territory where we operate**, investing in technologies that respect it, spreading an infrastructure that, by its nature, is highly performing and eco-sustainable and working with partners and suppliers to improve the impacts of activities as a precautionary measure and with a view to the "life cycle".
4) **We promote occupational health and safety** through the adoption of responsible behaviour by all those who, in any capacity, collaborate in pursuing the company's objectives, committing ourselves to spreading and consolidating the culture of health and safety.
5) **We offer a safe and reliable infrastructure**, respecting free competition by offering access to fair and non-discriminatory conditions to all interested parties.
6) **We believe in the values of ethics and integrity**, which are fundamental elements of our daily actions. We operate in compliance with current legislation and international conventions on the subject, through incisive, concrete and transparent practices.
7) **We respect universally recognised human rights**, condemning any form of violation and promoting best practices throughout the value chain.

THE EVOLUTION OF DOUBLE MATERIALITY

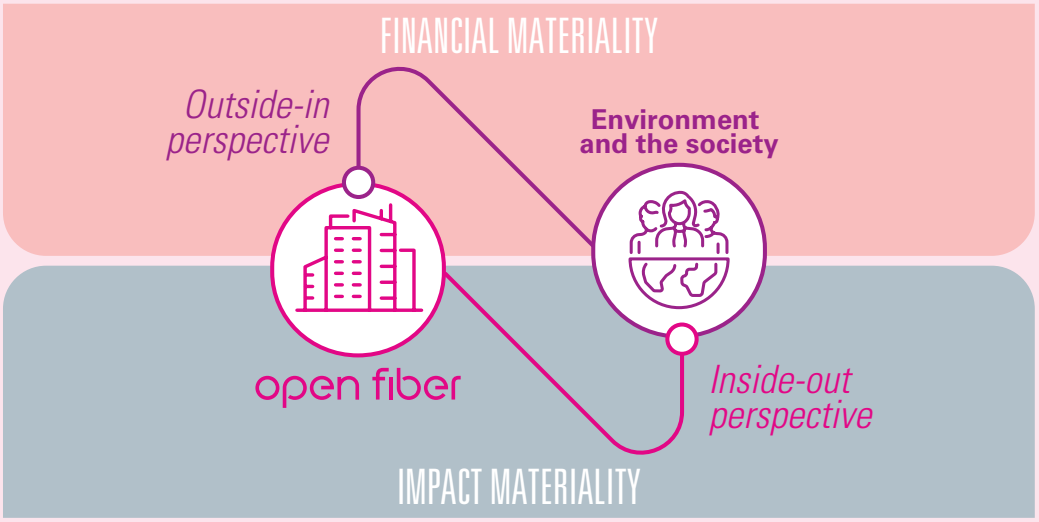
The Sustainability Report provides a snapshot of the Company, not only with regard to its economic situation, but also, and above all, the impact of its activities on the local areas, the environment and the communities. Since 2021, Open Fiber has chosen to voluntarily publish its Sustainability Report annually, to provide its stakeholders with a complete and transparent report.

The issues covered in the Report are identified through a materiality analysis that allows the most relevant and priority issues for the Company and its stakeholders to emerge. Starting from 2023, Open Fiber has decided to adopt the so-called **double materiality**, thus anticipating the requirements of the Corporate Sustainability Reporting Directive (CSRD)[2] on sustainability reporting. The materiality process implemented not only involves an assessment of Open Fiber's **impacts on ESG topics** (impact materiality), but also integrates the **financial relevance** (financial materiality) of sustainability risks and opportunities and the interdependencies between impact materiality and financial materiality. The double materiality therefore implies evaluating not only the influence of the company on the environment, the economy and society (**inside-out** perspective), but also what is relevant or that can generate risks/opportunities for the business (**outside-in** perspective).

In 2024, the process was further upgraded through the **involvement of a sample of the main stakeholder categories and the use of focus groups,** showing Open Fiber's commitment to the continuous improvement of sustainability governance and the process of reporting its performance.

2 EU Directive 2022/2464.

FIGURE 3: DOUBLE MATERIALITY - INSIDE-OUT AND OUTSIDE-IN PERSPECTIVE



By combining the impact materiality and the financial materiality, 9 material topics were identified, the performance of which is reported in this Sustainability Report:

- Affected communities;
- Business conduct;
- Climate change;
- Biodiversity and ecosystems;
- Circular economy;
- Responsible supply chain management;
- Own workforce;
- Consumers and end-users;
- Privacy and cybersecurity.

STRENGTHENING THE STAKEHOLDER ENGAGEMENT STRATEGY

For Open Fiber, **ongoing and participatory** *dialogue with stakeholders* is an essential *asset* of its corporate strategy. This dialogue, in fact, allows the company to gather valuable feedback on the initiatives undertaken, evaluating their impact and adherence to expectations on environmental, social and governance issues. An approach based on listening and sharing that reinforces the value of the company's choices and ensures greater effectiveness and sustainability over time.

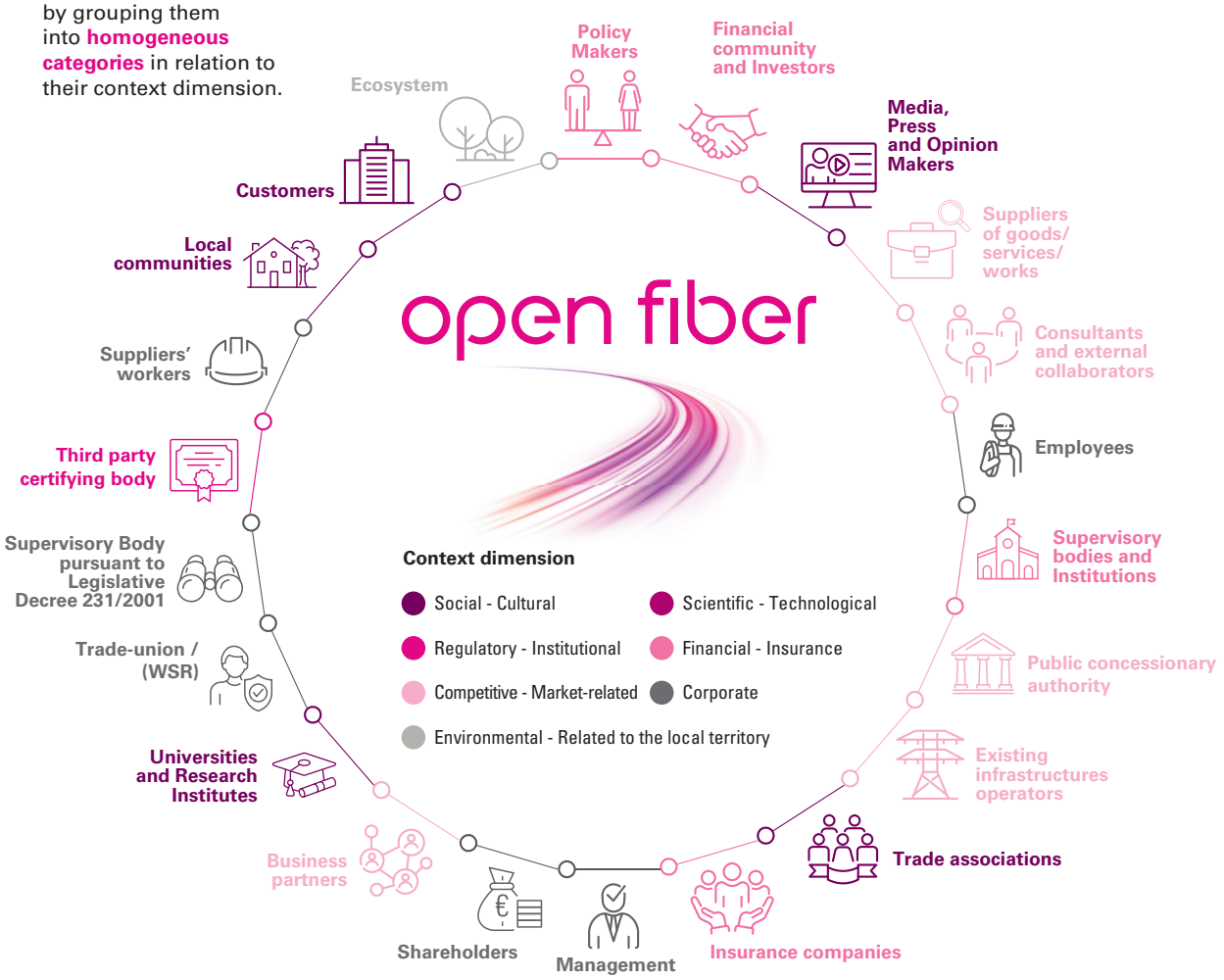
Events, round tables, periodic and targeted listening, digital tools: these are all activities and channels that Open Fiber uses to generate **two-way communication** with its stakeholders, as well as constantly monitoring their opinions and expectations. These activities are part of a fundamental process for the value chain, given that the interest that stakeholders show towards the Company is the same that Open Fiber has towards its many interlocutors[3].

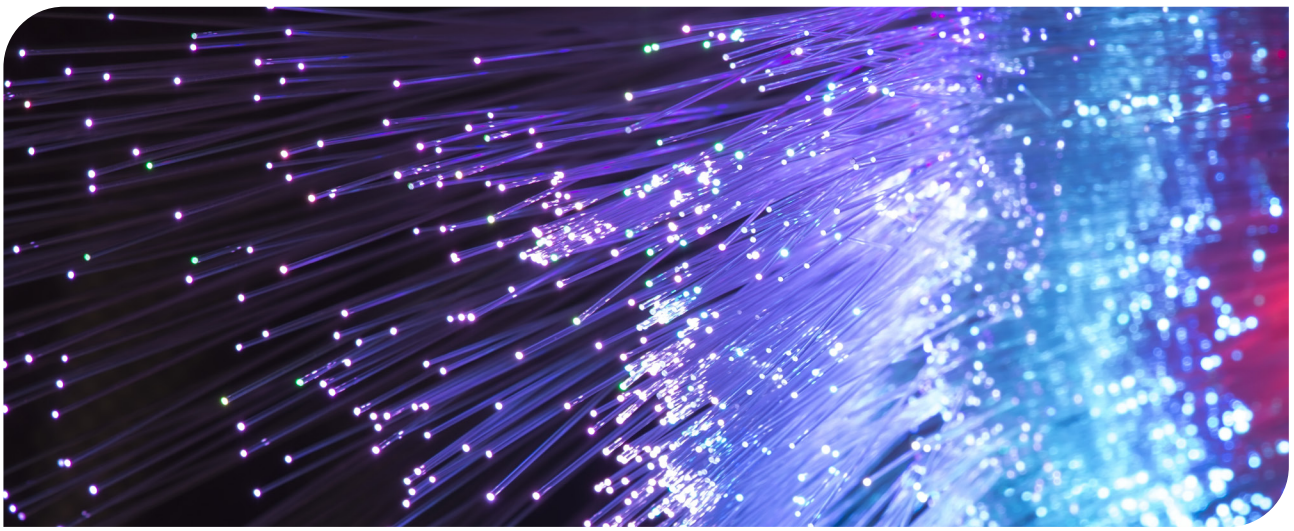
Since 2023, Open Fiber has engaged in a process of **strengthening** its stakeholder engagement strategy in terms of sustainability with the aim of identifying the **priority topics**, **methods, channels** and **tools for engagement** for each stakeholder group, as well as the **key messages** to be conveyed to its stakeholders with the aim of strengthening

3 For more details on the engagement channels, see paragraph 7.3 "Stakeholders' expectations and engagement channels".

FIGURE 4: STAKEHOLDERS MAP

Open Fiber identified its stakeholders, by grouping them into **homogeneous categories** in relation to their context dimension.





dialogue on ESG[4]. The process was developed according to the guidelines of the **AA1000 Stakeholder Engagement Standard (2015)**, issued by AccountAbility[5] and has engaged the company's organisation at all levels.

The process continued in 2024 with the **publication of the Stakeholder Engagement Policy** and the implementation of a **training and awareness programme on sustainability issues**. The latter, dedicated to the so-called '**awareness owners**', individuals identified within the organisation who are responsible for conducting and developing the stakeholder engagement process at different levels, aims to create skills for **communicating sustainability effectively**, acquiring general skills on these issues and specific knowledge on Open Fiber's ESG performance, as well as an adequate mastery of the communication tools provided by the company. In its first year, the training initiative involved a group of about 15 people, in three modules: **technical skills**, **soft skills** and **practical applications**. Among the latter, it is worth mentioning the **case studies shared by sustainability experts** and the **Lego® Serious Play® workshop**, which, by means of a facilitation method aimed at encouraging discussion in a collaborative context, allowed colleagues to put what they had learnt to the test and offer their point of view on the company's sustainability strategy and communication, involving them in a way that was both fun and stimulating.

The training activity will be repeated in 2025, with a significant increase in the number of participants and an extension of the training hours and topics covered.







4 Priority issues for each stakeholder were identified by listening to the engagement channels and using an artificial intelligence tool capable of detecting sustainability issues and classifying them according to the 17 Goals of the UN 2030 Agenda.

5 A world-leading organisation in the field of research, consultancy and standards that provides innovative solutions to the most critical challenges in the realms of corporate responsibility and sustainable development.

STAKEHOLDER ENGAGEMENT POLICY

In September 2024, Open Fiber published its Stakeholder Engagement Policy, formally stating its commitments and **methods for the dialogue with and involvement of stakeholders**. In particular, Open Fiber intends to adopt a stakeholder engagement model that will:

- effectively, clearly and transparently present its **mission** and **values**;
- ensure **transparency** and the **sharing of** timely and accurate **information** with stakeholders, ensuring a clear understanding of objectives, policies adopted, actions taken and results achieved;
- guarantee stakeholders that their needs, concerns and expectations will be **listened to** and that they will be involved in defining company strategy, with particular reference to the **materiality analysis** process aimed at identifying the main economic, social and environmental issues affecting the Company;
- promoting the **involvement of stakeholders** as a useful tool for responding to the **social needs of the territories** in which it operates, thus maximising the value generated by the Company for the community, and for identifying potential opportunities, including through collaboration with the actors involved and open innovation;
- **anticipate possible critical issues** relating to policies, initiatives and projects that Open Fiber has developed, is developing or plans to implement, identifying potential risks;
- **promote the creation of lasting, stable and solid** relationships with stakeholders, also by raising awareness of the positive impacts generated by Open Fiber on ESG issues;
- ensure, also along the value chain, **compliance with applicable international laws and standards** as well as internal governance rules, with particular reference to unfair and information practices.

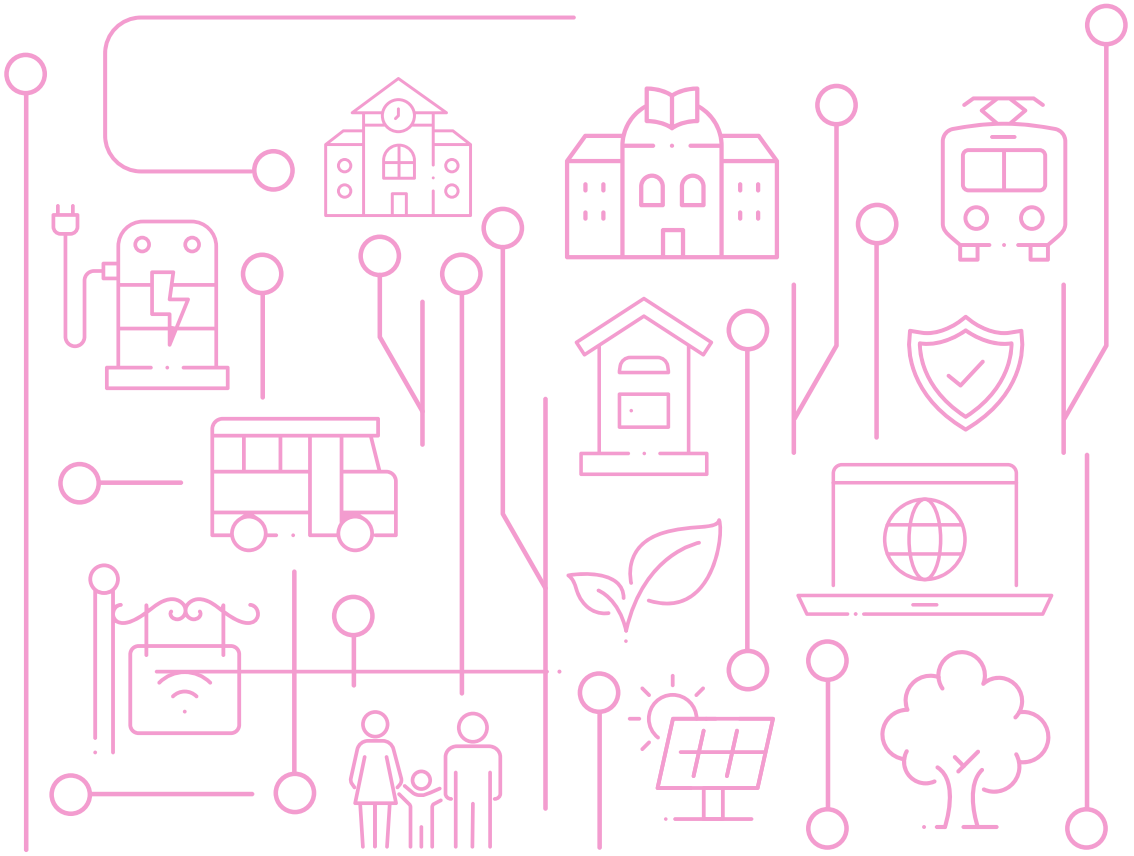
Moreover, the Company is committed to adopt an **approach designed to engage its stakeholders**, inspired by the AA1000 Stakeholder Engagement (2015) guidelines, made up of the following phases:

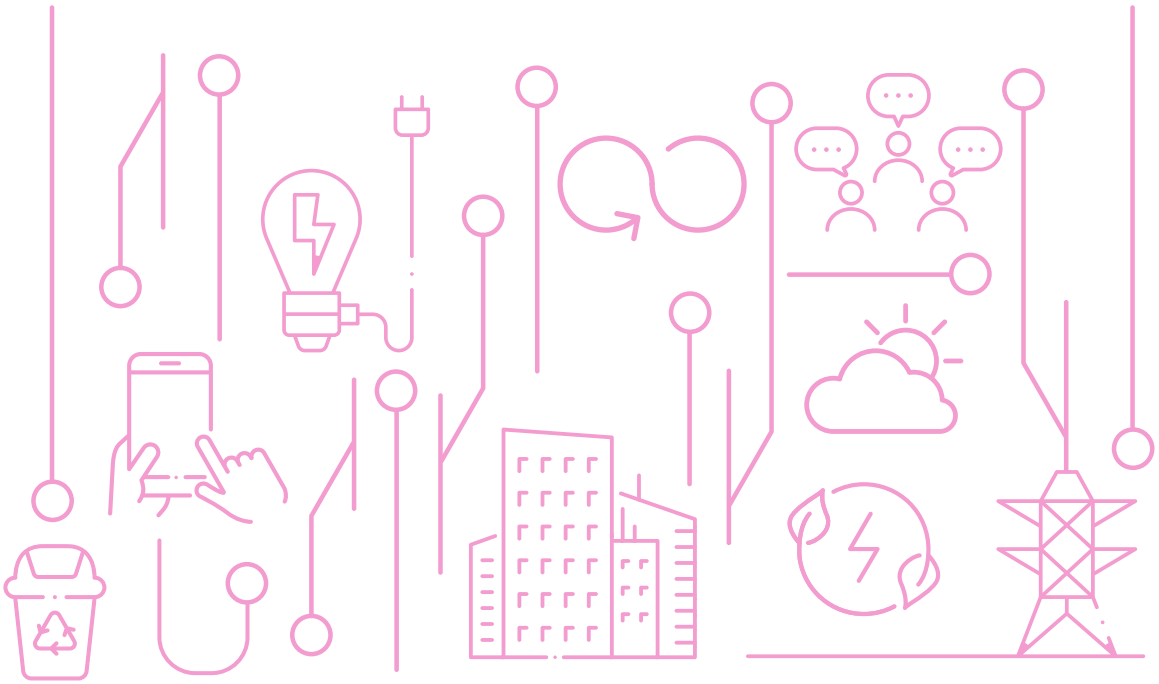
1. Stakeholder mapping and prioritisation;
2. Definition of the strategy and methods for stakeholder engagement;
3. Interaction with stakeholders;
4. Evaluation of the results of stakeholder engagement activities, definition of action plans and continuous monitoring.



Responsible communication

Value for the community





01. COMPANY **OVERVIEW**

1.1 COMPANY PROFILE

The network transforming Italy. Such is Open Fiber's payoff message. Open Fiber is a subsidiary of Open Fiber Holdings, a company owned 60% by Cdp Equity (CDPE) and 40% by Macquarie Asset Management (MAM), and created by the merger of Enel Open Fiber and Metroweb. Since its establishment, the Company's mission has been linked to the creation of a **high-speed fiber optic electronic communications network**, exceeding 1 Gigabit per second, throughout the country, thus helping Italy to bridge the digital divide with the rest of Europe by enabling cutting-edge, state-of-the-art digital services.

Open Fiber is indeed the undisputed protagonist of this season of digital and infrastructural development, both directly, through its activities, and indirectly, through its competitive actions. Since the company was established, it has adopted a **wholesale only** business model: it does not sell connectivity services directly to end customers, but makes its network available to all interested operators, under the same conditions. Through its activities, which are the result of the Company's strategic vision, it aims to guarantee the **coverage of the major Italian cities** and the **connection of rural and industrial** areas, through an ultra-fast and reliable fiber optic network that can provide increasingly advanced services and functions to citizens, businesses and the Public Administration.

1.1.1 MISSION, VISION AND DISTINCTIVE ELEMENTS

Connection to the internet is fundamental for a country like Italy due to various strategic, economic and social reasons. Having an advanced digital infrastructure favours the growth of companies, especially SMEs, which represent the heart of the Italian economic fabric. Digitalisation allows us to expand markets, improve productivity and attract foreign investment. With a widespread network, we can bridge the gap between rural and urban areas, thus guaranteeing equal opportunities and full accessibility to essential services such as schools, healthcare and work. It also ensures intelligent and safe management of resources.

Building a digital motorway that unites people to create new opportunities, a network capable of eliminating borders and barriers, an inclusive and connected ecosystem, in which innovation is the engine of economic and social growth and development, allowing individuals and businesses to collaborate and access the infinite possibilities of the digital world. This is what Open Fiber believes in and what defines the company culture.

Furthermore, at a corporate level, Open Fiber stands out for a series of key elements that characterise its excellence and innovation and can be summed up in the following five strengths:

- **fair competition**: as a supplier of an ultra-broadband infrastructure, active exclusively in the wholesale only market, it offers network access under fair and non-discriminatory conditions to all interested operators;
- **separation between network and services:** starting from the key principle of protecting competition and paying due attention to the process of liberalising the TLC sector, as advocated by all Italian and European authorities, it maintains a clear separation between the use of the network and the use of related services;
- **high-quality and efficient infrastructure**: Open Fiber's fiber optic network guarantees very high performance thanks to a transmission capacity of up to 40 Gbps (*future proof*), the only one capable of supporting the evolution of the services offered;
- **development of innovation and creation of shared value**: thanks to innovative and inclusive technological solutions in favour of global economic growth, it establishes a policy of constant dialogue with local institutions and communities;
- **sustainability and environmental awareness**: always oriented towards environmental sustainability, the company favours the development of a fiber optic network, where possible, on existing

MISSION

Travelling all at the same speed with optical fiber

Open Fiber was created to build an Ultra Broadband (UBB) network infrastructure in FTTH (Fiber to the Home) optical fiber in all Italian regions. To carry out our project we have chosen the 'wholesale only' business model so as to guarantee free access to all interested operators, under equal conditions, providing end users with a wide range of choices.
Our mission pursues the objectives set out in the European Digital Agenda, the Italian Strategy for Ultra-Broadband and the Gigabit Society. A plan that allows the establishment of minimum connectivity levels in all European countries for citizens, institutions and companies.
As an infrastructure player, Open Fiber is responsible for the construction, management and maintenance of the fiber optic network with FTTH technology, with very high levels of efficiency and reliability.

VISION

FTTH optical fiber: a real change for the country

At Open Fiber we want to change people's lives thanks to the new fiber optic technology. From small villages to large metropolitan cities, we want to improve the lifestyle of individuals, families, businesses and workers by bridging the digital divide.
More services, more speed, more accessibility, more reliability with FTTH to offer the opportunity to do more things, more quickly. Not to mention saving energy so you can dedicate more time to yourself and your passions.

structures. The design of its infrastructures, which combines sustainability and advanced technology, manages to protect the integrity of the sites, with particular attention to areas of landscape and cultural interest.

1.1.2 OPEN FIBER JOURNEY

The COVID-19 pandemic has confirmed that the internet is an intangible but utterly vital tool, capable of transforming everyone's life. The health emergency has triggered profound changes, accelerating a process of digital transformation in almost all areas and sectors, transferring entire aspects of professional, personal and family life to the digital space. In addition to this radical change, there has been an evolution in modern conflicts, which now develop on two fronts: physical and cyber. Today, essential goods such as food, medicine and clothing coexist with satellites and digital infrastructures, which are fundamental to guarantee operational and communicative continuity. The internet has established itself as a primary good, on a par with essential resources for living, while network connectivity has become an indispensable strategic asset. For this reason, Open Fiber is working every day to develop and offer people an ultra-broadband telecommunications network throughout Italy, entirely in very high-speed fiber optics, with **Fiber To The Home (FTTH)** and **Fixed Wireless Access (FWA)** technology. This network is able to provide increasingly advanced services and functions for citizens, businesses and the Public Administration, as well as favouring the recovery of competitiveness of the country, also eliminating the *digital divide* that afflicts some areas of Italy.

Open Fiber has always chosen a **wholesale only** business model, with the aim of operating exclusively in the wholesale market, in order to guarantee interested operators free access and clear benefits for users in terms of both the variety and the range of services available. To date, **over 300 partner operators**, both national and international, have already signed commercial agreements for the use of the Open Fiber ultrabroadband network.

2015

Enel S.p.A. establishes **Enel Open Fiber S.p.A.** with the aim of creating and managing an ultra-broadband Fiber To The Home (FTTH) infrastructure covering the whole of Italy.

2016

Following the negotiations between Enel S.p.A. with Cdp Equity S.p.A. and F2i SGR for the integration of Open Fiber and Metroweb, the shareholding structure of Open Fiber consists of an equal shareholding between **Enel S.p.A.** and **Cdp Equity S.p.A.** (CDPE).

2017

In January, the Board of Directors approved the merger by incorporation of Metroweb S.p.A. and Metroweb Genova S.p.A. into Open Fiber S.p.A.
In the same year, Open Fiber won the first **two Infratel Tenders.**

2018

Open Fiber won the **2018 FTTH Council Europe Operator Award**, which recognises operators in Europe that have shown a particular commitment to the development, support and expansion of an FTTH network.
In the same year it received the **TMT Infrastructure Loan of the Year 2018 – EMEA** award for the most significant infrastructure financing in the telecommunications sector (amounting to 3.5 billion).
In December Open Fiber set a new record on the ZION network, reaching **400 Gbps**.

2019

In February, Open Fiber received the **2018 Telecomms Deal of the Year** award from PFI (Project Finance International) magazine for the most significant financing in the EMEA area for the construction of an Ultra Broadband network.
In April, Open Fiber won the **third Infratel tender**.
Open Fiber's ZION fiber backbone brilliantly passed the **600 Gbps** test: Open Fiber's infrastructure is the most advanced.

2020

Open Fiber was certified as **2020 Top Employer** by the Top Employers Institute and **Great Place to Work**. In the same year, the company finalised the expansion of the project financing to 4.145 billion euros, creating the largest structured finance operation for the development of a fiber optic network in Europe. The IDATE report published by the FTTH Council places Italy third (out of 28 countries) in the European FTTH/B coverage ranking and second in terms of annual growth rate. The 2019-2020 contribution is attributable for approximately **80% to Open Fiber**. With 10.5 million wired households passed, Open Fiber is the **third largest FTTH operator in Europe** and the **largest among wholesale only operators on the continent**. The ZION backbone reaches **800 Gigabits** per second (Gbps) per optical channel: a new record. Also in 2019, Open Fiber obtained certification for its Quality, Safety and Environment management system according to **ISO 9001**, **ISO 14001** and **ISO 45001** standards.

2021

Open Fiber published its first **Sustainability Report.**
The share purchase transaction was completed in December 2021: Open Fiber is directly controlled by Open Fiber Holdings S.p.A., 60% owned by CDP Equity and 40% by Fibre Networks Holdings S.a.r.l., a Macquarie Group company.
The new **2022-2031 business plan** is approved, which provides for approximately 11 billion euros of investments to cover **over 20 million** households passed. The financing is the largest ever achieved in EMEA for investments in telecommunications networks.
In 2021, Open Fiber will reach coverage of **13.5 million households passed, with a total of 3,449** municipalities in commercialisation.

2022

Approximately 5,000 municipalities corresponding to 15.5 million households passed were completed. In March, Open Fiber set up the Open Fiber Network Solutions consortium, together with Amplia Infrastructures and CIEL, to pursue the country's digitisation objectives. In May, Open Fiber was awarded 8 lots of "Italia a 1 Giga" public tender (Mission 1 of the PNRR).
In June, the company's **Sustainability Committee** was established, a body with an advisory role on ESG issues. In 2022, new strategic partnerships were formed to accelerate the country's digital transformation (i.e. ESA, Euromilano, Svelto!, etc.).

2023

Open Fiber's commitment to **decarbonisation** continued in 2023 with the calculation and certification of the GHG emissions inventory according to **ISO 14064-1** and with the approval in November of the **Net Zero Plan**, an ambitious corporate plan with the goal of achieving net zero emissions by 2040.
In 2023, Open Fiber becomes the first company in Italy to obtain **ESG certification**, a non-accredited standard that certifies the responsible management of ESG issues, the certification of the management system for **gender equality** according to **UNI/PdR 125:2022** and of the energy management system according to **ISO 50001**.
At the end of 2023, Open Fiber obtained **its first European funding**, winning the **Connecting Europe Facilities** (CEF-2 Digital) 2021-2027 tender for the development of 5G coverage in the Fréjus tunnel between Italy and France.

2024

In 2024, Open Fiber proved once again to be the main FTTH operator in Italy with **around 18.7 million households passed in FTTH and FWA technology**. The Company won the **2024 FTTH Council Europe Operator Award**, the European prize awarded by FTTH Council Europe to those who have particularly distinguished themselves for their contribution to the development of FTTH fiber optic infrastructures on the continent.
During the year, Open Fiber approved its first **Sustainability Plan**, which puts into action the sustainability strategy to integrate ESG commitment into the company's business and respond to current and future environmental challenges and social needs. Other important milestones in the field of sustainability marked the year: the Company joined the **UN Global Compact**, a United Nations initiative that aims to promote a more inclusive and sustainable global economy, and became a **"Value Chain Leader Partner"** of **Open-es**, the alliance that brings together finance, industry, associations and institutions to support companies in their sustainable development path. Furthermore, as part of its decarbonisation process, it obtained validation of its objectives from the **SBTi** (Science Based Target Initiative). 2024 saw two other important milestones for Open Fiber: it became the first TLC operator in Italy to test a fiber optic connection speed of **100 Gbps**, and the results of the MEGLIO project – a collaboration between Open Fiber, INRiM and INGV to use the optical fiber as a sensor for detecting seismic waves – were published by the **Nature** group, publisher of some of the most prestigious journals in the international scientific community.

Wiring Italy from large cities to small towns, thus reducing the *digital divide* and guaranteeing free access to technologies, is an opportunity for Italy in terms of both the economy and employment. In fact, to date, Open Fiber employs **over 9,000 people, both internal and external resources.**

At the end of 2024, Open Fiber covered **around 15.9 million households passed with FTTH technology** (Fiber To The Home)[6] thus confirming its position as the **leading FTTH operator in Italy**, among the **leaders in Europe**, and **first among wholesale-only operators on the continent**.

With the aim of developing the most technologically advanced and efficient network, Open Fiber has put in place a solid organisational structure, managing multiple projects through its own investments and public funds. The company is committed to building a cutting-edge infrastructure, capable of guaranteeing very high-speed connections throughout the country.

According to its business plan, over 21 million households passed should be connected. These are distributed in the following Clusters: black areas, white areas and grey areas. Through this strategy, Open Fiber aims to break digital barriers, promoting access to innovative services and contributing to the country's economic and social growth.

1.1.3 ACTIVITY PLAN

The infrastructural operations currently underway have given Open Fiber the role of architect of a major project to connect and digitalise the country, thus enabling the economic and social development of the Italian system. The design, construction and development of a fiber optic infrastructure involves the Company in all the following areas into which Italy is divided:

- the **black areas**, where the main urban centres are located. Here, Open Fiber is using private investment to create a fiber optic infrastructure (FTTH - Fiber To The Home) that reaches homes and offices;
- the **white areas**, i.e. rural and suburban areas where operators have not expressed an interest in intervening. Open Fiber has been awarded the three public tenders launched by Infratel (an in-house company of the Ministry of Enterprise and Made in Italy) to build and manage a public ultra-broadband network for 20 years under licence;
- the **grey areas**, as part of the Italy 1 Giga Plan - which falls under Mission 1 'Digitalisation, innovation, competitiveness, culture and tourism' of the National Recovery and Resilience Plan (NRRP) - for which the Government has issued a series of calls for tenders to ensure public support for the creation of an ultra-fast network.



BLACK Areas

Fiber is present in **240 large and medium-sized cities**, having invested over 4 billion euros in the creation and development of the network.

WHITE Areas

Open Fiber is committed to connect **small Municipalities** in all 20 Italian Regions, cabling **over 6 million households passed** including homes, businesses and Public Administration offices with FTTH optical fiber. By the end of 2024, Open Fiber will have completed work in over 6,600 Municipalities. The network in these areas remains publicly owned and will be managed by Open Fiber under a 20-year concession.

GREY Areas

According to the European Commission's definition, grey areas are those areas where there is only one network operator and it is unlikely that another network will be installed in the near future.
Open Fiber was awarded **8 lots** in public tenders, involving **over 5,400** municipalities in **9 Regions**[7], for a total of around **3.9 million addresses**.

6 To which should be added 2.8 million households passed with FWA technology, for a total of 18.7 million households passed by 31 December 2024.

7 Campania, Emilia-Romagna, Friuli-Venezia Giulia, Lazio, Lombardy, Puglia, Sicily, Tuscany, Veneto.

1.2 THE BUSINESS MODEL

1.2.1 WHOLESALE ONLY

By choosing a **wholesale only** business model, Open Fiber takes the form of a pure **infrastructure operator, neutral and not vertically integrated**, without a retail business unit. As a result, it is completely focused on developing an increasingly high-performance network to offer to other telecommunications operators, who are seen as partners of Open Fiber rather than competitors. Interested TLC operators thus have equal and non-discriminatory access to a fiber optic network infrastructure thanks to a business model that also benefits end users, who have greater freedom to choose their preferred service provider and services. This model has been regulated by the European Union through the European Electronic Communications Code, which provides for regulation in favour of the development of "pure" infrastructure operators, i.e. those dedicated to the development of network infrastructures to which all interested service operators can have access under equal conditions.

The advantages that make the wholesale only model the basis for the development of ultra-broadband infrastructures with FTTH technology in Italy and in Europe, capable of orienting and maximising the development and growth of the digital economy, are essentially the main features that characterise and differentiate this model, meaning:

- **neutrality** and **openness**, which contribute to the implementation of an inclusive and competitive market in which the operators that sell FTTH services to the end customer have equal rights of access to the network. This is to the advantage of the end users, who can choose the service they prefer and benefit from lower average costs;
- **long-term vision**, resulting from the fact that the infrastructure operator can focus exclusively on the expansion and continuous improvement of the infrastructure;
- **innovation**, because the absence of a *legacy* network allows the use of the best technologies available on the market and maximises the operational performance of the network, creating the conditions for both more pervasive digitisation and greater economic competitiveness.

The European Commission believes that ultra-broadband connectivity is essential to maximise the growth potential of the digital economy and set some interesting connectivity objectives for 2025. The purpose of this "road map" is to guide Europe towards the so-called Gigabit society, i.e. an interconnected society: currently the FTTH network is the only technology capable of guaranteeing a **symmetrical** speed of at least 1 Gbps. Access up to the property unit is in fact the only way to guarantee maximum bandwidth, symmetry between upload and download and minimum latency, factors that are often neglected, but fundamental for the perceived

FIBER TO THE HOME (FTTH)

The ultra-fast Open Fiber network is based on the Fiber To The Home (FTTH) model. The entire route from the exchange to the customer's home is indeed made up of optical fiber. This allows for maximum performance with speeds of up to 10 Gigabits per second (Gbps). It is a "future-proof" service, capable of supporting the potential of all the new technologies that will arrive in the coming years. The connection to a fixed network is made through an underground cable that connects the user's home or business to the so-called "distribution cabinet", which in turn is connected to the exchange.

In the case of ADSL, on the other hand, the cables used in the two sections are entirely made of copper, while with FTTC technology the two connections are one made of copper and the other of optical fiber. With the FTTH network the connections are entirely made of optical fiber and this offers an advantage in terms of performance that reaches levels not achievable with copper (ADSL) or fiber/copper (FTTC) networks. The FTTH fiber optic network is the only one certified with the AGCOM green sticker as "true fiber".



speed of the connection and essential in many interactive applications of growing diffusion, such as gaming, training, telepresence, e-health and many others.

At the end of 2024, Open Fiber reached a significant milestone, having created the majority of FTTH access points in Italy and accelerated the spread of optical fiber throughout the country. Thanks to this cutting-edge infrastructure, millions of homes, businesses, public bodies and schools have been able to benefit from ultra-fast connectivity, contributing to the country's digital transformation. At the same time, the Company has further strengthened its market, which today has about 300 client operators (OLO - Other Licensed Operators) active in the *consumer* and *business* segments, of very different sizes and types, including: Large Operators, Business Telco Operators, Fixed Virtual Network Operators, TowerCo, International Operators, Cloud Service Operators.

1.2.2 OPEN FIBER SERVICES

Open Fiber's product portfolio consists of connectivity services that contribute to the digitisation of households, businesses, schools and public administration. Its offer is characterised by the quality and reliability, but also the flexibility of its products: the portfolio is simple and modular and allows you to choose between **Pure Infrastructure** and **Network as a Service** offers. This is a proposal that allows both infrastructure operators and all players and newcomers without their own network infrastructure to take advantage of the services provided by Open Fiber.

The services offered by Open Fiber are divided into two categories: passive services and active services. In the case of **passive services,** the Company makes available its fiber optic access network that connects the exchange - or rather the infrastructure node that hosts the elements of the fixed access network and those of transport/ backhauling - to the premises of the associated end customers, while the operator is responsible for connectivity using PON (Passive Optic Network) or P2P (Point-to-Point) access technology. This option is generally used by operators who autonomously

FIGURE 5: SERVICES OFFERED

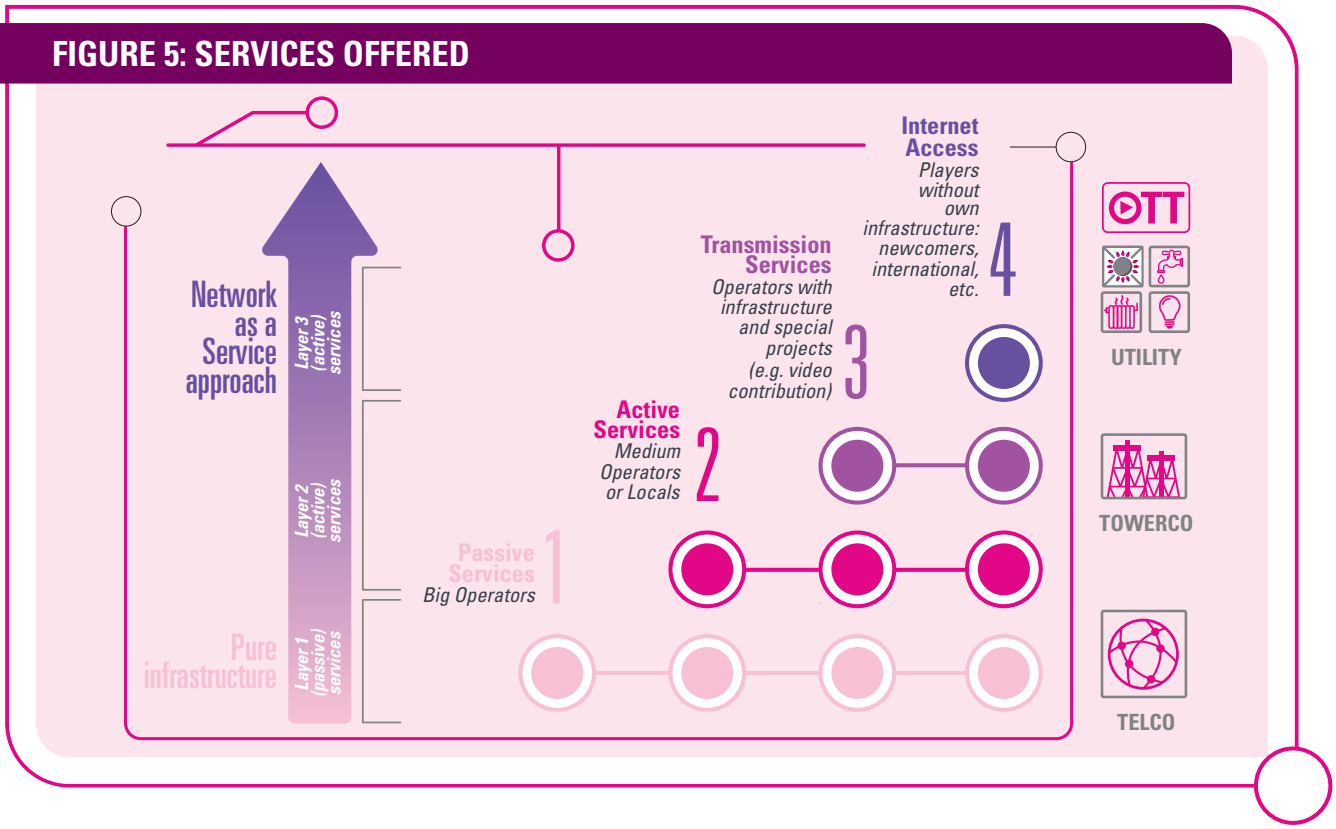
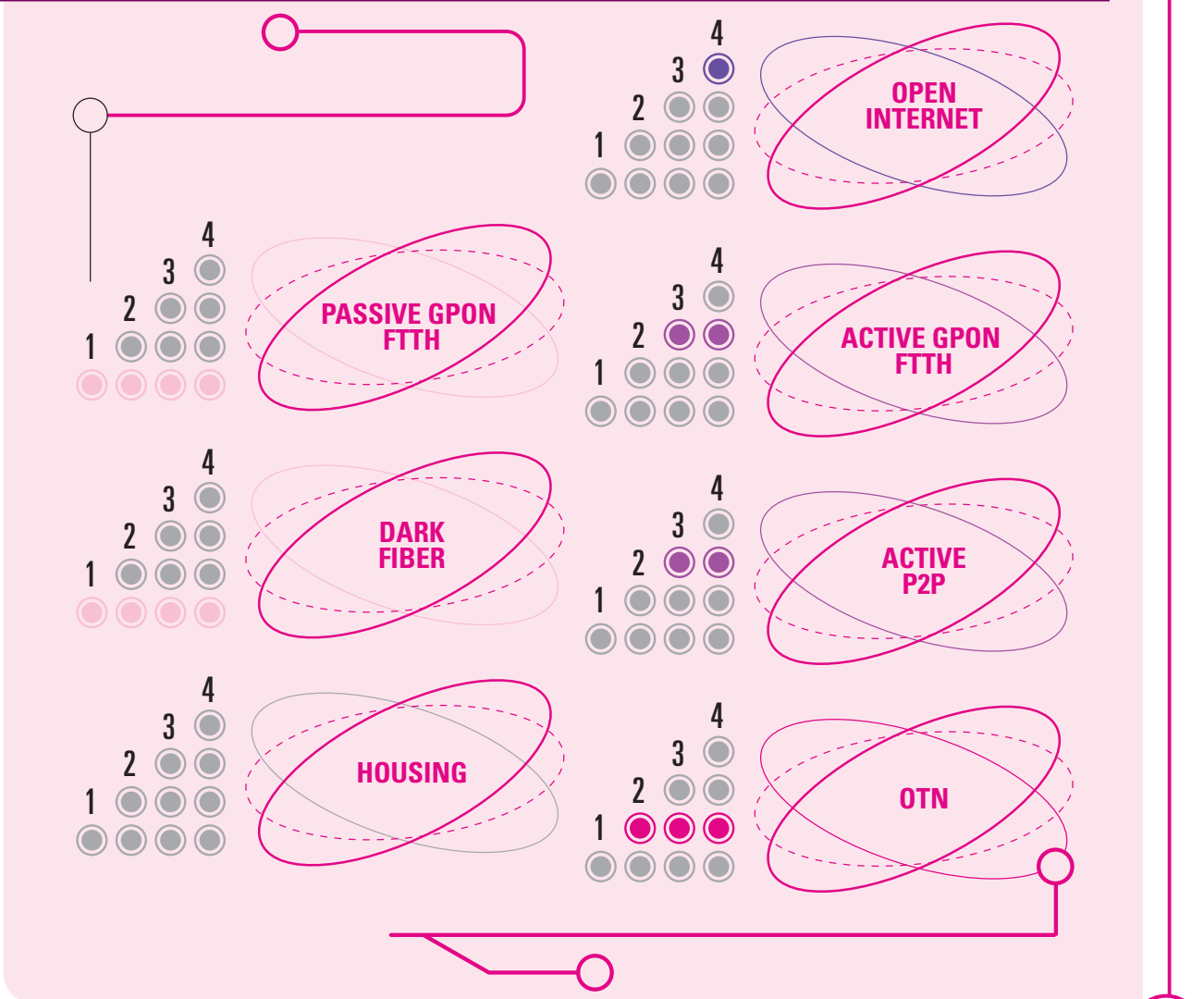


FIGURE 6 : ACTIVE SERVICES AND PASSIVE SERVICES



manage the active part by installing their own network equipment inside the Open Fiber centres. This service model therefore requires the operator to subscribe to the Housing service, which provides a space where they can install their transmission equipment and connect it to the fiber network in order to provide the service to end Customers.

The **active services**, instead, are based on Open Fiber providing not only the fiber infrastructure, but also the connectivity using the access technology **GPON** (Gigabit Passive Optical Network)[8], **XGS-PON**[9] and **P2P** (Point-to-Point) with traffic delivery at an internet exchange point or, in some cases, including direct access to the internet.

8 Gigabit Passive Optical Network: a network in which a part of the connection is shared between operators, while the final connection is based on a single dedicated fiber. The passive nature of GPON eliminates the use of electricity, making it possible to install the splitter in places where it is not easy to have a power supply. It is also more energy efficient. GPON technology provides unprecedented bandwidth (up to 2.5 Gbps) and greater distance from the central office, allowing service providers to enable bandwidth-intensive applications.

9 XGS-PON technology (ITU-T 9807.1 – 2016 standard) is the commercial successor of GPON. It allows a transmission speed of 10 Gbps both downstream and upstream.

PASSIVE SERVICES

Passive GPON FTTH: passive service in GPON (Gigabit Passive Optical Network) FTTH access technology with point-to-multipoint architecture that allows the multiplexing of traffic from multiple users of a single tree on the same physical interface (GPON port). The service is based on Open Fiber providing only the optical fiber access infrastructure.
Dark Fiber (dark fiber service): provision of a passive Point-to-Point (P2P) connection via a dedicated fiber or pair of fibers, available in both Basic mode (i.e. from the Open Fiber technology site to the Customer's premises) and Premium mode (from the Customer's premises to other Customer premises). Used mainly by large operators.
Housing: provision of a frame space within the Open Fiber technology site on which the operator installs its transmission equipment. The service also includes the supply of electricity, air conditioning, equipment maintenance, cleaning, security services and site surveillance.

ACTIVE SERVICES

Open Internet: "turnkey" connectivity and direct Internet access service offered through PON FTTH access technology, with speeds of up to 10 Gbps for downloads and 2.5 Gbps for uploads.
Open Stream FTTH: point-to-multipoint FTTH connectivity service using PON access technology with speeds of up to 10 Gbps downstream and 2.5 Gbps upstream, with carrier traffic transport and delivery service at an interconnection point within the Open Fiber exchange or at an Internet Exchange Point.
GPON Business Access: an active Level 2 service on shared fibre optic (point-to-multipoint FTTH type connectivity in PON access technology) which allows the multiplexing of traffic of multiple users of a single tree on the same physical interface (GPON port). The service envisages the provision by Open Fiber of the fibre-optic access infrastructure only.
Active P2P: provides level 2 connectivity up to 10 Giga between the Customer's premises and the operator's interconnection point. Used for the connection of business premises, backhauling of operator nodes as well as central and local PA premises using fiber optic connections.
OTN: termination device of the fiber optic access network at the customer's premises. It is a device designed to convert the light signal coming from the optical fiber into electrical impulses that can be managed by any router or network access device.

In the **first model**, the traffic generated by the operator's customers is collected and transported through the Open Fiber backbone network, and then delivered in an aggregated manner at an internet exchange point. This can take place within an Open Fiber exchange or at an Internet Exchange Point, ensuring efficiency and reliability in the management of data traffic. In the second service model, on the other hand, Open Fiber doesn't just provide the access network, but directly manages the Internet access service. This also includes assigning IP addresses to end customers, allowing the operator to guarantee connectivity without the need to invest in infrastructure or network equipment. This approach simplifies market entry and allows operators to focus on providing advanced services to their users. It is an all-inclusive service aimed at small operators but above all at multi-utilities that intend to expand their offer on the national market with a high-performance, high-quality fiber connectivity service. This service has made it possible for new service providers to enter the national market, including operators in the energy sector and utilities. This wide array of tailored services allows access to the fiber optic network to all operators who can take advantage of the infrastructure and services offered by Open Fiber according to their needs, potential and investment opportunities. All this produces a significant benefit for the market and for consumers, who see the range of available services expand with an ever-higher quality of connection.
At the end of 2024, around 300 operators in the TLC (Fastweb, Tiscali, Vodafone, WindTre, EOLO, TIM, AT&T, Retelit, Iliad, Virgin Fibra, PostePay, Aruba),

DATA TRAFFIC AND CLOUD ENVIRONMENTS

With the Internet being used more and more, data traffic is set to increase significantly; therefore, it is necessary to develop remote Cloud environments, where applications can be used regardless of where the IT infrastructures are located.
An important part of this traffic is between Data Centres distributed throughout the territory (DCtoDC – Data Centre to Data Centre) and it is to respond to this need that Open Fiber launched the **xPoP Backbone** in 2021, a digital highway that allows data to travel at maximum speed, with the lowest latency and in security between the main nerve centres of the Internet network in Italy. Essentially, it is a higher-level network layer that directly connects all the major Data Centres, Neutral Access Points and international data traffic landing points (Cable Landing Stations) in the country. Open Fiber's client operators can take advantage of dedicated and diversified connections, guaranteeing optimal connectivity. This allows them to offer their end customers reliable services, ensuring data transmission at maximum speed and with minimised latency. Open Fiber uses the latest optical transport technologies on the market and has already tested innovative solutions for transmission up to 800 Gbps on a single optical channel.
Another trend emerging in the field of advanced computing is Edge Cloud Computing, in which data processing takes place at points in the network closer to the end user, in order to offer shorter routes and lower latency times. Once again, the Open Fiber infrastructure has proven to be in step with the context, in that, in addition to already allowing fiber connection of large Data Centres, it can host servers for **Edge Cloud Computing** in its PoPs.

CONNECTIVITY AS A PRIMARY NEED

According to a **2023 EY study**[10], despite the increase in prices, connectivity remains a **primary need** for citizens. The study, carried out on a sample of **2,500 households in Italy** and over 20,000 globally, analysed the attitude of consumers in the field of technology, media and telecommunications, reporting interesting final results.
90% of Italian households have an internet connection and 84% use a fixed network to access the web. This need for connectivity is accompanied by a **greater awareness**: due to inflation and the rising cost of living, 60% of households are driven to shop around to find the best deals in terms of connectivity and digital content.
Secondly, the perception of the **quality** of the fixed network is increasing. 50% of households say they are satisfied with the value for money of the content purchased from their broadband provider, compared to 41% in 2022. There is also a **growing concern** among consumers about the reliability of the network and connection performance. **29%** of households report having had this type of problem.
The improvement most desired by Italian consumers from internet providers is **a more reliable network**, a widespread opinion among **38%** of respondents. In particular, great attention is paid to **guaranteed speed** (relevant for 48% of households) and Wi-Fi coverage at home (important for 43%).
In this context, Open Fiber and fiber optics play a crucial role: the diffusion of an ultra-broadband infrastructure in all the regions of Italy is essential to meet the needs that emerged from the survey.

entertainment (Sky), energy and *e-learning* (Enel, Sorgenia) sectors have chosen Open Fiber as their main supplier of infrastructure and network services. Open Fiber works daily to develop a strategy aimed at designing and expanding the offer that is functional to accelerating the country's digitisation process in order to reduce the *speed divide* relating to an ever-decreasing number of areas.

1.2.3 OPEN FIBER CUSTOMERS

Open Fiber places the Customer at the centre of its strategy, as highlighted in its Vision, Mission and business model adopted. The Company is actively committed to improving the quality of life of citizens, families, businesses and workers, offering highly technological and advanced services that generate greater speed, accessibility and reliability thanks to the optical fiber.

10 EY Decoding the digital home 2023 study.

CUSTOMER CENTRICITY

The central theme of the event Customer Centricity 2024, organised by the National Consumers Union, focused on the centrality of the consumer and reputation crises in a global context grappling with epochal changes. To address this issue, four working groups were organised, one of which specifically focused on digital, including artificial intelligence and the data economy. The event was a decisive moment for meetings and discussions between digital companies, platforms, social media operators and online commerce, but also between a series of enablers, starting with financial and payment services, and a large number of experts. Authorities such as AGCOM, the Antitrust Authority and the Privacy Guarantor were also among the participants.

Customers care: the Customer Satisfaction Survey

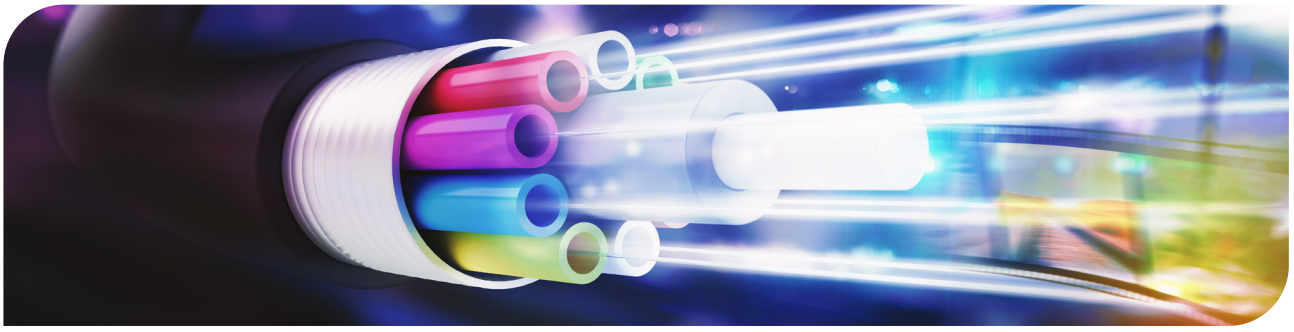
With the aim of continuously improving the activities and services offered, starting from 2021 Open Fiber has implemented a **model of analyses that can be repeated and can analyse the components of the service that influence the satisfaction of Customers** (operators) and then measure and examine the data collected both at the level of the Customer portfolio and at the level of the individual Customer. The model, applied to a Customer Satisfaction Survey, is extensive and inferential, i.e. it is not limited to analysing how a phenomenon is distributed within the sample, but investigates the inferential link of the causal relationships that determine actions. In the designed model, the collection of information in the sample survey takes place through a standardised questionnaire, supported by uniform tools, procedures and rules. This approach allows the comparison of data between different cases, guaranteeing consistency and reliability in the analyses.

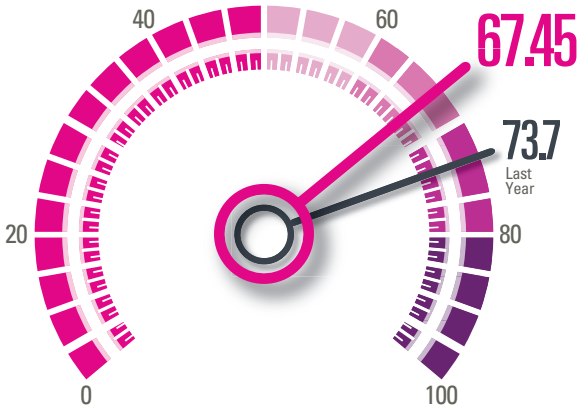
The main distinctive features of the survey model are:

- **its broad scope:** it doesn't just analyse how a phenomenon is distributed in the sample, but also investigates the inferential link of the causal relationships that determine the actions;
- **the comparability and quality of data:** information is collected using standardised tools, procedures and rules, allowing for the comparison of information relating to different cases;
- **the quantitative results:** through statistical processing of the data it is possible to produce a series of inferences based on quantitative estimates.

The survey focuses on seven **survey areas**:

- **company image**: reputation, innovation, meeting customer needs, fair treatment of operators, the **perception of Open Fiber as a sustainable** company **and its contribution in helping to pursue the sustainability objectives of its partners** (for example, in reducing the carbon footprint of the services offered);
- **services and offer**: the transparency of contractual documents, satisfaction with the portfolio of services offered and the value of connectivity in terms of customer loyalty;
- **commercial**: support and clarity in the commercial contract phase, ease of use of the ARO portal and the sales database;





- **provisioning**: support and clarity in the service activation process and its progress, ease of use of the operator portal;
- **assurance**: speed of intervention in response to reports or faults, comprehensibility of the contents of the operator portal;
- **coverage**: the capillarity of the network in the areas of interest to the operator in the two clusters in which Open Fiber operates (A&B and C&D), the availability and clarity of the systems for verifying network coverage;
- **administration and finance**: the detail of the invoice, the clarity of the information it contains and the time taken to receive accounting documents.

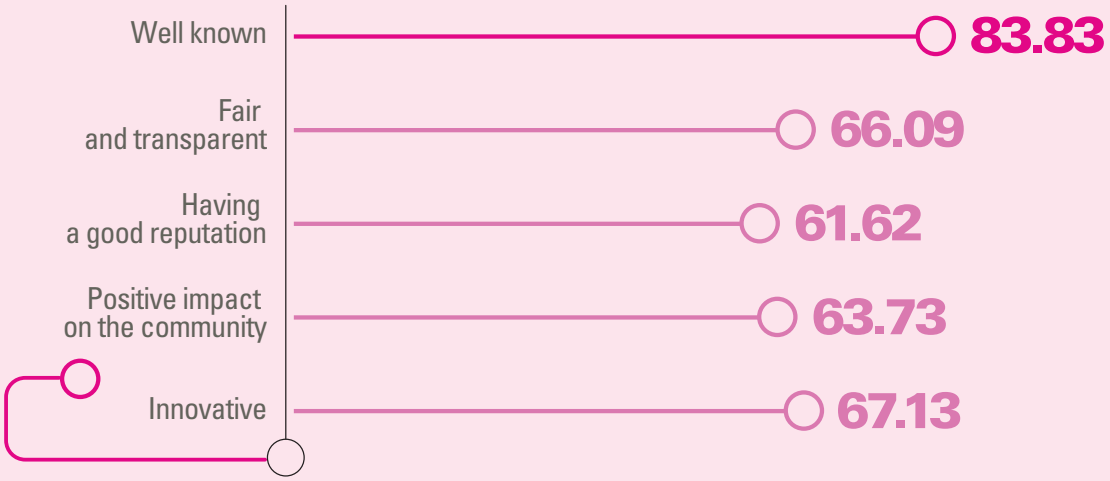
Moreover, in order to evaluate Open Fiber's performance, the **qualitative aspects** across the following areas of investigation were also analysed: **reliability**, **responsiveness**, **communication** and **sustainability**.

In the analysis conducted through the 2024 survey, a more detailed focus was also placed on the distinction of the **services offered**. Particular attention was paid to the Business and Residential sectors linked to the differentiation of the two Sales Departments, exploring the nuances of the respective commercial, provisioning and assurance dynamics.

The Open Fiber questionnaire was administered to a sample of consumer service operators and business service operators, chosen on the basis of significance and representativeness in terms of connection volumes. To complete the questionnaire, the customer had the option of responding using a variety of devices (desktop, mobile, tablet).

In 2024, 144 representatives from 82 clients responded to the fourth edition of the **Customer Satisfaction Survey**. Of the identified sample,

FIGURE 7: 2024 CUSTOMER SATISFACTION SURVEY RESULTS



78.8% of the operators who were given the survey completed the questionnaire (of these, 39% belonged to the residential segment, 33% to the business segment and 28% to the residential & business segment).

An analysis of the results shows that, both for the **areas of investigation** and for the **qualitative aspects**, the scores obtained are lower than those achieved in the previous administration of the questionnaire, which took place in 2023. The highest scores (equal to or higher than 70) were reached in the **commercial** and **company image** areas of investigation.

By analysing the so-called **Open Fiber Satisfaction Index,** a data summary representing the answers given by all operators, the recognition of the Open Fiber brand in the Italian fiber connection market is confirmed (in the collective imagination it is identified as an ideal supplier). The data on **brand awareness**, **reliability and positive impacts on the community** (for example, overcoming the digital divide, creating jobs, etc.) are among those highlighted as positive factors.

1.3 TRANSPARENCY AND EQUAL ACCESS AT THE BASIS OF OPEN FIBER'S WORK

1.3.1 ANTITRUST ENFORCEMENT

In the pursuit of the ambitious project of wiring and connecting Italy, Open Fiber collaborates with several players in the digital transformation, operating in full transparency and synergy to guarantee the development of a modern and efficient network infrastructure. These include institutions, which are fundamental for the administrative management of permits, supplier companies, engaged in the realisation of the fiber optic network, and partner operators, responsible for marketing services to the end customer. Thanks to this network of collaborations, Open Fiber actively contributes to its mission, which is to spread ultra-fast connectivity that drives innovation, digitalisation and the socio-economic growth of the country.

In accordance with the principles of transparency and in accordance with the agreements made with the Ministry of Infrastructure and Transport and the European Union, Open Fiber provides free access to the progress of the work through its **website**, making documents and interactive maps available. Thanks to this transparent documentation it is possible to read in detail the progress of the worksites for each municipality, both for FTTH (Fiber To The Home) and FWA (Fixed Wireless Access)[11] technologies.

Furthermore, in full compliance with the rules protecting competition, which form an integral part of the company culture and the operational choices made on a daily basis, Open Fiber has adopted an **Antitrust Code** that provides all members of the corporate bodies and employees with a systematic framework of reference for the protection of competition. In addition, it has appointed an Antitrust Committee, made up of members of the Infratel Legal and Concessions Department and the Regulation and European Affairs Department, that is the point of reference for any suspected illegalities and/or abuses and who have exclusive competence to analyse illegality.

In detail, the Antitrust Code identifies:

- practices, behaviours or conduct that may breach competition regulations;
- areas where there is a risk of offences being committed and the people who, due to their responsibilities and functions, may be more exposed to such risks, in order to prevent them;
- the topics on which it may be appropriate for staff to consult with the Antitrust Oversight Board, which is entrusted with the task of providing the necessary support and assistance regarding the application of the Code.

Failure to comply with the Antitrust Code can jeopardise Open Fiber's brand reputation, company

11 For more details, see paragraph 1.3.2 "Transparency and communication with citizens, businesses and the Public Administration".



image and success, and this can result in very significant sanctions. For this reason, the Company decided to:

- widely disseminate the Code, making it accessible to all personnel, providing adequate and regular training courses on antitrust topics;
- make sure the Code is periodically reviewed and updated in order to adapt it to developments in competition law;
- provide for a system of disciplinary sanctions to punish any violations;
- adopt internal procedures that regulate the process of receiving, analysing and handling any violations;
- ensure the confidentiality of the identity and professional protection of those who report any violations, in compliance with legal obligations.

In 2024, in line with the previous year, there were no pending or concluded legal actions against Open Fiber regarding anti-competitive behaviour and violations of antitrust regulations.

1.3.2 TRANSPARENCY AND COMMUNICATION WITH CITIZENS, BUSINESSES AND THE PUBLIC ADMINISTRATION

As a wholesale operator, Open Fiber has always resolutely and determinedly pursued its vision *of* making Italy a country fully connected from north to south via an ultra-broadband network. However, it can't achieve this ambition alone. For this reason, it relies on the support and collaboration of various key players in the digital transformation: the company operates in full transparency and in synergy with the institutions for the bureaucratic management of permits, with suppliers for the construction of the infrastructure, and with partner operators for the marketing of connectivity services aimed at the end user.

In its project to create an Ultra-Wideband network, Open Fiber is committed to informing and involving all members of local communities, from citizens to associations, from organisations to authorities, not only regarding the progress of the infrastructure development plan and the digital services that will

A JOURNEY FROM NORTH TO SOUTH ACROSS THE ITALY OF FIBER

The **podcast project «Journey from North to South across the Italy of fiber»** is part of the above-mentioned efforts, having started in September 2023 and continuing into the first half of 2024. It accompanies listeners on a journey of discovery of a new Italy, connected thanks to ultra-broadband. The topics covered concern projects ranging from energy efficiency to smart cities, from telemedicine to digital villages, from connected schools and public administrations to the reduction of the digital divide.



be made available, but also the social, economic and environmental impacts that these activities may generate.

For the **white areas**, where it operates as a concessionaire of Infratel, and the **grey areas**, where it has been awarded 8 lots of the *Italia a 1* Giga Plan, Open Fiber provides free access to the progress of the work in accordance with the information and transparency obligations it has signed up to as the successful bidder in public tenders. With this in mind, the company provides various information points on its website, with documentation and interactive maps, where it is possible to find out in detail about the progress of the worksites for each municipality, both for FTTH and FWA technology.

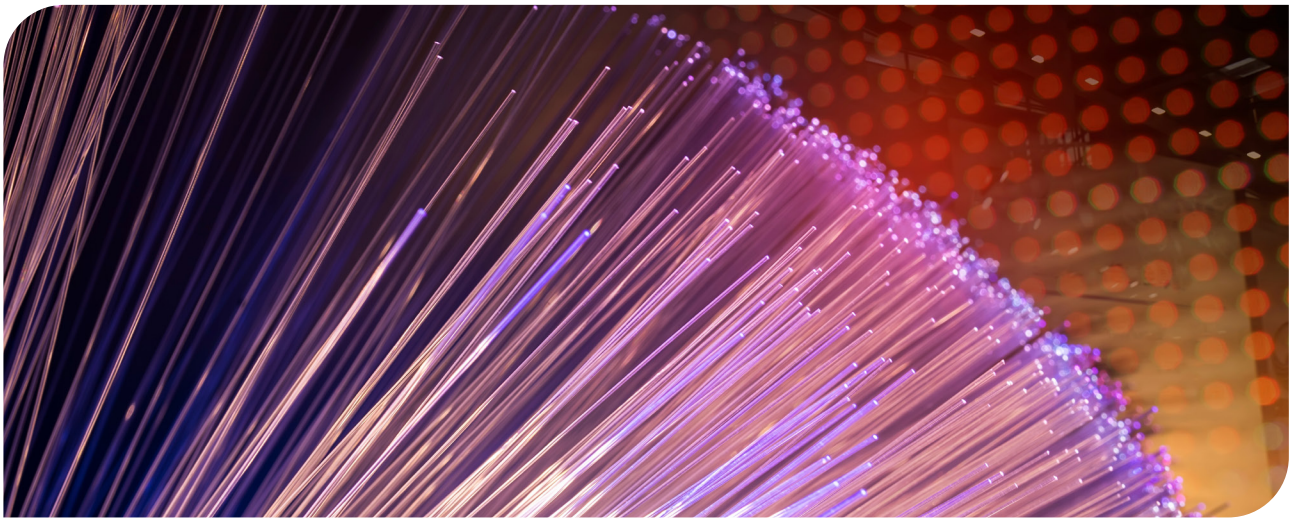
Open Fiber is also committed to disseminating the results of the monitoring and impact assessments it carries out on an ongoing basis to interested parties, both through dedicated meetings with institutions (for example during conferences on innovation or digitalisation) and during communication events aimed at citizens (for example press conferences and meetings with associations). These occasions are promoted and have wide visibility on the company website, where there is also a specific section for press releases[12]. Moreover, such initiatives are also promoted on the most relevant social media outlets.

During 2024, Open Fiber organised and took part in **over 40 public events** aimed at spreading the company's *Mission* and informing the community about the opportunities arising from the spread of an ultra-broadband infrastructure. The events, which were always carried out in partnership with or in the presence of institutional stakeholders, took on different forms and purposes: from press conferences for the opening of construction sites or the commercialisation of services in the various municipalities, to sustainability events and the organisation of institutional discussions on specific projects and topics.

On the occasion of the fortieth **National Assembly of Italian Municipalities (ANCI) 2023**, by virtue of its role as enabler and promoter of the country's digital transformation, Open Fiber has adopted the most effective channels to establish a continuous, participatory and transparent dialogue with its stakeholders, raising their awareness of the advantages of the technological infrastructure and the potential to activate innovative services. Then, to emphasise its commitment to environmental sustainability, it created a stand with structures made of recycled aluminium, cardboard and fabrics printed using the sublimation technique. This method, based on the use of sustainable materials, allows the reuse of the structures for future initiatives, thus reducing the environmental impact.

Open Fiber set up channels for handling requests for information and complaints from stakeholders, committing to provide a timely response in a very short time, both through the contact *forms* on

12 See the website: https://openfiber.it/mondo-open-fiber/comunicati-stampa/



DIGITAL COMMUNICATION

The **web**, and social media in particular, are the means through which Open Fiber creates a direct line connecting it with the needs and expectations of its users, interacting with them directly. In recent years, the company has worked to increase its fanbase and its interactions in order to make these channels of dialogue with stakeholders more and more active, increase activities and generate followers' interest in sustainability issues. The commitment to social communication has allowed the company to reach, at the end of 2024, **over 109 thousand** followers on the **LinkedIn** profile, **over 88 thousand** on **Facebook, 23 thousand** on **X** and **over 10 thousand** on **Instagram**.

2024 SPECIAL PROJECT - "VITA LENTA, CONNESSIONE ULTRAVELOCE"

In 2024, the special project **"Vita lenta, connessione ultraveloce"** (Slow living, ultra-fast connection) was launched on **Instagram**. The campaign, aimed specifically at **Piedmont** and **Sicily**, involved four local influencers, whose voices told the story of the perfect harmony between ultra-fast technology and a more conscious and slow lifestyle. Today, more and more people are choosing to stay in or return to their home villages after the lockdown, or to work remotely from remote areas, embracing a concept of a **more sustainable life**, far from the urban chaos and characterised by a more relaxed pace. However, a slow life cannot be separated from an ultra-fast connection. The collaboration with influencers deeply connected to the territory has allowed us to tell the story of the beauty of some villages that, thanks to Open Fiber's fiber optics, can now take advantage of the same innovative services available in big cities. The published content has obtained significant results both in terms of total views on social media and reach.

the website and through the activation of **social network outlets**. Analysing the requests received in 2024, most of them are of an informative nature, mainly of a general nature. These are followed by requests regarding the coverage and saleability of their property. Most of the complaints, on the other hand, are related to inconvenience caused by construction work.

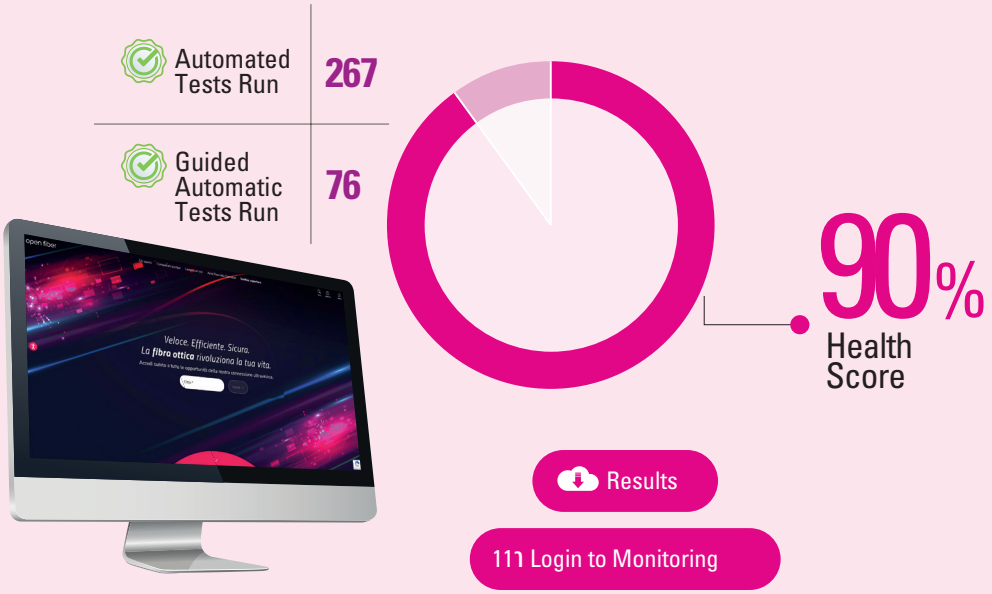
A more widespread and accessible internet network inevitably increases social inclusion. Despite the fact that the internet and smartphones have been indispensable in our daily lives for over ten years now, the percentage of websites inaccessible to people with disabilities is still around 95% in Italy. Open Fiber, already committed to the issue of inclusivity with the creation of the largest ultra-

OPEN SUSTAINABILITY

In 2024, the **"Open Sustainability" column**, launched by Open Fiber in 2023, continued on the **Company's social media outlets** (Facebook, X, LinkedIn and Instagram). This monthly event offers a periodic overview of the Company's commitments and results on **sustainable development** issues. Over time, specific aspects relating to the three pillars of sustainability have been explored: social, environmental and governance. Open Sustainability has embraced some of the **main results** achieved by Open Fiber, becoming the **ideal vehicle** through which to communicate the company's commitment to a young target audience.



Vuoi navigare ultraveloce e rispettare l'ambiente?
La fibra ottica di Open Fiber come soluzione sostenibile.



BEST IN MEDIA COMMUNICATION

Open Fiber has made transparency a cornerstone of its communication strategy. This is demonstrated by the fact that in 2024, for the **fifth year in a row**, it obtained the Best in Media Communication certification from **Fortune Italia** and **Eikon Strategic Consulting**. BIC certification is a prestigious award given to companies that communicate their mission, progress and results through effective **communication strategies and partnerships with important organisations** in their sector. A selection extended to all commercial sectors - companies, organisations and institutions - that are evaluated using a scientific method based on measurable criteria: the company's reputation in the media, the impact of the communications team's work and the opinion of journalists and experts.

fast infrastructure in Italy thanks to which citizens can enjoy equal opportunities and services, has implemented a tool on its website that facilitates the use of content by people with disabilities through **Artificial Intelligence** and the **Accessibility Interface**, to guarantee a higher level of accessibility. The latter consists of a very intuitive management panel that provides access to six profiles: safe profile for epilepsy; visually impaired profile; ADHD friendly profile; cognitive disability profile; navigation keyboard; blind users. Each user can configure their own profile independently thanks to a specific section of the interface that allows them to adjust the display mode for better readability. The section is dedicated to profiles with specific learning disabilities (SLD) and to all users with visual impairments, such as blurred vision and low vision.

As part of the project, Open Fiber carried out an accessibility evaluation of its website (openfiber.it) to verify its compliance with the "**Web Content Accessibility Guidelines 2.1**" and it resulted as being 100% compliant with **AA level of implementation** and 90% of the maximum level achievable.

1.4 OUR ULTRA-FAST NETWORK

Open Fiber's infrastructure consists of an ultra-broadband network built mainly using FTTH (Fiber To The Home) technology, which guarantees **fast, efficient and reliable** data transmission. Unlike copper networks, whose cables are affected by wear and tear, adverse weather conditions and long distances, the technology behind fiber



OPTICAL FIBER: AN ENVIRONMENTALLY SUSTAINABLE SOLUTION

One of the most interesting characteristics of the optical fiber is that it is a technology **with a low environmental impact**. The material it is made of is, in fact, generally synthesized from silicon, and, unlike copper, does not require mining. The small size of the cables means they can be laid using techniques that minimize excavation and atmospheric emissions.
Furthermore, all the network elements are 'passive', i.e. they do not require a continuous supply of electricity, thus minimising energy consumption.

SPEED UP TO 10 GIGABIT PER SECOND

Open Fiber adjusted its network infrastructure to provide FTTH connectivity services up to 10 Gigabits per second for downloads and 10 Gigabits per second for uploads to end customers in the main national cities and all municipalities belonging to the Italian 1 Giga Areas.

optics guarantees optimal performance in all conditions. This advantage is made possible by the composition of the cables, which maintain constant performance regardless of distance and external agents, and allow the internal material to bend easily without breaking or being damaged, thanks to its extreme flexibility. In the most inaccessible areas, Open Fiber uses FWA (Fixed Wireless Access technology).
Another advantage of optical fiber is that it is **"future-proof"**, i.e., it can support all the potential of new technologies that will arrive in the near future. In fact, optical fiber is designed not to become obsolete as technological progress advances, always guaranteeing efficient performance even with increased bandwidth demand. Thanks to these qualities, fiber optics, particularly in the FTTH configuration, ensure faster internet connections and extremely reduced latency times (of the order of milliseconds), thus making it the ideal solution for sending and receiving large quantities of data.

1.4.1 THE INFRASTRUCTURE FEATURES

End-to-end process

Open Fiber's network reliability is the result of both the intrinsic characteristics of optical fiber and careful **end-to-end management**. This process includes strategic planning of nationwide coverage and the adoption of advanced technological solutions for the creation of the network (**Network Creation**[13] activities) and also comprises the management of the **Delivery** (connection between the property unit and the fiber optic network or the FWA[14]) and the **Assurance** (maintenance and prevention of potential causes of damage to the network).
Open Fiber's careful control over every part of the operational process begins with the meticulous selection of raw materials and the contractors who carry out the activities through the initial qualification process[15], up to the establishment of strict contractual requirements, specific Service Level Agreements (SLA) for each type of intervention and relative penalties applicable in case of non-fulfilment.

13 For more details on the Network Creation activities, see paragraph 2.3.2 "Non-invasive laying techniques".

14 Fixed Wireless Access.

15 For more details on qualification activities, see paragraph 6.5 "Supply chain empowerment" and the dedicated section on the Company website https://openfiber.it/fornitori/diventa-fornitore/

DIGITAL MONITORING DURING THE PROCESS OF NETWORK CREATION

Open Fiber digitally monitors the progress of the work on the network by checking the network inventory information systems used for network construction activities (pre-site preparation, construction and partial and final progress, pre-testing, testing and As Built). Companies are required to constantly update the information systems, providing all the documentation necessary to trace the work carried out in a workmanlike manner (material technical data sheets, photographic documentation of the work, certifications relating to waste disposal).

In addition, it works to activate a performance monitoring system through field checks and audits and periodic evaluations through the attribution of a **Vendor Rating Index**, representative of technical-economic, productive, environmental and social performance.

In order to manage the Delivery and Assurance activities, Open Fiber hired specialised companies through specific platforms by opening Work Orders (WO) and Trouble Tickets (TT). The chosen companies are made up of qualified personnel, respect the principles of the occupational health and safety and guarantee the availability of equipment and tools, hardware and software necessary for the perfect execution of the planned works. The quality of the service offered is also reflected in the compliance with precise behavioural standards by the companies that operate in contact with the customer. These include punctuality, speed and professionalism in operations, as well as attention to cleanliness and order. In addition, it is essential to guarantee availability and courtesy, to act in accordance with the principles of fairness and confidentiality and to refuse any form of compensation from the customer for activities related to the installation.

Rigorous controls on materials

In order to ensure maximum reliability and the highest level of network performance, all the main materials and components that make up the fiber optic network are subject to strict technical specifications defined by Open Fiber (for Cluster A&B) or jointly with the Grantor Infratel Italia (for Cluster C&D and 1 Giga Piano Italia lots).

The supplier that collaborates with the Company must demonstrate that the material complies with the technical specifications to guarantee products that meet the established quality standards. This compliance is certified by a third-party certification body approved by Open Fiber and all materials are subjected to tests performed on production batches on samples randomly taken from the batches themselves. Furthermore, production procedures must provide for the complete traceability of each raw material used in the process.

Open Fiber reserves the right to carry out further checks, such as:

- **inspections** to ascertain compliance with the contractual technical requirements relating to the supply of materials and the adequacy and proper implementation of the Management

DELIVERY AND ASSURANCE

In order to make sure that the Customer receives the best possible service, Open Fiber intervenes on two fronts through Delivery and Assurance activities. The **Delivery** service connects individual properties to the fiber optic network or FWA and, where necessary and authorised by Open Fiber, carries out the essential operations to guarantee the connection of the Customer's property and the activation of the requested services. The **Assurance** service deals with maintenance activities concerning the network and infrastructure, aimed at guaranteeing that the technological services remain in perfect working order, and that the services provided by Open Fiber are continuous and regular, preventing potential causes of damage.

System for the Quality of the supplier, in accordance with the UNI EN ISO 9001 standard, and possibly, of the sub-suppliers;

- **testing**, **off-line tests** and **compliance tests**, as well as all appropriate checks on the products and materials supplied, in order to confirm the reliability characteristics declared during the tender process.

Furthermore, with regard to the implementation of the Company's "Green" approach to the management of materials for the construction of the network, the following activities are being studied and scouted:

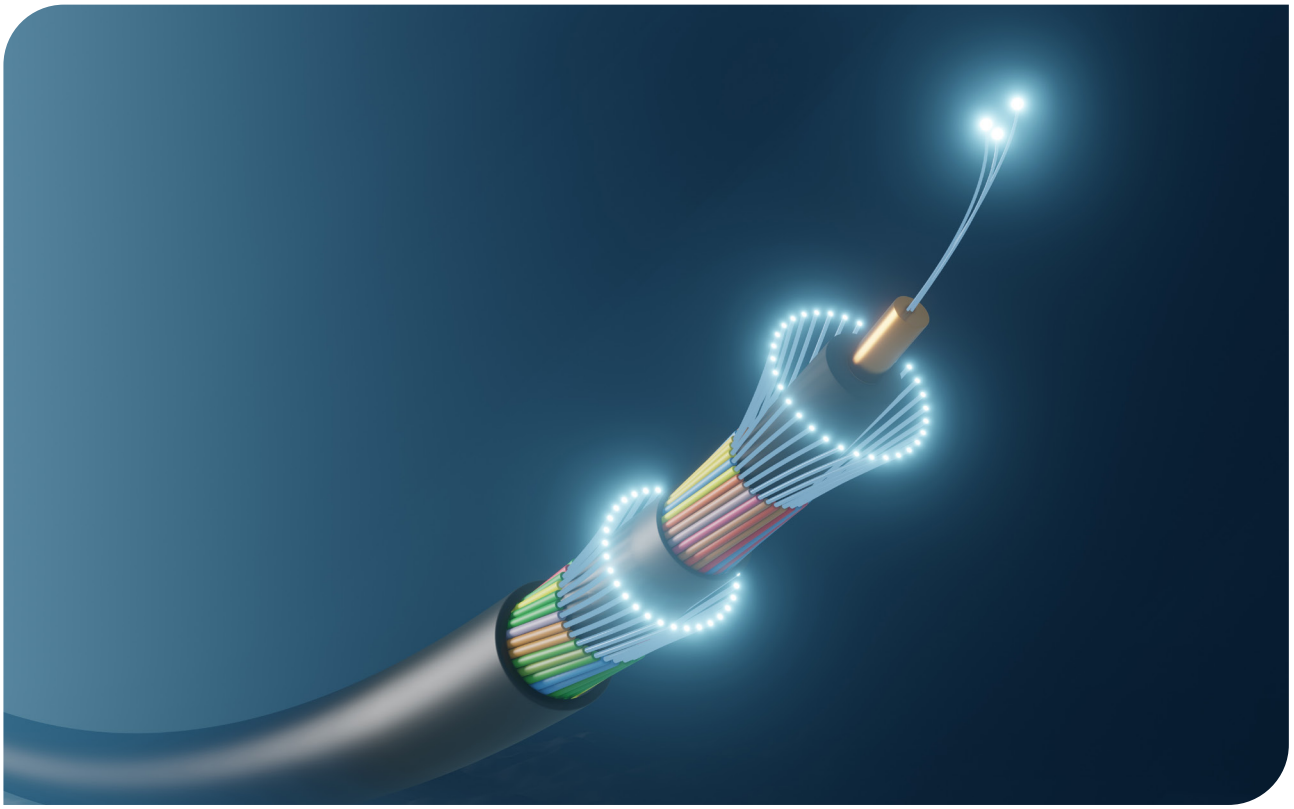
- the **use of minitubes** to protect fiber optic cables made of polyethylene derived for at least 70% from recovered or recycled materials;
- the **reduction in the number of materials used** for individual packaging and incentives to use only ecological and completely recyclable materials for packaging.

Network protection and monitoring

A project as ambitious as that of Open Fiber requires constant attention. With the expansion and growing complexity of the ultra-broadband network, there is a need to manage it using advanced technologies and highly specialised skills.

The monitoring and control of the correct functioning of Open Fiber's ultra-broadband infrastructure throughout the country is carried out by the **Service Operation Centre (SOC),** which is active 24 hours a day, all year round, in order to safeguard not only the structure, but also the continuity and quality of the service to its customers. Operating in this way guarantees prompt and rapid intervention at the first sign of malfunction. The SOC is equipped with over 100 workstations and is divided into 2 sections: Delivery and Assurance.

The Delivery system takes care of activating the network for the end user based on the requests of Open Fiber Partner Operators who have purchased services on the "wholesale only" market. The Assurance systems, thanks to 24/7 monitoring and the use of optical reflectors installed at each individual user's home, are designed to identify and intervene, in case of faults or anomalies in the FTTH network service, on the status of the individual optical fiber activated.



Anomalies are detected in two **ways** of identifying faults or anomalies: **reactive** and **proactive**. In the first mode, the malfunction is reported by the partner operators who manage the customers. Once the message is received, Open Fiber locates the anomaly and intervenes at the exact point where the fault occurs. The proactive method, on the other hand, consists of anticipating the report. To do this, technicians have created extremely advanced alarm systems, which are activated thanks to sensors that use the digital technology of the Internet of Things (IoT) inserted in the POPs (Point of Presence) and along the entire network route. In this way, suppliers can restore the service as soon as the anomaly is identified.

1.4.2 CREATION PROCESS

As regards the **process of creating** the ultra-broadband fiber optic network infrastructure, the Open Fiber intervention model is initiated at the moment of signing an agreement with the local administration concerned[16]. The agreement includes methods, work schedules, technical and safety standards to minimise the impact on the environment, the cultural heritage and the landscape, as well as any inconvenience to citizens during the work and the excavation methods for laying the fiber optic cable. After obtaining all the permits and administrative authorisations, the activities that will bring optical fiber to the buildings begin, divided into six phases:

1. **exploration phase:** the process begins with the collection of useful information for the definition of the project, such as the number of buildings to be wired and the number of property units to be connected (PU). Next, the possibility of laying the fiber using existing infrastructures or through new construction is evaluated. In this phase, called Walk Out, the communication and authorisation models[17] are released. Some of those models are addressed to local authorities, the building superintendent or the owner of the single house/business. Once the forms have been collected, we proceed with the internal census through the inspection of the buildings (a phase called Walk In);
2. **design phase:** once the data, information and documentation have been collected, a "general project" is developed, in which the details of the activities are defined, in particular the work to be carried out, the type of installation (for example the type of excavation), the dimensioning of the network elements, and the positioning of the PFS (secondary flexibility point) street cabinet. During this phase it is important to take into account the so-called PoPs, Point of Presence, the infrastructure nodes that host the elements of the fixed access network and those of transport/backhauling. These are the very elements that allow the aggregation and distribution of traffic on the network, whether it is access or delivery traffic. The objective is to identify the most efficient configuration and method for positioning and connecting them. Once approval has been received, the project becomes executive and authorisation is requested from the competent offices;
3. **creation phase:** this concerns the creation of the FTTH connection system, through which the PoPs are created and connected to the buildings using optical fiber. The PoPs can be created indoors (inside existing buildings) or outdoors (with the construction of prefabricated structures called shelters and/or cabinets). In this phase, the fiber is grounded, the street cabinet is installed and the Building Termination Point (BTP) or Advanced Point is installed to reach individual homes, offices, businesses and public administration offices. When

16 For more details, see paragraph 4.3.2 "Relations with local authorities and entities in the permitting process".

17 For example: notice of the beginning of works, authorisation to install and operate the FTTH fiber optic network built by the Municipality, authorisation to access the building.

DESIGN DIGITALISATION

In 2024, Open Fiber adopted advanced digitalisation solutions to optimise the design and implementation of the fiber optic network, focusing on two main aspects: the use of the Digital Twin for 3D territorial mapping and the complete digitalisation of authorisation procedures with the competent authorities.

Digital Twin: 3D land mapping

Digital Twin is an accurate virtual replica of a physical environment, which allows various design scenarios to be simulated and analysed. Open Fiber has implemented the RealCity platform, which creates detailed three-dimensional models of the areas to be cabled. This technology offers several advantages:

- **accurate planning:** 3D mapping provides a detailed view of the land, making it easier to identify the best routes for laying the optical fiber and minimising environmental and urban impact.
- **reduction of design errors:** virtual simulation allows us to anticipate and resolve potential critical issues, improving the precision of the design and reducing the need for modifications during the work.
- **operational efficiency:** remote access to 3D models allows design teams and local administrations to collaborate more effectively, speeding up decision-making and authorisation processes.

By adopting RealCity, Open Fiber has become one of the first companies in Italy to use the Digital Twin on a large scale for the design of TLC infrastructures.

Digitalisation of authorisation and reuse practices

Open Fiber further boosted the digitisation of existing IRU (Indefeasible Right of Use) authorisation and application practices, implementing an advanced system for the integrated management of authorisations for the construction of fiber optic infrastructures. This centralised system allows the status of each request to be monitored in real time, optimising communication between the departments involved and ensuring greater transparency and traceability in the authorisation process. Thanks to the adoption of these digital solutions, Open Fiber has significantly reduced the time it takes to issue authorisations, improving operational efficiency and accelerating the expansion of the fiber optic network throughout the country. In this case, digital transformation not only optimises internal processes, but also contributes to greater collaboration with local authorities and the relevant bodies, promoting faster and more coordinated infrastructural development. In short, the integration of the Digital Twin and the digitalisation of authorisation practices represent a significant step for Open Fiber towards more efficient, reliable and sustainable design, in line with the country's innovation and modernisation objectives.

laying the infrastructure, Open Fiber prefers methods that have a lower impact not only on the environment, but also on the community in terms of the inconvenience caused by the sheer presence of the construction site[18]. Once the points of interest have been connected, the sections are tested;

4. **restoration phase:** once the infrastructure has been built and tested, the road surface is restored, minimising inconvenience to citizens and trying to be as non-invasive as possible, also from an environmental point of view. These operations are completely paid for by Open Fiber, which means that they do not involve any expense for the municipal administration. Such phase follows a well-defined procedure:
   - a temporary system, which involves excavation and has a laying period of at least 30 days. This is a necessary process for the settlement of the ground and is characterised by a strip of cement mortar;
   - once the technical time required for the soil to settle has elapsed, the second phase begins, consisting of the final restoration, which involves cutting a portion of the roadway and resurfacing the road;
5. **service activation phase:** to activate the service, the end customer - based on the city

18 For more details, see paragraph 2.3.2 "Non-invasive laying techniques".

in which they are located - must contact the operator best suited to their needs and choose from the various offers available, operators with whom Open Fiber has commercial agreements aimed at providing the service to the customer. Once the contract has been signed with the operator, the latter will contact Open Fiber to begin the final installation phase;

6. **installation phase:** in the last phase of the process, Open Fiber receives an "Activation request" from an operator with all the customer's information, books the network resources and contacts the customer to define the date and time of the intervention at the user's home. The operation takes about 2-3 hours, and involves the installation of the optical terminal and the testing of the connection using test equipment, with the support of the Open Fiber SOC (Services Operations Center)[19].

1.5 ECONOMIC PERFORMANCE

1.5.1 MARKET CONTEXT

For some years now, the world economy has been going through a particularly complex phase, characterised by the uncertainties generated by the Russia-Ukraine conflict, which between 2022 and 2023 has profoundly influenced the European geopolitical scenario, with repercussions on the main macroeconomic indicators. One of the most significant challenges at a global level concerns tensions in the energy market, where the sharp increase in the price of raw materials (oil and natural gas) has led to significant changes in energy costs. This dynamic has contributed to an unprecedented wave of inflation, compounded by difficulties along the value chains, which were already put to the test during the acute phase of the pandemic. The resulting supply chain bottlenecks have made the procurement of essential materials and components for production particularly critical, further affecting the global economic equilibrium. The sector most affected by this situation, with an impact on Open Fiber's value chain, is the petrochemical industry, to which the Company is linked for the supply of asphalt, necessary for road resurfacing operations following the construction and testing of the ultra-broadband fiber optic network infrastructure. The current geopolitical situation has therefore led to an inevitable increase in costs for Open Fiber for the progress of the fiber optic installation work, which the company has nevertheless been able to manage and carry out without significant slowdowns in operations.

2024 was the eighth year of operation for Open Fiber, which remains committed to its mission of creating, managing and marketing a **"future-proof"** infrastructure in all Italian regions. At the end of the year, connectivity services on the Open Fiber network were available in **240 big and medium-sized cities**. In the white areas, where the Company operates as an Infratel licensee, ultra-fast connectivity on the public network created by Open Fiber was available at the end of the year in **more than 6,600 small Municipalities**. In the grey areas, falling into the 8 lots of the *Italia a 1 Giga* Plan, Open Fiber reached **503 municipalities in the so-called industrial districts.**

Open Fiber's infrastructure is a **passive multi-operator network**, mainly based on the FTTH (Fiber To The Home) standard, which supports both GPON[20] "point-to-multipoint" connections and P2P "point-to-point" connections. This technology guarantees a high-quality network, with high levels of performance and transmission speeds of up to 10 Gbps. Thanks to the new standards, the same network will be able to reach speeds of over 40 Gbps in the future. Open

19 For more details, see paragraph 1.4 "Our ultra-fast network".

20 Gigabit-capable Passive Optical Network.

DIGITAL DECADE RESULTS

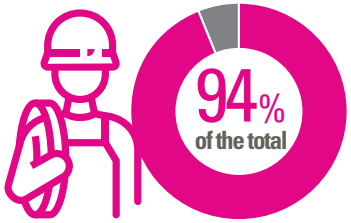
According to the **Report on the State of the Digital Decade 2024**, Italy has made progress in the field of e-government, particularly in e-health and digital public services that are essential for businesses, and has continued to make progress in the spread of gigabit networks. Despite these steps forward, particularly significant challenges persist in relation to digital skills, not to mention the fact that Italian companies are lagging behind in the adoption of advanced technologies such as AI.
In recent years, also based on the National Recovery and Resilience Plan, Italy has made significant efforts to promote and initiate the country's **digital transformation**, intensifying initiatives to digitise the public administration, support the digital revolution of companies and improve sector skills throughout the country. Furthermore, Italy can count on a solid base in sectors such as **semiconductors**, **edge computing** and **quantum**, which are fundamental for the country's positioning and technological leadership. According to the Special Eurobarometer 'Digital Decade 2024', **71% of Italians** believe that the digitisation of daily public and private services is making their lives easier (73% in the EU), a figure that needs to be improved by involving all citizens.
Another key aspect is participation in joint initiatives with other EU Member States. Italy is currently involved in **nine European Digital Infrastructure Consortia** (EDIC) that are already established or in the process of being established, and in Important Projects of Common European Interest (IPCEI) in the field of cloud infrastructure and services and microelectronics.
In the distribution of funds, Italy allocates **25.6%** of its overall Recovery and Resilience Plan (47 billion euros) to digital, which represents a significant opportunity, but it remains an insufficient economic effort to fully achieve the **objectives of the Digital Decade**, which requires a strong focus on implementation and alignment with the various existing strategic plans. Under the cohesion policy, a further 5.5 billion euros (13% of the country's total cohesion policy funding) is earmarked for Italy's digital transformation.

FTTH FIBER OPTIC FIGURES IN WHITE AREAS

In line with the concession issued by Infratel, the project to adopt the ultra-fast broadband for families, young people and small businesses in white areas involves the construction of over 90,000 km of network (more than twice the Earth's circumference) and the issue of over 100 thousand authorisations in 6,051 municipalities, to reach a total of 6.27 million properties (apartments, offices, companies, Public Administration offices).



Over 84,500
km of network *Built as of 31/12/24*



As of 31 December 2024, more than **84,500 km** of network had been built, i.e., **94%** of the total planned. The kilometres of network represent the infrastructural development (construction, excavation, reuse, laying of cables, etc.) necessary for the construction of the network under concession. During the course of 2024, more than **9,900 km** of infrastructure were built.

Fiber is committed to promoting Italy's digital growth, encouraging technological inclusion and bridging the gap between those who have access to modern information and communication technologies and those who, for technical, economic or social reasons, are still excluded.

Since entering the market in 2017, Open Fiber has helped Italy climb the rankings on the digitalisation of the economy, after years of low investment. As proof of such results, there are the official documents issued by the European Union and the AGCOM[21] as well as the reports produced by IDATE for the FTTH Council. Moreover, the last reports of the DESI[22] index and the **Report on the State of the Digital Decade 2024**[23], certify Italy's advances in terms of VHCN (Very High Capacity Networks) coverage, which moved from 22% in 2017 to 59.6% in 2023.

As regards the FTTH/B[24] coverage, the FTTH Council reports in the 2024 edition of the FTTH/B Market Panorama that Italy is among the five fastest growing markets in terms of new FTTH and FTTB subscribers. Furthermore, Italy has seen an increase in its **households passed with FTTH/B to 59%** and, in rural areas, our country has **41% coverage** of areas with a population density of less than 150 inhabitants per km^2 [25]. Although it doesn't correspond perfectly to the classification of white areas set out by the Ministry of Enterprises and Made in Italy, the FTTH Council's figure for Italy in 2015 was 0%. The results obtained in recent years clearly show the positive impact Open Fiber has had on coverage in these areas.

1.5.2 OPEN FIBER PERFORMANCES

Open Fiber is working to bring innovation to the whole country and stimulate a long-term socio-economic growth of businesses, organisations and the Public Administration. The multi-year plan involves covering **over 21 million households passed**, through the development and installation of a fiber optic infrastructure covering over 200,000 km throughout the country.

Despite the objective impediments to operations that characterised the last few years (from the Covid-19 health emergency to the Russia-Ukraine conflict), Open Fiber managed to carry out its network implementation plan and guarantee its service at all times, which has become even more essential for citizens, for companies and for the Public Administration.

1.5.3 BUSINESS DEVELOPMENT AND NETWORK EXPANSION

During 2024, 1.6 million households passed were connected, reaching a total coverage of approximately **18.7 million households passed**[26], thus recording a **9% increase** compared to the previous year.

Infratel Italia's calls for tenders stipulate that, once the work has been completed, the finished buildings must be inspected by the Grantor before they are put up for sale. In addition to Infratel checking that the network is functioning effectively and that the work has been carried out to a high standard, this process includes the complete drafting of the documentation necessary for the technical reporting of the work carried out and any changes made during the course of the work.

21 Italian Communications Regulatory Authority.

22 Digital Economy and Society Index.

23 Since 2023, and in line with the strategic programme for the digital decade 2030, DESI has been integrated into the report on the state of the digital decade and used to monitor progress towards achieving the digital objectives. Data source: Report on the State of the Digital Decade 2024.

24 Fiber To The Home / Fiber To The Building.

25 Source FTTH/B in Rural Areas 2024, FTTH Council Europe.

26 Of these, 2.7 million households passed were connected using FWA technology within the C&D cluster and 162 thousand within the Grey Areas cluster.

FIGURE 8: HOUSEHOLDS PASSED



The total number of **Municipalities being marketed as of 31/12/2024 is 7,358**, of which 6,615 fall under C&D Cluster (under Infratel Italia S.p.A licence)[27] and 503 are located in the grey areas of *Italia a 1 Giga* Plan.

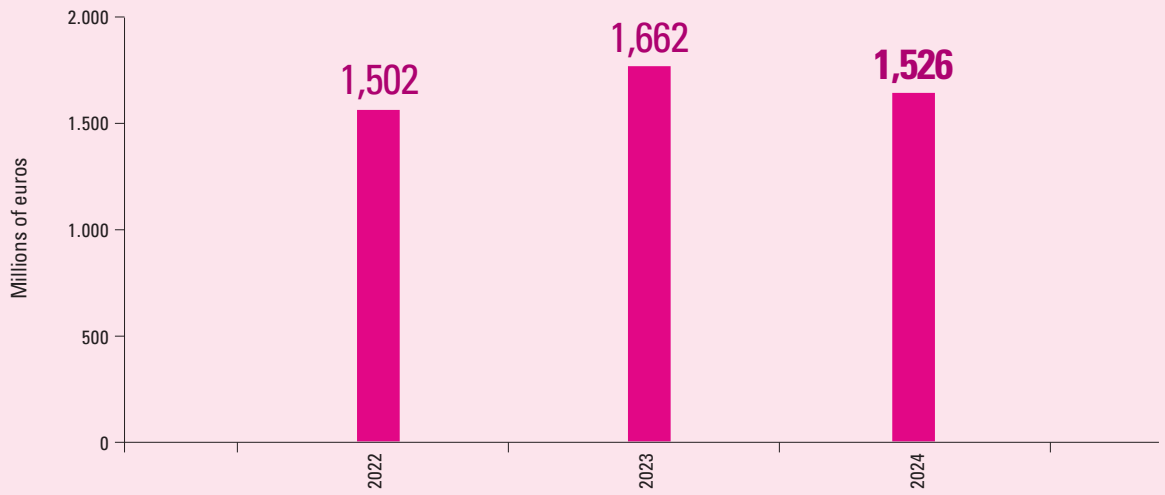
TABLES 1: MUNICIPALITIES BEING MARKETED

Description	U.M.	2022	2023	2024
A&B Cluster Municipalities	n.	238	239	240
C&D Cluster Municipalities	n.	4,690	5,840	6,615
Grey Areas Cluster Municipalities	n.	-	145	503
Total marketed Municipalities	**n.**	**4,928**	**6,224**	**7,358**



27 With reference to the performance in developing the network in the areas of market failure included in the first and second calls for tenders, Open Fiber was only able to start activities in January 2018, after 13 appeals against the awarding of the Infratel concessions, which significantly delayed the signing and the complex definition of the Operating Manual for the tenders for the awarding of the works. Activities for the regions included in the third call for tenders were launched in the second half of 2019 following the signing of the Concession in April 2019.

FIGURE 9: OVERALL INVESTMENTS IN THE 2022-2024 PERIOD



PROJECT FINANCING IN SUPPORT OF THE BUSINESS PLAN

On 14 February 2022, the Company signed a new loan agreement with a pool of banks for a committed amount of up to a total of 7,175 million euros. At the beginning of 2025, it entered into an additional committed term loan facility (so-called Incremental Debt Facility, IDF) for a further 1,050 million euros, which is intended to cover the Company's needs as set out in the latest approved Business Plan and is the largest ever in EMEA (Europe, Middle East and Africa) for investments in telecommunications networks.

1.5.4 INVESTMENTS

The Company's overall investments[28] which in 2024 amounted to **1,526 million euros**, mainly concern the creation of the network and network infrastructures, and the acquisition of usage rights for third-party infrastructures (IRU[29]), the development of software and IT equipment, improvements to third-party assets both for the network infrastructure and for the Company's offices, as well as the creation of the licensed network.

1.5.5 THE GENERATED AND DISTRIBUTED ECONOMIC VALUE

Open Fiber pays particular attention to sustainability and for this reason it is committed to achieving sustainability objectives from an economic point of view, through the generation and distribution of economic value not only for the Company, but also for its stakeholders. Despite being a young company, Open Fiber presents itself as a reliable partner with which to develop partnerships and grow over time, thus contributing to the strengthening of the national entrepreneurial fabric.

28 Total Investments: these include all the resources used by the Company to create its own network infrastructure and the network under concession, excluding rights of use in accordance with IFRS 16, financial charges in accordance with IAS 23 and gross of the portion of the contribution on the network under concession.

29 Indefeasible Right of Use.

TABLE 1: GENERATED AND DISTRIBUTED DIRECT ECONOMIC VALUE

Description	U.M.	2022	2023	2024
GENERATED ECONOMIC VALUE	**€/000**	**470,027**	**582,295**	**679,370**
Production value (total revenues)	€/000	469,903	581,501	674,798
Other financial income (financial income)	€/000	124	794	4,572
DISTRIBUTED ECONOMIC VALUE	**€/000**	**342,811**	**531,804**	**610,323**
Operational costs	€/000	170,357	219,440	246,656
Value distributed to the employees	€/000	88,761	102,016	110,017
Value distributed to capital providers	€/000	119,363	264,581	314,686
Value distributed to the Public Administration	€/000	(36,037)	(54,638)	(61,488)
Value distributed to the shareholders	€/000	-	-	-
Value distributed to the community	€/000	367	405	451
RETAINED ECONOMIC VALUE	**€/000**	**127,216**	**50,491**	**69,047**

FIGURE 10: TREND OF THE VALUE GENERATED, DISTRIBUTED AND WITHHELD IN THE 2022-2024 PERIOD

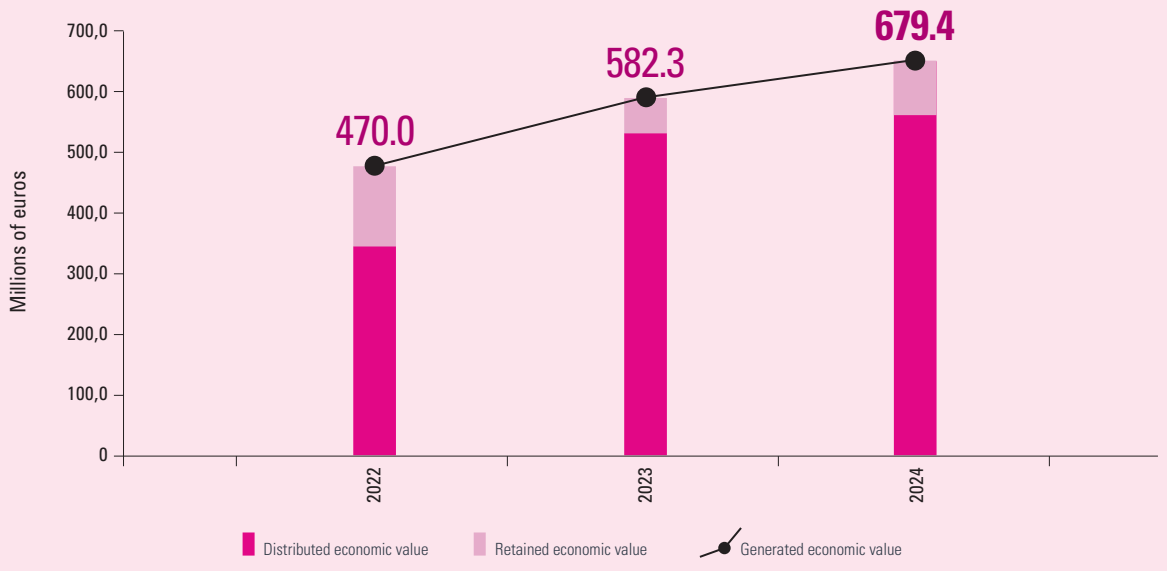
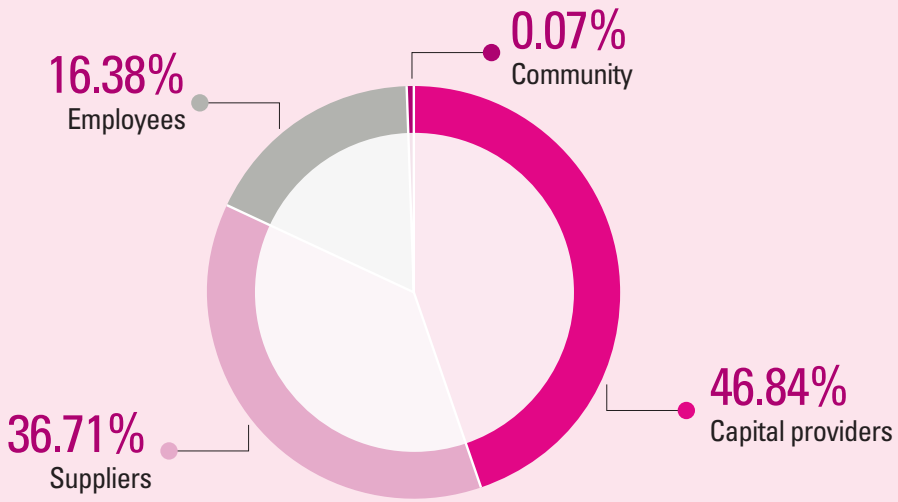


FIGURE 11: DISTRIBUTED ECONOMIC VALUE



In 2024, the **economic value directly generated**[30] amounted to 679.4 million euros, broken down as follows[31]:

- operational costs, i.e., the value distributed to **suppliers,** equal to approximately 246.7 million euros (+12% compared to 2023), which includes costs for services, costs for the use of third-party assets and management charges;
- the value distributed to **employees**, i.e. remuneration and benefits, equal to over 110 million euros (+8% compared to 2023);
- value distributed to **capital providers**, which includes financial charges, equal to approximately 314.7 million euros (+19% compared to 2023);
- the value distributed to the **Public Administration**, equal to approximately -61.5 million euros (for the 2024 financial year, it has a negative value as the total income taxes have not been effectively distributed to the Public Administration);
- the value distributed to the **local communities**, equal to approximately 451 thousand euros (+11% compared to 2023), mainly consisting of charitable donations, gifts and membership fees.

The **economic value withheld** by Open Fiber, equal to the difference between the value generated and the value distributed, includes the operating profit or loss, amortisation, depreciation, write-downs and provisions.

1.6 OPEN FIBER NETWORK SOLUTIONS: ACTIVE TO UNITE THE COUNTRY

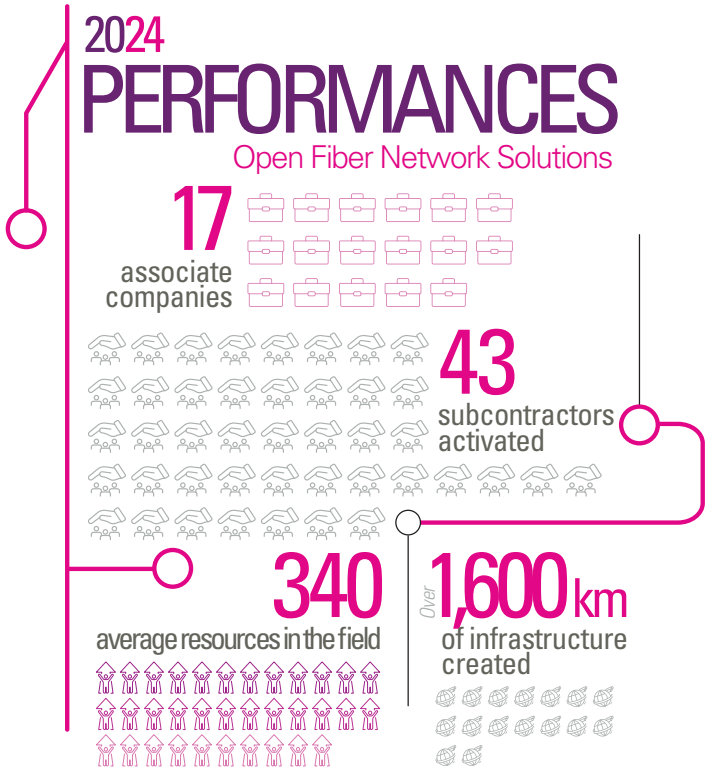
1.6.1 GOALS AND GOVERNANCE

Our country needs a fiber optic network that can bridge the distances between cities and small villages and connect people all over the country, offering services that look to the future. That is why, together with Amplia Infrastructures S.p.A. and C.I.E.L S.p.A.[32], Open Fiber S.p.A. founded the **Open**

30 The values reported refer to the consolidated Open Fiber S.p.A. and Open Fiber Network Solutions.

31 Starting from the 2021 reporting period, a change has been made in the reclassification of the value distributed to suppliers (e.g., operating costs), the Public Administration and the community for income statement items relating to other operating expenses.

32 Open Fiber Network Solutions S.c.a.r.l. was established on 24 March 2022 as a permanent consortium (pursuant to art. 45 of Legislative Decree 50/2016, the so-called "Procurement Code") in the form of a limited liability company. The Consortium has an expected duration of 10 years.



Fiber Network Solutions S.c.a.r.l. consortium in 2022, with the main goal of supporting the Company's strategic plan for the construction of a fiber optic infrastructure in the white and grey areas covered by the agreements signed between Open Fiber and Infratel Italia S.p.A. The Consortium aims to provide a concrete solution to the lack of specialised labour - a current problem also in the development of plans related to the National Recovery and Resilience Plan (PNRR) - by expanding the production capacity of the network of companies available on the market and thus promoting the implementation of the BUL Plan and the Bando Italia a 1 Giga. A team that will create thousands of kilometres of the country's new digital infrastructure.

In order to achieve this goal, and in the light of the numerous membership requests from both Italian and foreign companies, the Consortium has made provision for new members to join its organisation, subject to approval by the Consortium Assembly. As of 31 December 2024, OFNS includes, in addition to the three founding consortium members, fourteen other consortium members[33].

In May 2023, the Consortium's Board of Directors approved its Organisation and Management Model pursuant to Legislative Decree 231/2001. At the Shareholders' Meeting on 10 December 2024, the duration of the Consortium was extended to 10 years (initially planned to be 5 years).

OFNS, to guarantee greater control and focus on operational sites throughout Italy, has established three territorial areas (North East, North West, Centre-South), to follow up on the increase in requested activities, also in different domains (FWA, Delivery, Maintenance and Assurance).

1.6.2 2024 RESULTS

During 2024, the Consortium grew and consolidated thanks to an average of 340 resources deployed who, every day, work with professionalism and commitment and who, in twelve months, built **more than 1,600 km** of infrastructure. By the end of 2025, the Consortium estimates it will employ around 380 Open Fiber Network Solutions employees, 150 consortium members and over 100 subcontractors. The consortium members are required to guarantee specific economic, technical, reputational and in the field of health, safety and environmental protection, which are a priority in the performance of network construction activities in accordance with current regulations, as well as compliance with the commitment in terms of production capacity (i.e. resources dedicated to the execution of the FTE contract and means) undertaken at the time of the application for membership. Similar requirements are set for subcontractors.

Revenues recorded in 2024 amount to 33 million euros for white areas, and approximately 15 million euros for grey areas, and 0.4 million euros for delivery activities. The scope of activities includes the execution of works in white areas in 7 regions (Emilia-Romagna, Lazio, Liguria, Lombardy, Piedmont, Tuscany and Marche), in the grey areas in Tuscany, Lazio, Campania, Puglia, Sicily, Emilia-Romagna, Lombardy and Veneto, and, starting from August 2024, delivery activities in Tuscany, Lombardy, Veneto and Umbria.

33 Which together hold 1.4%.

1.6.3 RECRUITING AND HUMAN CAPITAL MANAGEMENT

Firmly convinced that the focus on people is achieved first and foremost through the protection of their rights - in terms of employment, empowerment, skills development and inclusion - the Consortium continued its collaboration with three Employment Agencies (*Agenzie per il Lavoro*, APL) throughout 2024, for both the "OFNS Academy" and "*Distretto Italia*"[34], with the aim of recruiting and training young people both as excavator operators, labourers and technical assistants, and for the search and selection of senior profiles for the construction sites. During 2024, two further framework agreements were signed, in line with those previously approved, with two other APLs for recruitment, selection and administration activities. A special project is planned for 2025, to be carried out with a temporary employment agency, aimed at hiring 40 new resources (profiles: excavator operators/jointers/installers) through language and technical training and subsequent recruitment in line with the Cutro decree. Preparatory activities were already started in 2024.

As of 31st December 2024, more than 15 employees from non-EU countries (Tunisia, Peru and Bangladesh), previously hired through the former Immigration Decree, were operating on OFNS construction sites. These resources have found a concrete and valid opportunity with guaranteed work, accommodation, food and transport.

Furthermore, to support the work-life balance promoted by Open Fiber, the Consortium has renewed an individual agreement for agile working (smart working), albeit reducing the number of days available per month, with a view to strengthening the supervision of operational activities and facilitating communication and interdepartmental collaboration.

On 7 June 2024, a memorandum of understanding was signed between the Department for Digital Transformation, the Department of Prison Administration (*Dipartimento dell'Amministrazione Penitenziaria*, DAP) of the Ministry of Justice, Infratel Italia, the Asi Consortium[35] in Caserta, ANIE SIT[36] and some TLC operators (including Open Fiber). The agreement aims to offer inmates new opportunities for reintegration into society through training and work. OFNS has also initiated a series of meetings, contacts and proposals with the management of the prisons in Vigevano, Volterra and Velletri aimed at employing prisoners in back office activities or in fiber optic construction sites. OFNS recognises the importance of the personal working condition, which is a fundamental principle when it comes to the reintegration of prisoners into society.

1.6.4 CERTIFICATIONS AND PERFORMANCE IMPROVEMENT

During 2024, the Consortium carried out audits required to retain the **certifications** it holds according to the international standards **UNI EN ISO 9001, UNI EN ISO 14001** and **UNI ISO 45001** (Management Systems for Quality, Occupational Health and Safety, and the Environment), and retained its **SOA certification** (OG1, OG3, OS19[37]) and the certification necessary to operate on the low and medium voltage electrical infrastructure.

Furthermore, in order to show how much it cares for issues related to health and safety at work and environmental protection, in 2024 it launched a series of initiatives aimed at improving HSE performance, such as:

- the consolidation of the organisational structure with internal personnel;
- the adoption of an "environmentally sustainable" vehicle fleet, with new low-emission vehicles.

34 *Distretto Italia* is a project of the ELIS Consortium. It brings together companies and training centres to give young people new opportunities: guidance, free training and a guaranteed job.

35 *Area Sviluppo Industriale* (Industrial Development Area).

36 ANIE SIT is the Association that, within the ANIE Federation, represents companies involved in the design, construction and maintenance of fixed and mobile technological infrastructures for telecommunications and associated services.

37 Categories of Works OG 1 "Civil and industrial buildings", OG 3 "Roads, motorways, bridges, viaducts, railways, underground" and OS 19 "Installations of telecommunications networks and transmission and treatment".

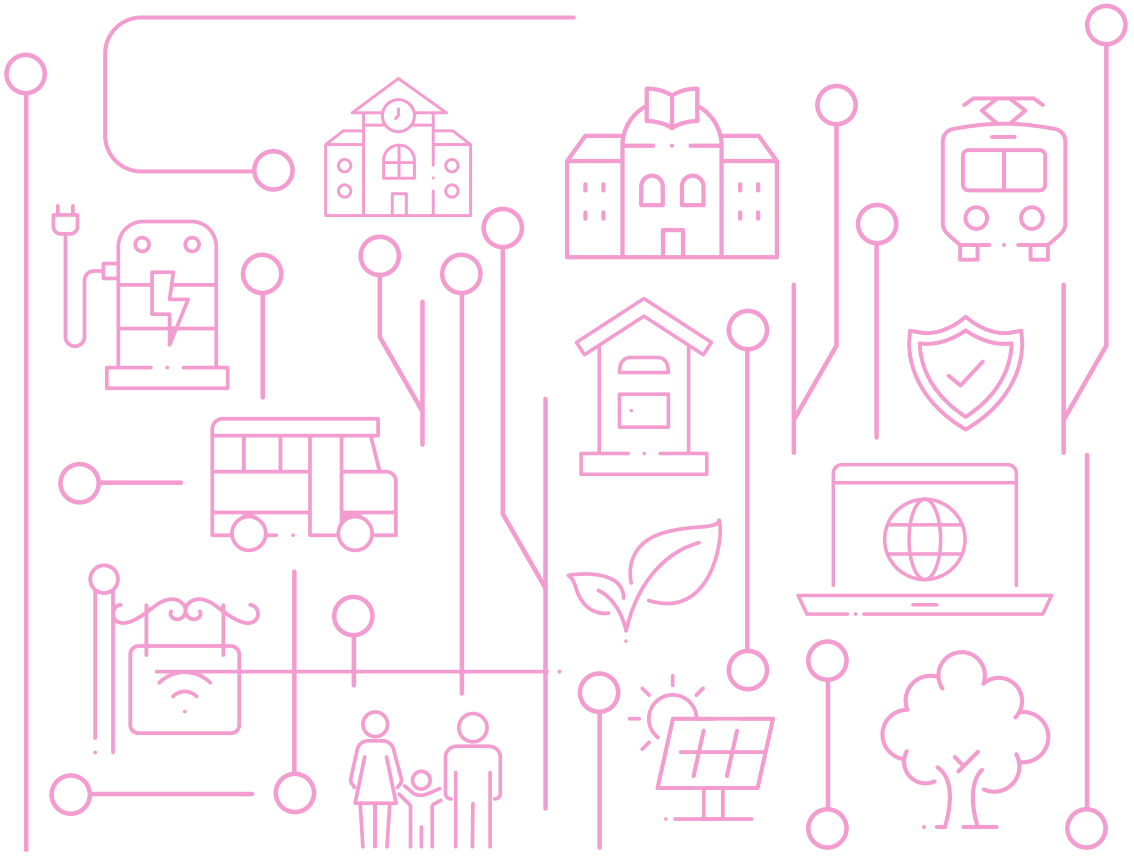


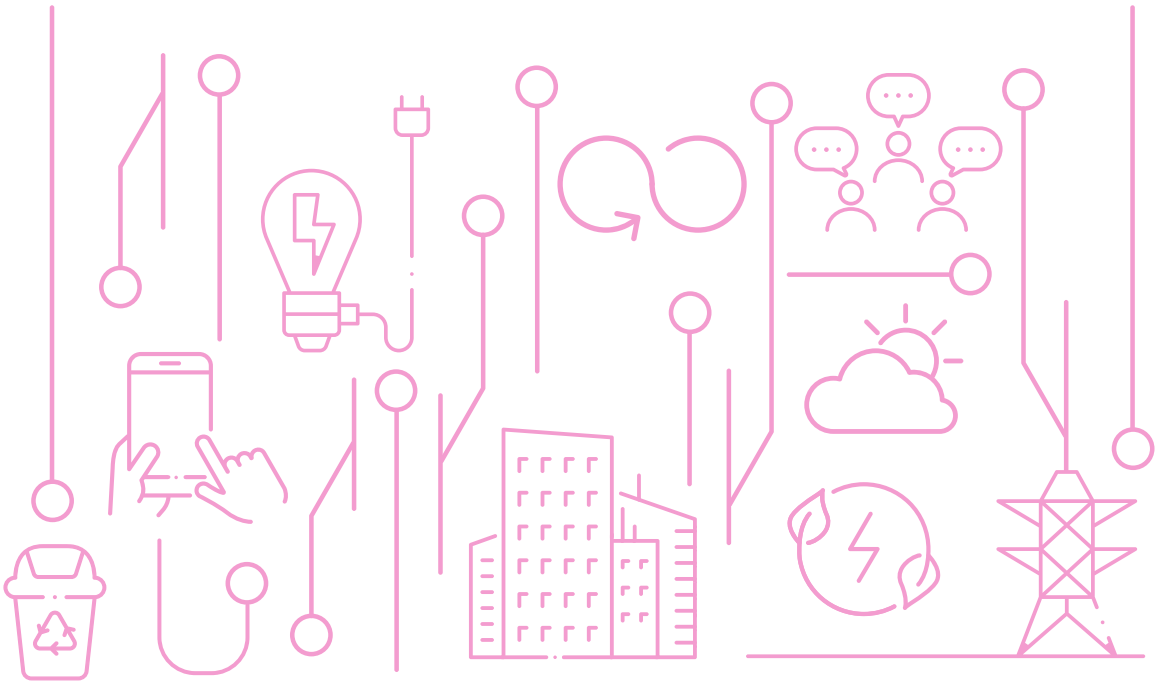


Fighting climate change

Circularity

Sustainable value chain





02. FIGHT AGAINST CLIMATE **CHANGE** AND PROTECTION OF RESOURCES

2.1 FIGHT AGAINST CLIMATE CHANGE

2.1.1 THE URGENCY TO ACT

Addressing **climate change** and **global warming** and their consequences is the main challenge facing everyone on the planet today, from large multinational corporations to institutions and individual citizens.

In addition to register unprecedented global temperatures, 2024 was the first year with an average temperature of 1.5°C higher than the pre-industrial level, a threshold established by the Paris Agreement to significantly reduce the risks and impacts of climate change. In 2024, multiple global records were broken (on the negative side) for greenhouse gas levels, carbon dioxide concentration, and air and sea surface temperatures, contributing to extreme events including floods, heatwaves and forest fires (in Italy alone there was a total of 351 events of this kind[38]). These alarming figures highlight the accelerating impacts of man-made climate change[39]. It is worth emphasising that a single year exceeding the 1.5°C threshold does not mean that the long-term temperature goals of the Paris Agreement, which are measured over decades rather than a single year, cannot still be achieved. However, it is essential to recognise that each additional increment of global warming increases the impacts on our lives, our economies and our planet, as stated by Celeste Saulo, Secretary General of the World Meteorological Organization (WMO)[40]. Time is therefore running out, but according to the scientific community it is still possible to reverse the trend. To this end, it recommends **raising ambitions and achieving net zero emissions by 2050**.

To achieve this goal, in addition to the commitment of governments, the contribution of the **private sector and companies** is also essential. These are key players in this process, called upon to initiate **solid and structured decarbonisation actions**, reducing both direct and indirect emissions by acting on supply and value chains. Only actions undertaken by all companies at a systemic level will allow us to get closer to achieving not only **SDG 13 of the 2030 Agenda** (which specifically concerns climate action), but also the objectives closely related to it, thus helping to leave future generations[41] a more equitable and fairer world.

A study conducted by Accenture, in collaboration with the World Economic Forum[42], shows that **digital technologies**, if spread across all industrial sectors, could **reduce emissions by 20% by 2050 in the three sectors with the highest emissions**: energy, materials and mobility.

These three areas not only produce respectively 34% 21% and 19% of total emissions, but they are also the sectors in which digital technologies have the highest potential for decarbonisation. When it comes to improving the environmental performance of energy, materials and mobility, there are four clusters of high-impact digital technologies to take into consideration:

- fundamental technologies such as big data analysis, already present in today's operations;
- decision-making technologies such as artificial intelligence, machine learning and digital twins;

38 Legambiente, https://www.legambiente.it/news-storie/clima/bilancio-2024-italia-sotto-scacco-della-crisi-climatica/

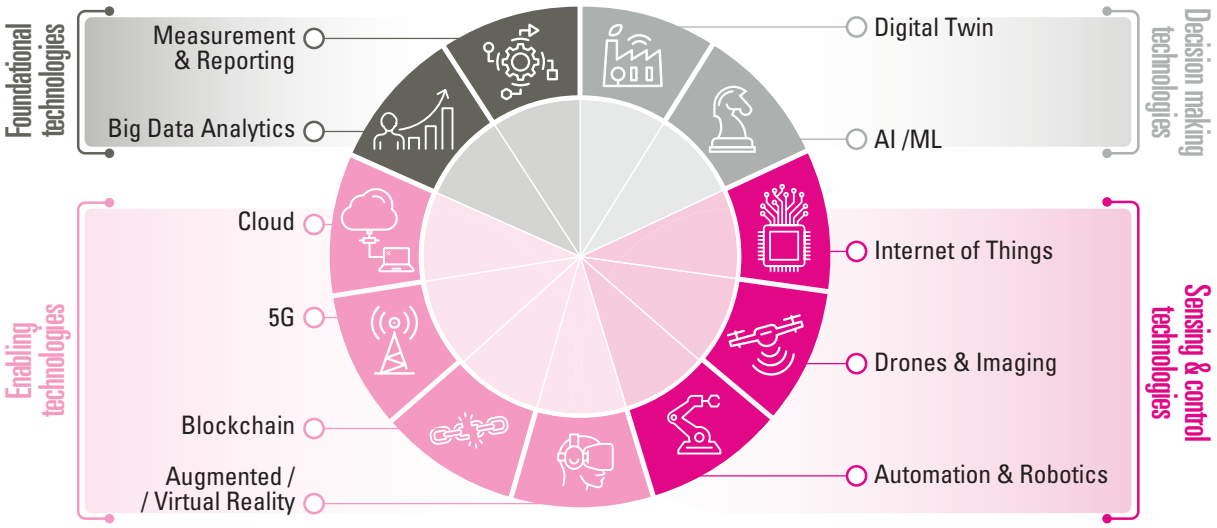
39 Copernicus Climate Change Service (C3S), Global Climate Highlights 2024 https://climate.copernicus.eu/global-climate-highlights-2024

40 World Meteorological Organization (WMO), https://wmo.int/media/news/wmo-confirms-2024-warmest-year-record-about-155degc-above-pre-industrial-level

41 Survey "Italian business commitment towards Net-Zero", promoted by the United Nations Global Compact Network Italy, in collaboration with the IPSOS institute, which outlines the state of the art as regards the commitment and action of companies on the issues of climate change in general and net-zero in particular, highlighting drivers and barriers characteristic of the Italian context.

42 https://www.weforum.org/agenda/2022/05/how-digital-solutions-can-reduce-global-emissions/.

FIGURE 12: DIGITAL TECHNOLOGIES CLUSTER



- enabling technologies such as cloud, 5G, blockchain and augmented reality;
- detection and control technologies such as the internet of things and automation.

Data transparency, digital talent and partnerships will therefore be the key ingredients for the adoption of technology on a large scale. At the same time, it is essential to ensure that all areas of the digital transformation, driving the energy transition, are themselves inclusive and sustainable, so that the benefits are felt by everyone. It is extremely important to gear all actions of the private sector and companies towards **mitigating the carbon footprint of digital technologies themselves,** thus ensuring a positive impact on the planet's climate dynamics.

Open Fiber, with its commitment to the digitalisation process in Italy, therefore plays a fundamental role in this scenario made up of highly innovative and high-performance technologies. With the widespread diffusion of **fiber optic communication networks**, on the one hand it contributes to the penetration of digital solutions capable of accelerating the ecological transition in every environment, and on the other it is committed to providing an "enabling" technology and creating an infrastructure with the least possible impact on the environment.

2.1.2 THE JOURNEY TOWARDS NET ZERO

The fight against climate change requires concrete actions. Open Fiber is well aware of this and has made it an essential pillar of its sustainability strategy, for success and for the creation of value in the medium to long term. Without prejudice to the measures already adopted to limit environmental impact, the company has decided to take up the challenge of decarbonisation and officially join the ranks of organisations committed to ensuring a Net Zero future.

Open Fiber has been promoting a corporate climate strategy in line with the goal set by the Paris Agreement, based on the highest level of ambition identified by the Science Based Targets initiative, namely greenhouse gas emission reduction targets in line with 1.5°C:

- **Scope 1&2**: reduction of absolute emissions by 42% by 2030 and 90% by 2040, compared to the base year 2022;

The IPCC defines the concept of **Net Zero** as "the state of balance between the emissions produced by human activities and the same number of emissions removed from the atmosphere", to be achieved by 2050 at the latest.
The **Net Zero Plan** developed by Open Fiber is the first strategic document aimed at supporting the Company's decarbonisation projects, as well as those of its partners and customers, thus contributing in a concrete way to the achievement of their emission reduction targets. The Plan, validated by the Sustainability Committee, was approved by the Board of Directors in November 2023.

SCIENCE BASED TARGET INITIATIVE (SBTI)

After signing its commitment, in 2024 Open Fiber's decarbonisation targets obtained **validation from the Science Based Targets initiative (SBTi)**, a partnership between CDP (formerly the Carbon Disclosure Project), the United Nations Global Compact, WRI (World Resources Institute) and WWF. The aim is to promote ambitious climate action in the private sector by enabling organisations to set science-based emission reduction targets. Through the validation of corporate climate targets, the SBTi ensures that companies' commitments are credible and in line with the latest scientific knowledge on the climate.

This is an important result for Open Fiber, reinforcing the solidity of its decarbonisation strategy and formalising the alignment of its emission reduction targets with the 1.5°C trajectory.
For more details, please refer to the link: https://sciencebasedtargets.org/companies-taking-action/



FIGURE 13: NET ZERO PLAN - SCOPE 1, 2 & 3 DECARBONISATION SCENARIO



- **Scope 3** (referring to the categories "Purchased goods and services" and "Capital goods"[43]): reduction of absolute emissions by 42% by 2030 and 90% by 2040, compared to the base year 2022.

The **evolution of Open Fiber's business** as outlined

BASE YEAR IDENTIFICATION AND INVENTORY CERTIFICATION

In line with SBTi standards and the GHG Protocol[44], Open Fiber identified the reference year (2022) to use as a basis for setting its emissions reduction targets and it extended its GHG[45] emissions inventory, by including indirect emissions related to the value chain. The Company's carbon footprint therefore includes three areas (scopes):

- Scope 1 - emissions released into the atmosphere directly by the Company;
- Scope 2 - indirect emissions related to energy purchased for company consumption;
- Scope 3 - indirect emissions related to activities outside the scope of the Company's facilities but connected to Open Fiber[46] value chain.

The GHG emissions inventory for the year 2022 was certified by an independent third-party organisation in accordance with the ISO 14064-1 standard[47].

43 The categories "Purchased goods and services" and "Capital goods" amount to approximately 98% of the Scope 3 emissions of the base year.

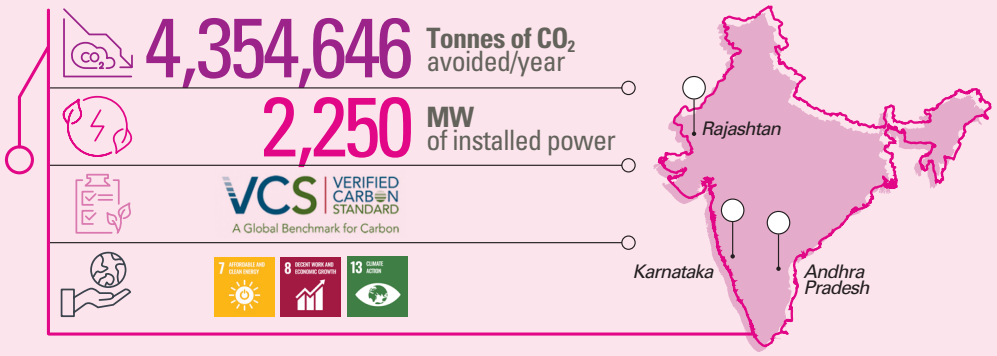
44 Based on a twenty-year partnership between the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), the GHG Protocol collaborates with governments, industry associations, NGOs, companies and other organisations. It developed a set of standards that establish a comprehensive, standardised global framework for measuring and managing greenhouse gas (GHG) emissions from private and public sector operations, value chains and mitigation actions.

45 List of processes that emit greenhouse gases into the atmosphere with an indication of the respective emissions (also referred to as the «carbon footprint»).

46 Within the scope of such indirect emissions, the following categories applicable to the business have been quantified: Purchased goods and services, Capital goods, Fuel and energy-related activities, Upstream transportation and distribution, Waste generated in operations, Business travel, Employee commuting/Smart working, Upstream leased assets and Downstream leased assets.

47 In line with the scopes of emissions indicated by SBTi for the setting of emissions reduction targets, this document reclassifies emissions according to the provisions of the GHG Protocol. It should also be noted that, in compliance with SBTi requirements, which envisage addressing reduction targets by covering at least 90% of Scope 3 emissions and avoiding dispersing efforts on minority categories, Open Fiber considers a baseline of 323,909 tonnes of CO_2e (including Scope 1, 2 and 3 emissions for Scope 3 categories "Purchased goods and services" and "Capital goods"). 909 tonnes of CO_2e (including Scope 1, 2 and 3 emissions for the Scope 3 categories "Purchased goods and services" and "Capital goods"), instead of the total 330,397 tCO_2e of the 2022 greenhouse gas inventory.

SOLAR ENERGY PROJECT(S) BY SB ENERGY PRIVATE LIMITED



THE PROJECT

The project's main objective is to promote renewable energy in the country by developing new photovoltaic plants in three regions of India: Rajasthan, Andhra Pradesh and Karnataka. The action plan is promoted by SB Energy Private Limited and involves the installation of new power plants in areas where there was previously no renewable energy plant in operation. The energy produced is fed into the Indian electricity grid and replaces an equivalent amount of energy that would otherwise have been generated by fossil fuels. The project will therefore lead to a substitution of anthropogenic greenhouse gas emissions, contributing to the sustainable growth of the renewable energy sector in India.

MAIN BENEFITS

- **Social wellbeing:** the project contributes to generating job opportunities during the construction and operation phases of the plants.
- **Technological wellbeing:** it is an investment in clean technology in the region that will encourage other entrepreneurs to participate in similar projects.
- **Environmental wellbeing:** reduction of CO_2 emissions and preservation of natural resources.

in the guidelines of the Business Plan, together with the Company's **Energy Plan** and the **external decarbonisation scenarios,** constitute the key elements for the company's decarbonisation path. In order to progress in the coming years with a gradual reduction in overall emissions from its activities and value chain, with the Net Zero Plan the Company is committed to meeting the SBTi requirements on the path to achieving Net Zero. Open Fiber will implement the **challenging actions** (defined as **additional and enabling**) to be adopted to achieve the science-based reduction targets for 2030 and 2040 and is committed to using carbon removals in the future to neutralise unabated emissions by 2040. Here follow the main scheduled actions, which were launched in 2024:

- the installation of energy meters in the head offices, for more effective consumption management;
- the temporary switching off of the air conditioning systems in the head offices during collective closures;
- the progressive conversion of the car fleet with mild hybrid vehicles.

Furthermore, in line with the **Beyond Value Chain Mitigation** (BVCM) strategy proposed by SBTi and adopted by the organisation as part of its decarbonisation plan, Open Fiber adopted mitigation measures outside its value chain, helping to accelerate the global transition to zero emissions. These initiatives support other economic and social actors in reducing or eliminating greenhouse gas emissions. During 2024, the Company purchased 4,540 carbon credits, which made it possible to **offset Scope 1 and Scope 2** emissions for the year 2023. The **correct offsetting** was **verified by an independent third-party verification** body, which issued the relevant certification. The purchased

credits, verified by VERRA in accordance with the Verified Carbon Standard[48], concern a project for the **production of solar energy in India**, which is in third place in the ranking of countries most responsible for greenhouse gas emissions, after China and the United States[49].

2.1.3 OPEN FIBER CARBON FOOTPRINT

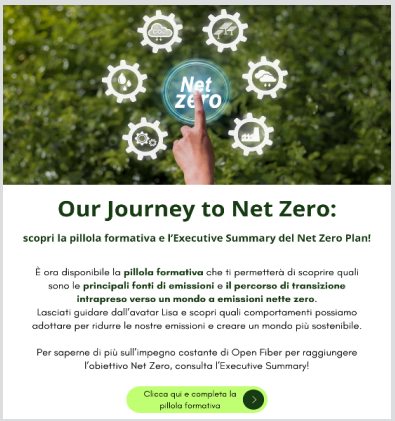
The inventory of Open Fiber's[50] emissions in 2024 consisted of:

- 2,685 tonnes of CO_2e in terms of Scope 1 and 2 emissions (respectively, 1,838 tCO_2e and 276,771 tCO_2e)[51], with an average intensity of 0.14 kg of CO_2e per connected property unit, considering 18.7 million connected property units;
- 276,800 tonnes of CO_2e for Scope 3 emissions, mainly due to the categories "Purchased goods and services" and "Capital goods", which represent approximately 95% of Scope 3 total emissions.

As regards the Consortium, in 2024 there were 2,691 tonnes of CO_2e for Scope 1 and 2 emissions (2,682 tCO_2e and 9 tCO_2e respectively). Given that the Consortium is involved in the construction of Open Fiber's fiber optic infrastructure, Scope 3 emissions are already included in Open Fiber's report on other indirect emissions.

"OUR JOURNEY TO NET ZERO" CAMPAIGN

Since 2023, Open Fiber has been running an **internal training and communication campaign** aimed at promoting the company's commitment to decarbonisation and raising awareness among the company's staff about the path taken. The campaign was also designed to create awareness of the importance of everyone's contribution to the achievement of the set objectives. **DEM** (Direct Email Marketing) and **celebratory infographics** were created on the occasion of the submission of the SBTi Commitment and the ISO 14064-1 certification of the 2022 GHG emissions inventory. In addition, in April 2024, an educational **video capsule** was launched on the company's e-learning platform to raise awareness among workers about the issue of climate change and Open Fiber's commitment to tackling it, which was made concrete above all with the approval of the Net Zero Plan. The avatar Lisa guides learners in discovering the main sources of emissions and the transition path undertaken by the Company to achieve net zero emissions. The **Executive Summary** of the Net Zero Plan was also shared to allow staff to discover in detail the path through which Open Fiber intends to achieve the net zero goal.



48 Verra is a non-profit organisation that develops and manages standards for sustainable development, climate action and responsible business practices. The Verified Carbon Standard (VCS) programme is the world's most widely applied greenhouse gas (GHG) accreditation programme.

49 Global Carbon Atlas, https://globalcarbonatlas.org/

50 The data shown in the pie charts make reference to Open Fiber S.p.A. (market-based approach). Emissions relating to Open Fiber Network Solutions S.c.a.r.l. are included in the scope 3 emissions of Open Fiber S.p.A. For details of the emissions produced by Open Fiber Network Solutions S.c.a.r.l., please refer to paragraph 7.5 "Data tables and performance indicators".

51 According to a market-based approach. The market-based approach considers only the portion of electricity that does not have a Guarantee of Origin. It offers an idea of the benefits in terms of commitment to the fight against climate change that Open Fiber has achieved through the use of energy from renewable sources.

FIGURE 14: INVENTORY OF GHG EMISSIONS FOR OPEN FIBER S.P.A.

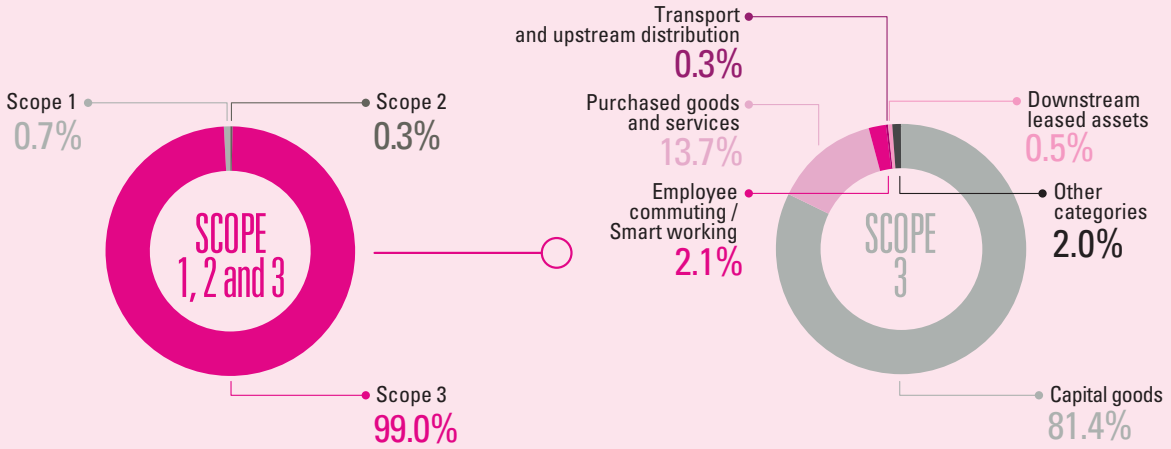
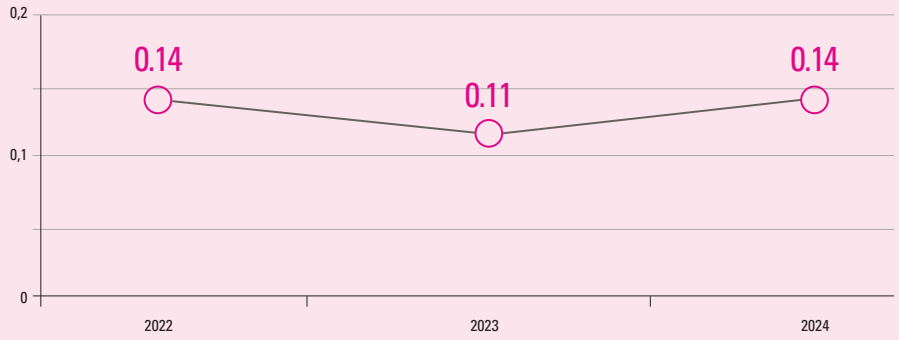


FIGURE 15: EMISSION INTENSITY TREND (SCOPE 1 AND 2) PER HOUSEHOLDS PASSED ($KGCO_2E/HP$) - OPEN FIBER S.P.A.





2.2 RESPONSIBLE ENERGY USE

2.2.1 ENERGY SUSTAINABILITY

Defining a sustainable strategy necessarily requires the adoption of a solid and effective energy policy, one that yields results over time. Open Fiber bases its action plan on a constant commitment to improving energy performance, focusing on innovative and sustainable solutions to optimise efficiency and reduce environmental impact. To this end, the Company keeps implementing an Energy Management System in accordance with

PILLARS OF OPEN FIBER'S ENERGY MANAGEMENT SYSTEM



COMPETITIVENESS

Implementation of a **Company energy policy** that can identify inefficiencies, allowing to generate the same service level in spite of a net reduction in the resources used.



TECHNOLOGICAL INNOVATION

Pursuit of efficiency by applying cutting-edge technological solutions, which can increase the Company assets' value and performances.



ENVIRONMENTAL SUSTAINABILITY

Speeding up the level of business sustainability, in line with the Company's funding value, in favour of the circular economy and the green economy.



BUSINESS EVOLUTION

Energy efficiency as a means to look for new models of business/revenues stream, which can diversify the service offering.

ENERGY PLAN

Open Fiber's Energy Plan is the strategic tool through which the Company intends to achieve continuous improvement, that is, the achievement of objectives of efficiency and rationalisation of its consumption and, consequently, reduction of its carbon footprint, thanks also to the use of renewable energy.
This Plan includes two categories of interventions:
Infrastructural interventions that apply to offices, technological sites and motor vehicles, with the aim of:

- reduce and rationalise energy consumption;
- decarbonisation: reducing, eliminating or offsetting greenhouse gas emissions;
- using energy from renewable sources, through the installation of renewable energy systems (wind, solar, etc.);
- energy monitoring, in order to achieve greater awareness of consumption, also for the implementation of the interventions mentioned in the previous points;

Operational Management interventions that pertain to company processes and that aim to:

- digitalise processes: digitisation of the data acquisition, monitoring, analysis and reporting phases;
- implement and maintain the Energy Management System in compliance with the ISO 50001 standard;
- optimise company processes from an energy and environmental perspective;
- disseminate best practices in order to promote virtuous behaviour in the field of energy efficiency and environmental sustainability.

the **UNI CEI EN ISO 50001** standard[52], certified in 2023 and aimed at a structured management of the consumption generated by office buildings, technological sites and the company car fleet, under the guidance of the Energy Management team. The Energy Management System contributes to **increasing competitiveness on the market**, **the level of technological innovation**, **circularity and business resilience**. It is an important tool for monitoring environmental compliance and compliance with the current regulations on energy efficiency (Legislative Decree 102/14 and Law 10/91) to which Open Fiber is subject. The company's top management is directly involved in approving all energy optimisation initiatives developed as part of energy systems management and in defining an implementation plan for these projects.

52 Energy management systems - Requirements with guidance for use.

Starting from the energy assessment and consumption analysis, the Energy Management System allows Open Fiber to identify and plan proposals for improvement. The actions identified are aimed at improving energy efficiency according to the critical issues that emerged during the data analysis and definition of the energy model of the sites, performing technical and economic-financial cost-benefit analyses.

ENERGY CONSUMPTION MONITORING

Open Fiber is aware that the first step to take in order to manage energy resources effectively is **monitoring them**. For this reason, the company has planned to integrate a monitoring system based on Internet of Things (IoT) technology to be installed in the technological sites and in the offices. The process that has been activated will allow the company to collect and manage energy consumption data through the integration of the monitoring architecture with dedicated business intelligence software, capable of automatically acquiring and processing data, analysing information and producing ad hoc reports, in order to optimise the energy performance of company clusters and contribute to energy and economic savings, as well as reducing environmental impact.

PURCHASED ELECTRICITY: 100% OF IT COMES FROM RENEWABLE SOURCES

Every day, Open Fiber does its part to help reduce the emissions generated by its network's operation. In line with this commitment, in 2020 it began an incremental process of purchasing energy from renewable sources. From 2022, **100% of the electricity** purchased by Open Fiber will be certified as coming from renewable sources[53].

SOLAR ENERGY AT THE SERVICE OF THE NETWORK

In addition to the **technology site (PoP) in Settimo Milanese**, which was built in 2022, Open Fiber installed two other photovoltaic systems in 2023 for the production of renewable electricity in **Castelnuovo di Porto** and **Casoli**, with a respective power of 4.5 kWp[16] and 5.5 kWp. The two systems will be able to supply approximately 13,000 kWh per year to power the technology site. In 2024, Open Fiber, always pursuing its objectives of environmental sustainability, installed two additional off-grid photovoltaic systems, i.e. completely dedicated to self-consumption, at the technological sites of **Anguillara Sabazia** and **Novi Ligure**, with a respective power of 4.5 kWp and 14.5 kWp, which will supply approximately 21,000 kWh of electricity, bringing the **total producibility** to **34 MWh**.

SUSTAINABLE FLEET MANAGEMENT

Open Fiber's commitment also includes the management of its **fleet of vehicles**. For this reason, it has undertaken a plan to convert its fleet from thermal to hybrid solutions.

CAMPAIGNS RAISING AWARENESS ON EFFICIENT ENERGY USE

Open Fiber promotes awareness campaigns aimed at encouraging the reduction of energy consumption, both in the office and at home. To support such initiatives, the company provides training content on its energy management system that is accessible to all employees, as well as practical advice on how to use resources more efficiently through simple everyday measures.

53 Reference is made to energy supplied by Open Fiber S.p.A. and certified through Guarantees of Origin (provided for by Directive (EU) 2018/2001).

54 kWp - kilowatt-peak: a measurement used to measure the maximum instantaneous power that can be produced by an electrical generator.

2.2.2 ENERGY PERFORMANCES

Open Fiber's main energy consumption includes: the use of electricity for company offices and technological sites (about 91% of the total energy consumed); the consumption of diesel and petrol by the company car fleet (about 8%); the use of natural gas for office heating (about 1%). For the Open Fiber Network Solutions Consortium, on the other hand, almost all consumption is attributable to the use of fuel for the vehicle fleet (approximately 99.7%), with a small amount of electricity for the operation of warehouses (approximately 0.3%)[55].

As regards electricity consumption, in 2024 a share equal to approximately 185,866 GJ of energy from **renewable sources** was reached (through Guarantees of Origin)[56], i.e., 74% of the total energy consumed by Open Fiber and the Consortium.

The increase in overall consumption in 2024 is due to two main factors: the first is linked to the growth in terms of the number of connected buildings and consequently of technological sites, of *on-field* personnel and within company offices; the second is connected to the growth of the activities of the Open Fiber Network Solutions Consortium, which contributes with a share of over 40,642 GJ of energy consumption in the reporting year.

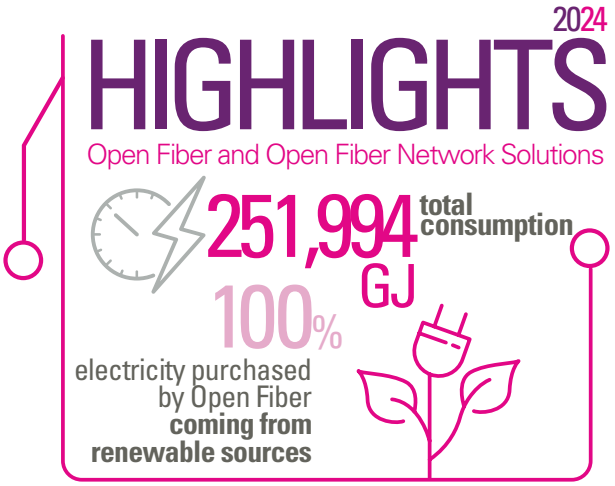
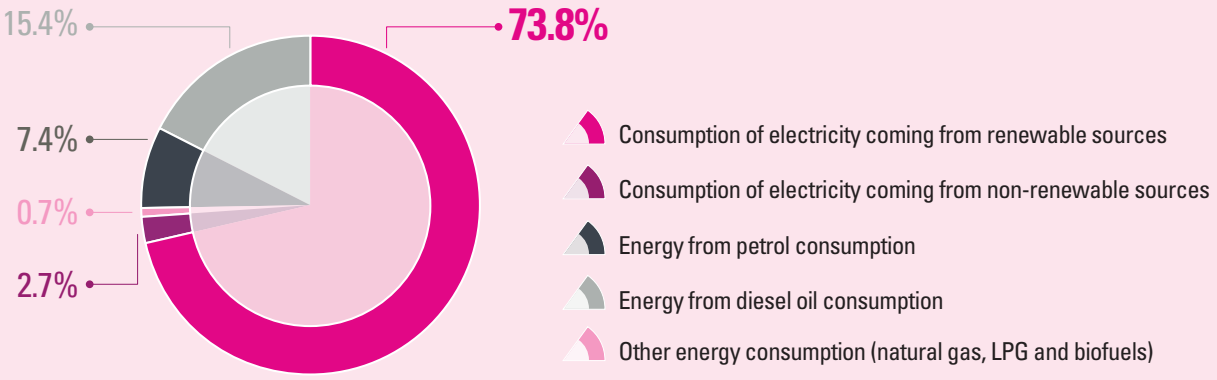


FIGURE 16: ENERGY CONSUMED INSIDE THE ORGANISATION - OPEN FIBER AND OPEN FIBER NETWORK SOLUTIONS



55 The share linked to heating fuel consumption amounts to approximately 0.01%.

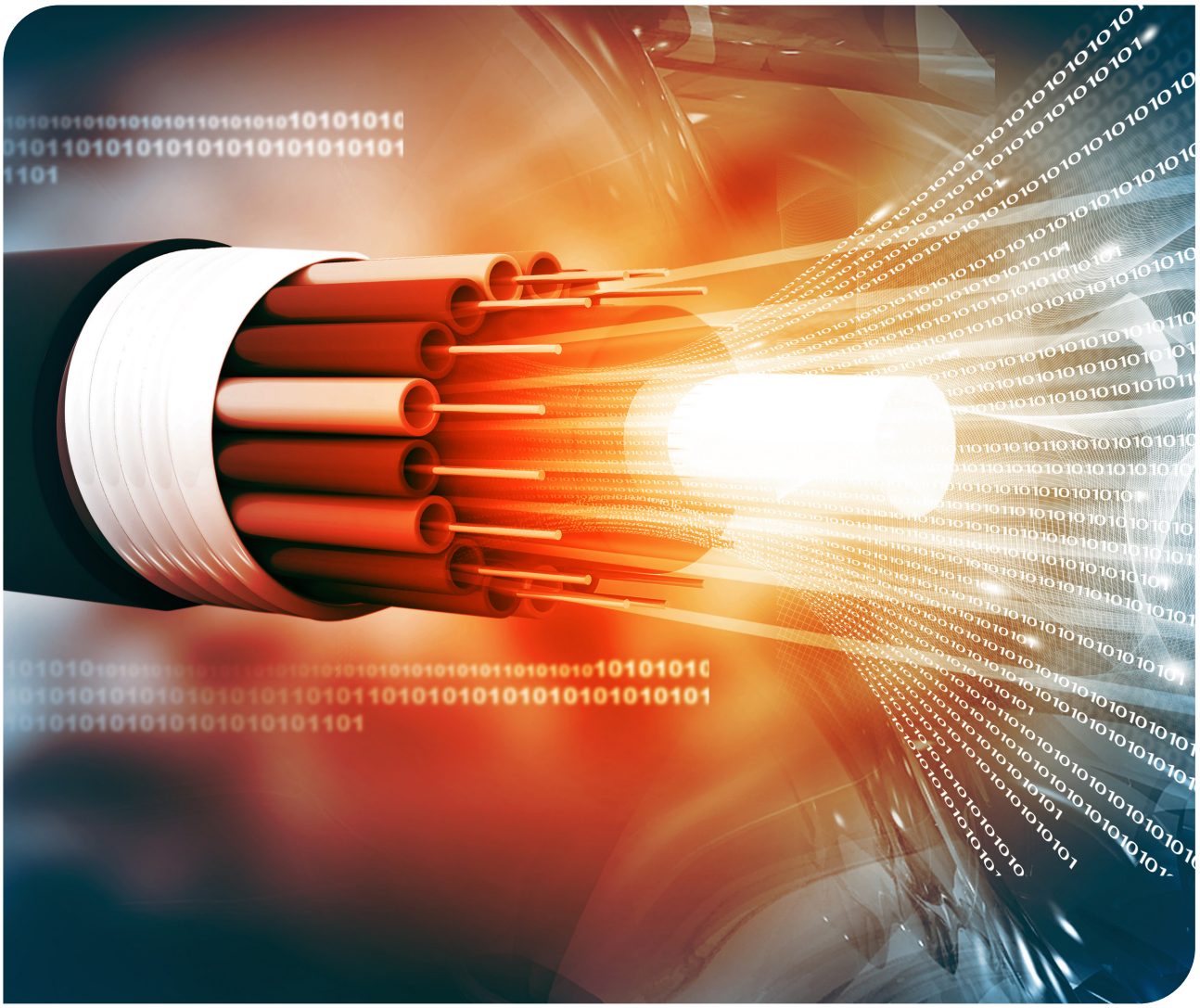
56 The energy supplied and certified through Guarantees of Origin (as provided for by Directive (EU) 2018/2001) comes from renewable source plants as certified by the certification system managed by the Energy Services Manager in accordance with the regulations in force.

2.3 INFRASTRUCTURE WITH A LOW ENVIRONMENTAL IMPACT

Open Fiber's mission statement includes the desire to wire the whole of Italy without affecting its natural and cultural beauty. This is why the Company is so focused on minimising the impact on the environment when building and managing the network infrastructure, starting with the cable laying techniques, and always looking for innovative and environmentally friendly solutions. Then there is the choice of materials: a fiber optic network infrastructure has a **lower environmental impact** compared to other types of network, such as copper ones. This is due to the intrinsic characteristics of this technology, made with easily available raw materials, which are easier to transport and install and have a much lower energy consumption. In other words, **using a fiber optic connection not** only allows you to **communicate more effectively**, but also to **reduce the impact on the environment**.

2.3.1 FTTH: A SUSTAINABLE TECHNOLOGY

As stressed by the FTTH Council[57], optical fiber is the perfect answer for those looking for solutions with a low environmental impact. **The advantages it offers are in fact many**: extremely flexible filaments and high resistance to wear; high conductive



57 The FTTH Council Europe is an industry association whose mission is to promote fiber optic connectivity throughout Europe.



capacity, low attenuation and particularly relevant bandwidth for long distance connections and high data rates (bit rate); immunity to electromagnetic interference, as well as small size and low weight. All these characteristics not only guarantee **an intrinsic efficiency of the network**, but also ensure a reduction in maintenance interventions with consequent **benefits for the environment,** in terms of lower energy consumption, lower use of resources, and lower production of waste and greenhouse gas emissions into the atmosphere.

The positive environmental impact of fiber optic networks is even more significant when compared to the environmental performance of traditional copper networks. The latter solution involves emission-intensive mining and processing, as well as electromagnetic dispersion. Furthermore, the high sensitivity of copper networks to atmospheric events and temperature variations makes frequent maintenance necessary, with more frequent construction sites generating additional waste and emissions, thus amplifying their environmental impact.

From a comparison of the two solutions, it is clear that greater digitalisation of the country corresponds to less waste of resources.

FIBER OPTIC CABLES PRODUCTION

The core of the infrastructure created by Open Fiber is made up of optical fibers, a set of filaments of glass or polymeric materials. The basic material of which the optical fiber is composed is glass[58], coated with acrylic resins, in order to give the fiber the mechanical strength necessary to be able to handle it and wind it on spools.
Copper cables, on the other hand, are made of a raw material that must be extracted from mines in a few countries in the world (particularly in Latin America and Africa) or must be produced through special recycling processes. The extraction of 2 kg of the raw material needed to produce a copper wire about 60 metres long produces about 1,000 kg of CO_2e. The production of the equivalent length of fiber optic cable would produce 0.06 kg of CO_2e, less than 0.01% of the emissions associated with copper. Furthermore, since the transmission speed of copper cables is directly related to the weight of the cable used, to equal the performance of the same length of fiber wiring, you would need much more than 60 metres of copper[59].
Moreover, while the optical fiber - starting from a glass preform - is produced by a spinning process that pulls the glass fiber and wraps it with an acrylic resin coating, once copper is extracted and before it is installed in the form of cables, it must be processed with procedures that create further dust and emissions.

TRANSPORTING AND LAYING FIBER OPTIC CABLES

Optical fibers are smaller and lighter than copper cables and this peculiarity allows for the use of alternative low-impact excavation techniques during the infrastructure construction phase, which also result in faster installation times. This reduces not only the time required to build the network, but also the emissions associated with the work.
Furthermore, being able to install more transmission capacity than necessary in the same space without incurring additional operating costs or further emissions, eliminates the need for supplementary installations at a later date.
For more information, see the ***in-depth "Studying innovative and sustainable laying materials"*** *and the paragraph Non-invasive laying techniques.*

FIBER OPTIC NETWORK OPERATION

Fiber optic networks are "passive" networks, meaning they don't require a continuous supply of electricity and don't generate electromagnetic dispersion in the environment.
Furthermore, fiber optic networks use fewer active devices than traditional copper networks, which require amplifiers over distances of around 100 m-2 km, while fiber can support 100 km without amplifiers. Over an area of 40 km2 this is equivalent to having hundreds of active nodes for copper networks compared to a single active node for FTTH networks. Therefore, in order to transmit the same signal as a fiber network, copper requires considerably higher electricity consumption and a more energy-intensive structural architecture than fiber. Furthermore, the additional heat generated by the energy consumption of copper networks also requires a substantial increase in cooling systems, which will inevitably lead to higher energy consumption and emissions into the atmosphere.
Several industry studies confirm that, especially in a scenario based on the switching off of copper networks, energy savings of over 60% would be achieved[60].

58 For example, oxide compounds such as silicon oxide, phosphorus oxide and/or germanium oxide.

59 Source: Carbon Smart "Our digital infrastructure needn't cost the earth".

60 Sources: ETNO, "State of Digital Communications 2024", which estimates savings of up to 80%; WIK-Consult, "Neutral fiber and the European Green Deal", October 2020. Furthermore, according to a study commissioned by Open Fiber, there should be an annual saving in terms of energy consumption of 560 GWh, or -61% (-89% for the access part and -21% for the transport part).

FIBER OPTIC NETWORK MAINTENANCE AND END OF LIFE

When it comes to its "life", the fiber optic cable has an estimated duration of between 25 and 38 years[61] thanks to its structure made up of glass filaments enclosed in a polymer-based coating that makes it resistant to both mechanical and thermal phenomena.
Optical fiber is also the best solution in the event of extreme weather conditions, because it is less subject to degradation caused by high humidity, frost or electrical interference. Copper, on the other hand, by its very nature, can be subject to oxidation, corrosion and short circuits that over time deteriorate its efficiency and in the most serious cases shorten its operational life, requiring replacement.
Furthermore, being a valuable material, it is often subject to theft with serious consequences on the functioning of the network, even to the point of service interruption.
Finally, technological upgrades to the fiber network do not require any work on the distribution network, but only modifications at the control centre and user's premises. This method also favours a positive impact on the environment.
For more information, see the in-depth box "Effective and environmentally friendly network monitoring".

USE OF A FIBER OPTIC CONNECTION

When comparing the optical fiber connection with the copper one, a further environmental and economic advantage is revealed, one that is linked to the different performances experienced by end users. Considering constant and uninterrupted use, a copper cable connection involves an energy consumption per user of 10 Wh, which drops to about 2 Wh with a fiber optic connection, generating an estimated average saving of 8 Wh per user.

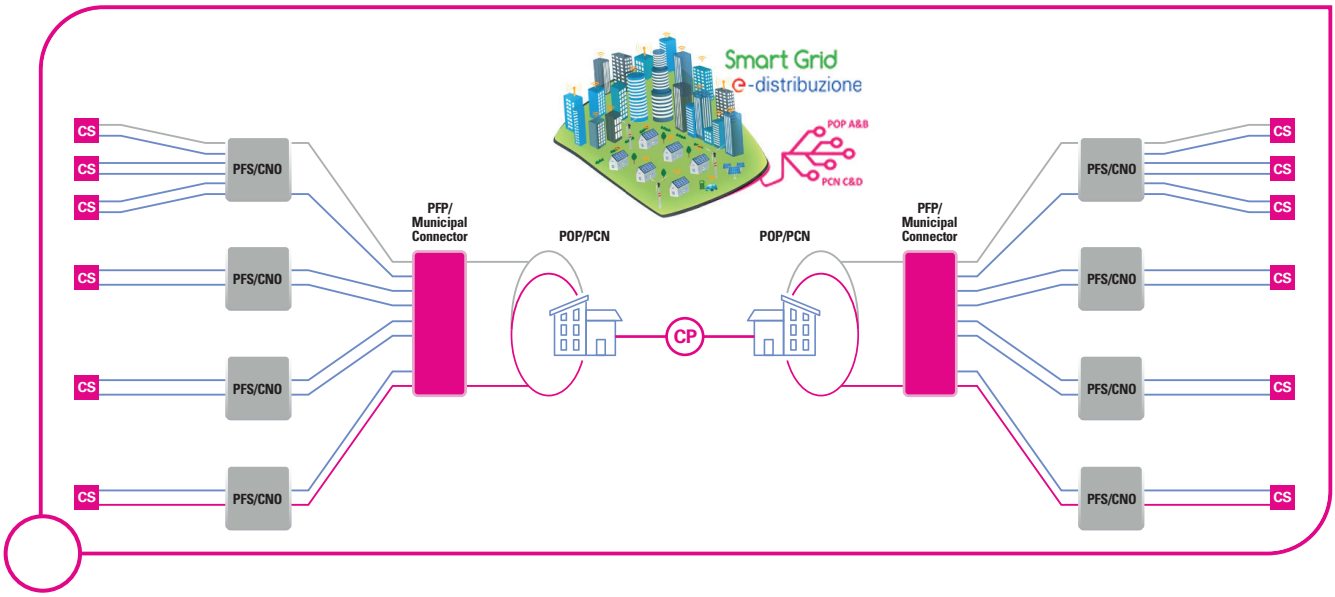
STUDYING INNOVATIVE AND SUSTAINABLE LAYING MATERIALS

In order to strengthen the green approach in the management of materials for the construction of the network, Open Fiber successfully experimented with an innovative solution to reduce the weight of the **concrete manholes**. This was possible thanks to the reduction in thickness and optimisation of the composition, using different types of concrete in smaller quantities. All this without compromising the mechanical characteristics, thus guaranteeing the same performance as the original product with a lower environmental impact. In this context, the company has long been engaged in the search for alternative solutions for the use of **pipes for the protection of cables** for optical fiber produced with innovative materials and with a lower environmental impact. These are high-density polyethylene pipes with a smooth surface for underground installation to protect fiber optic cables, compliant with the CEI EN 61386-24 standard and bearing the PSV (Plastica Seconda Vita, Second Life Plastic) mark, an environmental product certification system dedicated to materials and products obtained from the recovery of recycled plastic waste. The reduced environmental impact of the system derives from the composition of the polyethylene pipe, made of at least 70% recycled materials certified by PSV (Plastica Seconda Vita, or Second Life Plastic) by IPPR (Institute for the Promotion of Recycled Plastics). Free of halogens and heavy metals, the product is completely recyclable at the end of its life cycle. In addition, intelligent disposal methods are adopted for waste, scraps and residues, ensuring maximum recovery of resources and minimising waste. Finally, the possibility of reducing the materials used for each package and using completely recyclable materials for a lower impact on the environment is being studied and scouted.

EFFECTIVE AND ENVIRONMENTALLY FRIENDLY NETWORK MONITORING

The installation of the **OTDR (Optical Time Domain Reflectometer)** allows Open Fiber not only to ensure the network efficiency and continuity of the service provided, but also to reduce the costs and impacts associated with the analysis and diagnosis of faults in its fiber optic network. Thanks to the OTDR, it is possible to detect any damage quickly and accurately, providing measurement results in a few minutes and thus allowing for timely and effective intervention. Whereas previously the intervention team would identify the fault starting from the technological site and, once the precise location had been found, would go to the site to resolve the problem and then return to work on the site, today thanks to the OTDR installed in the technological sites it is possible to circumscribe the intervention area more precisely. The team can therefore go directly to the place where the fault has occurred, as all the measuring and monitoring is done centrally by Open Fiber.
This type of analysis and diagnosis considerably improves and optimises the maintenance process, allowing a lower cost in terms of time for interventions, but also saving resources (human, work and natural means) as well as reducing environmental pollution (for example, lower CO_2 emissions related to travel).

61 Source: Carbon Smart "Our digital infrastructure needn't cost the earth".



Among the projects that Open Fiber is pursuing, with positive impacts in terms of sustainability, is the **project DSO 4.0**, currently being implemented for e-Distribuzione, which involves the construction of a stand-alone fiber optic network. This network connects all of e-Distribuzione's electrical substations to create a national Smart Grid connected entirely through optical fiber.

The advantages of using the fiber optic network include reduced latency times, improved network resilience and greater reliability thanks to fiber optic-based Smart Grid monitoring.[62]

2.3.2 NON-INVASIVE LAYING TECHNIQUES

By its very nature, the optical fiber is a technology that is considerably more sustainable and efficient than copper. To further optimise its environmental performance, Open Fiber studies the territory



62 For more details, see paragraph 5.7 "Smart Grid".

and existing structures in depth in order to build its network while minimising the effects on the territory, redeveloping, where possible, the available infrastructures and existing routes and, where not possible, using non-invasive excavation techniques, such as mini and micro-trenching.

Thanks to these more innovative excavation techniques, the laying, reuse, restoration and replacement of underground utility networks can be carried out with little or no recourse to open-cut excavation, removing very small volumes of soil, using miniaturised network accessories that require fewer raw materials and, in the design process, as little paper as possible.

REUSE OF EXISTING INFRASTRUCTURES

The first choice for laying Open Fiber's fiber optic network is to reuse **existing infrastructure**, as this avoids negative impacts on the environment and the community from the outset. Precisely for this reason, the company promotes the use of this solution, guaranteeing that local councils that make their infrastructure available will be connected free of charge to public administration buildings such as schools, offices or libraries.

Before starting any work, a specialised team from Open Fiber and the manager or owner of the existing infrastructure will check the state of the infrastructure, the possibility of the different services coexisting and, in particular, everything related to operation and maintenance requirements. The methods for reuse vary according to the intended use of the infrastructure (for optical cables, telecommunications and ancillary networks, electricity networks, railway networks, etc.). In cases where it is not possible to work on the road, Open Fiber uses an aerial installation technique that involves using existing poles and connecting the cables from one to the other using special clamps and suspension systems. In this case it is possible to reuse existing routes because the fiber, not creating any type of dispersion, can be laid a short distance from other infrastructures, such as electricity cables.

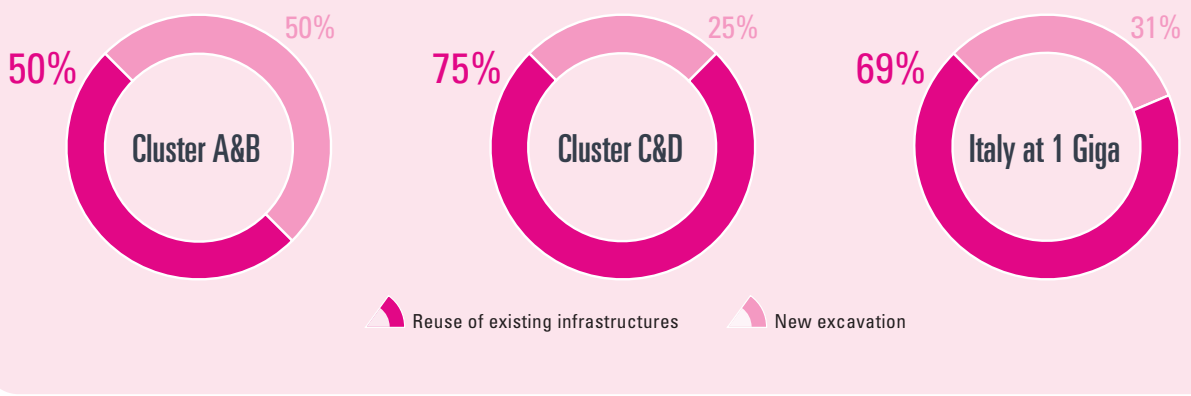
LOW-IMPACT EXCAVATION TECHNIQUES

When it is not possible to reuse existing infrastructures, Open Fiber adopts alternative excavation techniques that are not only innovative from a technological point of view, but also offer significant benefits for the community. Compared to traditional methods, these solutions reduce the socio-environmental impact and energy consumption, while ensuring higher levels of safety for construction site personnel and for those passing near the construction site.

The commitment to the industrialisation of small-scale excavation techniques has enabled the development of **mini-trench** systems[63]. The main advantage of this technique is that it radically reduces the amount of soil that needs to be removed and sent for recovery or disposal, and consequently the consumption of resources linked to the inert material needed for backfilling, with the additional transport that constitutes a further factor of environmental impact. The use of mini-trench systems is particularly suitable in urban or suburban areas on asphalt or cemented surfaces, such as roads or pavements that have a compact material base. It is limited, however, when there is a high presence of gravelly material, cobblestones or valuable materials (such as porphyry, stone materials, interlocking paving) in the subsoil. To complete the installation, the technique involves a definitive cold filling using a single-component mortar with controlled shrinkage, which reduces the time needed to restore the road surface. Depending on the size of the infrastructure to be laid and the location of the work, the excavation and installation techniques are divided into **traditional mini-trench** and **reduced mini-trench**. In this case, the excavation system involves the

63 Trenchless technology that allows the laying of utility networks through the simultaneous or separate execution of small-scale resurfacing of the road surface, arrangement of the infrastructure and/or cables and filling with cement mortar. Source: UNI/PdR 7:2014.

FIGURE 17: EXCAVATION METHODS FOR THE DIFFERENT CLUSTERS



creation of trenches about 5 centimetres wide; for this reason it is not necessary to close the roads to traffic. Moreover, the installation is very quick and the road can be made passable again in a short time. The excavation and suction of the waste material are simultaneous, thus speeding up the cleaning of the trench. These operations are carried out using appropriate dust abatement methods in order to keep the construction site clean and to limit inconvenience to the public and in terms of environmental pollution.

For laying fiber optic cables, the **microtrench** is an even more advanced system and can be used if certain environmental conditions are met. Micro excavations are minimised in size (only 2.5 centimetres wide and a maximum of 30 centimetres deep, at the kerb of the pavement) and allow a reduction in the number of machines to be used, consequently streamlining the operations related to the opening and closing of construction sites. A further advantage is linked to the simplification of the opening and closing of the construction sites themselves. For example, the restoration of the road surface during normal excavation activities involves two stages (temporary and permanent restoration), whereas with microtrenching it is possible to carry out the definitive restoration starting from the filling of the excavation with a special cement mortar that has particular chemical, physical and mechanical characteristics that guarantee a quick setting as well as perfect adherence to the walls of the excavation. In addition, this special mortar avoids the creation of cracks and fissures and, consequently, the need to redo the same.

By way of example, we can see that just reducing the size of the excavation to 3x30 cm means a reduction of about 75% in the volume of soil to be removed, corresponding to more than 40 tonnes of material for a 1 km stretch. For this reason, where possible, mini-trenches or micro-trenches are used to lay the Open Fiber network.

An alternative to these two systems is a further excavation technique with greatly reduced impact called **no-dig**, which consists of the remote-controlled perforation of the ground, where pipes are housed inside which the cables are then run. Only two small excavations are made in the ground, one at the beginning and one at the end of the route, usually far from the road; this eliminates the need for open-cut excavation, making it easy to overcome natural and artificial obstacles along the route. In addition, the use of materials and the production of waste to be disposed of is minimised, thus also limiting the restoration work required. According to a study carried out on the model of the Federation of Swedish Industries, the use of the no-dig technique allows for an 80% saving on costs and a 67% reduction in workplace accidents. Furthermore, even with this type of

excavation, the work is completed in a few hours, limiting the restrictions on road and pedestrian traffic.

To regulate these innovative techniques and the restoration of road safety conditions after excavation work, Open Fiber participates in a technical round table that is responsible for defining the guidelines. This important working group includes the road owners, regional and local authorities, universities, major telecommunications operators, some installation companies and some suppliers of excavation machinery. The company's contribution focuses on defining the methods for implementing excavation techniques, the cost of the work in compliance with road safety conditions, i.e. determining the exact dimensions within which the excavation is to be carried out (extension and depth of the ground). The objective is to define the methods for creating the infrastructure that will have the least impact on the environment, optimise costs and maximise construction speed.

In 2024, Open Fiber kept making significant progress in the creation of the fiber optic network in Italy. As of 31 December 2024, in the **C&D Cluster**[64], the Company has laid about 84,500 km of ultra-fast network, reaching 94% of the expected total. Overall, Open Fiber has built over 140,000 km of infrastructure, of which 46,000 km in the nel **A&B Cluster**[65]. As for the reuse of existing infrastructures, in 2024 Open Fiber strengthened its collaboration with partners such as Ultranet and Unifiber, thus upgrading the FTTH network through existing network infrastructures, in support of the ***Piano Italia a 1 Giga*** (1 Giga Italy Plan) created with PNRR funds.

In cases where it was not possible to reuse existing infrastructure, low-impact excavation techniques such as mini-trenching, micro-trenching and no-dig were adopted.

2.4 WASTE MANAGEMENT

Open Fiber cares about the health and safety of its employees and of all those who, in any capacity, collaborate in the pursuit of the Company's objectives. As we have seen, it does this by protecting the area in which it operates, investing in environmentally friendly technologies and promoting an infrastructure that is, by its very nature, high-performance and environmentally sustainable. To support the implementation of the aforementioned commitments, the Company has adopted the **Quality, Health & Safety and Environmental Management System**[66], which has - among other things - the aim of ensuring careful monitoring and continuous improvement of the company's environmental performance.

The care for environmental sustainability has prompted Open Fiber to analyse the impact of its activities in greater depth, with a specific focus on waste production and management. Adopting an approach based on the entire life cycle, the company has extended this evaluation to the entire value chain, with the aim of identifying targeted actions to improve its environmental performance.

As highlighted in the previous paragraphs, Open Fiber favours non-invasive laying techniques, a choice that, among the numerous advantages, also allows for a significant reduction in the quantity of waste materials to be managed, compared to traditional excavation methods.

The **waste directly produced by Open Fiber** consists mainly of waste similar to municipal waste, deriving from office activities carried out at company offices and, as such, it is managed separately and entrusted

64 With reference to the new excavation activities for the C&D Cluster, Open Fiber used the mini-trench and micro-trench in 64% of cases, the traditional excavation technique in 23% of cases and for the remaining 13% of operations the no-dig excavation technique was used.

65 The new excavation activities for the A&B Cluster have not changed compared to 2023 as works did not continue in 2024.

66 Open Fiber's QHSE & Energy Management System obtained UNI EN ISO 14001 certification in 2020. For more details on the management systems adopted by the Company, see paragraph 2.3 "Quality, Health and Safety at Work and Environment Management".

to the public collection service, therefore mostly sent for recycling and recovery at authorised plants. The production of special waste may occur sporadically, if some stocks of materials supplied directly by Open Fiber for the construction and maintenance of the FTTH network become obsolete or unusable. In these cases, the Company verifies the possibility of reuse by third parties[67] or the possibility to manage them in accordance with current regulations and, when possible, to assign them to recovery operations carried out by authorised parties.

On the other hand, as regards the waste generated in the context of the **activities of construction and maintenance of the FTTH infrastructure** and maintenance of company premises, in most cases Open Fiber is not configured as a producer of waste as the operational activities are entrusted to external suppliers. In these circumstances, the generation and management of waste through recovery or disposal is the responsibility of the contractors and subcontractors operating under the contracts, who are evaluated both during the qualification phase and during the execution of the works. In these contexts, Open Fiber establishes specific clauses regarding environmental protection, which suppliers are required to respect. Furthermore, it verifies that they have the technical skills and qualifications necessary to effectively manage waste management processes, ensuring full compliance with current legislation (for example, by verifying that the destination facilities have authorisations, that transporters are registered in the National Register of Environmental Managers, etc.).

As with the other contractors involved in the construction of the fiber optic network, the waste produced by the **Open Fiber Network Solutions** consortium derives largely from the excavation waste produced during the laying of the cables. This is managed according to specific procedures defined within the Environmental Management System certified according to the ISO 14001 standard. Furthermore, in 2024 Open Fiber Network Solutions adopted a specific software, called Atlantide, for the management of the entire waste chain.

Open Fiber checks and monitors data and information that certifies the correct management of special waste by suppliers and contractors involved in the activities. Checks and requests for documentation are governed by the contracts signed between the parties and by Open Fiber's environmental management system, with which contractors are obliged to comply. The main control and monitoring activities include:

- the request for filing and control of the Waste Identification Forms (*Formulari Identificativi dei Rifiuti*, FIR) issued as part of the contracted activities;
- the random verification of the MUD (*Modello Unico di Dichiarazione Ambientale* - Single Environmental Declaration Form) presented by suppliers/contractors involved in the activities;
- on-site verification of the correct management of waste produced and temporary deposits;
- on-site and documentary verification of legislative compliance regarding operational waste management, aimed at verifying the absence of cases of waste abandonment.

Environmental controls are carried out on several levels, through systematic checks carried out by the Site Manager (first level controls) and spot checks carried out by the Technology Department (second level controls) by filling in specific *checklists* focused on monitoring significant environmental aspects associated with the activities. In addition to these two levels, there are also random checks carried out during internal audits of the Management System, carried out by Quality & HSE[68] representatives.

The results of those checks are also processed through the Open Fiber portal, which allows any cases of non-compliance to be monitored and periodically reported to the Management Team.

67 By sale in any form allowed by the law.

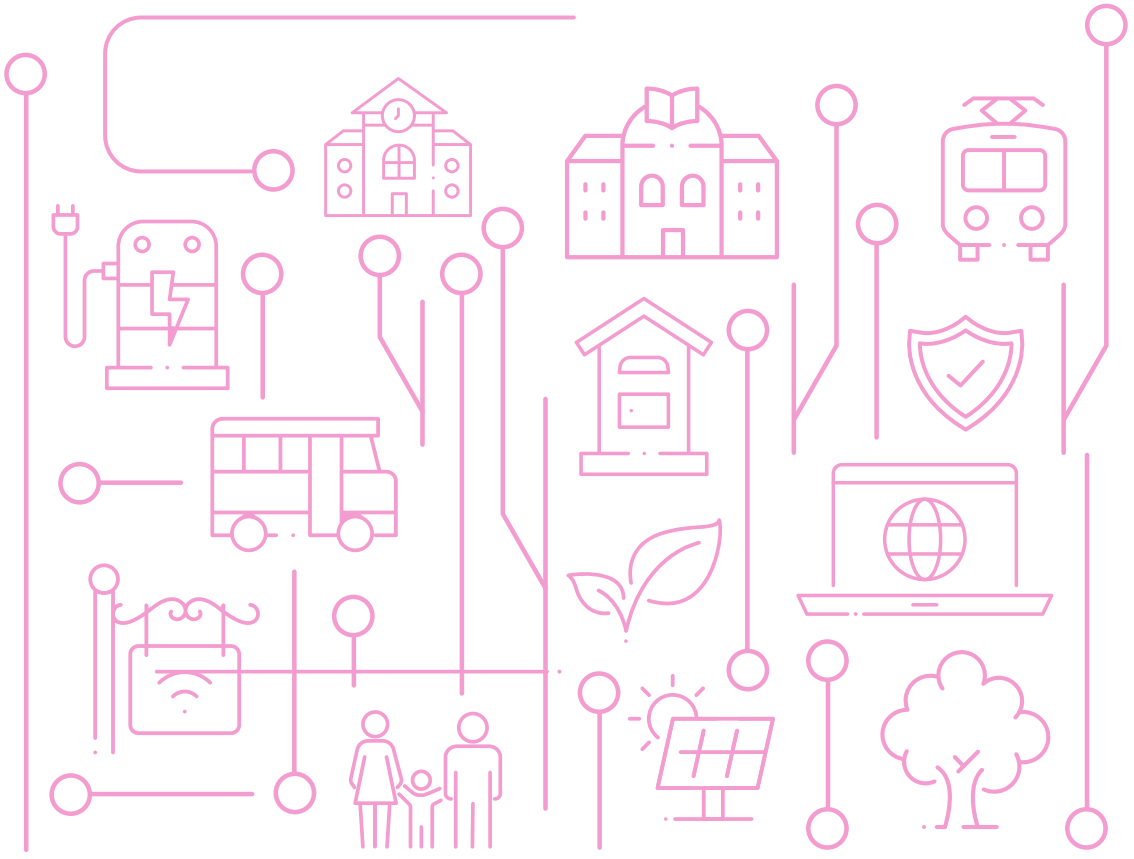
68 Since 22/01/2024, the Security, QHSE & Sustainability function has been integrated into the Risk Management & Financial Advisory Department.

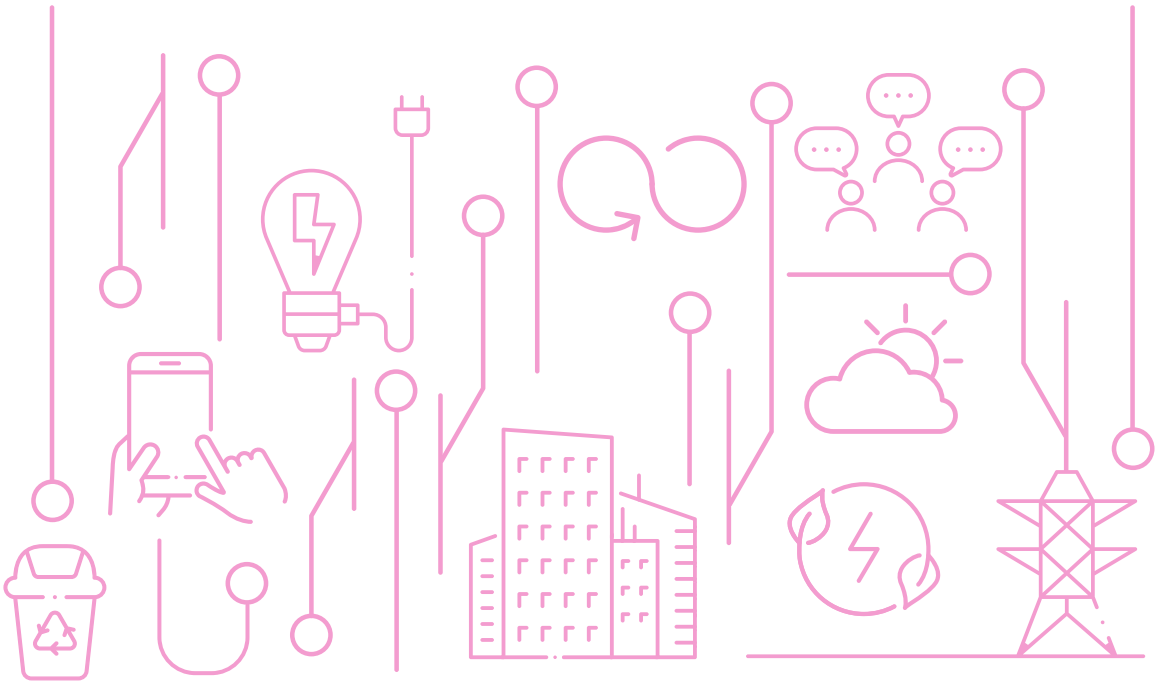




Protection and development of human capital

Diversity, Equity & Inclusion





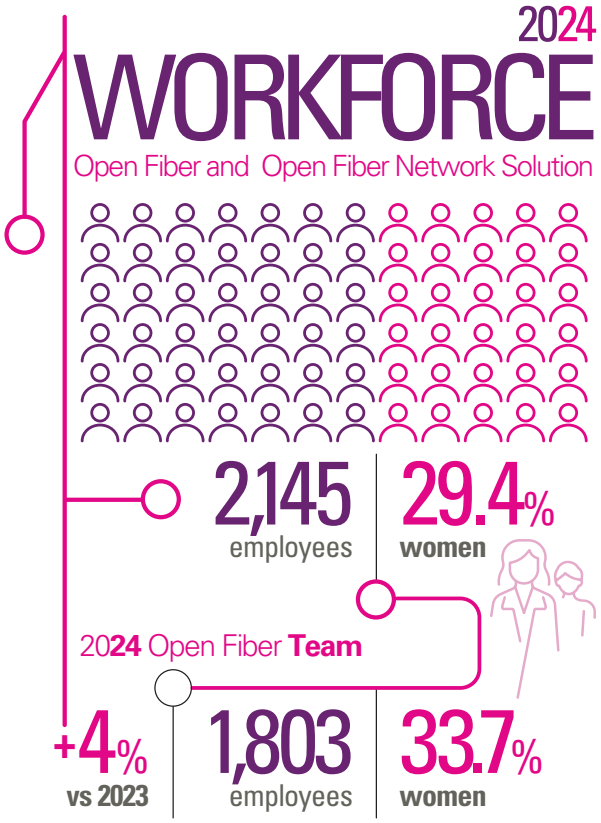
03. HUMAN CAPITAL

3.1 OUR PEOPLE

The driving force behind Open Fiber's daily work, dedication and passion is the company's awareness of the project's importance for the future of Italy. This strong sense of responsibility for the country's technological development and digitisation is combined with a corporate **culture that promotes and supports innovation**, excellent results and a focus on the individual through the enhancement of diversity and individual talent. The passion, expertise and ability to create connections have helped to forge a distinctive identity, offering employees the opportunity to grow both personally and professionally. This allows them to be part of a young, dynamic, sustainable and inclusive environment.

It is the people who make the difference in the business development process. Open Fiber's way of doing business is firmly based on specific pillars: skills and experience. Thanks to this, the women and men in whom the Company invests contribute actively and productively to its success, with an eye always on the future. Being able to meet challenges means being ready and equipped with a wide range of skills, professionalism and talents.

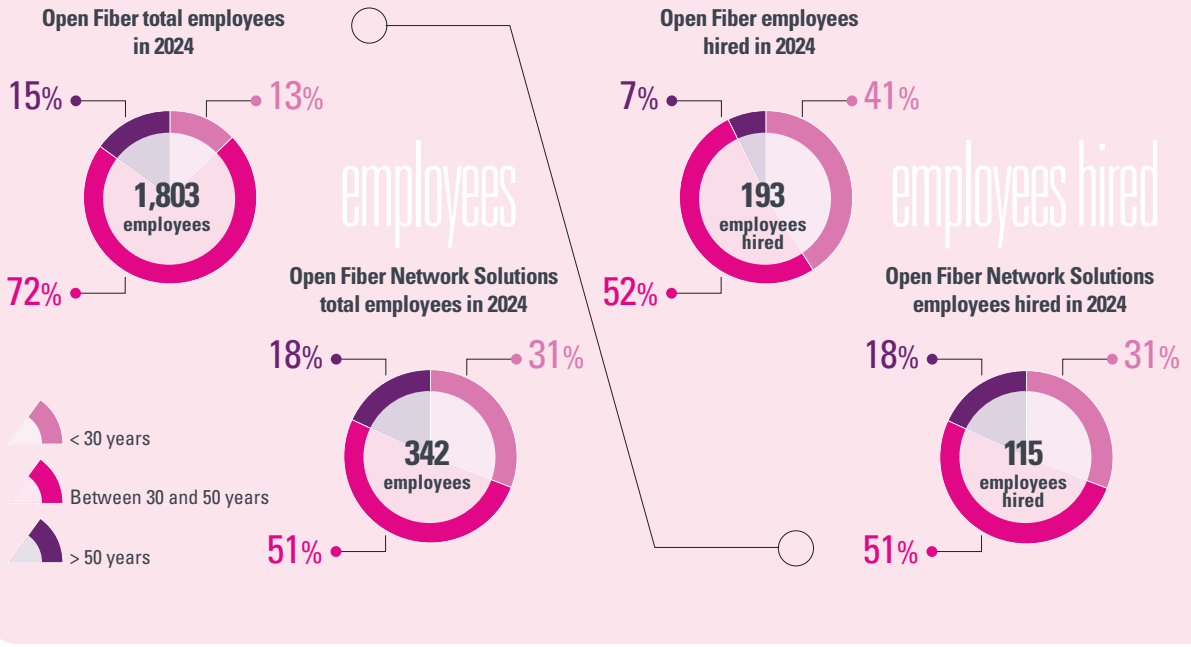
With this in mind, in 2024, a new strategic business direction was launched that guides and inspires every single action of Open Fiber, whose values are represented in the **Triple A: Ambition, Action, Accountability and Team Spirit**. **Ambition** means being a leader in digital transformation: each person can be a protagonist of this evolutionary process. Thanks to continuous training and support for personal development, we encourage people to push themselves beyond their limits, explore new ideas and embrace innovation. The goal is to create an environment where talent can flourish and each individual can contribute to collective success. **Action** is synonymous with proactivity, through which ideas can be transformed into reality. A dynamic approach is therefore fundamental and is reflected in every aspect of our organisation, from internal communication to strategic decisions. We promote a culture of doing, where initiative is



appreciated and rewarded. **Accountability** means knowing how to share responsibilities, focusing on a culture of trust and collaboration, where everyone is aware of their impact on other people and on the Company. At the basis of all the company's results is the **Team Spirit** that guides the people of Open Fiber towards the achievement of common goals through inclusive leadership and real cooperation, in which every voice matters.

Starting from these assumptions, Open Fiber is committed to being a place of growth, as well as work, promoting the updating and continuous learning of skills necessary to respond to the challenges of a rapidly evolving context. By adopting a tailor-made approach, the company guarantees **training and professional development programmes tailored to its employees**, with the aim of enhancing and increasing their skills and abilities, in the knowledge that added value can be found in the uniqueness of each person. Open Fiber's 'model of excellence' brings together the skills, behaviour and expertise of its employees and merges them with the company's culture, mission and values, to enable **everyone to express their potential, both professionally and as a person**. This model is used

FIGURE 18: OPEN FIBER AND OPEN FIBER NETWORK SOLUTIONS PERSONNEL- DISTRIBUTION BY AGE GROUPS



in all development, training, evaluation and *feedback processes*, in which professional growth is valued and the conditions are created so that people can follow a career path consistent with their abilities and organisational opportunities.

Open Fiber strongly believes that the centrality of human capital is closely connected to the development and strengthening of skills, the promotion of an **inclusive culture** and the enhancement of an **increasingly modern and flexible corporate welfare system**. Thanks to this human-centric approach, the company has always maintained high levels of permanent employment, with the possibility of increasing its workforce every year. The enhancement of a real *work-life integration* through the adoption of the Smart Working method, which allows employees to work from home on certain days of the month, has also facilitated this growth.

During 2024, the **Open Fiber team** increased its workforce, reaching **1,803 employees** as of 31 December (an increase of about 4% compared to 2023), mostly concentrated in the cities of Rome and Milan: women make up 33.7% of the workforce (in line with 2023) and the majority of employees are between 30 and 50 years old (72.2%), followed by those under 30 (13.2%).

In the same year, **Open Fiber Network Solutions** reached a total of **342 employees**. The workforce is characterised by a preponderance of men compared to women (6.4% of employees) depending on the type of business, and the majority of employees are in the 30-50 age group (51%), followed by the under 30s (31%).

3.1.1 TALENT ATTRACTION

Actively supporting **teamwork**; encouraging the creation of a healthy and stimulating work environment in which everyone can express their skills and **talent**, strengthening and nurturing a **sense of belonging**, pride and motivation, increasing skills within the company: for Open Fiber these are priceless results that constitute real competitive advantages capable of making a difference.

The strategic role recognised to human capital also has significant value in the **search for new talent**, a constant and essential process that enriches Open Fiber with innovative ideas and new skills.

SOCIAL RECRUITING CHANNELS

In 2024, Open Fiber strengthened its **employer branding** strategy within social recruiting channels, in particular on the LinkedIn and Indeed platforms.
During the second half of 2024, the company received over **24,000** applications in response to job postings on LinkedIn, and around **3,400** applications in response to the "Work with us" section on the company website.

NO FIBER? NO PARTY!

In 2024, **"No fiber? No party!"**, a series of **Career Day** events, was back, offering students and recent graduates the opportunity to meet Open Fiber managers and recruiters, as well as to learn more about the world of ultra-fast optical fiber. The company has increased the number of initiatives to strengthen its network with the main university hubs throughout the country. It has also chosen to participate in digital-oriented events to facilitate meetings between young talents and the main Italian universities. During the year, Open Fiber took part in **11 Career Days** involving thousands of participants including students and visitors and promoting orientation activities, webinars, curriculum reviews and cognitive interviews.

Open Fiber's strategy to attract new talents and enhance its employer branding is developed mainly through:

- the implementation of different attraction channels and sourcing tools such as the company database and the "Careers" section of the company website, thanks also to the support of external headhunting companies and the use of the main social recruiting platforms;
- the enhancement of **talent attraction** of target candidates, through participation in innovative and **digital-oriented** initiatives, favouring the positioning of the Open Fiber brand with a view to becoming the Best Digital Workplace;
- the consolidation of Open Fiber's presence as an active employer at the **main Italian academic centres**, through a virtuous circle of **ad hoc partnerships and career days** focused on excellence in engineering (telecommunications, electronics, civil and/or other)[69];
- the participation in employer-branding events/activities, with particular attention to the presence in the **local areas**, enhancing the contribution of our professionals as ambassadors of company best practices, inviting them to target events (for example career days);
- the support and promotion of projects having a **social impact**, such as the *PCTO* (former school/work alternation[70]).

3.1.2 EMPLOYER BRANDING

Ambition, Action and Accountability and Team Spirit. Such are the main **values** guiding Open Fiber in its daily actions and the work of the people and teams who take part in its mission.
Since its inception, Open Fiber has favoured a cutting-edge approach to managing its people, following an unconventional and sustainable method, exploiting the potential of digital technology to identify and meet their needs. Employer branding is in fact conceived as a strategic investment for the growth and development of the company. The company philosophy is based on sharing a common

69 For more details, see paragraph 4.4.2 "Initiatives in support of the community".

70 For more details, see paragraph 3.4 "Diversity, Equity & Inclusion".

vision and a **modern employee experience**, achievable only thanks to the collaboration, sense of responsibility and commitment of all. For this reason, a work environment has been created that allows employees to express their abilities to the full, enhancing the different potential of each individual in a dynamic, participative and sustainable context.

Open Fiber favours a strategy of responsible management of human capital in which the enhancement and involvement of people has a positive influence on the company as a whole and on the quality of its performance.

As proof that this strategy is the right way to go, in 2024 two important awards for policies regarding the management and development of people were renewed: **Top Employers Italia** – awarded by the Top Employers Institute, a certifying body for excellence in HR best practices – and **Great Place To Work (GPTW)** – awarded by the international company of the same name that for forty years has specialised in the analysis of company climate, employer branding and employee engagement.

In terms of employee engagement, a series of initiatives have been launched to proactively involve employees in strategic and business issues. The event "**Let's Open Fiber together: Disagree & Commit**" kicked off these activities, dedicating a day of work mainly aimed at the Managers of the Technology, Business Market and Residential Market Departments, with the aim



PEOPLE VALUES

In order to create a digital highway that guarantees network coverage in both large cities and small towns, Open Fiber promotes an organisational culture oriented towards the values that the company looks for in its people:

AMBITION: develop and communicate the Open Fiber vision in a clear and engaging way, effectively transmitting it to all internal and external stakeholders. Be able to exceed objectives, improve personal and team performance and create a stimulating and rewarding work environment that fosters motivation and engagement.

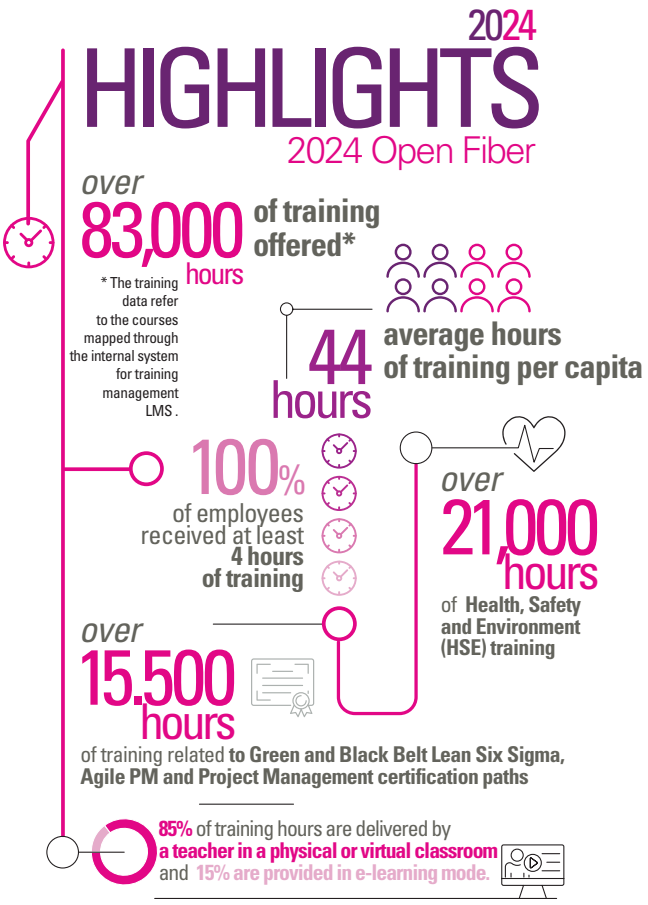
ACTION: anticipate, identify and actively address challenges and opportunities by developing effective actions to implement high-standard performance. Generate initiative and concreteness in solving problems and managing complex situations, constantly improving workflows, performance and processes.

ACCOUNTABILITY: taking responsibility for the result by adopting behaviours consistent with a context where agility and flexibility become indispensable for governing and not suffering complexity.

At the basis of all company results is the **Team Spirit** that guides Open Fiber's people towards the achievement of common goals through inclusive leadership and real collaboration, in which every opinion matters.

of sharing content and stimulating reflection on topics that are fundamental for the organisation and the business, from Triple A - Ambition, Action and Accountability - to the importance of the team and of teamwork, including inter-functional teamwork, to the management and optimisation of mistakes as opportunities for growth and innovation.

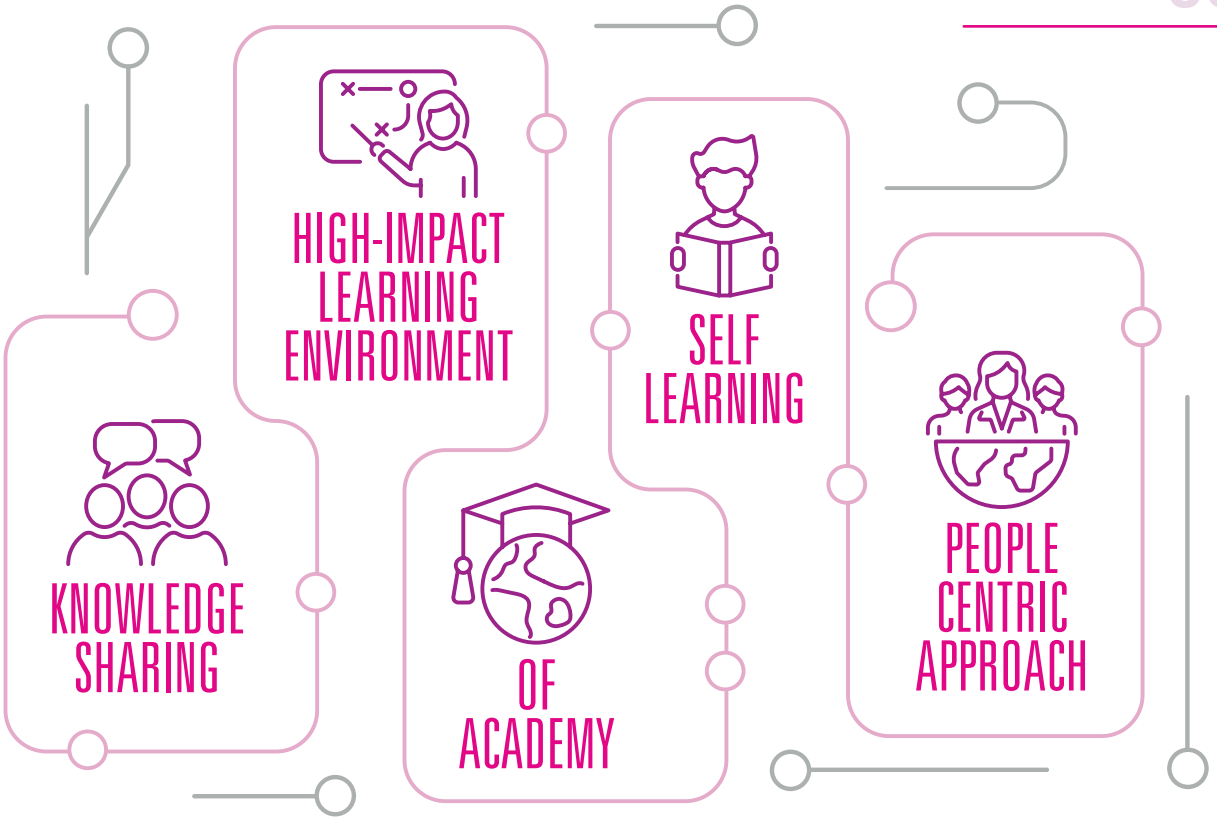
Furthermore, during 2024, over **70 managers** from all Open Fiber's company departments took part in the **"Don't stop!"** event, during which the results achieved in the first half of the year were celebrated and the foundations for the future were laid, sharing new objectives and challenges.



3.2 GROWTH AND TRAINING OF OUR EMPLOYEES

3.2.1 TRAINING

Open Fiber built its foundations on two supporting pillars: **innovation**, an element of utmost importance for the core business of the company, and the centrality of human resources, an essential element of the organisation. In this context, therefore, **training** plays a crucial and strategic role in achieving increasingly challenging objectives. The challenges dictated by today's market and its sudden evolution can only be overcome by allowing one's resources to advance, to be prepared and competitive, to develop new skills and reach levels of excellence. For Open Fiber, **each employee is a unique resource**, an element to be valued



and developed. Therefore, staff training is an indispensable tool to support the business, capable of constantly evolving the skills and competences of the human capital.

Based on such belief, the company invests all the necessary resources to identify and define core skills in order to achieve the objectives defined by the strategic plan, integrate them into the organisational approach, and activate personalised training courses.

Thanks to the choice of a **tailor-made approach**, Open Fiber has set up a training programme based on the individual resource, combining compulsory courses or courses aimed at the entire population, with more specific courses to deepen and update their skills, soft skills and hard skills, based on their qualification and role in the company. This opportunity is open to everyone, from the management team to newly hired colleagues.

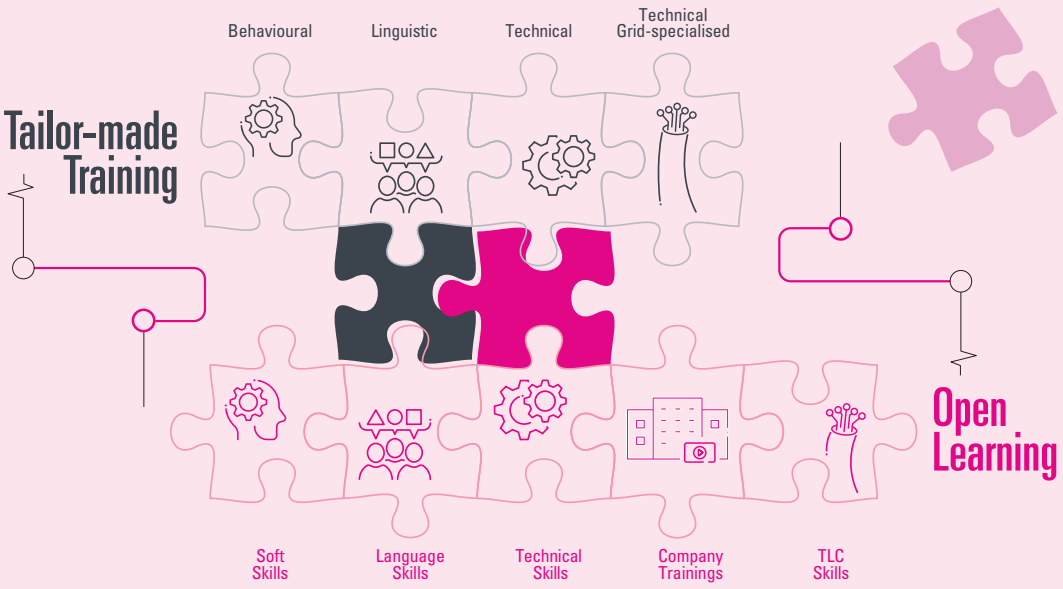
Moreover, the development of courses that are more and more digital and innovative methods has been promoted, with training being provided both in person and online. In the last year alone, the Company has reached the milestone of **over 83,000 hours of training**, divided into Company Training (institutional company training, relating to Model 231, Code of Ethics, Antitrust, etc.), technical training and training for network specialists, behavioural, linguistic and digital training, as well as compulsory training (by law) on the topics of Occupational Health and Safety (aimed at all workers and those designated in roles such as fire-fighters, first aiders, workers' safety representatives and supervisors, as well as PES and PAV[71] figures for electrical works)

and training that is necessary (beyond the compliance with the law) on Security and HSE, aimed at raising employees' awareness on Information Security, Health and Occupational Health and Environmental Protection.

Since Open Fiber places such importance on professional and personal training and development, the company promotes the principle of **continuous self-learning**, guaranteeing all employees access

71 Experts (PES) and people informed (PAV).

FIGURE 19: TRAINING PROVIDED



MOFS - MUSEUM OF SUSTAINABILITY

The **training programme** focusing on the topics of **sustainability** and its integration into business continued in 2024. Conceived as a **virtual museum**, the e-learning course unfolds in real "sustainability exhibition spaces". Through works of art and audio-visual content, all employees are offered the opportunity to explore the different dimensions of sustainability, the main challenges imposed by climate change, the social aspects of sustainability and some best practices to be implemented in the future.
The aim of the museum tour is to **engage** and **raise awareness** among the company's employees about the **fundamental role** that sustainability plays for Open Fiber and the need for each person to make their own contribution to the implementation of effective and functional sustainability strategies.

to various dynamic self-learning training platforms, including:

- **OFCourseMe:** based on artificial intelligence, it is a platform offering over 200,000 items of content aggregated from the best MOOCs (Massive Online Open Courses), a real online catalogue of courses, video tutorials and TED talks selected from all over the web, constantly updated and usable on the company LMS[72];
- **Open English:** in order to improve English skills, personalised programmes are available to all employees and one family member, based on virtual classes, exercises and in-depth studies, with qualified native teachers, which can be adapted to the needs of each individual, accessible on the company LMS, 24/7;
- **Open Learning:** to guarantee constant and digital education on the main company issues. It is a digital learning experience that is free for all users of the company website, accessible 24/7;
- **CyberGuru:** a platform introduced with the aim of developing the skills of the entire company population on cybersecurity issues, promoting

72 Learning Management System.

greater awareness of the main cyber threats, best practices to follow and the benefits of the safe use of company devices. It is accessible 24/7 via single sign-on.

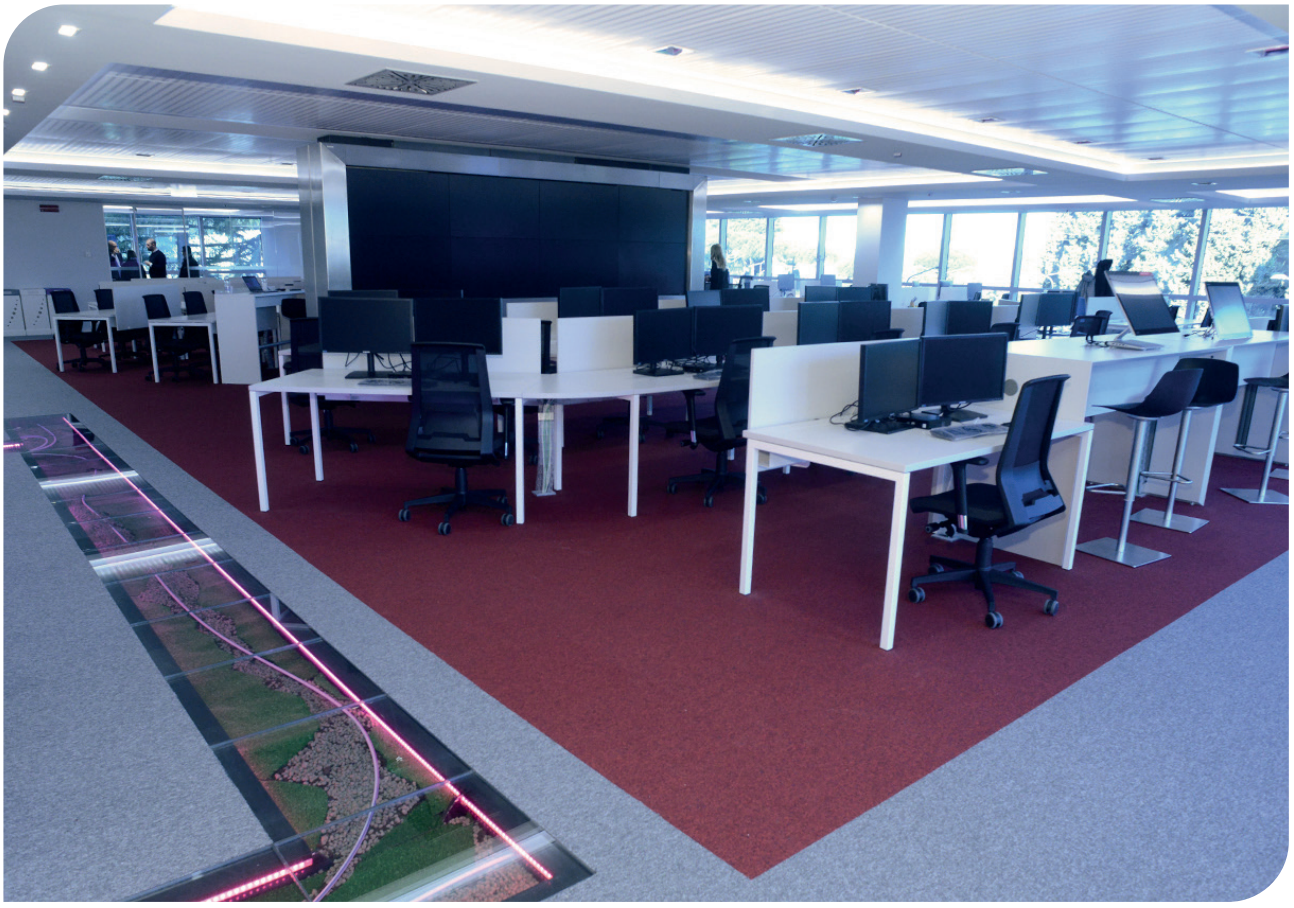
Furthermore, in order to facilitate access to company procedures and allow employees to be always up to date on the contents and updates regarding purely company information, short **micro-learning pills of multimedia content** (OPDL) describing internal processes are available.

3.2.2 TRAINING SUPPORTING THE CONTINUOUS IMPROVEMENT OF PROCESSES

If the world is constantly evolving, recent years have seen an unprecedented and dizzying acceleration in the way we conceive of work and in the tools we use to carry out our daily tasks. This entails the creation of new realities and new challenges for which we must be prepared. The emergence of and demand for new specific skills, combined with the lack of appropriate training, create a professionalism gap in the labour markets: for this reason, the constant and updated training and education of professionals in the world of work is now an essential element within the organisation of a company.

Open Fiber believes in this continuous professional evolution and regeneration, so much so that, in continuity with previous years, also during 2024 it involved a significant number of employees in various training courses aimed at obtaining **Lean Six Sigma Green Belt** and **Lean Six Sigma Black Belt** certifications, in accordance with the international standard ISO 18404:2019, **Agile PM** and **Project Management**.

In particular, the **Lean Six Sigma** courses aim to develop the ability to analyse and improve company processes through the use of a "Problem Solving" methodology following the DMAIC cycle (Define, Measure, Analyse, Improve, Control). The Lean Six Sigma method combines the principles and tools of Six Sigma and Lean Production, with the aim of



OPEN FIBER DIGITAL HR

Dossier Documenti

People Management is crucial for a company like Open Fiber, which also works to increase the satisfaction and well-being of its resources. Making day-to-day administration/management processes and activities smarter and more streamlined, and evolving the **"People Experience"** are critical success factors for Open Fiber. With this in mind, the company has developed a new portal, called **Dossier Documenti** (Document File), which provides employees with a single interface where they can collect, consult and manage all the documents of their **Employee Life Cycle**, from the application phase to the onboarding phase, up to the termination of the employment relationship.

The system provides a customised view for each employee and a specific view designed for the People Management. The latter allows you to:

- **centralise and access** all company employee documents from a single point;
- perform **analyses and statistics** according to different information grouping criteria, for example a list of employees in possession of a specific type of document, with a document about to expire or not present, etc.

Evolution of the Employee Profile

In line with the market trend, Open Fiber aims to enhance and simplify the tools available to staff to **improve** the **People Digital Experience**. With this in mind, the company has created a new application called ***"Dossier Documenti OF"*** (OF Document Dossier) integrated within **"Il Mio Profilo"** (My Profile) on **My Fiber Place** (the company intranet). The aim is to provide employees with an advanced **User Experience** of their profile, acting as a single gateway to the services offered by the company. The "Dossier Documenti OF" allows employees to consult, in an easy and intuitive way, not only personal information (My data, Training and Development, My Services...), but also various sections, including:

- Hire Paperwork;
- Compensation & Rewarding;
- HSE Documents.

Furthermore, Open Fiber boosted its Virtual Helper by introducing the **Generative artificial intelligence** technology.

reducing variability and waste in business processes, optimising the use of resources, work areas and production cycles, while ensuring high quality in production and process management. By the end of 2024, **273 certifications** had been achieved since the launch of the courses.

The **Agile PM** course includes a Project Management methodology and a methodology for the realisation and release of products, i.e. everything that is necessary to manage the life cycle of projects and their strategic alignment through business cases to be studied in depth to acquire awareness of the benefits and added value. By the end of 2024, **152 certifications** had been achieved since the introduction of the courses.

The training content of the **Project Management** course of the Italian Institute of Project Management is consistent with the UNI ISO 21502:2021 guidelines and with the models of the international reference credentials. They have been developed taking into account the specific references to the Italian legislative and regulatory framework, and can be generalised and at the same time adapted to different specific situations. The objective of the course can be defined as the ability to achieve the necessary skills to correctly define a project within the planned time frame and budget, with the desired level of performance and quality, using the assigned resources effectively and efficiently and with the full satisfaction of internal and external customers. By the end of 2024, **185 certifications** had been achieved since the courses were launched.

3.2.3 OF ACADEMY: INTERNAL FACULTY

The natural evolution of telecommunications, the technological evolution of infrastructures and the continuous challenges that the sector proposes in relation to the development and implementation of new digital and innovative services require an extra step also from the point of view of the labour market, which must progress in step with the times, signalling continuous and constant improvement. In this context, therefore, specialised skills play a strategic role of great value because they allow the company to keep up with the changes taking place. That's why Open Fiber, with the aim of structuring

and enhancing its **internal know-how**, launched the Open Fiber Academy **Faculty** in 2023, a **centre of excellence** currently made up of **45 internal teachers**.

The community's programme includes consolidation activities, sharing of experiences/skills and co-design meetings with the aim of building a **training offer that is always up to date and distinctive** of Open Fiber's *core* skills. Following the mapping of the skills of the Faculty's teachers, the community co-designed **14 technical-specialist training courses** that were included in the OF Academy training catalogue and delivered to the company's target population. Some of these programmes concern specific company roles and/or *core* processes, involving – where appropriate – also external stakeholders, such as partners and suppliers.

Below are two of the main projects that involved the Faculty's teachers:

FIELD MANAGER PROJECT

Following an assessment carried out in 2023 - aimed at the company population of **Field Managers** - aimed at mapping the hard and soft skills of this specific professional figure, training **gaps were identified in 4 specific areas**: administrative management; permits; network architecture; site management. During 2024, the Faculty's teachers therefore designed and delivered **4 training courses** to fill the gap and strengthen these areas. The courses involved **over 160 participants** in a total of **12 editions** at the Rome, Padua, Naples and Milan locations. The Faculty's contribution was fundamental in offering targeted teaching on technical-specialist topics, adapted to Open Fiber's processes.

TRAINING PROGRAMME - GREY AREAS REPORTING

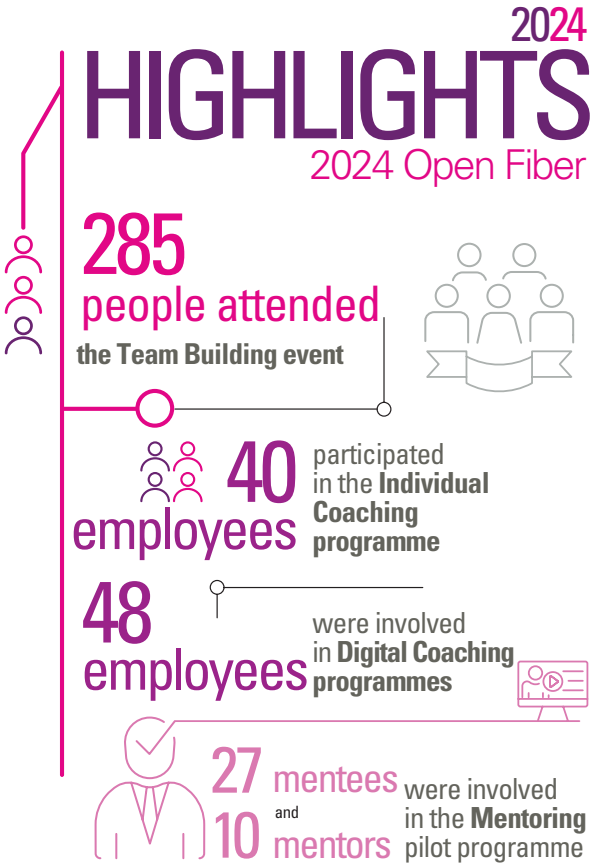
With reference to the Call for Tenders *Italia 1 Giga,* a training initiative was designed and delivered in 2024 to illustrate the processes, systems and documentation necessary to ensure the reporting of the funded **Grey Areas**, of which Open Fiber is in charge of **8 regional lots**. The programme, divided into **12 sessions** and aimed at Open Fiber employees, contractors and design services operating in the reference lots, ended in October 2024, reaching **over 500 learners**.



3.2.4 COACHING, MENTORING, JOB SHADOWING AND TEAM EMPOWERMENT PROGRAMMES

Investing in the professional growth of employees is a winning strategy for companies, favouring staff loyalty and active and spontaneous involvement. When employees perceive that the company takes care of their professional growth, offering opportunities for learning, training and career advancement, they feel valued and motivated. The sense of belonging strengthens their commitment, reduces turnover and increases overall productivity. Creating a work environment in which individual growth is a priority not only improves the well-being of employees, but also contributes to the long-term success of the company itself.

In this context, Open Fiber not only promotes and supports an **environment characterised by collaboration and mutual trust**, but also allows its employees to seize opportunities for professional growth and development and career advancement. Furthermore, the company is firmly convinced that the success of the development process is linked to the ability of the company's human capital to collaborate actively, sharing their know-how and adopting a continuous learning approach. Encouraging a lasting exchange of knowledge and stimulating openness towards new methodologies has the power to create a dynamic and innovative work environment. Furthermore, the mix of technical and transversal skills is a key element in facing market challenges more effectively, optimising both individual performance and the overall success of the Company.



Open Fiber supports the professional growth of its employees not only through training and awareness-raising activities, but also through Team Building and Individual and Digital Coaching projects.

As part of the growth and development initiatives for functional and cross-functional work teams, the Company has implemented ad hoc **Team Building** activities in order to strengthen **team identity**, support a clear and shared vision of business objectives and priorities, and stimulate **networking**, communication and integration among colleagues in the team involved.

The company **Individual Coaching** programme – which involved **40 employees** in 2024 – was designed and promoted with the aim of contributing

TEAM BUILDING

During 2024, numerous **team-building** initiatives were implemented, all based on the **company values of Triple A and Team Spirit**.
Starting from the challenges linked to the business and the strategic activities of each department, a process was launched that leads people to embrace the company values and reflect on the impact they have on the team and the company. The objectives of a series of **experiences** dedicated to individual company departments/functions are to strengthen collaboration and trust within the team, and to improve problem solving and proactivity skills, change management skills, active listening, cohesion and collective efficiency.

to the growth of coordinators and developing their managerial skills, allowing them to effectively and fully fulfil their role, and manage company processes and dynamics.



A tree is planted for each **digital coaching** pathway initiated.

In 2024, the **Digital Coaching** programme - involving **48 employees** - will also continue for Key People and will be delivered via a flexible and customisable digital platform. This activity aims to support and promote the enhancement and development of skills in line with the organisational needs of the company.

The **Digital and Individual Coaching** courses begin with a meeting aimed at exploring the aims of the course in depth, continue with a phase in which individual development objectives are defined, and end with a series of meetings in which the preparatory actions for achieving the set objectives are identified, followed by a phase in which the consolidated learning is verified.

& Inclusion. The programme involved **27 mentees** under 30 from the Technology Department, employed both at headquarters and in the field, and **10 female mentors**, selected for their significant professional experience, their specific skills, recognised leadership and a high level of commitment to the Company. The Mentors, in turn, were given specific support with one-to-one meetings with a professional coach. This allowed them to acquire the necessary tools to manage their role effectively and constructively.

With the aim of facilitating the understanding of the activities of functions other than their own, expanding their skills, improving collaboration and the exchange of information and best practices, in 2024 Open Fiber launched two **Job Shadowing** programmes involving, in particular, two company departments. This stimulating process allowed colleagues to continue investing in their professional growth and to forge new bonds with colleagues, improving dynamics and teamwork and offering them a broader understanding of the context in which they operate.

LEADERSHIP PROGRAMME

With the aim of promoting the values of the Triple A (Action, Ambition and Accountability) + Team Spirit, the **training pathways** for the company's managers had to be carefully designed.
A total of **128 leaders** were involved in an experiential training programme in which each aspect of the company values, as well as DE&I, was addressed by alternating theoretical content, action games and moments of comparison/discussion.

From the company **engagement survey** and the positive experience of 2023, Open Fiber has decided to confirm the internal **mentoring programmes**, useful for supporting and developing **intergenerational knowledge sharing**. With this in mind, a **Women mentoring programme** with the evocative name "**Arianna**" was conceived and launched in 2024. The project aims to encourage the building and development of self-confidence and self-awareness, to share and transmit *know-how* among employees, to involve and maintain high levels of motivation, to enhance networking and to promote the principles of Diversity, Equity

3.2.5 BEHAVIOUR & PERFORMANCE EVALUATION

Behaviour & Performance Evaluation

Realising the potential of a company's resources means defining clear and shared growth paths that are in line with the company's mission and values. With this in mind, in 2024 the **Behaviour & Performance Evaluation (BPE)** was completed, a process of evaluating and developing the performance of each employee based on Open Fiber's behavioural model, which inspires and guides our work process.

The evaluation involved **over 1,200 people** and, with the aim of improving the dynamics within the work group and strengthening team identity, it introduced an important new feature: the opportunity to consider both individual objectives and team development objectives. Furthermore, opportunities for discussion between managers and employees have been increased, with the aim of building a solid feedback culture within the company.

In 2024, Open Fiber also launched and implemented for the first time a **360° Evaluation** process aimed at all the organisation's managers, a development and self-development tool for behaviours related to the new skills model.

By filling in an evaluation questionnaire that gathers your point of view, as well as that of your direct superior, your main *peers* and your collaborators, you have the opportunity to receive complete and constructive feedback on your managerial and leadership profile. This step represents a **concrete opportunity for personal and professional growth**, in line with the company's objectives.

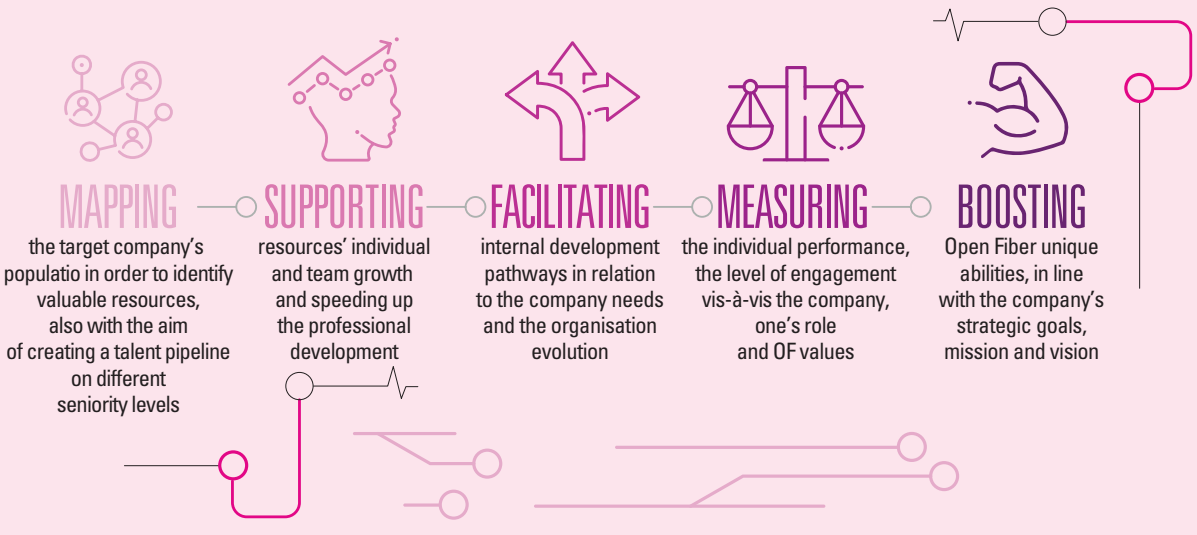
Development Assessment

As part of Open Fiber's talent management policies, the planning and upgrading of various **Individual Development Assessment** and **Group Assessment** programmes, differentiated by company population cluster, will continue throughout 2024. The aim of this programme is to support the individual growth of resources and accelerate their individual development, facilitate internal development paths in relation to company needs and the evolution of the organisation, and map target human resources to identify valuable resources. The "assessment" tool is also used to create a talent *pipeline* at various levels of seniority and to measure the level of involvement in the company, and the role and values of Open Fiber. **Over 70 employees** were involved in the course of 2024.

Champions Field Manager

In 2024, the **Champions Field Manager** initiative was also implemented. This is a company competition for Open Fiber field managers, aimed at achieving business objectives based on the main operational KPIs of Creation, Delivery and Assurance. With a playful approach to the sense

FIGURE 20: INDIVIDUAL DEVELOPMENT ASSESSMENT OBJECTIVES



of duty based on a solid foundation of **Team Spirit**, the initiative, which has seen a high level of participation and is greatly appreciated, is inspired by the **Triple A** and is an example of how **ambition, action and accountability** guide our daily lives.

3.3 WELFARE AND WELLBEING

Human capital is a central and essential element within a company because it represents the true driving force behind success and innovation. Unlike material or technological resources, the value of people lies in their ability to learn, adapt and actively contribute to the growth and success of the company. The centrality of people is one of the main cornerstones around which the Open Fiber vision is developed. The Company is constantly committed to guaranteeing **modern and flexible** tools and **working models**, able to respond to specific personal needs and guarantee an optimal level of **work-life balance**. This commitment is reflected both in the numerous welfare initiatives and in the agreements with employees and their representatives on gender equality, remote working, risk prevention and safeguarding health in the workplace.

In particular, Open Fiber's welfare programme includes three macro-areas:

- **People Care**: initiatives aimed at fostering people wellbeing;
- **Family Care**: initiatives favouring *Work-life integration*;
- **Community Care**: projects aimed at promoting a culture of "social wellbeing".

3.3.1 SHARING CHANNELS

With the aim of establishing a constructive dialogue with its collaborators, the company is committed to actively listen to their needs and expectations, favouring the creation of an environment in which every voice can be heard and valued. Through this approach, Open Fiber aims to gain a deeper understanding of the needs of its staff, gathering suggestions and ideas to improve organisational well-being and promote an inclusive and participatory company culture. To pursue this approach, the company has activated specific listening channels, **periodic surveys** and thematic **focus groups.**



During 2024, a survey was launched regarding the catering service at the Rome office: the aim was to hear the opinions of employees regarding their level of satisfaction with the **canteen service** and, more generally, regarding issues of **wellness and engagement**. Indeed, the following initiatives were implemented in the last quarter of 2024:

- **Oktoberfiber**: an opportunity to network with colleagues and establish new connections outside of working hours, extended to the main company offices;
- **Nutritionist Project**: meetings with a professional in the sector to offer employees useful information on proper nutrition;
- **Healthy corners** located in the main company offices to offer healthy snacks with a view to wellbeing;
- **Break Room:** opening of a new multi-purpose space to meet the employees' request for more places to eat their meals.

Another channel for active listening, available to the entire company population, is **Eureka**, which, during

MY FIBER PLACE

The company's **intranet My Fiber Place** continues to be the **first point of access** to all company information and communications. The portal, perfectly integrated with the company software, is fundamental for the **engagement** of employees and for the improvement of the **employee experience**, thus becoming a time saver and a work optimiser. Furthermore, My Fiber Place hosts **strategic sections** aimed at **constantly updating** employees on the evolution of crucial issues for the Company, including those dedicated to the state of implementation of the FTTH fiber optic ultra-broadband network infrastructure in all Italian regions and the customers reached, sustainability, safety and diversity, equity and inclusion (DE&I).

2024, focused on collecting ideas and suggestions related to the company's business. Proposals that meet the requirements of the regulations will be rewarded and implemented during 2025.

The **management interviews** that each employee has the opportunity to have with their HR Business Partner during the year remain particularly valuable and constructive. Similarly, the **meetings on parenting** dedicated to both parents are also important, both in the case of birth and adoption and pre-adoptive fostering.

3.3.2 WORK-LIFE INTEGRATION AND PARENTING SUPPORT

In the world of work, which is geared towards mere productivity and does not take care of the personal needs of people, Open Fiber, with its welfare initiatives, is going in the opposite direction. In



Back to School programme continues in 2024 too. Within the framework of this initiative, the Company granted:

- to employees having children attending **nursery and pre-school**, a permit to be used on an hourly basis for a maximum of 24 hours;
- to employees having children attending from **first grade to ninth grade**, for the first day of school, a paid permit to be used in a scheduled time slot.



Parenting toolkit

As part of the activities carried out in support of families, on the occasion of the birth and/or adoption of a child, Open Fiber sends the new parents a "parenting kit" accompanied by a message of best wishes for the happy event

fact, in order to support parenthood and promote the reconciliation of the work and personal needs of its employees, the company has developed and implemented a series of projects promoting the culture of **work-life integration** from every point of view.

In support of the new mothers and fathers, Open Fiber has set up a **communication channel specifically for this purpose** *"genitorialita@openfiber.it"* through which it is possible to arrange a **meeting about parenting** aimed at providing all the information relating to the administrative requirements to be fulfilled in this regard.

The company has also provided a **Bonus as a fringe benefit** – in the form of vouchers – on the Open Welfare portal for working mothers who have returned from maternity leave from 1 January to 12 December 2024 (see par. 3.3.3 New Mothers Bonus).

To further promote *work-life integration,* the remote working model has confirmed the supplementary protections for pregnant women and new parents in the period following birth, adoption and fostering, and for people in vulnerable situations (e.g. caregiving), recognising **days of smart working additional** to the ordinary entitlement (called "Fiber Working Maternity" to be used before the compulsory maternity leave, and "Fiber Working Parenting" to be used within the first year of the child's life).

Also, with a view to supporting **parenting**, the **Level II Agreement** confirms:

- an increase in **allowances** for parental leave, including the achievement of an allowance equal to 100% for a maximum duration of one month, for one of the two parents alternating with each other, up to the child's sixth year of life through the **integration of 20%** by Open Fiber;
- the recognition of **an additional 5 days of paid** paternity leave for the birth, adoption and pre-adoptive fostering of a child, to be taken on a non-continuous basis, within the first year of the child's life. With regard to the institution of the child's illness, an additional **5 paid days per year** have been recognised, which can also be used on an hourly basis, until the child reaches the age of 14;;
- the payment of a **one-off amount** to employees if they enrol their fiscally dependent children in the TLC - Telemaco supplementary pension fund within the first three years of the child's life.

The measures introduced in 2024 also include agreements with trade unions aimed at facilitating the planning and access to **holidays and leaves of absence** for 2024 and 2025.

Furthermore, as a further integrative measure to the advantage of families, Open Fiber also provides for the inclusion of the cohabiting partner, civilly united partner and children in the **supplementary health insurance** coverage.

3.3.3 BONUS AND OPEN WELFARE

Most welfare initiatives are offered through the **Open Welfare** portal. This exclusive platform allows all employees to benefit from a long list of services. It was designed and implemented with the aim of **supporting a more sustainable work culture** and improving the quality of life of people working at Open Fiber. The services offered by the platform include education, healthcare, family care (*caregiving*), babysitting, supplementary pensions, sports, culture, wellness, travel, transport, shopping vouchers and shopping.

The wide range of services that employees can access through the Open Welfare platform has made it possible to achieve a **54%** conversion rate in welfare credit of the 2023 **Performance Bonus (*Premio di Risultato, PdR*)** in 2024, an increase compared to previous years.

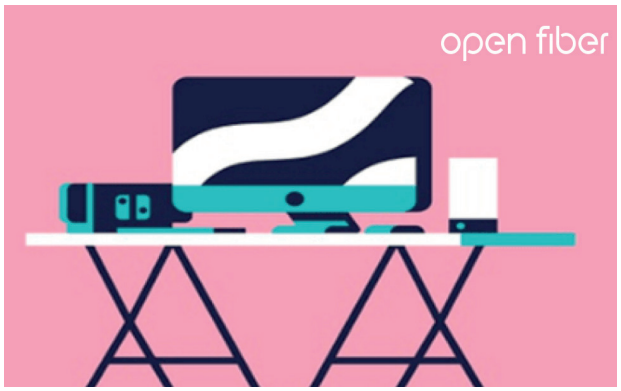
2024 was also the year in which Open Fiber defined with the trade unions the **Agreement relating to the Performance Bonus** payable in 2025. This agreement, compared to previous years, provided for the opportunity to further increase the value of the bonus if the defined company targets are exceeded. Furthermore, the Agreement provides for an increase in the company contribution **up to 25%** based on the percentage of PdR converted into Welfare credit.

FRINGE BENEFITS

In 2024, Open Fiber employees could also use their welfare credit to be reimbursed for expenses incurred for **mortgages, rents** and **electricity bills**. Employees with dependent children could use a fringe benefit limit of **€2,000**, while for all others the limit was set at **€1,000**.

Among the Welfare initiatives implemented in 2024 and dedicated to the company's resources, it is worth mentioning:

- the **New Mums Bonus**, which provides a bonus of €1,000 in Welfare credit to all professionals returning from maternity leave in order to provide them with concrete help and facilitate their return to work;
- the **Study Agreements** with the main Italian universities and academic institutes to offer employees and their families discounts on training courses.



3.3.4 A WORKING ENVIRONMENT TAILORED TO THE PERSON'S NEEDS, AT THE OFFICE AND AT HOME

Always with a view to supporting work-life integration, that is, the possibility of synergistically reconciling work and personal life, Open Fiber believes that its **Smart Working** model, defined in 2023 with the trade unions, has now become an integral and essential part of its corporate culture, offering the possibility of alternating office work with remote work for a total of **21 days every two months**.

This is where Open Fiber's potential lies. While, in business terms, the company is committed to creating the conditions to promote connectivity throughout the country, internally it tries to use its own network and technologies to support a very flexible approach and vision to work, with a project called **Fiber Working**.

Furthermore, in order to improve and make Fiber Working more comfortable, in 2024 the **project DTTH 2.0** (***Dotazioni To The Home***) was relaunched for the fourth consecutive year, which involves the delivery of ergonomic and computer equipment to the homes of employees.

3.3.5 NEW TICKETING PLATFORM FOR THE EMPLOYEES

In order to improve the digital experience of its employees and encourage the exchange of information, in 2023 Open Fiber began updating a **ticketing platform** for the management of requests addressed to personnel administration, and continued in 2024.

The user-friendly interface of the platform guides the user step by step in formulating requests, automatically assigning the ticket to the most appropriate category. This process simplifies management, reduces response times and guarantees maximum transparency in each phase of the request resolution.

Within their personal area, each employee can **monitor the progress of requests**, consult details, provide additional information or respond to input received from the People Administration team. The information, together with the necessary documentation, is collected in a single centralised tool, facilitating access and management.





3.3.6 PEOPLE CARING, WELLNESS & WELLBEING

For a company, being able to offer certain benefits to its employees means increasing staff loyalty and satisfaction. Following this strategic line, Open Fiber considers the **promotion of the well-being** of the company's population a fundamental value. To this end, it provides its employees with **supplementary health insurance** that also includes the cohabiting partner or civilly united partner and children in the coverage.

In terms of healthcare, as in previous years, Open Fiber launched two **prevention campaigns** in October and November 2024, recognised respectively as men's and women's health month.



This communication initiative is a way of inviting the company's employees to take advantage of the prevention package included in the health insurance to book a free visit to an affiliated facility.

Still in relation to **physical wellbeing** of all employees, the company continues to promote the use of the **Fitprime** virtual platform. Through the dedicated app, you can access a network of **gyms and sports centres** throughout Italy at discounted rates, do physical activity at home by participating in live classes, as well as requesting a tailored **diet** for the professionals in the field.

In addition to physical well-being, Open Fiber also takes care of the mental well-being of its employees. Indeed, in 2024 the company continued to focus on strengthening the caring culture aimed at the company's population through the **EAP** (Employee Assistance Programme), a personalised programme of psychological, legal, fiscal and social assistance support in a free and anonymous form for all its employees and their families.

Among the People Care initiatives, in the second half of 2024, several initiatives were activated including:

- ***Talenti***, a project that encourages Open Fiber employees, on a voluntary basis, to share

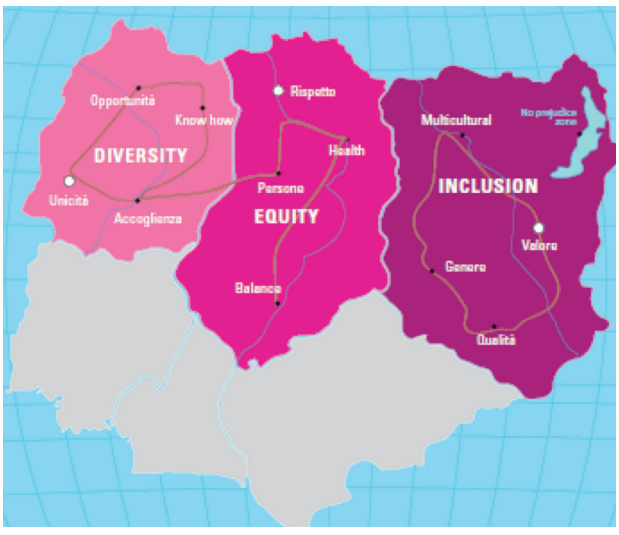
During the Christmas holidays, Open Fiber headquarters organised the **Open Kidsmas Day 2024**, an event mainly dedicated to the sons and daughters of employees, during which there were games, live concerts and meetings with Santa Claus.

their passions and talents with the company community. In 2024, two Open Trekking sessions were organised;

- **Personal defence course** held in the main company offices with the aim of spreading the most effective personal defence techniques with the support of an expert in the field and at the same time consolidating relationships between people;
- **Open day Factory**, i.e. guided tours of the Open Fiber Factory by the Network Engineering & Innovation team of the Technology Department, where every day they work to transform ideas into innovative business solutions.

3.4 DIVERSITY, EQUITY & INCLUSION

Inclusive and **Open Minded**: this is the working environment that Open Fiber is committed to provide,



a place where everyone can realise their potential and not feel excluded. According to Open Fiber's vision, diversity, equity and inclusion are strategic *assets that* define the company's guiding principles and objectives: gender equality and protection of women, maternity and family care, disadvantaged areas and support for workers, multiculturalism, attention to disabilities.

Open Fiber recognises and values uniqueness as a distinctive element capable of enriching the organisation through diverse perspectives, skills and experiences. As a precious resource, uniqueness fosters complementarity between individuals, stimulating innovation and creating synergies that have a positive impact on the work environment, people's well-being and company performance. It is thanks to the integration of different talents and points of view that Open Fiber generates a concrete and lasting impact, thus contributing to the growth of the company and the progress of the community in which it operates.

Based on these assumptions, the Company developed ***Unici nel Connettere*** (Unique in Connecting) which encompasses the programme of initiatives in the field of **Diversity, Equity & Inclusion (DE&I)** in favour of all Open Fiber people in line with the Company's strategy and values, thus guiding the growth and evolution of the Organisation.

In 2024, the **collaboration with Fondazione Libellula** was confirmed. This is an association focused on promoting a culture against violence against women and gender discrimination. Specifically, in collaboration with the Foundation, two webinars were organised for the entire company population:

POLICY DIVERSITY, EQUITY & INCLUSION

In 2023, Open Fiber adopted the Diversity, Equity & Inclusion Policy, a declaration of the company's ongoing commitment to promoting and upholding the principles of diversity, equity and inclusion through the adoption of organisational and management practices characterised by respect for each individual. Guided by these values, Open Fiber operates impartially and does not tolerate any form of discrimination, favouring diversity in all its dimensions and promoting it as a competitive advantage for the Company. With the DE&I Policy, Open Fiber is committed to:

- **Spread a culture of diversity and equal opportunities** both within the company population and among stakeholders, ensuring that it is shared by all, not only by encouraging inclusive behaviour, but also by adopting, where necessary, tools aimed at sanctioning contrary behaviour.
- **Raise staff awareness of the culture of diversity** and ensure that each individual is aware of their responsibilities in terms of respecting and defending the rights of people, whether they are inside or outside the Company.
- **Promote an inclusive** work environment, in which each individual feels valued and free from any discrimination and/or behaviour that is detrimental to diversity - whether it be: gender, age, disability, ethnic, social and geographical origin, union membership, language, religion, political and/or sexual orientation, gender identity, nationality, marital status, state of health - during the selection, hiring, training, remuneration, awarding of bonuses, access to benefits and termination of the employment relationship.

- a **webinar on parenting** to raise awareness of collaborative parenting, caregiving and the educating community;
- an ad hoc **webinar** on the occasion of the I**nternational Day for the Elimination of Violence against Women** to emphasise the importance of gender equality and to combat discrimination and gender-based violence.

Regarding DE&I, the training programme for **Open Fiber Ambassadors**, who are committed every day to promoting respect, fairness and inclusiveness and supporting women in difficulty, came to an end in 2024. They are professionals trained to address gender issues and prevent any form of discrimination, with the common goal of creating a safe work environment in which everyone feels welcomed and listened to.



CERTIFICATION OF GENDER EQUALITY

Care for people and valuing their uniqueness have always been a strength and a source of wealth for Open Fiber, which in 2024 confirmed, for the second time in a row, the certification of the **management system for gender equality** according to UNI/PdR 125:2022. The Company has worked on strengthening and implementing a gender equality management system in accordance with the reference standard (UNI/PdR 125:2022), introduced as part of the **National Recovery and Resilience Plan (PNRR)**[73] con with the specific intent of supporting and encouraging companies to adopt adequate policies to reduce the gender gap in all areas that are most crucial for the professional growth of women. The certification confirms the company's constant commitment to equal opportunities. It is also in line with the objectives of the PNRR, which aims to promote greater inclusion of women in the labour market, considering this to be an essential tool for improving social and territorial cohesion, as well as being of fundamental importance for the country's economic growth.

The theme of listening and the importance of each employee's opinion is also reflected in the renewal, also for 2024, of the survey activity on Diversity, Equity & Inclusion issues through a dedicated *survey*. In October, a specific section on DE&I issues was included in the **Great Place to Work engagement survey**. In addition to the questions already included in the Great Place to Work model, concerning equity, inclusion and diversity, Open Fiber designed additional ad hoc questions, to understand the employees' point of view even more effectively and clearly. At the end of the survey, a report was prepared and shared, making it possible to understand the strengths and identify the areas where it is necessary to intervene with targeted action plans.

In addition to what is already required by Italian legislation, Open Fiber has introduced improvements to support parenthood by promoting the **sharing of parental responsibilities**, so that motherhood is no longer an obstacle to women's access to the world of work (see par. 3.3.2).

As far as training is concerned, specific **collections relating to DE&I** topics have been created and made available in asynchronous distance learning mode for all company resources on external training platforms, specifically the **Open English** and **Of Course Me** platforms. In addition, efforts have been made to integrate new e-learning content on the internal Open Learning platform, focusing on topics related to gender equality, inclusive language, stereotypes and bias, as well as parenting.

3.4.1 GENDER EQUALITY & WOMEN SAFEGUARD

Open Fiber promotes a collaborative and inclusive work environment in which relationships based on the principles of Diversity, Equity and Inclusion are fully supported. Examples of this are the equal opportunities policies in all phases of people's growth, from entry to professional development, and the ad hoc programmes that facilitate inclusion and enhance female talent with the aim of reducing the *gender gap* in the country.

3.4.2 DISADVANTAGED AREAS & WORKERS SUPPORT

Precisely because one of the commitments made by the Company is to contribute to the construction of a more inclusive society for the future, Open Fiber strives daily to offer the **same opportunities for growth and training** to all its resources. For this reason, it encourages and promotes the principle of social inclusion by collaborating with institutes in disadvantaged neighbourhoods and pays particular attention to the inclusion of professionals, both junior and senior, belonging to particular categories of workers who are destined to receive fewer opportunities compared to others.

73 Mission 5 "Inclusion and Cohesion", Component 1 "Active labour policies and employment support".

Quotas for women in technical professions
The enhancement of Diversity, Equity & Inclusion topics since the personnel recruitment phase has been a constant element in Open Fiber's vision. In this way, it guarantees an equal pipeline of male/female candidates.

Role Models for tutorship and mentoring projects (2018-2024)
The aim of the project is to identify women occupying key positions within the company organisation, in order to guide high school and university students towards the jobs of the future. Employees are therefore transformed into agents of change and mentors, with a view to including and enhancing female talent.

- **+ 350** selected Italian lower and upper secondary schools (technical institutes and high schools) took part in the project, as well as over 5 universities in Southern Italy.
- **+ 65,400** students reached.
- **+ 90** participating companies.
- **16** Open Fiber Role Models involved.

YEP – Young Women Empowerment Programme
Open Fiber remains committed to supporting YEP, the mentoring programme that aims to combat gender inequality in Southern Italy, promoted by the **Ortygia Business School**, a foundation whose mission is to strengthen cooperation and economic development among Mediterranean countries. Through the project, the younger generations acquire useful tools to guide their personal and professional choices and, at the same time, an atmosphere of confidence in the future is created. Thanks to YEP, deserving young women enrolled in a Master's degree course in economics and **STEM** at the main universities in Southern Italy are accompanied by established professionals in a one-to-one mentoring relationship. The aim of the programme is to introduce young female students to the world of work, provide them with useful tools to help them make informed academic and career choices, and offer them female role models who can inspire them. The opportunity is completely free of charge for students and universities.

Including in order to grow
In 2024, an inclusion programme was launched in collaboration with Elis. This project offers a series of initiatives within the organisation in the areas of recruitment, training, welfare, DE&I to **generate and promote the direct labour inclusion of disadvantaged persons** but also indirectly, i.e. through the supply network. This programme aims to integrate people with previous professional experience into companies who are currently excluded from the world of work due to a need or a fragility. Finally, the project supports the development of **"impact" companies**, which stand out for the quality of the products or services offered, their organisational solidity and their ability to generate social impact.

This Unique
In 2024, the distribution campaign of **feminine sanitary pads** at Open Fiber offices continues, with the aim of guaranteeing the supply of an essential good and breaking down gender barriers in the workplace.

Women in science
Through the testimony of Open Fiber professionals who have made STEM subjects their passion in life and at work, the **talent of women** who make a difference every day in **STEM sectors** has been celebrated on internal and external channels.

HIRING DISADVANTAGED PERSONS

Open Fiber pays particular attention to the hiring of professionals, both junior and senior, belonging to disadvantaged categories of workers (unemployed, underemployed, workers with fixed-term contracts, etc.). With this in mind, in 2024 the Company started several collaborations, including ***"Cervelli ribelli"* (Rebel brains)**, a non-profit foundation that has seen the inclusion of a neurodivergent person in an internship, and ***"Includere per Crescere"* (Including in order to grow)** in partnership with Elis, a programme of initiatives in the field of recruitment, training, welfare, DE&I to generate and promote the direct labour inclusion of disadvantaged individuals in the corporate world, but also indirectly, i.e. through the supply network.

3.4.3 MULTICULTURALISM

In a labour market that is ever more diverse and globalised, companies must develop the ability to manage and actively promote the cultural wealth of their workforce. Integrating different perspectives, experiences, cultures and backgrounds not only favours a more inclusive and stimulating work environment, but also represents a competitive advantage, capable of generating innovation, improving collaboration and the ability to adapt to

Open Learning
For Open Fiber, innovation is a central element of its mission and business, as well as one of the fundamental pillars of today's digital society. Therefore, on the **Open Learning** digital platform, access to training pills has been ensured even for the hearing impaired, thanks to the inclusion of subtitles.

Accessiway
In order to make the company website more accessible to people with disabilities, Open Fiber has implemented a management panel on its web platform that is very intuitive thanks t**o Artificial Intelligence and Accessibility Interface** components[74].

the dynamics of a constantly evolving market. In this regard, Open Fiber is committed to ensuring an inclusive work environment, aimed at valuing diversity due to cultural factors, supporting the architecture of a heterogeneous workforce made up of different nationalities: **Open Fiber employees come from over 160 companies and are of 26 different nationalities**.

3.4.4 DISABILITY CONFIDENCE

Also with an inclusive approach, Open Fiber pays particular attention to disability and demonstrates this not only by removing all types of environmental and architectural barriers, but also by adopting an **approach aimed at enhancing diversity**, considering it an added value capable of structuring an organisational process that can support each colleague in achieving their professional goals.

3.5 HUMAN CAPITAL PROTECTION

Another piece of the organisation that Open Fiber cares about and takes meticulous care of is the health and safety of its employees. With this in mind, it strives every day to minimise risks, devising initiatives aimed at employees and all those who, in any capacity, work within the company offices, at the technological sites and within the scope of Creation, Delivery and Assurance activities.
Open Fiber previously identified and assessed the risks associated with the company's activities and the workplaces where they are carried out, in full compliance with current legislation on Occupational Health and Safety, identifying the best solutions to reduce risks and adopt the most appropriate prevention and protection measures for the context in question. Risks are identified through on-site inspections, interviews with company personnel and instrumental surveys, always ensuring discussion with the Workers' Safety Representatives (*Rappresentanti dei Lavoratori per la Sicurezza, RLS*) and the participation of the coordinating company doctor and the coordinated company doctors. A role of fundamental importance in pursuing this line of risk protection and prevention is played by the occupational medicine service which, through health surveillance, monitors the health and safety of workers, taking into account the occupational risk factors related to the work environment and the activity carried out within it.
The management of Occupational Health and Safety involves all levels of the company organisation, from the CEO to the employees, also through the relevant representatives, guaranteeing an analysis and joint discussion between the parties involved. Relations with the Health and Safety Representatives are managed and maintained by the HR Business Partner, Organisation, Industrial Relations & Digital HROF function of the People Department which, with the support of the Prevention and Protection Service (SPP), organises periodic meetings to discuss Health and Safety issues for Open Fiber

74 For more details, see paragraph 1.3.2 "Transparency and Communication to Citizens, Businesses and Public Administration".



employees (for example, meetings pursuant to art. 35 of Legislative Decree 81/08).

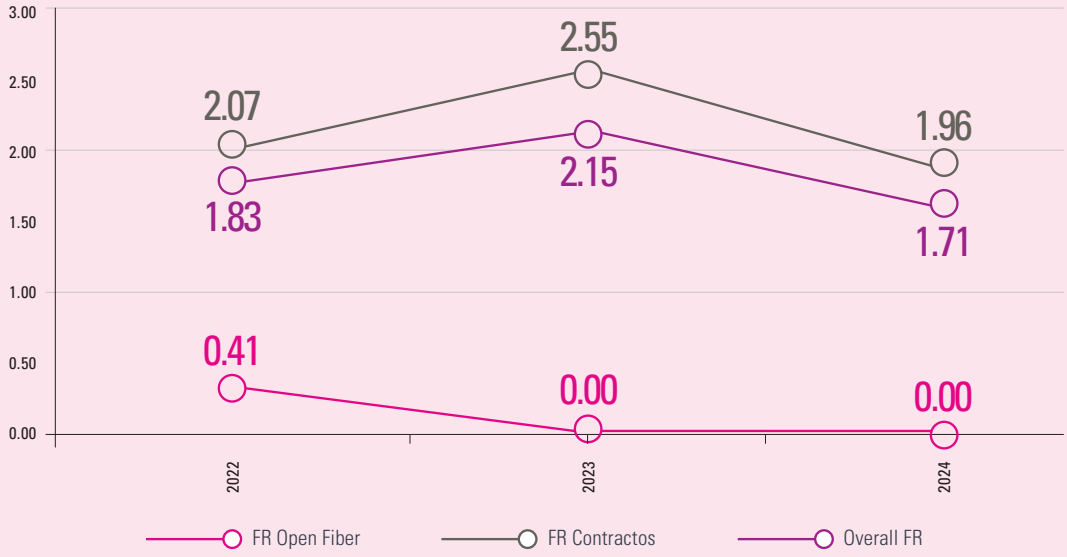
In this context of protecting human capital, the **Management System** implemented by Open Fiber, certified for the Occupational Health and Safety component according to the **UNI ISO 45001** standard, is an important tool that allows for the constant improvement of company performance, always ensuring the highest standards of Health and Safety, as well as full compliance of the organisation with current legislation and agreements made with employees and their representatives. This system covers the entire workforce of Open Fiber in all company offices and applies to all activities carried out by third-party companies with which the Company has entered into contracts for the construction and management of the network[75].

3.5.1 PERFORMANCE MONITORING

Among the most significant and relevant indicators in the field of Occupational Health and Safety monitored by Open Fiber is the trend in injury performance, not only in relation to its employees, but also to contractors and subcontractors operating in the Creation, Delivery and Assurance activities. The analysis of accident rates involves monitoring performance over time, in order to identify any abnormal trends and possible related causes, as well as to identify areas of weakness and points of attention where corrective and improvement actions can be concentrated, also evaluating their effectiveness.

During 2024, Open Fiber did not record any accidents among its employees (frequency index equal

FIGURE 21: TREND OF WORK-RELATED INJURIES FREQUENCY RATES - OPEN FIBER



75 For more details, see paragraph 6.3 "Management of Quality, Occupational Health & Safety and the Environment". Furthermore, with reference to the Open Fiber Network Solutions Consortium, please refer to section 1.6.4 Certification and Performance Improvement.

to 0). On the other hand, there has been a slight worsening (albeit with low absolute values in terms of frequency and severity index) in the accident performance of the companies involved in Creation, Delivery and Assurance activities, which also include the Open Fiber Network Solutions Consortium.

By examining the work and the operations involved in the construction and maintenance of the fiber optic infrastructure, Open Fiber has identified and reported the main risks that can result in serious injury to the workers involved: manual handling of loads (in particular the handling of elements of variable weight made of materials and network elements such as manholes, cabinets, reels); investment (the activities are carried out on roads or next to or very close to roads and ordinary traffic routes in urban and extra-urban contexts); crushing of limbs, as well as collisions or impacts (one of the highest risks is the opening and closing of manhole covers, which are generally made of cast iron and have a "segmented" opening); electrical risk (in particular for some underground or overhead installation activities that may take place near electrical cables); risk of falling from height (frequently the work involves laying cables on pilings and/or on the facade of a building, both in urban and suburban contexts); slipping (due to various ground conditions and/or the distraction of the operators themselves).

Given the wide range of situations that can occur, Open Fiber has defined a specific procedure for the analysis of accidents and work-related injuries, which is activated whenever an accident occurs in the context of activities carried out by Company personnel or interventions covered by a contract for works or services between Open Fiber and contractors and subcontractors, including contracts with self-employed workers and consultants. Based on the seriousness of the accident (classified with a green, yellow or red code), the procedure activates a specific process of analysis of the event which, if it is among the most serious, involves the establishment of a multifunctional Investigation Group, coordinated by the QHSE Representative.

This process, consisting of well-defined steps, analyses and identifies the **immediate causes** that directly led to the accident (for example, the technical causes) and the **basic causes** (the so-called root causes), after which corrective and improvement actions are defined. The effectiveness of the manoeuvres implemented is verified through



a subsequent follow-up. During these investigations, the information collected from the workers involved is treated in strict compliance with the Privacy Code adopted by Open Fiber.

Even more systematically, during 2024, the Organisation monitored "near miss" incidents that occurred during the conduct of activities, both for Open Fiber employees and for the personnel of contractors in the Creation, Delivery and Assurance areas. With reference to the type of near misses reported, for Open Fiber personnel most of the reports refer to areas and facilities of company offices (about 67%), while for contractors, near misses were recorded mainly related to incorrect management of the construction site and signage (about 39%), failure to comply with safety procedures and measures (about 26%) and unsafe conditions (about 13%).

3.5.2 IMPACT MITIGATION

The activities carried out by Open Fiber in the context of the creation, management and maintenance of the ultra-broadband network, if not correctly managed and planned, can negatively impact the Health and Safety of people, exposing the personnel employed (mainly external) to potential accidents. This possibility, in addition to jeopardising the integrity of people, poses the risk of criminal or civil sanctions against those responsible and, in some cases, of violation also pursuant to Legislative Decree No. 231/2001, with consequent additional costs for the Company and damage to its image and reputation.

The phases of implementation, management and maintenance of the network - which mainly involves external personnel - are subject to normal risks related to the typical processes of the sector (for example: excavations, use of equipment and work vehicles, opening of manhole covers and under-equipping) and to risks connected to external anthropic interferences (for example: vehicular and pedestrian traffic, the presence of infrastructure for the supply of public utilities such as gas, water and electricity) or environmental-climatic (for example: ordinary and extraordinary climatic events, natural disasters). The risks associated with normal field work can mainly result from incorrect execution of work phases and improper use of equipment and work vehicles. To address these risks, Open Fiber has implemented a Management System that, for the Occupational Health and Safety component, is certified according to the UNI ISO 45001 standard. This Management System applies to all activities connected to the Company's business, including those subject to procurement and supply contracts: to this end, within the general and specific conditions of the contract, explicit reference is made not only to the relevant legal obligations - mainly deriving from Legislative Decree 81/08 - but also to compliance with the procedures and operating instructions of the Open Fiber Management System aimed at pursuing the continuous improvement of company performance. To guarantee this at all times. Lgs. 81/08 - but also compliance with the procedures and operating instructions of the Open Fiber Management System aimed at pursuing the continuous improvement of company performance. In order to always guarantee compliance with current legislation and internal procedures, the contract provides for a series of penalties to be applied in case of non-compliance, including in the field of Occupational Health and Safety. The attention paid to contractors and other suppliers who collaborate with Open Fiber on a daily basis covers all the phases of execution of the existing contract:

- initial phase: the Company holds briefings with contracted service providers in order to share and analyse the main critical issues identified in the work, with a view to preventing the main risks and sharing the Management System documents;
- contract implementation: Open Fiber promotes periodic meetings with service and works contractors, during which it shares the results of the checks carried out on site and the processing of data in the company systems that monitor and help improve performance. These results are also sent to contractors on a monthly basis via automatic emails generated by the Business Intelligence platform developed by Open Fiber.

Furthermore, in order to guarantee a widespread presence throughout the territory and that adequate

checks are carried out to ensure compliance with current regulations regarding tenders, Open Fiber publishes specific calls for tenders for services, including safety coordination. In addition to the minimum requirements for roles established by law, the calls for tenders include more stringent requirements that result in higher technical scores. Following this methodology, the most suitable profiles are selected. In 2024, with a view to further improving the monitoring and control process, quarterly performance *assessments* of service providers continued to be carried out through the development and monitoring of a series of Key Performance Indicators (KPIs) relating to contractual obligations, which are used to calculate the Vendor Rating Index.

With regard to the risks associated with the Health and Safety of its workers, in addition to continue providing mandatory training on the subject of Occupational Health and Safety for all newly hired personnel, with a specific focus on the importance of the cultural approach to these issues, Open Fiber continued and implemented a series of related initiatives during 2024, including:

- **C.A.R.E. Programme**, an initiative aimed at strengthening HSE culture at all organisational levels by acting on 4 drivers (communication, awareness, responsibility, engagement) in order to develop a sense of responsibility at all levels, enhance the involvement of employees and suppliers, increase the culture and extend communication to employees and suppliers;
- the adoption by all personnel of an extended training model that goes beyond regulatory requirements, consistent with the work carried out through content deemed necessary[76]. Within the scope of this model, which provides specific training for *field workers* and those providing local operational support, targeted initiatives and tools have been developed, such as:
  - in-depth sessions on Health and Safety management on site and on the management of significant environmental aspects related to the construction and maintenance of the network;
  - Open Fiber's portal "My QHSE & SPP", the hub for the dissemination of the culture of quality, safety and the environment, divided into a series of areas (regulatory area, educational area, multimedia area, reserved area, useful links) and acting as a point of reference for Occupational Health and Safety issues available to all Open Fiber employees;
  - information on general company risks and behaviour to adopt in case of emergency, on the use of personal protective equipment and for work activities carried out under the Fiber Working regime;
  - information on the risks and how the workers should behave during the visits to Open Fiber construction sites and technological sites;
  - an introductory video providing information on company risks and behaviour to adopt in case of emergency, shared in the virtual classroom during the onboarding sessions for all new hires.

76 For more details, see paragraph 3.2 "Collaborators' growth and training" and 3.3 "Welfare and Wellbeing".

C.A.R.E. PROGRAMME

Open Fiber strongly believes that care for Occupational Health and Safety and Environmental Protection are top priorities. For this reason, the C.A.R.E. programme (Communication, Awareness, Responsibility, Engagement) is the tool used to promote a culture of Health and Safety and Environmental Protection, inspired by the Safety Culture Ladder model. Following this model, it is possible to identify 5 steps on the "safety ladder" (Pathological, Reactive, Calculative, Proactive and Generative), which act as a watershed between two main organisational approaches to the management of HSE issues: Blame Culture (the approach according to which any event can be traced back to an employee's mistake) and Just Culture (the approach according to which each employee feels they are the main actor in reporting dangerous conditions and resolving them proactively). Thanks to the C.A.R.E. programme, Open Fiber aims to strengthen the HSE culture within the company, moving towards the Just Culture area. The programme is based on four drivers (Communication, Awareness, Responsibility, Engagement) for each of which various initiatives, activities and thematic content have been included during 2024.

Communication

- **MY QHSE & SPP Portal**: in 2022, the first Health & Safety portal was created on MYHR, completely revamped in 2023 and constantly updated throughout 2024. The portal is divided into four main sections: an area dedicated to regulatory updates on HSE matters and their impact on the Organisation[77], containing rules and regulations regarding Occupational Health and Safety, extracted from the various sources indicated and updated quarterly by the SPP. In addition to this content, there are also useful references for finding guidelines and good practices relating to Health and Safety in the Workplace. The training materials from the training courses that have been held, documents with information on the risks present in Open Fiber workplaces and in-depth information on specific Occupational Health and Safety issues have been uploaded to the educational and multimedia area. Finally, there is an area dedicated to useful numbers and emergency numbers available to Open Fiber employees and to reports of near misses (unsafe behaviour and dangerous conditions).
- **Monthly HSE newsletter:** a newsletter with regulatory updates to provide news on Occupational Health and Safety and Environmental Protection.
- **Videos on HSE issues:** Creation and distribution of a video clip illustrating good HSE practices, communication of OF's values and mission in this area.

Awareness

- **QHSE Pills**: 4 new specific training pills, addressed to Open Fiber employees and suppliers and focused on the main risks of injury on construction sites: "Information on the risk of impact, being run over and crushing", "Information on the risk of explosion/electric shock", "Information on the risk of slipping", "Information on the correct management of the construction site (signage, working at height, contents of first aid kit, etc.) and the related documentation (POS, Safety Data Sheets, etc.)". The purpose of producing and distributing these pills is to increase sensitivity, awareness and knowledge of occupational health and safety. During 2024, previous training initiatives such as "Introduction to the Best In Class APP", aimed at Open Fiber personnel, with the aim of guiding employees in the correct use of the "Best in Class Employee" application with which near miss incidents are reported in an easy and immediate way, and "Leadership and Safety Culture" in which the dissemination of safety leadership and good HSE practices within the Organisation is promoted.
- New issue of the **HSE training** dedicated to Regional Managers, Field Managers and Area and Regional QHSE Managers to improve their knowledge of regulations and recent best practices regarding Open Fiber activities.
- **HSE Induction Training** for all newly hired Open Fiber employees.
- **Training as a Coordinator for Safety in the Execution Phase *(Coordinatore per la Sicurezza in fase di Esecuzione, CSE)*** for the QHSE professional family, the aim of which is to provide people with the necessary tools and increase their knowledge for the execution of controls and audits both in the field (construction sites) and in relation to OF's internal processes and the supervision of external professionals (CSE/Works Directors).

Responsibility

- **HSEQ performance meetings**: thematic meetings between Area and Regional Operational HSEQ representatives and central HSEQ functions.
- **Contractors performance meeting**: thematic meetings between company managers and Open Fiber's central HSEQ functions, aimed at improving HSE performances in the context of network creation activities.
- **Workshops and days on the field:** meetings with suppliers who have recorded the worst accident rates, with the aim of analysing the main QHSE events that have occurred and the findings, and to disseminate any best/good practices available and the operational instructions provided by OF for carrying out activities.
- **Field interviews:** conducting field interviews with company personnel to verify the effectiveness of HSE actions in progress (e.g. Best-In-Class 2.0 app, information capsules, periodic meetings and workshops), understand the level of application within the supplier's organisation and provide feedback and suggestions for improvement.

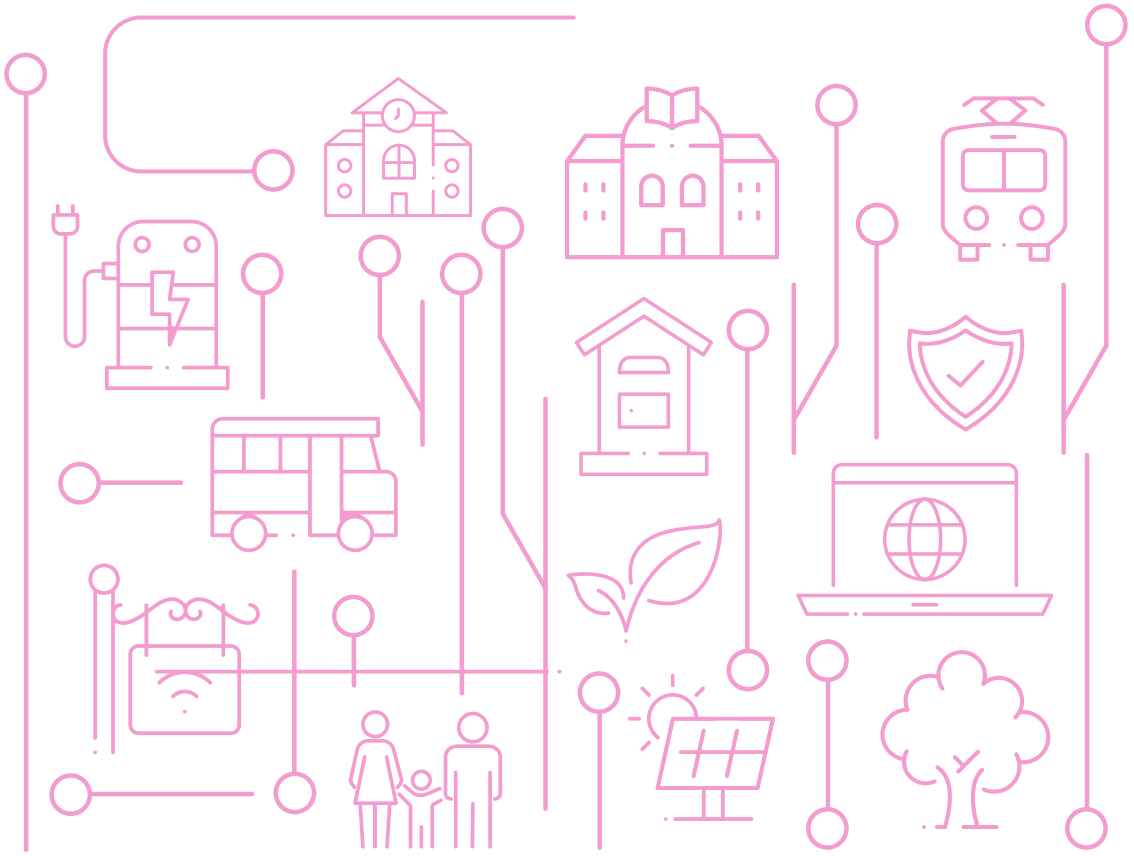
Engagement

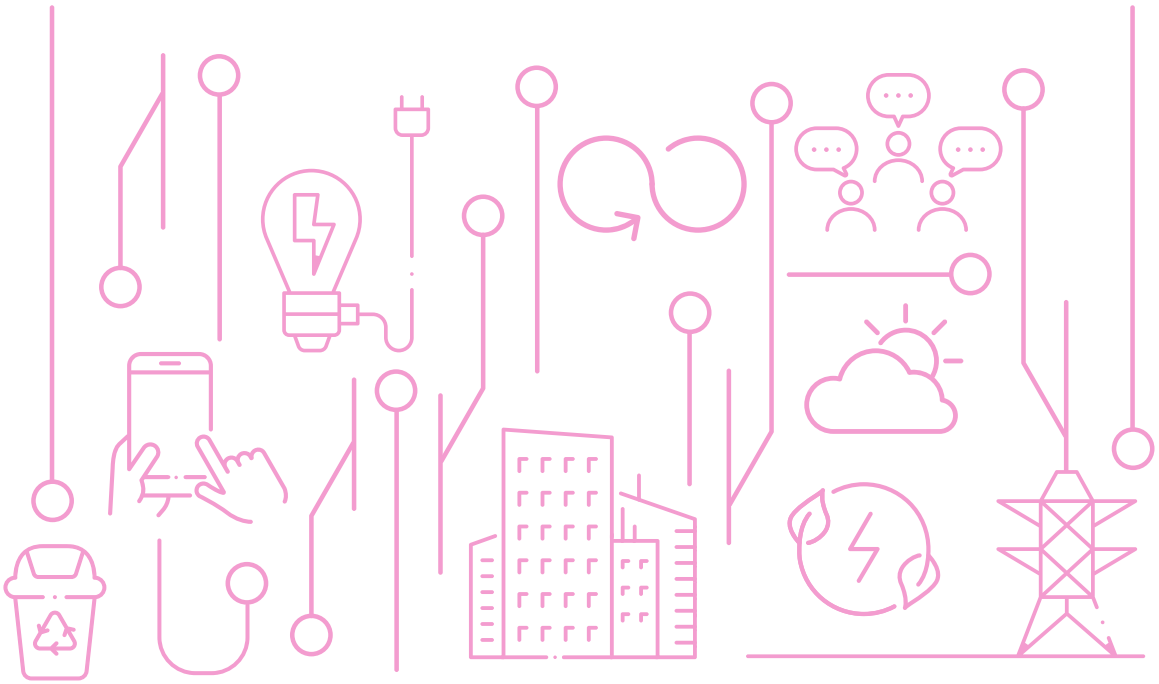
- **Best-in-Class 2.0:** during 2024, a virtual contest was created and integrated into the mobile APP already developed for reporting near misses. The 'Best in Class Contractor & Employee' contest involves the recipients solving a sequence of mini-games (levels) in the HSE field (e.g.: correct use of PPE). Finally, the companies with the best scores were awarded prizes.

77 This section contains monthly HSE Newsletters, reported below.



Value for the community





04. IMPACTS ON THE **TERRITORY**

4.1 ITALIAN AND EUROPEAN DIGITAL SCENARIO

Just over thirty years have elapsed since its birth and in this long period the Internet has undergone an extraordinary evolution, transforming itself from a simple communication network into a global infrastructure with infinite potential. Today the internet is not only a tool for exchanging information, but a real and essential pillar of modern society, capable of generating new opportunities in numerous fields such as the economy, culture, education, medicine and scientific research. It has broken down geographical distances, created inclusivity and made multiple resources accessible, favouring and facilitating connections between people, companies and institutions. This constant and continuous development over time has also broken-down barriers that until a few decades ago seemed insurmountable, especially in terms of digital inclusion, giving a voice to previously marginalised and disadvantaged groups. However, evolution and its exponential growth, in addition to bringing benefits, have brought new challenges related to security, privacy and regulation, crucial aspects to guarantee an ethical and sustainable use of this powerful resource.

However, this is the moment not only to celebrate how far we have come, but also to reflect on how far we still have to go, the challenges that await us to ensure that the world wild web becomes, to all intents and purposes, a public resource, ethically inclusive and available to all. Continuing along these lines, its use would become a fundamental right, evolving to adapt to civil and technological progress, as expressed by Tim Berners-Lee, the inventor of the web. These words were also welcomed and shared by the United Nations Human Rights Council, which recognised access to the Internet as "one of the fundamental human rights of the modern age"[78]. Over time, the web has become a digital public square where people meet, shop, and interact with institutions, schools, medical practices, banks, offices. The way we use these services has radically changed our lives. With the growing number of web functions, the demand for infrastructure improvement has been increasing, since the "Fiber Decree" of 2016[79], which established that access to high-speed communication networks is a priority, also in Italy. Today, indeed, every manager and operator has the "*right to offer access to their physical infrastructure for the installation of high-speed* electronic communication networks", without prejudice to the principles of transparency, non-discrimination, fairness and reasonableness.

However, while we have witnessed seemingly unstoppable progress, there is still a large part of the world that is cut off from all the advantages that the Internet can offer and guarantee. Ensuring a fair digital environment allows individuals to exercise the role of active citizens, ensuring new ways to exercise rights and freedoms, thus stimulating civic engagement and democratic participation. On the other hand, the impossibility of connecting to the Internet corresponds to a total exclusion from work and social opportunities, as well as a limitation of freedom of expression. Furthermore, the new digital technologies enabled by a widespread internet connection represent a fundamental lever for accelerating the transition towards a climate-neutral, circular and resilient economy[80].

Today, over 5 billion people have access to the internet and - even if the number of individuals suffering from the "digital divide" is still over 2.7 billion - the number of people currently connected has never been so high (in 2021,

78 Resolution approved on Thursday 5 July 2012 by the United Nations Human Rights Council.

79 Legislative Decree. N.33/2016.

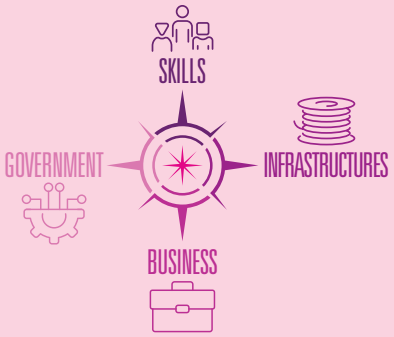
80 Digitalisation for the benefit of the environment: Council approves conclusions, European Council, December 2020.

there were about 3 billion)[81]. But however significant the results achieved so far, they are still not enough if the goal is to achieve global connectivity by 2030, a milestone set by the ITU - International Telecommunication Union - as part of the sustainable development agenda that the UN aims to implement by the end of the decade. Bridging the digital divide is a crucial challenge that develops along the lines of gender disparity, socio-economic differences and age-related barriers. This problem does not only affect the less developed areas of the world, but is still strongly present at both European and national level, influencing access to the opportunities offered by the digital revolution. Taking action to reduce these inequalities means not only improving infrastructure and ensuring widespread and efficient connectivity, but also investing in training and digital literacy programmes, so that no one is left behind. For this reason, it is becoming a priority to adopt inclusive policies that aim to make digital technology a tool for emancipation and not an additional factor of social exclusion. Only through a joint commitment from institutions, companies and civil society will it be possible to build a digital ecosystem that is truly accessible to all, reducing inequalities and promoting a fairer and more connected future.

Indeed, by examining the causes of this phenomenon, we find the lack of infrastructure for accessing the internet, the unavailability of the necessary connection tools, the lack of familiarity with new technologies, but also the lack of basic digital skills (cultural digital divide). Open Fiber is aware of this and therefore believes it is urgent to promote widespread and reliable connectivity, which not only provides access to the Internet, but also enables people to use it in a safe, productive and affordable way. That is why the company is committed to guaranteeing access to the network for more and more people, contributing to the reduction of the *digital divide* at a national level. Through its corporate strategy, it pursues the objectives of reducing the infrastructural gap that exists in some areas of the country compared to others and thus bridging social and geographical inequalities in favour of greater social and territorial cohesion, also through the contribution provided to the digitisation of schools, businesses and services offered to citizens. The strategy implemented by the Company fits perfectly into the design of the "Communication on the Digital Decade" presented by the European Commission, also known as the **"Digital Compass"**. An ambitious plan, which must work in synergy with the digital and green transformation hoped for with the European Green Deal, and which paves the way for the implementation of programmes relevant to a multi-country vision, such as **NextGenerationEU**, the programme worth over 800 billion euros designed to promote economic recovery and mitigate the economic and social damage caused by the Coronavirus pandemic.

As part of this programme, Italy presented the **National Recovery and Resilience Plan (*Piano Nazionale di Ripresa e Resilienza,* PNRR)**, with a total value of approximately **191.5 billion euros**

The **Digital Compass** sets out the vision, objectives and approaches that will lead Europe towards the digital transformation by 2030. The four cardinal points of the Digital Compass are: citizens with adequate digital skills; secure, efficient and sustainable digital infrastructure; digital transformation of businesses; digitisation of public services.



81 International Telecommunication Union (ITU).

to be spent in the period 2021-2026, of which 68.9 billion are non-repayable grants. The first mission of the plan is "Digitalisation, innovation, competitiveness, culture and tourism", aimed at promoting and supporting the digital transition in Italy in both the private sector and public administration. A challenge of this magnitude requires profound intervention, that acts on several fronts, implementing various actions such as the diffusion of Ultra Broadband (UBB) and fast connections throughout the country, the availability of incentives for the digital transition and for the adoption of innovative technologies, the implementation of digital skills by the private sector, the digitisation of the Public Administration and the strengthening of digital culture.

Italy has chosen to allocate 21% of the PNRR funds (about 41 billion euros) to digital transition and innovation, recognising the central role of technology for the economic and social development of the country. This commitment translates into a series of reforms and strategic investments aimed at enhancing the digital transformation of the Public Administration and the judicial system, making them more efficient and accessible to citizens. Another focus is on strengthening the healthcare system through the adoption of advanced digital technologies, improving telemedicine, the interoperability of healthcare data and the efficiency of services. At the same time, investments are aimed at modernising businesses, incentivising the adoption of innovative solutions within the scope of Industry 4.0, thus promoting competitiveness and growth of the national production fabric. Finally, a significant part of the funds is allocated to the widespread diffusion of Gigabit connectivity, with the aim of reducing the digital divide and implementing strategic sectors such as tourism and culture 4.0.

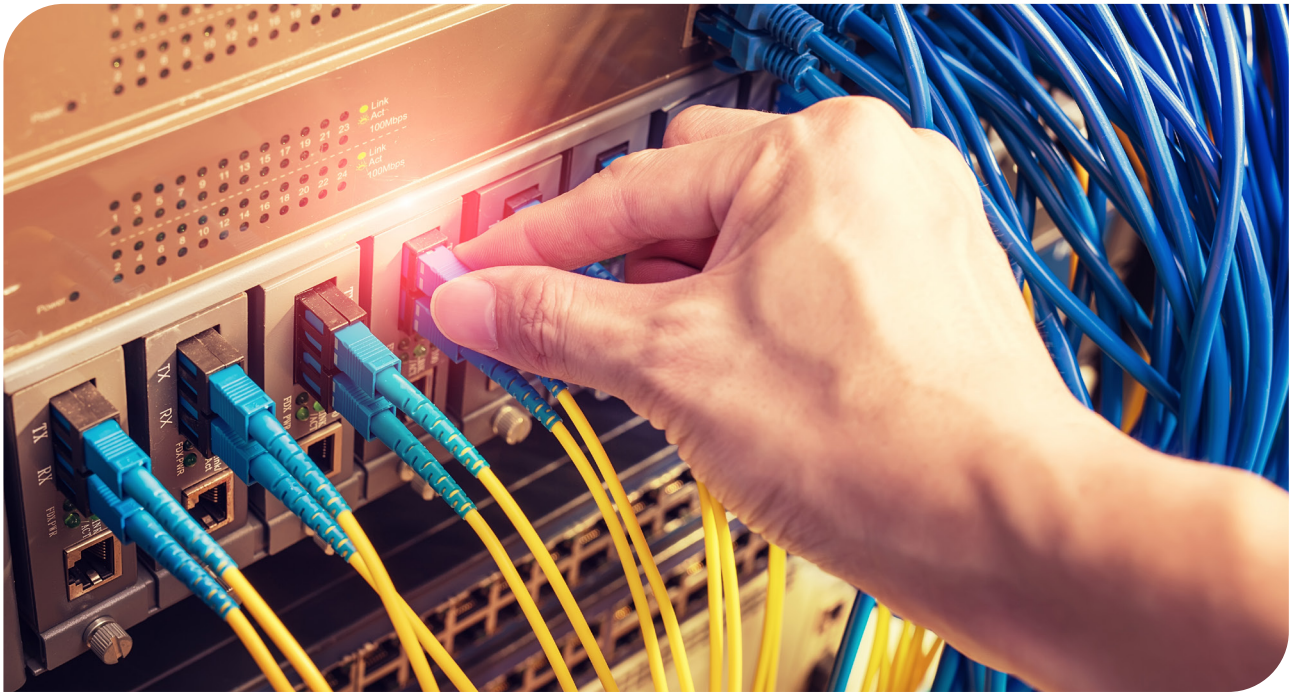
The PNRR, in line with the objectives set by the European Commission, whereby by 2025 at least 70% of EU citizens in the 16-74 age group should have basic digital skills, also promotes the development of digital literacy, with measures aimed at improving the basic skills of the population, increasing the training offer in advanced digital skills, to guarantee new platforms or to strengthen the current ones, to retrain the workforce and to improve their skills by leveraging successful regional experiences.

In July 2024, a global analysis of the progress made towards a complete digital transformation in Europe was published for the **second annual report on the state of the Digital Decade**. In the document, the Commission analyses the developments in digital policies that have occurred since the first report and the progress made by EU Member States in pursuing the digital transformation objectives set out in the strategic programme for the Digital Decade. The report highlights the significant results achieved by the EU during the year, most notably the upgrading of digital infrastructures, with an increasingly widespread diffusion of ultra-fast broadband connectivity throughout Europe. This progress has helped to reduce the digital divide and improve access to digital technologies for citizens

PIANO ITALIA A 1 GIGA

In response to the call of the first PNRR mission, Open Fiber participated in the "*Piano Italia a 1*" tender, a project worth around 3.8 billion euros to bring fast Internet to around 7 million addresses throughout the country. The objective of the Plan is to promote, through public intervention, investments in ultra-broadband networks that guarantee all users a connection speed in line with the European objectives of the Gigabit Society and the Digital Compass, aiming to reduce the digital divide in our country.

Open Fiber has been assigned 8 lots (geographical areas) provided for in the Plan, in 9 regions - Campania, Emilia-Romagna, Friuli-Venezia Giulia, Lazio, Lombardy, Puglia, Sicily, Tuscany, Veneto - for a total of 3.8 million addresses in over 3,800 municipalities.



and businesses. Another aspect to highlight is the digital transformation of businesses, with a particular focus on SMEs, which have been able to benefit from numerous support programmes for the adoption of advanced technologies. This mechanism has fostered innovation, competitiveness and economic growth within the European market. The document also presents the progress made in the digitalisation of public services, made possible by the implementation of intuitive and efficient online platforms that facilitate citizens' access to government services. On the other hand, if we consider the issues that still need to be addressed, the report emphasises that the collective efforts of the Member States are still insufficient to achieve the objectives set for 2030, as there is a need for further investment, both at European and national level, in the areas of digital skills, high-quality connectivity, the adoption of artificial intelligence and data analysis by companies, semiconductor production and start-up ecosystems. As far as the Italian landscape is concerned, according to the analysis, significant progress has been made towards achieving the objectives of the Digital Decade in terms of **digital infrastructure**. Indeed, the country's two main strengths are e-health - for which Italy is above the EU average in terms of access to electronic health records (82.7% compared to an EU average of 79.1%) introduced in all regions and with strong progress in 2023 (+15.9%) - and progress in very high-speed fixed networks (VHCN) (equivalent to approximately 60% of housing units).

To consolidate the results achieved, Italy must further intensify its efforts, in particular those aimed at strengthening the digital skills of its citizens, for whom there still seems to be a lot of work to be done. In fact, the slow progress and still far from the **digital literacy** objectives hoped for by the EU compromise the ability of Italian citizens to fully benefit from the new opportunities and to fully exercise their digital citizenship. In Italy, less than half of the population, only 46%, has basic digital skills (EU average is 56%). Italy also scores below the European average in terms of the adoption of the Cloud and Artificial Intelligence (AI) by companies: only 5% of Italian companies use AI, below the EU average (8%) and with limited growth.

In light of this analysis, the contribution and mission of Open Fiber are even more crucial in order to promote the achievement of the objectives related

to the digital transition envisaged by the European Union with the digital strategy and the Digital Compass, and by the Italian Government with the PNRR. These objectives, in fact, cannot ignore the implementation of the Fiber To The Home (FTTH) technology and the Ultra Broadband network that the Company is developing throughout the country.

4.2 DIGITAL DEVELOPMENT OF THE COUNTRY SYSTEM

On the 25th of May 2021, the Interministerial Committee approved the **Strategic Plan for the Ultra-Broadband** "Towards the Gigabit Society", aimed at promoting the development of fixed and mobile telecommunications infrastructures, defining a series of actions in line with the digital transformation objectives indicated by the European Commission in 2016 (Communication on Connectivity for a European Digital Single Market - the so-called 'Gigabit Society') and in 2021 (Communication on the Digital Decade - the so-called 'Digital Compass'). In August 2023, the **new national infrastructure strategy for ultrabroadband** was presented and shared. For the three-year period 2023-2026, it includes an activity plan for the infrastructural consolidation of fixed and mobile networks, for the development and adoption of new generation infrastructures as well as interventions to support demand.
In line with these proposals, the National Recovery and Resilience Plan (PNRR) has stipulated that 27% of the total resources allocated to Italy be dedicated to the digital transition. This led to the creation of **Italia Digitale 2026**, the national strategy designed to accelerate the country's digitisation process, structured around two fundamental pillars: the digital transformation of the Public Administration and the extension of ultra-fast networks throughout the country. The strategic framework provides for significant investments to support key initiatives, including the enhancement of innovation and security in digital public services, the development of digital infrastructures for cultural heritage, the implementation of electronic justice and the strengthening of digital tourism. A particular focus is also dedicated to digital healthcare and telemedicine, with the aim of improving access to healthcare services through advanced solutions.
In particular, the systemic framework setout by Italy has five objectives:

- the spread of the digital identity;
- the reduction of the gap linked to digital skills;
- the migration of the majority of the Italian Public Administration services to the cloud;
- the effective online use of the majority of essential public services;
- 100% coverage of Italian households and businesses with ultra-broadband networks.

The infrastructure that Open Fiber is implementing throughout the country is in line with those five objectives and aims to enable advanced innovative services that promote equality and equal opportunities among users, in terms of access to cultural and health resources and services. Only by following this approach is it possible to contribute to reducing social inequality in our country in favour of greater inclusion.

4.2.1 OPTICAL FIBER AS AN OPPORTUNITY FOR THE TERRITORY

Smart Working, **e-learning**, but also streaming, home automation, video conferences and *gaming*: in a world where digital technology has become a key element for the normal flow of daily life, the demand for Internet access throughout Italy has significantly increased. It is in this context that the Open Fiber project represents an opportunity for the country, as it provides the population, municipalities and provinces with access to an ultra-broadband telecommunications infrastructure that increases the country's competitiveness in various areas, from home innovation to tourism, from **teleworking** to **telemedicine**. Thanks to a new digital ecosystem based on ultra-broadband, it is now possible to work from home, transfer large amounts of data, follow distance learning

programmes, quickly use the digital services of the Public Administration, make high-quality video calls without interruptions and improve the quality of healthcare, allowing remote diagnosis and medical advice. High-speed browsing, a stable connection and very low latency that avoids delays in data transmission create opportunities that were previously unimaginable, simplifying and improving relations between citizens and the Public Administration, between students, schools and universities, so that the country can keep up with a world that is evolving by accelerating the digitalisation process.

In addition to the wiring of schools, the connection of hospitals and the digitalisation of the Public Administration's management systems, the large-scale diffusion of the ultra-broadband fiber optic network represents a key element for the competitive, economic and social development of the country, determining the growth of the Gross Domestic Product (GDP). It has a positive effect on the economic operators in terms of an increase in the number of jobs and plays a fundamental role in the revitalisation of small municipalities, in terms of new residents, who can offer a better quality of life.

4.2.2 EDUCATION PLAN: *PIANO SCUOLE*

Financial and educational poverty knows no geographical boundaries. In Italy, the younger you are, the poorer you are: the incidence of absolute poverty among minors is more than double that of the over 65s. In fact, over 1.3 million children live in absolute poverty and over 1 in 4 minors is at risk of poverty and social exclusion. This complex picture is outlined in a study published by Save the Children in 2022, focusing on children and adolescents living in households with an income of less than 60% of the national average. Added to this economic poverty is the so-called *learning loss*, or an impoverishment in educational terms due to the closure of schools (the pandemic has forced 94% of the student population to an educational interruption), in contrast to the efforts of recent decades to ensure access to basic academic knowledge for all[82].

Before 2020, digitalisation in schools was going in a very different direction: schools had tools available to support the teaching process, such as interactive whiteboards and tablets. The pandemic has upset this balance, revolutionising it. Real digital learning environments have been created, fuelled by distance learning and the use of different platforms to continue the school curriculum despite the months of lockdown. However, these alternative and innovative solutions have highlighted even more the existing problem of the *digital divide* with regard to the new digitalised systems for the dissemination of knowledge and education, which have created a barrier for those who do not have access to a fast connection or cannot afford electronic *devices*.

In the plan to fight against and overcome the digital divide in Italy planned for the next few years, Open Fiber has confirmed its commitment to stemming this phenomenon with a business oriented towards generating positive social impacts, including an adequate and modern digital infrastructure for educational institutions. The company plays a fundamental role in improving internet connection performance in schools, providing innovative and scalable technologies that allow pupils and teachers to fully exploit the opportunities offered by digital technology. In doing so, Open Fiber is committed to pursuing its priorities in order to guarantee all students, including those living in small towns, fair and high-quality access to the internet, thus helping to bridge the digital divide and promote an increasingly connected and inclusive education.

82 "Educational poverty" is defined as "the impossibility for children and teenagers to learn, experiment, develop and freely foster their capacities, talents and aspirations". (Source: Save The Children)

THE FUTURE OF THE SCHOOL SYSTEM

In the ever-evolving educational landscape, e-learning has gained a prominent place in schools and teaching, radically redefining our concept of learning. After the pandemic, a very different future lies ahead for the school system: distance and face-to-face lessons will coexist, and projects to be carried out digitally will become even more widespread. But the advantages don't stop at remote activities. An ultra-broadband connection allows the Internet to be used for educational purposes and provides access to cutting-edge teaching possibilities even in schools with limited equipment. Thanks to a fast connection, e-learning can take many forms: online courses, learning modules, webinars, video lessons and learning platforms. Where there are no facilities, the web comes to the rescue, a real rewriting of the concept of study that would not be possible without fiber optics.

In 2024, more than 1.2 billion euros were allocated for the **training of teachers on the digital transition** and for the orientation of students in the STEM[83] subjects. These funds are part of the National Recovery and Resilience Plan (Piano Nazionale di Ripresa e Resilienza, PNRR) and aim to transform classrooms into innovative and connected environments, creating laboratories for digital professions.



83 Science, Technology, Engineering and Mathematics.

OPEN FIBER FOR THE DIGITAL SCHOOL

Making sure that all students, even those who live in small towns, have the **same access** to the web is a priority for the Company. Open Fiber strongly believes that a connected school is a school capable of improving education by enriching the curriculum with integrative or extracurricular activities. For this reason, it is committed to wiring as many schools as possible on a daily basis. To enable the digital services of the school of the future, a stable connection is needed that can meet the needs of several classes at the same time. The only possible answer to this need is fiber optics, in particular FTTH.
Open Fiber achieved an impressive result in **Lecce**, where in only 5 days the Company worked in synergy with local administrations to reach **12 schools** in the municipal area.

The school of the future will be based on a fiber optic infrastructure that enables digital services, including workshops, webinars and online integrative or extracurricular activities that students can access. Digitalisation will be an ally of traditional teaching, guaranteeing a stable and fast connection that can support its use by several classes at the same time. A school connected with cutting-edge systems and equipment is a school capable of improving education by enriching the curriculum, bringing direct benefits to students of all ages and at all school levels.

Piano Scuole

By 2026, Open Fiber will connect over 45,000 schools with fiber optics, with the aim of digitising educational institutions and enabling the provision of services in line with new requirements. In particular, the first phase identified by the Schools 2020 Call for Tenders involves providing a symmetrical connection of 1 Gbps (with at least 100 Mbs guaranteed) to 35,000 school facilities (about 78% of the total), i.e. all secondary schools and, in the areas where there is no coverage, also the connection of all primary and nursery schools. In 2024, around **23 thousand schools** throughout Italy were reached, with the aim of guaranteeing as many people as possible the right to study in the school of the future, which will be increasingly digital. A significant number of the schools involved, over 9,400, are part of the ***Piano Scuole*** tender organised by the Ministry of Economic Development for the provision of ultra-broadband Internet connectivity services to numerous schools throughout Italy. These schools now have access to FTTH fiber optics and can take advantage of an ultra-fast connection of up to 1 Gbps. Thanks to the tender, in which Open Fiber is participating for the structural part of the project, schools will be able to take advantage of the symmetrical fiber optic connection up to 1 Giga per second free of charge for a period of 5 years.

4.2.3 CONNECTED HEALTHCARE AND TELEMEDICINE

Thanks to the connection to the Internet, telemedicine makes treatments, health services and remote visits increasingly accessible, representing for many an evolution of traditional medicine. For remote medical-patient consultation to be effective, it is essential that the tools used guarantee an interaction as close as possible to the experience of direct contact. Connected healthcare offers citizens a series of benefits aimed at developing an efficient, accessible, optimised and high-quality care pathway.
Hence the need to support the healthcare system with an internet connection, which is why Open Fiber is committed to connecting over 12,000 healthcare facilities with fiber optics by 2026. This is a goal that will allow for the digitisation of various hospitals and the provision of services in line with the new needs of the healthcare sector and patients.
As for the location of the public health service facilities involved in the 2022 Connected Healthcare tender, these are distributed throughout the country. The latter is divided into eight geographical

areas, which will be the subject of intervention by the operators awarded the contract. The tender aims to guarantee connectivity with symmetric speeds of at least 1 Gbps and up to 10 Gbps for healthcare facilities, from clinics to hospitals. This includes the supply and installation of the access network and management services, technical assistance and maintenance. The infrastructure work must be completed by 2026, guaranteeing connectivity services for at least the following five years.

In 2024, **2,856 healthcare facilities** throughout Italy were reached.

Telemedicine: innovative healthcare services

In the last years, **telemedicine** has been more and more relevant in the national and world policies. Already in 2016, the WHO[84], in its document "Global diffusion of e-health", identified telemedicine as one of the major developments in the medical and healthcare sector. The increase in the average age of the population and the consequent onset of chronic diseases require the restoration of the home care model at a structural and organisational level. Furthermore, Italy's high degree of diversity has generated over time an uneven distribution of health facilities, not allowing many citizens equal access to medical services. Telemedicine is a concrete and effective response to today's challenges in the health sector, as it allows for monitoring, assistance, prevention and timely intervention in cases of need, reducing the costs deriving from waiting times and travel which often have a strong impact on the health budget as well as on the patient's budget.

Telemedicine was introduced into the National Health Service in December 2020 with the Ministry of Health signing the guidelines for visits, consultations, reports and remote assistance at the State-Region Conference. The Ministry of Health itself emphasised that telemedicine offers great potential, especially for increasing equal access to social and health services in remote areas. In this regard, at the end of 2022, guidelines for telemedicine services were approved (Legislative Decree no. 179/12) which establish the essential requirements to guarantee homogeneity at a national level. In addition, also in 2022, 1 billion euros has been allocated for the financing of projects that allow remote doctor-patient interactions and research initiatives on digital technologies in the field of telemedicine, through sub-investment 1.2.3 "Telemedicine for better support for chronic patients" for Mission 6 (M6C1) of the National Recovery and Resilience Plan (PNRR), dedicated to health.

On the other hand, reducing telemedicine exclusively to the possibility of interfacing with a specialist via video call would be limiting. It is, in fact, one of the most remarkable applications of the IoT that can also be integrated into smart devices. To be efficient, however, it requires secure and reliable networks for the transmission of sensitive information and data, as well as documents, sounds and images. To support these new applications, Open Fiber, with its 1 Gigabit fiber, is a key player in the digital transformation of medical care and is involved in various projects aimed at monitoring patients in fragile situations and with chronic diseases.

Hospital with several locations: Gaslini in Genoa

Gaslini Institute in Genoa has become the first hospital in Italy with a 10 Giga connection, a level of power usually only required by large industrial organisations. This was made possible thanks to the project "Widespread and highly connected hospital", conceived by the Gaslini Institute, financed by a donation from the company Fibering S.p.A. and made possible thanks to the capillarity of the fiber optic network laid in the Genoa area by Open Fiber. The guarantee of a fast and reliable connection has made it possible to increase and

84 World Health Organisation.

improve the efficiency of numerous hospital services, including:

- **e-learning**, i.e., the possibility of organising training webinars for doctors all over the world, new training courses for professionals, parents and specialisation students, both nationally and internationally, and for teachers who work with diabetic children;
- **teleconsultations and telediagnoses** via video call, with remote updating of therapeutic plans, without the need to go to the hospital thanks to data transfer via the cloud;
- **empowerment and support**, through a multimedia classroom that allows families to receive support from families educated and trained by the hospital, to consult medical data through smartphones with direct transfer via *cloud* to the hospital medical record, thus allowing continuity in support to patients and families with remote *counselling*;
- **refresher courses and networking**, with the possibility of receiving immediate advice thanks to the direct connection with other institutes, of creating a cultural network of experts to discuss difficult cases and of updating quickly by, for example, downloading scientific articles;
- **transfer and dissemination of data,** characterised by a clear reduction in the time taken to transfer and return the results of experiments to the researcher and finally to the patient, with the possibility of significant impacts in diagnostic terms and a rapid diffusion of images (for example CAT scans, radiological images) to other departments and outside the hospital;
- **new lines of research**, encouraging the possibility of carrying out types of analysis that would be impossible without an ultra-broadband fiber optic network (for example, analyses that require the simultaneous interrogation of multiple data).

Furthermore, thanks to the optical fiber and fast connectivity, young patients in hospital wards can access entertainment content via television platforms and, for those of school age, take advantage of distance learning, thus ensuring continuity of learning even during their period of hospitalization.

The **2021-2025 strategic plan "Gaslini of the future"**, in line with the "Health Mission" of the National Recovery and Resilience Plan (NRRP), focuses on efficiency, digitalisation and the expansion of remote healthcare and telemedicine services, so that they can be used across the various specialist disciplines. Open Fiber, by making its fiber optic infrastructure available, will play a crucial role in this ambitious project and in the progress that will significantly mark e-Health. Moreover, experiences and projects of this type perfectly respond to the objectives that the Company has set for the country.

Open Fiber for Campus Bio-Medico of Rome: Fibermedicine

"We-ease-it" is the pilot project for the care of patients in their own homes, carried out by Campus Bio-Medico University in Rome, Open Fiber and Elis, with the aim of launching a new model of hospital service supported by ICT, aimed at improving the monitoring process for chronic patients.

During the first phase of the trial, several patients suffering from chronic obstructive pulmonary disease were monitored remotely using a pulse oximeter and the app BPCOmedia-AIPO[85], allowing for the monitoring of the patient's vital signs (blood oxygen level and heart rate). Through three daily measurements and a predictive algorithm, the system is able to monitor the patient's condition and send alerts when the parameters are not in line with expectations. In the event that the measurement is not in line with the expected parameters, the patient can be examined remotely from any device by connecting via a browser.

85 BPCOmedia is a certified spin-off of the University Campus Bio-Medico of Rome.



The plan manages to demonstrate that the integration of information technologies, ranging from optical fiber to artificial intelligence, is fundamental for the development of tools for predictive, precise, personalised, preventive and participatory medicine. Optical fiber, therefore, acts as an enabler of a quality service: for remote doctor-patient communication to be functional, it is necessary to have tools that make up for the absence of contact and, therefore, a fast and reliable Internet connection becomes essential. Currently, the possibility of transforming this specific service into a package for clinics and hospitals that have patients receiving remote assistance is being studied.

4.2.4 DIGITALISATION OF PUBLIC ADMINISTRATIONS

Two strategic assets included in the PNRR are the digitisation of the Public Administration and the spread of ultra-fast networks. In recent years, the demand for optical fiber in Italy has skyrocketed and the Company is at the forefront of the various measures aimed at its widespread distribution.

As the digital community grows in number and expands globally, public administrations feel the need to adapt accordingly. Accompanying them in this process of digital transformation is Open Fiber, which acts as an **enabler**, reducing the gap between public bodies and citizens, as well as bureaucratic delays. Improving the quality of service is a priority for the company and this is possible thanks to the peculiarities of optical fiber which, with its stability and connection speed, can guarantee the enhancement and enabling of online services of the Public Administration and the school and health system, as well as generating economic benefits.

An ultra-fast and stable connection favours the development of advanced services for sustainable mobility in municipalities, supporting electronic access control for restricted traffic areas, info-parking, traffic management and charging infrastructures for electric vehicles. In addition, it contributes to improving services in the field of security and monitoring of the territory:

video surveillance and environmental remote sensing, efficient management of public lighting, digitalisation of tourist, museum and cultural services. Thanks to ultra-broadband, the Public Administration can optimise processes such as electronic invoicing and guarantee more efficient access to online services through SPID.

Moving citizen services online: revamped efficiency

Moving citizen services online, thanks to the digitalisation of the Public Administration, makes it possible to speed up procedures that would normally require a lot of time and money. This optimises processes and improves the quality of the service. No more queues and hours lost waiting for a procedure to be carried out: in just a few minutes, online services allow any citizen to submit their application. A solution of this type offers the user immediate access to all the tools necessary to send their request in full and to easily consult the requirements. Just imagine how many times in the past you've been the protagonist of a continuous passage from the municipal office caused by the lack of documentation necessary to complete the procedure. In the same way, a full migration of services online would make the work of officials more fluid and efficient, also reducing the time needed to complete open procedures and thus increasing end user satisfaction.

Optical fiber and advantages for the Public Administration

All the scenarios listed above also present significant economic advantages, considering the minimum costs required for their implementation. In fact, it is not necessary for the Public Administration to have computers or an Internet connection. Public organisations already have the tools to access the web and the Internet is now an intuitive reality that is used in most daily activities.

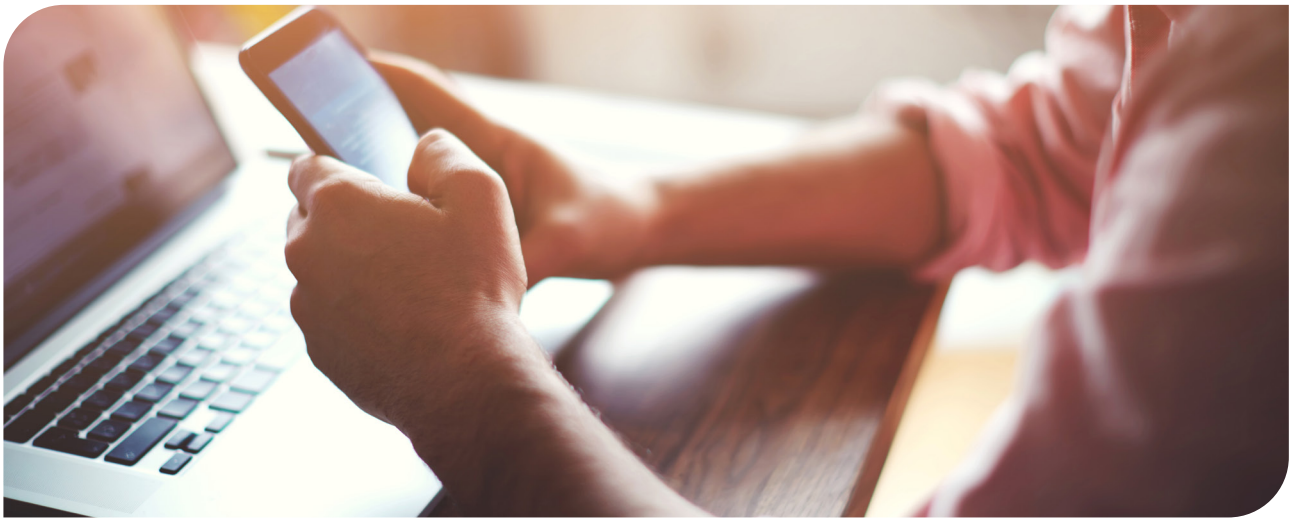
Therefore, to optimise digital processes and simplify the management of paperwork, it is essential to activate the ultra-broadband network connection. The adoption of FTTH technology not only improves accessibility to digital services, but also encourages their enhancement, generating a virtuous circle that significantly increases citizen satisfaction.

Compared to traditional copper cable network infrastructures, a fully fiber optic network in FTTH (Fiber To The Home) mode offers an extremely higher level of performance and improves the efficiency of the entire organisation in IT terms, guaranteeing high connection speed, low latency, stability and resistance to interference, covering much greater distances than traditional networks and allowing the transmission of huge volumes of data. This facilitates streaming, VoIP, videoconferencing and video surveillance services, as well as file sharing applications and the complete integration of voice and data traffic functionalities, with a significant reduction in costs.

4.2.5 PARTNERSHIPS AND INITIATIVES FOR COMPANIES' COMPETITIVENESS AND THE PUBLIC ADMINISTRATION EFFICIENCY

In order to promote and spread culture and digital transformation on a large scale, Open Fiber has launched numerous initiatives consistent with its business and signed partnerships aimed at offering the national market cutting-edge technological solutions and ever faster connectivity, even in areas with low population density, so as to meet the new needs of citizens and businesses.

The widespread nature of the network throughout the territory and the reliability of the fiber make Open Fiber the preferred partner for companies, associations and administrations that need a stable and fast connection for their daily operations, to keep up with developments in their reference markets (e-commerce and export) and to stay connected with customers and citizens thanks to the various online communication channels that have long since replaced traditional channels.



Open Fiber and Nokia: 100 Gbps achieved

In partnership with Nokia, Open Fiber was the first wholesale-only operator in Europe and the first telecommunications operator in Italy to test record-breaking speeds of fiber optic connections, reaching up to 100 Gbps. The experiment is based on Open Fiber's current 10 Gbps fiber network and demonstrates how different PON technologies can coexist on the same infrastructure, increasing network capacity without the need for further structural interventions. During the tests, new applications were also evaluated, such as solutions for healthcare and industry, which require high speeds, reduced latency and reliable data transmission to connect to the cloud in real time.

FibreConnect and Open Fiber join forces for the digital transition of Italian companies

FibreConnect S.p.A., an independent operator offering high-performance wholesale-only connectivity services to companies in Italy's industrial and craft zones (Aree Industriali e Artigianali, AIA), and Open Fiber entered into a partnership to integrate their respective networks, thus launching a collaboration aimed at increasing the coverage they are able to offer their customers, thus optimising investments and accelerating network development. Thanks to this agreement, FibreConnect and Open Fiber offer their ISP (Internet Service Provider) customers the opportunity to reach a wider range of industrial and manufacturing districts with fiber optic connections.

The agreement is of strategic importance for the country as companies - especially SMEs - are struggling to keep up with the digital transition and, consequently, to compete at the same levels as European companies. This is reflected in ICT investments, which in Italy are mainly driven by large companies. This figure contrasts with the reality of our country, whose entrepreneurial fabric is made up of about 5 million small and medium-sized enterprises, more than 70% of which are located in industrial and craft areas (AIA) outside urban centres.

Open Fiber and Ultranet: sinergy for the use of existing infrastructures

This agreement was signed with the aim of accelerating the rollout of the ultra-fast network across the country, enabling rapid interventions to reduce the digital divide and facilitate access to essential services. Citizens who will be reached by the FTTH (Fiber to the Home) network will thus be able to take advantage of innovative services by connecting directly to the internet in their homes. The agreement for the reuse of existing infrastructures is part of a broader collaboration plan that will allow Open Fiber to further accelerate the development of the network made entirely of optical fiber, particularly in geographical areas that are more difficult to reach.

Edge connectivity: partnership between Open Fiber and Namex

Namex, a major internet exchange point in Italy and the Mediterranean, and Open Fiber signed an agreement in June 2024 to provide a connectivity service focused on Edge interconnection between operators. This strategic partnership aims to enhance network infrastructure throughout the country, with a particular focus on network periphery (Edge Networking). The service will focus specifically on edge interconnection between ISPs, creating IXP edge points in Open Fiber POPs. The solution developed will enable more effective and faster communication between the various operators at the edge of the network, with significant benefits in terms of reduced latency and improved quality of service.

5G under the Alps: agreement for connect Fréjus Tunnel

Cellnex Italia and Cellnex France together with Gruppo FS (ANAS and RFI), Accenture and Open Fiber, with the support of the Ministry of Enterprise and of 'Made in Italy' (MIMIT), the Piedmont Region and the National Institute of Metrological Research (INRIM) will contribute to the development of 5G infrastructure in Europe with a feasibility study aimed at guaranteeing coverage with 5G mobile technology in the two Fréjus tunnels, both rail and road, that connect Italy to France.

Through this partnership it will be possible to develop the infrastructure necessary for the mobility of the future, paying particular attention to user safety. The project involves the integration of cutting-edge technologies for the implementation of Smart Roads, with a specific focus on the creation of communication networks dedicated to the transmission of traffic information to vehicles. The project will also enable the monitoring of mobile radio systems to detect the operational status of the call service, particularly inside tunnels, and will ultimately promote the development of autonomous driving technologies. The project will take into consideration, well in advance, the needs of the latest quantum communication technologies, aiming to create a fiber optic infrastructure connecting Italy and France, designed to host cutting-edge quantum communication systems.

FTTS: Fiber To The School, schools and companies united in the digitalisation

Five schools across the country, 183 students involved, 12 expert telecommunications professionals, over 45 hours of themed meetings, workshops and internships. This is the final balance of "FTTS: Fiber To The School", the training project promoted by ELIS and Open Fiber and started with specific extracurricular sessions in selected schools, then continued in the various company offices for a field internship phase in which the most deserving students were involved. The ELIS-Open Fiber project focuses on issues concerning the present and future of digitalisation: cutting-edge technology, connectivity at its maximum potential, network infrastructures and architectures, and employment opportunities in the telecommunications sector.

Open Fiber: voucher initiative for C&D Municipalities

A voucher to be converted into a Gift Voucher is available to citizens of 193 municipalities in the C&D Cluster that activate or will activate a new ultra-fast connection through Open Fiber's Partner Operators. "Open Fiber, the rewarding choice" is an initiative aimed at encouraging the use of the very high speed and capacity network built in the areas involved in the BUL Plan. The company will also reward end customers who take action with a €100 voucher for around 190 municipalities. The ultra-fast network available in the localities involved in the offer reaches a total of approximately 420,000 housing units through FTTH technology, the only solution capable of guaranteeing connection speeds of 1 Gigabit per second and even higher. This plan represents a strategic investment for the digitalisation of the national territory and, in particular, of the areas that are more difficult to reach or small villages.

Open Fiber Tour

From the 17th of June to the 13th of December, the 'Open Fiber Tour' took place in 50 municipalities in the regions of Abruzzo, Marche and Sicily. One of the objectives of the initiative was to enhance the value of small municipalities by promoting technological development in areas that were once affected by the digital divide and are now reached by ultra-fast optical fiber, as well as taking on further value in the increasingly close alliance between Open Fiber and its partner operators, also involved in the implementation of vouchers aimed directly at end customers.

As part of this initiative, Open Fiber organised a tender and the following partner operators met the requirements and participated in the initiative: Dimensione, Eolo, Enel, WINDTRE, Sky Italia.

Thanks to this project, citizens were able to access useful information about the numerous advantages offered by a network of digital services, simplifying interactions with the Public Administration and helping to improve the productivity and competitiveness of small and medium-sized enterprises. Furthermore, they had the opportunity to quickly activate a latest generation Internet connection, with the support of qualified personnel from the partner operators involved in the tour. Those who signed a contract at the Open Fiber camper received a 100-euro voucher, which can be used for purchases at major retail chains or converted into fuel vouchers.

The activity implemented by Open Fiber has highlighted the potential of FTTH technology also in terms of eco-sustainability. Fully fiber optic networks such as Open Fiber's reduce the emission of carbon dioxide into the atmosphere.

Open Fiber and the "Digital Compass"

Throughout 2024, Open Fiber collaborated with the Marche Region to inform citizens on optical fiber. As part of the Digital Compass project, Open Fiber generated digital material to inform citizens of the advantages of optical fiber and how to activate it. In addition, on the Digital Compass platform it is possible to access a free webinar in which Open Fiber employees worked alongside the Region's digital facilitators to introduce citizens to the world of fiber and encourage its use, focusing on the enabling factor of many apps in everyday life but also in the relationship with regional bodies and public administration in general.

Open Fiber: a new customer journey - My Fiber App

2024 saw the launch of My Fiber App, the new web app from Open Fiber aimed at end customers of all participating partner operators. The web app allows end customers access to various dematerialised Customer Journey services, aimed at improving their Customer Experience, and updates on the progress of their FTTH activation request. This gives customers a digital management channel at their fingertips. Over 56 operators have already joined during 2024 with more operators to come. The aim of the new Customer Journey is to increase the transparency of communications and customer awareness, thus reducing the number of calls to the operator's contact points (physical or telephone points), possible cancellations or process failures and technicians' wasted trips.

Open Fiber and OFNS, Installer - Seller Project

The "Installer-Seller" project allows operators to install their own lines independently, with the support of OFNS. The aim is to simplify and optimise processes, reducing time and costs for the operator. After the first meeting, the participants were divided into three clusters: Expert, i.e. operators with advanced certifications and tools, ready to operate independently; Advanced, operators with some certifications and tools, who need further training; and finally Prospect, operators at the beginning of the process, who need to complete the training to operate independently. Each cluster has received specific support to accelerate the acquisition of the necessary skills and tools. With the support of OFNS, operators will be able to delve into

the technical and contractual details, finalising what is necessary for affiliation and evaluating the opportunity to enter the delivery/assurance world. The modular approach allows for a gradual progression towards operational self-sufficiency, improving efficiency and quality. Initially focused on 30 operators, the project will be open to all interested parties, maintaining the same dynamics of support and collaboration.

OLO DAY: live meetings with the operators

Open Fiber organises the **OLO DAYS**, meetings with operators for presenting ongoing initiatives and supporting customer acquisition, especially in the C&D Areas. Recently, performance-focused programmes have been presented on these occasions, such as the new MyFiber App, the C&D easy delivery promotion and voucher promotion extensions. Participants in these meetings have the opportunity to explore the SOC and the Open Factory as well as participate in Q&A sessions. The programme also includes a workshop on how to develop white and grey areas, with the support of Open Fiber, and brainstorming sessions with management to express doubts and/or concerns.

4.2.6 CONTRIBUTION TO COMPANIES' DEVELOPMENT

In a market that is more and more globalised and characterised by evolving purchasing habits, with a growing propensity for online solutions, the digitalisation of business activities has become essential for the survival and development of companies' competitiveness. This aspect is particularly crucial for Italian Small and Medium Enterprises (SMEs), which are facing increasingly intense international competition, further aggravated by a delay in the adoption of digital technologies. In a context in which the need to keep up with the times is increasingly urgent, ultra-fast fiber optic networks can promote the development of digitalisation and innovation, which are essential elements for overcoming the digital divide and pursuing the development and growth of the national economic system and especially of SMEs.

A high-performance infrastructure, able to offer innovative services and ensure a fast and efficient digitalisation process: these are the pillars on which Open Fiber is investing to strengthen, support and enhance the resilience of Italian SMEs, a key element of the national economy. The main advantage of bringing ultra-broadband to all regions of Italy is that it enables small and medium-sized companies to connect and open up to the rest of the world, boosting their business in a market where connection speed makes all the difference. First of all, optical fiber makes it possible to significantly **expand the market served** and the company's network of relationships, reaching any part of the world immediately. The speed of the fiber, on the other hand, allows **optimising workflows**, minimising download times of work files and facilitating a fast and seamless use of the cloud. Thanks to the high stability of the connection, the fiber guarantees **the continuity of company operations**: a considerable advantage, given that the interruption of production or company

ITALY SUPPORTING SMES' CONNECTIVITY

In recent years, Italy has focused more and more on its digitalisation, which necessarily involves the digital transformation of the national production system, especially small and medium enterprises, the real driving force of the country.

A fundamental prerequisite for the successful digitalisation of Italian SMEs is related to improving their connectivity. With the aim of incentivising them to implement their own network infrastructure,

the Government has allocated a fund of almost 600 million euros for the provision of vouchers to guarantee a contribution, in the form of a discount, on the sale price of ultra-broadband Internet connection fees.

#GOODSTORIES

Turism 4.0 «Fast connection is our asset»

Fiber has been a priority for the new owners of the **Rose and Crown** hotel in **Correggio** «*Since we got fiber, we have never lost the signal, not even during events such as heavy rain. In February, as soon as we took over the hotel, choosing the fiber was a priority for us and, a few months later, I can say that we're happy we made this investment. Also in light of the "test" of the weather conditions: despite the fact that in the last period there have been extreme phenomena in the Municipality such as downpours, not only has the signal never failed but we have not experienced any drop in service. Both we and our customers are very satisfied*». The speaker is Christian Strano from Reggio Emilia, partner, together with Manuele Giannone and Valeria Ronghi, of the Rose and Crown hotel in Fosdondo di Correggio, the municipality where Open Fiber has already connected 1,180 properties and now, as part of "*Italia a 1 Giga*" Plan.

communication involves critical issues and significant costs for any organisation. Finally, the large amount of data and information that today's working methods require tends to easily saturate the connection line, especially if it still travels on copper networks: the fiber guarantees the **transmission of a much higher quantity of data**, avoiding any blockages in the connective system.

In order to achieve the goal of wiring the country, Open Fiber is aware that it needs to enter into collaboration agreements with supplier companies for the **construction, management and maintenance of the fiber optic infrastructure**. The installation of the ultra-broadband network favours the strengthening of the entire system of companies (including SMEs) involved in the activities, producing a double effect: on the one hand, all this will generate economic growth for the companies themselves, which will see an increase in their contribution to the construction of the infrastructure; on the other hand, it has an impact on the employment of specialised workers (splicers, installers and designers). Precisely for these figures, Open Fiber has provided certified courses aimed at workers of supplier companies with the aim of refining the practical and theoretical knowledge of activities related to excavation, laying and installation, demonstrating a constant commitment to the people and companies present in the territory. In 2024, the external workforce mobilised in the infrastructure construction activities amounts to over 7,700 resources engaged in Creation activities and Delivery and Assurance activities.

4.2.7 SMART WORKING

In recent years, partly due to the 2020 pandemic, there has been a significant increase in people's need and desire to work partially or totally remotely, generating positive effects for both workers and companies. The former benefit above all from a reduction in the hours of the day dedicated, especially indirectly, to work and from optimisation in the management of their personal commitments. Just think of the average time it takes a worker to get to work every morning and to return home at the end of their shift. At the same time, the use of remote working methods guarantees cost savings both for the worker, thanks to the reduction in transport-related expenses, and for companies, thanks to an optimisation of expenses related to the maintenance of workstations.

In Italy, Smart Working is far from in decline. Despite the halt to all simplified Smart Working

measures that obliged employers to allow this method for specific categories, the number of remote workers in 2024 is substantially stable: 3.55 million compared to 3.58 million in 2023 (-0.8%). Smart Working is growing in large companies, where it involves almost 2 million workers (1.91 million, +1.6% on 2023), close to the peak of the pandemic, with 96% of large organisations having now consolidated proposals of this kind. On the other hand, it decreases in SMEs, falling to 520 thousand workers from 570 thousand last year, while remaining substantially stable in micro-enterprises (625 thousand in 2024, 620 thousand in 2023) and in the PA (500 thousand in 2024, 515 thousand in 2023)[86].

The possibility of working from home has highlighted some critical issues in the system, first and foremost connectivity problems. In many areas, in fact, access to a stable and fast Internet network remains a challenge, both for individuals and for companies. This deficiency represents a significant obstacle to the spread of Smart Working as a widespread working model in our country.

The growing level of digitalisation has highlighted issues related to inefficient connections and the persistence of the digital divide, which particularly affects small villages and mountain areas. As a result, the demand for reliable internet connections has increased in recent years. Open Fiber's ultra-fast network offers a concrete solution to these needs. Thanks to the advanced infrastructure, it is possible to work flexibly, without interruptions and from anywhere. This not only improves people's quality of life, but also favours the development of local businesses, allowing them to remain in their places of origin without the obligation to move to large cities.



86 Source: Smart Working Observatory of the Polytechnic University in Milan.

DIGITAL NOMADS

Not only Smart Working: the new trend in the labour market is that of **digital nomads**. The era of ultra-fast Internet has revolutionised the concept of productivity, offering workers the opportunity to carry out their duties and, at the same time, get to know different places and cultures. Digital nomads and **workation - work+vacation**, i.e., working from a holiday location - are increasingly popular **trends**, to the point that even major national media are starting to talk about them. Digital nomads are more than 35 million all over the world[87] and they are increasing: the phenomenon of digital nomads is increasingly widespread and no longer just a desire, but also a personal need. It doesn't (only) mean young people with backpacks on their shoulders, but much more: it's about an autonomous work mentality compared to the past, professionals who have their office anywhere and nowhere.

The widespread implementation of Smart Working has shown employees and professionals that a new way of working is possible. Many workers, tired of organising their days according to predefined schedules and patterns, have recognised the need to embrace a more flexible lifestyle.
Millennials, i.e., those born between 1981 and 1996, are the ones who choose to work on the road the most, followed by **Gen X**, those born between 1961 and 1980. In terms of gender, however, in Italy **59% of women** have embraced digital nomadism, while the percentage of men is **41%**. They are mostly professionals in the **IT sector**, **in the creative sector** and a large number of them work in the **consultancy** and **coaching** sector.
The possibility of **organising working hours according to one's needs** is one of the main benefits of nomad working, as is the case with traditional smart working.

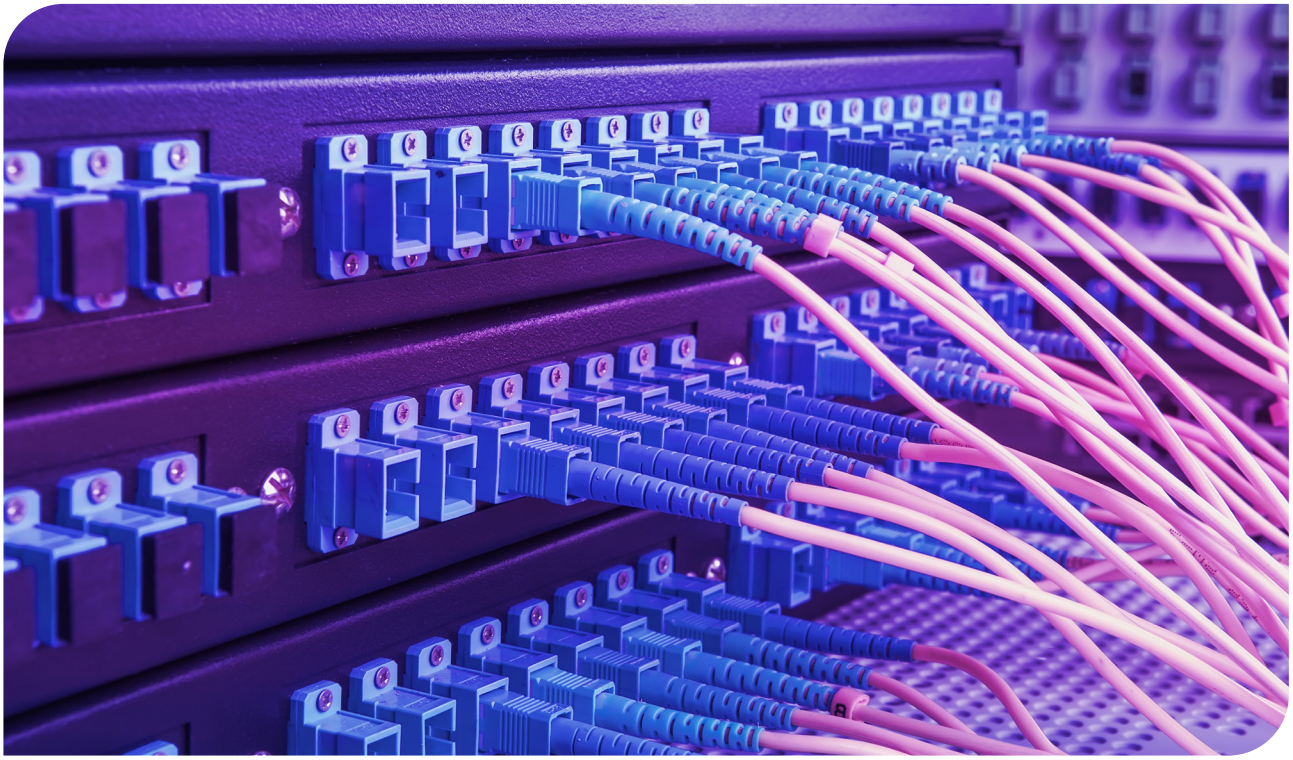
Those who choose digital nomadism over traditional smart working do so for a specific reason: the added value offered by digital nomadism is the opportunity to experience **new environments and cultures**. Enriching your personal experience with experiences that are not confined to the classic summer holidays is a learning opportunity for the person and a source of inspiration for work. At the same time, we must not forget that digital nomadism also poses significant challenges, first and foremost the difficulty of disconnecting and separating the time dedicated to work from that dedicated to private life.
For travelling work to be truly productive, however, it is essential that every digital nomad has access to cutting-edge tools and a stable internet connection. In this sense, the service offered by Open Fiber proves to be a strategically enabling factor.

#GOODSTORIES

From Boston to Benevento thanks to the fiber

Onofrio Catalano, radiologist and lecturer at **Harvard University**, thanks to Open Fiber's optical fiber network he can work several months a year in his home town, the small hamlet of **Beltiglio a Ceppaloni**, in the province of Benevento. "*Nothing has changed compared to Boston," explains the doctor from Campania, "in fact, I can even see more patients from Italy than when I'm in the hospital*".

87 Source: Ansa.



4.3 PROTECTION OF THE TERRITORY

The diverse landscape and wealth of natural and artistic beauty that sets Italy apart are the strengths of our country, admired throughout the world. In addition to offering an unlimited number of different landscapes, from hills to mountains, to the sea with its beautiful islands, the peculiarity that makes Italy truly unique is the harmonious coexistence of villages and cities that, from north to south, are an example of art, tradition and centuries-old culture. This unique feature is something to be valued and, for this reason, Open Fiber wants to help preserve the beauty and integrity of the territory, guaranteeing equal conditions of access to services in every part of Italy. The strategic choice of creating an ultra-broadband fiber optic network that covers the whole country seems to be an effective tool to accompany each local area towards an optimal digitalisation process. In fact, Open Fiber has always paid particular attention to small municipalities, which are often subject to depopulation also due to isolation caused by the lack or scarcity of fast connections. The work carried out by the company in recent years, and which is still ongoing, has meant that not only have some cities evolved into real smart cities, but also that many small residential areas have become more attractive to citizens and tourists.

Despite the numerous advantages offered by optical fiber, the creation of the network can cause some inconvenience, mainly related to the presence of construction sites and interference with other infrastructures and underground utilities. To minimise inconvenience, Open Fiber adopts a careful and responsible approach, carefully assessing both real and potential environmental and social impacts, and constantly monitoring its activities. The company's objective is to minimise the negative effects on the territory in every phase of the process, starting with a design that favours the reuse of existing infrastructures, thus limiting the need for new works and the impact on the community. In addition, excavation technologies with low environmental impact are used, guaranteeing a sustainable and respectful intervention on the territory.

#GOODSTORIES

Smart Fiorano and the technology revolution

«Safety and reliability for our company» Laminam thinks ahead. Open Fiber's ultra-fast fiber has arrived at the company *«This is how we pave the way for the technologies of the future»*, *«With this speed our employees work better and are more productive»*. Switching from a standard connection of 100 megabits per second to one of 1,000 megabits per second, the so-called gigabit connection, has been a real revolution for **Laminam Spa**, a company based in **Fiorano** and a leader in the sector of large, thin **ceramic slabs**. Thanks to the new ultra-fast fiber optic network installed by Open Fiber, the company has been able to implement a series of services that make a difference across the board: from security, to productivity and quality of work.

4.3.1 REPOPULATION AND APPEAL OF SMALL MUNICIPALITIES IN ITALY

While it is true that the population of Italy is decreasing, in small Municipalities, especially those isolated in the most difficult to reach mountain areas, the depopulation phenomenon has been going on for some time. This is the case for over 6,000[88] villages in Italy, while those having less than 5,000 citizens are 5,526[89]. The danger in those areas where depopulation is becoming more acute is that they are destined to become uninhabited villages, with historic centres without any residents or commercial businesses. The reasons that push the inhabitants of small villages to move to the Italian metropolises are almost always linked to the search for better job opportunities. The National Association of Small Municipalities (ANPCI), in its Atlas of Small Municipalities, has also highlighted how in recent years towns with less than 5,000 inhabitants have experienced unequivocal depopulation. Specifically, 73% of small Italian municipalities have been considered to be in decline, i.e. with a negative variation in the resident population.

In addition to the depopulation phenomenon, another aspect that should not be underestimated is the increase in the average age of the population: according to Istat data, residents in municipalities with less than 5,000 inhabitants are in fact older and the over 65s represent almost 25% of the resident population, while younger age groups tend to reside in larger municipalities.

In the case of small Municipalities, it is therefore vital to take ad hoc action to counter the progressive depopulation and consequent abandonment of these areas, which would lead to the impoverishment of a heritage that could instead represent an important economic opportunity. Moreover, these municipalities risk being left behind in the progress of development and digitalisation that our country is undergoing. This is why Open Fiber's work is so



88 Source: ISTAT source.

89 Source: Legambiente, file "*Borghi Avvenire*".

#GOODSTORIES

Goodbye depopulation! Fiber arrives

Sambuca di Sicilia, **San Bartolomeo in Galdo**, **Cetara**, **Buccheri**: small villages in the South of Italy, from the coast to the mountains, are opening up to the world, offering new opportunities thanks to the latest generation digital infrastructure. These are communities that are fighting depopulation in a different way: services for businesses, attracting citizens from abroad, developing tourism. Gary and Tamara Holm from the United States, for example, have chosen to live in Sambuca: «*Here we found Open Fiber which allows us to surf the internet better and faster than in Los Angeles. It's amazing*!».

SUPPORTING THE SPREAD OF CONNECTIONS IN THE WHITE AREAS

In order to support the spread of FTTH connections in white areas, Open Fiber has promoted an important commercial operation, concerning both passive and active GPON services, which has led to a reduction in the costs incurred by Operators for the activation of end customers of about 50% as regards the connection fee and about 25% for the fee relating to active services. The initiative has allowed the expansion of the portfolio of Operators interested in providing FTTH connectivity services in white areas, such as Vodafone and Iliad.

important: the Strategic Ultra-Broadband Plan (or *BUL Plan*)[90] and *Piano Italia a 1 Giga*[91], by bridging the digital divide, will allow the reversal of the depopulation and aging trend in small Municipalities and in the so-called "market failure areas".

Such a process is complex and must be approached gradually over time. The development of digital infrastructures must necessarily go hand in hand with the diffusion of technological skills and the growth of a digital culture among the population. In recent years, Italy has made significant progress in the use of the Internet: according to Istat data, the number of users who regularly surf the web has increased by about 25%, while the number of households with Internet access has grown by 28%. Despite this, if we analyse the data by size of the municipality, it is clear that the availability of internet access is significantly lower in small centres and this is often associated with the scarce presence (or even absence) of digital skills among those who live in and the administrations of small municipalities.

Being aware of the challenge ahead, Open Fiber is moving towards its goal of reducing the exodus of people and companies from small towns and the phenomenon of marginalisation for those born in the provinces. With ultra-broadband, in fact, any

90 The Strategic Plan for Ultra-Broadband (*Piano Strategico Banda Ultra Larga*, BUL) aims to develop an ultra-broadband network throughout Italy, with a particular focus on areas where the market is failing. Infratel's interventions are aimed exclusively at white areas of the national territory, in accordance with EU guidelines and in line with the results of the Public Consultation for Telecommunications Operators for Ultra-Broadband on National Territory.

91 *Piano Italia a 1 Giga* aims to promote, through public action, investment in ultra-broadband networks that guarantee all users a connection speed in line with the European objectives of the Gigabit Society and the Digital Compass. Italia a 1 Giga is the first of the public intervention plans of the Italian Strategy for ultra-broadband, being implemented as part of the National Recovery and Resilience Plan (PNRR), and provides for an allocation of approximately 3.8 billion euros.

SMART WORKING FROM A SMALL MUNICIPALITY: AN OPPORTUNITY NOT TO BE MISSED

The possibility of working remotely from a small Municipality, thanks to the installation of an ultra-broadband network in small towns, represents a real revolution as well as an opportunity for growth and recovery, both for historic villages and for the people who live there. The activation of an ultra-fast connection is one of the factors that favours their repopulation, thus creating new job opportunities.
Surfing the web with a reliable and ultra-fast connection has meant that Smart Working has become a reality not only in large cities but in any location, allowing people to carry out their tasks easily even from a well-lit desk overlooking the history and beauty of lively medieval villages.
Working remotely from a small town leads us to discover a slower lifestyle, as well as a more relaxed approach to work, as the peaceful life of the historic village becomes a faithful ally of people's physical and mental well-being.

#GOODSTORIES

Fiber and employment: Borgorose story

In Borgorose, a small Municipality in the **province of Rieti** on the border with Abruzzo, a silent revolution has begun thanks to optical fiber. This small town of just over 4,000 inhabitants, long marked by a fragile economy and high unemployment, has undergone a radical change with the arrival of ultra-fast connection, brought by Open Fiber as part of the Ultra Broadband Plan (BUL), a strategic national initiative for the digitisation of peripheral areas.
The Mayor of Borgorose, Mariano Calisse, emphasised the importance of this infrastructural intervention that has relaunched the territory: «*The latest generation digital infrastructures are fundamental for both families and businesses. In fact, thanks to the new network that crosses the whole country, we have managed to attract private investments to our territory. In particular, the company Fleet Support has decided to localise part of its activities, hiring more than 100 young people*».
Up until 2015, Borgorose had 193 operating companies, which provided work for 421 people, with an average of just two employees per company. A fragile economic structure, which made incisive relaunch action necessary. The turning point came with the creation of an FTTH (Fibre to the Home) fiber network, financed through **regional** and **state funds**. This intervention provided the Municipality with a 1 Gigabit per second connection, adequate for the needs of both companies and the community. This technological evolution had extraordinary repercussions**: unemployment, which was close to 50%, was reduced to 10% in a few years.**

territorial or professional barrier can be overcome and small entrepreneurs can contact and collaborate with larger organisations, or make themselves known everywhere, reaching potential customers without having to move. Thanks to the optical fiber, for example, many digital professionals, such as graphic designers and digital creators, have chosen to return to live in small towns because they can finally do their jobs exactly as they would in a big city. Ultra-broadband allows them to send large files quickly, hold long video calls and advertise local attractions and products. Moreover, it is not only companies and small businesses that benefit from the advantages of the ultra-fast network, but also the



community and the Public Administration, thanks, for example, to the services that this advanced technology enables, such as telemedicine, Smart Working or digitalised public services.

Very White Municipalities Project

A study conducted by AGCOM in 2020, at the request of the Department for Digital Transformation (at the time the Ministry of Technological Innovation and Digital Transition), identified the so-called "no-Internet" or "very white" areas, i.e., territories where there is no connection even in ADSL technology. In Italy, there are about 200 municipalities in this situation, mainly located in Piedmont, Molise, Liguria and Sicily. We are talking about a total of about 150 thousand housing units and about 186 thousand citizens located mainly in hilly or mountainous areas (about 89%) who do not have any type of web connection available. Cabling the fiber optic network using traditional methods, which involve digging and laying cables underground, can be an excessively long process or not sustainable from a technical and economic point of view. Open Fiber, therefore, has found that the ideal solution in FWA (Fixed Wireless Access)[92] technology, also known as Wireless Local Loop, since it involves the use of radio solutions to cover the last mile to homes scattered in very sparsely populated areas. Thanks to the activation of a radio link, it is possible to send the signal from one transmitter to another, allowing long distances to be covered even without laying cables and to overcome landscape obstacles, such as a mountain wall, which would otherwise require expensive and unsustainable interventions.

Following this acceleration in the connection of the white areas (through a transitional intervention with FWA), Open Fiber has proceeded, where possible, to the cabling of the FTTH network as established by the Infratel tender. This work will be largely financed by the Company: in fact, a coverage has

92 Wireless Point-to-Multipoint connection on a licensed band that goes from the FWA site to the Terminal Station (TS) located at a single property unit (PU). Open Fiber's FWA technology has a very low environmental and electromagnetic impact; for more information on the environmental advantages of FWA technology, see paragraph 2.3.2 "Non-invasive laying techniques".

been proposed keeping the expenses at around 5 million euros. The Company is also taking care of creating backhauling connections - the radio-network connection - at its own expense and reusing Infratel's backhauling. All this work is a necessary investment to bridge the *digital divide* and promote a digital renaissance in order to support a more inclusive and sustainable society, now more than ever.

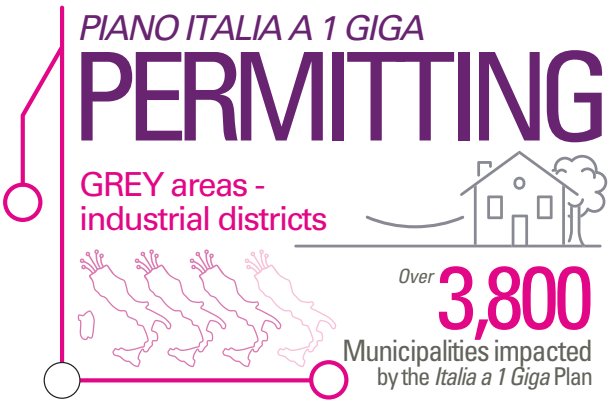
In line with the ambitious plan presented in 2020, Open Fiber has covered 178 municipalities, of which 166 with FTTH/FWA technology and 12 with STTH (Satellite To The Home)[93] technology.

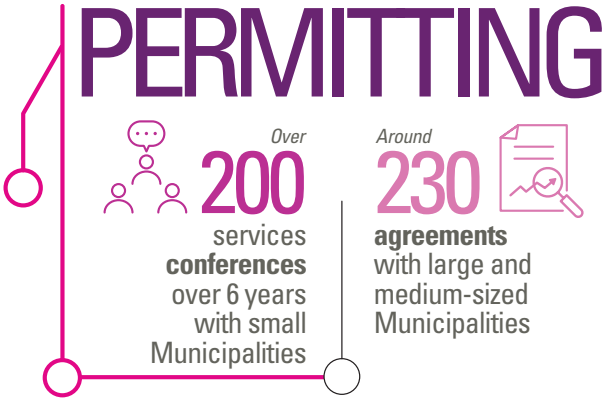
4.3.2 RELATIONS WITH THE LOCAL AUTHORITIES AND BODIES IN THE DOMAIN OF PERMITTING

In the Italian areas with a low population density, areas that have been declared market failure or white areas and falling within the so-called **Cluster C&D**, the Ultra Broadband Strategic Plan (BUL) stipulates that for each Municipality, 10 to 15 permits must be issued for the start of network installation activities. Considering the number of municipalities in which Open Fiber operates, the volume of authorisations to be requested is very high. For this reason, the Company, through its public relations, is committed to raising awareness among the government, parliament and local authorities about the adoption of uniform national regulations to simplify and facilitate the issuing of authorisation opinions. This method speeds up the time it takes to open construction sites and, consequently, the achievement of EU objectives.

Over the years, the advocacy campaign has contributed to the introduction of simplification measures that guarantee a fixed and halved time compared to the past for the conclusion of the administrative process relating to obtaining permits. After these regulations were approved, work began to raise awareness among municipalities about the importance of convening multi-agency meetings, an effective tool for speeding up the approval process and making it more reliable. In the last six years, **over 200 meetings** have been organised, each involving all the organisations directly affected by the project. There are numerous forms of coordination specific to each area managed by the individual regions (steering committees, service conferences, periodic meetings) in which the main stakeholders of the project are involved in order to share objectives and resolve any critical issues. Furthermore, in some regions, a series of meetings were held with all the municipalities that had participated in the services conferences in previous years, with the aim of monitoring the progress of the project, communicating any news and resolving any issues.

In densely populated areas (called black areas and falling within the so-called **A&B Cluster**), the Company, before starting work, opens discussion tables with the Municipal Administration to share the activity plan and the operational steps for the construction of the infrastructure. These discussions often lead to the signing of an **agreement between** Open Fiber and





93 The STTH (Satellite to the Home) Service provides long-range broadband connectivity via satellite technology in the most remote areas of Italy. The service is provided by Open Fiber to its Partner Operators, under the agreement signed with Telespazio. For more details, see paragraph 5.3 "Innovation Lab".

41ST ANCI NATIONAL ASSEMBLY

In November 2024, Open Fiber participated in the forty-first ANCI National Assembly. During the event, about 300 mayors, representing as many municipalities, requested updates on the evolution of the BUL Plan and the *Piano Italia a 1 Giga.* During the event, there was also a seminar organised by Open Fiber, entitled "Connected territories. What about the citizens? The opportunities offered by the optical fiber are yet to be exploited". Some mayors took part in the event to share their successful experiences on how to make the most of the opportunities offered by the new fiber optic connection network.

100% FIBER PROJECT

In December 2024, Open Fiber organised the launch event for the **100% Fiber Project** at its headquarters in Rome. The ambitious plan involves abandoning the copper network in favour of a "100% real fiber" connection that aims to encourage the switch-off of the traditional telecommunications infrastructure. During the meeting, the content of the initiative was presented to the mayors of the municipalities involved. A visit to the SOC was then organised, as it was considered of particular interest to the participants.
The mayors, showing their appreciation and interest in the project, are committed to personally carrying out the communication and awareness-raising activities for their citizens.
Open Fiber's digital revolution in telecommunications began in early 2025 with the municipalities of **Brolo** (Sicily), **Vedano al Lambro** (Lombardy), **Boretto** (Emilia-Romagna) e **Monte San Biagio** (Lazio).

the Municipality that formalises the above-mentioned aspects. Since the beginning of its activities, the Company has signed **approximately 230** agreements with large and medium-sized Municipalities.
In May 2022, Open Fiber was awarded 8 of the 15 lots in the tender called by Infratel for the ***Piano Italia a 1 Giga***, one of the projects of the Ultra Broadband Strategy financed with funds from the National Recovery and Resilience Plan (PNRR). The subject of the tender is '*the granting of public funds for the financing of investment projects for the creation of new telecommunications infrastructures and related access equipment capable of providing services with a capacity of at least 1 Gbit/s download and 200 Mbit/s upload*'. The 8 lots awarded to Open Fiber coincide with the regions of Sicily, Puglia, Campania, Lazio, Tuscany, Lombardy, Emilia-Romagna, Veneto and Friuli-Venezia Giulia and involve interventions in **more than 3,800 municipalities.**
In order to facilitate the implementation of the telecommunications infrastructure in a timely manner with respect to the objectives set by the *Italia a 1 Giga* of the PNRR and, consequently, to contribute to the timely achievement of the digital transformation objectives imposed by the European Agenda 2030, advocacy operations have been launched aimed at promoting the approval of a series of simplifications to obtain permits more quickly and to resolve critical issues relating to the opening of construction sites for the laying of the optical fiber, which cause delays in the execution of the works (e.g., traffic ordinance, exclusion of the implementation of the Environmental Impact Assessment - *Valutazione di Incidenza Ambientale* - VINCA).
In order to facilitate the permitting process and considering the large number of Municipalities involved in the plan, Open Fiber promoted a series of discussion meetings, organised in collaboration with regional ANCIs[94] and some Regions. Through webinars and panel discussions, these meetings provided detailed information to interested

94 *Associazione Nazionale Comuni Italiani*, National Association of Italian Municipalities.

municipalities on the characteristics of the project and on how Open Fiber will operate, within the simplified regulatory framework for the installation of ultra-broadband infrastructure. During 2024, Open Fiber was invited to the celebrations for the 50th anniversary of the Constitution by some local ANCI (Italian National Association of Municipalities) and had the opportunity to share its experience on the topic of the digital revolution and technological innovation.
In addition to the dedicated permitting procedures and channels, there are some cross-cutting activities that the Company carries out for all the areas of intervention in which it operates. Particularly important are Open Fiber's relationships with the superintendencies, based on open dialogue and discussion, aimed at protecting the archaeological, monumental and landscape heritage, and with the companies that manage public utility infrastructures and services, aimed at sharing the opportunity to reuse an existing infrastructure for laying the fiber.

4.4 SOLIDARITY PROJECTS AND INITIATIVES FOR THE COMMUNITY

4.4.1 PARTNERSHIPS AND INNOVATION SUPPORTING CULTURE

Partnerships with academia

The process of digital transformation in Italy could not develop without the support and studies carried out by academia in the relevant sector. Therefore, to offer an advantageous opportunity in every respect – practical and theoretical – Open Fiber has created a synergistic relationship with the main Italian centres of academic excellence, through a virtuous circuit of ad hoc partnerships.
In 2024, collaborations were also established with various **master's degrees and university courses** with both technical-engineering and *soft skills* orientation. The activities carried out included classroom interventions and testimonials, internships, *project work* and the provision of scholarships.
As for the partnership initiatives with the main university centres already consolidated in Open Fiber, the collaboration with the world of university scientific research continued. In particular, Open Fiber, in collaboration with the University of Pisa, has funded the national industrial research doctorate with a focus on **Artificial Intelligence**. The doctorate is one of the programmes promoted by Open Fiber Innovation Lab, in the field of the study of AI applications, with machine learning and *reinforcement learning* to make the Open Fiber network and services increasingly efficient and reliable.
A further national research doctorate has been launched with the University of Naples 'Federico II', also funded by Open Fiber, with a focus on integrated photonic **circuits for passive optical networks.**
Those university partnerships are part of Mission 6 (Research Doctorate Programme) of the Programme **RESTART** - **"**RESearch and innovation on future Telecommunications systems and networks, to make Italy more smart"[95] - that is the most important public research and development programme ever carried out in Italy in the telecommunications sector, funded by the European NextGenerationEU Plan as part of the **National Recovery and Resilience Plan**.
During 2024, new **corporate agreements** were stipulated with some of the main Italian universities, business schools and online universities dedicated to company employees and their families with the aim of promoting the study and continuous development of professional skills by facilitating access to university and post-university training.

Atena project

In 2024, Open Fiber implemented the "**Atena**" project in partnership with the University of Sannio-Benevento and the University of Messina, with the aim of involving

95 For more details, see paragraph 5.9 "Research and Innovation through the Programme RESTART".

university students in the development of a project on the subject of **Fiber sensing**, particularly focused on earthquake risk, through an innovative technology that allows continuous measurements of seismic waves in real time along the entire length of a fiber optic cable.

Open Fiber and ELIS: PCTO, *Percorsi per le Competenze Trasversali e per l'Orientamento* - Pathway for Transversal Skills and Orientation

Five Italian cities and as many schools, about **183 students** involved, **12 masters of the craft** employed in companies in different professional fields and **over 70 hours of training provided** during the meetings held in person at school, resulting, at the end of the course, in about **8 internships**. This is the final result of **PCTO** for the 2023/2024 academic year, the Open Fiber training project carried out in collaboration with ELIS, now at the end of its sixth edition.

In the second half of 2024, the seventh edition of the programme began for the 2024/2025 academic year, involving **3 Italian technical institutes**: ISS Zaccagna Galilei in Carrara, ITT Chilesotti in Thiene and IIS A. Valeriani in Bologna. During 2025, students in their fourth and fifth years of high school will participate in meetings with the company and its various professionals, during which they will have the opportunity to learn about a business context and acquire new skills by interacting with the organisation's professionals.

Italian Academy of the optical fiber

Open Fiber and ELIS, with the support of important telecommunications companies, continue to provide training courses for **jointers, network designers, technical assistants and FTTH** fiber optic technicians with the aim of training and updating professionals in the sector. There are also educational courses aimed at young graduates who wish to work in the fiber optic world. Thanks to the participation of the network of companies involved in the project, past editions have recorded a rate of insertion into the world of work close to **100%.**

Distretto Italia

In partnership with ELIS and through the Open Fiber Network Solutions consortium, Open Fiber supports the transition and connection between the labour market and academia with the aim of addressing the mismatch between supply and demand by providing support in terms of guidance and integration of young people.

With such sense of initiative, the project ***Distretto Italia*** devoted to NEETs (young people not in education, employment or training) continues in 2024, with the aim of **training technical and specialist professionals** and guiding students, accompanying them in their search for their professional vocation. The plan has been very successful because it is based on the creation of valuable **networks** between **companies, training centres, universities and schools**, starting from the identification of the needs of the companies. Since the start of the project, **11 training rooms** have been set up and more than **110 young students** have been involved**.**

Overcoming the cultural digital divide: Open Learning

The digital divide is not only caused by geographical or territory-related factors, but can also arise from the inability of citizens and businesses to make the best use of the innovative and technological services available. The rapid developments that characterise the sector also require continuous updating and improvement of one's **personal and professional know-how**. Unfortunately, not everyone is able to fill this gap on their own. In fact, according to the **Digital Decade Report** published in 2024, in Italy only **46% of people** have at least basic digital skills (56% in the European Union), a figure that has remained constant compared to the previous year (whereas in the European Union it was 54%).

As a response to the challenge of digital education, Open Fiber set the goal of helping all those who wish to improve their telecommunications and digital skills by making the **Open Learning** platform available on the company website. The topics covered by the free online video lessons include:

- **network fundamentals**: for newcomers to

#GOODSTORIES

A second opportunity for inmates thanks to the fiber

Optical fiber and all the activities involved in its construction can generate added value also in terms of the social and occupational reintegration of prisoners. The aim is to give a second chance to those who are serving or have served a prison sentence by acquiring new job skills. Open Fiber has pursued this goal through two separate projects. The first, led by the **association founded in honour of Salvatore Nigrelli** - former Area South Manager of Open Fiber who passed away prematurely - involved a small group of young people in the **juvenile prison in Naples. "*Nisida in rete*"** took the form of a training course based on 9 two-hour modules. Open Fiber is directly involved in the activities of the solidarity association, also through the financing of a **scholarship**, named after Salvatore Nigrelli, awarded to a researcher at the Federico II University of Naples.

The second project was carried out in the adult prison in Caserta, marking the start of the operational phase of the memorandum of understanding signed by Open Fiber with the Department of Penitentiary Administration, Infratel Italia, the ASI Consortium of the city of Caserta, ANIE SIT and other TLC operators. Thanks to this initiative, which has also been exported to other Italian cities, the focus is not only on the **reintegration of prisoners into society**: it will also be possible to make up for the **shortage of labour** for the installation and connection of fiber optic networks.

the field or for those who feel they need to strengthen their basic knowledge, a guide through the world of fixed and mobile networks up to the analysis of lesser-known technologies, such as FWA;

- **advanced network systems**: for those who already have a basic knowledge of telecommunications infrastructures;
- **digital & information management**: for anyone who wants to expand their professional know-how in a digital key with regard to team collaboration, branding, data management, content creation and corporate culture;
- **YouDigital**: a test that puts your digital knowledge to the test.

4.4.2 INITIATIVES FOR THE COMMUNITY

Open Fiber supports people and the local areas where it operates through **projects and initiatives aimed at promoting the economic and social growth of the communities in which it operates.** In 2024, the main activities benefitting the community focused on innovation, sustainability and digitalisation, with a strong commitment to supporting local businesses and reducing inequalities.

Open Fiber and YEP against the gender gap

Open Fiber constantly promotes inclusivity in all its forms and the fight against gender inequality. This is why in 2024 they continued their activities in partnership with the **Ortygia Business School Foundation**, participating in the fifth edition of **YEP** (Young Women Empowerment Program), a **mentoring programme for the empowerment of women** aimed at female students enrolled in economics and STEM faculties at universities in Southern Italy. The training programme is aimed at enhancing female talent through the acquisition of skills and tools useful for facing the world of work with greater awareness.

The programme, which lasts **6 months** and

includes plenary events and ***one-to-one* meetings**, has allowed the students to benefit from the support of professional volunteers from companies that are partners of the initiative.

Solidarity Bonus Referral

Open Fiber supports gender equality and inclusiveness through initiatives such as the **Bonus Referral**, the recognition of a bonus of an economic nature to employees who recommended women graduated in STEM disciplines, as part of Talent Acquisition processes. Part of the bonus is donated to a non-profit organisation chosen by the employee, including Save the Children's *Punti Luce* (i.e. Points of Light), the Bellisario Foundation and Make a Wish.

Solidarity in our DNA

Open Fiber promoted blood donation days for its employees with the aim of contributing, in the spirit of pure volunteering, to making regular blood donations frequent.

Open Fiber for the civil society

In the heart of **Cefalù Cathedral**, one of the greatest masterpieces of Norman architecture in Sicily and a UNESCO World Heritage Site since 2015, an innovative space dedicated to digital training has taken shape. This project, which aims to create a meeting and learning place for those who would otherwise not have access to IT and digital resources, is aimed at a wide audience of students, young entrepreneurs, local citizens and tourists who work remotely. The promotion and diffusion of digital culture has always been a central element in Open Fiber's mission. In line with this commitment, the company has allocated the budget for the 2024 Christmas gifts of the senior management to support an important solidarity project promoted by the Diocese of Cefalù. Through this initiative, Open Fiber is making a concrete contribution to promoting digitalisation as a tool for social inclusion and development, demonstrating how technology and solidarity can complement each other to generate a positive and lasting impact on the community.

Christmas with Save the Children

In 2024, the Company renewed its commitment to a charitable Christmas by purchasing **charitable Christmas Boxes** in collaboration with **Save the Children**, a contribution to the humanitarian organisation's work to promote the rights to health, nutrition, education and protection of children, and the fight against poverty in all its forms. The boxes are intended for company employees who receive them during the Christmas holidays.

Open Fiber for AISM



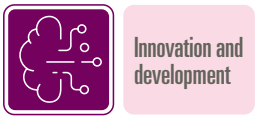
Among its social initiatives, Open Fiber welcomed **AISM - *Associazione Italiana Sclerosi Multipla* (Italian Multiple Sclerosis Association)** to its Rome headquarters. During the initiatives "***Bentornata Gardensia***" (**Welcome Back Gardensia**) and **"*La Mela di AISM*" (The AISM Apple)**, the people at Open Fiber chose to support scientific research, the only weapon available today to defeat multiple sclerosis and related pathologies.

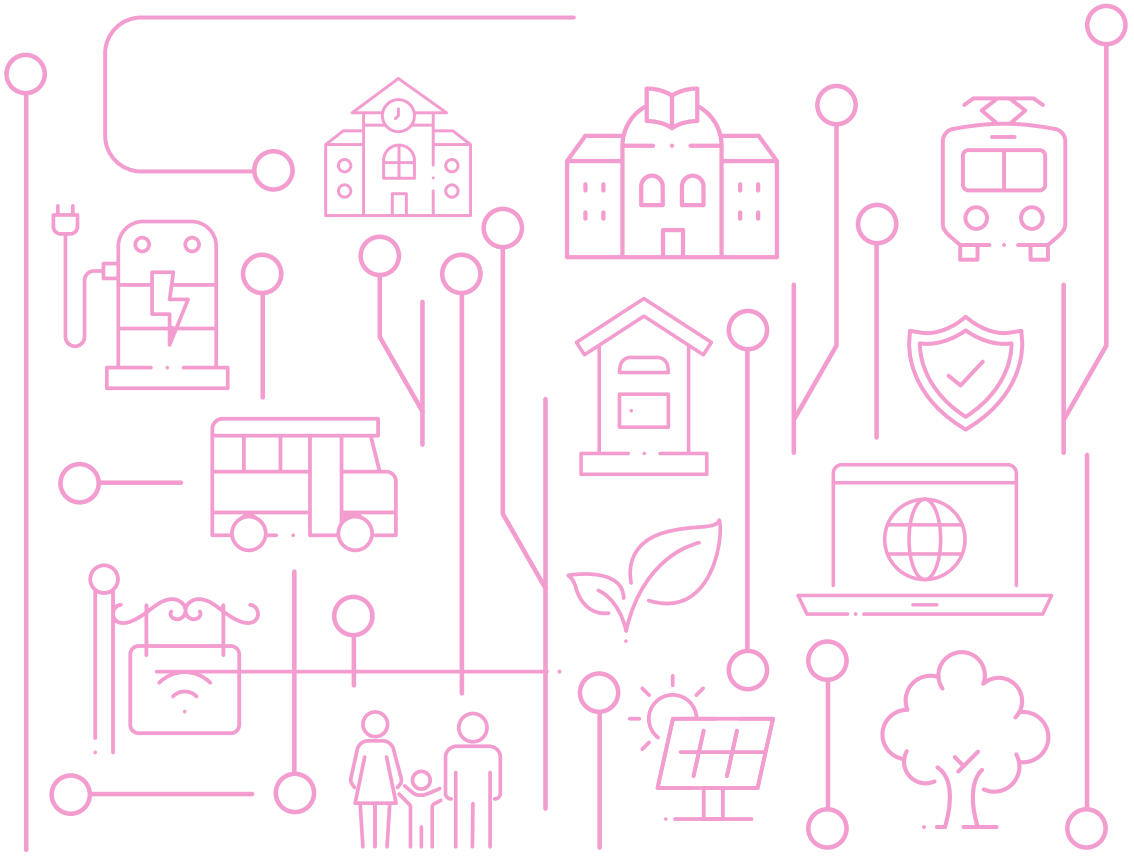
LA MELA DI AISM
SCLEROSI MULTIPLA
associazione italiana
un mondo libero dalla SM

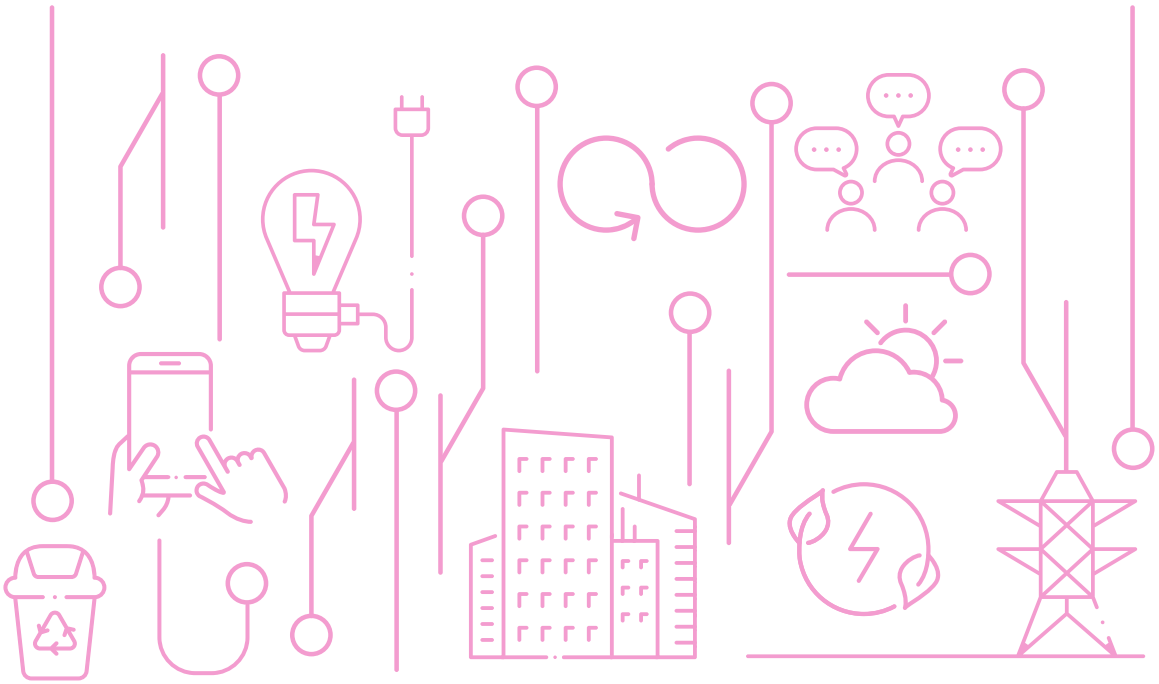
Tevere Day

Spotlights on the future of Rome, digital and otherwise, during the 2024 edition of **Tevere Day**. Over 200 associations, organisations, and enterprises meet to discuss the capital's development policies. An opportunity to address and highlight development opportunities, alongside critical issues, related to the sustainability of the city and its fundamental waterway.


9
INDUSTRY, INNOVATION AND INFRASTRUCTURE
17
PARTNERSHIPS FOR THE GOALS


Innovation and development





05. INNOVATION

Since its establishment, Open Fiber has made technological innovation its core value, which is pursued with determination through strategic business decisions. Thanks to this, it has achieved significant goals not only in the field of network cabling, but also in accelerating the country's digital transformation. Promoting transformation in Italy is crucial for several reasons, such as economic development and growth, global competitiveness and the improvement of the quality of life by offering highly innovative services.

Over time, the company has established itself as a point of reference for the development of the Italian digital infrastructure, contributing decisively to economic growth and the evolution of production and social models. Open Fiber's strategy revolves entirely around the adoption and diffusion of **FTTH (Fiber To The Home)** technology, a revolutionary solution compared to the standards previously used in the TLC sector. Compared to hybrid networks that combine fiber optic and copper, FTTH fiber guarantees ultra-fast, reliable connectivity without signal degradation. Given its structure, it offers significantly superior performance in terms of speed, stability and reduced latency. This technology represents a fundamental pillar for the implementation of advanced applications, such as **smart working, industry 4.0, telemedicine and the Internet of Things (IoT)**, thus promoting widespread and widespread digitalisation and a reduction in the level of the digital divide.

However, the real added value of Open Fiber lies in its strategic vision oriented towards continuous **innovation and the creation of shared value for the community**. The company does not limit itself to providing a cutting-edge infrastructure, but is also committed to developing and enhancing new technological solutions and building synergies with other market sectors. The objective is to expand the opportunities offered by ultra-broadband connectivity, resulting in the progressive improvement of *core* services, the exploration of new business models and the ability to anticipate the future needs of citizens, businesses and public administration.

By investing in research and development and expanding collaboration with institutional and private partners, Open Fiber acts as a catalyst for Italian digital progress, contributing to the reduction of the **digital divide** and the creation of a technologically advanced, inclusive and sustainable ecosystem.

5.1 NETWORK EXPANSION PROJECTS AND THE DEVELOPMENT OF NEW SERVICES

Building an ultra-fast infrastructure that is so widespread as to cover the whole of Italy would be only a partial success if it were not accompanied by a long-term vision. Open Fiber is aware of the speed at which technological progress is evolving, particularly in the field of telecommunications, and always has an eye on possible future challenges in this sector. Continuing with this business strategy, the company has designed a network that is characterised by its neutral, open and optimised architecture, and that allows all operators to provide their electronic communication services without any restrictions in the choice of technologies and network architectures. Maximising fiber coverage allows for the creation of a **future-proof** network, which can enable increasingly high-performance and cutting-edge services, aimed at achieving the objectives of the European Gigabit Society, making possible the development of new technologies in TLC, such as 5G and its future evolutions. Thanks to its widespread, lean, efficient, technologically neutral structure, Open Fiber can:

- allow for the most effective disaggregation of access services;
- foster maximum flexibility for the most highly-structured OLOs (Other Licensed Operators), thanks to their widespread presence throughout the territory;
- enable maximum efficiency for less-structured OLOs, thanks to the possibility of

delivering the relevant services at the DP[96] that is the closest to their networks;

- ensure scalability, quality and continuity of service thanks to the technologies used and the redundancy of the equipment and infrastructures that make it up;
- guarantee efficiency in management and speed in the provisioning of services thanks to the architecture, simplicity and homogeneity of technologies that characterise a greenfield operator.

In today's telecommunications market, the focus

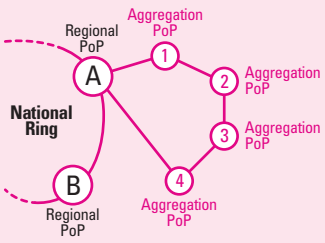
"NETWORK RESILIENCE" PROJECT

The increase in the number of customers and services offered by Open Fiber's network, as well as the ever-increasing demand for capacity from end users, has made it essential to launch a project called "Network Resilience". The main aim is to provide an ever-improving quality of service to the OLOs (Other Licensed Operators) that access our network.
The project, which was launched in 2023 and will be developed over the next three years, consists of several initiatives that address the different layers of the Open Fiber network, from transport to regional networks, to MANs (Metropolitan Area Networks), up to the physical infrastructure of PoPs (Points of Presence). This allows for a strengthening of the network to guarantee continuity of service and an increase in reliable performance for the end user. Through diversified routes at the PoP level for the metropolitan network and the doubling of routes in suburban areas, these projects will increase the capillarity and level of resilience of the backbone network.
In 2024, the project focused on depowering the Baggio PoP with the migration and integration of some services and traffic to other PoPs. At the same time, the transformation of the 23 Milan sites from Edge B to Edge A began and Dual-Homing[97] function was introduced to increase traffic resilience. Finally, the architectures and technical solutions for the two clones, the eight twins, and the relative PoP Edges for Dual-Homing were designed.

"DERISK BKB" PROJECT

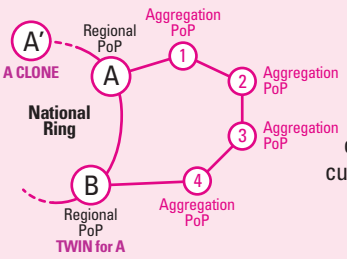
As regards the design of the architecture and technical network solutions, useful for increasing resilience and performance, a total of 9 new national PoPs have been developed, 6 of which are in the urban area of Milan alone. The project is part of the development of the Network - Evolution of the Backbone which foresees the insertion of 17 national PoPs by 2026, so as to reach the target of 34 national PoPs in total. This activity consists of a redistribution of traffic through the proposal of activation of new delivery kits and construction of twin PoPs with opening of the rings and closing on twin PoPs. If the result of the assessment is negative, it will be necessary to introduce new PoPs (clones) with a hierarchical downgrading of the current ones. Finally, the IP layer will be extended to all edge nodes, with a proposal to introduce dual homing.

As is...



Currently the Aggregation Rings are bound on a single national POP

...to be



- Doubling up national POP by introducing **TWIN** POPs
- If the assessment outcome is negative, current POPs will have to be declassified by introducing **CLONE** POPs

De-Risk project case studies

96 Delivery Point.

97 Dual-Homing is a method used when designing networks to provide a device, typically a switch, router or server, with connections to two separate physical networks

is on having a resilient and high-performance network. As a wholesale operator, Open Fiber designs and builds a network that can support the **progressive increase in demand**, while guaranteeing reliability, efficiency and security. The Open Fiber network is in fact highly scalable due to its simplicity and flexibility in adapting to the growth of traffic volumes over time and, given this nature, it is already aiming to be easily extendable to other parts of the territory and/or types of users or services that may emerge in the future. This facilitates optimisation and automation, streamlining management phases and encouraging the design and development of innovative services, particularly in multi-operator environments.

Over the next few years, Open Fiber plans to create partnerships aimed at selling computational capacity directly to Operators, to allow their customers - end users - to outsource their processing capacity, thus eliminating the large initial investments required for ICT solutions. Optical fiber will have the capacity to support the **development of services to citizens** that will be introduced soon and will modernise public utility services, facilitating, for example, the interconnection of a network of sensors capable of constantly monitoring the air and water quality in our cities.

In the current Italian landscape, Open Fiber manages and promotes projects for the interconnection of national utility substations that have the task of constantly monitoring the performance and balancing of the electricity grid. In doing so, it favours the rise of a path towards energy transition.

Furthermore, smart fiber-interconnected infrastructures are already operational, and they vary their functioning based on the real surrounding conditions: traffic lights that adapt to the traffic situation, street lights that adjust to natural light, road signs that communicate with vehicles to facilitate their movement and make roads safer, surveillance systems that recognise dangerous situations and promptly alert the authorities.

These smart points will be crucial for the digital transformation of metropolitan areas as well as in small urban centres because they will act as enablers for all essential services and, moreover, will be fundamental in the next decade for the implementation of new innovative technologies such as putting self-driving vehicles on the road.

5.1.1 BACKBONE 2.0 PROJECT

In order to make the ongoing increase in traffic sustainable, Open Fiber has launched a project to develop its transport network, the so-called Backbone 2.0 project, aimed at creating a scalable infrastructure in two macro-phases.

This infrastructure, thanks to the maximum reuse of underground infrastructure, will be characterised by high performance. In addition, it will connect the main points of the Open Fiber network and offer, through its new routes, further diversification and resilience for transport services on the long-distance network.

The project is in line with the European Union's objective of consolidating transport networks on backbone connectivity for global digital gateways, i.e., the creation of strategic networks that contribute to strengthening the quality of connectivity.

By upgrading the backbone network, Open Fiber is expanding its services, offering long-distance dark fiber connections to the market. In this way, it will position itself as an enabler on the national territory both for the creation of ecosystems (Data Centres, industrial areas, etc.) and for the terrestrial continuity of the submarine cables that will land on Italian landing stations. The project also serves to prevent additional future investments by Open Fiber related to the expansion of fibers due to saturation of the backbone.

Finally, the Backbone 2.0 project enables the sale of transport services on optical carriers (Optical Transport Network - OTN) of particular strategic importance for the Business segment.

5.1.2 EDGE DATA CENTER

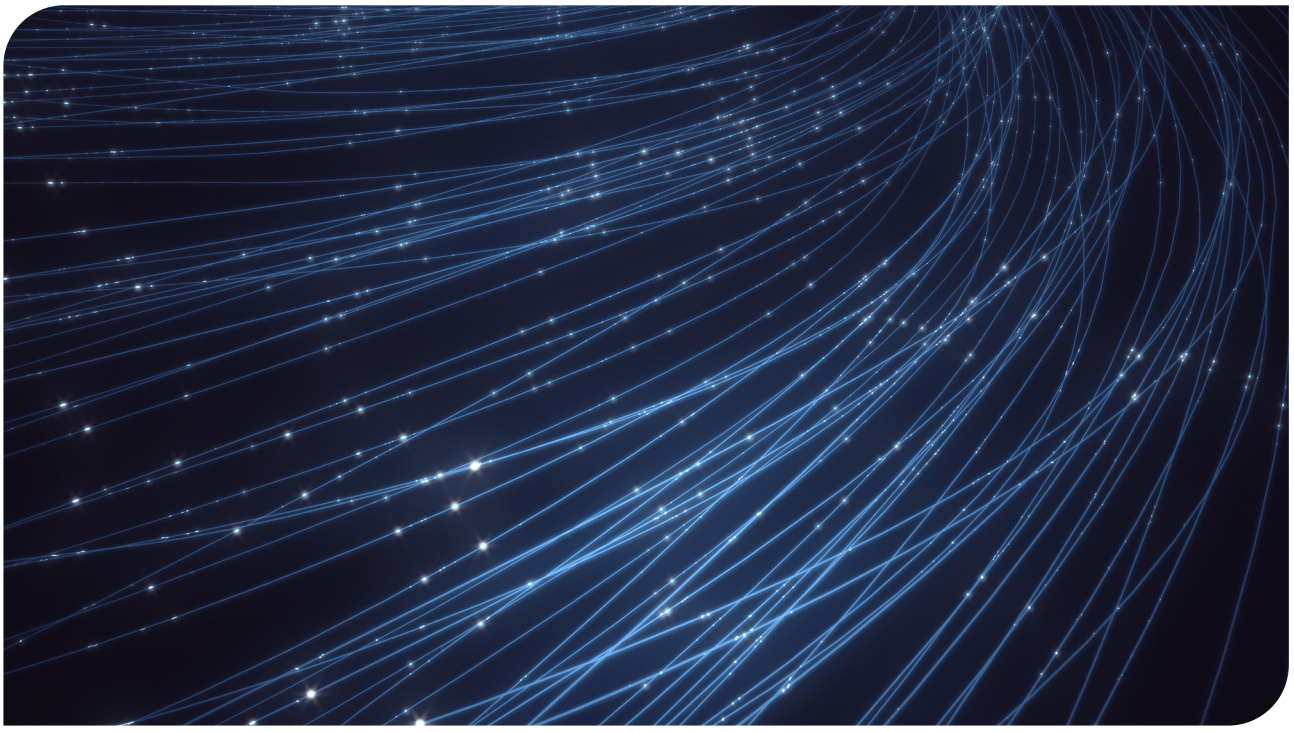
In a world that is more and more digitalised and connected, the Data Centre sector is also adapting to

meet the new demands for greater data management capacity and processing speed. That's why, in this context, the construction of a national network of Edge Data Centres, small data processing centres installed at the edge of a telecommunications network, will allow data processing and content storage at points in the network closer to the end user, thus offering shorter routes and lower latency times.

Edge Data Centres can offer advantages in terms of performance and efficiency to widely distributed offices, teams, sales outlets and other sites. Another important driver is related to the geographical location of the data, so the development of local Data Centres is oriented towards keeping data (especially the most sensitive) within national borders for strategic and security purposes. The Italian government itself, with the PNRR and the digitisation of the Public Administration, is rationalising its infrastructures thanks also to the creation of a National Strategic Pole (PSN) for the management of data and critical applications.

The European Data Centre ecosystem has historically spread throughout the countries of the so-called FLAPD (Frankfurt, London, Amsterdam, Paris, Dublin) cities. In recent years, also thanks to the energy sanctions that are undermining the evolution of the FLAPD, we are witnessing the birth of secondary markets, defined as TIER II, which are affirming their role as emerging markets structured around a city as a leader. In this context, the scenario of the Italian Data Centre market has Milan as its main technological HUB, followed by Rome. In Italy, 23 organisations (including eight companies new to the Italian market) have announced the opening of 83 new infrastructures in the period 2023-2025. Their commissioning could generate up to 15 billion euros of investment in the country.

The Data Centre Observatory of the Polytechnic University of Milan estimates that, in 2026, in the most optimistic scenario - that is, if all the declarations of opening are respected within the expected time frame - the new infrastructures will contribute to an increase in the nominal active energy power in the territory equal to 913 MW[98]. In the more conservative scenario, on the other hand, 766 MW should be reached.



98 Mega Watt: Unit of measurement of power. One megawatt corresponds to 1,000 kilowatts (kW) or 1,000,000 watts.

In 2024, the Data Centre scenario confirmed its growth expectations, recording an increase of 75 MW in the nominal energy power activated in the territory, reaching a total of 513 MW (+17% compared to 438 MW in 2022).

Once again, Open Fiber's future-proof infrastructure is proving to be up to the task, as, in addition to already allowing fiber connection of large data centres, it allows for hosting spaces and services suitable for promoting edge computing applications in its (duly equipped) technological sites, thus enabling the market to be offered innovative services with advanced features in terms of speed and latency.

Future connectivity networks will consist of a mix of data storage, processing and transmission services, like a computing *continuum*. Open Fiber, embracing this vision, has begun a process of transformation in collaboration with innovators from the academic world and industrial partners. Thanks to the high number of technological sites distributed throughout the country, Open Fiber is indeed an ideal candidate for the construction of a national network of Edge Data Centres (or Edge Nodes[99]), offering distributed computing and storage capabilities and providing Business and Residential customers with access to services and data, resulting in benefits such as:

- **reduced latency**: Edge Data Centres are located closer to end users, which reduces the distance that data has to travel, resulting in reduced latency and faster response times;
- **improved performance**: Edge Data Centres can improve application performance by processing data closer to the source, reducing the load on the network and improving overall performance;
- **cost efficiency**: Edge Data Centres are generally smaller and less expensive to build and maintain than traditional data centres, making them a cost-effective option for organisations with limited budgets;
- **scalability:** Edge Data Centres can be easily scaled up or down to meet business needs, making them a flexible option for organisations that need to adapt quickly to changing market conditions;
- **security**: Edge Data Centres can offer advanced security features, such as physical security, access control and surveillance, to protect critical data and applications.

The intrinsic characteristics of the widespread presence of Edge Data Centres throughout Italy and their small size, allow for a huge reduction in network traffic and in the computing power used, thus significantly reducing the energy expenditure required also for data transport, thus approaching the global mega-trend that involves all production sectors also in terms of sustainability.

The challenge of Digital Transformation that companies are facing has turned the spotlight on IT infrastructures, including Data Centres, the true foundation of the digital ecosystem. However, the ecological transition and the digital transition must go hand in hand. Open Fiber has always paid great attention to the environmental aspects and impacts of its activities. By using small Data Centres distributed throughout the country, Open Fiber aims to position data storage and processing close to its customers.

Open Fiber's Project aims at creating 14 initial Edge Data Centres, distributed throughout the country, which may grow in subsequent phases with additional Edge Nodes within individual regions in response to the expected growth in demand for services. Although the Data Centre market is populated by a large number of players, Open Fiber stands out for offering a unique solution in Italy thanks to its assets:

- **new technology sites**: designed to be more resilient and scalable, in addition to further peripheral technology sites in order to reach the edges of the network;

99 System of decentralised peripheral nodes.

- **FTTH access**: pervasive broadband access network, which collects traffic directly from the technological sites where most operators are already located/connected;
- **Backbone**: proprietary transport infrastructure suitable for providing high capacity and differentiated routes;
- **Interconnections**: local presence and interconnection with all major IXPs[100] (MIX, NAMEX, etc.).

During 2024, Open Fiber launched the project, identifying its technological sites where the Edge Nodes will be installed. The project was defined both in synergy with the new technological sites that will be built during 2025 with the aim of increasing the capillarity and resilience of the Open Fiber network and in synergy with the construction of the new Backbone 2.0. Orders have also been placed for the construction of three Edge Nodes in the first quarter of 2025. Furthermore, Open Fiber has started to sign agreements with the main Internet Exchange Points (IXP), such as **NAMEX**, to implement **Local Peering** and **Remote Peering** solutions. These agreements allow customers co-located in the Edge Nodes to interconnect with other market players, present both at the same Open Fiber Edge Nodes (Local Peering) and at the main national interchange systems (Remote Peering).

5.2 OPEN FACTORY

Opened in 2019, **Open Factory** is Open Fiber's experimental laboratory where the most innovative technologies for the FTTH network and the FWA[101] wireless access network are tested. The experimental phase is crucial because it allows us to offer operators advanced connectivity solutions (OLO) for both residential and business use.

Equipped with all the equipment and instruments needed to test new technological solutions and services to be launched on the market, the laboratory is a place that guarantees a rapid and accurate service innovation process in every phase. The complex, functional and modern, consists of a control room, equipped with workstations for Open Fiber staff and external personnel, and an equipment room, equipped with all the network elements and instrumentation necessary for testing.

Within the Open Factory, study and experimentation are the basis of operations. Verification and Validation Tests (PVV), Proof of Concept (PoC) of new network features and performance, demos of innovative services, development of know-how on new technologies: these are just some of the activities carried out within the laboratory. The tests are carried out using automation tools and a high-precision robotic optical matrix, which ensure a fast configuration of the testing environment, allowing for an easy transition from one test scenario to another.

Companies operating and supplying instrumentation for Open Factory adopt highly specialised technological solutions, with a strong focus on optimising consumption and reducing the carbon footprint. Such commitment leads them to implement sustainable practices, including the digitisation of documentation to reduce the use of paper, the preference of means of transport with a low environmental impact, such as the train, and the recycling of the packaging of the materials handled. In addition, they follow the best practices adopted by international partners, actively contributing to the reduction of emissions and promoting a responsible and sustainable business model.

Living in an environment like this brings many advantages and benefits including:

- the acceleration of the process of innovation of services and of the network;

100 IXP: Internet Exchange Point, also called NAP (Network Access Point o Neutral Acces Point) is a physical infrastructure allowing different Internet Service Providers to exchange internet traffic between them.

101 Fixed Wireless Access.

VIRTUAL SERVER FARM

The **Virtual Server Farm** consists of a group of servers located in a dedicated area and connected to a network for the purpose of providing different IT services and the possibility to back up data, thus optimising the disaster recovery phase. In Open Fiber a precise choice was made, embracing a virtual greenfield solution for the creation of its own **Virtual Server Farm**, leveraging the advantage of being a young and innovation-oriented company.
In Open Fiber's Virtual Server Farm, to date, most of the critical control platforms operate on virtual settings: for example, the fiber status control systems, the equipment fault management systems, the DNS (Domain Name System) and authentication systems for end users, as well as the network management and control platform, have all been made virtual.
The main advantages of the virtual solution are the following:

- lower capital and operational costs;
- savings on physical space and power consumption (server power and cooling systems);
- reduction or elimination of downtime;
- higher levels of Business Continuity and Disaster Recovery;
- simplified Data Centre management;
- faster application and resource provisioning.

- a greater stability of services and reduction of costs (for testing, analysis and SW corrections), since it is possible to pass easily from one testing scenario to another by working in parallel and minimising human intervention for routine activities;
- the fast release of new services (reduction of time-to-market).

When we use the term Open Factory, we are referring to a true "factory of ideas" where experimentation with the most innovative technologies is combined with the adoption of measures aimed at minimising the impact on the environment and the local area in the value chain of the company's business.
During 2024, various innovative activities were implemented in the Factory, including:

- **Tool Niin (Natural Interface Integration)**: tool Data Centre Management tool, aimed at efficiently managing the Open Factory data centre. The tool must provide a clear and detailed view of resources, guaranteeing optimisation of capacity and a reduction in downtime.
  The tool is designed to manage and monitor data centre resources, identify and visualise connections between the various devices, plan capacity based on current and future needs, and promptly resolve downtime issues through clear indicators and metrics.
  Its features will allow to:
  - **monitor** active and passive resources in the data centre in real time, producing detailed reports on the status of the resources and their actual use;
  - **see** the resources in the racks, thanks to an intuitive graphic interface for visualising the physical resources, with the possibility of navigating through them and seeing their specifications;
  - **manage and categorise** the resources, manage cables and circuits, as well as map the physical connections for better organisation;
  - **plan and predict** the necessary capacity based on usage trends;
  - **identify** resources not only physically, but also logically and virtually, integrating with existing applications for centralised management;
  - **map** the data centre externally, with details on the layout of resources and infrastructure, with real-time updates to reflect any changes in configuration.
- **100G PON**: Open Fiber, in collaboration with Nokia, was the first company in Italy to successfully test fiber optic connection speeds of up to 100 Gbps. An advanced platform was installed in the Open Factory that allowed scalable connections from 10G to 100G to be integrated on the same infrastructure, using

the latest technologies such as Digital Signal Processing (DSP).

This process not only demonstrates the extraordinary scalability and sustainability of Open Fiber's FTTH network, but also highlights the potential of optical fiber as a guarantor of ultra-fast, reliable connections ready for the technological challenges of the future, including the implementation of 6G. New generation PON (Passive Optical Network) technologies also coexist without obstacles with our current infrastructure, increasing network capacity. This allows us to offer even more technologically advanced solutions for strategic sectors such as healthcare, industry and education, enabling ultra-reliable, low-latency and cloud-ready connections.

In the private sector, on the other hand, access to ultra-fast connections will open up new opportunities for increasingly advanced digital experiences, such as immersive gaming, the metaverse, high-quality video streaming and virtual reality. Another catalyst for innovation will undoubtedly be artificial intelligence, the main topic of current public debate, with applications such as generative AI, virtual assistants, AI-gaming and AI-Extended Reality (XR). It will represent a revolution in both the domestic and business spheres.

5.3 INNOVATION LAB

In order to identify and shape new business models in line with the Company's expertise and mission, the **Open Fiber Innovation Lab (OFIL)** was created. This is a widespread innovation laboratory that supports and promotes the adoption of Open Fiber services in competitive sectors such as Fintech and Industry 4.0, through the development of concrete cases and by targeting the market of Italian companies with high innovative potential. Thanks to Open Fiber Innovation Lab, collaborations have been started with the main academic and research institutions, thus giving the Company a leading role in the digital transformation ecosystem in Italy. OFIL's mission is to transform Open Fiber into a Data-Centric organisation, capable of using and interpreting data to make strategic decisions.



Collaborations with the world of research

Among the initiatives of collaboration with the world of research is the participation in the National PhD in AI (phd-ai.it). **Open Fiber is the only private company to sponsor one of the first PhD-AI scholarships in the area of "Artificial Intelligence For Society" coordinated by the University of Pisa**. The topic of the PhD scholarship is the study of Machine Learning techniques applied to the optimisation of customer processes.

B2B market expansion

In partnership with the braintrust **Naima,** Open Fiber launched an initiative based on the Point-To-Market (PtM) approach aimed at expanding the B2B segment and based on the following principles:

- any basic innovation takes root in the market by offering the opportunity to develop functional applications capable of changing business processes and, consequently, the competitive dynamic;
- this innovation encounters inertial resistance in the adoption system until the majority of stakeholders find in it either an element of differentiation or an explicit advantage;
- the innovations brought about by Open Fiber refer to all industrial sectors and transform supply chains into multilateral business platforms.

The B2B market expansion project consists of the implementation of several pilot projects in sectors where the fiber provided by Open Fiber, conveyed by operators selected on a case-by-case basis according to the scope of intervention, allows companies to try a **bundle** of services consisting of ultra-broadband connectivity and a specific application identified together. If the trial proves to be strategic and optimal for the customer, it will then be offered on the market in collaboration with the selected operator and appropriately branded. The aim is to maximise the distribution of high-performance fiber by Open Fiber's OLOs (Operating Licence Holders) and partners.

The target sectors identified, in addition to playing a key role in the national economy, are characterised by a high demand for competitive innovation.

For the **Fintech sector**, after successfully completing a trial to test the benefits of low latency applied to financial trading applications, Open Fiber is working on defining a commercial bundle consisting of application solutions and connectivity.

As for **culture and entertainment**, a project with the Gypsotheca Antonio Canova Museum in Possagno (TV), which preserves the historical and artistic legacy of the great neoclassical sculptor, has been successfully completed. Open Fiber's ultra-fast fiber contributed to the development of a web app dedicated to visitors: thanks to this, the museum is now able to offer an inclusive, multimedia and immersive visitor experience.

Open Fiber and Telespazio

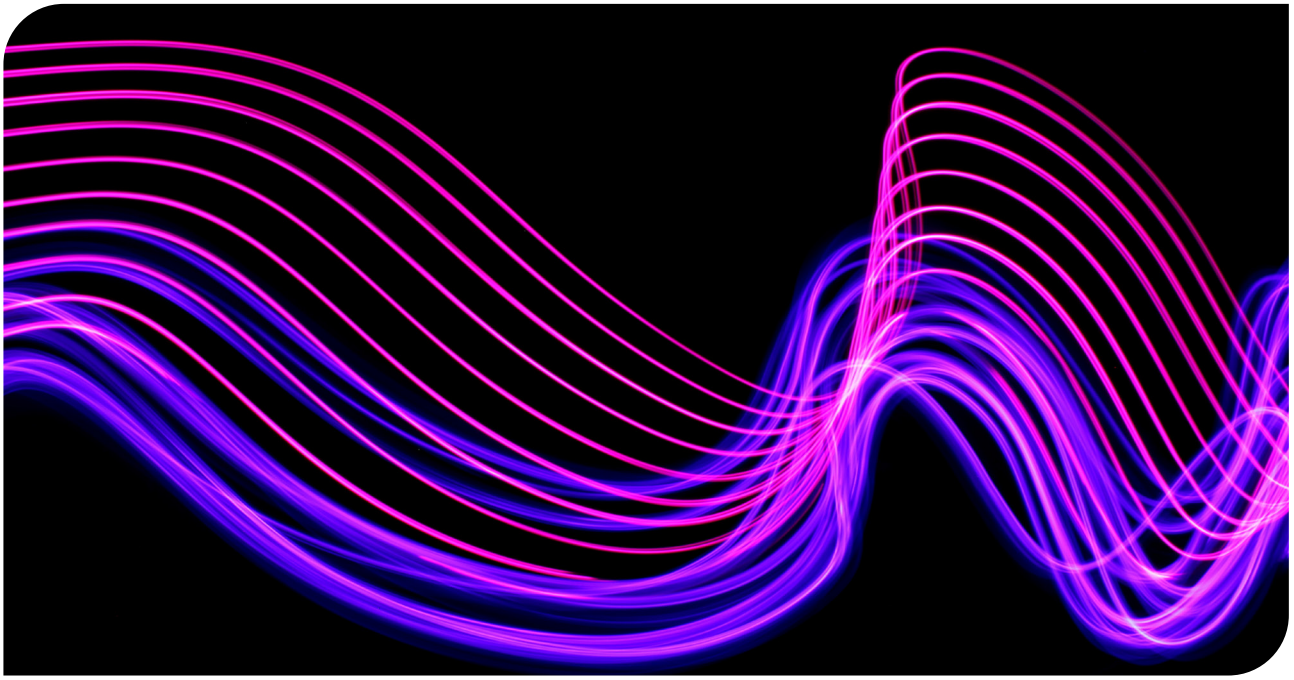
Open Fiber signed an agreement with Telespazio, a European leader in the field of satellite solutions and services, to bring broadband connectivity to even the most remote and isolated places in Italy thanks to satellite technology.

This instrumentation allows the signal to be transmitted via satellite link to an antenna installed and configured at the customer's home and is able to offer broadband services (HTS - High Throughput Satellite) with performance fully comparable to terrestrial services.

The **satellite connection STTH (Satellite To The Home)** is instead a complementary solution to the Open Fiber offer and represents an alternative opportunity to connect places that would otherwise remain without connectivity. Furthermore, thanks to the upcoming VHTS (Very High Throughput Satellite) satellites, it will be possible to achieve even higher performance levels, following the evolution of the market and the needs of Customer.

5.4 5G OUTLOOK

The fifth generation of mobile networks represent the cornerstone of future telecommunications, providing an essential infrastructure to enable a wide range of



advanced applications. 5G is not just an evolution of previous networks, but a true technological revolution, characterised by significantly higher data transmission speeds, low latency and an unprecedented simultaneous connection capacity. According to the Digital Innovation observers at the University of Milan, by 2025, if the fifth generation of mobile networks is only used for technological testing and partial re-engineering of processes, the industrial market could be worth 40 million euros. If, on the other hand, work is done in the right direction so that the offer is structured, and **5G becomes the standard for industrial and business** connectivity, the market could be worth as much as **200 million euros**.

5G has many applications in different sectors. It will be crucial for supporting key sectors such as telemedicine, allowing remote surgery and real-time monitoring of patients through **IoT devices**. Autonomous driving, another strategic area, requires instant communication between vehicles and road infrastructure to ensure safe and efficient transport. Precision robotics, applied to both industry and healthcare, will benefit from minimal latency, improving automation and human-machine interaction.

Smart cities will be profoundly transformed by 5G, thanks to the implementation of intelligent traffic management systems, real-time environmental monitoring and optimisation of energy resources. Immersive experiences, such as virtual and augmented reality, will also reach new levels of realism and interactivity, impacting various sectors such as entertainment, education and professional training.

To support the evolution of mobile networks, continuous technological advancement is essential, including the development of new infrastructures, such as small cells and edge computing networks, capable of guaranteeing high performance and widespread coverage. In this context, 5G is the key to unlocking the potential of innovation and digital transformation, creating an interconnected ecosystem capable of supporting the needs of the digital society of the future.

For some years now, the fifth generation of mobile networks (5G) has been establishing itself, together with full-fiber networks, as the most advanced technology ever made available for mobile data transmission. 5G will not only allow even faster internet browsing on smartphones and tablets, but will also enable the creation of a digital ecosystem in which everything is connected (Internet of Things - IoT).

IPV6 PROJECT

During 2023, Open Fiber pushed forward with the **IPv6** project, which was successfully tested and implemented in the field in early 2024. This involves the introduction of a new class of IP addresses, coded at 128 bits, different from the traditional IPv4, coded at only 32 bits. During the last few years, characterised by the Internet's unchallenged dominance, IPv4 addresses have been the most commonly used IP addresses. However, it is a limited resource (2^{32} possible addresses, equal to around 4.3 billion), whose reserves are ever scarcer.
As a result, Open Fiber, by driving the country's digitisation process and the development of the Internet of Things, as well as accelerating the deployment of FTTH, has taken on the role of **pioneer** in the use of IPv6 addresses (2^{128} possible addresses). To date, it is one of the first organisations in Italy to adopt this method of managing the IP address plan.
The IPv6 plan and its ongoing development means that the digitisation process can continue. Every object that wants to be connected to the internet needs an IP address to identify it; for this reason, IPv4 and IPv6 are fundamental elements that should not be underestimated. As more and more people and objects are connected to the network, the need for IP addresses to identify and manage them is constantly increasing. The adoption of IPv6 addresses will therefore allow us to join this flow and identify billions and billions of objects on the network.
A greater connection of objects (for example sensors) to the network will offer new opportunities, minimising movements and monitoring energy dispersion and climatic events. To reach these objectives and have a widespread and distributed coverage of the associated sensors, IPv6 is an **indispensable asset**.

In addition to facilitate large-scale connection, 5G technology also responds well to the challenge of energy consumption, helping to contain costs and emissions while meeting the ever-growing demand for data. In fact, these networks require less energy consumption for the same amount of data traffic exchanged. For this reason, it is estimated that by 2025, 5G will be **10 times more energy efficient** than the first 4G networks and will increase its efficiency by 20 times by 2030 thanks to the use of transmission techniques that improve the power management of the equipment.
Through high-speed data transmission, reduced energy consumption and very low lag time (latency), 5G is able to **improve the interconnection** of billions of people and devices. This revolution is possible thanks to the widespread diffusion of 5G mobile sites (Small Cells), connected with a fiber optic network, like the one that Open Fiber is implementing in Italy. In fact, 5G performance requires a high-performance mobile site interconnection network that enables technological evolution. Only a fiber optic infrastructure, set up in a widespread manner, can adequately meet this need, guaranteeing speeds not of tens of Megabits but of Gigabits per second. Copper or mixed fiber-copper networks are not sufficient and would represent a "bottleneck" for a 5G network. Open Fiber's optical fiber network is the infrastructure enabling the development of 5G services, both in rural areas, thanks to the optical fiber connection of the macro sites (over 9,000 BTS[102] Operator Nodes are connected by optic fiber), and in the urban areas, with a distributed coverage enabling the densification of Small Cell sites outdoors and the development of DAS (Distributed Antenna Systems) systems indoors.
Open Fiber's optical fiber network is the enabling infrastructure for the development of 5G services, both in rural areas, thanks to the fiber optic connection of the macro sites (over 9,000 Operator Nodes are connected by fiber optic), and in urban areas, with a branched coverage that enables the densification of outdoor sites with Small Cells and the development of DAS (Distributed Antenna Systems) indoors.
Optical fiber and Small Cell are therefore in perfect synergy and constitute the supporting infrastructure of the new, more advanced and mature 5G networks, making their development project not only sustainable, but also future-proof for all operators in the sector and throughout the country.

102 Base transceiver station.

The integration of the new fiber-5G networks will radically influence the growth and vision of various sectors, which can finally fully exploit the potential of digital transformation. This combination will be one of the main drivers of the economy and innovation in the near future, towards the achievement of the Gigabit Society. The new scenario that is taking shape will offer people, professionals and companies a series of highly innovative services such as augmented reality and holography (services like eMBB[103]), from the Smart Home to the Smart Cities (services such as mMTC[104]), from the Smart Grids to the Connected Cars (services such as URLLC[105]). Those are just a few examples of the business sectors that will be most influenced by the potential of integrating the new 5G fiber networks.

5.5 SMART CITY

The expansion of urbanisation on a global scale is one of the most significant phenomena of the twenty-first century, and one that brings with it far-reaching challenges. The migration of over half the world's population from rural areas to urban centres, the drivers of global economic growth, has inevitably had a significant impact on the environment and has profoundly affected quality of life and services. Because of this phenomenon, cities, which have become hubs of development and innovation, must now address crucial issues related to sustainability, resource management and the well-being of their inhabitants. The concept of the Smart City was introduced years ago, but it is often done in a superficial way, thinking only of the evolution of urban areas from a technological point of view. In reality, a smart city integrates digital technologies into its networks, services and infrastructures to become more efficient and liveable, creating benefits for inhabitants and businesses. It exploits the potential of innovation to promote sustainable development, offering new solutions related to mobility, infrastructures and the management of energy resources, thus dictating a real revolution in the lifestyle of citizens. At the centre of the Smart City of the future is the **citizen**, but in a completely new way compared to the past, based on four pillars that are closely interconnected: **infrastructure**, **sensors**, **service delivery platform** and **services**.

In order to increase the safety and efficiency of people, always keeping in mind environmental sustainability and the protection of the territory, the simple presence of infrastructures is no longer sufficient, but a system of sensors is needed to analyse the activities of citizens, from traffic to video surveillance, and then provide the best service available through dedicated platforms. This interactive automation system can come to life thanks to the Internet of Things (IoT), which has also allowed objects to connect to each other and communicate. Since the interconnection between infrastructures, services and communication platforms with citizens relies on the Internet, cities need to have a **reliable connection** capable of **supporting the data traffic** generated by millions of devices and people simultaneously. Thanks to the polymer materials that make up fiber optic cables and the high transmission speed, the **FTTH connection** is the tool on which modern Smart Cities are based, thus confirming its role in making cities intelligent, functional and interconnected realities, equipped with services and infrastructures capable of interacting with human beings and their needs to the point of improving their existence.

In Italy, thanks to Open Fiber's optical fiber, a series of innovative digital solutions can be enabled, such as:

103 Enhanced Mobile Broadband.

104 Massive Machine-Type Communications.

105 Ultra-Reliable Low Latency Communication.

CITY VISION

The smart transformation of local territories depends on the digitalisation and increasingly widespread presence of FTTH optical fiber, especially in areas that were particularly affected by the digital divide. This is the reason behind the sponsorship of **City Vision**, the general assembly of smart cities that was held in Padua in 2024. During the event, the **"Open Fiber" Special Award** was also presented, an award given to a small Italian municipality that has particularly distinguished itself in the field of digital innovation.



- rapid identification of **events that are harmful to public order** (brawls, facial recognition of criminals and/or missing persons, recognition of abandoned objects, etc.);
- reduced time spent looking for **parking spaces** and **decreased traffic congestion** thanks to smart real-time signalling of available parking spaces and the installation of smart traffic lights;
- **reduced electricity consumption** thanks to smart lighting poles that can reduce the intensity of the lighting when there are no vehicles or pedestrians present;
- the **optimisation of road maintenance services** by concentrating interventions (cleaning of roads/ pavements, asphalt maintenance, etc.) where they are most needed;a **greater efficiency of urban waste management services**, by optimising the planning of waste collection interventions and identifying negligent behaviour (for example, the abandonment of waste outside collection areas).

INTERNET OF THINGS

One of the most efficient technologies for the digital transformation of cities, mainly enabled by fiber optics, is the **Internet of Things.** The **IoT** is a system of sensors applied to objects and connected to the Internet which, in the not too distant future, will have an increasingly significant impact on public services and will allow for the generation of new models of governance and revenue. By developing innovative and personalised services in the field of mobility, public lighting and more, the Internet of Things aims to improve the quality of life of users, getting more while wasting less. Smart Cities use IoT to collect data in real time to understand how the demand and needs of citizens are changing and to respond with faster, more functional and more economical solutions.



UPTOWN

On the western outskirts of Milan, the "UpTown" neighbourhood has been created. It is the **first smart district in Italy**, the result of a futuristic urban regeneration project aimed at sustainable living. There are three cornerstones of the project, which was born from a **partnership between Euromilano and Open Fiber**: ultra-broadband connectivity, environmental sustainability and quality of life. In UpTown, ultra-broadband is the backbone of the residential area, running under the streets to reach every home, thus guaranteeing an ultra-fast connection and the possibility to use the most advanced digital services: from the Internet of Things to home automation, from cloud computing to video surveillance.
In the neighbourhood, **all apartments are already connected by fiber optic**, as the urban project follows a precise philosophy: to consider connectivity not as an extra, but as a **primary asset**.

SMART DISTRICT: MIND

Open Fiber wired a first batch of buildings at the site in the Milan-Rho area that hosted Expo 2015, named "**MIND**" - Milano Innovation District. This is the new Italian centre of excellence as well as a district of the Lombard capital: it is a large contemporary international district, an environment of knowledge and sustainable growth, open to anyone who innovates, does research or studies, to institutions and companies, to people's lives.
Being a hub and a catalyst for development, MIND has brought together scientific and technological players with different origins and aims, all linked by an interest in progress, experimentation and new perspectives for the advancement of society. In this unique and highly dynamic ecosystem, Open Fiber's optical fiber plays a central role in supporting the activities of research centres, R&D departments, large companies and start-ups in the area.



5.6 NOT ONLY SMART CITIES, BUT ALSO DIGITAL HAMLETS

Open Fiber's mission is not only to accompany cities in the process of digitisation, but its FTTH network also aims to make the villages of the future smart, i.e., centres of tradition, culture and hospitality that can offer services similar to those provided by Smart Cities thanks to digital technology. To date, in fact, there is no "universal smart city" model, but there are procedures to be implemented to improve not only the lives of citizens and those who live and move around in that city, but also to enhance the territory outside the larger urban centres.

Open Fiber therefore has a dual function: it is both a driving force for the development of large centres, and an enabler of progress in small communities, thus making its infrastructural technology a real driving force for the digital economy of the whole country. The extension and branching of the FTTH network enable the development and implementation of a wide range of smart, customised services based on local needs, clustering the needs and objectives of local public administrations and defining a digitalisation path for each location, generating positive impacts in terms of energy efficiency, security and control of the territory, mobility, public services, monitoring and enhancement of the territory, as well as local culture.

The ideal candidate to become the first ***Borgo Digitale*** (Digital Hamlet) in Italy was Pitigliano, a small town in a strategic position in the Tuscan Maremma, rich in history and surrounded by nature. The town boasts two of the most prestigious awards at a national level: it is included in the list of "Most beautiful villages in Italy" and has obtained the Orange Flag for the three-year period 2021-2023. Its history began in the Neolithic period, of which it preserves various traces, but even more evocative are the traces left by history in the following centuries. The ancient cave roads, the necropolis, the Medici Aqueduct and a 16th-century synagogue are just some of the most noteworthy.

The aim of the project is to promote the development of the village from a digital perspective in order to implement public utility services for the Municipality and its citizens, taking into account the context of the territory and its peculiarities. A fundamental prerequisite for carrying out this project is the installation of FTTH (Fiber To The Home) optical fiber, carried out by Open Fiber as Concessionaire of Infratel Italia.

The initiatives implemented cover a wide range of activities, from the use of augmented reality to enhance cultural heritage to the application of ENEA's **PELL (Public Energy Living Lab)** project in schools, hospitals and public lighting systems. These are accompanied by the development of **edge computing**, **energy efficiency** interventions and a feasibility study for the creation of an **energy community**.

OPEN FIBER AT *SALONE DELLA CSR E DELL'INNOVAZIONE SOCIALE*

In 2024, for the **first time**, Open Fiber took part in the ***Salone della CSR e dell'innovazione sociale*** (CSR and Social Innovation Event) the most important event in Italy dedicated to sustainability. The Company was proud to take part in the event's 12th edition, entitled "Challenging Contradictions", which involved over 500 speakers, 270 organisations, and attracted 5,000 attendees over three days and more than 100 events. At the **Bocconi University in Milan**, Francesca Parasecolo, Open Fiber's Head of Network Engineering and Innovation, spoke during the panel on "**Digitalisation and innovation for ever smarter cities**", illustrating the **digital villages** model.
"*Our goal is to give public administrations a static and dynamic snapshot of their territory, generating innovation in the urban management model even for small villages. The idea is to make the most of the ultra-broadband infrastructure we created in Pitigliano, as well as in the 5,000 other small villages that represent Italy: remember that* ***over 70% of Italian Municipalities have less than 5,000 inhabitants***. We want *to maximise the potential of this infrastructure, as well as the beauty of the area where it is located, through an innovative and useful project,"* stated Francesca Parasecolo.

Of particular importance, considering the tuffaceous nature of the soil, will be the start of experimentation with an advanced **territory monitoring** system, created with the support of the **National Institute of Geophysics and Volcanology**. This innovative project will exploit the fiber optics laid by Open Fiber as a distributed sensor, allowing for widespread and real-time control of the geological and structural conditions of the area.
The main challenge of the project is to develop digital services and technologies that can be replicated in other Italian municipalities with similar characteristics, favouring their digital transition, at the same time enhancing the peculiarities of the territorial context, and identifying and promoting a minimum standard of innovation for small municipalities and villages.
Thanks to the presence of an ultra-broadband infrastructure, it is possible to develop innovative and digital utility services for central and local public administrations, municipalities and all the people who live there. The methodology developed by ENEA in collaboration with the University of Insubria, Smarter Interdepartmental Research Centre, the "Urban check up model", will make it possible to define the minimum standard of innovation that each municipality should achieve, considering its own specific characteristics and peculiarities. Among the services that can be enabled it is worth mentioning:

- Smart Working and remote activities: the use of fiber optic reduces the impact on the environment and the community;
- E-Mobility: this allows us to reduce the time spent looking for a parking space and to decongest traffic, managing tourist flows in real time;
- Telemedicine, through which the infrastructure for continuous remote monitoring of patients is provided, to support the transmission of high-resolution data;
- Education: thanks to this it is possible to facilitate distance learning and the digitalisation of schools with a view to protecting the right to study and reducing the gap linked to existing infrastructural differences;
- energy efficiency: electricity consumption is reduced thanks also to intelligent lighting systems;
- monitoring of the territory thanks to fiber sensing, creating a system of sensors using fiber optic as a transducer and means of transporting information (for example, for the detection of earthquakes);
- security: with this in mind, solutions are being developed to improve the security of the territory and the monitoring of flows.

Thanks to the ultra-broadband, the hamlet will become a "smart" place in all respects: among its main and most important effects, it is impossible not to consider the reduction of the digital divide, which

RACK EDC CABINET

The new RACK EDC cabinet by Open Fiber was designed in order to ensure a high level of energy and climate security, through the inclusion of an IoT already in use in Open Fiber buildings and able to provide real-time consumption data of the equipment that is part of the EDC solution, the temperatures of the individual cabinets, give commands, receive alarms.
The Open Fiber cabinet is powered by a dedicated power line installed by the Municipality of Pitigliano. The project also involves the implementation of advanced systems for monitoring and controlling energy systems and public lighting, involving MAC, Kerberos, Sidora and Trailslight. MAC has provided an IoT gateway that monitors energy consumption and controls the systems. The data can also be viewed from a special web portal accessible with secure credentials. Sidora has installed in parallel a similar device equipped with an energy meter and GSM communication module, with energy management and electrical parameter detection functions which, thanks to the integrated GPS, can calculate the time of sunrise and sunset to optimise the switching on of the systems. Kerberos has provided a gateway and a 4G LTE modem to send data to the platform via secure TLS protocols. The system works autonomously even without a connection and allows remote control of local processes. The power meter attached to the solution, on the other hand, will monitor electrical parameters with precision. In addition to all the devices listed above, Trailslight will install sound sensors on some street lamps, which have the function of monitoring noise pollution and will allow adaptive lighting, with energy savings of 40-60%. The devices are able to recognise different sound signatures, such as traffic noise and emergency sounds, providing sound maps of urban noise pollution.

has always been the basis of Open Fiber's mission, and, above all, the fight against the depopulation of small urban centres.
In the digital hamlet, Edge Computing will handle the collection and processing of data directly on-site within the platform, ensuring minimal latency, which is essential for fast response times and to reduce traffic in the core network. If it is necessary to transfer data to a cloud for comparison with other databases (Edge Node or core cloud), these can be transmitted through the Open Fiber network on a dedicated channel with a guaranteed bandwidth of 10Gb.

The infrastructure also includes a Network Termination (NT), selected from those available in the Open Fiber machine park. The NT provides an external gateway, a pool of public IPv4 addresses and guarantees the connectivity of all the hardware in the cabinet, including the IoT devices involved in monitoring power supply and energy consumption.
In addition, the municipal data room has been completely renovated and equipped with two new cabinets, one housing the network equipment already owned by the Municipality of Pitigliano and one supplied directly by Open Fiber with all

#GOODSTORIES

Ultra-fast connection in support of inclusion in Trentino

Ultra-fast fiber connection at the service of social innovation and inclusion. As part of its initiatives to connect white areas in Trentino, Open Fiber has recently completed the connections of the **Dal Barba cooperative** in **Villa Lagarina**, **Trentino**. This is an innovative entrepreneurial and social reality that formulates its projects and bases its actions on a single objective: to support, through catering, the **economic and social inclusion of young people with neurodevelopmental disorders and vulnerable people** who need to find their own working dimension, while at the same time enhancing its roots in the territory and its active and open presence in the community.

the devices that are part of the solution installed and preconfigured inside. A high-capacity Nutanix server has been installed for the partners who will develop the applications for all the planned use cases. If necessary, this server can be expanded with additional hard drives, thus increasing the data storage capacity.
As one of its next steps, Open Fiber is planning a new intervention to insert the IP configurations in the installed CPE and provide IPs to all the devices that are part of the solution.

5.7 SMART GRID

Smart Grid projects represent a real leap forward in the technology used to manage electricity networks in two different aspects. The first is the possibility of **monitoring, implementing and automating remotely** operations on individual electrical substations, an aspect that improves the electricity distribution system by minimising disruptions to the network. The other is linked to the very concept of **intelligent networks**: no longer an electrical network with single large generation points and many usage points, but a much more distributed production system, consisting of multiple generation points, including medium and small ones. The system thus set up allows for increasing the capacity of the network to host and integrate additional distributed generation points from renewable sources, also enhancing small-scale production and creating a single national nervous system that connects production points and points of use.
For such a complex process to run smoothly, a technology with very low latency is necessary, and that is a feature that only the optical fiber can guarantee today.
Open Fiber is involved in the fiber optic connection of E-Distribution's secondary and primary substations with the aim of developing the national electricity grid, enabling new functionalities for the benefit of those who access the grid itself and the players involved in the management of the electricity system. Following this process favours the acceleration of technological and industrial evolution in the energy transition process. The **DSO 4.0 - Digital Network** project involves the creation of a highly reliable and resilient communication system for the E-Distribution network, making it possible to implement new features that significantly improve network performance. The plan is based on connecting the primary and secondary substations to a fiber optic network, in order to achieve a series of objectives and benefits for the development of the distribution network, also with a view to the future. To this end, in addition to connecting over 56 thousand electrical substations to the fiber optic network, the installation of newly developed technological components and sensors is planned which, together with structural interventions, will contribute to improving the quality of the electricity service, as well as the technological evolution of the E-Distribution network, in line with the forecasts and scenarios outlined by the National Integrated Energy and Climate Plan (PNIEC).

PROJECT AIMED AT WIRING CABINS IN SICILY

In April 2021, Open Fiber started a study on the passive Smart Grid, with a focus on the Sicily Region. The aim is to connect the largest possible number of substations in Cluster C&D by 2025, where there is greater dispersion of the networks and less overlap. It was necessary to develop an innovative network project, which saw the collaboration of Open Fiber in the stages of method design, which can also be applied outside the Sicily Region and extended to other regions. Currently, there are about 3,700 secondary and primary cabins connected, all concentrated in 13 municipalities of Cluster A&B.
This scenario will be joined by the connection of about 35 municipalities of Cluster C&D with over 200 secondary and primary cabins. In this way, Sicily will represent a region of excellence in the field of Smart Grids in Italy.

Thanks to the combination of innovative technological solutions and structural and component interventions, the project will allow to:

- benefit from a highly reliable, resilient, "always on" communication system to support the distribution network, thanks to the use of the potential offered by the fiber optic network;
- improve technical performance and service quality, essentially through advanced automation (smart fault selection), the effectiveness of which will be maximised by the use of fiber optics as a communication vector and by the use of data relating to physical parameters (Big Data analytics) from sensors installed in the substations, for the prevention of maintenance failures;
- increase operational efficiency by increasing the degree of remote control of the network, new communication systems and advanced sensors installed in the substations;
- increase the hosting capacity for distributed generation of electricity from renewable sources, by upgrading the grid;
- monitor in real time the production from renewable sources connected to the MV-LV grid.

Open Fiber also signed a Memorandum of Understanding with Italgas to evaluate possible synergies between the fiber optic network and the gas network and one of the working groups is specifically looking at the digitisation of the gas infrastructure. Technologies such as fiber sensing, exploiting the intrinsic characteristics of optical fiber, can be used to monitor pressure losses, temperature variations and vibrations, thus speeding up the process of digitising the networks and improving their operational efficiency.

5.8 FIBER SENSING

Exploiting the fiber optic networks already installed globally for TLC purposes (both in long-haul transport and urban access) could add significant value to the existing infrastructure. These networks can be integrated with reliable optical systems for geotechnical, environmental and civil infrastructure surveillance, offering advantages in urban and regional areas.

The adoption of detection strategies compatible with TLC transmission (respecting parameters such as wavelength, power and crosstalk) allows us to take advantage of the widespread presence of telecommunications networks, from the most remote areas to urban centres. However, to ensure efficient integration, careful management of the network configuration is essential, avoiding interference between the sensing signals and those intended for data transmission.

The metropolitan TLC network can be an ideal platform for distributed optical sensing, providing near real-time monitoring of mechanical and thermal perturbations affecting the network and detecting stress events in civil infrastructures. When necessary, the use of dedicated fiber allows specific parameters to be monitored, such as deformations, vibrations, acoustic and ultra-acoustic waves.

Main use cases:

1. **Monitoring the network's conditions**: in addition to conventional OTDR techniques, this activity focuses on damage prevention and early warning of faults or intrusions.
2. **Detection of catastrophic events**: distributed fiber optic networks can detect seismic waves or anomalies in real time, contributing to the monitoring of earthquakes or other natural events.
3. **Surveillance of civil infrastructures** in terms of monitoring bridges, viaducts, tunnels, embankments and trenches to prevent collapse or damage.
4. **Geo-monitoring**: continuous monitoring of landslides, embankments and the geological status of the territory to mitigate the risks associated with landslides or erosion.

Combining TLC technologies with distributed optical sensors thus offers new opportunities for a safer and more sustainable management of infrastructures.

MEGLIO PROJECT TESTING

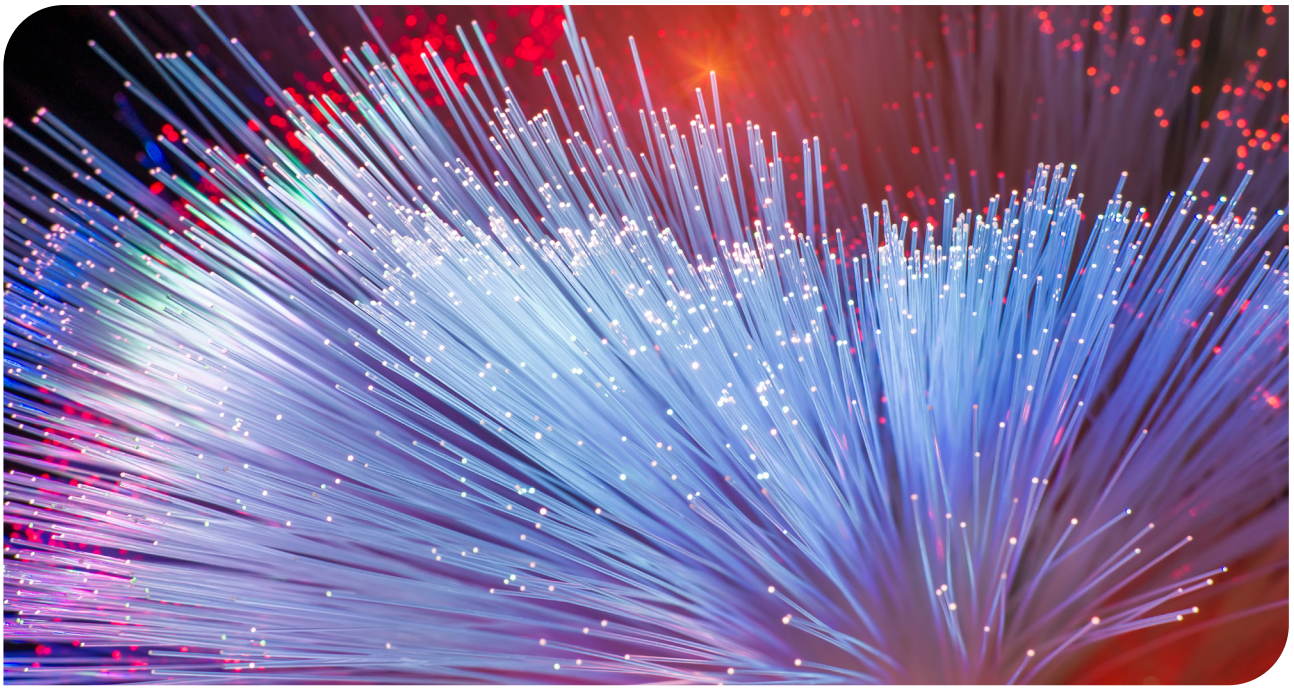
Two Open Fiber sites were chosen for the testing: **Ascoli Piceno** and **Teramo** - areas with a high probability of earthquakes according to INGV. Two ultra-stable lasers designed by INRIM were installed at each site.
In this phase, the signal transmitted and received by the laser was first processed on-site and then sent to the Open Fiber servers through the infrastructure already set up as a BEA (Business Ethernet Access) service. To identify seismic events, the data was first analysed and processed using a web application with advanced algorithms such as Artificial Intelligence (AI), and finally examined and validated by the INGV. The system was able to detect external disturbances caused by seismic waves both globally and nationally, as well as in the Mediterranean area. Earthquakes with a magnitude of 2.6 to 4.1 were validated and verified.
This testing demonstrates once again how the extensive and widespread fiber optic infrastructure is a useful tool not only for data connection and transport, but also for countless technical-scientific applications such as, in this case, earthquake monitoring.

5.8.1 MEGLIO PROJECT

At the end of 2021, Open Fiber, in collaboration with BAIN, INGV (*Istituto Nazionale di Geofisica e Vulcanologia*, National Institute of Geophysics and Volcanology), INRIM (*Istituto Nazionale di Ricerca Metrologica*) and Metallurgica Bresciana S.p.A., developed the MEGLIO (Measuring Earthquakes signals Gathered with Laser Interferometry on Optic fibres) an experimental project based on a system of **fiber sensing for earthquake detection** in Italy, by means of the optical fiber implemented by Open Fiber across Italy. Thanks to this project, INGV will be able to optimise its surveys by reaching areas where normal sensors are not available yet.

In the case of earthquakes, the optical fiber undergoes an almost imperceptible elongation (of the order of a thousandth of a millimeter), due to the movement of the ground in which the cable is laid. This mechanical action causes a phase change in the light signal that can be measured with extreme precision. The variation data can also be transported thousands of kilometres away and, once processed, indicate exactly the place of genesis, intensity and other parameters.

The advantages that optical fiber offers over traditional point detection systems (seismographs



positioned in areas considered most at risk) are innumerable and include:

- the remarkably wide distribution of the optical fiber network throughout the country, which becomes a single sensor capable of monitoring ground movements and providing an accurate location of the epicentre;
- the speed with which light signals propagate within it, providing valuable information on seismic signals in real time;
- immunity from electromagnetic disturbances and resistance to a wide range of temperatures (from -100°C to 300°C), high pressures (10,000 psi) and mechanical stress;
- adaptability even to underwater applications, although this is not currently included in the experiments.

The plan involved the design, creation and installation of ultra-stable laser sensors, used in pairs for each section of fiber, thus ensuring coverage of hundreds of kilometres. The data collected was made available on the interface of the web application, with the aim of synthesising the data and making it easily usable. The application therefore allows us to monitor seismic activity in the area surrounding the identified section of fiber optic cable and to analyse the information using a mathematical-statistical artificial intelligence system (machine learning) that guarantees accurate monitoring. Once the event has been identified, the final verification is a task that falls to the National Institute of Geophysics and Volcanology (INGV).

In 2024, the project MEGLIO (Measuring Earthquakes signals Gathered with Laser Interferometry on Optic Fibers) received a prestigious award for the results obtained in the use of optical fiber as a sensor for detecting earthquakes. The Nature group, publisher of some of the most prestigious magazines in the international scientific community, has published the results of the MEGLIO project on the Nature.com website and in "Communications Earth & Environment" - its publication in environmental and planetary sciences. In particular, the project passed the peer-review of the scientific community for the soundness of the analysis method used, for the quality of the research and the degree of innovation. This scientific recognition shows that fiber optic, the fastest and most reliable connection tool available today, allows us to take a step forward also in the field of seismic monitoring, providing data more quickly and accurately.

What makes this technological infrastructure so promising are two key elements: its complementarity with current instrumentation and its sustainability thanks to the reuse of existing infrastructures. By combining sensory capacity with data transport, fiber optic monitoring can become a crucial player in prevention and early warning in the event of seismic events or tsunamis.

5.8.2 FAAS: FIBER AS A SENSING

Open Fiber financed and implemented the project **FaaS (Fibre-as-a-Sensing)** in collaboration with PoliTo (*Politecnico di Torino*), SM Optics and INGV (*Istituto Nazionale di Geofisica e Vulcanologia*, the Italian National Institute of Geophysics and Volcanology). The aim is to find an alternative and/or integrative solution to the MEGLIO project, in order to improve and maximise the use of existing infrastructure to offer innovative and alternative services for monitoring seismic events, the network, infrastructures, etc**.** Although the MEGLIO project allowed for a total integration between seismic detection techniques and the telecommunications network, with the FaaS project we move more clearly from Fiber Sensing to **Network Sensing**. The basic idea is to use the telemetry parameters already present in the telecommunications nodes for network management to develop an environmental monitoring framework. This approach, in addition to enhancing the operator's infrastructure, will allow the development and implementation of services capable of generating a strong social impact.

Based on a preliminary study and the state of the art of scientific research, it has been shown that the Differential Group Delay (DGD) parameters, connected with the Polarisation Mode Dispersion (PMD) and the States of Polarisation (SOP) measurable on the optical interfaces that are present on the link, are sensitive to the physical stresses suffered by the fiber.

In October 2023 the project was launched at the Open Fiber headquarters with a planned duration of two

years, involving the development of Signal Processing algorithms based on AI (Artificial Intelligence)/ ML (Machine Learning) capable of processing physical parameters and identifying the entity of the mechanical stress suffered by the fiber. The main use case that will be studied will be earthquake detection and monitoring. Preliminary and simulative analysis activities have been started in the laboratories of PoliTo (*Politecnico di Torino*) and SMO (*SIAE Microelettronica* Optics), with synthetic data. Furthermore, at the end of 2024, the infrastructure for the realisation of the PoC (Proof of Concept) in the Open Fiber live network was set up: in particular, it will concern the control and preparation of the spaces and the power supply for the connection of the Sensor unit as well as the creation of the IT infrastructure to remotely access the equipment and transmit the collected data. The first data obtained from the field tests are currently being analysed. Subsequently, software will be developed for data processing and presentation of results.

5.9 RESEARCH AND INNOVATION THROUGH THE PROGRAMME RESTART

In line with its commitment and contribution to the achievement of SDG 9 "Industry, Innovation and Infrastructure" and SDG 11 "Sustainable Cities and Communities", Open Fiber participates in the **RESTART Programme "RESearch and innovation on future Telecommunications systems and networks, to make Italy more smART"**, funded by the PNRR[106].

The programme involves **26 partners**: alongside Open Fiber, also participating are Tor Vergata University of Rome , the National Research Council of Italy (CNR, *Consiglio Nazionale delle Ricerche*), the Polytechnic University of Bari, the Polytechnic University of Milan, the Polytechnic University of Turin, the School of Advanced Studies Sant'Anna of Pisa, the University of Bologna, the University of Catania, the University of Florence, the University of Naples Federico II, the University of Padua, the University of Reggio Calabria, La Sapienza University of Rome, the National Inter-University Consortium for Telecommunications (CNIT, *Consorzio Nazionale Interuniversitario per le Telecomunicazioni*), Ugo Bordoni Foundation, TIM, Vodafone, WINDTRE, Ericsson, Prysmian, Italtel, Leonardo, Athonet and Tiesse.

Thanks to a cascade funding call, these 26 institutions and companies were joined by additional partners including: 29 universities, 2 research centres and 36 operators/vendors, for a total of 67 new partners involved in the programme.

Another new element introduced in the second year of the programme was the launch of the so-called "RESTART Grand Challenges", which are discussion groups between the programme partners that favour the comparison between different realities, finally providing a list of the main research problems on the future of telecommunications, which the programme addresses from the point of view of new technologies and systems. The Grand Challenges are initiatives that cut across disciplines and application domains and show how innovation requires skills and creativity in different sectors. Open Fiber, with the projects it is developing, joined the following Grand Challenges:

1) **Grand Challenge 0**: creating a vision of the future evolution of telecommunications in Italy, the aim of which is to analyse the economic and technological transformations necessary to outline the future of telecommunications with a view to continuous innovation of networks and through the involvement of all the projects in the programme for the integration of the results of the respective research.
2) **Grand Challenge 7**: Digitising the Environment for a More Sustainable World, which aims to use environmental digitisation, interconnectivity and machine learning to take a significant

106 Mission 4, Component 2 "From research to business", Investment 1.3 "Partnerships extended to universities, research centres, companies for the financing of basic research projects" funded by the European Union NextGenerationEU, theme 14 "Telecommunications of the future".

step towards a greener and more sustainable society. The projects involved are: PESCO, Sensing Net and TeleSmEg.

3) **Grand Challenge 10**: making the network a programmable platform for running applications, aimed at developing a network of IoT devices capable of acquiring and sharing data in real time. The projects involved are: Rigoletto and PESCO.
4) **Grand Challenge 11**: perceiving and protecting the world through communication signals, where fiber sensing is the core technology of the project. The project involved is: Sensing Net.
5) **Grand Challenge 12**: making artificial intelligence distributed and integrated into the network, exploiting the Open Fiber infrastructure to run machine learning algorithms distributed in the Edge cloud, as close as possible to the end user. This approach enables intelligent, low-latency applications and optimises the performance of telecommunications networks, making the detection, decision and control cycle more autonomous and efficient. The project involved is: PESCO.
6) **Grand Challenge 18**: building the motorways of the future with fiber optic communications; Open Fiber is making its contribution to the issues of the telco network switch-off and sustainability with the Rigoletto, GrapHICS and Sensing Net projects.
7) **Grand Challenge 19**: creating a community for open data and open source software RESTART, involving all the projects in the programme to define strategies capable of involving the reference communities, both internal and external to RESTART, measuring the impact of open-source and open-data products.

RESTART research programme will track the evolution of telecommunications in Italy following the directives coming from European programming, which addresses the main R&D (Research and Development) issues defined in European programmes such as Horizon Europe[107] and Digital Europe[108]: the evolution of network architectures towards 6G, distributed clouds, AI-based network optimisation, the development of programmable hardware architectures for network nodes and Data Centres, specialised network solutions and components for vertical application areas, domain-specific network solutions and components, network components and solutions based on integrated optics and optical computing, the development of hybrid technologies for photonics and opto-electronics integration, sensors and others.

Open Fiber, actively participating in the RESTART programme, is a partner in the most important R&D programme ever developed in Italy in the telecommunications sector. Therefore, it is able to start collaborations with the main national universities and research centres, as well as with the main Italian TLC companies, addressing together the innovation issues that will characterise the next decade.

The programme organisation

RESTART is a three-year programme, running from 2023 to 2026, and includes 25 projects and 7 missions covering not only scientific research projects through the development of new technologies, services and network architectures, but also challenging objectives (Missions) such as: education & training, increasing the number of students, PhD Programmes, creating new start-ups, technology transfer, setting up laboratories, Proof of Concept (PoC), demonstrators, reducing the gender and North-South divides in the TLC sector. Open Fiber's participation in the programme stems from the need to enhance the culture of digitalisation, contributing to a true digital renaissance and transformation of the country.

Open Fiber commitment

Open Fiber joined RESTART Foundation (the implementing body, the hub of the Research and

107 European Union Framework Programme for Research and Innovation for the period 2021-2027.

108 European Union funding programme centred on the introduction of digital technology to businesses, citizens and Public Administrations.

Innovation Programme, and the body responsible for the launch, full implementation and management of the Innovation Ecosystem Research and Innovation Programme), which is in charge of the 8 *spokes* represented by the coordination centres.

The Company will take part in the programme with **six projects** aimed at developing new services, architectural solutions and strategic technologies. All the initiatives are in line with **Open Fiber**'s commitments to sustainability, thus including technological innovation in favour of the environment, the role of optical fiber as an enabler of advanced services and the enhancement of human capital as an added value of the sustainability strategy.

- ***Rigoletto***[109]: it is a structural project coordinated by the Sant'Anna School of Advanced Studies of Pisa, of which it has the governance, focused on the security of communications through the use of quantum technology. Open Fiber will contribute to the definition of network architectures and applicable Quantum Key Distribution (QKD) scenarios in the telco network, and will participate in demo activities (field experimentation) for QKD and fiber sensing technologies by making available the existing fiber optic network and its know-how.

The project aims to develop an energy-efficient optical network, new optically integrated devices, an innovative data plan for a fiber optic infrastructure that supports capacity expansion through MultiBand (MB), Space Division Multiplexing (SDM)[110], wireless access and security through QKD. Moreover, it involves the development of a platform monitoring data transmission and conversion and the construction of a framework for a network assisted by Artificial Intelligence. Subsequently, the results of these initiatives will be shared with the partners with the aim of promoting the adoption of the developed solutions.

In the second year of the programme, Open Fiber continued the activities of the various

QUANTUM KEY DISTRIBUTION

With the arrival of quantum computing and the current cryptography techniques, the possibility of violating computer security keys is increasing exponentially.

Optical fiber is ideal for applying a new technique for distributing security keys on a quantum basis, the purpose of which is to make it impossible to violate them and, consequently, to make data transmissions practically inaccessible. Since the 1980s, various quantum communication protocols have been defined, with characteristics such as **reliability, security** and **key rate**. These parameters are fundamental for the definition of a communication protocol and are directly correlated to each other. To introduce this technology into a telecommunications ecosystem, parameters such as cost, architecture and management must be considered.

To speed up calculations, quantum computers draw directly on an extremely vast fabric of reality: the strange and counterintuitive world of quantum mechanics. Although we are only at the beginning of this journey, quantum computing has the potential to generate innovative solutions in numerous sectors.

Instead of storing information using bits represented by 0 or 1 as conventional digital computers do, quantum computers use quantum bits, or qubits, to encode information as 0, 1, or both at the same time. This superposition of states, together with the other quantum mechanical phenomena of entanglement and tunneling, allows quantum computers to manipulate huge combinations of states simultaneously.

The exponential growth in computing power that comes with the development of a viable quantum computer seems set to revolutionise a wide range of areas and applications such as healthcare (research, diagnostics, treatment), finance (automated high-frequency trading, fraud interception), marketing, meteorology and logistics.

109 Spoke 1, S4: Green autonomic optical networks, systems and integrated devices.

110 A technique used to increase the capacity of a communication system by using multiple physical channels to convey data simultaneously.

Work Packages (WP)[111], firstly by further studying protocols and the integration of QKD technology into Wavelength Division Multiplexing (WDM)[112] technology. In relation to this, deliverable 3.6 of WP3[113] was produced at the end of 2024. Furthermore, with a view to developing a telemetry-based sensing technology for Network Sensing, new partners joined the project through a cascade call for proposals, with whom activities were initiated at the end of 2024. Finally, preliminary DEMO activities on QKD technology were organised using the already installed infrastructure.

Open Fiber also participated in the conference ECOC2024[114] held on the 26th of September 2024 in Frankfurt, speaking during the Talk on Symposium "What's next in optical networking".

- ***Pesco***[115]: it is a structural project coordinated by the CNR (National Research Council), focused on User-centric Pervasive Internet and edge computing architectures. In this context, Open Fiber is responsible for the hardware and software infrastructure that it will integrate into its fiber optic network and that of the use cases. The plan involves the development of IoT and edge computing technologies, as well as the technological foundations and enablers for a future of pervasive Internet, proposing new communication paradigms and localised data management. Among the objectives is also that of providing a reference architecture for the pervasive Internet and evaluating its performance. The results of the project will be linked to scientific and technological development programmes worldwide. In 2024, Open Fiber concentrated its efforts mainly on finalising the design of the Data Edgers. In this first phase, technological scouting was carried out to evaluate the different possible hardware and software technologies to be used to build the prototypes and create a test environment in some of the POPs identified among those available. In addition, the process of purchasing hardware components was started, according to well-defined internal procedures, and the reference supplier was selected to take care of the delivery of the ordered materials by the end of the year. The next phase will consist of the actual construction of the first two prototypes to be installed at the selected sites. Once completed and operational, the Data Edgers will be made available to all PESCO partners with exclusive access, to begin the performance evaluation phase and test all hardware and software components defined in the design phase. PESCO has also contributed with four proposals to address RESTART Grand Challenges 7, 10, 11 and 12. Furthermore, with the awarding of the cascade call, the University of Pisa, the University of Messina, the University of Campania Luigi Vanvitelli, the University of Trento and SmartMe.IO Srl have joined the project as new partners.
- **Net4Future**[116]: this is a structural project coordinated by the University of Catania, in which Open Fiber is participating in collaboration with various research organisations and universities. The aim of the plan is to promote a new regulatory framework to encourage innovation through the definition of new network architectures, the enhancement of technological solutions for the development of inclusive and sustainable infrastructures and the creation of advanced digital services (verticals).

111 Unit of work within a project or set of specific activities that are used to achieve a specific goal. They are usually numbered, for example WP2, WP3 etc.

112 Technology for the transmission of two or more optical signals of different wavelengths through different optical channels in the same optical fiber to convey information.

113 Work Package (WP) 3: Theory and techniques for fiber and optical wireless communication and security.

114 Europe's leading conference on optical communications.

115 Spoke 1, S8: Pervasive user-centric integrated Sensing and Communications.

116 Spoke 2, S14: Cross-project vision and results, Evolution of Networking technologies for a Future sustainable and inclusive society.

Net4Future has taken on the coordination of Grand Challenge 0 in collaboration with the Polytechnic University of Milan: as part of the initiative, research is underway to define the future of telecommunications through a careful analysis of the economic and technological transformations necessary for this to happen. The Grand Challenge is an opportunity to analyse the key macro-trends that could shape the future of telecommunications with reference to the reduction in the number of operators, the separation of networks and services, the integration of terrestrial and satellite networks, and the growing role of Artificial Intelligence. The work carried out in the project, also in the context of Grand Challenge 0, is based on a high level of synergy with the other RESTART projects, the results of which are collected and processed by Net4Future to develop an overall vision. During 2024, following the cascade calls for proposals, new partners joined: Revelis S.r.l.; Skopìa S.r.l.; University of Genoa; University of Milan; University of Palermo; University of Turin; University of Naples Suor Orsola Benincasa. Open Fiber contribution to the project - in addition to its collaboration in the other research fields - concerns WP2[117] activities, of which it is Project Leader. In this area, Open Fiber has carried out various research activities, including: i) an analysis of the digital market context, with a focus on the economic, socio-political and business aspects, the stakeholders involved, the enabling technologies, the applications and services, and the best practices of the digital ecosystem; ii) the realisation of a study on network architectures, regulatory models, competitive challenges and best practices at a European level to support the switch off of legacy networks in Italy, in line with the challenges outlined by Grand Challenge 18 (which Open Fiber has joined); iii) the definition of a new business model for TLC operators, so that they can fully exploit the opportunities connected to the digital economy; iv) the analysis of the segments of the economic system that can be transformed and fully benefit from the ongoing digital revolution, with an in-depth study of some use cases (telemedicine, smart home, energy communities). In addition, Open Fiber has actively collaborated with the company Skopìa within the working group dedicated to the implementation of the Strategic Foresight methodology, contributing to the definition of the report "The future of telecommunications in Italy in 2050". Key initiatives include a meeting with the project team at the Rome office in June 2024 and participation in the RESTART Future Visions Camp in Milan in October 2024.

Finally, Open Fiber collaborated in the project's dissemination activity with the publication in CorCom "*Fibra ottica leva di sviluppo sostenibile, Mazzarella: Open Fiber in campo con Net4Future*" (Fiber optics lever of sustainable development, Mazzarella: Open Fiber is active with Net4Future), which explains the objectives of the project developed as part of the RESTART research and development programme, with a particular focus on the definition of innovative business models based on cooperation between all the players in the supply chain to stimulate the complete switch off of copper networks and enable a series of innovative services for the end user.

In the coming months, Open Fiber will also be conducting a new line of research in partnership with the University of Turin that focuses on analysing the degree of resilience of telecommunications networks on particular occasions (such as sporting events or adverse weather conditions). The research will use a forecasting model based on monitoring the traffic produced on the Open Fiber networks for the empirical validation of the degree of resilience of the networks with respect to current

117 Work Package (WP) 2: Architecture and requirements of future inclusive and sustainable networks.

and future traffic needs, and the importance of planning new investments to guarantee the diffusion of a wide range of services that will require an increasing availability of traffic in the coming years.

- **Sensing Net**: it is a "focused" project coordinated by Open Fiber, in collaboration with industrial partners and universities, which aims to develop fiber sensing services for seismic monitoring and to distribute diagnosis and surveillance in urban and regional scenarios. The aim of the project is to enhance existing network infrastructures by introducing fiber sensing technologies to study potential applications for the development of new services for public, government and private use. In 2024, Open Fiber explored the integration of optical sensing and telecommunication signals within fiber networks, focusing on theoretical/simulative and experimental approaches. In WP2[118], the compatibility of various sensing technologies, in particular interferometric techniques with WDM[119], and the coexistence of data traffic and sensing in the same fiber were analysed. Preliminary experimental work, on the other hand, tested the coexistence of distributed acoustic sensing (DAS) with WDM data traffic in an underground fiber optic network. In WP3[120] (WP4: Optical sensing by fibers associated to utilities networks), experimental tests were conducted using a passive optical network (PON) distributed between Opera and San Donato Milanese: an embedded interferometric sensor was tested for real-time monitoring of the PON's operating environment, successfully detecting activities such as pedestrians and electric scooters along a nearby cycle path, as well as identifying potential threats in the vicinity of network cabinets.
  All those preliminary experiments have yielded promising results, which were published in joint documents during the conferences ICTON 2024[121] and ICOP 2024[122], and also presented in a speech given by invitation at the Optical Networking Symposium during the 2024 ECOC conference. To carry out these activities and develop the expected use cases, it was necessary to acquire fiber optic interrogators and other specialised instrumentation for the field experiments planned for 2025. Finally, following the closure of the cascade funding call, new partners - INRIM, SM-Optics and INGV - joined WP4[123] during the Kick-off Meeting held on the 28th of October 2024. Two field trials will be carried out - in relation to the building monitoring scenario - in order to test the supervision and localisation of earthquakes, using the Open Fiber infrastructure. The central Apennines, an area with frequent seismic activity, has been chosen for the field trials. Open Fiber will take part in the RESTART Plenary Dissemination Workshop on 30-31 January 2025, where the results and progress of the project will be presented.
- **Graphics**[124]: it is a focused project coordinated by the University of Naples Federico II, in collaboration with various research institutes and universities, aimed at developing a fully optical and remotely programmable active *switch*. In this context, Open Fiber is responsible for defining the requirements and testing activities. This project will bring several advantages to the PON (Passive Optical Networks)

118 Work Package (WP) 2: Compresence of sensing and TLC transmission in fibre links.

119 Wavelength Division Multiplexing.

120 Work Package (WP) 3: Optical sensing by TLC fiber networks.

121 International Conference on Transparent Optical Networks.

122 Italian conference on optics and photonics.

123 WP4 (WP4: Optical sensing by fibers associated to utilities networks) aims to develop and distribute detection technologies for monitoring earthquakes, ensuring perfect integration with existing WDM TLC networks without interfering with data transmission.

124 Spoke 1: F5: Graphene/a-Si:H Photonic Integrated Circuit Switch.

system, including easy network reconfiguration, transmission of the full power transmitted in each device and greater data security. In 2024, Open Fiber team worked together with all the partners on the first proposal for a test bed platform as an initial solution. Furthermore, following the launch of the PhD scholarship on the research and simulation of nanometric layers, new resources and PhD students have been recruited within the working group who collaborated with Open Fiber to finalise the drafting and publication of the following three scientific papers, presented at the conference EOSAM[125] held in September 2024:

- Design and Simulation of a silicon electro-optic microring switch with a graphene modulating layer;
- Graphene-boosted ultra-wide band reconfigurable optical switch for SOI-based telecom applications: a numerical study;
- Single Mode rib waveguide design using Machine Learning techniques.

Furthermore, Open Fiber contributed to perfecting the test bed platform and organising the device protocol requirements, which will be defined and detailed according to the technical strategy of the chosen prototype. The WP was drafted by the doctoral candidate in the second half of the year based on the study of the best technical choice, in terms of existing electronic integrated circuits. During the fourth quarter of 2024, Open Fiber, together with UNINA, began working on WP1[126] T1.2[127] relating to the extension of the communication level protocol. To date, Open Fiber has defined all the requirements of the plan and the design choices; internal and external purchases for prototyping have been completed; it has delivered all the project WPs and monthly reports on time; it has collaborated and passed the project verification and audit phases. The plan for the coming months is for Open Fiber to focus on developing the prototype as part of the experimentation and on disseminating the results, producing a further scientific paper entitled "Innovative a-Si:H/c-Si Photonic Structures: Revealing the Potential of Buried Graphene in Telecom Devices". The project aims to strengthen industrial competitiveness and leadership in the rapidly expanding photonic market of Fiber-to-the-Home (FTTH). In addition to optimising current infrastructures, it aims to overcome the limitations of passive components, making the solutions developed applicable not only to TLC services, but also to advanced computing and other technological sectors. The strategic participation of a network company such as Open Fiber underlines the relevance of the project, which will bring concrete benefits both for network efficiency and energy saving.

- **TeleSmeg**[128]: the focused project coordinated by WINDTRE, in collaboration with universities and industrial partners, aims to offer solutions for improving energy efficiency. In particular, Open Fiber's support relates to the use of the network to improve the monitoring and control of electricity consumption. The project aims to revolutionise *smart grids* through automatic detection of faults in the energy distribution network in order to make it more environmentally sustainable; through remote inspections of delimited distribution work areas; through millisecond-precise control of distribution generation and optimisation of residual energy storage. The first phase of the project was mainly dedicated to defining use cases and designing the architecture, in detail on how to introduce energy communities and storage in a sophisticated scenario. During 2024, on the other hand, more specific activities were carried out, also to identify the different levels of architecture and data integration within the smart grid. In the first quarter of 2024, Open Fiber supported the project team in a new dissemination meeting, inviting several

125 European Optical Society Annual Meeting.

126 Work Package (WP) 1: Specification, architecture and network definition.

127 Task (T) 1.2 Communication Layer Protocol Extension.

128 Spoke 5, F12: Telecom as a service in the next SMart Energy Grid.

SCHOLARSHIPS SUPPORTING SKILLS

In support of the Graphics project, there are plans to promote and strengthen higher education and postgraduate specialisation at doctoral level. Specifically, the aim is to enhance high-profile skills, particularly in the areas of Key Enabling Technologies, through the establishment of dedicated doctoral programmes, with the contribution and involvement of businesses. The PhD scholarship will cover: R&D activities on topics of interest to companies, in particular the study of "Integrated photonic circuits for passive optical networks" with the ultimate aim of developing an active optical switch for use in fiber optic networks with remote control to replace the Secondary Flexibility Point (PFS).
The scholarship is intended for students of the PhD course in Information Technology and Electrical Engineering (ITEE) at the University of Naples Federico II and is co-financed by Open Fiber. The expected duration is 3 years (2023-2026), 10 months of which will be spent in the company, demonstrating Open Fiber's intention to connect the world of research to the business world.

companies to participate in a new cascade call for proposals, awarded in April 2024 to CERESS, Spindox and CRS4. In the following months, a series of meetings were held with the partners to outline the progress of the project, define the merger with the RecOnEdge project, reorganise the division of tasks with the new partners and present the ideas for the proof-of-concept (POC). Of particular note is the meeting held in September at CRS4 (Centre for Advanced Studies, Research and Development in Sardinia) in the innovative Science and Technology Park of Sardinia, located in the municipality of Pula. The meeting was held to discuss coordination with the RecOnEdge project, which completes the functionality of TeleSmEg with the additional objective of creating the PoC that demonstrates how Artificial Intelligence at the edge computing is able to automate smart-grids integrated with energy communities, renewable energy sources and energy storage systems. Work is currently underway with Wind Tre to connect the Neyen headquarters in Bergamo via fiber optics, while WP2[129] deliverable D2.2 - Final definition of UCS, requirements and architecture and WP3[130] deliverable D3.1 - Preliminary report on the development of the POC were both delivered by the end of 2024.

5.10 5G COVERAGE ALONG TRANSPORT CORRIDORS - FRÉJUS

At the end of 2023, Open Fiber, together with its partners Cellnex Italia, Cellnex France, RFI (*Rete Ferroviaria Italiana*, Italian Railway Network), Anas, *Istituto Nazionale di Ricerca Metrologica* (INRIM, National Institute of Metrological Research) and Accenture, was awarded the Tender "**5G coverage along Transport Corridors**"[131] within the framework of **Connecting Europe Facilities (CEF-2) 2021-2027**, the European Union's funding programme designed to promote growth, employment, inclusion and competitiveness through the efficient interconnection of transport, energy and digital networks within and between Member States.
This call for proposals funded the study project "5G Fréjus Inception study for deployment of 5G in the Fréjus cross border section between Italy and France", which focuses on the development of 5G coverage in the Fréjus tunnel between Italy and France. This is the first study funded at European level involving Open Fiber.
The objective of CEF Digital funding is to contribute to the development of projects of common interest related to the implementation and development of secure and sustainable high-performance digital

129 Work Package (WP) 2: Requirements definition and architecture design.

130 Work Package (WP) 3: Use-cases implementation.

131 CEF-DIG-2022-5GCORRIDORS.

infrastructures (including Gigabit and 5G networks). In this sense, the project, with a duration of 6 months starting from the beginning of 2024, aimed to:

- assess the effort required to equip the transport corridor between Italy and France (Fréjus rail and road tunnel) with a neutral passive and active **infrastructure** dedicated to the development of **digital services**;
- map the list of **applications** that could be enabled by **5G coverage** inside the rail tunnel;
- assess the **dimensioning of the fiber** to serve the cross-border section of the corridor and seize the synergies in sharing common passive infrastructures, minimising the impact on the railway network;
- assess the opportunities to create **synergies** in the future implementation of 5G coverage.

The corridor identified for the study includes the **rail and road tunnel** connecting Italy to France along the TEN-T Mediterranean corridor. Open Fiber's contribution concerns:

- the development of a **study on the fiber connectivity** of the gallery's DAS coverage, in the implementation of the architecture and services;
- the **analysis of the environmental impact and sustainability** of the solution and the **analysis of the cost benefits** of the project;
- the design of an **implementation plan**, which will then be the subject of a subsequent call for tenders, again within the CEF framework;
- participation in the **dissemination and communication** of the results.

The study has ended and the final results were presented together with the other project partners on 21 June 2024. At the same time, the technical and economic document was prepared to be shared with the European Commission for the conclusion of the project.

5.11 DIGITAL TWIN: REALCITY PLATFORM

Open Fiber introduced a new system for designing fiber optic networks thanks to **RealCity**, a software platform that allows you to explore a realistic three-dimensional model of the territory, as well as to perform measurements and surveys remotely. This innovative tool accelerates the design process, improving its efficiency and sustainability through the use of a **Digital Twin**. Always focused on finding cutting-edge solutions, **Open Fiber** is one of the first companies in Italy to adopt this technology on a large scale, applying it to an extensive and diversified infrastructure.

During the design phase, useful information is collected to define the project: the number of buildings to be wired, the number of property units (PU) within a building, the individual homes on a given street. Once all this information is available, a preliminary project is developed that defines the work to be carried out, the type of excavation, the fiber dimensions, and the positioning of the PFS (point of secondary flexibility) street cabinet. From now on, all this will also be done using RealCity, which will bring significant benefits to the design phase. The new software will allow to:

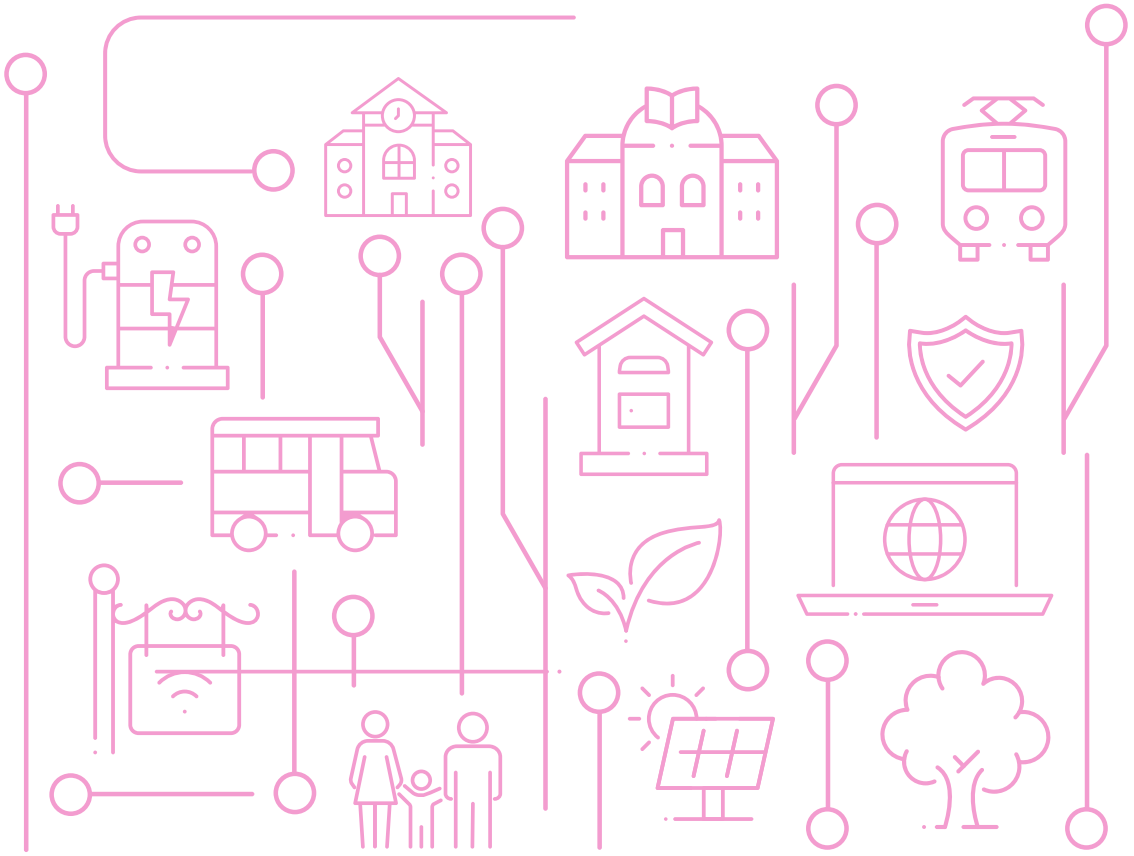
- view georeferenced data and have a real representation of the territory and the network by combining the traditional street view, limited to the photographic display of the territory, with a measurable three-dimensional model of the latter;
- view the routes and nodal elements of the network in a 3D environment of the territory;
- carry out accurate measurements (for example distances between wells, restoration surface, etc.) for remote testing and accounting;
- monitor the quality of the work and carry out tests, also remotely;
- exchange geo-referenced information between the RealCity 3D environment and the GIS (Geographical Information System) that contains the database of network elements (infrastructures, cables, fibers, equipment).

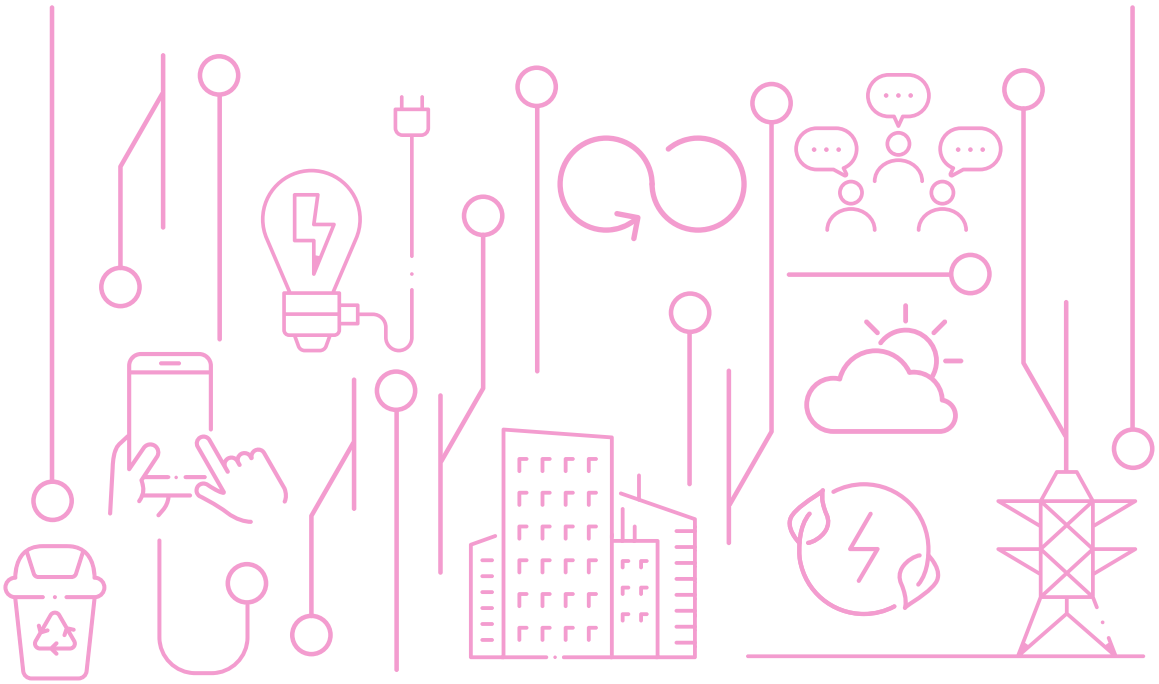
There are many advantages in terms of operations. First of all, the possibility of carrying out surveys remotely eliminates the need for technicians to physically travel to the sites, allowing them to collect data and measurements directly from their offices. This translates into significant savings in resources, greater efficiency and faster execution times. Furthermore, by reducing the need for travel, the design process becomes more sustainable. Finally, the model allows for more precise monitoring of the various phases of the network's construction, facilitating control over the work of the companies involved.


17 PARTNERSHIPS FOR THE GOALS
8 DECENT WORK AND ECONOMIC GROWTH
12 RESPONSIBLE CONSUMPTION AND PRODUCTION


Governance
Systems


Sustainable
Value
Chain

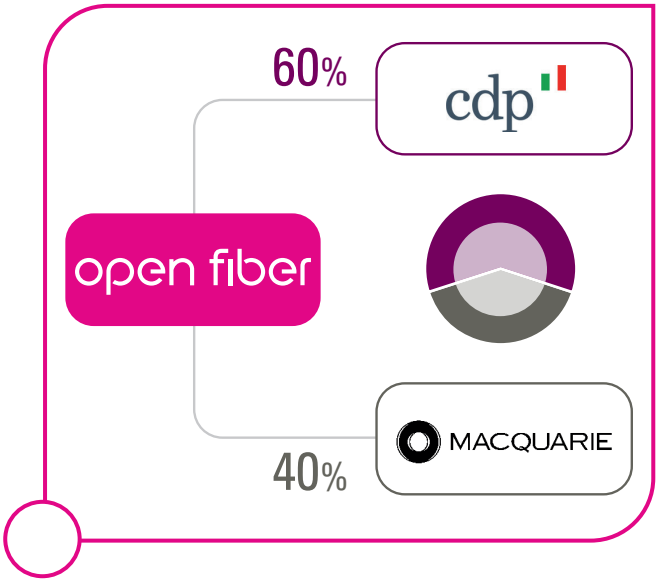




06. GOVERNANCE AND **BUSINESS** CONDUCT

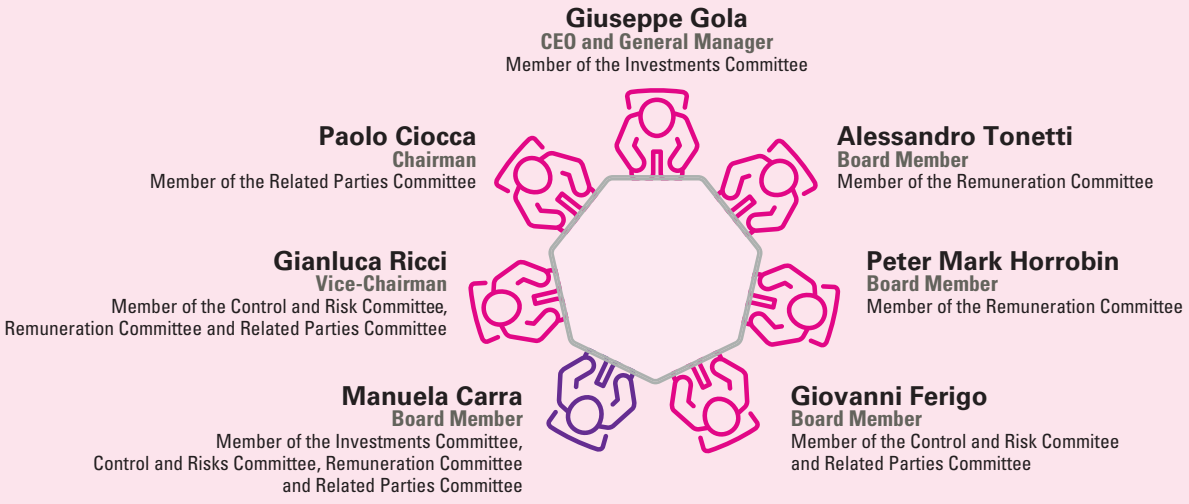
6.1 GOVERNANCE AND BUSINESS CONDUCT

The challenges of the future in terms of innovation and the environment require a rapid change of gear in order to be ready to meet the needs of the community, thus creating value and possibilities. Open Fiber, through its governance system, is well aware that this is the path to embark upon: generating added and shared value, proactively facing the present and future challenges that the current reality poses. All this will allow Italy to be among the most technologically advanced countries and to bridge the existing infrastructural gap, guaranteeing uniform and equal access to the network. Open Fiber adopted an ordinary governance system, with a Board of Directors[132] in charge of the Company's management, and a Board of Statutory Auditors entrusted with the task of overseeing management.



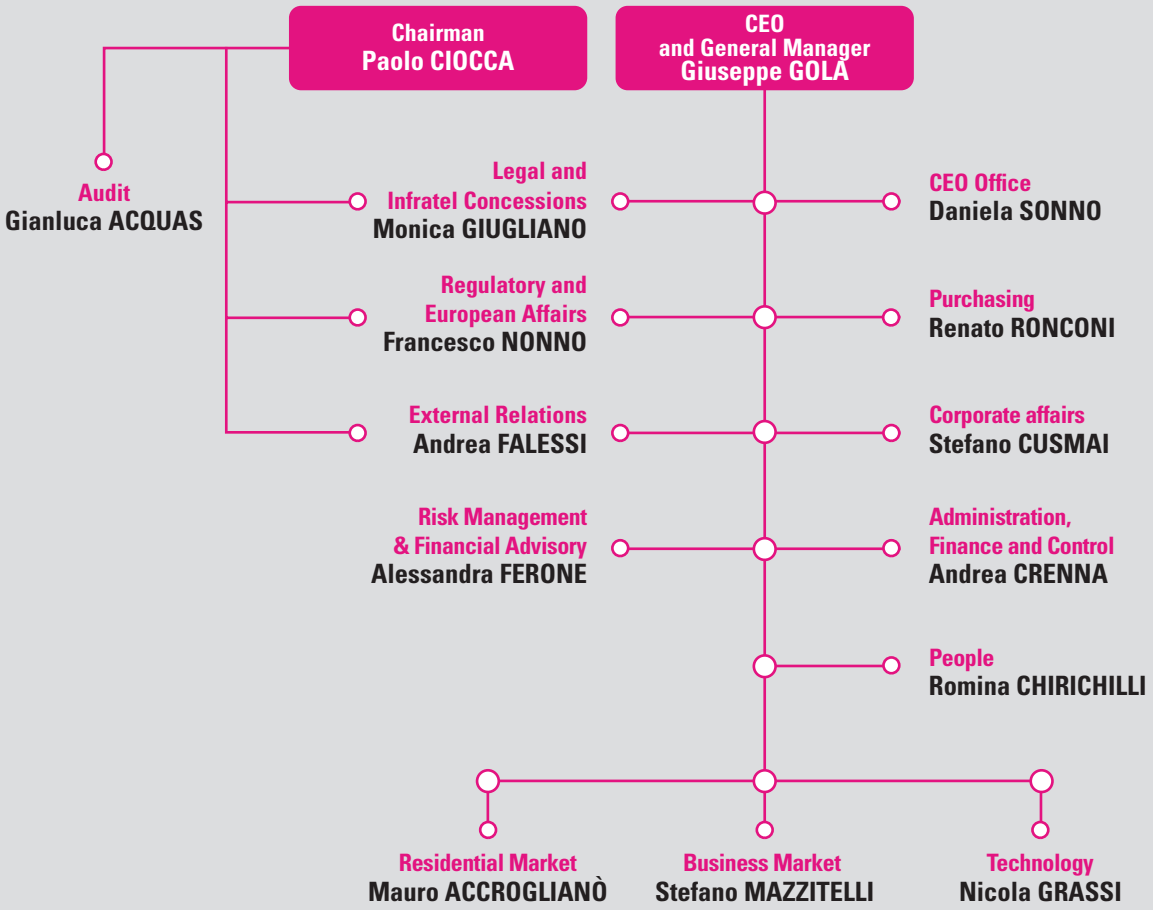
Open Fiber is managed and coordinated by **Open Fiber Holdings S.p.A.**, a company **60% owned by CDP Equity S.p.A.**, a company of the Cassa Depositi e Prestiti Group, and **40% by Fibre Networks Holdings S.c.a.r.l.**, a company belonging to the Macquarie Group. In January 2024, Open Fiber's organisation was modified to include two new departments: the

FIGURE 22: COMPOSITION OF THE BOARD OF DIRECTORS AS OF 31 DECEMBER 2024



132 The Board of Directors is made up of seven members, as decided by the Shareholders' Meeting. During 2024 Roberta Battaglia resigned from her position as director and was replaced by Manuela Carra. Furthermore, on 11/11/2024 the Open Fiber Shareholders' Meeting confirmed the Board of Directors in office for the 2024-2026 financial years.

FIGURE 23: ORGANISATION AS OF 31 DECEMBER 2024



Technology Department, which combines the activities previously managed by the Network & Operations and Information & Communication Technology Departments, and the **Risk Management & Financial Advisory Department**, the latter with the aim of focusing on activities related to corporate risk management, sustainability, and physical and information security[133]. During the year, Open Fiber's internal structure further evolved with the incorporation of Logistics activities within the Technology Department and the consequent renaming of the Purchasing and Logistics Department as the **Purchasing Department**. In addition, the Personnel, Organisation and Services Department was renamed the **People Department**. The Company's Board of Directors, responsible for defining, implementing and updating the rules of corporate governance, approved the "Procedure relating to the composition, role and functioning of the Board of Directors' Committees[134]", regulating

133 With organisational arrangements of 19/01/2024 and 22/01/2024, the Technology Department was entrusted to Nicola Grassi, while the Risk Management & Financial Advisory Department was entrusted to Alessandra Ferone.

134 On 3 December 2021.

the composition, functioning and responsibilities of the **Board Sub-Committees** ("Board Committees"), established on 22 December 2021 with advisory and propositional functions. These bodies have different subdivisions based on their functions:

- **Investment Committee:** it is composed by three members, two of whom are chosen from among the directors indicated in the List by the majority Shareholder of Open Fiber Holdings S.p.A., including the Chief Executive Officer, and one identified from among the names indicated by the minority Shareholder of Open Fiber Holdings S.p.A. The Committee has the task of assisting the Board of Directors in evaluating the progress of the investment plan with respect to the business plan and recommending the adoption of measures to deal with delays in the start of capital expenditure that Open Fiber may incur, as well as analysing new investments, tenders and extraordinary transactions.
- **Related Parties Committee:** this is made up of four members, two for each Section of the List from which the directors are elected. It has the task of assessing the fairness and convenience of any transaction with Related Parties (the term "Related Party" must be interpreted in accordance with Consob Regulation no. 17221/2010). The Company has identified criteria and rules to be followed to ensure the transparency and substantial and procedural correctness of Related Party Transactions through the adoption of the 'Procedure for the management of Related Party Transactions', approved by the Board of Directors on 13 December 2022.
- **Control and Risk Committee:** this is made up of three members, appointed and dismissed by resolution of the Board of Directors, two of whom are chosen from the directors indicated by the minority shareholder of Open Fiber Holdings S.p.A. and one chosen from the directors indicated by the majority shareholder of Open Fiber Holdings S.p.A. The Committee has the task of assisting the Board of Directors, issuing non-binding recommendations to the latter, in evaluations and decisions relating to internal control, the risk management system and corporate social responsibility. The Control and Risk Committee meets periodically and, in the performance of its activities, involves the company departments it deems necessary, interacting mainly with the Audit Department and the 2nd level Control Functions.

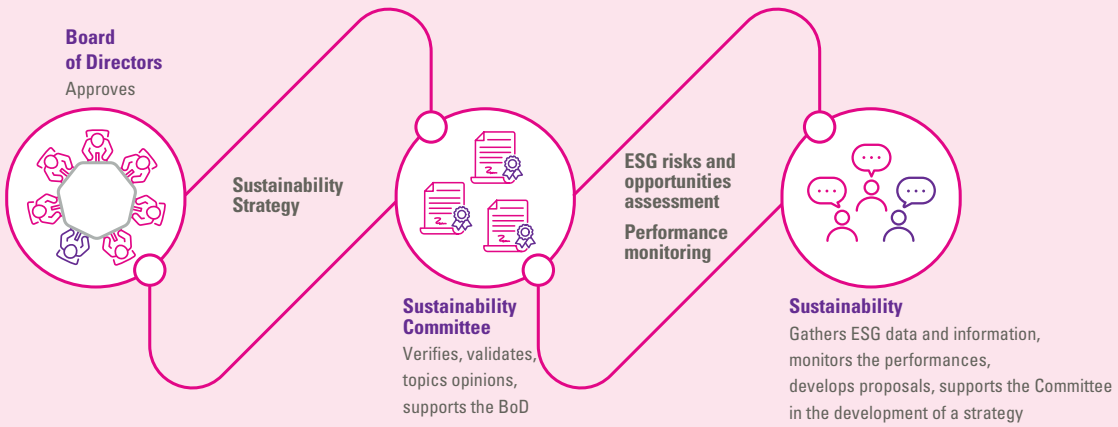


- **Remuneration Committee:** this is made up of four directors, two for each Section of the List from which the directors are elected, appointed by resolution of the Board of Directors. The Committee, led by an internally appointed Chairman, is established to support the Board of Directors in evaluations and decisions relating to remuneration. In particular, it expresses opinions and/or sends recommendations, including binding ones, to the Board of Directors regarding:
  (i) the remuneration of executive directors, directors occupying particular positions and the General Manager;
  (ii) the general remuneration guidelines, the annual and/or multi-year variable incentive plans and the definition of performance objectives relating to the variable remuneration of Executive Directors or Directors with specific duties, the General Manager and Senior Executives.

To better manage and coordinate the flow of activities and internal procedures, Open Fiber created a number of committees and work groups with responsibilities for specific issues, listed below.

- **Sustainability Committee:** it is the body whose mission is to assist the Board of Directors, with a proactive and consultative function, in the assessment of ESG (Environmental, Social & Governance) risks and opportunities and in decisions relating to sustainability topics connected to Open Fiber's business, its activities of dialogue and involvement of stakeholders and the Company's corporate governance, with the aim of generating shared value in the long term. The Committee is chaired by the CEO and is made up of permanent members (identified in the departments that manage material ESG topics and are responsible for actions aimed at improving the company's impact on these issues), on-call members (identified in the departments that support the Committee in carrying out specific activities) and the company's Sustainability representatives[135]. The Sustainability Committee's main tasks are:
  - the establishment of the company

FIGURE 24: SUSTAINABILITY-RELATED RESPONSIBILITY



135 With organisational arrangements of 22/01/2024, the Security, QHSE & Sustainability function became part of the Risk Management & Financial Advisory Department

strategy, supervision and validation of the Sustainability Plan and Policy for the creation of shared value with all stakeholders in the medium and long term;
- the validation of the assessment of risks and opportunities deriving from sustainability aspects;
- the verification of the progress of the strategy and the monitoring of the results achieved with respect to the objectives defined in the Plan;
- the supervision and validation of the Sustainability Report, including the materiality analysis.

- **Commercial Strategies Committee**: established in December 2024 through the Organisational Communication and entrusted to the Business Market Director, the committee aims to define the company's commercial strategies in a holistic and coordinated way in all markets, strengthen the company's competitive positioning, support the achievement of the targets defined in the business plan and acquire sustainable competitive advantages on the market, while guaranteeing the creation of value for the Company and its Customers.
- **Access Mechanism Committee:** this is the body that operates within the supplier qualification process and is responsible for examining proposals for joining the Access Mechanism. It is part of the Purchasing Department and is made up of a President, two representatives from the Purchasing Department and the Technology Department, and a Buyer from the Purchasing Department. In particular, the department is responsible for verifying applications to join the Access Mechanism and, where there are issues related to compliance with current legislation, it relies on the regulatory support of the Purchasing Department. Once the appropriate assessments have been made, the Committee decides on membership applications, exclusions of participating operators and suspensions.
- **Quality & HSE Committee:** composed by the CEO and General Manager[136], the Directors with HSE responsibilities, the HSE and Quality Management System representative[137] and the representatives of the Departments/Functions dedicated to Risk Management in the areas of HSE and Quality. This is the body involved in the Management Review process provided for by the Management System, which aims to ensure the monitoring of the suitability, adequacy and effectiveness of Open Fiber's Quality, Occupational Health and Safety and Environmental Management System.
- **Crisis Committee**: made up of the CEO and General Manager and all the Directors, this is the body responsible for strategic management and coordination, as well as for decision-making in the event of an accident or emergency that may generate or has already generated a state of crisis. The Department responsible for convening the Crisis Committee is the External Relations Department, in consultation with the Directors of the areas most affected by the event that has occurred.
- **Company Areas Committee**: is the competent body for the evaluation and categorisation of Company Areas (**red**: high security, requiring specific protection measures for access control, video surveillance and anti-intrusion; **yellow**: medium security, requiring specific protection measures for access control and anti-intrusion; **green**: all other spaces, even if with controlled access). Composed of six representatives from the various company departments, the Committee is activated by the representative of the Risk Management & Financial Advisory Department, who appoints a manager for each red and yellow area.

136 By resolution of the Board of Directors, the CEO of Open Fiber S.p.A. was identified as Employer pursuant to art. 2 paragraph 1 letter b) of Legislative Decree no. 81 of 9 April 2008 and subsequent amendments and additions.

137 Since 22/01/2024, the Security, QHSE & Sustainability function has been part of the Risk Management & Financial Advisory Department.

- **Review of Investment and Project Authorisation:** coordinated by the Administration, Finance and Control Department, this function has the task of ensuring the regular and effective control of the authorisation process for expenses and investments made by the Company. Specifically, the main tasks are:
  - the evaluation and approval of investment/purchase initiatives to be submitted to the Board of Directors;
  - the allocation of priorities for the use of company resources;
  - the analysis of deviations between the final balance and the approved expenditure amount, through the evidence collected by the *governance* Group;
  - the approval of any re-forecasts.
- **Working Group on Reputational and Integrity Risks:** made up of representatives from the Purchasing, Legal and Infratel Concessions and Audit Departments, it has the task of supporting the CEO and General Manager in the evaluations and decisions relating to the reliability, professionalism and integrity of Open Fiber's suppliers and/or contractual counterparties, for all situations and critical issues not falling under a case provided for by the current legislative and regulatory framework. More specifically, the working group:
  - examines and evaluates the information and documents relating to the critical issues arising;
  - analyses the results of any activities carried out by the appointed external consultant;
  - issues its reasoned opinion on whether to continue or establish a contractual relationship with the supplier affected by the critical issues highlighted, analysing all the legal and business risks associated with its decision.
- **Commercial Strategies Committee:** entrusted to the Business Market Director and made up of the CEO Office Director, the Residential Market Director, and the Regulations and European Affairs Director. The committee aims to define commercial strategies with a holistic and coordinated approach across all markets, strengthen the Company's competitive positioning, support the achievement of the



targets set by the business plans and acquire sustainable competitive advantages in the market, generating value for the Company and its Customers.

- **DE&I Committee:** composed of the CEO, People Director and DE&I Working Group Coordinator, members on call (departments that support the Committee in carrying out specific activities) and DE&I Working Group (members with specialised DE&I skills who support the Committee). The Committee acts as a guide for the effective adoption and continuous and consistent application of Diversity, Equity & Inclusion (DE&I) policies.

OPEN FIBER CODE OF ETHICS' PRINCIPLES

- Impartiality
- Confidentiality
- Fairness
- Conflicts of interest
- Relations with shareholders
- Value of human resources
- Fair competition
- Protection of the individual
- Quality, environmental protection and responsibility vis-à-vis the community
- Health and safety

6.2 ETHICAL BUSINESS CONDUCT

6.2.1 6.2.1 CODE OF ETHICS AND OMM 231

Open Fiber, being aware of the key role it plays in the Italian economic and social system, has always recognised the need to operate with the utmost transparency, integrity and responsibility. Its mission is not limited to the simple supply of advanced TLC infrastructures, but extends to the promotion and large-scale diffusion of sustainable, inclusive growth that benefits the entire national community. To pursue this objective, the Company has adopted a **Code of Ethics**, a reference document that summarises and codifies the fundamental values and principles on which the entire Company's operations and organisation are based. The Code represents not only a set of guiding principles, but also a concrete commitment to all stakeholders involved in Open Fiber's business: employees, collaborators, business partners, institutions and citizens.

The Company's Code of Ethics establishes clear criteria that all those who work on behalf of the Company or in its interest – from employees to suppliers, from consultants to strategic partners – are required to follow in their daily practice. By adopting this document, Open Fiber aims to consolidate a business model based on **sustainability, innovation and social responsibility**, thus contributing to delivering added value to the entire community and strengthening trust in the Company and the sector in which it operates.

The Code of Ethics is binding on the members of the corporate bodies and the Supervisory Body, employees, collaborators, consultants, suppliers and partners who, for whatever reason and nature, establish direct or indirect, stable or temporary relationships with Open Fiber. The document constitutes the founding principle of the corporate culture that Open Fiber is committed to guaranteeing, promoting and respecting. Its primary objective is to satisfy the needs and expectations of the interested parties, upholding a high level of professionalism and prohibiting any behaviour that is in contrast with the regulatory provisions, the ethical principles, the values and the *Mission* of the Company.

In line with the Legislative Decree no. 231 of 8 June 2001, Open Fiber has introduced an **Organisation, Management and Control Model** (hereinafter Model or OMM 231), to protect the Company

from administrative liability. It is an internal regulatory system with a structured and organic set of procedures, policies, guidelines, operating instructions and control activities to be carried out, including preventively, aimed at mitigating the risk of any kind of offence or crime occurring.

Open Fiber's 231 Organisational, Management and Control Model is a dynamic and constantly evolving tool: the Company promotes its updating whenever there is an organisational-corporate and/or regulatory change and carries out appropriate checks on the implementation and effective functionality of the control measures contained therein. The rules contained in the Model integrate those reported in the Code of Ethics, which the Company promptly updates in accordance with the changes made to the OMM 231[138].

The Company implements the OMM 231 guidelines through:

- the verification of the company's behaviour, with possible activation of the penalty system as per the applicable CCNLs[139];
- the monitoring of the functioning of the OMM 231 with consequent updating if necessary;
- the segregation of roles in the structuring of company processes and in the management of financial resources;
- the definition of policies, procedures and operating instructions that describe the methods and the carrying out of company activities, as well as the methods of filing and storing documentation;
- the definition of a system of delegations and powers of attorney consistent with the responsibilities assigned to formalise the responsibilities of management, coordination and control within the Company, with related levels of hierarchical dependence;
- the definition and updating of the mapping of the Company's Risk Areas through a Risk Assessment activity;
- the assignment to the Supervisory Body of specific control tasks regarding the compliance with the principles of the Code of Ethics and the Model, the functioning, effectiveness and adequacy of the Model and the advisability of updating it, where particular needs are identified;
- the transmission of Company information and data, as well as compliance with EU Regulation 679/2016, guaranteeing confidentiality.

The construction of the company's success and of a stimulating and dynamic work environment cannot be separated from the compliance with ethical principles in business management. In order to raise awareness among all employees and collaborators (such as interns and temporary workers) of the company's values and promote their dissemination, Open Fiber's daily commitment is aimed at the constant provision of training activities on the topics of the Code of Ethics and the Organisational, Management and Control Model 231, through various training modules on behaviours or circumstances that can constitute offences covered by Legislative Decree 231/2001. During 2024, the training modules on the Code of Ethics and OMM 231 were updated and used by all Open Fiber employees.

Among the offences regulated by Legislative Decree 231/01 is the one linked to **corruption**: confirming Open Fiber's constant commitment to combating this phenomenon in all its forms, 16 company processes have been mapped, each of which can be related to this offence, for which no episodes have been reported in the last three years[140]. The main risks identified are related to the strategic area (for example strategy planning and implementation, reputation), the financial area (for example credit, financing), the operational area (for example unlawful

138 The latest update of the OMM 231 was approved by the Board of Directors on 18 May 2023, while that of the Code of Ethics dates back to 18 January 2024.

139 *Contratto Collettivo Nazionale di Lavoro* (National collective labour agreements).

140 Cases of passive and active corruption can be reported in accordance with the Guideline "Reporting wrongdoing" in compliance with Legislative Decree 24/2023, as well as with the adopted audit procedures.

acts, Health and Safety, IT systems), the external or sector area (for example competition, regulatory). In order to mitigate these risks, Open Fiber has defined specific processes and tools, formalised within the company's regulatory documents[141].

The training content of the OMM 231 is updated in relation to the evolution of the legislation and the Model itself. Should significant changes be necessary, such as the extension of the administrative responsibility of the Organisation to new types of offences, Open Fiber will proceed with a coherent integration of the content, also ensuring its use by the entire company population.

The training courses organised for employees and collaborators in general are compulsory. During the course delivery procedure, the Company is required to inform the Supervisory Body of the results, acting as guarantor, in particular, of the participation of its collaborators in the courses. The unjustified absence of employees from the aforementioned training programmes could result in a disciplinary sanction imposed according to the rules indicated in the Organisational Model 231.

Responsible management of human capital, based on the enhancement of skills and the active involvement of each employee, is a factor of success and sustainable growth for Open Fiber. The well-being and protection of workers not only favours a more inclusive and motivating work environment, but also contributes to the improvement of overall company performance. For this reason, within the Code of Ethics and the Organisational, Management and Control Model pursuant to Legislative Decree 231/2001, Open Fiber has decided to clearly define

TABLE2: TABLE CORRELATING OMM 231 AND 2024 MATERIAL TOPICS

OMM 231	Material topics
Occupational Health and Safety	• Responsible value chain management • Own workforce
Handling, money laundering and self-laundering	• Business conduct • Responsible value chain management
Corporate offences and corruption between private individuals	• Business conduct
Offences against the Public Administration	• Business conduct • Privacy and cybersecurity
Environmental offences	• Climate change • Biodiversity and ecosystems • Circular economy • Responsible value chain management
Employment of third-country nationals	• Responsible value chain management
Copyright, industry and trade	• Business conduct
IT offences and unlawful data processing	• Privacy e cybersecurity
Offences against individual personality	• Responsible value chain management • Own workforce
Terrorism offences	• Business conduct • Responsible value chain management

141 The most significant regulatory documents useful for mitigating the risk of corruption are: the Guidelines "Relations with the Public Administration and Relevant Private Parties", "Sponsorship Procedure", "Gifts Procedure", "Relevant Procedures for Purchasing, Selection and Recruitment Processes". Open Fiber also adopted the "Reporting Wrongdoing" Guideline, the 231 Model and the audit procedure to prevent, identify and manage cases of corruption.

binding principles that guarantee respect for human rights and the protection of personal dignity. Specifically, specific rules are regulated regarding the fight against any form of discrimination, the mobbing, illegal labour and violation of fundamental human rights. All these topics are also the subject of training for company personnel. Thanks to the integration of training courses, Open Fiber guarantees full adherence to these principles.

In compliance with current regulations on the subject, Open Fiber ensures respect for the principles contained in the Code of Ethics, in the Organisational Management Model 231 and in the company's regulatory system. The Company uses the EQS Integrity Line platform, a secure digital reporting channel with an anonymous dialogue function that allows employees, collaborators, suppliers and any other counterpart of the Company to report - also in accordance with the regulations on *whistleblowing* - any violation or suspected violation, including behaviour and practices that may cause economic damage or prejudice to the Company itself. Each registered report is handled in full compliance with data protection (GDPR) and ISO-certified high-security *hosting*. It is then catalogued, processed, evaluated and, finally, archived.

The reporting platform is managed by a third party that is independent of Open Fiber, thus guaranteeing the security of the processed data to protect the reporting and reported subjects. The communications received are promptly taken charge of and managed by the Company, which implements the necessary steps for the verification and analysis phase in accordance with the "Reporting Wrongdoing" Guideline, which can be accessed by employees within the document management platform[142], also accompanied by a specific training pill.

When the following step of the process is initiated, i.e. the process of communicating the results of the procedures to the administration, management and control bodies, the Audit Department has the task of producing and providing the Supervisory Body with a report during the scheduled meetings (usually on a monthly basis), transmitting the summary data of all the reports received, the progress of the audits carried out and a summary of the results. After receiving the Audit Department's report, the Supervisory Board addresses the top management, providing a summary of its audit activities as part of the half-yearly report. Furthermore, following its own institutional communication flows, the Audit Department provides the company's top management with a periodic report, at least every six months, of the main information on reports deemed significant, giving evidence of the communications managed as well as audit reports and completed investigations.

6.2.2 RISK CONTROL

In order to guarantee operational continuity and the ability to face future challenges with resilience and confidence, effective risk management and a solid internal control system are fundamental elements capable of ensuring the long-term stability and sustainability of the company. Therefore, Open Fiber relies on the **Internal Control and Risk Management System (*Sistema di Controllo Interno e di Gestione dei Rischi,* SCIGR)**, a central element of the governance system consisting of a set of rules, procedures and organisational structures aimed at enabling - through the identification, measurement, management and monitoring of the main risks - the Company to conduct itself in a manner consistent with the stated principles and objectives.

The Board of Directors is the main player in the System. It is responsible for defining the guidelines and verifying their adequacy, effectiveness and correct functioning. The other participants in the SCIGR are: the Control and Risk Committee, the Chairman of the Board of Directors, the CEO,

142 The channels for receiving reports regulated by the Guideline were adopted in compliance with the relevant legislation (Legislative Decree 24/2023). For measures aimed at protecting whistleblowers from retaliation, the Audit Department, as an independent department, has been entrusted with the responsibility of managing reports



the Board of Statutory Auditors, the Supervisory Body (SB), the Head of the Audit Department[143] and the Second Level Control Functions, i.e. the functions through which the CEO identifies, measures, manages and monitors the main risks related to the Company's operations.

As regards planned interventions, the **Risk Control Committee**, made up of three Board Members, is responsible for monitoring the risk identification, assessment and management process on behalf of the Board of Directors. According to the procedures, the main results of the risk management activity, the related action plans and the evidence relating to the controls activated are presented to the Committee.

Inspired by best practices implemented at a national and international level, the Internal Control and Risk Management System is a qualifying element and an added value of Open Fiber's Corporate Governance, as it allows the Company to:

- pursue the goal of creating value in the medium to long term, also defining the nature and level of risk compatible with the strategic objectives;
- make informed decisions consistent with the propensity to risk, spreading a proper understanding of risks, legality and company values.

SCIGR is based on "three lines of defence": **line or first-level controls**, carried out by individual operating units on their own processes; **second-level controls**, entrusted to specific company functions to monitor typical categories of specific risks; and **third-level controls** or internal audit activities, aimed at assessing the adequacy of SCIGR as a whole.

Following its own strategic and operational model, Open Fiber has adopted a reference framework for the regulation of the Internal Control and Risk Management System (SCIGR), inspired by the **"Internal Controls - Integrated Framework"** model developed by the Committee of Sponsoring Organizations of the Treadway Commission (COSO Report). This system is divided into five fundamental

143 With the organisational arrangement of 22/01/2024, the Risk function is integrated into the Risk Management & Financial Advisory Department.



components, interconnected and integrated into company processes at all organisational levels: Control environment, Risk assessment and management, Control activities, Information and communication, Ongoing monitoring of control systems.

In order to ensure a complete analysis of all the risks that Open Fiber may incur, two approaches have been identified and adopted:

- top-down approach for **Strategic Risks**: starting from the Business Plan requirements and the Management Team's indications, the main risks that could affect the achievement of the set objectives are identified and described, as well as their causes and possible consequences, with an estimate of the economic and other effects. This is followed by a review and consolidation phase;

OPEN FIBER ENTERPRISE RISK MANAGEMENT (ERM)

Open Fiber adopted the Enterprise Risk Management process (hereinafter ERM) – implemented by the Board of Directors and the Company Management Team – in order to analyse, evaluate and manage all risks that may have an impact on the company's business at different levels. The ERM Process supports the definition of business strategies, providing reasonable assurance that they will be achieved, and is designed to identify potential events that may affect the achievement of company objectives.

The process consists of the following phases:

- Analysis of the company objectives and definition of risk tolerance (Objectives Analysis & Risk Tolerance);
- Identification of the universe of risks;
- Evaluation of the level of risk (Risk Assessment);
- Definition of the treatment of risks and the action plan (Action Plan);
- Monitoring and reporting of risks.

- bottom-up approach for **Operational Risks**: identifies and prioritises all relevant operational risks for Open Fiber, in order to identify and implement policies and procedures that oversee the decision-making process in daily operations.

The process of strategic risk assessment is fundamental in connecting company objectives with daily operations. This approach allows us not only to integrate the operational risks linked to the organisational structure, but also to respond proactively to market developments and new risk scenarios. In particular, increasing attention is being paid to sustainability-related risks, the so-called ESG (Environmental, Social & Governance) risks, which have the power to influence long-term business strategies and competitiveness. The analysis carried out led to the identification of ESG risks, especially those related to extreme natural events, climate change, business continuity, corruption, and occupational health and safety and environmental topics[144].

For all those risks considered to be of high priority and/or critical, the procedure involves the definition of an action plan, brought to the attention of the Control and Risk Committee, which will make it possible to highlight the organisational-procedural or procedural-technological interventions to be implemented.

The Company's risk profile is monitored through checks on the status of implementation of the Action Plans and activities to update the assessment of the identified risks, and evidence of this is periodically provided to the Governing Bodies. In particular, the Control and Risk Committee, in its role of supervising the monitoring process of the action plans, regularly verifies, with the support of the reports drawn up, the implementation of the interventions defined in the Action Plan, requesting indications regarding any interventions to modify or integrate the risk management strategy, the corrective actions, the identified budget and the timing for the completion of the actions.

144 For a complete view, see the Materiality Analysis in 7.2 "Identification of material topics".

6.2.3 PRIVACY PROTECTION

Compliance with privacy regulations is a priority for Open Fiber, which adopted a Data Privacy Governance model with the aim of protecting the data acquired, stored and processed as part of its activities. In this way, the company guarantees compliance with data protection regulations, both for internal processing and that carried out by third parties (for example, suppliers), also defining strategies for the control and monitoring of compliance with the principles concerning the security and protection of information.

The model, acquired and perfected over time, not only guarantees integrity and confidentiality, but also ensures compliance with the principles of **Privacy by Design** and **Privacy by Default**. These involve the development of data protection measures during the design phase and measures for the exclusive processing of only the information necessary for the specific purpose.

The model also provides for the designation of the role of the company Privacy Contact, identified within the Legal Department, for the execution of the activities that Open Fiber carries out as data

MODEL DEVELOPMENT PHASES

Activities related to privacy have followed a three-step process, in accordance with the provisions of the General Data Protection Regulation no. 679/16, as interpreted by the European Data Protection Board and the Italian Data Protection Authority:

1. Gap analysis: 1. Identification of critical areas to be addressed, appointment of a Data Protection Officer (DPO), preparation of processing registers for each Department.
2. Impact assessment: identification and implementation of activities aimed at mitigating the critical issues arising from processing with a "high" and "very high" residual risk.
3. Internal and external privacy audit: verification of compliance by both the Departments and the persons appointed as data processors.

All employees have been recognised as "Authorised to process"; moreover, System Administrators have been appointed.

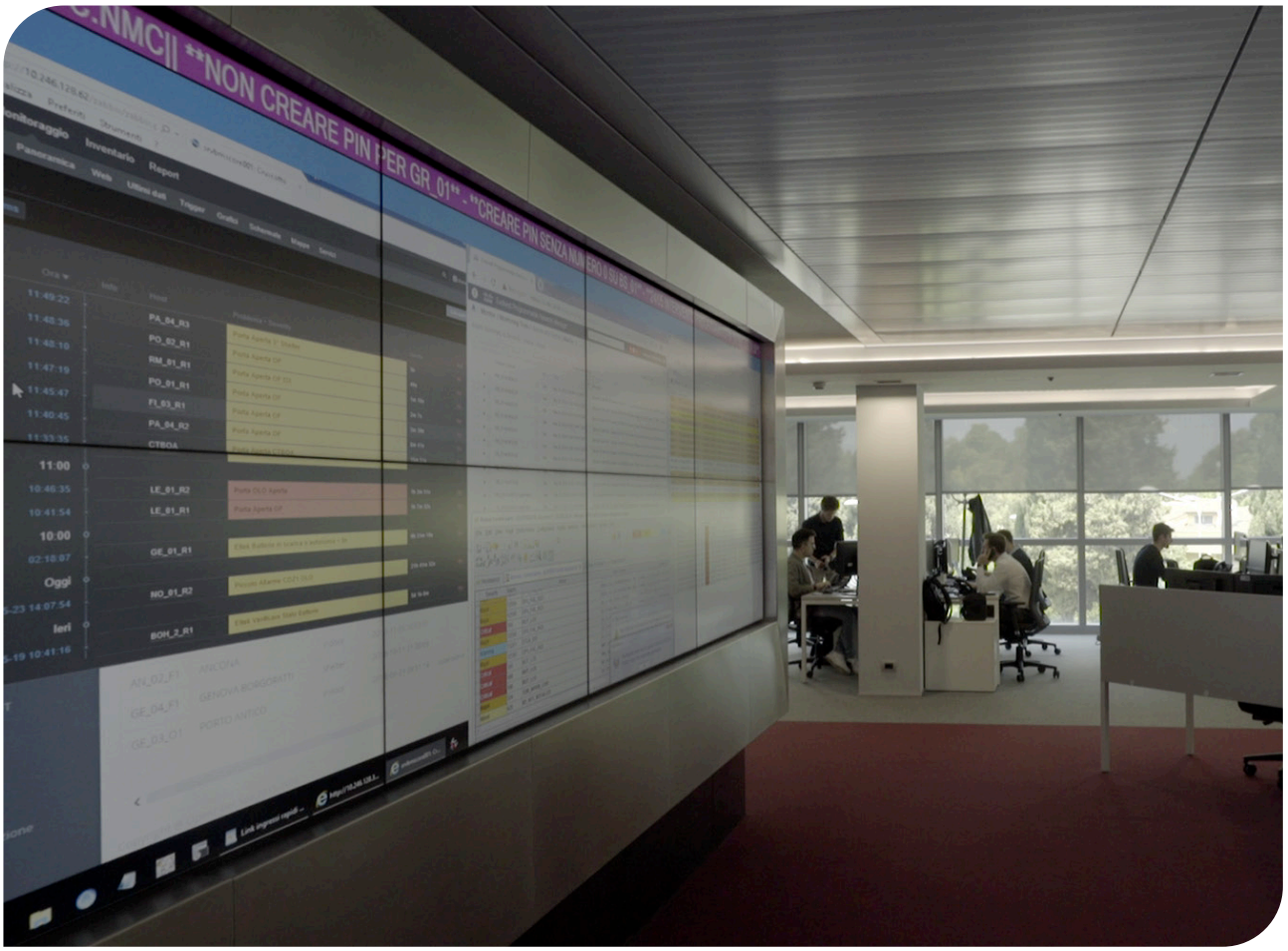
controller and/or data processor and, in addition, the appoitment of the Data Protection Officer (DPO). A significant integral part of the model adopted are the policies and procedures set out by the Company[145], which is responsible for updating them every year by means of internal procedures regarding privacy. In doing so, it ensures they comply with new legal and regulatory guidelines as well as new provisions issued by the Italian Data Protection Authority.

Data collected and managed by Open Fiber are processed according to the principle of *accountability* introduced by the GDPR, in order to comply with the general principles of lawfulness of data processing, correctness and accuracy of the data processed, transparency, purpose limitation of data processing and retention.

6.3 MANAGEMENT OF QUALITY, OCCUPATIONAL HEALTH & SAFETY AND THE ENVIRONMENT

6.3.1 QHSE INTEGRATED MANAGEMENT SYSTEM

Open Fiber prioritises the health and safety of its employees and of all those who, in whatever capacity and at whatever level, collaborate in pursuing the company's objectives. The same care and consideration are directed towards the territory in which it operates, investing in technologies that respect the environment and offer advantages for its protection and spreading an infrastructure that, by its very nature, is highly performing



145 Policy for the Management of the Data Privacy Governance Model, Management of data subjects' rights, Privacy by Design and Privacy by Default, Management and Notification of Data Breaches and Appointment of System Administrators, Legitimate Interest Assessment, Privacy Audit, Data Retention Policy.

and environmentally sustainable. In line with this way of thinking, the company developed a Quality, Occupational Health and Safety and Environment Management System (hereinafter QHSE), compliant with the international standards UNI EN ISO 9001, UNI ISO 45001 and UNI EN ISO 14001 and that has been certified by an independent third party since 2020 [146], whose objective is to guarantee the compliance with the commitments and the achievement of the objectives stated in the Policy for Quality, Occupational Health and Safety and Environmental Protection.

The QHSE Management System was designed adopting a strategic and systemic approach based on risks and opportunities (***risk-based thinking***[147]) that may arise in all planning, operational and performance evaluation processes. The application of risk-based thinking places all internal and external factors on the same level, as well as stakeholders with their associated expectations, which can have an impact on the organisation, identifying risk or opportunity scenarios in terms of Quality, Occupational Health and Safety and Environmental Protection. It is a conscious and sustainable approach that benefits the entire company organisation because it aims to prevent critical issues and integrate actions aimed at improving performances and achieving objectives. This approach ensures stakeholder satisfaction and business continuity, and promotes a process of continuous improvement. The key elements include: accurate execution of contracts, optimisation of resources, operational efficiency, protection of workers' health and safety, as well as the ability to adapt to environmental changes, ensuring a balance with the socio-economic context in which the Company operates.

With regard to the QHSE management system, Open Fiber has defined the Policy for Quality, Occupational Health and Safety and the Environment which defines the Company's formal commitment to building relationships of mutual trust with its customers, to guaranteeing safe working conditions, to developing and promoting sustainability initiatives and projects and, finally, protecting the environment in the course of company activities with the aim of reducing the level of pollution, supporting the conservation of natural resources through all those actions aimed at making their use more efficient and reducing their consumption. Only with this strategic plan is it possible to work on the prevention or mitigation of negative environmental impacts. This Policy defines the values to which the Company, its workers, collaborators and all those who, in any capacity, on a continuous or occasional basis, contribute to Open Fiber's activities must conform in order to guarantee the achievement of the company's targets, the Occupational Health and Safety and Environmental Protection conditions deemed suitable and consistent with the responsible and sustainable growth of the Company.

The System involves all the Company's Departments and Functions, as well as all the activities carried out directly by employees and by all those who, in any capacity, operate on behalf of Open Fiber in the processes of Design, Permitting, Installation, Maintenance and Activation of telecommunications and ultra-broadband fiber optic data transmission network systems, including the marketing of related services[148].

According to Open Fiber standards, the active involvement of all personnel and stakeholders is essential when it comes to improving the QHSE Management System. For this reason, the Company encourages the participation of workers and their representatives in identifying hazards, assessing risks and defining control measures. It also encourages them to propose innovative technical

146 The certifications were confirmed during the 2024 Certification Maintenance Audit.

147 Strategic and systemic approach based on risks and opportunities. Among the international standards that in their latest versions adopt risk-based thinking are UNI EN ISO 9001 (Quality Management Systems), UNI EN ISO 14001 (Environmental Management Systems) and UNI ISO 45001 (Occupational Health and Safety Management Systems).

148 The certification scope is covered by the certificates of compliance with the standards UNI EN ISO 9001:2015, UNI EN ISO 14001:2015 and UNI ISO 45001:2018. It should be noted that Open Fiber's Health and Safety Management System covers all employees (according to the figures reported in the GRI 2-7 information) and all those who collaborate with Open Fiber in any capacity in achieving its objectives.

QHSE MANAGEMENT SYSTEM OBJECTIVES

Open Fiber turned the commitments stated in the Policy into a series of objectives aimed at guaranteeing the quality of the services offered, reducing the environmental impact of its activities and preventing situations that are risky for the Health and Safety of workers. The Company is committed to:

- promote the implementation of the Quality, Health & Safety and Environmental Management System in line with international standards;
- guarantee compliance with all obligations, including external regulations and those voluntarily accepted, any requirements of interested parties, internal regulations, and the company's internal procedures and regulations, which are periodically verified, updated and adapted;
- pursue constant improvement by defining clear and measurable objectives and targets, verifying progress and the achievement of results over time and consequently defining improvement actions, promoting the monitoring and improvement of customer satisfaction, employee well-being and respect for the environment;
- investigate and prevent the occurrence of non-conformities (in processes and/or systems) and complaints, with a view to continuously improving company performance, customer satisfaction, prevention and mitigation of health and safety risks and environmental protection;
- build and maintain a consistent relationship with customers, including end users, based on mutual trust, offering services with high added value and guaranteeing the reliability of its network;
- provide safe and healthy working conditions in order to prevent and minimise the causes of possible accidents, injuries and occupational diseases;
- implement all actions useful for identifying dangers, assessing the related risks and adopting all necessary measures to eliminate them and, where this is not possible, reduce them, setting objectives and defining continuous improvement programmes, periodically verifying the results achieved and making the appropriate adjustments where necessary;
- ensure maximum safety for its workers, for every other person present in the Open Fiber work areas or on whom Open Fiber activities may have an influence, and within the scope of the Company's entire production cycle, giving priority to collective protection measures over individual protection measures;
- monitor any injuries, near misses and environmental damage that occur during the work phases of the company's employees and contractors, implementing the necessary mitigation actions and ensuring reporting to company management;
- adopt a model of rationally distributed responsibility, providing Open Fiber management with tools for timely and efficient intervention in the QHSE field;
- ensure monitoring, reporting to company management and activate all pre-established operations for the control of the main quality, health and safety and environment indicators defined internally;
- carry out periodic checks on the activities and processes implemented to assess the adequacy of the QHSE Management System and the compliance with regulations, procedures and contractual standards signed by the contracting companies;
- foster the creation of a peaceful, respectful, inclusive and open-to-diversity work environment, which takes into account the psycho-physical and general well-being of all people regardless of their characteristics, opinions and personal and social conditions;
- design and disseminate sustainability initiatives and projects in the HSE field, aimed at an audience both internal and external to the Company;
- integrate environmental protection into business activities, adopting pollution prevention measures, promoting the conservation of natural resources and implementing strategies to optimise their use and reduce their consumption, with the aim of preventing or mitigating negative environmental impacts;
- take into account the effects of climate change and the related risks and opportunities in the control of company activities and processes;
- allow all recipients, within the scope of their skills and roles, to be informed and trained to operate with full awareness of the potential risks associated with work activities, both in ordinary and emergency conditions, ensuring control through appropriate procedures and in coordination with the competent authorities;
- disseminate and consolidate a culture of quality, occupational health and safety and care for the environment through the involvement, participation and consultation of workers, as well as other interested parties, when appropriate;
- specify and monitor, through specific evaluation criteria, the performance of product and service suppliers, involving them in the realisation of predefined company targets;
- guarantee collaboration and transparency with the Authorities, Institutions and Associations in order to ensure the maximum contribution in terms of commitment and responsibility.



and organisational solutions for the use of tools, equipment and protective devices, in order to guarantee health and safety in the workplace.

It would be impossible to achieve the best results without an efficient dialogue between managers and employees, which is a key element in understanding the needs and requirements of the staff, thus contributing to the improvement of the work environment and the organisation.

All company operations and results achieved are subject to periodic checks through internal audits of the Management System. The control phase allows us to evaluate the effectiveness and efficiency of company processes, compliance with current regulations (for example regarding Occupational Health and Safety and Environmental Protection), as well as adherence to technical standards and the requirements of the Management System.

To progress in a coherent and constant manner, Open Fiber periodically shares the results of QHSE performance with the Management Team (CEO and company management) during the Management review. This procedure allows us to evaluate the coherence and effectiveness of the Management System, analyse the performance of the current year and define new strategies and improvement objectives for the future.

6.3.2 CONTROL ACTIVITIES

During the process of selecting and certifying suppliers, their performance is constantly monitored, examining the contractual fulfilment of services through a Vendor Rating[149]. In addition to this monitoring system, Open Fiber, in line with the *framework* adopted for Risk Management, also carries out checks on the performance of suppliers of services, products and works in accordance with the procurement contracts.

The suitability of the systems for the Technical Standards and compliance with Open Fiber processes are verified through three levels of control:

- **compliance checks**: carried out by the Field

149 For a description of the Vendor Rating process, see paragraph 6.5.2 "Regular Supplier Evaluation".

Manager and the Operational QHSE of the region on behalf of the Regional Manager. These positions verify compliance with contractual obligations and/or those falling within the perimeter of responsibility ex lege within the construction sites for the construction of the network. In 2024, over 3,000 assessments were carried out, including approximately 1,800 inspections on construction sites and over 1,400 evaluations of the professionals appointed to supervise the sites;

- **operational checks**: the aim is to monitor the operations and procedural measures for carrying out compliance control activities. These checks are the responsibility of the Network Creation - Operational QHSE function of the Network & Operations[150] and focus on the activities required to create the network, also through specialised external companies. In 2024, there were over 1,500, of which about 960 were site inspections and about 580 were checks on the work of the professionals appointed to supervise the sites with regard to compliance with their respective service contracts;
- **internal system audits**: these are carried out by the Security, QHSE & Sustainability of Risk Management & Financial Advisory department, and by specialised internal and external personnel. Their task is to verify compliance with the company Management System and its correct implementation within the activities and processes, in accordance with the UNI EN ISO 9001, UNI ISO 45001 and UNI EN ISO 14001 standards. During 2024, 97 integrated QHSE internal audits were conducted throughout Italy as part of the activities carried out at Network Creation construction sites, technological sites, for Delivery & Assurance interventions, at company offices and for the organisation's internal processes. The results obtained from the audits confirmed that the QHSE Management System is a valuable element in company operations in terms of effectiveness and efficiency.

Furthermore, in order to verify the workplace compliance, during 2024 Open Fiber, through the Prevention and Protection Service, carried out over 20 inspections at the Company's offices and over 150 inspections at the technological sites located throughout the country.

6.4 INFORMATION SECURITY AND BUSINESS CONTINUITY

6.4.1 INFORMATION SECURITY AND BUSINESS CONTINUITY

The digital transformation taking place in our daily lives is revolutionising the way we interact, work and access services, presenting countless opportunities. However, the digital transformation has also exposed individuals and organisations to new vulnerabilities, particularly those related to cybersecurity. The digital identity of each individual, made up of personal data, access credentials and sensitive information stored in computer systems, is constantly in the crosshairs of cybercriminals who recognise its value. Using sophisticated techniques such as phishing, malware and social engineering attacks, hackers constantly try to breach systems and networks to steal, manipulate or exploit user information for illegal purposes.

The protection of data and privacy therefore becomes an absolute priority, favouring a proactive approach to cybersecurity. Today, the priority is to adopt advanced security measures as well as adequate training for users to recognise threats. Only through an integrated strategy of prevention and response to cyber-attacks is it possible to guarantee the security of digital identity and the resilience of the system in the context of a highly connected world.

Open Fiber recognises the importance of

150 With organisational arrangement of 19/01/2024, the Technology Department was established.

these topics that are intertwined with its business and therefore, in full respect of its values, it has initiated a constant process of updating and perfecting the Integrated Management System for Information Security and Operational Continuity. The commitment made aims to consolidate Open Fiber's solid and mature position, ensuring the protection of customers, employees and collaborators, and all stakeholders. The Management System, modelled on the UNI EN ISO/IEC 27001 "Information Security Management Systems" and UNI EN ISO 22301 "Business Continuity Management Systems" standards, is set up to ensure constant progression and the achievement of the objectives stated in the specific company policies and the Code of Ethics.

Open Fiber has built a solid system for the prevention, monitoring and response to IT incidents using procedural and technological countermeasures and constant supervision by specialised personnel dedicated to safeguarding the confidentiality, integrity and availability of information. In support of these procedures, activities are periodically carried out to analyse and mitigate the risks associated with threats that could have an impact on the business and on the operational continuity of the organisation resulting from malicious or accidental events (such as computer attacks, natural disasters, human error).

During 2024, Open Fiber retained the **UNI EN ISO/IEC 27001 certification** for its Information Security Management System, obtained in 2023, successfully passing the surveillance audits conducted by the third parties involved and implementing the continuous improvement and risk mitigation actions identified.

To take things a step further, the company has expanded its initiatives aimed at managing the security risk generated by the supply chain. In this context, the scope of verification of the security posture of suppliers deemed critical for the company's operations and business has been extended.

As regards the Business Continuity Management System, during 2024 Open Fiber updated the gap analysis in accordance with ISO 22301, in order to improve the management approach regarding potential interruptions to company activities, optimising the Business Continuity Management System. The upgrade allowed us to review the Business Impact Analysis (BIA) and improve the intervention sheets relating to operational continuity. The BIA has been updated to identify and evaluate Open Fiber's critical processes, specifying resources, recovery times and

CYBER SECURITY TRAINING & AWARENESS

During 2024, the Company remained committed to conducting Information & Cyber Security training and awareness activities aimed at increasing the corporate cybersecurity culture, involving personnel in various initiatives focused on recognising and managing threats and risks related to the cyber world, including:

- interactive awareness raising courses by means of webinars;
- specific awareness raising courses for users with administrator privileges;
- video lessons and quizzes on a dedicated platform;
- publication of "Cyber Security Bulletins" accompanied by dedicated in-depth meetings (the so-called Town Halls), to raise awareness among Open Fiber staff of the most current issues in the field of Information & Cyber Security;
- sharing of "Cyber Hot Topics" that offer suggestions on best practices to adopt in order to work safely;
- communication of "Cyber Security Alerts" regarding ongoing phishing and smishing campaigns;
- creation of Fake Phishing campaigns to assess the level of company preparedness, raise awareness among the company population about attack scenarios and provide practical instructions on identifying and preventing future threats;
- implementation of practical simulations based on the so-called "Intervention Sheets", with particular attention to the management of unavailability events.

intervention priorities in case of emergency. The intervention sheets have been updated in order to optimise operational procedures in response to interruptions, defining in detail the actions to be taken, the responsibilities and the communication flows necessary to guarantee a prompt and effective resumption of company activities.

These proposals have also made it possible to manage risks in a structured manner in line with the following objectives:

- ensuring the service availability levels set out in the contracts with customers;
- offering the availability of resources to support the infrastructure;
- ensuring the availability and safety of the personnel necessary for the provision of so-called "mission critical" business processes;
- ensuring compliance with the mandatory regulatory requirements applicable to Open Fiber's operational context and, in particular, to the services provided;
- supervising compliance with the contractual requirements and constraints that regulate the services;
- meeting the needs and expectations of internal and external stakeholders.

Every year, based on the company's priorities, a plan is drawn up to verify IT security levels through activities aimed at measuring the technical resilience of specific targets (Vulnerability Assessment e Penetration Testing).

6.4.2 BUSINESS CONTINUITY PLAN

Open Fiber updated its Business Continuity Plan regarding the strategies and recovery actions to be implemented in case of critical events that may cause the interruption of processes essential to the Organisation, thus guaranteeing the continuous provision of services to its Customers.

The Plan, in addition to establishing roles and responsibilities in the implementation of recovery procedures, is divided into specific intervention sheets, which are in turn subdivided into five areas based on the type of unavailability: specifically, unavailability of internal personnel, suppliers, basic infrastructures, ICT systems and buildings.

The Business Continuity Plan outlines a series of strategies that include periodic review and updating, especially following the implementation of new business processes and technological solutions to support critical activities. This methodology not only guarantees that recovery actions remain aligned with Open Fiber's evolution and technological innovations, but it is also part of a process of *continuous improvement*. By adopting this procedure, Open Fiber is able to constantly refine its business continuity management strategies, improving its ability to respond to potential interruptions and optimising the resources and solutions available. By following this procedure, the company is able to guarantee a faster and more effective recovery of business activities.

6.5 SUPPLY CHAIN ACCOUNTABILITY

6.5.1 QUALIFICATION PROCESS

Open Fiber's mission is to create a fiber optic infrastructure capable of covering the entire national territory through the installation of an ultra-broadband network. For this project to be realised, a dense network of actors and companies needs to be built with which to establish collaboration agreements aimed at guaranteeing the high-quality standards with which the Company contributes every day to wiring the country.

For the **construction, management and maintenance of the network** infrastructure, Open Fiber relies on the main system integrators. With the aim of respecting the environmental and landscape heritage of our country, the infrastructure is built where possible, taking advantage of pre-existing systems such as underground utilities,



cable products and pilings[151]. Such strategic choice minimises not only the environmental impact associated with the installation of new infrastructure (for example, the management of waste material from excavations, emissions into the atmosphere due to the use of construction vehicles), but also the social impact of having construction sites in the urban areas where we work (for example, inconvenience due to traffic or occupation of public land). When necessary, excavation is carried out using the most advanced techniques, such as mini and micro-trenches, as well as "no-dig" horizontal drilling, which minimises environmental impact and interference with the surrounding context.

In terms of the **supply of goods and products** - both passive (cables, manholes, manhole covers, cabinets) and active (access equipment and

151 In agreement with the reference managing bodies.

OTDR[152]) - Open Fiber directly purchases almost all the materials necessary to guarantee the highest quality infrastructure. Their production is located both in EU and non-EU countries and these materials are purchased both from the Italian market and from foreign suppliers: for example, the cables purchased are partly produced in Italy, but on a large scale in India, China and South Korea.

In its operations, Open Fiber bases all its activities on the principles of quality, transparency and sustainability in procurement, thus ensuring efficient and responsible processes. To such end, the Company set out a transparent **Qualification Process**, which all interested company and professionals can access.

Qualification Processes are divided into:

- **A&B Cluster**: it is the sector in which Open Fiber is involved in the construction of infrastructure with its own investments (cities and more urbanised areas) and which also includes all services and supplies in accordance with company operations;
- **C&D Cluster**: this is the sector in which Open Fiber is involved in the construction of the infrastructure, using funding provided by Infratel Italia S.p.A., with the aim of developing Ultra Broadband in areas of market failure. The qualification process for Cluster C&D also applies to the construction of the network infrastructure in the lots of *Italia a 1 Giga* Plan[153];

As regards the **A&B Cluster**, for each product category[154] the Basic Qualification Requirements (*Requisiti di Base per la Qualificazione*, RBQ) were defined, i.e., the basic technical-qualitative requirements that companies must meet in order to be considered qualified and included in the list of Open Fiber suppliers. For the A&B Cluster relating to the works, a minimum qualification requirement has been established that involves the participation of management system managers (quality, environment, health and safety) and suppliers in training courses provided by Open Fiber.

When the procedures for awarding contracts for works, services and supplies are activated, as Concessionaire (**C&D Cluster**) for the construction and management of a passive ultra-broadband infrastructure, Open Fiber follows the provisions contained in its Operating Manual, approved by the Grantor Infratel Italia S.p.A. Operators interested in participating in tenders for so-called "white areas" must first have joined the Access Mechanism, which is open to all those who meet the necessary general, economic and technical-professional requirements[155]. Participation in the Access Mechanism is a transparent, objective and non-discriminatory process, divided into successive phases, with the aim of assessing the suitability of Economic Operators to carry out the contracts. Also, for the lots of the ***Italia a 1 Giga* Plan**, relating to the so-called 'grey areas', the qualification of the operators takes place through the same Access Mechanism already active for the assignment of contracts in the white areas.

The Qualification Process requires, in addition to the operator's productivity and economic reliability requirements, a series of qualitative criteria (mandatory or preferential depending on the product category) which include:

152 Optical Time Domain Reflectometers – used both to certify new fiber installations and to diagnose faults in fiber optic networks, which contain the location of any faults and the performance of multifunction tests.

153 "Italia a 1 Giga" Plan is the first and most important one out of the 'Ultra-broadband Strategy' projects financed by the NRRP funds. In fact, out of the 6.7 billion euros of the NRRP allocated to ultra-broadband, 3.7 billion have been allocated to the "Piano Italia a 1 Giga" With reference to the qualification process for the activities included in the aforementioned Plan, design is excluded, for which reference is made to a Goods Group present in A&B.

154 For example: Network elements, Construction and maintenance of fiber optic telecommunications systems, Professional services for the design of fiber optic networks and FWA.

155 Within the C&D Cluster, economic operators are selected by means of an Access Mechanism that is open to all those who meet the general, economic and technical-professional requirements. For further information, please refer to the Operating Manual available on the company website at the following link: https://openfiber.it/fornitori/diventa-fornitore/.

- a traceability system for raw materials and products;
- an enterprise Quality Management System (Sistema di Gestione per la Qualità, SGQ) compliant with the current version of the UNI EN ISO 9001 standard issued by an accredited certification body;
- an Environmental Management System (*Sistema di Gestione Ambientale*, SGA) compliant and/or certified according to the UNI EN ISO 14001 standard;
- an Occupational Health and Safety Management System compliant and/or certified according to the UNI ISO 45001 standard;
- an Energy Management System (EMS) compliant and/or certified according to the UNI CEI EN ISO 50001 standard.

Also, as part of the qualification process, Open Fiber uses business intelligence services to analyse reputational risk, ensuring that the counterparties in its supply chain respect the values and principles of the Code of Ethics and company policies. The reputational analysis implemented covers various thematic areas, including the environment - such as responsible waste management - and social issues, with particular attention to respect for human rights and the protection of workers.

In an increasingly complex global context, reputational risk management plays an increasingly crucial role because through certain procedures it is possible to prevent connections, even indirect ones, with sanctioned subjects. A relevant example is represented by the risks linked to the Russia-Ukraine conflict, which have made it necessary to carry out in-depth checks throughout the three-year period 2022-2024, in order to guarantee full compliance with regulations and the protection of the company's integrity.

6.5.2 REGULAR ASSESSMENT OF SUPPLIERS

With a view to measuring the performance of its suppliers and monitoring the technical and qualitative requirements of the activities requested and the goods supplied, Open Fiber developed a model of **Vendor Rating** that identifies the main evaluation elements, allowing a numerical value to be attributed to each Economic Operator, called the Vendor Rating Index (IVR) and representative of its performance not only in technical-economic and production terms, but also in environmental and social terms.

The Vendor Rating Index applies to all qualified economic operators and/or members of the Access Mechanism who are awarded a contract for the execution of works, the provision of services and supplies, or who have a direct impact on the quality of services or who are considered critical for the achievement of their business objectives[156]. The macro-areas assessed by IRV take into account not only compliance with the 'performance' requirements linked to the agreements stipulated during the negotiation phase (for example, everything concerning the delivery of goods, products

PERFORMANCE ASSESSMENT TO PREVENT AND MITIGATE ENVIRONMENTAL AND SOCIAL IMPACTS ALONG THE SUPPLY CHAIN

Open Fiber identified and analysed the actual and potential negative environmental and social impacts along its supply chain. It therefore carries out periodic performance evaluations by assigning an IVR. The main ones are:

- **social impacts:** these relate to topics connected to Occupational Health and Safety, negative impacts on citizens (for example in terms of interruption of the provision of public utility services due to damage and in terms of injuries due to inopportune management of construction sites) and labour practices (for example connected to the regular payment of social security contributions by companies);
- **environmental impacts:** these are impacts connected to the use of raw materials and natural resources, the production of waste, atmospheric emissions, noise emissions, as well as accidental events with negative impacts on the environment.

156 The following product categories are excluded from the Vendor Rating system: Scouting supplies, Scouting work, Scouting services. The Vendor Rating system became fully operational in 2020.

and services), but also aspects of Occupational Health and Safety management (for example, the frequency and extent of accidents), environmental protection (for example, compliance in waste management) and compliance with quality standards - as defined by the Technical Standards - for the verification of Open Fiber's installations during construction.

Based on the value obtained from the IVR and the severity of any deficiencies found, the Company adopts specific measures, which may include requesting improvement or corrective actions from the suppliers. In the most critical cases, however, these measures may lead to the suspension or exclusion of the supplier from the Supplier Register and/or the Access Mechanism.

6.5.3 SUSTAINABLE PROCUREMENT

According to its principles and values, Open Fiber is committed to conduct a responsible business at every stage of the value chain, always focusing on the concepts of integrity, respect for the rules and full transparency in its operations. The company does this not only through a rigorous supplier qualification process, but also through targeted initiatives. Between the end of 2022 and the beginning of 2023, it launched a **"Sustainable Procurement"** pilot project: the aim is to conduct an initial assessment on ESG (Environmental, Social and Governance) topics. This initiative aims to assess the degree of integration of sustainability principles in the supply chain and to ensure that the Company's core values are shared and applied by the entire production ecosystem.

Suppliers with the greatest impact on the value supply chain completed a self-assessment questionnaire based on the activity carried out and focused on social, environmental and governance topics. The rating model developed, inspired by the international guidelines UNI ISO 20400:2017 (Sustainable procurement guidelines), UNI ISO 31000: 2018 (Risk Management – Principles and guidelines) and UNI EN ISO 26000:2010 (Guidance on Social Responsibility), is based on a "risk-based thinking" approach, i.e. centred on mapping the main risks connected to the product categories of the company supply chain.

Thanks to the results of this analysis, Open Fiber has been able to understand how ESG topics are managed in its supply chain and to evaluate the sustainability commitment of a representative sample of its suppliers.

The pilot project and the categorised results provided a further boost in defining a sustainable procurement strategy and a path for the gradual introduction of tools for evaluating and monitoring suppliers on ESG topics. The first major achievement of this pathway occurred when, at the end of 2023, Open Fiber joined the **vendor rating ESG Open-es**[157] **platform** as a **Value Chain Leader Partner** for the 2024-2025 period. Open-es is a digital platform supporting the sustainable development of all businesses, from SMEs to big players, through which it is possible to measure their ESG performance, evaluate and share data and experiences, obtain personalised development plans and identify solutions to undertake a process of continuous and constant improvement over time. Furthermore, the Value Chain Leader Partner profile allows you to evaluate the sustainability performance of your supply chain and support its optimisation and implementation where necessary.

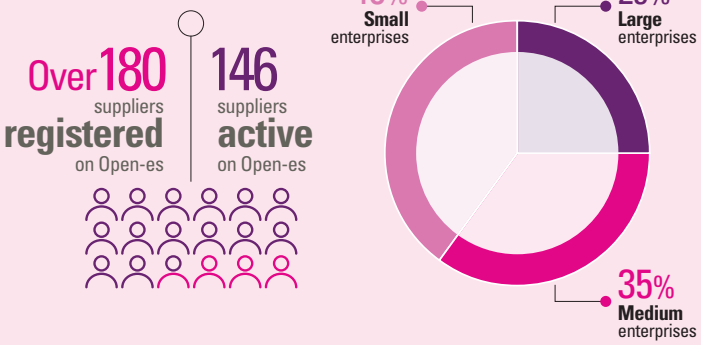
Open Fiber joined the platform and considers this as a strategic choice and an opportunity to spread its values, mission and corporate vision along the entire supply chain. Through this tool, the company promotes innovation and *digital transformation* in the supply chain and encourages a constructive dialogue on ESG issues, not only with its suppliers, but also with the other participating partners, creating synergies and contributing to a sustainable and responsible development model.

157 Open-es is a digital platform launched by Eni, Boston Consulting Group (BCG) and Google Cloud, which supports businesses in their sustainable development. The platform allows all companies, from SMEs to large players, to measure their ESG performance, analyse and share data and experiences, obtain personalised development plans and identify solutions to implement in order to improve.

OPEN-ES VALUE CHAIN LEADER PARTNER

During 2024, Open Fiber actively participated in the development and training activities planned as part of Open-es, as Value Chain Leader Partner. Together with the other partners of the Open-es Alliance, the Company promotes and guides the **evolution of the platform** with the aim of having an increasingly efficient and effective ESG vendor rating tool.
Furthermore, in 2024 Open Fiber promoted participation in Open-es among its suppliers, encouraging them to **register on the platform** and **fill in the questionnaire** to evaluate their sustainability performance.

As of 31 December 2024, the results are as follows:



The second milestone on the sustainable growth journey of the value chain is linked to the drafting and publication in 2024 of the **Policy of Sustainable Procurement**, with the aim of formalising the company's commitment to adopting a **procurement model that integrates sustainability** criteria in order to maximise the positive environmental, social and economic impacts generated along the supply chain, as well as minimising the negative ones.

The Policy, which clarifies the principles, methodologies and tools underlying the company's procurement model, was the subject of **a training activity specifically designed for the company staff responsible for its implementation**. In 2024, about 50% of the Purchasing Department was involved in the training course, which was divided into two 4-hour sessions. Part of the training was

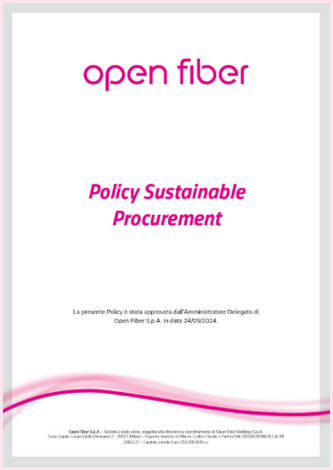


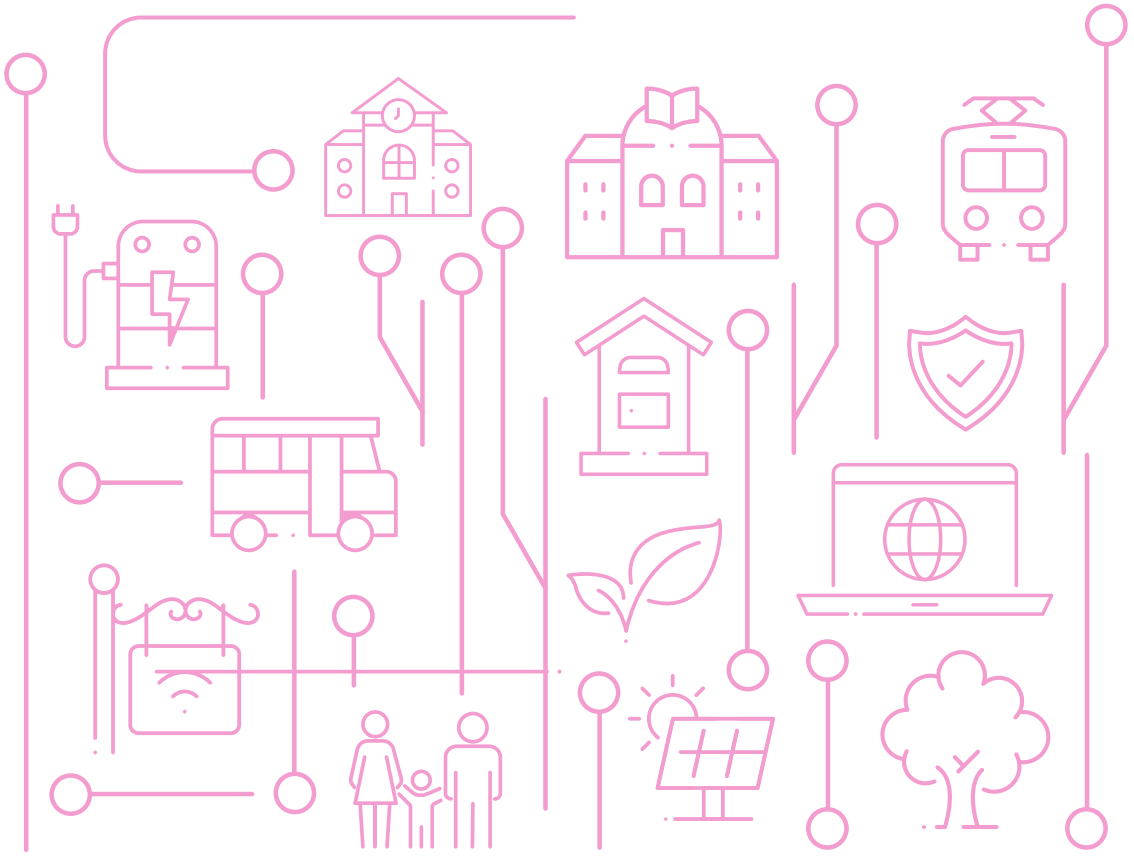
dedicated to the **general aspects** of sustainable procurement (e.g. risks and opportunities in the supply chain, national and European regulatory framework, sustainability criteria in procurement processes, scouting practices to identify virtuous suppliers). The course continued to focus on the **contents of** the Sustainable Procurement Policy and the **actions foreseen in the Sustainability Plan** to promote the continuous improvement of ESG performance along the value chain. This particular professional training initiative was a success among the participants and will be offered again in 2025 with the aim of training the entire Purchasing Department, perfecting their skills on these issues that are increasingly necessary for the Company's business.

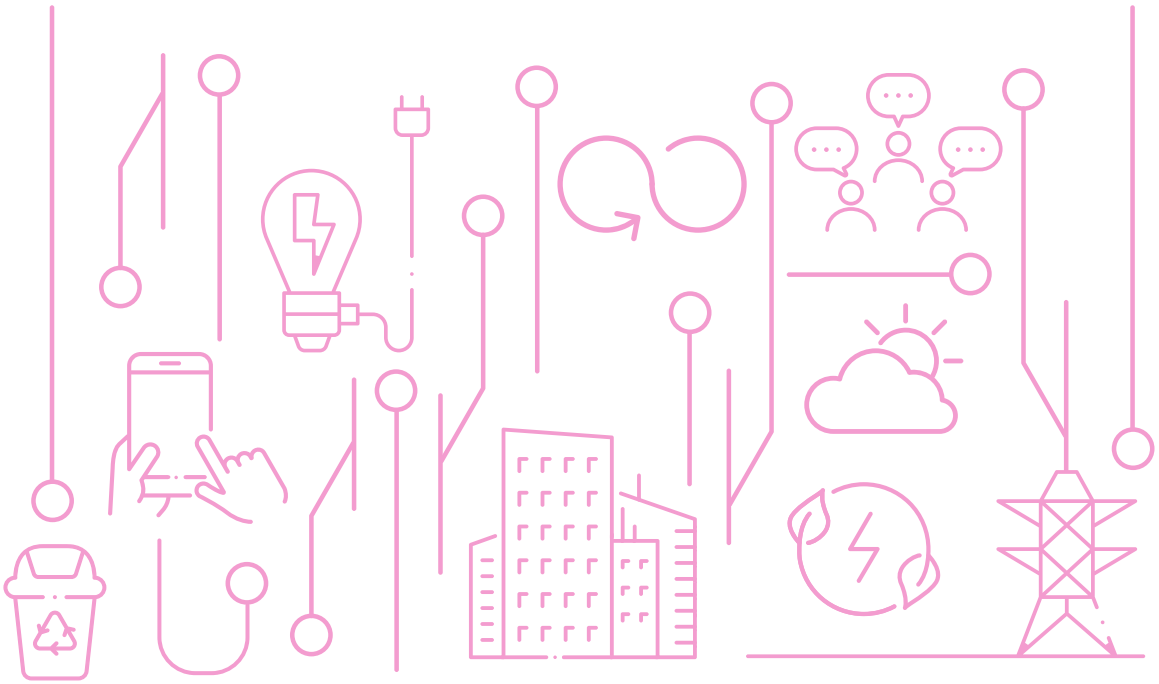
POLICY SUSTAINABLE PROCUREMENT

In May 2024, the Sustainable Procurement Policy was approved. This document outlines Open Fiber's approach to sustainable procurement, inspired by ISO **Guidelines 20400:2017 – "Sustainable Procurement Guidance"**. The Policy identifies **principles** and **commitments** aimed at guaranteeing the integration of the concept of sustainability throughout all stages of the procurement process and at promoting the optimisation of the ESG performance of its suppliers. The selected criteria concern a series of activities to be carried out, such us:

- taking into account the **entire life cycle of the products and services purchased**, integrating purchasing decisions with economic, social and environmental criteria;
- purchasing goods and services that reflect **specific and/or recognised environmental and social standards**;
- guaranteeing the purchase of raw materials and components from suppliers able to demonstrate r**espect for human and workers' rights** throughout their production process;
- **assessing and progressively reducing the environmental** footprint resulting from the procurement of materials, products and services during their life cycle;
- **generating value for local communities** through procurement dynamics, favouring the purchase of local products and services where possible;
- **creating an internal culture** based on the sustainable supply model, developing specific training and information activities for staff;
- raising **awareness among the actors in the supply chain** of the importance of sustainability, sharing knowledge and best sustainability practices with suppliers and peers and encouraging them to adopt responsible and innovative practices;
- periodically **evaluating the sustainability performance of suppliers** with a focus on their most significant impacts;
- constantly **monitoring**, through appropriate KPIs, **the progress of the sustainable purchasing process** to ensure continuous improvement of the sustainability performance of the value chain.







07. GUIDANCE

Open Fiber's 2024 Sustainability Report is an effective and voluntary tool adopted by the organisation to communicate to its internal and external stakeholders its commitment and the initiatives taken in relation to environmental, social and governance issues. This document has been prepared to ensure understanding of Open Fiber's activities, its performance, its results, the impacts produced with reference to material topics, as well as the risks and opportunities in the field of sustainability that have or could have financial impacts on the company. The structure of the Report has been defined on the basis of the results of the materiality analysis, focusing more on the material topics, to which specific in-depth paragraphs have been dedicated, dealing with the individual topics and reporting the related indicators (also reported in detail in paragraph 7.5 "Data and performance indicators tables").

For more details on the initiatives dedicated to customers, communities and the local area, please consult the website **www.openfiber.it**.

7.1 METHODOLOGICAL NOTE

The Sustainability Report was drafted in accordance with the GRI Standards 2021, published by the GRI (Global Reporting Initiative) in 2021. Furthermore, with specific reference to the materiality analysis, the requirements introduced at European level by the Corporate Sustainability Reporting Directive (CSRD) and by the European Sustainability Reporting Standard (ESRS) adopted through the EU Delegated Regulation 2023/2772 were taken into consideration. In line with the reference standards and in order to guarantee the quality and correct presentation of the information reported, the content definition process followed the principles of accuracy, balance, clarity, comparability, completeness, sustainability context, timeliness and verifiability.

In accordance with these principles, the reporting period for this document is the 2024 financial year (from 1 January to 31 December) and the performance indicators refer, where possible, to the three-year period 2022-2024. With the aim of providing a complete view of the company's performance, the most significant events that occurred in the first months of 2025 have been reported.

The information and data contained in this Report refer to Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l.[158], a consortium established in 2022 by Open Fiber together with Amplia Infrastructures S.p.A. and C.I.E.L. S.p.A. with the aim of driving forward the digital and technological transformation of Italy. To ensure the comparability of information with previous years, the main KPIs are reported separately for the performance of Open Fiber S.p.A. (period 2022-2024), and for the performance of Open Fiber Network Solutions (period 2023-2024[159]) and for the consolidated performances (for the two-year period 2023[160] 2024) in the paragraph 7.5 "Data and performance indicators tables"[161]. Qualitative information, where not differently specified, refers to Open Fiber S.p.A. All the information contained in "GRI 2 - General Information 2021" has been included in the Report; if, for legitimate reasons, certain information has been omitted, this has been indicated in the "GRI Content Index" with an explanation for the omission. The material topics have been identified and reported in accordance with the criteria indicated in "GRI 3 - Material Topics 2021" and according to the "**double materiality**" perspective provided by the CSRD. For each of

158 Controlled by Open Fiber S.p.A. (98.58% shareholding as of February 2025).

159 For the Consortium, only the performance for the 2023-2024 two-year period is available, as 2023 is the first year in which the performance of Open Fiber Network Solutions has been analysed using specific KPIs.

160 First year of the Consortium consolidation.

161 The only exception being the economic performances, for which only the consolidated performances are reported.

the material topics, the applicable disclosures of the "GRI Specific Standards" have been reported. Where there were more appropriate tools to represent performance on a specific topic (for example, the Financial Statements and Code of Ethics), reference was made for discussion or further information in the relevant paragraphs and in the "Comments" column of the "GRI Content Index". No sector-specific GRI standards are currently available that are applicable to Open Fiber's activities. The "GRI Content Index" has been published in this Report and the use of the GRI Standards has been notified to the GRI.
Finally, a reference has been included to the main Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda, to which Open Fiber contributes with its activities.

7.2 IDENTIFICATION OF MATERIAL TOPICS

In 2024, Open Fiber strengthened the analysis methodology of double materiality or "double relevance", introduced by the CSRD[162] and by the European Sustainability Reporting Standards (ESRS) to identify material topics, in anticipation of the entry into force of the relative legislative obligations. Based on this approach, the material topics are identified according to the significance of the impact and the financial significance, i.e. by assessing the significance of the impacts that the organisation has or could have on sustainability issues and the significance of the financial impacts generated by sustainability issues on the Company.
The process began with an analysis of the context in which the Company operates, with the aim of identifying the positive and negative, actual or potential impacts that Open Fiber generates (or could generate) on ESG topics along its value chain. This preliminary phase included:

- Analysis of the **main trends in the industry**, **reporting standards and sustainability** ratings at an international level;
- Analysis of the **applicable legislation**, including policy documents (e.g. PNRR, Taxonomy, Corporate Sustainability Reporting Directive and Delegated Regulation EU 2023/2772);
- **Benchmarking** of competitors and comparable companies through the main public documents on sustainability and social responsibility;
- **Press review** of the main articles concerning the Company in the reporting year;
- Analysis of **company documentation** such as policies, internal procedures, relevant documents on the internal regulatory system (e.g. Code of Ethics) and documents that formalise management systems compliant with international standards adopted by the organisation (e.g. ISO 9001, ISO 14001, ISO 45001, ISO 27001, ISO 22301);
- Analysis of the **company value chain** aimed at identifying the impacts, risks and opportunities of the company's activities and those upstream and downstream of the value chain, as well as the related stakeholders.

The impacts identified were grouped and summarised in a **"short list" of 29 impacts** (7 positive, 22 negative, 19 actual and 10 potential) as shown below.
The "short list" was then **assessed** by the **main categories of stakeholders**[163]. Based on a representative sample, the **significance of the impacts** was evaluated according to their severity[164] for actual impacts and the combination of severity and probability of these occurring

162 Corporate Sustainability Reporting Directive.

163 Shareholders, customers, suppliers and workers.

164 For the negative impacts, the severity is determined by: 1) Severity scale, i.e., how serious the impact is. 2) Scope, how widespread the impact is. 3) Irremediable character, how difficult it is to mitigate or compensate for the resulting damage. For positive impacts, the severity is determined only by the first two criteria already mentioned for negative ones, namely: severity scale and scope of application.

FIGURE 5: 2024 IMPACTS LIST

ENVIRONMENTAL IMPACTS

- (−) (★) Direct and indirect emission generation (Scope 1, Scope 2)
- (−) (★) Generation of emissions along the value chain (Scope 3)
- (−) (★) Energy consumption
- (+) (★) Enabling the ecological transition
- (−) (★) Water, air and soil pollution caused by the Company's activities and its value chain
- (−) (★) Production of potentially hazardous substances from the Company's activities
- (−) (★) Water consumption and withdrawal
- (−) (★) Water discharge
- (−) (★) Biodiversity and ecosystems alteration
- (−) (★) Resources consumption
- (−) (★) Waste production
- (−) (★) Waste production along the value chain

GOVERNANCE IMPACTS

- (−) (?) Delayed or non-payment of suppliers
- (−) (?) Episodes of corruption and conflicts of interest
- (+) (★) Development of a company culture based on principles of ethics and integrity
- (−) (?) Privacy and cybersecurity breach incidents

SOCIAL IMPACTS

- (+) (★) Workers' wellbeing, training, skills development and talent attraction
- (−) (?) Negative effects on workers' health and safety
- (−) (?) Episodes of human rights violations and episodes of discrimination, harassment and abuse
- (−) (?) Non-recognition of workers' demands, lack of inclusiveness in the workplace
- (−) (?) Negative effects on workers' health and safety along the value chain
- (+) (★) Skills development of value chain workers
- (−) (?) Episodes of labor rights violations along the value chain
- (−) (?) Human rights violations and episodes of discrimination, harassment and abuse along the value chain
- (+) (★) Spreading ESG practices along the value chain
- (+) (★) Contribution to the Country's digitalisation and socioeconomic development
- (−) (★) Negative effects linked to the construction site activities
- (+) (★) Customers' and end users' satisfaction
- (−) (?) Infrastructure-related malfunctions and breakdowns

(+) **Positive impact** (★) **Actual impact**

(−) **Negative impact** (?) **Potential impact**

for potential impacts (impact materiality). They were given a **survey questionnaire** and each stakeholder category was assigned a specific weight to weigh up the relative evaluations[165]. Furthermore, Open Fiber employees (its own workforce) were also involved in a **focus group** on sustainability issues.

Afterwards, in line with the Company's Enterprise Risk Management methodology, the risks and opportunities relating to sustainability topics that could have an actual or potential impact on the Company's economic and financial prospects were identified and assessed. The significance of the risks and opportunities was assessed in terms of their financial materiality.

By combining impact materiality and financial materiality, and setting a threshold of relevance, the material topics were identified:

- **Affected communities**: contributing to the digitalisation and socio-economic development of the country and local communities, and minimising the impacts associated with the construction and management of the network, including through careful management of

165 The weight assigned to stakeholders was established according to the prioritisation carried out as part of the strengthening of the stakeholder engagement strategy.

FOCUS GROUP ON THE MATERIALITY ANALYSIS

The objective of the focus group set up at the Rome headquarters, which involved a panel of Open Fiber employees, was to understand, through direct interaction, the **point of view** of the workers on the actual and potential impacts on people and the environment linked to Open Fiber's operations. The event allowed us to gather **inputs** and **feedback** useful for understanding the **interests and expectations** of the staff towards the organisation, strengths and areas for improvement on ESG aspects and identifying **the most relevant sustainability topics** to be addressed in the context of corporate reporting and strategy. To do this, colleagues were asked a series of questions via an online tool, which helped to fuel a constructive debate on sustainability topics.
The focus group also provided an opportunity to introduce the **tool of materiality analysis** and its importance, also showing best practices, and to submit the impact assessment survey in real time.

relations with local administrations and competent authorities;

- **Business conduct**: ensuring ethical business management, facing various types of illegal activities such as unfair commercial practices, abuse of market position, anti-competitive behaviour, price fixing and corrupt practices;
- **Climate change**: contributing to the fight against climate change through actions to reduce emissions directly and indirectly linked to the business, including improving energy efficiency and using energy from renewable sources. Identifying and adopting appropriate measures to prevent or minimise damage resulting from climate change or to take advantage of opportunities that may arise;
- **Biodiversity and ecosystems**: contributing to the preservation of biodiversity and the conservation of ecosystems, carrying out its activities with full respect for habitats and minimising the environmental impact of its activities;
- **Circular economy**: contributing to the transition to a circular economy by sourcing materials and products with a reduced environmental impact throughout their life cycle, minimising waste production and maximising reuse, recycling and recovery practices;
- **Responsible value chain management**: selecting and evaluating suppliers and business partners based on specific social and environmental criteria such as occupational health and safety, fair contractual conditions and minimisation of environmental impacts;
- **Own workforce**: ensuring adequate protection of the human resources employed in the organisation, with particular reference to health and safety, diversity, equity and inclusion, investing in the development and enhancement of talent.
- **Consumers and end-users**: ensuring continuity, reliability and quality of service for customers and end users, responding to market needs by developing innovative offers, while ensuring access to adequate information on the economic, environmental and social impacts of the activities carried out;
- **Privacy and cybersecurity**: guarantee adequate levels of privacy for customers and end users and prevent cyber-attacks that could jeopardise service continuity and network reliability.

Here follows a table showing the correlation between the material topics[166], the impacts and the aspects of the GRI Standard of reference, with indications on the scope (internal and external to the organisation) and any limitations.

166 The material topics did not undergo any substantial changes but only wording compared to previous reporting.

MATERIAL TOPIC	IMPACTS	GRI STANDARDS	SCOPE AND ANY LIMITATIONS
Affected communities	Contribution to the digitisation and socio-economic development of the country Negative effects linked to the construction site activities	**201: Economic performance 2016** 201-1 Direct economic value generated and distributed 201-2 Financial implications and other risks and opportunities due to climate change 201-3 Obligations regarding benefit plans and other pension plans already established 201-4 Financial assistance received from the government **203: Indirect economic impacts 2016** 203-1 Infrastructure investments and services supported 203-2 Significant indirect economic impacts **413: Local communities 2016** 413-1 Operations with local community engagement, impact assessments, and development programmes	Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l
Business conduct	Delayate or non-payment of suppliers Episodes of corruption and conflicts of interest Development of a company culture based on principles of ethics and integrity	**205: Anti-corruption 2016** 205-1 Operations assessed to identify risks related to corruption 205-2 Communication and training on anti-corruption policies and procedures 205-3 Confirmed incidents of corruption and actions taken **206: Anti-competitive behaviour 2016** 206-1 Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l
Climate change	Direct and indirect emissions generation (Scope 1, Scope 2) Generation of emissions along the value chain (Scope 3) Energy consumption Enabling the ecological transition	**302: Energy 2016** 302-1 Energy consumption within the organisation 302-3 Energy intensity **305: Emissions 2016** 305-1 Direct greenhouse gas (GHG) emissions (Scope 1) 305-2 indirect greenhouse gas (GHG) emissions from energy consumption (Scope 2) 305-3: Other indirect greenhouse gas (GHG) emissions (scope 3) 305-4 Greenhouse gas (GHG) emissions intensity 305-5 Reduction in greenhouse gas (GHG) emissions	Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l

MATERIAL TOPIC	IMPACTS	GRI STANDARDS	SCOPE AND ANY LIMITATIONS
Biodiversity and ecosystems	Biodiversity and ecosystems alteration	**304: Biodiversity** 304-2 Significant impacts of activities, products and services on biodiversity	Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l
Circular economy	Resource consumption Waste production Waste production along the value chain	**306: Waste 2020** 306-1 Waste generation and significant waste-related impacts 306-2 Management of significant waste-related impacts 306-3 Waste generated 306-4 Waste diverted from disposal 306-5 Waste directed to disposal	Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l
Responsible value chain management	Negative effects on workers' health and safety along the value chain Skills development of value chain workers Episodes labor rights violation along the value chain Human rights violations and episodes of discrimination, harassment and abuse along the value chain Spreading ESG practices along the value chain	**308: Supplier environmental screening 2016** 308-1 New suppliers that were screened using environmental criteria 308-2 Negative environmental impacts in the supply chain and actions taken **414: Supplier social assessment 2016** 414-1 New suppliers that were screened using social criteria 414-2 Negative social impacts in the supply chain and actions taken	Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l. Suppliers involved in the *Creation, Delivery and Assurance activities*
Own workforce	Workers' well-being, training, skills development and talent attraction Negative effects on workers' health and safety Episodes of human rights violations and episodes of discrimination, harassment and abuse Non-recognition of workers' demands, lack of inclusiveness in the workplace	**401: Employment 2016** 401-1 New employee hires and employee turnover 401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees 401-3 Parental leave **403: Occupational Health and Safety 2018** 403-1 Occupational health and safety management system 403-2 Hazard identification, risk assessment, and incident investigation 403-3 Occupational health services	Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l

MATERIAL TOPIC	IMPACTS	GRI STANDARDS	SCOPE AND ANY LIMITATIONS
Own workforce		403-4 Worker participation, consultation, and communication on occupational health and safety programmes 403-5 Worker training on occupational health and safety 403-6 Promotion of workers' health 403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships 403-9 Work-related injuries 403-10 Work-related ill health **404: Training and education 2016** 404-1 Average hours of training per year per employee 404-3 Percentage of employees receiving regular performance and career development reviews **405: Diversity and equal opportunity 2016** 405-1 Diversity of governance bodies and employees	Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l
Consumers and end users	Customer and end-user satisfaction Infrastructure malfunctions and breakdowns	**416: Customer Health and Safety 2016** 416-1 Assessment of the health and safety impacts of product and service categories 416-2 Incidents of non-compliance concerning the health and safety impacts of products and services **203: Indirect economic impacts 2016** 203-1 Infrastructure investments and services supported 203-2 Significant indirect economic impacts	Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l. Suppliers involved in the *Creation, Delivery and Assurance activities*
Privacy and cybersecurity	Episodes of privacy and cybersecurity breaches	**418: Customer Privacy 2016** 418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l

MATERIAL TOPICS AND 2030 AGENDA SDGS

OPEN FIBER MATERIAL TOPIC AND SDGS	SPECIFIC TARGET
Affected communities 	**8.2** Reaching higher levels of economic productivity through diversification, technological updating and innovation, also through a focus on sectors with high added value and labour-intensive sectors **8.3** Promoting development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalisation and growth of micro-, small- and medium-sized enterprises, including through access to financial services **9.1** Developing high-quality, reliable, sustainable and resilient infrastructure, including regional and cross-border infrastructure, to support economic development and human well-being, with a focus on providing fair access for all **9.3** Increasing the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets **9.4** By 2030, upgrading infrastructure and modernising industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities **11.4** Making greater efforts to protect and safeguard the world's cultural and natural heritage **17.6** Enhancing North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism
Business conduct 	**9.1** Developing high-quality, reliable, sustainable and resilient infrastructure, including regional and cross-border infrastructure, to support economic development and human well-being, with a focus on providing fair access for all **16.5** Substantially reducing corruption and bribery in all their forms
Climate change 	**13.2** Integrating measures to fight climate change into national policies, strategies and planning **7.2** By 2030, significantly increasing the share of renewable energy in the global energy mix **7.3** By 2030, doubling up the global rate of improvement in energy efficiency
Biodiversity and ecosystems 	**15.3** By 2030, fighting against desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world
Circular economy 	**12.2** By 2030, achieving the sustainable management and efficient use of natural resources **12.5** By 2030, substantially reducing waste production through prevention, reduction, recycling and reuse

MATERIAL TOPICS AND 2030 AGENDA SDGS

OPEN FIBER MATERIAL TOPIC AND SDGS	SPECIFIC TARGET
Responsible value chain management 	**8.7** Adopting immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including the recruitment and use of child soldiers, and by 2025 end child labour in all its forms **8.8** Protecting labour rights and promoting safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment
Own workforce 	**3.d** Strengthening the capacity of all countries, in particular developing countries, with regard to preventing, reducing and managing risks to national and global **4.3** By 2030, ensuring equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university **4.4** By 2030, substantially increasing the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship **8.5** By 2030, achieving full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value **8.8** Protecting labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment **10.2** By 2030, increasing and promoting the social, economic and political inclusion of all, regardless of age, sex, disability, race, ethnicity, origin, religion, economic status or other factors **10.3** Ensuring everyone equal opportunities and reducing inequalities in terms of results, also by eliminating discriminatory laws, policies and practices, and promoting adequate laws, policies and actions in this sense
Consumers and end users 	**9.1** Developing high-quality, reliable, sustainable and resilient infrastructure, including regional and cross-border infrastructure, to support economic development and human well-being, with a focus on providing fair access for all
Privacy and cybersecurity 	**9.1** Developing high-quality, reliable, sustainable and resilient infrastructure, including regional and cross-border infrastructure, to support economic development and human well-being, with a focus on providing fair access for all

7.3 STAKEHOLDERS' EXPECTATIONS AND ENGAGEMENT CHANNELS

Here follows a table correlating the different categories of stakeholders with their expectations and methods of involvement, activities and responses of Open Fiber. For the mapping of Open Fiber's stakeholders, please refer to the paragraph "Strengthening the stakeholder engagement strategy".

STAKEHOLDERS	EXPECTATIONS	COMPANY ENGAGEMENT, ACTIVITIES AND RESPONSES
Society and Local Community	Honesty, ethics, fairness, integrity. And also safety, health and human rights protection, respect for the environment. Open Fiber and its network - a strategic combination for the improvement of social conditions in different areas - are integrated into the territory in a widespread manner, avoiding environmental impacts, respecting the territory and its landscape, managing inconveniences, and avoiding accidents. The fiber creates employment, involves young people, reduces the digital divide and feeds the infrastructures for the development of the digital network for the country.	- Promotion and communication on the Open Fiber institutional website - Promotion and communication on social networks - Press releases - Specific engagement projects
Media, Press and Opinion Makers	Social commitment and solidarity, transparency and responsible marketing, protection of human rights and the environment, promotion of local areas, are just some of the expectations of the media, the press and the opinion makers vis-à-vis the Company. Through specific campaigns, Open Fiber raises public awareness by talking about its social commitment and attention to environmental protection. With a transparent approach, it reconstructs the progress of its activities and presents its assets for the future of the country: foresight, community support, 5G, innovation.	- Promotion and communication on the Open Fiber institutional website and social networks - Specific projects - Press releases and conferences - Interviews and publications - One-to-one meetings
Associations	Occupational safety, protection of the environment and human rights, social solidarity, diversity, equity & inclusion, improvement of public services: those are the topics at the centre of the cooperation between Open Fiber and the associations. Particular attention is also paid to reducing the digital divide, emissions in the TLC sector, the digitalisation of the economy, companies, the PA and society, and to European funds and projects in the digital field.	- Events and meetings - Memberships and agreements
Customers	The Company is characterised by its focus on Customer Care, as demonstrated by its willingness to listen and the quality of its service. Other characteristics include the speed with which it responds to requests, the protection of privacy, the protection and security of personal data, digitisation, the development of local entrepreneurial activities, optimisation of the supply chain, occupational safety, and the protection of the environment and human rights.	- One-to-one meetings - Corporate events - Contracts and agreements

STAKEHOLDERS	EXPECTATIONS	COMPANY ENGAGEMENT, ACTIVITIES AND RESPONSES
University and Research Centres	Development of partnerships, participation in career days, education for the future: these and many other topics animate the relationship between the Company and the universities and research centres. Open Fiber represents a potential partner for collaborations, a job opportunity for its students, an example of technological innovation and open innovation, a supporter of sporting, social and cultural initiatives and an opportunity for PCTO (a work experience programme).	- Career Days - Open Days - Collaborations and specific projects
Certification body	In order to embark on a virtuous path in the performance of its activities, Open Fiber is required to comply with international reference standards and to maintain the reputation and professionalism of the Certification body itself.	- Audits
Audit bodies and institutions	Compliance with safety regulations and the protection of the landscape and archaeological heritage during the network installation work results in a reduction in the rate of accidents and injuries on Open Fiber construction sites. The construction of digital infrastructures for the country, an opportunity for the development of employment, complies with current regulations, including those regarding the regularity of contracts and subcontracts.	- Working groups - Mandatory and on-demand information - Events and conferences - Agreements
Finance community and investors	Open Fiber is measured based on its economic and financial solidity, ESG investments, security and value of investments, operational efficiency, sound governance and transparent conduct, innovation, continuous improvement and preventive and structured management of business processes.	- Press releases - Presentation of financial and non-financial results (balance sheet) - Funding projects - One-to-one meetings
Insurance companies	They rate Open Fiber based on its economic and financial solidity, its adoption of insurance products customised for health and safety and environmental risks, its prevention practices aimed at reducing accidents, its methods for crisis/emergency management and related communication, and its adequate compensation of injured third parties.	- Contracts - One-to-one meetings
Suppliers of goods/services/work	After examining Open Fiber in order to carry out a preliminary risk assessment of the Company's contracted activities, and to verify compliance with health, safety and environmental protection regulations in all Open Fiber workplaces, the choices made regarding privacy protection and personal data security ensure a virtuous collaborative relationship and a significant return in terms of image.	- Contracts - One-to-one meetings - Events and workshops
Consultants and external collaborators	They choose Open Fiber based on its compliance with Health and Safety regulations in all workplaces and for the choices it has made regarding the protection of privacy and the security of personal data.	- One-to-one meetings - Events and workshops

STAKEHOLDERS	EXPECTATIONS	COMPANY ENGAGEMENT, ACTIVITIES AND RESPONSES
Public Concessionary Authority	The Concessionary Authority requires Open Fiber to develop digital infrastructures for the country, able to guarantee network reliability and quality of service, following the rules of Health and Safety for workers and environmental protection at work sites.	- Direct contacts - Mandatory and on-demand information
Existing infrastructures operators	Open Fiber is responsible for the compliant use of existing infrastructures under IRU contracts, the prevention of damage to underground networks and the management of disruptions or situations that jeopardise safety.	- Direct contacts and IRU - Communications related to the performance of work
Business partners	Development of collaborations, technological innovation and open innovation.	- Direct contacts - One-to-one meetings - Partnership agreements
Trade union representatives / Workers Safety Representatives (RLS, *Rappresentante dei Lavoratori sulla Sicurezza*)	Development of skills appropriate to the job, Health and Safety at Work, application of the industry collective agreement, increased employment, promotion of diversity, equity & inclusion in the workplace, protection of human rights, sound governance and transparent conduct.	- Regular meetings with representatives - Press releases
Workers	A healthy and safe working environment, availability of protective devices and safe and functional work equipment, *work-life balance*, parenting support, focus on continuous improvement of corporate welfare and professional well-being, protection of human rights, *diversity, equity & inclusion*, integrity and business ethics, active involvement in Health and Safety and Environmental Protection issues, skills development and training, privacy protection, personal data protection and security, absence of accidents and occupational illnesses.	- Internal organisational communications - Company intranet - Training and refresher courses - Engagement and team building initiatives - Company meetings - Corporate events
Suppliers' workers	Safe and functional work equipment, absence of occupational accidents and diseases, development of local entrepreneurial activities, privacy protection, personal data protection and security.	- Communication to suppliers
Shareholders	In Open Fiber they look for security and value for money, containment of management costs, network implementation and operational efficiency, attention to environmental and social sustainability, prevention of emergency and crisis situations, brand reputation, competent, trained and satisfied staff, compliance with the legislative context, respect for the behavioural principles contained in the Code of Ethics, implementation of the control protocols contained in the Model pursuant to Legislative Decree Legislative Decree 231/2001 for the prevention of the crimes contemplated by the decree, privacy protection, personal data protection and security, network reliability and service quality, sound governance and transparent conduct and responsible marketing.	- Meetings - Presentation of financial and non-financial results

STAKEHOLDERS	EXPECTATIONS	COMPANY ENGAGEMENT, ACTIVITIES AND RESPONSES
Management	From Open Fiber it expects a satisfying relationship with the Customer, the definition of S.M.A.R.T., availability of resources to achieve objectives, carrying out work activities safely and with total respect for the environment, implementation and maintenance of the Integrated Quality, Safety and Environment Management System, responsible management of the supply chain, privacy protection, personal data protection and security, network reliability and service quality, operational efficiency and motivated people.	- Internal organisational communications - Company meetings - Corporate events
Supervisory Body pursuant to Legislative Decree 231/2001	Compliance with the behavioural principles contained in the Code of Ethics, effective implementation of the control protocols contained in the Model pursuant to Legislative Decree 231/2001 for the prevention of offences, safety, health protection and quality of production processes while fully respecting the environment.	- Dedicated information channels
Ecosystem	Taking a totally green approach, Open Fiber is committed to developing its network in a way that avoids negative environmental impacts, respects the landscape heritage, reduces CO_2 emissions and uses energy from renewable sources.	- Assessment of the social and environmental impacts connected to the activities - Establishment of environmental protection requirements - Agreements with local councils - Dialogue with the relevant authorities and superintendents
Policy Makers	Italian and European legislators aim to reduce the digital divide, offering everyone equal opportunities to access a fast, stable and safe connection. In this sense, Open Fiber is a valuable ally for the construction of digital infrastructures for the country. Furthermore, the European Union, in line with the Digital Compass and Next GenerationEU, is aiming for digital transformation by 2030. In this scenario, Open Fiber is a key player in the transition to the new technology with which to wire Italy.	- Dialogue with Italian and European institutions and politicians - Active participation in industry associations

7.4 ASSOCIATIONS AND MEMBERSHIPS

Open Fiber has been a member of several national and international associations for some time now, in order to contribute to the spread of a more conscious digital culture:

- **FTTH Council Europe:** Open Fiber currently holds a seat in the Board of Directors of the association - whose objective is to promote the acceleration of the adoption of a fully fiber optic connectivity in every area of Europe - and actively participates in all its working groups: Policy and Regulation Expert Group, Market Intelligence Committee, Investors Committee, Deployment & Operations Committee, Sustainability Committee. The issue of sustainability has become one of the main topics promoted by the FTTH Council, which is conducting studies - also on the initiative of Open Fiber - to calculate the environmental impact of fiber optic networks, their benefits, especially in a scenario of switch-off of copper networks; as well as promoting the inclusion of the sector in the taxonomy regulation to facilitate access to so-called sustainable finance.

- **Confindustria Europe:** Open Fiber participates in the activities organised by Confindustria's European office relating to sectors of corporate interest, including meetings with representatives of the European Institutions.
- **European Internet Forum:** is an association led and governed by political members, all elected members of the European Parliament (MEPs). The association is independent, non-profit and non-partisan. Membership is open to all current members of the European Parliament and to multi-stakeholders representing a wide range of interests and actors at the forefront of European and global digital transformation. All members have the opportunity to actively participate in the activities and to define the programme and agenda of the events. The association's objective is to promote the development of European and multilateral public policies capable of responding to the political, economic and social challenges posed by global digital transformation, and to help Members of the European Parliament (MEPs) ensure that European public policies are fit for the digital age. The activity focuses on an ongoing programme of live debates and special projects that bring stakeholders together and promote open and inclusive dialogue.
- ***Gruppo Iniziativa Italiana* (GII):** founded in 1995, the association represents the Italian business, agri-food, innovation, research and services communities in Brussels. GII is committed to enhancing Italy's image in the European capital, promoting high-profile meetings between key Italian players and the highest representatives of Italian and European institutions.
- ***Assotelecomunicazioni* (ASSTEL):** a trade association that, within the Confindustria system, represents the telecommunications supply chain made up of companies from the various product areas belonging to it. Its mission is to encourage and promote the development and sustainable growth of the supply chain, in the general interest of the national economic-productive system. It protects the interests of its associated companies at institutional, political and economic, public and private levels and represents the associated companies that apply the TLC CCNL and/or the Outbound Agreement in union and labour matters, supporting them in the management of issues of interest.
- **Assonime:** association of Italian joint-stock companies, its purpose is to study and discuss issues that directly or indirectly concern the interests and development of the Italian economy. Member companies have access to tailor-made assistance services such as opinions, consultancy and personalised *one-to-one* meetings.
- ***Assolombarda*:** the association of companies operating in the Metropolitan City of Milan and in the provinces of Lodi, Monza and Brianza and Pavia, and the most important of the entire Confindustria System; it expresses and protects the interests of over 7,000 companies of all sizes, national and international, producing goods and services in all product sectors, especially in their relations with institutional interlocutors and local stakeholders active in various fields such as training, environment, culture, economy, labour and civil society.
- ***Unione degli Industriali e delle Imprese* - Unindustria:** active on a regional scale (Lazio Region), it is the largest by territorial extension of the Confindustria System. The group of entrepreneurs and managers, together with the internal team of *professionals*, works both to represent the collective interests of the associates, through the construction of strategic and operational projects and proposals, and to accompany them in the resolution of the issues that hinder business life.
- ***Associazione Italiana Professionisti Security Aziendale* (AIPSA):** aims to enhance the professional standing of security managers, train and update members in corporate *security*, spread the culture of *security* and deepen the study of its technical, functional, legal and legislative issues. The objectives are pursued by leveraging the concepts of innovation, *Diversity & Inclusion* and Next Generation.

- **Previass II:** the Intercompany Assistance Fund for client companies, registered with the Health Funds registry in accordance with Sacconi Decree[167], is a non-profit association without legal status, intended for companies that wish to provide their employees with certain welfare services as provided for in the national collective labour agreement, company agreements or regulations. It offers its members consultancy services for the drafting of company agreements/regulations, for the correct interpretation of tax regulations concerning social and health care and innovative services aimed at optimising the management of reimbursements for health expenses.
- **Associazione Italiana Internal Auditors (AIIA):** a non-profit association founded in 1972 and recognised as the Italian affiliate of the IIA (Institute of Internal Auditors), a world leader in standards, certification and training for the profession of internal auditor. With over 4,900 members, representing approximately 800 companies, AIIA has always been a point of reference for risk management, corporate governance and internal audit issues.
- **Association of members of Supervisory Bodies pursuant to Legislative Decree Lgs. 231/2001 (AODV 231):** a non-profit association that brings together professionals and business representatives who have first-hand experience of the Supervisory Bodies (SB) provided for in the Organisational Models adopted on the basis of Legislative Decree 231/2001. Founded in February 2008, it studies the application of Decree 231/2001 in the field, evaluating what it implies, in practical terms, to adopt and implement an Organisational Model and how an SB should, and can, concretely act to effectively fulfil its duties without hindering the conduct of business.
- **4.Manager:** corporate culture, management development and active labour policies are the levers on which Confindustria and Federmanager have decided to intensify their collaboration for the growth of the country. On this basis, in October 2017 the association 4.Manager was established, called upon to design and implement initiatives with high added value to respond to emerging needs for the overall growth of industrial managers and entrepreneurs.
- **I-COM-Institute for Competitiveness:** the institute is a *think tank* founded in 2005 by a group of scholars, professionals and managers based in Rome and Brussels. I-Com's objective is to promote innovative analysis and discussion on competitiveness within the Italian, European and international political and economic framework. The main sectors of interest are: digital, energy, innovation, health and institutions. In July 2017, the Institute for Competitiveness joined the Global Trade and Innovation Policy Alliance, an international network of think tanks active in the field of innovation.
- **ANFoV:** an association committed to working with the main big players in the market to offer a contribution to innovate and modernise our country. From promoting the development of fiber optic networks for the BUL to searching for the best solutions for a 5G connection that can be useful to citizens, the business system and the Public Administration.
- **ANSA Bruxelles:** since 1945 ANSA has been publishing and distributing news and in-depth analysis, in all forms and on all transmission platforms. The key values that make it a leader in customer preferences and in the international information scenario are: independence, timeliness, completeness and reliability. In particular, Open Fiber promotes a newsletter with ANSA Bruxelles that focuses on topics relevant to the dual transition, both digital and ecological.
- **ANRA - National Association of Risk Managers and Company Insurance Managers:** made up of risk officers, risk managers, insurance managers and risk

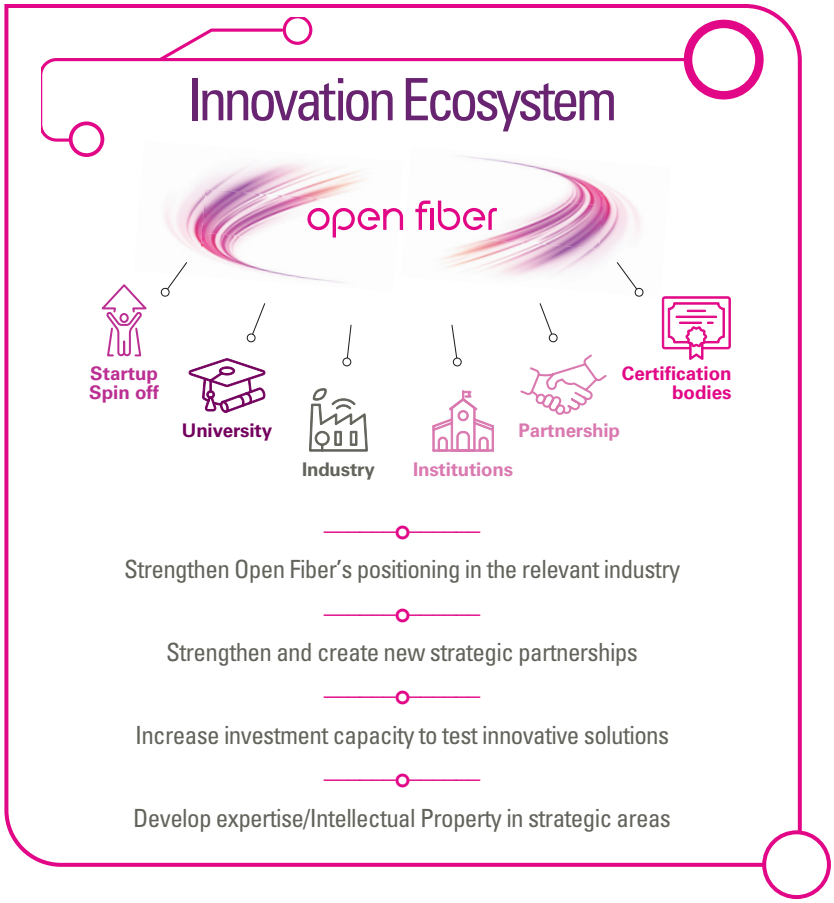
167 Ministerial Decree 27/10/2009.

management consultants, more than 800 members who work in the profession on a daily basis and who benefit from the continuous exchange of their experiences and the sharing of projects for the development of the sector. In the full conviction that experience is the best argument for spreading the culture of risk management, ANRA organises meetings open to professionals and companies on issues relating to business risk, training courses for new figures and exchanges of experiences with foreign colleagues.

- **ASSORUP-National Association of Sole Project Managers (RUP):** national association for the awarding of public contracts and procurement experts who work closely with Contracting Authorities. The association aims to transform the RUPs into procurement professionals through a multidisciplinary network that offers protection and services to members, representing them before the institutions to influence public procurement policy.
- **AIGI-*Associazione Italiana Giuristi d'Impresa* (Italian Association of Corporate Lawyers):** this was founded in 1976 by a group of heads of legal departments of large companies, with the aim of enhancing the figure and role of the corporate lawyer by promoting their legal status, as was already happening in other countries. The association aims to promote, train and develop corporate lawyers and their role in Italy.
- **CED-*Centro Economia Digitale*:** is an independent and non-partisan think tank founded in 2017 as a non-profit association. The association's challenge is to build skills, effective organisations and institutions suitable for the digital and sustainable economy. The centre's partners are among the most important Italian strategic companies operating in sectors with a very high level of innovation.

Furthermore, Open Fiber is a member of the *Comitato Elettrotecnico Italiano* (CEI), the Italian Association for Trenchless Technology (IATT) and the *Ente Italiano di Normazione* (UNI) and participates in the technical committees and work groups of these associations:

- ***Comitato Elettrotecnico Italiano* (CEI):** it is a private association responsible for technical standardisation in the electrotechnical, electronic and telecommunications fields at a national level. Its mission, as a national *super partes* organisation, is to publish technical standardisation documents in Italy, participate in the development of corresponding European and international standards and ensure their implementation, as well as disseminate technical-scientific culture in general and that of technical standardisation in particular.
- **Italian Association for Trenchless Technology (IATT):** this association promotes the advancement of scientific and technical knowledge in the field of trenchless (no-dig) technologies; its members include the major Italian utility network management companies, universities and research institutes, specialised companies, consultants and professionals in the sector. The *mission* is to research and apply technically advanced solutions to limit road tampering, excavation and earth movement, as well as harmful gas emissions and accidents on construction sites, reduce work execution times and energy consumption, moderating the negative environmental and social impact that excavation work inevitably entails.
- ***Ente Italiano di Normazione* (UNI):** an association that develops, publishes and disseminates standards whose voluntary adoption guarantees the best solution for creating a product, conducting a process or carrying out a profession. The high efficiency and effectiveness of these standards is due to the values that distinguish them, such as consistency of content, transparency in the development process, openness for participation in the development of the standard, consensus for approval, voluntary membership, independence of the association and the efficiency of the standards issued.
- **International Electrotechnical Commission (IEC)**: the IEC is a global non-profit organisation whose work underpins quality infrastructure



and international trade in electrical and electronic products. The Commission's work facilitates technical innovation, the development of affordable infrastructure, efficient and sustainable access to energy, urbanisation and intelligent transport systems, the mitigation of climate change and increases the safety of people and the environment. The IEC brings together more than 170 countries and provides a global, neutral and independent standardisation platform for 20,000 experts worldwide. It manages 4 Conformity Assessment Systems whose members certify that devices, systems, installations, services and people function as required.

As for its relations with **institutional stakeholders** such as the European Commission, the European Parliament and the Council of the European Union. Open Fiber is registered in the Transparency Register and maintains relations with the Permanent Representation of Italy to the European Union.

Standardization bodies relevant for telecommunications

Standardization fora relevant for telecommunications

R&D Programs and Partnership

7.5 DATA AND PERFORMANCE INDICATORS TABLES

Tables with GRI metrics and key performance indicators related to Open Fiber's material topics are reported below. With reference to Privacy and cybersecurity, Biodiversity and ecosystems and Customers and end-users' topics, please refer to the GRI Content Index.

General Disclosure

GRI 2-7 E 2-8: INFORMATION ON EMPLOYEES AND OTHER WORKERS - OPEN FIBER S.P.A.

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER

Employment contract	Gender	U.M.	2022	2023	2024
Permanent	Female	no.	511	579	607
	Male	no.	1,060	1,155	1,195
	Total	no.	**1,571**	**1,734**	**1,802**
Fixed-term	Female	no.	0	0	1
	Male	no.	0	0	0
	Total	no.	**0**	**0**	**1**

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER

Contract type	Gender	U.M.	2022	2023	2024
Full-time	Female	no.	505	574	603
	Male	no.	1,059	1,154	1,194
	Total	no.	**1,564**	**1,728**	**1,797**
Part-time	Female	no.	6	5	5
	Male	no.	1	1	1
	Total	no.	**7**	**6**	**6**

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER

Description	U.M.	2022	2023	2024	2024
Total employees as of 31st December	no.	1,571	**1,734**	**1,803**	**1.803**

OTHER WORKERS AS OF 31ST DECEMBER

Description	U.M.	2022	2023	2024	2024
Employees of other organization	no.	2	1	2	2
Interns	no.	17	18	13	13
Outsourced workers	no.	6	14	21	21
Collaborators	no.	2	6	0	0

Notes: in 2024 two employees, a man and a woman, are employed at the Brussels office in Belgium, both with full-time and permanent employment contracts, the remaining employees, instead, are employed in various offices in Italy.
In 2024, the workers seconded from other companies are a woman and a man, the trainees are 6 women and 7 men, the temporary workers are 11 women and 10 men.

GRI 2-7 E 2-8: INFORMATION ON EMPLOYEES AND OTHER WORKERS - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER

Employment contract	Gender	U.M.	2022	2023	2024
Permanent	Female	no.	-	15	22
	Male	no.	-	258	299
	Total	no.	-	**273**	**321**
Fixed-term	Female	no.	-	2	0
	Male	no.	-	86	21
	Total	no.	-	**88**	**21**

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER

Contract type	Gender	U.M.	2022	2023	2024
Full-time	Female	no.	-	17	21
	Male	no.	-	344	320
	Total	no.	-	**361**	**341**
Part-time	Female	no.	-	0	1
	Male	no.	-	0	0
	Total	no.	-	**0**	**1**

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER

Description	U.M.	2022	2023	2024
Total employees as of 31st December	no.	-	**361**	**342**

OTHER WORKERS AS OF 31 DECEMBER

Description	U.M.	2022	2023	2024
Employees of other organization	no.	-	7	12
Interns	no.	-	2	0
Outsourced workers	no.	-	35	14
Collaborators	no.	-	0	0
Employees of the associated companies	FTE	-	131	135

Notes: in 2024, all employees are employed in Italy, workers seconded from other companies are 5 women and 7 men, while the outsourced workers are all men. The 2024 data relating to the employees of the associated companies was calculated starting from the hours worked by the employees of the associated companies divided by the average number of hours worked in a year.

GRI 2-7 E 2-8: INFORMATION ON EMPLOYEES AND OTHER WORKERS - CONSOLIDATED PERFORMANCE

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER

Employment contract	Gender	U.M.	2022	2023	2024
Permanent	Female	no.	-	594	629
	Male	no.	-	1,413	1,494
	Total	no.	-	**2,007**	**2,123**
Fixed-term	Female	no.	-	2	1
	Male	no.	-	86	21
	Total	no.	-	**88**	**22**

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER

Contract type	Gender	U.M.	2022	2023	2024
Full-time	Female	no.	-	591	624
	Male	no.	-	1,498	1,514
	Total	no.	-	**2,089**	**2,138**
Part-time	Female	no.	-	5	6
	Male	no.	-	1	1
	Total	no.	-	**6**	**7**

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER

Description	U.M.	2022	2023	2024
Total employees as of 31st December	no.	-	**2,095**	**2,145**

OTHER WORKERS AS OF 31 DECEMBER

Description	U.M.	2022	2023	2024
Employees of other organization	no.	-	8	14
Interns	no.	-	20	13
Outsourced workers	no.	-	49	35
Collaborators	no.	-	6	0
Employees of the associated companies	FTE	-	131	135

Notes: as regards data relating to 2022, see Open Fiber S.p.A.'s performances.

Affected communities
GRI 201 Economic performance

GRI 201-1: DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED - CONSOLIDATED PERFORMANCE

DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED

Description	U.M.	2022	2023	2024
ECONOMIC VALUE GENERATED	**€/000**	**470,027**	**582,295**	**679,370**
Value of production (Total Revenues)	€/000	469,903	581,501	674,798
Income from investments	€/000	-	-	-
Other types of financial income (financial income)	€/000	124	794	4,572
Extraordinary income	€/000	-	-	-
ECONOMIC VALUE DISTRIBUTED	**€/000**	**342,811**	**531,804**	**610,323**
Operating costs	**€/000**	**170,357**	**219,440**	**246,656**
Costs for raw materials	€/000	-	-	-
Costs for services (costs for services)	€/000	159,783	197,653	219,204
Costs for using third-party goods (Costs for using third-party goods)	€/000	5,357	7,178	5,961
Changes in inventory of raw materials	€/000	-	-	-
Other operating expenses* (net of taxes)	€/000	5,216	14,609	21,492
Extraordinary expenses	€/000	-	-	-
Value distributed to employees	**€/000**	**88,761**	**102,016**	**110,017**
Costs for personnel (costs for personnel)	€/000	88,761	102,016	110,017
Value distributed to capital providers	**€/000**	**119,363**	**264,581**	**314,686**
Interest and other financial charges (financial charges)	€/000	119,363	264,581	314.686
Value distributed to the Public Administration	**€/000**	**(36,037)**	**(54,638)**	**(61,488)**
Current and prepaid income taxes (income tax)	€/000	(39,557)	(60,288)	(68,746)
Miscellaneous operating costs** (only the value of taxes)	€/000	3,520	5,650	7,257
Value distributed to shareholders	**€/000**	**-**	**-**	**-**
Dividends distributed	€/000	-	-	-
Value distributed to the community	**€/000**	**367**	**405**	**451**
Generosities	€/000	40	14	10
Sponsorships	€/000	-	-	-
Membership fees	€/000	328	391	441
ECONOMIC VALUE RETAINED	**€/000**	**127,216**	**50,491**	**69,047**
Profit (or loss) for the year (net of dividends)	€/000	(162,382)	(296,304)	(363,920)
Write-downs and provisions	€/000	27,824	19,462	43,149
Depreciations/amortisations	€/000	261,774	327,333	389,819
Deferred taxes	€/000	-	-	-
ECONOMIC VALUE GENERATED	**€/000**	**470,027**	**582,295**	**679,370**
DISTRIBUTED ECONOMIC VALUE	**€/000**	**342,811**	**531,804**	**610,323**
ECONOMIC VALUE RETAINED	**€/000**	**127,216**	**50,490**	**69,047**

Notes: as regards data relating to 2022, see Open Fiber S.p.A.'s performances.

GRI 201-4: FINANCIAL ASSISTANCE RECEIVED FROM THE GOVERNMENT - OPEN FIBER S.P.A.

FINANCIAL ASSISTANCE RECEIVED FROM THE GOVERNMENT

Description	U.M.	2022	2023	2024
Monetary value of financial assistance received from the public organisation	€/000	99,328	182,595	211,539

Notes: here are reported the contributions received from Infratel Italia S.p.A. (an in-house company of the Ministry of Enterprises and Made in Italy) for the development of Ultra Broadband in market failure areas (BUL Strategic Plan). The monetary values shown above refer to the amounts collected. More details can be found at https://bandaultralarga.italia.it/aree-bianche/intervento-a-concessione/

GRI 413 Local Communities

GRI 413-1: OPERATIONS WITH LOCAL COMMUNITY ENGAGEMENT, IMPACT ASSESSMENTS, AND DEVELOPMENT PROGRAMMES - OPEN FIBER S.P.A.

ACTIVITIES INVOLVING LOCAL COMMUNITY ENGAGEMENT, IMPACT ASSESSMENTS, AND DEVELOPMENT PROGRAMMES

Description	U.M.	2022	2023	2024
Activities involving local community engagement, impact assessments, and/or development programmes	%	100%	100%	100%

Notes: 100% of infrastructure construction activities involve local community engagement in relation to at least one of the following elements: social impact screenings, environmental impact screenings and ongoing monitoring, public dissemination of the results of environmental and social impact screenings; local community development programmes based on local community needs; stakeholder engagement plans based on stakeholder mapping; consultation committees open to the local community and processes that include vulnerable groups; enterprise committees, Occupational Safety and Health committees, and other worker representative bodies to address impacts; and formal processes for handling complaints from the local community.

Business conduct
GRI 205 Anti-corruption

GRI 205-1: OPERATIONS ASSESSED FOR RISKS RELATED TO CORRUPTION - OPEN FIBER S.P.A.

OPERATIONS ASSESSED FOR RISKS RELATED TO CORRUPTION

Description	U.M.	2022	2023	2024
Total processes	no.	12	14	16
Processes assessed for risks related to corruption	no.	12	14	16
Processes assessed for risks related to corruption	**%**	**100%**	**100%**	**100%**

Notes: upon completion of the Risk Assessment 231 activities, the update of the OMM 231 was approved on 18th May 2023. Following organizational changes, two new Directorates were introduced in 2024 with the consequent establishment of two further processes relevant for the purposes of Legislative Decree 231/01.
The significant corruption-related risks identified during the risk assessment are those inherent to public and private corruption as defined by Legislative Decree 231/01. The number of corporate processes is identified by the departments selected by means of a first-level Organisational Provision.

GRI 205-1: OPERATIONS ASSESSED FOR RISKS RELATED TO CORRUPTION - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

OPERATIONS ASSESSED FOR RISKS RELATED TO CORRUPTION

Total processes	no.	-	10	10
Processes assessed for risks related to corruption	no.	-	10	10
Processes assessed for risks related to corruption	%	-	100%	100%
Processi valutati per i rischi legati alla corruzione	**%**	**-**	**100%**	**100%**

Notes: upon completion of the first Risk Assessment 231, the OMM 231 was approved on 11th May 2023.

GRI 205-2: COMMUNICATION AND TRAINING ABOUT ANTI-CORRUPTION POLICIES AND PROCEDURES - OPEN FIBER S.P.A.

EMPLOYEES WHO HAVE RECEIVED ANTI-CORRUPTION TRAINING

Description	U.M.	2022	2023	2024
Executives trained	no.	35	7	62
Percentage of Executives trained	**%**	**60%**	**12%**	**102%**
Middle Managers trained	no.	117	26	186
Percentage of Middle Managers trained	**%**	**82%**	**16%**	**102%**
Office Clerks trained	no.	1,229	304	1,593
Percentage of Office Clerks trained	**%**	**90%**	**20%**	**102%**
Total employees trained	**no.**	**1,381**	**337**	**1,841**

Notes: in 2024, a significant increase was recorded compared to the previous year, since the courses being analyzed were updated during the year and used by the entire company population. The calculation of trained employees also includes those who resigned during the year 2024 as they were actually trained, which is why the percentages exceed 100%.

GRI 205-2: COMMUNICATION AND TRAINING ABOUT ANTI-CORRUPTION POLICIES AND PROCEDURES - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

EMPLOYEES WHO HAVE RECEIVED ANTI-CORRUPTION TRAINING

Description	U.M.	2022	2023	2024
Executives trained	no.	-	0	0
Percentage of Executives trained	**%**	**-**	**0%**	**0%**
Middle Managers trained	no.	-	0	4
Percentage of Middle Managers trained	**%**	**-**	**0%**	**80%**
Office Clerks trained	no.	-	2	44
Percentage of Office Clerks trained	**%**	**-**	**4%**	**61%**
Workers trained	no.	-	0	196
Percentage of Workers trained	**%**	**-**	**0%**	**74%**
Total employees trained	**no.**	**-**	**2**	**244**

Notes: anti-corruption training was provided starting from December 2023, using content available within the Company Learning Management System. Training continued to be provided during 2024, resulting in a significant increase in the number of employees trained compared to 2023. Those who resigned in 2024 were also included in the calculation of Open Fiber Network Solutions employees trained, in line with what was done for Open Fiber.

GRI 205-2: COMMUNICATION AND TRAINING ABOUT ANTI-CORRUPTION POLICIES AND PROCEDURES - CONSOLIDATED PERFORMANCE

EMPLOYEES WHO HAVE RECEIVED ANTI-CORRUPTION TRAINING

Description	U.M.	2022	2023	2024
Executives trained	no.	-	7	62
Percentage of Executives trained	**%**	**-**	**12%**	**100%**
Middle Managers trained	no.	-	26	190
Percentage of Middle Managers trained	**%**	**-**	**15%**	**102%**
Office Clerks trained	no.	-	306	1,637
Percentage of Office Clerks trained	**%**	**-**	**20%**	**100%**
Workers trained	no.	-	0	196
Percentage of Workers trained	**%**	**-**	**0%**	**74%**
Total employees trained	**no.**	**-**	**339**	**2,085**

Notes: as regards data relating to 2022, please refer to the performances of Open Fiber S.p.A. The calculation of Open Fiber and Open Fiber Network Solutions employees trained also includes those resigned in 2024, which is why the percentages exceed 100%.

Climate change
GRI 302 Energy

GRI 302-1: ENERGY CONSUMPTION WITHIN THE ORGANISATION - OPEN FIBER S.P.A.

ENERGY CONSUMPTION WITHIN THE ORGANISATION

Energy consumption	U.M.	2022	2023	2024
Electricity from non-renewable sources	GJ	4,119.0	4,096.5	6,745.7
Electricity from renewable sources	GJ	118,432.4	151,075.8	185,802.4
Energy from natural gas consumption	GJ	2,222.7	1,094.3	1,837.6
Energy from diesel consumption (transport)	GJ	5,129.9	3,899.2	1,467.4
Energy from petrol consumption (transport)	GJ	11,538.5	14,095.6	15,498.7
Total energy consumption	**GJ**	**141,442.5**	**174,261.4**	**211,351.8**

Notes: electricity and gas consumption data were obtained from the invoices issued by the respective energy suppliers or from readings at the metering points where present, with the exception of condominium consumption for sites where Open Fiber is not the holder of a POD/PDR and for which electricity and natural gas consumption was estimated on the basis of thousandths or on the basis of the contractual flat rate for charges and accessories.
The consumption of diesel, petrol and electricity for transport was determined through the fuel card balances of the vehicles.
In the consumption analysis, those connected to the coworking sites, where Open Fiber has no control over energy, were not considered.
With reference to energy from renewable sources, as of 2022 all electricity purchased by Open Fiber is subject to GdO (Guarantee of Origin), with the exception of a minimum share (equal to about 0.008% of consumption) relating to some sites for which the supply is provided by local distributors.

GRI 302-1: ENERGY CONSUMPTION WITHIN THE ORGANISATION - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

ENERGY CONSUMPTION WITHIN THE ORGANISATION

Energy consumption	U.M.	2022	2023	2024
Electricity from non-renewable sources	GJ	-	50.2	68.6
Electricity from renewable sources	GJ	-	41.1	63.4
Energy from biofuel consumption (transport)	GJ	-	0.0	17.2
Energy from natural gas consumption	GJ	-	15.6	0.0
Energy from LPG consumption	GJ	-	0.0	41.2
Energy from diesel consumption (transport)	GJ	-	34,046.8	37,362.6
Energy from petrol consumption (transport)	GJ	-	2,893.8	3,089.4
Total energy consumption	**GJ**	**-**	**37,047.6**	**40,642.4**

Notes: electricity and gas consumption data were taken from the invoices issued by the respective energy suppliers, with the exception of consumption at locations where OFNS is not the holder of a POD/PDR and for which electricity and natural gas consumption was estimated on the basis of the contractual flat-rate fee for charges and accessories. Diesel, petrol and biofuel consumption for motor vehicles were determined through the fuel card records of the vehicles. LPG consumptions are determined through fuel card records (for the portion used for motor vehicles) and through invoices issued by suppliers.

GRI 302-1: ENERGY CONSUMPTION WITHIN THE ORGANISATION - CONSOLIDATED PERFORMANCE

ENERGY CONSUMPTION WITHIN THE ORGANISATION

Energy consumption	U.M.	2022	2023	2024
Electricity from non-renewable sources	GJ	-	4,146.7	6,814.3
Electricity from renewable sources	GJ	-	151,116.9	185,865.8
Energy from biofuel consumption (transport)	GJ	-	0.0	17.2
Energy from natural gas consumption	GJ	-	1,109.9	1,837.6
Energy from LPG consumption	GJ	-	0.0	41.2
Energy from diesel consumption (transport)	GJ	-	37,946.1	38,830.1
Energy from petrol consumption (transport)	GJ	-	16,989.4	18,588.1
Total energy consumption	**GJ**	**-**	**211,309.0**	**251,994.2**

Notes: as regards data relating to 2022, see Open Fiber S.p.A.'s performances

Standards, methodologies, and conversion factors
In order to calculate the quantity of energy with reference to the consumption of natural gas, diesel and petrol, the conversion coefficients set out in point 13 of the explanatory note to the Ministry of Economic Development circular of 18th December 2014 have been applied.
The share of electricity from renewable sources is calculated on the basis of the consumption of PODs to which Guarantees of Origin were associated by the electricity supplier in the three-year period 2022-2024.

GRI 302-3: ENERGY INTENSITY - OPEN FIBER S.P.A.

ENERGY INTENSITY

Description	U.M.	2022	2023	2024
Total energy consumed	GJ	141,442.5	174,261.4	211,232.0
Energy intensity	**MJ/HP**	**9.1**	**10.2**	**11.3**

Notes: the energy included in the calculation of energy intensity includes the energy consumption within the organisation (302-1), relating to electricity consumption, natural gas consumption and diesel and petrol consumption connected to the company car fleet. The number of households passed at 31/12 of the reference year is the organisation-specific parameter for calculating intensity.

GRI 302-3: ENERGY INTENSITY - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

ENERGY INTENSITY

Description	U.M.	2022	2023	2024
Total energy consumed	GJ	-	37,047.6	40,642.4
Energy intensity	**MJ/€**	**-**	**0.8**	**0.8**

Notes: the energy included in the calculation of energy intensity includes the energy consumed within the organization (302-1), relating to electricity consumption, natural gas consumption, LPG consumption and diesel consumption, and petrol and biofuel consumption for motor vehicles. The turnover of the reference year is the specific parameter of the organization to calculate the intensity.

GRI 302-3: ENERGY INTENSITY - CONSOLIDATED PERFORMANCE

ENERGY INTENSITY

Description	U.M.	2022	2023	2024
Total energy consumed	GJ	-	211,309.0	251,874.4
Energy intensity	**MJ/€**	**-**	**0.4**	**0.4**

Notes: the energy included in the calculation of energy intensity includes energy consumption within the organisation (302-1), relating to electricity consumption, natural gas consumption, LPG consumption, diesel consumption and petrol and biofuel consumption for motor vehicles. The turnover for the reference year is the organisation's specific parameter for calculating the intensity. As regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

GRI 305 Emissions

GRI 305-1: DIRECT (SCOPE 1) GHG EMISSIONS - OPEN FIBER S.P.A.

DIRECT (SCOPE 1) GHG EMISSIONS

Description	U.M.	2022	2023	2024
Scope 1 emissions from fossil fuels	tCO_2eq	1,354.1	1,256.0	1,237.7
Scope 1 emissions from refrigerant gases	tCO_2eq	300.1	76.7	600.5
Total Scope 1 emissions	**tCO2eq**	**1,654.2**	**1,332.7**	**1,838.2**
Description	**U.M.**	**2022**	**2023**	**2024**
Scope 1 biogenic emissions	tCO_2eq	-	102	91.6

Notes: the GHGs considered in the calculation are: CO_2, CH_4, N_2O and HFC-n due to leaks from air conditioning systems at technology sites. The data for 2023 were updated following verification of compliance with the requirements of ISO 14064-1 of Open Fiber S.p.A.'s GHG inventory.

GRI 305-1: DIRECT (SCOPE 1) GHG EMISSIONS - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

DIRECT (SCOPE 1) GHG EMISSIONS

Description	U.M.	2022	2023	2024
Scope 1 emissions from fossil fuels	tCO_2eq	-	2,447.6	2,681.9
Scope 1 emissions from refrigerant gases	tCO_2eq	-	0,0	0.0
Total Scope 1 emissions	**tCO2eq**	**-**	**2,447.6**	**2,681.9**
Description	**U.M.**	**2022**	**2023**	**2024**
Scope 1 biogenic emissions	tCO_2eq	-	264.0	290.1

Notes: the GHGs considered in the calculation are: CO_2, CH_4, N_2O. The data for 2023 were updated following verification of compliance with the requirements of ISO 14064-1 of Open Fiber S.p.A.'s GHG inventory.

GRI 305-1: DIRECT (SCOPE 1) GHG EMISSIONS - CONSOLIDATED PERFORMANCE

DIRECT (SCOPE 1) GHG EMISSIONS

Description	U.M.	2022	2023	2024
Scope 1 emissions from fossil fuels	tCO_2eq	-	3.703.6	3,919.7
Scope 1 emissions from refrigerant gases	tCO_2eq	-	76.7	600,5
Total Scope 1 emissions	**tCO2eq**	**-**	**3,780.3**	**4,520.1**
Description	**U.M.**	**2022**	**2023**	**2024**
Scope 1 biogenic emissions	tCO_2eq	-	366.0	381.6

Notes: the GHGs considered in the calculation are: CO_2, CH_4, N_2O and the HFC-n coming from leaks from air conditioning systems at technology sites. The data for 2023 were updated following verification of compliance with the requirements of ISO 14064-1 of Open Fiber S.p.A.'s GHG inventory. As regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

Standards, methodologies, and conversion factors

For the classification and calculation methodology of emissions, Open Fiber refers to "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)", as well as ISO 14064-1. Included in Scope 1 emissions (direct emissions from sources that are owned or otherwise under the control of the organisation) are those resulting mainly from combustion inside plants, boilers and company vehicles, as well as from gas leaks from air conditioning systems. The main databases consulted for the identification of emission factors used in the calculation of Scope 1 (fossil fuels) emissions for the year 2024 are: Ecoinvent 3.10 and UK Government GHG Conversion Factors for Company Reporting, Version 1.1 Year 2024. For the calculation of emissions related to refrigerant gas leaks from air conditioning systems, the GWP (Global Warming Potential) values associated with each circuit gas published by Intergovernmental Panel on Climate Change - IPCC Fifth Assessment Report, 2021 (AR6) were used.

GRI 305-2: INDIRECT GHG EMISSIONS FROM ENERGY CONSUMPTION (SCOPE 2) - OPEN FIBER S.P.A.

INDIRECT (SCOPE 2) GHG EMISSIONS FROM ENERGY CONSUMPTION

Description	U.M.	2022	2023	2024
Scope 2 emissions - Location-based	tCO_2eq	10,062.07	10,390.1	12,890.0
Description	**U.M.**	**2022**	**2023**	**2024**
Scope 2 emissions - Market-based	tCO_2eq	530.05	518.4	847.0

Notes: the GHGs considered in the calculation are: CO_2, CH_4 and N_2O. The data for 2023 were updated following verification of compliance with the requirements of ISO 14064-1 of Open Fiber S.p.A.'s GHG inventory.

GRI 305-2: INDIRECT GHG EMISSIONS FROM ENERGY CONSUMPTION (SCOPE 2) - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

INDIRECT (SCOPE 2) GHG EMISSIONS FROM ENERGY CONSUMPTION

Description	U.M.	2022	2023	2024
Scope 2 emissions - Location-based	tCO_2eq	-	6.1	8.8
Description	**U.M.**	**2022**	**2023**	**2024**
Scope 2 emissions - Market-based	tCO_2eq	-	3.9	8.6

Notes: The GHGs considered in the calculation are: CO_2, CH_4, N_2O. The data for 2023 were updated following verification of compliance with the requirements of ISO 14064-1 of Open Fiber S.p.A.'s GHG inventory.

GRI 305-2: INDIRECT GHG EMISSIONS FROM ENERGY CONSUMPTION (SCOPE 2) - CONSOLIDATED PERFORMANCE

INDIRECT (SCOPE 2) GHG EMISSIONS FROM ENERGY CONSUMPTION

Description	U.M.	2022	2023	2024
Scope 2 emissions - Location-based	tCO_2eq	-	10,396.2	12,898.9
Description	**U.M.**	**2022**	**2023**	**2024**
Scope 2 emissions - Market-based	tCO_2eq	-	522.3	855.6

Notes: the GHGs considered in the calculation are: CO_2, CH_4, N_2O. The data for 2023 were updated following verification of compliance with the requirements of ISO 14064-1 of Open Fiber S.p.A.'s GHG inventory. As regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

Standards, methodologies, and conversion factors
For emissions classification and calculation methodology Open Fiber refers to "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)", as well as ISO 14064-1. Included in Scope 2 emissions (indirect greenhouse gas emissions) are emissions from the generation of electricity, heat or steam purchased and used by the organisation.
The main database consulted for the identification of emission factors used in the calculation of Scope 2 emissions for the year 2024 is Ecoinvent 3.10 (for both the location-based and market-based approaches).

GRI 305-3: OTHER INDIRECT GHG EMISSIONS (SCOPE 3) - OPEN FIBER S.P.A.

OTHER INDIRECT GHG EMISSIONS (SCOPE 3)

Description	U.M.	2022	2023	2024
Scope 3 emissions - Location-based	tCO_2eq	333,363.9	405,175.6	279,836.3
Description	**U.M.**	**2022**	**2023**	**2024**
Scope 3 emissions - Market-based	tCO_2eq	328,213.0	402,684.8	276,800.4
Scope 3 biogenic emissions	tCO_2eq	-	31.0	0.0

Notes: the GHGs considered in the calculation are: CO_2, CH_4 and N_2O. In accordance with the Inventory 2022, the Scope 3 emissions of Open Fiber S.p.A. also include the emissions of Open Fiber Network Solutions S.c.a.r.l. The data relating to 2023 have been updated following a verification of compliance with the requirements of ISO 14064-1 of the GHG inventory of Open Fiber S.p.A.

GRI 305-3: OTHER INDIRECT GHG EMISSIONS (SCOPE 3) - CONSOLIDATED PERFORMANCE

OTHER INDIRECT GHG EMISSIONS (SCOPE 3)

Description	U.M.	2022	2023	2024
Scope 3 emissions - Location-based	tCO_2eq	-	402,721.9	277,145.6
Description	**U.M.**	**2022**	**2023**	**2024**
Scope 3 emissions - Market-based	tCO_2eq	-	400,233.3	274,109.9
Scope 3 biogenic emissions	tCO_2eq	-	31.0	0.0

Notes: The GHGs considered in the calculation are: CO_2, CH_4 and N_2O. Emissions related to Open Fiber Network Solutions S.c.a.r.l. are includet in the scope 3 emissions of Open Fiber S.p.A. The total emissions (Open Fiber S.p.A. plus Open Fiber Network Solutions S.c.a.r.l.) are lower than the Scope 3 emissions of Open Fiber as they are without the share of Scope 1 and 2 emissions of the Open Fiber Network Solutions consortium. The methodology applied avoids the "double counting" of the consortium's direct and indirect emissions, already included within the consolidated Scope 1 and Scope 2 emissions.

Standard, metodologie e fattori di conversione

For emissions classification and calculation methodology Open Fiber refers to "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)", as well as ISO 14064-1. Included in Scope 3 emissions (other indirect greenhouse gas emissions) are emissions included in the categories *Purchased goods and services, Capital goods, Fuel- and Energy-Related Activities, Upstream Transportation and Distribution, Waste Generated in Operations, Business Travel, Employee Commuting / Smart working, Upstream leased Assets and Downstream leased assets*. The main databases consulted for the identification of emission factors used in the calculation of emissions related to the value chain for the year 2024 are: Ecoinvent 3.10, CEDA 2024 and UK Government GHG Conversion Factors for Company Reporting, Version 1.1 Year 2024.

GRI 305-4: GHG EMISSIONS INTENSITY - OPEN FIBER S.P.A.

GHG EMISSIONS (LOCATION-BASED)

Description	U.M.	2022	2023	2024
GHG emissions intensity (Scope 1 + Scope 2 Location-based)	**$kgCO_2eq/HP$**	**0.76**	**0.69**	**0.79**
GHG emission intensity (Scope 1 + Scope 2 + Scope 3 Location-based)	**$kgCO_2eq/HP$**	**22.26**	**24.38**	**15.75**

EMISSIONI DI GHG (MARKET-BASED)

Descrizione	U.M.	2022	2023	2024
Intensità emissioni di GHG (Scope 1 + Scope 2 Market-based)	**$kgCO_2eq/HP$**	**0.14**	**0.11**	**0.14**
Intensità emissioni di GHG (Scope 1 + Scope 2 + Scope 3 Market-based)	**$kgCO_2eq/HP$**	**21.32**	**23.66**	**14.95**

Notes: the emissions included in the calculation are Scope 1, Scope 2 and Scope 3. The GHGs included in the calculation are the same as those included in GRI 305-1, GRI 305-2 and GRI 305-3. The number of households passed at 31/12 of the reference year is the organisation-specific parameter for calculating intensity. The data for 2023 were updated following verification of compliance with the requirements of ISO 14064-1 of Open Fiber S.p.A's GHG inventory.

GRI 305-4: GHG EMISSIONS INTENSITY - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

GHG EMISSIONS (LOCATION-BASED)

Description	U.M.	2022	2023	2024
GHG emissions intensity (Scope 1 + Scope 2 Location-based)	**$gCO_2eq/€$**	**-**	**50.5**	**55.0**
GHG emission intensity (Scope 1 + Scope 2 + Scope 3 Location-based)	**$gCO_2eq/€$**	**-**	**-**	**-**

GHG EMISSIONS (MARKET-BASED)

Description	U.M.	2022	2023	2024
Intensità emissioni di GHG (Scope 1 + Scope 2 Market-based)	**$gCO_2eq/€$**	**-**	**50.4**	**55.0**
GHG emission intensity (Scope 1 + Scope 2 + Scope 3 Market-based)	**$gCO_2eq/€$**	**-**	**-**	**-**

Notes: the emissions included in the calculation are the Scope 1, and Scope 2 and Scope 3 emissions. The GHGs included in the calculation are the same as those included within the Scope 1 and Scope 2 emissions in GRI 305-1, and GRI 305-2 and GRI 305-3. Base year turnover is the organisation's specific parameter for calculating intensity. The data for 2023 were updated following verification of compliance with the requirements of ISO 14064-1 of Open Fiber S.p.A's GHG inventory.

GRI 305-4: GHG EMISSIONS INTENSITY - CONSOLIDATED PERFORMANCE

GHG EMISSIONS (LOCATION-BASED)

Description	U.M.	2022	2023	2024
GHG emissions intensity (Scope 1 + Scope 2 Location-based)	**$gCO_2eq/€$**	**-**	**24.3**	**27.2**
GHG emission intensity (Scope 1 + Scope 2 + Scope 3 Location-based)	**$gCO_2eq/€$**	**-**	**716.0**	**460.0**

GHG EMISSIONS (MARKET-BASED)

Description	U.M.	2022	2023	2024
GHG emission intensity (Scope 1 + Scope 2 Market-based)	**$gCO_2eq/€$**	**-**	**7.4**	**8.4**
GHG emission intensity (Scope 1 + Scope 2 + Scope 3 Market-based)	**$gCO_2eq/€$**	**-**	**694.7**	**436.4**

Notes: emissions included in the calculation are Scope 1 emissions, Scope 2 and Scope 3 emissions. The GHGs included in the calculation are the same as those included within Scope 1 and Scope 2 emissions in GRI 305-1, GRI 305-2 and GRI 305-3. The base year turnover is the organisation's specific parameter for calculating intensity. As regards data relating to 2022, please refer to the performances of Open Fiber S.p.A. The data for 2023 were updated following verification of compliance with the requirements of ISO 14064-1 of Open Fiber S.p.A's GHG inventory.

Circular economy
GRI 306 Waste

GRI 306-3: WASTE GENERATED - OPEN FIBER S.P.A.

WASTE GENERATED

Description	U.M.	2022		2023		2024	
		NOT intended for disposal	DIRECTED to disposal	NOT intended for disposal	DIRECTED to disposal	NOT intended for disposal	DIRECTED to disposal
Total waste	**t**	**111.50**	**0.00**	**208.68**	**0.00**	**463.76**	**0.00**
Hazardous waste	t	0.00	0.00	1.62	0.00	0.00	0.00
Non hazardous waste	t	111.50	0.00	207.06	0.00	463.76	0.00

Notes: the special waste produced comes from the management of obsolete material in the warehouses. This table does not include the quantities of waste akin to urban waste produced in offices and delivered to the public waste collection service. The increase in waste generated during 2024 compared to 2023 is linked to the disposal of damaged cement.

GRI 306-3: WASTE GENERATED - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

WASTE GENERATED

Description	U.M.	2022		2023		2024	
		NOT intended for disposal	DIRECTED to disposal	NOT intended for disposal	DIRECTED to disposal	NOT intended for disposal	DIRECTED to disposal
Total waste	**t**	**-**	**-**	**28,110.97**	**0.00**	**17,075.10**	**7,061.65**
Hazardous waste	t	-	-	0.00	0.00	0,00	0.00
Non hazardous waste	t	-	-	28,110.97	0.00	17,075.10	7,061.65

Notes: the special waste produced derives largely from the waste materials produced during excavation for the laying of cables. This table does not include the quantities of waste akin to urban waste produced in offices and delivered to the public waste collection service.

GRI 306-3: WASTE GENERATED - CONSOLIDATED PERFORMANCE

WASTE GENERATED

Description	U.M.	2022		2023		2024	
		NOT intended for disposal	DIRECTED to disposal	NOT intended for disposal	DIRECTED to disposal	NOT intended for disposal	DIRECTED to disposal
Total waste	**t**	**-**	**-**	**28,319.65**	**0.00**	**17,538.86**	**7,061.65**
Hazardous waste	t	-	-	1.62	0.00	0.00	0.00
Non hazardous waste	t	-	-	28,318.03	0.00	17,538.86	7,061.65

Notes: this table does not include the amounts of waste akin to urban waste produced in offices and delivered to the public waste collection service. As regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

GRI 306-4: WASTE DIVERTED FROM DISPOSAL - OPEN FIBER S.P.A.

WASTE DIVERTED FROM DISPOSAL

Description	U.M.	2022	2023	2024
Total hazardous waste	**t**	**0.00**	**1.62**	**0.00**
- of which preparation for re-use	t	0.00	0.00	0.00
- of which recycled	t	0.00	0.00	0.00
- of which in addition to recovery operations	t	0.00	1.62	0.00
Total non-hazardous waste	**t**	**111.50**	**207.06**	**463.76**
- of which preparation for re-use	t	0.00	0.00	0.00
- of which recycled	t	0.00	0.00	0.00
- of which to other recovery operations	t	111.50	207.06	463.76

Notes: the recovery of all waste produced by Open Fiber is entrusted to authorised third parties in accordance with current regulations and is carried out at sites outside the company. Waste produced in 2024 increased compared to 2023 due to the disposal of damaged cement.

GRI 306-4: WASTE DIVERTED FROM DISPOSAL - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

WASTE DIVERTED FROM DISPOSAL

Description	U.M.	2022	2023	2024
Total hazardous waste	**t**	**-**	**0.00**	**0.00**
- of which preparation for re-use	t	-	0.00	0.00
- of which recycled	t	-	0.00	0.00
- of which in addition to recovery operations	t	-	0.00	0.00
Total non-hazardous waste	**t**	**-**	**28,110.97**	**17,075.10**
- of which preparation for re-use	t	-	0.00	0.00
- of which recycled	t	-	28,110.97	0.00
- of which to other recovery operations	t	-	0.00	17,075.10

Notes: the recovery of all waste produced by Open Fiber is entrusted to authorised third parties in accordance with current regulations and is carried out at sites outside the company.

GRI 306-4: WASTE DIVERTED FROM DISPOSAL - CONSOLIDATED PERFORMANCE

WASTE DIVERTED FROM DISPOSAL

Description	U.M.	2022	2023	2024
Total hazardous waste	**t**	**-**	**1.62**	**0.00**
- of which preparation for re-use	t	-	0.00	0.00
- of which recycled	t	-	0.00	0.00
- of which in addition to recovery operations	t	-	0.00	0.00
Total non-hazardous waste	**t**	**-**	**28,318.03**	**17,538.86**
- of which preparation for re-use	t	-	0.00	0.00
- of which recycled	t	-	28,110.97	0.00
- of which to other recovery operations	t	-	207.06	17,538.86

Notes: the recovery of all waste produced by Open Fiber is entrusted to authorised third parties in accordance with current regulations and is carried out at sites outside the company. As regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

GRI 306-5: WASTE DIRECTED TO DISPOSAL - OPEN FIBER S.P.A.

WASTE DIRECTED TO DISPOSAL

Description	U.M.	2022	2023	2024
Total hazardous waste	**t**	**0.00**	**0.00**	**0.00**
- incineration (with energy recovery)	t	0.00	0.00	0.00
- incineration (without energy recovery)	t	0.00	0.00	0.00
- landfilling	t	0.00	0.00	0.00
- other disposal operations	t	0.00	0.00	0.00
Total non-hazardous waste	**t**	**0.00**	**0.00**	**0.00**
- incineration (with energy recovery)	t	0.00	0.00	0.00
- incineration (without energy recovery)	t	0.00	0.00	0.00
- landfilling	t	0.00	0.00	0.00
- other disposal operations	t	0.00	0.00	0.00

GRI 306-5: WASTE DIRECTED TO DISPOSAL - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

WASTE DIRECTED TO DISPOSAL

Description	U.M.	2022	2023	2024
Total hazardous waste	**t**	**-**	**0.00**	**0.00**
- incineration (with energy recovery)	t	-	0.00	0.00
- incineration (without energy recovery)	t	-	0.00	0.00
- landfilling	t	-	0.00	0.00
- other disposal operations	t	-	0.00	0.00
Total non-hazardous waste	**t**	**-**	**0.00**	**7,061.65**
- incineration (with energy recovery)	t	-	0.00	0.00
- incineration (without energy recovery)	t	-	0.00	0.00
- landfilling	t	-	0.00	7,061.65
- other disposal operations	t	-	0.00	0.00

GRI 306-5: WASTE DIRECTED TO DISPOSAL - CONSOLIDATED PERFORMANCE

WASTE DIRECTED TO DISPOSAL

Description	U.M.	2022	2023	2024
Total hazardous waste	**t**	**-**	**0.00**	**0.00**
- incineration (with energy recovery)	t	-	0.00	0.00
- incineration (without energy recovery)	t	-	0.00	0.00
- landfilling	t	-	0.00	0.00
- other disposal operations	t	-	0.00	0.00
Total non-hazardous waste	**t**	**-**	**0.00**	**7,061.65**
- incineration (with energy recovery)	t	-	0.00	0.00
- incineration (without energy recovery)	t	-	0.00	0.00
- landfilling	t	-	0.00	7,061.65
- other disposal operations	t	-	0.00	0.00

Notes: as regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

Responsible value chain management
GRI 308 Supplier environmental assessment

GRI 308-1: NEW SUPPLIERS THAT WERE SCREENED USING ENVIRONMENTAL CRITERIA - OPEN FIBER S.P.A.

NEW SUPPLIERS SELECTED USING ENVIRONMENTAL CRITERIA

Description	U.M.	2022	2023	2024
Total number of new suppliers	no.	118	71	152
New suppliers selected using environmental criteria	no.	21	7	13
New suppliers selected using environmental criteria	**%**	**18%**	**10%**	**9%**

Notes: included in new suppliers assessed according to environmental criteria are all suppliers that obtained a new certification during the reporting year and suppliers that renewed their qualification and were thus re-assessed. Included in the environmental assessment criteria are the possession of specific certifications (e.g. ISO 14001 certification) and/or the possession of specific authorisations/qualifications (e.g. National Register of Environmental Operators). The absolute number of suppliers in 2024 is slightly higher than in 2023, as there were greater number of qualification renewals, unlike what happened between 2023 and 2022. The greater number of suppliers assessed according to environmental criteria is determined by the type of goods groups for which certification has been requested (Works and Suppliers A&B cluster, goods group in which the activities are temporarily stopped). The percentages of new suppliers screened using environmental criteria remain almost constant between 2023 and 2024.

GRI 308-1: NEW SUPPLIERS THAT WERE SCREENED USING ENVIRONMENTAL CRITERIA - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

NEW SUPPLIERS SELECTED USING ENVIRONMENTAL CRITERIA

Description	U.M.	2022	2023	2024
Total number of new suppliers	no.	-	-	342
New suppliers selected using environmental criteria	no.	-	-	0
New suppliers selected using environmental criteria	**%**	**-**	**-**	**0%**

Notes: with reference to 2023, the entire purchasing process and therefore the qualification of new suppliers of Open Fiber Network Solutions was managed by another consortium (Amplia) as foreseen in the service contract between Amplia and Open Fiber Network Solutions, in line with what was established in the Memorandum of Understanding between the parties and the consortium statute.

GRI 308-2: NEGATIVE ENVIRONMENTAL IMPACTS ALONG THE SUPPLY CHAIN AND ACTIONS TAKEN - OPEN FIBER S.P.A.

NEGATIVE ENVIRONMENTAL IMPACTS ALONG THE SUPPLY CHAIN AND ADOPTED MEASURES

Description	U.M.	2022	2023	2024
Suppliers assessed for environmental impacts*	no.	57	52	54
Suppliers identified as having significant actual and potential negative environmental impacts.	no.	57	52	54
Suppliers identified as having significant actual and potential negative environmental impacts, with which improvements were agreed upon as a result of the assessment**	no.	26	25	28
Suppliers identified as having significant actual and potential negative environmental impacts, with which improvements were agreed upon as a result of the assessment	**%**	**46%**	**48%**	**52%**
Suppliers identified as having significant actual and potential negative environmental impacts, with whom relationships have been terminated as a result of the screening	no.	0	0	0
Suppliers identified as having significant actual and potential negative environmental impacts, with which relationships were terminated as a result of the assessment	**%**	**0%**	**0%**	**0%**

Notes: both actual and potential negative environmental impacts were considered in the significant negative environmental impacts.
As part of its environmental management system, Open Fiber has identified and assessed the aspects and related environmental impacts associated with its activities, including those carried out through the involvement of third-party companies supplying goods/products, services or works. The identification and assessment process is aimed at identifying those aspects that are considered significant with respect to business processes and therefore need to be addressed by the QHSE Management System and within the contracts signed between the parties. Depending on the conditions in which the impact occurs (normal, abnormal, and emergency), the main significant environmental aspects associated with the activities entrusted to third parties are: use of raw materials, waste production, atmospheric emissions, noise emissions and traffic. The environmental impacts that can be monitored are to date limited to those activities that are conducted under the direct control of Open Fiber.
* Suppliers, assigned contracts by Open Fiber, assessed during contract execution in the areas of quality, environment and safety were considered.
** Suppliers considered are those for which non-conformities/incidents are recorded on Open Fiber sites and on which improvement actions have been taken.

GRI 308-2: NEGATIVE ENVIRONMENTAL IMPACTS ALONG THE SUPPLY CHAIN AND ACTIONS TAKEN - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

NEGATIVE ENVIRONMENTAL IMPACTS ALONG THE SUPPLY CHAIN AND ADOPTED MEASURES

Description	U.M.	2022	2023	2024
Suppliers assessed for environmental impacts*	no.	-	-	12
Suppliers identified as having significant actual and potential negative environmental impacts.	no.	-	-	0
Suppliers identified as having significant actual and potential negative environmental impacts, with which improvements were agreed upon as a result of the assessment**	no.	-	-	0
Suppliers identified as having significant actual and potential negative environmental impacts, with which improvements were agreed upon as a result of the assessment	**%**	**-**	**-**	**0%**
Suppliers identified as having significant actual and potential negative environmental impacts, with whom relationships have been terminated as a result of the screening	no.	-	-	0
Suppliers identified as having significant actual and potential negative environmental impacts, with which relationships were terminated as a result of the assessment	**%**	**-**	**-**	**0%**

Notes: with reference to 2023, the entire purchasing process and therefore the qualification of Open Fiber Network Solutions new suppliers was managed by another consortium (Amplia) as foreseen in the service contract between Amplia and Open Fiber Network Solutions, in line with what was established in the Memorandum of Understanding between the parties and the consortium statute.

GRI 414 Supplier social assessment

GRI 414-1: NEW SUPPLIERS THAT WERE SCREENED USING SOCIAL CRITERIA - OPEN FIBER S.P.A.

NEW SUPPLIERS SELECTED USING SOCIAL CRITERIA

Description	U.M.	2022	2023	2024
Total number of new suppliers	no.	118	71	152
New suppliers selected using social criteria	no.	104	59	115
New suppliers selected using social criteria	**%**	**88%**	**83%**	**76%**

Notes: all the suppliers that obtained a new certification in the reporting year and suppliers that renewed their qualification and were then re-evaluated are included in the new suppliers that were screened using social criteria.
The social evaluation criteria include the possession of specific certifications (for example ISO 45001, SA8000, ISO 9001.), the frequency and severity index of accidents and the number of HSE trained employees. With reference to 2024 compared to the two-year period 2022-2023, the absolute number of suppliers is increasing as a greater number of qualification renewals has been recorded.

GRI 414-1: NEW SUPPLIERS THAT WERE SCREENED USING SOCIAL CRITERIA - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

NEW SUPPLIERS SELECTED USING SOCIAL CRITERIA

Description	U.M.	2022	2023	2024
Total number of new suppliers	no.	-	-	342
New suppliers selected using social criteria	no.	-	-	0
New suppliers selected using social criteria	**%**	**-**	**-**	**0%**

Notes: with reference to 2023, the entire purchasing process and therefore the qualification of new suppliers of Open Fiber Network Solutions was managed by another consortium (Amplia) as foreseen in the service contract between Amplia and Open Fiber Network Solutions, in line with what was established in the Memorandum of Understanding between the parties and the consortium statute.

GRI 414-2: NEGATIVE SOCIAL IMPACTS ALONG THE SUPPLY CHAIN AND ACTIONS TAKEN - OPEN FIBER S.P.A.

NEGATIVE SOCIAL IMPACTS ALONG THE SUPPLY CHAIN AND ACTIONS TAKEN

Description	U.M.	2022	2023	2024
Suppliers assessed for social impacts*	no.	68	66	62
Suppliers identified as having significant actual and potential negative social impacts	no.	68	66	62
Suppliers identified as having significant actual and potential negative social impacts, with which improvements were agreed upon as a result of the assessment	no.	45	44	40
Suppliers identified as having significant actual and potential negative social impacts, with which improvements were agreed upon as a result of the assessment	**%**	**66%**	**67%**	**65%**
Suppliers identified as having significant actual and potential negative social impacts, with which relationships were terminated as a result of the assessment**	no.	3	7	0
Suppliers identified as having significant actual and potential negative social impacts, with which relationships were terminated as a result of the assessment	**%**	**4%**	**11%**	**0%**

Notes: as part of its risk and opportunity assessment process, Open Fiber has identified actual and potential negative social impacts. These are mainly related to issues linked to Occupational Health and Safety, negative impacts on citizenship (in terms of traffic, interruption of the provision of public utilities due to damage, injuries due to inappropriate management of construction sites) and labour practices (e.g., related to the contribution regularity of companies). The improvement actions, in fact, have been agreed upon mainly as a result of accidents involving citizens, damage to underground utilities, and contribution irregularities.

* Suppliers, assigned contracts by Open Fiber, assessed during contract execution in the areas of quality, environment and safety were considered. In addition, account was taken of suppliers for whom irregular DURCs were detected during the reference year (irregularities with INPS [Italian National Institute for Social Security], INAIL [Italian National Institute for Insurance against Accidents at Work]).

** During the year 2023, seven firms (6 single firms and one consortium member) were excluded from the access mechanism/supplier register due to contribution irregularities that have not been remedied. During 2024, however, there were no exclusions from the supplier access/register mechanism as the suppliers regularised their position.

GRI 414-2: NEGATIVE SOCIAL IMPACTS ALONG THE SUPPLY CHAIN AND ACTIONS TAKEN - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

NEGATIVE SOCIAL IMPACTS ALONG THE SUPPLY CHAIN AND ACTIONS TAKEN

Description	U.M.	2022	2023	2024
Suppliers assessed for social impacts*	no.	-	-	0
Suppliers identified as having significant actual and potential negative social impacts	no.	-	-	0
Suppliers identified as having significant actual and potential negative social impacts, with which improvements were agreed upon as a result of the assessment	no.	-	-	0
Suppliers identified as having significant actual and potential negative social impacts, with which improvements were agreed upon as a result of the assessment	%	-	-	0%
Suppliers identified as having significant actual and potential negative social impacts, with which relationships were terminated as a result of the assessment**	no.	-	-	0
Suppliers identified as having significant actual and potential negative social impacts, with which relationships were terminated as a result of the assessment	%	-	-	0%

Notes: with reference to 2023, the entire purchasing process and therefore the qualification of new suppliers of Open Fiber Network Solutions was managed by another consortium (Amplia) as foreseen in the service contract between Amplia and Open Fiber Network Solutions, in line with what was established in the Memorandum of Understanding between the parties and the consortium statute.

Own workforce
GRI 401 Employment

GRI 401-1: NEW EMPLOYEE HIRES AND EMPLOYEE TURNOVER - OPEN FIBER S.P.A.

NEW EMPLOYEE HIRES SINCE 1ST JANUARY TO 31ST DECEMBER

Description	Age group	U.M.	2022	2023	2024
New employee hires by age group	< 30 years old	no.	121	75	78
	Between 30 and 50 years old	no.	267	189	101
	> 50 years old	no.	19	19	14
New employee hires by gender	Female	no.	142	110	77
	Male	no.	265	173	116
Total new employee hires		**no.**	**407**	**283**	**193**
Rate of employee hires by age group	< 30 years old	%	49%	31%	33%
	Between 30 and 50 years old	%	23%	78%	42%
	> 50 years old	%	11%	8%	6%
Rate of employee hires by gender	Female	%	28%	19%	13%
	Male	%	25%	15%	10%
Total rate of employee hires		**%**	**26%**	**16%**	**11%**

TERMINATIONS OF EMPLOYMENT FROM 1ST JANUARY TO 31ST DECEMBER

Gender	< 30 years old	U.M.	2022	2023	2024
Terminations of employment by age group	Between 30 and 50 years old	no.	24	25	25
	> 50 years old	no.	90	84	83
	Female	no.	11	11	16
Terminations of employment by gender	Male	no.	36	42	48
	Uomini	no.	89	78	76
Total terminations		**no.**	**125**	**120**	**124**
Turnover rate by age group	< 30 years old	%	10%	10%	11%
	Between 30 and 50 years old	%	8%	6%	6%
	> 50 years old	%	7%	6%	6%
Turnover rate by gender	Female	%	7%	7%	8%
	Male	%	8%	7%	6%
Total turnover rate		**%**	**8%**	**7%**	**7%**

Notes: the rate of employee hires was calculated as the number of employees hired during the reporting period compared to the total number of employees at the end of the reporting period. The turnover rate was calculated as the number of terminations during the reporting period compared to the total number of employees at the end of the reporting period.

GRI 401-1: NEW EMPLOYEE HIRES AND EMPLOYEE TURNOVER - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

NEW EMPLOYEE HIRES SINCE 1ST JANUARY TO 31ST DECEMBER

Description	Age group	U.M.	2022	2023	2024
New employee hires by age group	< 30 years old	no.	-	115	35
	Between 30 and 50 years old	no.	-	112	59
	> 50 years old	no.	-	34	21
New employee hires by gender	Female	no.	-	13	10
	Male	no.	-	248	105
Total new employee hires		**no.**	**-**	**261**	**115**
Rate of employee hires by age group	< 30 years old	%	-	80%	33%
	Between 30 and 50 years old	%	-	70%	34%
	> 50 years old	%	-	58%	34%
Rate of employee hires by gender	Female	%	-	76%	45%
	Male	%	-	72%	33%
Total rate of employee hires		**%**	**-**	**72%**	**34%**

TERMINATIONS OF EMPLOYMENT FROM 1ST JANUARY TO 31ST DECEMBER

Gender	< 30 years old	U.M.	2022	2023	2024
Terminations of employment by age group	Between 30 and 50 years old	no.	-	52	59
	> 50 years old	no.	-	69	58
	Female	no.	-	33	17
Terminations of employment by gender	Male	no.	-	5	5
	Uomini	no.	-	149	129
Total terminations		**no.**	**-**	**154**	**134**
Turnover rate by age group	< 30 years old	%	-	36%	56%
	Between 30 and 50 years old	%	-	43%	33%
	> 50 years old	%	-	56%	27%
Turnover rate by gender	Female	%	-	29%	23%
	Male	%	-	43%	40%
Total turnover rate		**%**	**-**	**43%**	**39%**

Notes: the rate of employee hires was calculated as the number of employees hired during the reporting period compared to the total number of employees at the end of the reporting period. The turnover rate was calculated as the number of terminations during the reporting period compared to the total number of employees at the end of the reporting period.

GRI 401-1: NEW EMPLOYEE HIRES AND EMPLOYEE TURNOVER - CONSOLIDATED PERFORMANCE

NEW EMPLOYEE HIRES SINCE 1ST JANUARY TO 31ST DECEMBER

Description	Age group	U.M.	2022	2023	2024
New employee hires by age group	< 30 years old	no.	-	190	113
	Between 30 and 50 years old	no.	-	301	160
	> 50 years old	no.	-	53	35
New employee hires by gender	Female	no.	-	123	87
	Male	no.	-	421	221
Total new employee hires		**no.**	**-**	**544**	**308**
Rate of employee hires by age group	< 30 years old	%	-	49%	33%
	Between 30 and 50 years old	%	-	78%	47%
	> 50 years old	%	-	14%	10%
Rate of employee hires by gender	Female	%	-	21%	14%
	Male	%	-	28%	15%
Total rate of employee hires		**%**	**-**	**26%**	**14%**

TERMINATIONS OF EMPLOYMENT FROM 1ST JANUARY TO 31ST DECEMBER

Gender	< 30 years old	U.M.	2022	2023	2024
Terminations of employment by age group	Between 30 and 50 years old	no.	-	77	84
	> 50 years old	no.	-	153	141
	Female	no.	-	44	33
Terminations of employment by gender	Male	no.	-	47	53
	Uomini	no.	-	227	205
Total terminations		**no.**	**-**	**274**	**258**
Turnover rate by age group	< 30 years old	%	-	20%	24%
	Between 30 and 50 years old	%	-	11%	10%
	> 50 years old	%	-	17%	10%
Turnover rate by gender	Female	%	-	8%	8%
	Male	%	-	15%	14%
Total turnover rate		**%**	**-**	**13%**	**12%**

Notes: the rate of employee hires was calculated as the number of employees hired during the reporting period compared to the total number of employees at the end of the reporting period. The turnover rate was calculated as the number of terminations during the reporting period compared to the total number of employees at the end of the reporting period.
As regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

GRI 401-3: PARENTAL LEAVE - OPEN FIBER S.P.A.

Description	U.M.	2022	2023	2024
EMPLOYEES THAT WERE ENTITLED TO PARENTAL LEAVE IN THE REPORTING YEAR				
Employees that were entitled to maternity leave	no.	511	579	608
Employees that were entitled to paternity leave	no.	1,060	1,155	1,195
Total	**no.**	**1,571**	**1,734**	**1,803**
EMPLOYEES THAT TOOK PARENTAL LEAVE IN THE REPORTING YEAR				
Employees that took maternity leave	no.	37	44	53
Employees that took paternity leave	no.	43	67	69
Total	**no.**	**80**	**111**	**122**
EMPLOYEES THAT RETURNED TO WORK AFTER PARENTAL LEAVE ENDED THAT WERE STILL EMPLOYED 12 MONTHS AFTER THEIR RETURN TO WORK				
Employees that returned to work after the maternity leave ended	no.	29	26	37
Employees that returned to work after the paternity leave ended	no.	43	65	69
Total	**no.**	**72**	**91**	**106**
EMPLOYEES THAT RETURNED TO WORK AFTER PARENTAL LEAVE ENDED THAT WERE STILL EMPLOYED 12 MONTHS AFTER THEIR RETURN TO WORK				
Employees that returned to work after maternity leave ended that were still employed 12 months after their return to work	no.	15	25	25
Employees that returned to work after paternity leave ended that were still employed 12 months after their return to work	no.	45	42	62
Total	**no.**	**60**	**67**	**87**
EMPLOYEES THAT WERE DUE TO RETURN TO WORK AFTER TAKING PARENTAL LEAVE				
Employees that were due to return to work after taking maternity leave	no.	37	44	53
Employees that were due to return to work after taking paternity leave	no.	43	67	69
Total	**no.**	**80**	**111**	**122**
RETURN TO WORK RATE				
Female	%	78%	59%	70%
Male	%	100%	97%	100%
Total	**%**	**90%**	**82%**	**87%**
RETENTION RATE				
Female	%	100%	86%	96%
Male	%	100%	98%	95%
Total	**%**	**100%**	**93%**	**96%**

GRI 401-3: PARENTAL LEAVE - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

Description	U.M.	2022	2023	2024
EMPLOYEES THAT WERE ENTITLED TO PARENTAL LEAVE IN THE REPORTING YEAR				
Employees that were entitled to maternity leave	no.	-	17	22
Employees that were entitled to paternity leave	no.	-	344	320
Total	**no.**	**-**	**361**	**342**
EMPLOYEES THAT TOOK PARENTAL LEAVE IN THE REPORTING YEAR				
Employees that took maternity leave	no.	-	0	0
Employees that took paternity leave	no.	-	8	8
Total	**no.**	**-**	**8**	**8**
EMPLOYEES THAT RETURNED TO WORK AFTER PARENTAL LEAVE ENDED THAT WERE STILL EMPLOYED 12 MONTHS AFTER THEIR RETURN TO WORK				
Employees that returned to work after the maternity leave ended	no.	-	0	0
Employees that returned to work after the paternity leave ended	no.	-	7	7
Total	**no.**	**-**	**7**	**7**
EMPLOYEES THAT RETURNED TO WORK AFTER PARENTAL LEAVE ENDED THAT WERE STILL EMPLOYED 12 MONTHS AFTER THEIR RETURN TO WORK				
Employees that returned to work after maternity leave ended that were still employed 12 months after their return to work	no.	-	-	0
Employees that returned to work after paternity leave ended that were still employed 12 months after their return to work	no.	-	-	7
Total	**no.**	**-**	**-**	**7**
EMPLOYEES THAT WERE DUE TO RETURN TO WORK AFTER TAKING PARENTAL LEAVE				
Employees that were due to return to work after taking maternity leave	no.	-	0	0
Employees that were due to return to work after taking paternity leave	no.	-	8	8
Total	**no.**	**-**	**8**	**8**
RETURN TO WORK RATE				
Female	%	-	0%	0%
Male	%	-	88%	88%
Total	**%**	**-**	**88%**	**88%**
RETENTION RATE				
Female	%	-	-	0%
Male	%	-	-	100%
Total	**%**	**-**	**-**	**100%**

GRI 401-3: PARENTAL LEAVE - CONSOLIDATED PERFORMANCE

Description	U.M.	2022	2023	2024
EMPLOYEES THAT WERE ENTITLED TO PARENTAL LEAVE IN THE REPORTING YEAR				
Employees that were entitled to maternity leave	no.	-	596	630
Employees that were entitled to paternity leave	no.	-	1.499	1.515
Total	**no.**	**-**	**2.095**	**2.145**
EMPLOYEES THAT TOOK PARENTAL LEAVE IN THE REPORTING YEAR				
Employees that took maternity leave	no.	-	44	53
Employees that took paternity leave	no.	-	75	77
Total	**no.**	**-**	**119**	**130**
EMPLOYEES THAT RETURNED TO WORK AFTER PARENTAL LEAVE ENDED THAT WERE STILL EMPLOYED 12 MONTHS AFTER THEIR RETURN TO WORK				
Employees that returned to work after the maternity leave ended	no.	-	26	37
Employees that returned to work after the paternity leave ended	no.	-	72	76
Total	**no.**	**-**	**98**	**113**
EMPLOYEES THAT RETURNED TO WORK AFTER PARENTAL LEAVE ENDED THAT WERE STILL EMPLOYED 12 MONTHS AFTER THEIR RETURN TO WORK				
Employees that returned to work after maternity leave ended that were still employed 12 months after their return to work	no.	-	-	25
Employees that returned to work after paternity leave ended that were still employed 12 months after their return to work	no.	-	-	69
Total	**no.**	**-**	**-**	**94**
EMPLOYEES THAT WERE DUE TO RETURN TO WORK AFTER TAKING PARENTAL LEAVE				
Employees that were due to return to work after taking maternity leave	no.	-	44	53
Employees that were due to return to work after taking paternity leave	no.	-	75	77
Total	**no.**	**-**	**119**	**130**
RETURN TO WORK RATE				
Female	%	-	59%	70%
Male	%	-	96%	99%
Total	**%**	**-**	**82%**	**87%**
RETENTION RATE				
Female	%	-	-	96%
Male	%	-	-	96%
Total	**%**	**-**	**-**	**96%**

Notes: as regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

GRI 403 Occupational Health and Safety

GRI 403-5: WORKER TRAINING ON OCCUPATIONAL HEALTH AND SAFETY - OPEN FIBER S.P.A.

HOURS OF TRAINING ON OCCUPATIONAL HEALTH AND SAFETY AND ENVIRONMENTAL PROTECTION - OPEN FIBER EMPLOYEES

Description	U.M.	2022	2023	2024
Total number of hours of training on Health, Safety and Environment (HSE)	h	9,498	25,801	19,825
Average hours of training on HSE per employee	h/employee	6	15	11

HOURS OF TRAINING ON OCCUPATIONAL HEALTH AND SAFETY AND ENVIRONMENTAL PROTECTION - OPEN FIBER EMPLOYEES + OTHER PERSONNEL

Description	U.M.	2022	2023	2024
Total number of hours of training on Health, Safety and Environment (HSE)	h	9,776	26,807	20,494

Notes: Health, Safety and Environment training includes: mandatory HSE training and necessary HSE training, HSE management system pills and pills promoted by the HSE function.
The increase in training in 2023 compared to 2022 is due to a voluntary increase in the hours of mandatory training (16 hours per person - high risk) and to the updating of mandatory training. During 2024, HSE training campaigns concerned a target population defined based on the role and/or function to which they belong, resulting in a lower effort in terms of training hours/editions compared to 2023.
Training to other personnel does not include training provided to contractors and subcontractors involved in the network creation and management activities (Creation, Delivery & Assurance).

GRI 403-5: WORKER TRAINING ON OCCUPATIONAL HEALTH AND SAFETY - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

HOURS OF TRAINING ON OCCUPATIONAL HEALTH AND SAFETY AND ENVIRONMENTAL PROTECTION - OPEN FIBER NETWORK SOLUTIONS EMPLOYEES

Description	U.M.	2022	2023	2024
Total number of hours of training on Health, Safety and Environment (HSE)	h	-	23,558	6,312
Average hours of training on HSE per employee	h/employee	-	65	18

Notes: the value is decreasing compared to 2023 as the number of new staff hired has decreased, 115 in 2024 against 261 the previous year. Furthermore, the figures for which training courses with a greater number of hours are necessary have stabilized within the company.

GRI 403-5: WORKER TRAINING ON OCCUPATIONAL HEALTH AND SAFETY - CONSOLIDATED PERFORMANCE

HOURS OF TRAINING ON OCCUPATIONAL HEALTH AND SAFETY AND ENVIRONMENTAL PROTECTION - OPEN FIBER AND OPEN FIBER NETWORK SOLUTIONS EMPLOYEES

Description	U.M.	2022	2023	2024
Total number of hours of training on Health, Safety and Environment (HSE)	h	-	49,359	26,137
Average hours of training on HSE per employee	h/employee	-	24	12

HOURS OF TRAINING ON OCCUPATIONAL HEALTH AND SAFETY AND ENVIRONMENTAL PROTECTION - OPEN FIBER AND OPEN FIBER NETWORK SOLUTIONS EMPLOYEES + OTHER PERSONNEL

Description	U.M.	2022	2023	2024
Total number of hours of training on Health, Safety and Environment (HSE)	h	-	50,365	26,806

Notes: as regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

GRI 403-9: WORK-RELATED INJURIES - OPEN FIBER S.P.A.

OPEN FIBER EMPLOYEES

Description		U.M.	2022	2023	2024
Hours worked		h	2,417,521	2,881,118	2,946,958
Lost Time Injuries (including fatalities)	**Total number**	**no.**	**1**	**0**	**0**
	With high consequences*	no.	0	0	0
	fatalities	no.	0	0	0
Commuting injuries**		no.	2	9***	8
Lost time injuries Frequency rate		-	0.41	0.00	0.00
Lost Time Injuries Frequency Rate (including commuting injuries)		-	0.92	3.12	2.71
Frequency rate for lost time injuries with high-consequences		-	0.00	0.00	0.00
Frequency rate of work-related fatalities		-	0.00	0.00	0.00
Main types of injuries			The accident that occurred during the three-year period was due to a road accident that happened during working hours.		

Notes:
* > 6 months of absence excluding deaths. Injuries with a prognosis of more than 180 days as of 31/12 are taken into account.
** Accidents that occur on the way between the workplace and a place belonging to the private sphere.
*** The increase compared to previous years is due to the resuming of work presence in presence following the reduction during the Covid-19 containment measures.

GRI 403-9: WORK-RELATED INJURIES - OPEN FIBER S.P.A.

WORKERS WHO ARE NOT EMPLOYEES, BUT WHOSE WORK AND/OR PLACE OF WORK IS UNDER THE CONTROL OF THE COMPANY

Description		U.M.	2022	2023	2024
Hours worked		h	14,006,513	15,289,678	19,899,368
Lost Time Injuries (including fatalities)	**Total number**	**no.**	**29**	**39**	**39**
	With high consequences*	no.	1	2	0
	fatalities	no.	0	0	1
Commuting injuries**		no.	0	0	0
Lost time injuries Frequency rate		-	2.07	2.55	1.96
Frequency rate for lost time injuries with high-consequences		-	0.07	0.13	0.00
Frequency rate of work-related fatalities		-	0.00	0.00	0.05
Main types of injuries			Investment: the activities are carried out on roads or on the side or very close to roads and ordinary road traffic in urban and extra-urban contexts. The small size of the worksite areas entails risks for workers who can be run over by work vehicles or by vehicles outside the worksite area (cars). Crushed limbs/shocks/impacts: among the most frequent activities is the opening and closing of manhole covers, generally made of cast iron and with a "segmented" opening. This activity exposes the worker to the risk of shocks, impacts and crushing of limbs if performed incorrectly.		

Notes:
* > 6 months of absence excluding deaths. Injuries with a prognosis of more than 180 days as of 31/12 are taken into account.
** accidents that occur on the way between the workplace and a place belonging to the private sphere. Commuting injuries of third-party personnel are not reported as the commute is not organised by Open Fiber and do not reflect the activities carried out under the existing contracts.
With reference to companies operating in Creation, Delivery & Assurance activities, the estimated number of FTEs for the year 2023 is 7,670, for the year 2024 is 7,771. Such perimeter includes the direct personnel of Open Fiber Network Solutions.

OVERALL PERFORMANCE (OPEN FIBER EMPLOYEES AND WORKERS WHO ARE NOT EMPLOYEES, BUT WHOSE WORK AND/OR PLACE OF WORK IS UNDER THE CONTROL OF THE COMPANY)

Description	U.M.	2022	2023	2024
Lost time injuries Frequency rate	-	1.83	2.15	1.70
Frequency rate for lost time injuries with high-consequences	-	0.06	0.11	0.00
Frequency rate of work-related fatalities	-	0.00	0.00	0.04

GRI 403-9: WORK-RELATED INJURIES - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

OPEN FIBER AND OPEN FIBER NETWORK SOLUTIONS' EMPLOYEES

Description		U.M.	2022	2023	2024
Hours worked		h	-	442,162	570,862
Lost Time Injuries (including fatalities)	**Total number**	**no.**	**-**	**15**	**11**
	With high consequences*	no.	-	0	0
	fatalities	no.	-	0	0
Commuting injuries**		no.	-	3	2
Lost time injuries Frequency rate		-	-	33.92	19.27
Lost Time Injuries Frequency Rate (including commuting injuries)		-	-	40.71	22.77
Frequency rate for lost time injuries with high-consequences		-	-	0.00	0.00
Frequency rate of work-related fatalities		-	-	0.00	0.00
Main types of injuries				Investment: the activities are carried out on roads or on the side or very close to roads and ordinary road traffic in urban and extra-urban contexts. The small size of the worksite areas entails risks for workers who can be run over by work vehicles or by vehicles outside the worksite area (cars). Crushed limbs/shocks/impacts: among the most frequent activities is the opening and closing of manhole covers, generally made of cast iron and with a "segmented" opening. This activity exposes the worker to the risk of shocks, impacts and crushing of limbs if performed incorrectly.	

Notes:
* > 6 months of absence excluding deaths. Injuries with a prognosis of more than 180 days as of 31/12 are taken into account.
** accidents that occur on the way between the workplace and a place belonging to the private sphere.

GRI 403-9: WORK-RELATED INJURIES - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

WORKERS WHO ARE NOT EMPLOYEES, BUT WHOSE WORK AND/OR PLACE OF WORK IS UNDER THE CONTROL OF THE COMPANY

Description		U.M.	2022	2023	2024
Hours worked		h	-	374,621	272,212
Lost Time Injuries (including fatalities)	**Total number**	**no.**	**-**	**12**	**6**
	With high consequences*	no.	-	0	0
	fatalities	no.	-	0	0
Commuting injuries**		no.	-	0	1
Lost time injuries Frequency rate		-	-	32.03	22.04
Frequency rate for lost time injuries with high-consequences		-	-	0.00	0.00
Frequency rate of work-related fatalities		-	-	0.00	0.00
Main types of injuries				Investment: the activities are carried out on roads or on the side or very close to roads and ordinary road traffic in urban and extra-urban contexts. The small size of the worksite areas entails risks for workers who can be run over by work vehicles or by vehicles outside the worksite area (cars). Crushed limbs/shocks/impacts: among the most frequent activities is the opening and closing of manhole covers, generally made of cast iron and with a "segmented" opening. This activity exposes the worker to the risk of shocks, impacts and crushing of limbs if performed incorrectly.	

Notes:
* > 6 months of absence excluding deaths. Injuries with a prognosis of more than 180 days as of 31/12 are taken into account.
** accidents that occur on the way between the workplace and a place belonging to the private sphere.

OVERALL PERFORMANCE (OPEN FIBER NETWORK SOLUTIONS EMPLOYEES AND WORKERS WHO ARE NOT EMPLOYEES, BUT WHOSE WORK AND/OR PLACE OF WORK IS UNDER THE CONTROL OF THE COMPANY)

Description	U.M.	2022	2023	2024
Lost time injuries Frequency rate	-	-	33.06	20.16
Frequency rate for lost time injuries with high-consequences	-	-	0.00	0.00
Frequency rate of work-related fatalities	-	-	0.00	0.00

GRI 403-9: WORK-RELATED INJURIES - CONSOLIDATED PERFORMANCE

OPEN FIBER AND OPEN FIBER NETWORK SOLUTIONS' EMPLOYEES

Description		U.M.	2022	2023	2024
Hours worked		h	-	3,323,280	3,517,820
Lost Time Injuries (including fatalities)	**Total number**	**no.**	**-**	**15**	**11**
	With high consequences*	no.	-	0	0
	fatalities	no.	-	0	0
Commuting injuries**		no.	-	12	10
Lost time injuries Frequency rate		-	-	4.51	3.13
Lost Time Injuries Frequency Rate (including commuting injuries)		-	-	8.12	5.97
Frequency rate for lost time injuries with high-consequences		-	-	0.00	0.00
Frequency rate of work-related fatalities		-	-	0.00	0.00
Main types of injuries		Investment: the activities are carried out on roads or on the side or very close to roads and ordinary road traffic in urban and extra-urban contexts. The small size of the worksite areas entails risks for workers who can be run over by work vehicles or by vehicles outside the worksite area (cars). Crushed limbs/shocks/impacts: among the most frequent activities is the opening and closing of manhole covers, generally made of cast iron and with a "segmented" opening. This activity exposes the worker to the risk of shocks, impacts and crushing of limbs if performed incorrectly.			

Notes:
* > 6 months of absence excluding deaths. Injuries with a prognosis of more than 180 days as of 31/12 are taken into account.
** accidents that occur on the way between the workplace and a place belonging to the private sphere. As regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

GRI 403-9: WORK-RELATED INJURIES - CONSOLIDATED PERFORMANCE

WORKERS WHO ARE NOT EMPLOYEES, BUT WHOSE WORK AND/OR PLACE OF WORK IS UNDER THE CONTROL OF THE COMPANY

Description		U.M.	2022	2023	2024
Hours worked		h	-	14,898,072	19,434,728
Lost Time Injuries (including fatalities)	**Total number**	**no.**	**-**	**24**	**28**
	With high consequences*	no.	-	2	0
	fatalities	no.	-	0	0
Commuting injuries**		no.	-	0	-
Lost time injuries Frequency rate		-	-	1.62	1.44
Frequency rate for lost time injuries with high-consequences		-	-	0.13	0.00
Frequency rate of work-related fatalities		-	-	0.00	0.00
Main types of injuries				Investment: the activities are carried out on roads or on the side or very close to roads and ordinary road traffic in urban and extra-urban contexts. The small size of the worksite areas entails risks for workers who can be run over by work vehicles or by vehicles outside the worksite area (cars). Crushed limbs/shocks/impacts: among the most frequent activities is the opening and closing of manhole covers, generally made of cast iron and with a "segmented" opening. This activity exposes the worker to the risk of shocks, impacts and crushing of limbs if performed incorrectly.	

Notes:
* > 6 months of absence excluding deaths. Injuries with a prognosis of more than 180 days as of 31/12 are taken into account.
** accidents that occur on the way between the workplace and a place belonging to the private sphere. Commuting injuries of third-party personnel are not reported as the commute is not organised by Open Fiber and do not reflect the activities carried out under the existing contracts. As regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

OVERALL PERFORMANCE (OPEN FIBER, OPEN FIBER NETWORK SOLUTIONS EMPLOYEES AND WORKERS WHO ARE NOT EMPLOYEES, BUT WHOSE WORK AND/OR PLACE OF WORK IS UNDER THE CONTROL OF THE COMPANY)

Description	U.M.	2021	2022	2024
Lost time injuries Frequency rate	-	-	2.15	1.70
Frequency rate for lost time injuries with high-consequences	-	-	0.11	0.00
Frequency rate of work-related fatalities	-	-	0.00	0.04

Notes: as regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

Standards, methodologies, and conversion factors
The frequency indexes were calculated on the basis of 1,000,000 hours worked.
With reference to the injury performance of Workers who are not employees, but whose work and/or place of work is under the control of the company, in order to ensure representativeness of Open Fiber's business, the employees of companies operating within the Creation and Delivery & Assurance activities were considered.
Hours worked by Open Fiber employees are measured through the attendance tracking system. Hours worked by employees of companies involved in Creation, Delivery and Assurance are calculated starting from the FTE data communicated by the companies in the reporting period.

GRI 404 Training and Education

GRI 404-1: AVERAGE HOURS OF TRAINING PER YEAR PER EMPLOYEE - OPEN FIBER S.P.A.

NUMBER OF ANNUALLY AVERAGE HOURS OF TRAINING PER EMPLOYEE

Description		U.M.	2022	2023	2024
Training by employee category	Executives	h/employee	24	34	50
(average hours per capita)	Middle managers	h/employee	27	37	48
	Office workers	h/employee	35	49	45
Training by gender	Female	h/employee	32	46	44
(average hours per capita)	Male	h/employee	34	48	46
Average hours of training per employee		**h/employee**	**34**	**47**	**45**
Total hours of training		**h/employee**	**52,926**	**81,661**	**81,933**

Notes: between 2023 and 2024, the total number of training hours provided to employees is rather stable, while there is an increase in training hours provided to managers and executives, for whom a series of training activities aimed at developing leadership skills were launched during 2024. Furthermore, during 2024, 1,167 hours of training were also provided to non-employee workers, for a total of 83,100 hours of training provided to employees and other workers.

GRI 404-1: AVERAGE HOURS OF TRAINING PER YEAR PER EMPLOYEE - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

NUMBER OF ANNUALLY AVERAGE HOURS OF TRAINING PER EMPLOYEE

Description		U.M.	2022	2023	2024
Training by employee category	Executives	h/employee	-	0	0
(average hours per capita)	Middle managers	h/employee	-	0	0
	Office workers	h/employee	-	15	12
	Laborers	h/employee	-	74	27
Training by gender	Female	h/employee	-	10	9
(average hours per capita)	Male	h/employee	-	68	24
Average hours of training per employee		**h/employee**	**-**	**65**	**23**
Total hours of training		**h/employee**	**-**	**23,558**	**7,842**

Notes: in 2024 there was a reduction in the hours of training provided compared to 2023 (-67%) due to the lower number of mandatory training activities, most of which had already been carried out in the previous year.

GRI 404-1: AVERAGE HOURS OF TRAINING PER YEAR PER EMPLOYEE - CONSOLIDATED PERFORMANCE

NUMBER OF ANNUALLY AVERAGE HOURS OF TRAINING PER EMPLOYEE

Description		U.M.	2022	2023	2024
Training by employee category	Executives	h/employee	-	34	50
(average hours per capita)	Middle managers	h/employee	-	37	47
	Office workers	h/employee	-	48	43
	Laborers	h/employee	-	11	27
Training by gender	Female	h/employee	-	45	43
(average hours per capita)	Male	h/employee	-	52	41
Average hours of training per employee		**h/employee**	**-**	**50**	**42**
Total hours of training		**h/employee**	**-**	**105,219**	**89,775**

Notes: as regards data relating to 2022 years, please refer to the performances of Open Fiber S.p.A.

GRI 404-3: PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEWS - OPEN FIBER S.P.A.

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEWS BY EMPLOYMENT CATEGORY

Employee category	U.M.	2022	2023	2024
Executives	%	100%	100%	98%
Middle managers	%	89%	76%	67%
Office workers	%	56%	75%	68%

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEW BY GENDER

Gender	U.M.	2022	2023	2024
Female	%	50%	69%	69%
Male	%	66%	80%	69%

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEW

Description	U.M.	2022	2023	2024
Total of employees receiving regular reviews	%	61%	76%	69%

Notes: in 2024, the BPE - Behaviour & Performance Evaluation review process, started in 2022, continued and the new 360° Evaluation process was launched (see 3.2.5 Behaviour and Performance Evaluation).

GRI 404-3: PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEWS - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEWS BY EMPLOYMENT CATEGORY

Employee category	U.M.	2022	2023	2024
Executives	%	-	0%	0%
Middle managers	%	-	0%	0%
Office workers	%	-	6%	7%
Laborers	%	-	0%	0%

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEW BY GENDER

Gender	U.M.	2022	2023	2024
Female	%	-	6%	5%
Male	%	-	1%	1%

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEW

Description	U.M.	2022	2023	2024
Total of employees receiving regular reviews	%	-	1%	1%

GRI 404-3: PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEWS - CONSOLIDATED PERFORMANCE

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEWS BY EMPLOYMENT CATEGORY

Employee category	U.M.	2022	2023	2024
Executives	%	-	100%	97%
Middle managers	%	-	74%	65%
Office workers	%	-	74%	66%
Laborers	%	-	0%	0%

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEW BY GENDER

Gender	U.M.	2022	2023	2024
Female	%	-	67%	67%
Male	%	-	62%	55%

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEW

Descrizione	U.M.	2022	2023	2024
Total of employees receiving regular reviews	%	-	63%	58%

Notes: as regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

GRI 405 Diversity and equal opportunity

GRI 405-1: DIVERSITY OF GOVERNANCE BODIES AND EMPLOYEES - OPEN FIBER S.P.A.

DIVERSITY OF GOVERNANCE BODIES

Board of Directors by gender and age group			U.M.	2022	2023	2024
BoD Members as of 31st December	Female	< 30 years old	%	0.0%	0.0%	0.0%
		Between 30 and 50 years old	%	29.0%	14.0%	0.0%
		> 50 years old	%	14.0%	0.0%	14.0%
	Total Female		**%**	**43.0%**	**14.0%**	**14.0%**
	Male	< 30 years old	%	0.0%	0.0%	0,0%
		Between 30 and 50 years old	%	29.0%	29.0%	29.0%
		> 50 years old	%	29.0%	57.0%	57.0%
	Total Male		**%**	**57,0%**	**86.0%**	**86.0%**

Members of the Board of Directors belonging to vulnerable groups by gender		U.M.	2022	2023	2024
Members of the Board of Directors belonging to protected categories	Female	%	0.0%	0.0%	0.0%
	Male	%	0.0%	0.0%	0.0%
	Total	%	**0.0%**	**0.0%**	0.0%

DIVERSITY OF EMPLOYEES

Employees by gender and age group			U.M.	2022	2023	2024
Employees with an employment contract as of 31st December	Executives	Female	%	19.0%	18.6%	21.3%
		Male	%	81.0%	81.4%	78.7%
	Middle managers	Female	%	19.7%	24.6%	26.4%
		Male	%	80.3%	75.4%	73.6%
	Office workers	Female	%	34.4%	34.9%	35.1%
		Male	%	65.6%	65.1%	64.9%
	Total Female		**%**	**32.5%**	**33.4%**	**33.7%**
	Total Male		**%**	**67.5%**	**66.6%**	**66.3%**

GRI 405-1: DIVERSITY OF GOVERNANCE BODIES AND EMPLOYEES - OPEN FIBER S.P.A.

DIVERSITY OF EMPLOYEES

Employees by gender and age group			U.M.	2022	2023	2024
Employees with an employment contract as of 31st December	Executives	< 30 years old	%	0.0%	0.0%	0.0%
		Between 30 and 50 years old	%	39.7%	30.5%	29.5%
		> 50 years old	%	60.3%	69.5%	70.5%
	Middle managers	< 30 years old	%	0.0%	0.0%	0.0%
		Between 30 and 50 years old	%	65.5%	65.3%	62.1%
		> 50 years old	%	34.5%	34.7%	37.9%
	Office workers	< 30 years old	%	18.3%	16.0%	15.3%
		Between 30 and 50 years old	%	75.8%	77.4%	75.0%
		> 50 years old	%	5.9%	6.6%	9.7%
	Total < 30 years old		**%**	**16.0%**	**14.0%**	**13.2%**
	Total Between 30 and 50 years old		**%**	**73.5%**	**74.6%**	**72.2%**
	Total > 50 years old		**%**	**10,5%**	**11.4%**	**14.6%**

Employees belonging to vulnerable groups	U.M.	2022	2023	2024
Executives	%	0.0%	0.0%	0.0%
Middle managers	%	1.4%	1.8%	1.6%
Office workers	%	2.9%	2.5%	3.4%
Total employees belonging to vulnerable groups	**%**	**2.7%**	**2.4%**	**3.1%**

Notes: for "Diversity of governance bodies", the percentages are calculated as the number of governance body members falling into this specific category compared to the total number of governance body members in the reporting year.
For "Diversity of employees", the percentages are calculated as the number of employees falling into this specific category compared to the total number of employees by employment contract in the reporting year.
All employees in force in 2024 belonging to vulnerable categories fall under art. 1 of Law 68/99, while executives belong without distinction to art. 1 and art. 18 of Law 68/98.

GRI 405-1: DIVERSITY OF GOVERNANCE BODIES AND EMPLOYEES - OPEN FIBER NETWORK SOLUTIONS S.C.A.R.L.

DIVERSITY OF EMPLOYEES

Employees by gender and age group			U.M.	2022	2023	2024
Employees with an employment contract as of 31st December	Executives	Female	%	-	0.0%	0.0%
		Male	%	-	0.0%	100.0%
	Middle managers	Female	%	-	25.0%	40.0%
		Male	%	-	75.0%	60.0%
	Office workers	Female	%	-	31.4%	27.8%
		Male	%	-	68.6%	72.2%
	Laborers	Female	%	-	0.0%	0.0%
		Male	%	-	100.0%	100.0%
	Total Female		**%**	**-**	**4.7%**	**6.4%**
	Total Male		**%**	**-**	**95.3%**	**93.6%**

Employees by employee category and age group			U.M.	2022	2023	2024
Employees with an employment contract as of 31st December	Executives	< 30 years old	%	-	0.0%	0.0%
		Between 30 and 50 years old	%	-	0.0%	0.0%
		> 50 years old	%	-	0.0%	100.0%
	Middle managers	< 30 years old	%	-	0.0%	0.0%
		Between 30 and 50 years old	%	-	25.0%	40.0%
		> 50 years old	%	-	75.0%	60.0%
	Office workers	< 30 years old	%	-	29.4%	25.0%
		Between 30 and 50 years old	%	-	47.1%	55.6%
		> 50 years old	%	-	23.5%	19.4%
	Laborers	< 30 years old	%	-	41.8%	33.3%
		Between 30 and 50 years old	%	-	45.5%	50.0%
		> 50 years old	%	-	12.7%	16.7%
	Total < 30 years old		**%**	**-**	**39.6%**	**31.0%**
	Total Between 30 and 50 years old		**%**	**-**	**45.4%**	**50.9%**
	Total > 50 years old		**%**	**-**	**15.0%**	**18.1%**

Employees belonging to vulnerable groups	U.M.	2022	2023	2024
Executives	%	-	0.0%	0.0%
Middle managers	%	-	0.0%	0.0%
Office workers	%	-	2.0%	5.6%
Laborers	%	-	0.0%	0.4%
Total employees belonging to vulnerable groups	**%**	**-**	**0.3%**	**1.5%**

Notes: all office office workers and laborers working in 2024 and belonging to vulnerable categories fall under art. 1 of Law 68/99. Regarding the governing body, please refer to Open Fiber S.p.A.

GRI 405-1: DIVERSITY OF GOVERNANCE BODIES AND EMPLOYEES - CONSOLIDATED PERFORMANCE

DIVERSITY OF EMPLOYEES

Employees by gender and age group			U.M.	2022	2023	2024
Employees with an employment contract as of 31st December	Executives	Female	%	-	18.6%	21.0%
		Male	%	-	81.4%	79.0%
	Middle managers	Female	%	-	24.6%	26.7%
		Male	%	-	75.4%	73.3%
	Office workers	Female	%	-	34.8%	34.7%
		Male	%	-	65.2%	65.3%
	Laborers	Female	%	-	0.0%	0.0%
		Male	%	-	100.0%	100.0%
	Total Female		**%**	**-**	**28.4%**	**29.4%**
	Total Male		**%**	**-**	**71.6%**	**70.6%**

Employees by employee category and age group			U.M.	2022	2023	2024
Employees with an employment contract as of 31st December	Executives	< 30 years old	%	-	0.0%	0.0%
		Between 30 and 50 years old	%	-	30.5%	29.0%
		> 50 years old	%	-	69.5%	71.0%
	Middle managers	< 30 years old	%	-	0.0%	0.0%
		Between 30 and 50 years old	%	-	64.3%	61.5%
		> 50 years old	%	-	35.7%	38.5%
	Office workers	< 30 years old	%	-	16.5%	15.7%
		Between 30 and 50 years old	%	-	76.4%	74.1%
		> 50 years old	%	-	7.1%	10.2%
	Laborers	< 30 years old	%	-	41.8%	33.3%
		Between 30 and 50 years old	%	-	45.4%	50.0%
		> 50 years old	%	-	12.7%	16.7%
	Total < 30 years old		**%**	**-**	**18.4%**	**16.0%**
	Total Between 30 and 50 years old		**%**	**-**	**69.6%**	**68.8%**
	Total > 50 years old		**%**	**-**	**12.0%**	**15.2%**

Employees belonging to vulnerable groups	U.M.	2022	2023	2024
Executives	%	-	0.0%	0.0%
Middle managers	%	-	1.8%	1.6%
Office workers	%	-	2.5%	3.5%
Laborers	%	-	0.0%	0.4%
Total employees belonging to vulnerable groups	**%**	**-**	**2.0%**	**2.8%**

Notes: as regards data relating to 2022, please refer to the performances of Open Fiber S.p.A.

7.6 GRI CONTENT INDEX

The GRI Content Index reports references to the Sustainability Report 2024 and to other Open Fiber documents and tools (e.g. website) within which it is possible to find a more detailed discussion or any in-depth analysis related to a specific topic and standard. For each disclosure, the following has been reported:

- the number and description of the reference disclosure;
- the page number or links where the information can be found, either within the report or on other documents published by Open Fiber;
- any comments and omissions.

Statement of use	Open Fiber S.p.A. has reported in accordance with the GRI Standards for the period 01/01/2024 - 31/12/2024
GRI 1 used	GRI: Foundation 2021
Applicable GRI Sector standard(s)	No applicable GRI Sector Standard among those currently available

GRI Standard/ Other sources	Disclosure	Location	Omission Requirement(s) omitted
GENERAL DISCLOSURES			
GRI 2: General Disclosure 2021	**The organisation and its reporting practices**		
	GRI 2-1 Organizational details	22-27, 44-46, 172-178	
	GRI 2-2 Entities included in the organization's sustainability reporting	200-201	
	GRI 2-3 Reporting period, frequency and contact point	200-201	
	GRI 2-4 Restatements of information	200-201	
	GRI 2-5 External assurance	290-292	
	Activities and workers		
	GRI 2-6 Activities, value chain and other business relationships	22-30, 50-52, 191-197, 200-201	
	GRI 2-7 Employees	78-82, 217-219	
	GRI 2-8 Workers who are not employees	217-219	

Reason	Explanation	Comments
		Open Fiber S.p.A. Registered Office Viale Certosa 2 - 20155 Milan (until January 2024); Via Luisa Battistotti Sassi 11 - 20133 Milan (from February 2024 to September 2024); Largo Guido Donegani 2 - 20121 Milano (from October 2024) Headquarters Via Laurentina, 449 - 00142 Rome For further details www.openfiber.it
		The data and information in the Open Fiber report refer to Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l., a consortium established in 2022 by Open Fiber S.p.A. together with Amplia Infrastructures S.p.A. and C.I.E.L. S.p.A. The entities included in this sustainability report are the same as those included in the consolidated financial statements of Open Fiber.
		The reporting period adopted for the report is from 01/01/2024 to 31/12/2024. The reporting period is annual and aligned with the financial reporting period. The Sustainability Report 2024 was published in May 2025. Contacts: csv.of@openfiber.it
		The previous version of the Open Fiber Sustainability Report (for the year 2022) is available on the company website: https://openfiber.it/sostenibilita For changes in data from previous years and the reasons for them, see the comments in section 7.5 Data and Performance Indicators Tables
		Report of the auditing firm Deloitte & Touche S.p.A.
		For further details www.openfiber.it In 2022, Open Fiber Network Solutions, a consortium formed by Open Fiber together with Amplia Infrastructures S.p.A. and C.I.E.L. S.p.A., was established with the aim of carrying out the digital and technological transformation of Italy.
		With reference to the companies operating in Creation, Delivery and Assurance, the number of FTEs estimated for the year 2023 is 7,670, for the year 2024 is 7,771.

GRI Standard/ Other sources	Disclosure	Location	Omission Requirement(s) omitted
GENERAL DISCLOSURES			
GRI 2: General Disclosure 2021	**Governance**		
	GRI 2-9 Governance structure and composition	50-52	
	GRI 2-10 Nomination and selection of the highest governance body	-	

Reason	Explanation	Comments
		The Chief Executive Officer and the Chairman of the Board of Directors are executive directors. Legal representation is vested in the Chairman, Chief Executive Officer, and Vice Chairman. The remaining board members are nonexecutive members. The Board of Directors holds office for three fiscal years (current expiration upon approval of the Financial statement 2026) and its members are eligible for reelection. In general, within the Board of Directors there are individuals of different ages and seniority in office, with diversified and mutually complementary professional skills in order to facilitate the dialectic and efficient functioning of the Board. In particular, there is expertise in the infrastructure sector, financial expertise on infrastructure projects and investment financing and management, and legal expertise. For information regarding the gender composition of the Board of Directors, see disclosure GRI 405-1. None of the board members are independent.
		The Company is managed by a Board of Directors, composed of seven members, appointed by the Shareholders' Meeting following the presentation of a single list by the Sole Shareholder (Open Fiber Holdings S.p.A.). For the procedures for the appointment and selection of the Board Committees, see paragraph 6.1 "Governance and Business Conduct". The Company is not listed, nor is it subject to compliance with specific criteria specified in special regulations; therefore, in accordance with the provisions of the Articles of Association, the list of directors is presented by the shareholder taking into account the criteria relating to diversity and gender balance, evaluating the skills of each director according to the different knowledge required in corporate management in the telecommunications sector, subject to a declaration by the designated person that he or she does not incur the causes of ineligibility, incompatibility and forfeiture provided for by the laws in force or by the Articles of Association to hold the aforementioned office and that he or she meets the Appointment Requirements provided for by the Articles of Association.

GRI Standard/ Other sources	Disclosure	Location	Omission Requirement(s) omitted
GENERAL DISCLOSURES			
GRI 2: General Disclosure 2021	**Governance**		
	GRI 2-11 Chair of the highest governance body	-	
	GRI 2-12 Role of the highest governance body in overseeing the management of impacts	167-219	
	GRI 2-13 Delegation of responsibility for managing impacts	-	
	GRI 2-14 Role of the highest governance body in sustainability reporting	-	

Reason	Explanation	Comments
		The Chairman of the Board of Directors is not a senior executive of the organization.
		The Board of Directors is responsible for approving the Sustainability Report, prepared annually on a voluntary basis by the organization. The document illustrates the mission, vision, values and strategies - with a focus on economic, environmental and social aspects - as well as the Company's policies and objectives relating to sustainable development. With reference to the management of risks and their impact related to ESG issues, see what is reported about the Control and Risks Committee in paragraph 6.1 "Governance and business conduct ".
		Open Fiber has defined a system of proxies and powers of attorney designed to ensure the management of impacts on the economy, the environment and people. First, the Board of Directors has identified the CEO as the Employer, giving him powers in environmental matters as well. The delegations provide for a distribution of responsibilities in the matter and are aimed at ensuring the monitoring of the issues pursuant to Legislative Decree 81/2008 and Legislative Decree 152/2006 at all company levels. The delegates identified by the CEO have consequently assigned the sub-delegations to their respective reports according to their competence. The Departments report on the management of the Company's impacts on the economy, the environment and people according to the calendars established annually by the Control and Risk Committee and the Board of Directors.
		The Board of Directors is responsible for approving the Sustainability Report, which is prepared annually on a voluntary basis.

GRI Standard/ Other sources	Disclosure	Location	Omission Requirement(s) omitted
GENERAL DISCLOSURES			
GRI 2: General Disclosure 2021	**Governance**		
	GRI 2-15 Conflicts of interest	-	
	GRI 2-16 Communication of critical concerns	33-34, 178-181	

Reason	Explanation	Comments
		The Company's Code of Ethics and Model 231 establish that, in the management of any activity, it is necessary to avoid situations in which the subjects involved in the transactions are, or may even only appear to be, in conflict of interest. Furthermore, in compliance with the provisions of the Civil Code and the Articles of the Statute, the prior sharing of documentation relating to the meetings of the Boards of Directors allows each director to fulfill the duty to declare any interest in the transaction being resolved. In the event that one or more directors manifest a conflict of interest in relation to the transaction being resolved by the Board of Directors, the declaration is promptly reported in the relevant minutes of the meeting. Furthermore, as a further guarantee of the effective control of any conflicts of interest with respect to stakeholders, the following is reported: (a) the following statutory provision pursuant to art. 5 (aa) according to which "the Persons who will hold the office of Chairman of the Board of Directors, Vice Chairman, Chief Executive Officer and Financial Director of the Company must not be in a situation of conflict of interest with the Shareholders, as well as with the Company and/or Open Fiber Holdings"; (b) that the Company is 100% controlled by Open Fiber Holdings S.p.A., whose members of the Board of Directors coincide with those of Open Fiber; (c) that the Company, on 3rd December 2021, established a Related Parties Committee. Open Fiber has also adopted a Procedure for the Management of Transactions with Related Parties.
		Open Fiber has defined a number of channels to ensure the management and tracking of any critical issues. For more details, see paragraphs 1.3.1 "Antitrust Enforcement", 6.1 "Governance and business conduct" and 6.2 "Ethical conduct of business", in particular, the Crisis Committee, the Antitrust Oversight and the "EQS Integrity Line" reporting channels. With regard to ESG issues, there are no critical issues reported to the Board of Directors during the reporting period.

GRI Standard/ Other sources	Disclosure	Location	Omission Requirement(s) omitted
GENERAL DISCLOSURES			
GRI 2: General Disclosure 2021	**Governance**		
	GRI 2-17 Collective knowledge of the highest governance body	172-178	
	GRI 2-18 Evaluation of the performance of the highest governance body	-	a, b, c
	GRI 2-19 Remuneration policies	-	a, b
	GRI 2-20 Process to determine remuneration	-	a, b

Reason	Explanation	Comments
		Open Fiber has established the Sustainability Committee with the mission of assisting, in a proactive and advisory capacity, the Board of Directors in ESG risk and opportunity assessments and decisions on sustainability issues related to the business with the aim of generating shared value in the long term. The Board of Directors is responsible for approving the Sustainability Report, within which the organization's strategy in relation to sustainable development is discussed.
Confidentiality constraints	Open Fiber - a single-member joint-stock company subject to the management and coordination of Open Fiber Holdings S.p.A. - is not listed on the stock exchange so it is not subject to the obligation to publish the Remuneration Report (pursuant to Article 123-ter of the Consolidated Law on Finance Legislative Decree No. 58/1998) nor information on the performance evaluation procedures of the Board of Directors.	
Confidentiality constraints	Open Fiber - a single-member joint-stock company subject to the management and coordination of Open Fiber Holdings S.p.A. - is not listed on the stock exchange so it is not subject to the obligation to publish the Remuneration Report (pursuant to Article 123-ter of the Consolidated Law on Finance Legislative Decree No. 58/1998) nor information regarding the remuneration of members of the Board of Directors.	
Confidentiality constraints	Open Fiber - a single-member joint-stock company subject to the management and coordination of Open Fiber Holdings S.p.A. - is not listed on the stock exchange so it is not subject to the obligation to publish the Remuneration Report (pursuant to Article 123-ter of the Consolidated Law on Finance Legislative Decree No. 58/1998) nor information on the procedure for determining remuneration.	

GRI Standard/ Other sources	Disclosure	Location	Omission Requirement(s) omitted
GENERAL DISCLOSURES			
GRI 2: General Disclosure 2021	**Governance**		
	GRI 2-21 Annual total compensation ratio	-	a, b, c
	Strategy, policies and practices		
	GRI 2-22 Statement on sustainable development strategy	4-5, 10-11	
	GRI 2-23 Policy commitments	10-15,16-19, 22-25, 56-65, 73-74, 178-181, 96-100, 185-191, 195-197	
	GRI 2-24 Embedding policy commitments	10-15,16-19, 22-25, 56-65, 73-74, 178-181, 96-100, 185-191, 195-197	
	GRI 2-25 Processes to remediate negative impacts	15-16, 30-33, 91-96, 178-188, 201-208	
	GRI 2-26 Mechanisms for seeking advice and raising concerns	178-185, 209-212	

Reason	Explanation	Comments
Confidentiality constraints	Open Fiber - a single-member joint-stock company subject to the direction and coordination of Open Fiber Holdings S.p.A. - is not listed on the stock exchange, so it is not subject to the obligation to publish the Remuneration Report (pursuant to Article 123-ter of the Consolidated Law on Finance Legislative Decree No. 58/1998) nor information on compensation paid, including that of the highest-paid individual within the organization. The ratio required by GRI disclosure 2-21 would allow for an almost immediate identification of the value of the remuneration of the highest paid individual, being the median values of all employees (excluding the highest paid individual) that can be found by looking at market data in Open Fiber's reference sector. The data, once disclosed, would show to the public information that to date has been classified as confidential.	
		Open Fiber's Sustainability Policy is available on the company website at the following link: https://openfiber.it/sostenibilita

GRI Standard/ Other sources	Disclosure	Location	Omission Requirement(s) omitted
GENERAL DISCLOSURES			
GRI 2: General Disclosure 2021			
	GRI 2-27 Compliance with laws and regulations	-	-

Reason	Explanation	Comments
		With reference to significant cases of non-compliance with laws and regulations, the following penalties are noted in the 2022-2024 period: - payment injunction in the amount of approximately Euro 720 thousand for non-payment of the 2018 COSAP (fee for the occupation of public spaces and areas) notified to Open Fiber by the City of Florence in January 2022. The injunction in question was appealed by Open Fiber before the Court of Florence and the case is still pending; - on 31 January 2022 ICA S.r.l. - a company holding the concession for the collection service of the Municipality of Pavia - served Open Fiber an attachment on third parties for an amount equal to Euro 206,468.00, due to the non-payment of 6 executive assessment notices relating to the temporary TOSAP for the years 2019, 2019, 2020 (each notice had a value of less than Euro 100,000.00). On 04/02/2022 Open Fiber paid the full amount of Euro 206,468.00; - five payment reminders received in 2023 from Trentino Riscossioni S.p.A. for non-payment of the fees for the occupation of public land for a total value of approximately €470,000. In relation to these fees a request for rectification of the amounts was sent and a meeting was held with the Province and the collection agency, following which the collection office no longer advanced any amount.; - three notices of payment were received in 2023 from SOGET S.p.A. on behalf of the municipality of Trapani for alleged failure to pay the fees for the occupation of public land, for a total value of about Euro 170,000, for which an application for rectification was sent and a meeting was held with the municipality and the collection company. Given the Municipality's unwillingness to accept the request for rectification, an appeal was filed before the Court of Trapani in September 2024; - the Collection Agent of the Municipality of Prato notified in June 2024 seven assessment notices relating to the non-payment of COSAP for a total value of 549,690.79 euros. These notices were paid by Open Fiber (with the exception of the last two, not yet expired) and the related amounts were recharged and invoiced to the contracting companies contractually obliged to make the payment; - in October 2024, the Municipality of Nuoro sent a payment order for 62,578.5 euros for failure to pay the OSAP Single Fee. The significance criteria applied concerned criminal penalties as well as administrative or civil penalties for amounts higher than 10,000 euros.

GRI Standard/ Other sources	Disclosure	Location	Omission Requirement(s) omitted
	GRI 2-28 Membership associations	212-216	
	Stakeholder engagement		
	GRI 2-29 Approach to stakeholder engagement	16-19, 209-212	
	GRI 2-30 Collective bargaining agreements	-	
MATERIAL TOPICS			
GRI 3: Material topics 2021	GRI 3-1 Process to determine material topics	15-16, 201-208	
	GRI 3-2 List of material topics	15-16, 201-208	
AFFECTED COMMUNITIES			
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-16, 30-33, 91-96, 178-188, 201-208	
GRI 201: Economic Performance 2016	GRI 201-1 Direct economic value generated and distributed	44-52, 220	
	GRI 201-2 Financial implications and other risks and opportunities due to climate change	56-61, 181-184	
	GRI 201-3 Defined benefit plan obligations and other retirement plans	-	
	GRI 201-4 Financial assistance received from government	221	
GRI 203: Indirect Economic Impacts 2016	GRI 203-1 Infrastructure investments and services supported	48	
	GRI 203-2 Significant indirect economic impacts	48, 112-134	
GRI 413: Local Communities 2016	GRI 413-1 Operations with local community engagement, impact assessments, and development programs	66-73, 100-105, 112-113, 123-124, 127, 132-134, 221	

Reason	Explanation	Comments
		All employees (100%) are covered by a national collective bargaining agreement of the relevant Country.
		Open Fiber and Open Fiber Network Solutions employees can access the Telemaco supplementary pension fund (National Supplementary Pension Fund for Workers of Telecommunication Companies). Participation is voluntary and occurs automatically after 6 months of employment if the employee does not communicate that he or she does not want to participate (as provided for by the CCNL). In 2024, Open Fiber and Open Fiber Network Solutions contributed 1.4% of each employee's fixed salary to the fund, respectively totaling about €374,000 (in 2022 it amounted to 1.4%, totaling €260,000 and in 2024 it amounted to 1.4%, totaling €327,000) and about €62,000 (in 2022, it amounted to 1.4%, totaling €3,000. Open Fiber has not provided a separate fund for the payment of obligations under the pension plan.

GRI Standard/ Other sources	Disclosure	Location	Omission Requirement(s) omitted
BUSINESS CONDUCT			
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-16, 33-34, 178-184, 191-197, 201-208	
GRI 205: Anti-corruption 2016	GRI 205-1 Operations assessed for risks related to corruption	178-184, 222	
	GRI 205-2 Communication and training about anti-corruption policies and procedures	178-184, 222-223	
	GRI 205-3 Confirmed incidents of corruption and actions taken	-	
GRI 206: Anti-competitive behaviour 2016	GRI 206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	33-34	
CLIMATE CHANGE			
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-16, 56-65, 185-188, 191-197, 201-208	
GRI 302: Energy 2016	GRI 302-1 Energy consumption within the organization	62-65, 224-225	
	GRI 302-3 Energy intensity	62-65, 225-226	
GRI 305: Emissions 2016	GRI 305-1 Direct (Scope 1) GHG emissions	56-62, 226-227	
	GRI 305-2 Energy indirect (Scope 2) GHG emissions	56-62, 227-228	
	GRI 305-3: Other indirect (Scope 3) GHG emissions	56-62, 228-229	
	GRI 305-4 GHG emissions intensity	56-62, 229-230	
	GRI 305-5 Reduction of GHG emissions	56-62	
	GRI 305-4 GHG emissions intensity		
	GRI 305-5 Reduction of GHG emissions		

Reason	Explanation	Comments
		Open Fiber provides training modules aimed at raising the awareness of the entire corporate population on behaviors or circumstances that may constitute the types of offenses provided for in Legislative Decree No. 231/2001, including those related to corruption. With reference to disclosure GRI 205-2a and GRI 205-2d, it is reported that all members (100%) of the governing body are aware of and trained on anti-corruption issues as it is the responsibility of the BoD to approve the Code of Ethics and OMM 231. With reference to disclosure 205-2c, it is reported that all partners (100%) of Open Fiber (whether suppliers or other collaborators) are obliged to sign and comply with the Code of Ethics and OMM 231.
		For Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l., there are no reported cases of corruption in the 2022-2024 period.
		There are no pending or concluded legal actions against Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l. regarding anti-competitive behavior and violation of antitrust and monopoly regulations in the 2022-2024 period.

GRI Standard/ Other sources	Disclosure	Location	Omission Requirement(s) omitted
BIODIVERSITY AND ECOSYSTEMS			
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-16, 201-208	
GRI 304: Biodiversity 2016	GRI 304-2 Significant impacts of activities, products and services on biodiversity	-	
CIRCULAR ECONOMY			
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-16, 73-74, 201-208	
GRI 306: Waste 2020	GRI 306-1 Waste generation and significant waste-related impacts	73-74	
	GRI 306-2 Management of significant waste-related impacts	73-74	
	GRI 306-3 Waste generated	73-74, 231	
	GRI 306-4 Waste diverted from disposal	73-74, 232-233	
	GRI 306-5 Waste directed to disposal	73-74, 233-234	
RESPONSIBLE VALUE CHAIN MANAGEMENT			
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-16, 191-197, 201-208	
GRI 308: Supplier environmental screening 2016	GRI 308-1 New suppliers that were screened using environmental criteria	191-197, 235	
	GRI 308-2 Negative environmental impacts along the supply chain and actions taken	191-197, 236-237	

Reason	Explanation	Comments
		Open Fiber's activities generally take place in urban areas (both large cities and small towns) or in industrial districts and are always carried out in compliance with national and local licensing regulations and in cooperation with the relevant local environmental authorities, in order to avoid the deterioration of natural habitats and species or the disturbance of species for which a protected area has been designated. Furthermore, optical fiber is a passive element, which does not generate electromagnetic fields that could adversely affect biodiversity.

GRI Standard/ Other sources	Disclosure	Location	Omission Requirement(s) omitted
RESPONSIBLE VALUE CHAIN MANAGEMENT			
GRI 414: Supplier Social Assessment 2016	GRI 414-1 New suppliers that were screened using social criteria	191-197, 238	
	GRI 414-2 Negative social impacts along the supply chain and actions taken	191-197, 239-240	
OWN WORKFORCE			
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15, 78-82, 82-85, 91-96, 172, 201	
GRI 401: Employment 2016	GRI 401-1 New employee hires and employee turnover	78-82, 241-243	
	GRI 401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	91-96	
	GRI 401-3 Parental leave	91-93, 98, 244-246	

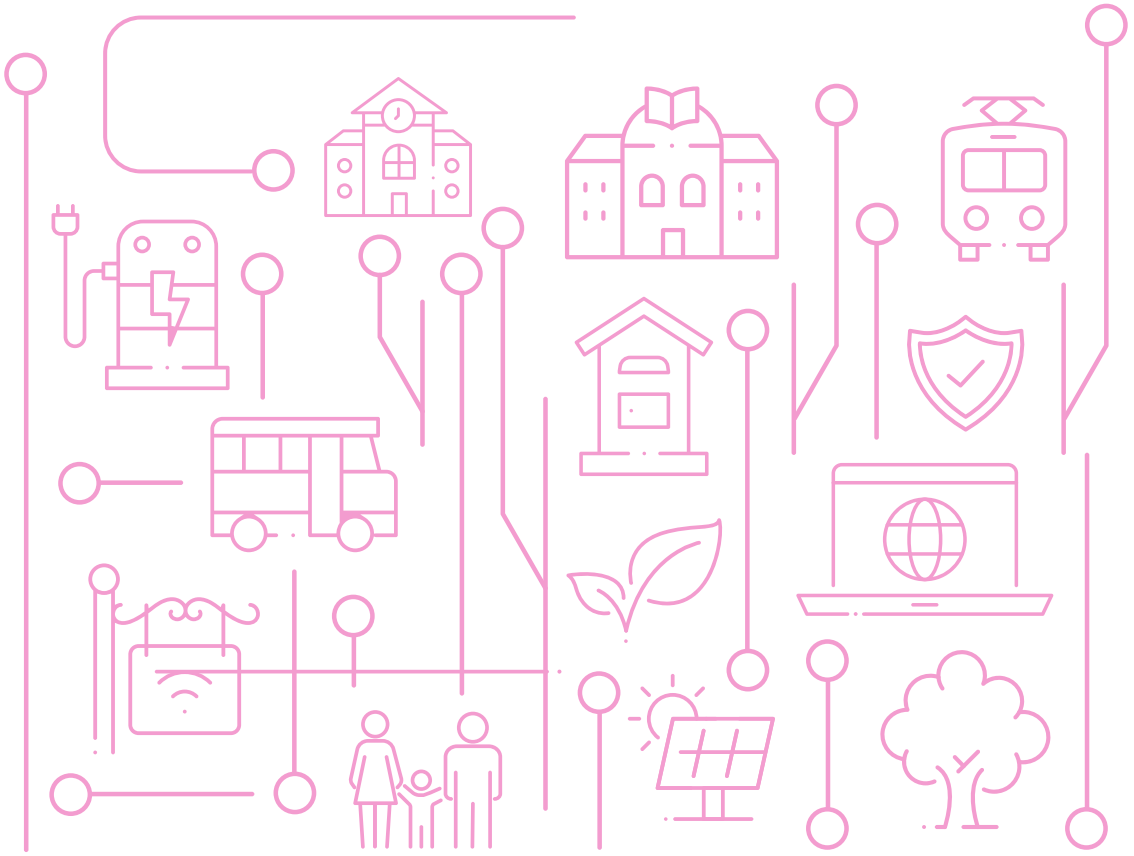
Reason	Explanation	Comments
		In Open Fiber, benefits such as supplementary health insurance and prevention package are not provided for employees with fixed-term contracts. Insurance for occupational and non-occupational accidents; supplementary parental leave; supplementary allowance during months of leave; extra leave for bereavement, children's illness, medical examinations; meal vouchers; supplementary pension; possibility of converting the Results Bonus into welfare goods and services and benefits related to wellness are provided for all employees (full-time and part-time, permanent and fixed-term). In reference to smart working, it has been applied to all employees who have signed Level II Agreement. Likewise, the same considerations apply to Open Fiber Network Solutions with exclusive reference to health insurance and meal vouchers. With reference to Smart Working, however, the possibility of using it is reserved exclusively to the category of employees, i.e. with the categories of employees for whom this working method is compatible, for whom the Individual Agreement has been signed.

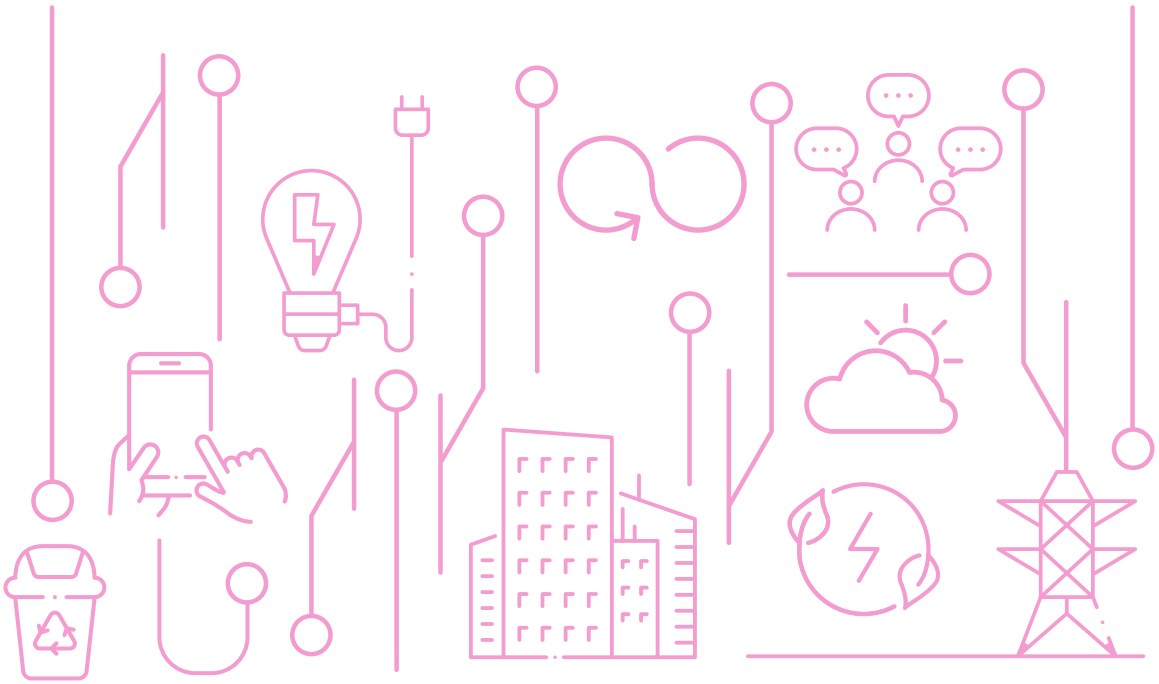
GRI Standard/ Other sources	Disclosure	Location	Omission Requirement(s) omitted
OWN WORKFORCE			
GRI 403: Occupational Health and Safety 2018	GRI 403-1 Occupational health and safety management system	100-105, 185-188	
	GRI 403-2 Hazard identification, risk assessment, and incident investigation	100-105	
	GRI 403-3 Occupational health services	100-105	
	GRI 403-4 Worker participation, consultation, and communication on occupational health and safety	100-105	
	GRI 403-5 Worker training on occupational health and safety	82-85, 100-105, 185-188, 247-248	
	GRI 403-6 Promotion of worker health	91-95	
	GRI 403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	100-105, 185-189, 191	
	GRI 403-9 Work-related injuries	248-253	
	GRI 403-10 Work-related ill health	-	
GRI 404: Training and education 2016	GRI 404-1 Average hours of training per year per employee	82-85, 254-255	
	GRI 404-3 Percentage of employees receiving regular performance and career development reviews	89, 255-256	
GRI 405: Diversity and Equal opportunity 2016	GRI 405-1 Diversity of governance bodies and employees	172, 257-260	

Reason	Explanation	Comments
		Open Fiber provides a health insurance for all employees. Two plans are available: A (Full Company Contribution) and B (Joint Contribution). The main benefits offered are: hospitalizations (with or without surgery), high-definition diagnostic and therapeutic services, home and outpatient visits and physiotherapy treatment, prevention package, cancer care, dental care, and lenses/contact lenses. All information handled is in line with the company's privacy policies. For Open Fiber Network Solutions please refer to 401-2 indicator.
		There were no cases of occupational disease recognized by INAIL for Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l. during the 2022-2024 period.
		The 2023 data relating to Open Fiber Network Solutions have been updated in line with the reference standard by reporting the percentages.

GRI Standard/ Other sources	Disclosure	Location	Omission Requirement(s) omitted
CONSUMERS AND END USERS			
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15, 185-186, 201	
GRI 416: Customer Health and Safety 2016	GRI 416-1 Assessment of the health and safety impacts of product and service categories	66-73, 185-186	
	GRI 416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	-	
GRI 203: Indirect economic impacts 2016	GRI 203-1 Infrastructure investments and services supported	48	
	GRI 203-2 Significant indirect economic impacts	48, 112	
PRIVACY AND CYBERSECURITY			
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15, 184, 201	
GRI 418: Customer privacy 2016	GRI 418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	184	

Reason	Explanation	Comments
		100 % of the services provided by Open Fiber to operators are compliant with current regulations on customer health and safety and therefore include an assessment of health and safety impacts during their delivery. In addition, once work has been completed, Open Fiber's infrastructure is subject to testing, which, in the C&D Cluster is carried out by the Grantor Infratel Italia before it is put up for sale.
		100% of the services provided by Open Fiber to operators are compliant with current regulations on customer health and safety and therefore include an assessment of health and safety impacts during their delivery. In addition, once work has been completed, Open Fiber's infrastructure is subject to testing, which, in the C&D Cluster is carried out by the Grantor Infratel Italia before it is put up for sale. Therefore, there are no reported incidents of non-compliance with regulations and/or voluntary codes regarding health and safety impacts of products and services during the 2022-2024 period.
		There were no substantiated complaints regarding breaches of customer privacy nor leaks, thefts, or losses of customer data in the 2022-2024 period.





REPORT OF THE AUDITING FIRM

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INDEPENDENT AUDITOR'S REPORT ON THE SUSTAINABILITY REPORT

To the Board of Directors of
Open Fiber S.p.A

We have been assigned to conduct a limited assurance engagement on the Sustainability Report of Open Fiber S.p.A (hereinafter "the Company") and its subsidiary Open Fiber Network Solutions S.c.a r.l. (hereinafter "OFNS" and, together, "Open Fiber Group" or "Group") as of December 31, 2024.

Responsibility of the Board of Directors for the Sustainability Report

The Directors of Open Fiber S.p.A are responsible for the preparation of the Sustainability Report in accordance with the "*Global Reporting Initiative Sustainability Reporting Standards*" established by GRI – *Global Reporting Initiative* ("GRI Standards"), which they have identified as reporting framework as specified in the "Methodological Note" paragraph in the Sustainability Report.

The Directors are also responsible for such internal control as they determine is necessary to enable the preparation of Sustainability Report that is free from material misstatement, whether due to fraud or error.

The Directors are moreover responsible for setting the Open Fiber Group's goals, with respect to sustainability performance, as well as for the identification of the stakeholders and significant aspects to be reported.

Auditor's Independence and quality control

We have complied with the independence and other ethical requirements of the *International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code)* issued by the *International Ethics Standards Board for Accountants*, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our auditing firm applies *International Standard on Quality Management 1* on the basis of which it is required to set up, implement and operate a quality management system that includes directives or procedures on compliance with ethical principles, professional principles and applicable laws and regulations.

Auditor's responsibility

Our responsibility is to express our conclusion based on the procedures performed about the compliance of the Sustainability Report with the GRI Standards.

Ancona Bari Bergamo Bologna Brescia Cagliari Firenze Genova Milano Napoli Padova Parma Roma Torino Treviso Udine Verona

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We conducted our work in accordance with the criteria established in the "*International Standard on Assurance Engagements ISAE 3000 (Revised) – Assurance Engagements Other than Audits or Reviews of Historical Financial Information*" (hereinafter "*ISAE 3000 Revised*"), issued by the *International Auditing and Assurance Standards Board* (IAASB) for limited assurance engagements. The standard requires that we plan and perform the engagement to obtain limited assurance whether the Sustainability Report is free from material misstatement.

Therefore, the procedures performed in a limited assurance engagement are less than those performed in a reasonable assurance engagement in accordance with ISAE 3000 *Revised ("reasonable assurance engagaement")*, and, therefore, do not enable us to obtain assurance that we would become aware of all significant matters and events that might be identified in a reasonable assurance engagement.

The procedures performed on Sustainability Report are based on our professional judgement and included inquiries, primarily with Company personnel responsible for the preparation of information included in the Sustainability Report, analysis of documents, recalculations and other procedures aimed to obtain evidence as appropriate.

Specifically, we carried out the following procedures:

- analysis of definition process of relevant topics disclosed in the Sustainability Report, with reference to the methods of analysis and understanding of the reference context, identification, assessment and prioritisation of actual and potential impacts and internal validation of process findings;

- comparison between the financial data and information included in the paragraph titled "Economic performance"in the Sustainability Report with those included in the consolidated financial statements of the Group;

- understanding of the processes underlying the generation, collection and management of significant qualitative and quantitative information included in the Sustainability Report.

In particular, we carried out interviews and discussions with the management of Open Fiber S.p.A. and we have carried out limited documentary verifications, in order to gather information about the processes and procedures which support the collection, aggregation, elaboration and transmittal of non-financial data and information to the function responsible for the preparation of the Sustainability Report.

In addition, for material information, taking into consideration the Group's activities and characteristics:

- at the parent company level:

  a) with regards to qualitative information included in the Sustainability Report we carried out interviews and gathered supporting documentation in order to verify its consistency with the available evidence;
  b) with regards to quantitative information, we carried out both analytical procedures and limited verifications in order to ensure, on a sample basis, the correct aggregation of data.

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- For Open Fiber S.p.A., which we selected based on its activities, their contribution to the performance indicators at the consolidated level, we carried out site visits, during which we have met the management and have gathered supporting documentation with reference to the correct application of procedures and calculation methods used for the indicators.

Conclusion

Based on the work performed, nothing has come to our attention that causes us to believe that the Sustainability Report of Open Fiber S.p.A. and its subsidiaryas of December 31, 2024 is not prepared, in all material respects, in accordance with the GRI Standards as describes in the paragraph “Methodological Note” in the Sustainability Report.

DELOITTE & TOUCHE S.p.A.

Signed by
Francesco Legrottaglie
Partner

Rome, Italy
April 4, 2025

This report has been translated into the English language solely for the convenience of international readers.

Design and Layout

PRC PROMOTION RESEARCH CONSULTANCY

openfiber.it