SUSTAINABILITY REPORT 2023

open fiber

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TABLE OF CONTENTS

LETTER TO STAKEHOLDERS 4

ENABLING SUSTAINABLE FUTURE 8

01. COMPANY OVERVIEW 20

02. GOVERNANCE AND BUSINESS CONDUCT 60

03. IMPACTS ON THE TERRITORY 96

04. INNOVATION 148

05. FIGHT AGAINST CLIMATE CHANGE AND PROTECTION OF RESOURCES 184

06. HUMAN CAPITAL 212

07. GUIDANCE 256

REPORT OF THE AUDITING FIRM 346

LETTER TO THE STAKEHOLDERS

Working at Open Fiber today means taking part in a collective project with a profound social purpose: connecting the entire national territory through a latest-generation optical fiber network. By the end of 2023, with more than 120 thousand kilometres of infrastructure, Open Fiber's network will have connected 17.1 million households, reaching around 6 thousand municipalities in rural areas and industrial areas and 239 large and medium-sized municipalities placed on the market, 21 thousand schools and around 1,570 healthcare facilities. These important results testify to Open Fiber's significant contribution to the socio-economic growth of the country and to the creation of value for the communities living in it.

Fiber is the most effective tool for bridging the digital divide, the divide that produces inequality between those who are connected and those who are not, between those who easily and quickly access the services offered by the Internet and those who remain excluded. And inclusion is the first objective within Open Fiber's sustainability strategy: inclusion understood as collective participation in the development of the country and as a virtuous process that reduces distances, enables growth, development and training by bringing people, companies and the Public Administration closer to a world of new services and opportunities.

It is a commitment owed to all of the Company's stakeholders, and at the same time it is a responsibility shared with every citizen who, from Sicily to Valle d'Aosta, increasingly perceives the possibility of a fast and reliable connection as a right and an opportunity. Open Fiber's task is to significantly contribute to guaranteeing this opportunity, protecting the environment, favouring an inclusive working model, supporting projects whose main focus is the development of the territory, and making the most of the human resources involved in this enterprise.

Thanks to Open Fiber's many years of commitment to the territory, Italy's digital transformation is now a concrete reality. The Digital Divide has been significantly reduced, raising the availability on the national territory of VHC (Very High Capacity) networks, such as the optical fiber one built by Open Fiber, to 54%, compared to an EU average of 56% (it was 22% when the infrastructure development plan was launched in 2018). There certainly remains much work to be done but with the contribution of private and public interventions, such as those financed by the National Recovery and Resiliency Plan (PNRR), there is the concrete prospect of pervasive coverage of the country by 2026.

Optical fiber, on which Open Fiber has chosen to focus since its foundation, generates a vast series of positive environmental, economic and social externalities. In particular, optical fiber acts as an enabler of the ecological transition, so much so that the European Union explicitly speaks of "digital decarbonisation". Compared to the old copper networks, optical fiber is characterised by a reduced carbon footprint and enables a range of remote activities that reduce the environmental impact, allow for a more rational use of land and save citizens' time and money. Optical fiber also has a positive impact in terms of energy consumption: international studies report that an optical fiber network consumes more than 60 % less than a copper network, exceeding 80% in the access network.

To this intrinsic sustainability of fiber, Open Fiber has added its commitment to minimising impacts in the construction phase, maximising the reuse of existing infrastructure and implementing low-impact laying techniques. This commitment allowed us to achieve a 75% reuse rate in 2023 in laying activities in the rural areas of our country. With regard to the protection of the environment and natural resources, Open Fiber achieved important goals in 2023: the approval of the corporate Net Zero Plan, a strategic document through which the Company aims to achieve net zero emissions by 2040, as well as obtaining certification of its energy management system according to the international standard ISO 50001. These are just some of the main milestones, which add to practices already well established in the Company such as the implementation of a certified QHSE integrated management system and the purchase of 100% of electricity from renewable sources.

For Open Fiber, sustainability also means innovation: in an increasingly interconnected world, where digital transition plays a fundamental role not only in the development of new products and the emergence of new markets, but also in the conduct of everyday life. Therefore, research into new solutions and services is at the heart of the corporate strategy. The research and development activity carried out by Open Fiber since its inception is not only aimed at expanding the network, making it increasingly resilient and "future-proof", but also at providing innovative services to the community, businesses and Public Administration. In 2023, in collaboration with other partners from academia and industry, Open Fiber participated in RESTART - RESearch and innovation on future Telecommunications systems and networks, to make Italy more smART - an important R&D programme developed in the telecommunications sector: Quantum Key Distribution, User-centric Pervasive Internet and edge computing architectures, fiber sensing and the smart grid are the focus of the programme that will involve Open Fiber until 2026.

Being aware of the uniqueness of our artistic and cultural heritage, we have launched Italy's first digital village. Pitigliano, a small village rich in history and nestled in nature, will be a hub for the creation of a new model of smart villages, through the implementation of services that will be useful to municipalities and citizens, and the experimentation of digital services such as augmented reality, which can be reproduced in other Italian municipalities, thus fostering their digital transition. At the end of the year, we were also awarded the "5G coverage along Transport Corridors" tender, a European Union funding programme for the study of 5G coverage in the Fréjus tunnel between Italy and France - the first one at European level involving Open Fiber.

The frontier of sustainability and innovation is populated by projects and people, starting with internal resources, the women and men who for years have been contributing to the project of uniting the country: they are the driving force behind the strategy, the capital in which Open Fiber has decided to invest, guaranteeing their wellbeing and safety, as well as promoting paths of growth and initiatives aimed at ensuring equal opportunities, fairness and inclusion. These efforts were acknowledged by obtaining Top Employers and Great Place to Work certifications, and by obtaining the Gender Equality Certification for the first year.

Multiple challenges await us: from the completion of the BUL Plan, an infrastructure project never before built in Italy and designed to bring ultra-fast connectivity to more than 6 thousand municipalities in rural areas, to the development of the 1 Giga Italy Plan, which will contribute to making Italy a European leader by 2026 in view of the EU Digital Compass 2030 objectives. We were established to create the digital highways that ensure that all citizens can seize such a fundamental opportunity as connectivity, and we continue to work every day with the utmost commitment to pursue this goal.

Paolo Ciocca
Chairman

Giuseppe Gola
Chief Executive Officer and General Manager

HIGHLIGHTS

17.1 million of households passed (FTTH and FWA)

Open Fiber **is the main FTTH operator** in Italy

5G Fréjus inception study project. First financed **European project** involving Open Fiber

Digital villages model: Pitigliano "open-air laboratory"

120,000 km of optical fiber infrastructure

Over **300 customer operators**

Open Fiber committed with **SBTi** to become net zero

Approval of **Net Zero Plan 2040**

239 large and medium-sized municipalities being marketed

Over **5,800 small municipalities** being marketed

GHG inventory certification (ISO 14064) obtained

-14% emissions intensity 2023 vs 2022 (Scope 1 e Scope 2)

Best in Media Communication certification for the **fourth year** in a row

Research and innovation through the **RESTART programme** (Pesco, Net4future, Sensing Net, Graphics, Telesmeg)

100% electricity purchased from **renewable sources**

Energy management system certification (ISO 50001) obtained

Information Security Management System Certification (ISO 27001) obtained

Review of **QHSE system certifications** (ISO 9001, ISO 14001, ISO 45001)

Top Employers and **Great Place To Work** certifications obtained

+50,000 training hours to HSE Open Fiber and Open Fiber Network Solutions

1,570 healthcare facilities reached

21 thousand schools passed

Gender Equality certification (UNI/PdR 125:2022) obtained

+10% Open Fiber **employees**
+42% Open Fiber Network Solutions **employees**

ENABLING SUSTAINABLE FUTURE

OPEN FIBER STRATEGY

Open Fiber works every day to create shared value, to address environmental challenges and current and future social needs, and to place Italy among the most technologically advanced countries, employing high-performance and eco-sustainable technologies to bridge the existing infrastructure gap and ensure uniform and equal access to the network.

Eliminating the digital divide in the national landscape is a social mission and a challenge that Open Fiber faces daily by deploying all the resources at its disposal. From large metropolitan cities to small towns, the Company works to connect the whole country by conducting a large territorial inclusiveness intervention, pursuing its **purpose** of contributing to the improvement of the quality of life of people, families, businesses and workers, thanks to a cutting-edge, secure and reliable network infrastructure, respecting the environment and free competition.

Optical fiber as a tool to reduce inequalities, distribute opportunities more fairly and support the transformation towards sustainable development that protects the environment and people: it is with this in mind that Open Fiber actively contributes to the achievement of the **Sustainable Development Goals - SDGs** - defined in 2015 by the United Nations (UN) with the 2030 Agenda for Sustainable Development.

Therefore, through the development plan of its own FTTH (Fiber To The Home) Ultra Broadband network infrastructure, it aims to:

- develop **innovative technological solutions** that contribute to **environmental protection**, ensuring efficient use of resources, increasing the circularity of infrastructure and reducing environmental impacts;
- promote and implement **energy efficiency** measures, take decarbonisation actions and other initiatives to contribute to the **fight against climate change**;
- seek enabling solutions for **new digital services** for the community, guaranteeing equal access conditions for all;
- invest in **human capital** and people development by promoting projects and initiatives to ensure **equal opportunities, equity** and **inclusion**;
- strengthen policies to guarantee **responsible business along the entire value chain**.

It is not only the capillary network created in just a few years, but also the ongoing quest for innovation, with the aim of progressively reducing its negative impacts and creating a business that can make a positive and concrete contribution to sustainable development: these are the Company's strengths in creating value for the entire country.

For this reason, the Company's **Sustainability Strategy** has been strengthened by identifying actual pillars on which to build its medium and long-term commitment[1]. Each pillar, both concrete and ambitious, supports the creation of value and the full integration of sustainability in the business.

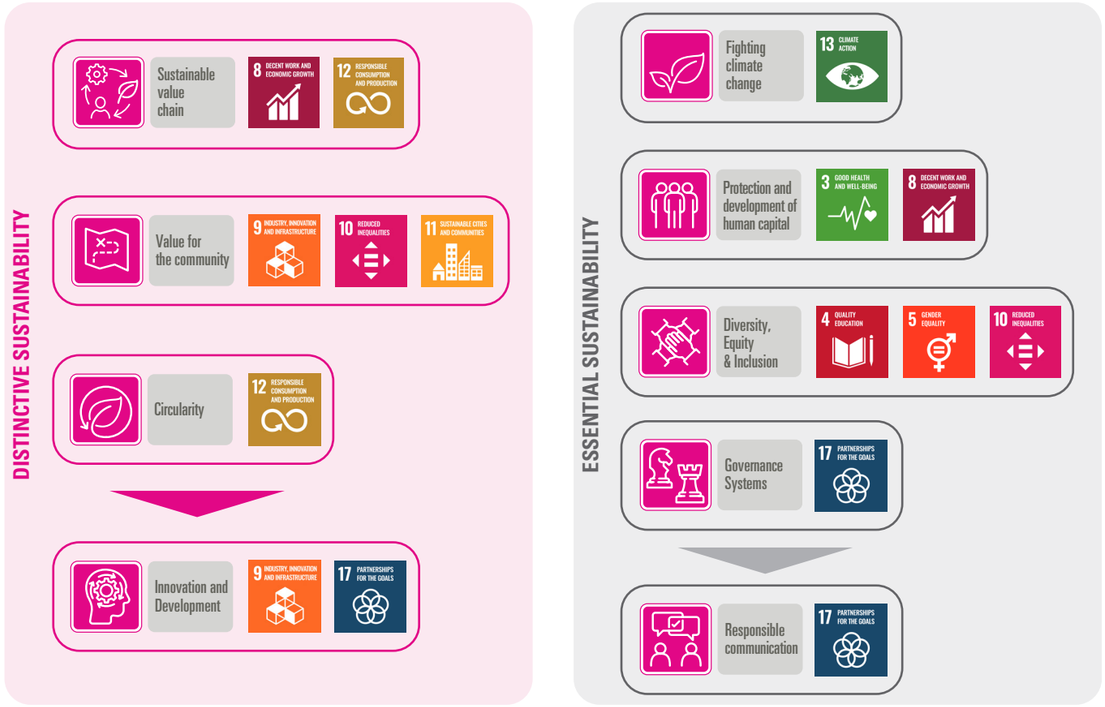
1. **Fighting climate change:** define a long-term decarbonisation strategy starting with the mapping of value chain emissions and the definition of a pathway to reduce direct and indirect emissions.
2. **Protection and development of human capital:** guarantee the well-being and safety of people, enhance the talent of human capital and individual skills and ensure the personal and professional development of its resources.
3. **Diversity, Equity & Inclusion:** strengthen programmes dedicated to enhancing the uniqueness and differences that distinguish people, guaranteeing equal opportunities and strengthening an inclusive culture consistent with corporate values.
4. **Governance Systems:** strengthen its 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 local trust and ensuring environmental, social and economic sustainability.
5. **Responsible communication:** always maintain an active dialogue with stakeholders, communicating in a responsible manner achievement and commitments and conveying the Company's brand identity in an effective, clear and transparent manner.
6. **Sustainable value chain:** develop a sustainable value chain model, increasing the awareness of stakeholders 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:** to support the country in the path of digitalisation and overcoming the digital divide, strengthening stakeholder engagement programmes and creating value for the communities where it operates, also to respond to the social needs of the territory.

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

8. **Circularity:** define a resource management strategy to increase the sustainability of the infrastructure by developing business models that meet the challenges of the circular economy.
9. **Innovation and development:** continually investing in research with the aim of bringing constant technological innovation, establishing partnerships with leading companies in the sector, focusing on cutting-edge technologies and identifying solutions that guarantee a high-performance network infrastructure.

Such pillars were split into two areas of action that represent sustainability for Open Fiber: the first are the pillars of **essential sustainability**, i.e. the issues to which private and public organisations, regardless of their sector, are universally committed; the second are the pillars of **distinctive sustainability**, i.e. issues that not only characterise organisations operating in the TLC sector, but which can differentiate Open Fiber's commitment to conducting a sustainable business.

FIGURE 1: SUSTAINABILITY STRATEGY PILLARS



ESG Certification

In early 2023, Open Fiber became the first company in Italy to obtain the ESG (Environmental, Social, Governance) certification. This is a non-accredited standard developed by SGS - the world's leading provider of inspection, verification, testing and certification services - to assess the management of environmental, social and governance aspects within an organisation. The certificate is awarded to an organisation that meets criteria that summarise the requirements of ESG best practice and the most widely used sustainability standards.

This important acknowledgement was achieved after 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, it has enabled the Company to develop consolidated and verifiable internal processes, with a view to continuous improvement in order to achieve its ESG objectives and to progressively improve performance.

As a confirmation of the responsible management of sustainability issues, in 2024 Open Fiber passed the appropriate third-party audits, thus maintaining its ESG certification.

ESG Rating - 2023 GRESB Infrastructure Asset Assessment

In 2023, Open Fiber signed the Assessment developed by the independent organisation GRESB (Global Real Estate Sustainability Benchmark) for the first year, with the aim of assessing its performance and management processes in the ESG area.

This benchmarking tool provides an assessment of information and data useful for comparing ESG performance worldwide, identifying areas for improvement, attracting and engaging investors. Compared to its peer group, Open Fiber scored above average.

In the process of assessing its ESG performance, GRESB represents the first of the international ratings adopted by Open Fiber.

Sustainability Policy

Open Fiber's Sustainability Policy, a fundamental pillar for the creation of a corporate culture on sustainability issues and for the active involvement of stakeholders, aims to translate the company's mission into **seven commitments** that reflect corporate values, the ethical and social principles enshrined 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 connecting the country in order to overcome the digital divide**, building a world in which new optical fiber technology can improve the lives of citizens and represent an engine of change and economic, social and cultural development for the country.
2) **We enhance our human capital and support fair and inclusive working practices**, committing ourselves to creating a unique environment in which everyone can express their skills and talent, condemning all forms of discrimination and promoting fairness and equal opportunities right from the recruiting phase.
3) **We protect the environment and the territory where we operate,** by investing in technologies that respect it, by disseminating an infrastructure that, by its very nature, is high-performance and eco-sustainable, and by working with partners and suppliers to improve the impacts of activities on a precautionary and "life-cycle" basis.
4) **We promote occupational health and safety** through the adoption of responsible behaviour by all those who, in any capacity, collaborate in the pursuit of the company's objectives, committing ourselves to spreading and consolidating a culture of health and safety.
5) **We offer a safe and reliable infrastructure**, respecting free competition by offering access on fair and non-discriminatory terms to all stakeholders.
6) **We believe in the values of ethics and integrity,** as fundamental elements of our daily actions and we operate in compliance with the legislation in force and the relevant international conventions, through incisive, concrete and transparent practices.
7) **We respect universally recognised human rights** by condemning any form of violation and promoting best practices throughout the value chain.

TAKING ACTION FOR THE CLIMATE: NET ZERO PLAN

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 value creation in the medium to long term. Without prejudice to the measures already taken to limit environmental impacts, the company has decided to take up the challenge of decarbonisation and officially join the ranks of companies committed to achieving a Net Zero future, i.e. zero net emissions.

As a first step, in 2023 Open Fiber signed its **Commitment** to the **Science Based Targets initiative (SBTi)**[2], whose aim is to promote ambitious climate action in the private sector by allowing organisations to set emission reduction targets based on a science-based approach.

The **Net Zero Plan** developed by Open Fiber constitutes the first strategic document aimed at supporting the decarbonisation projects of the company, its partners and customers by contributing to the achievement of their emission reduction targets in a concrete way. The Plan, validated by the Sustainability Committee, was approved by the Board of Directors in November 2023.

The climate strategy promoted by the Company is in line with the Paris Agreement, according to the maximum level of ambition identified by the Science Based Targets initiative (i.e. greenhouse gas emission reduction targets aligned to 1.5°C): 42% reduction of absolute emissions based on **Scope 1, 2 and 3**[3] by 2030 and 90% reduction by 2040.

Open Fiber's decarbonisation strategy is described more extensively in paragraph "5.1.2 The journey to Net Zero" within this Sustainability Report.

A NEW APPROACH TO MATERIALITY ANALYSIS

The sustainability report provides a snapshot of the company that embraces not only the economic aspect, but also, and above all, the impact generated on the territory, the environment and the communities. Open Fiber, from 2021, has chosen to publish its Sustainability Report annually and voluntarily, in order to provide its stakeholders with complete and transparent reporting.

The topics to be reported on in the Report are identified through materiality analysis, which allows bringing out relevant and priority topics for the Company and its stakeholders. For the 2023 document,

2 Partnership between CDP (ex-Carbon Disclosure Project), the United Nations' Global Compact, WRI (World Resources Institute) and WWF. For more details on Open Fiber's commitment, click on the link https://sciencebasedtargets.org/companies-taking-action/

3 In relation to "Purchased goods and services" and "Capital goods" categories.

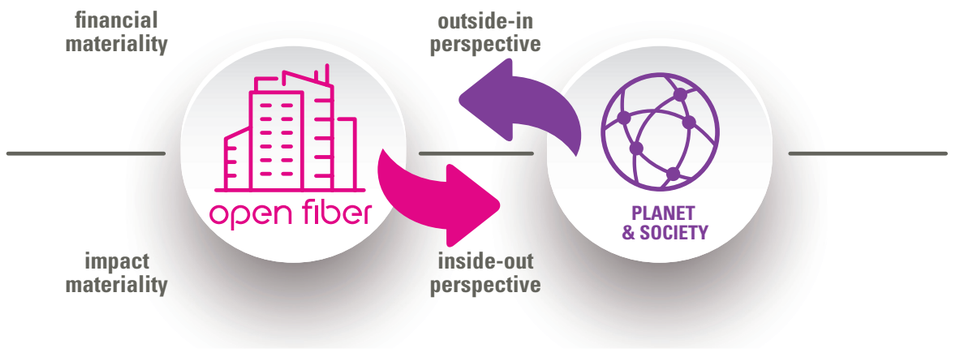
Open Fiber decided to adopt the so-called **double materiality**, thus anticipating the requirements of the new Corporate Sustainability Reporting Directive (CSRD)[4] on sustainability reporting. The materiality process implemented includes not only an assessment of Open Fiber's **impacts on ESG topics** (impact materiality), but it also integrates the **financial materiality** of sustainability risks and opportunities and the interdependencies between impact materiality and financial materiality. Double materiality therefore implies assessing not only the Company's influence on the environment, economy and society (**inside-out** perspective), but also what is relevant or what can generate risks/opportunities on the business (**outside-in** perspective).

The materiality process upgrade shows Open Fiber's **commitment** to continuous improvement in sustainability governance and the process of reporting its performance to its stakeholders, and is also an important step towards CSRD compliance.

From the combination of impact materiality and financial materiality, **9 material topics** emerged, whose performance is reported within this Sustainability Report:

- Contribution to territory and community development
- Business ethics and compliance
- Climate change
- Biodiversity and ecosystems
- Circular economy
- Responsible value chain management
- Protection and development of workforce
- Customers and end users
- Privacy and cybersecurity

FIGURE 2: DOUBLE MATERIALITY - INSIDE-OUT AND OUTSIDE-IN PERSPECTIVE



4 EU Directive 2022/2464.

STRENGTHENING OF THE STAKEHOLDER ENGAGEMENT STRATEGY

For Open Fiber, **ongoing and participatory dialogue** with its stakeholders constitutes a fundamental asset of its business strategy, and the key to gathering feedback on its initiatives and, above all, on their compliance with expected environmental, social and economic needs.

Events, round tables, periodic and targeted listening, digital tools: these are all activities and channels that Open Fiber manages in order to ensure a **two-way communication** with its stakeholders and constant monitoring of their opinions and expectations. A fundamental process, given that the interest that stakeholders show towards the company is the same as the interest that Open Fiber has towards its many interlocutors[5].

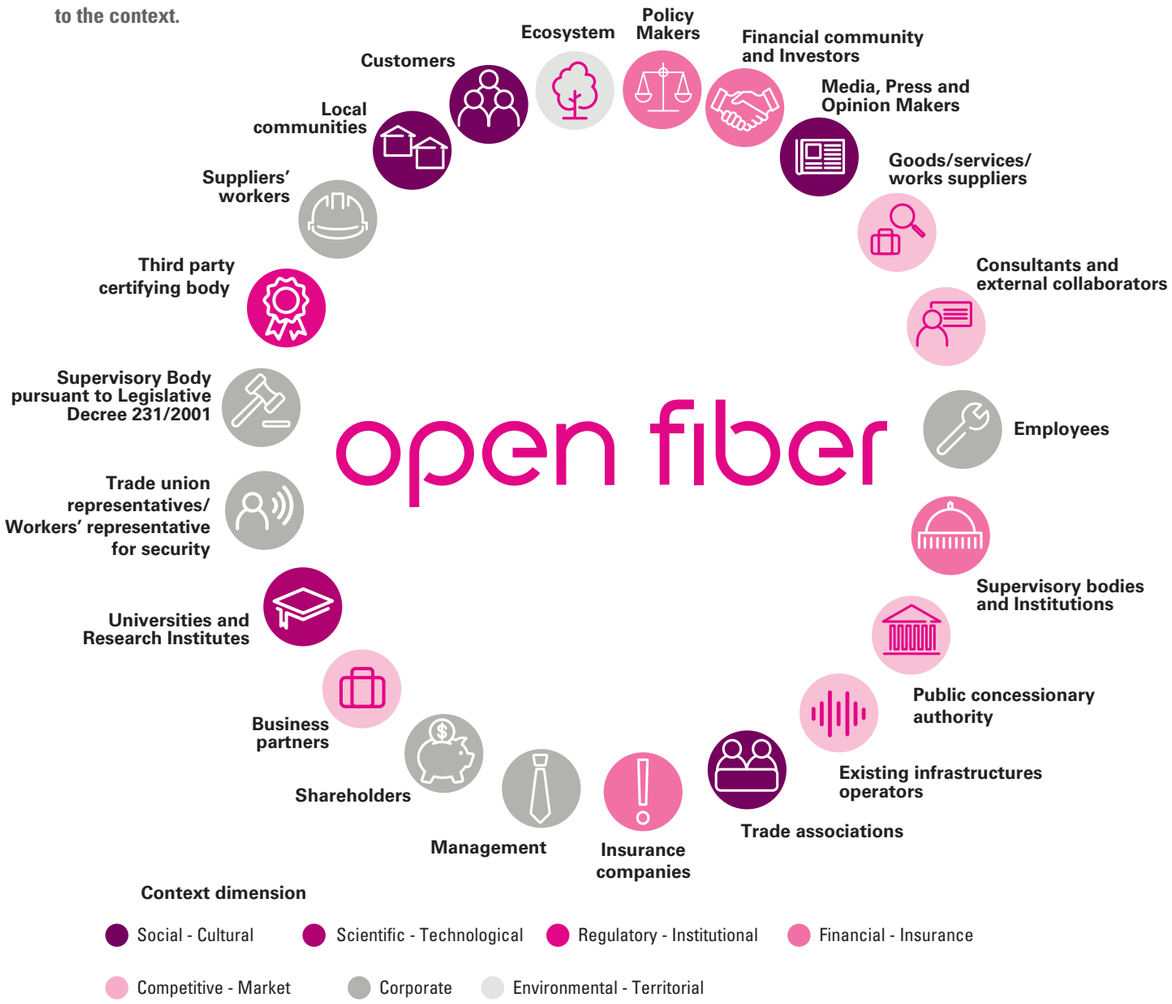
In 2023, Open Fiber started a process aimed at **strengthening** its sustainability stakeholder engagement strategy with the objective of identifying for each **stakeholders'** group the **priority topics**, **methods**, **channels** and **tools for engagement**, as well as the **key messages** to be conveyed to its stakeholders in order to strengthen dialogue on ESG topics[6].

The process was developed according to the guidelines of the **AA1000 Stakeholder Engagement Standard (2015)**, issued by AccountAbility[7] and it engaged the corporate organisation at all its levels. Organisation of events, one-to-one meetings, activation of partnerships, thematic campaigns on social media and publication of targeted content are just a few examples of how Open Fiber, through the active involvement of its staff, aims to develop **even stronger relations** with its stakeholders, contributing to the achievement of common goals.

5 For more details on the engagement channels, see paragraph 7.3 "Stakeholders' expectations and engagement channels".
6 The identification of priority topics for each stakeholder was achieved by monitoring engagement channels and through an artificial intelligence tool capable of detecting sustainability topics and classifying them according to the 17 Goals of the UN 2030 Agenda.
7 World-leading research, consulting and standards organisation providing innovative solutions to the most critical challenges in the fields of corporate responsibility and sustainable development.

FIGURE 3: STAKEHOLDERS MAP

Open Fiber identified its stakeholders by grouping them into homogeneous categories in relation to the context.



Responsible communication

Value for the community

01

COMPANY OVERVIEW

1.1 COMPANY PROFILE

The network that transforms Italy. This is Open Fiber's payoff, controlled by Open Fiber Holdings, a company 60% owned by CDP Equity (CDPE) and 40% by Macquarie Asset Management (MAM), and resulting from the merger between Enel Open Fiber and Metroweb. The company's objective, since its inception, has been to create a **very high-speed fiber-optic electronic communication network**, exceeding 1 Gigabit per second, throughout the country and thus help Italy recover the digital divide with the rest of Europe by enabling the latest generation of digital services.

Open Fiber is indeed the undisputed protagonist of this season of infrastructural development both directly, with its activities, and indirectly, with its competitive action. Since its foundation, in fact, it has adopted the ***wholesale only*** business model: it does not sell connectivity services directly to the end customer, but makes its network available to all interested operators, on equal terms. With its activities, it aims to ensure the **coverage of Italy's largest cities** and the **connection of rural and industrial areas**, with an ultra-fast and reliable optical fiber network capable of providing increasingly advanced services and functions for citizens, businesses and the Public Administration.

Mission

Travelling all at the same speed with fiber optics

Open Fiber was established to build an ultra broadband (Banda Ultra Larga, BUL) FTTH (Fiber To The Home) optical fiber network infrastructure in all Italian regions. To realise our project we have chosen the "wholesale-only" business model in order to guarantee free access to all interested operators, on equal terms, providing end-users with a wide choice.

Our mission pursues the goals of the European Digital Agenda, the Italian Strategy for Ultra Broadband and the Gigabit Society. A plan to establish minimum levels of connectivity 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 optical fiber network using FTTH technology, with very high levels of efficiency and reliability.

Vision

FTTH fiber optics: real change for the country

At Open Fiber, we want to change people's lives through new fiber-optic technology. From small villages to large metropolitan cities, we want to improve the lifestyle of people, families, businesses and workers by overcoming the *digital divide*.

More services, more speed, more accessibility, more reliability with FTTH to offer the opportunity to do more and faster. Without neglecting to save energy so that you can devote more time to yourself and your passions.

1.1.1 Mission, vision and distinctive features

Building a digital highway connecting people to create new opportunities, a network capable of eliminating borders and barriers. This is what Open Fiber believes in and what characterises the corporate culture.

Moreover, Open Fiber boasts some corporate features that can be summed up into the following five strengths:

- **Fair competition**: as an ultrabroad infrastructure provider, active solely in the wholesale-only market, it offers network access on fair and non-discriminatory terms to all interested operators;
- **separation between network and services:** based on the core principle of the protection of competitors and the proper attention paid to the process of liberalisation of the telecommunications sector, advocated by all Italian and European authorities, it maintains a clear separation between the use of the network and that of related services;
- **high-quality and efficient infrastructure**: Open Fiber's fiber-optic network guarantees very high performances by virtue of a transmission capacity of up to 40 Gbps (future proof), the only one capable of supporting the evolution of the service offering;
- **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 based on a constant dialogue with local institutions and communities;
- **sustainability and environmental care**: having always been oriented towards environmental sustainability, the company favours the development of an optical fiber network, where possible, on existing structures. The design of its

infrastructures, which combines sustainability and advanced technology, manages to protect the integrity of places, with particular attention to areas of landscape and cultural interest.

1.1.2 Open Fiber's journey

The fact that the Internet was the necessary immaterial element capable of profoundly transforming everyone's life had already been confirmed by the COVID-19 pandemic. Indeed, the health emergency pushed radical changes that accelerated the digitisation processes of almost all activities. Entire areas of professional, personal and family life have been moved into the digital space. Current conflicts, however, have further accentuated this dimension, showing how war is fought in two spaces, the physical and the cyber. Food, medicine, and clothing coexist with satellites to which they can hook themselves in order to continue to exist in the digital dimension. Internet has thus turned out to be a primary good on par with traditionally understood primary goods, and network connectivity is now an indispensable asset. This is why Open Fiber is working every day to build an Ultra Broadband (BUL) telecommunications network entirely in optical fiber cables at very high speed, with **Fiber To The Home (FTTH)** and **Fixed Wireless Access (FWA)** technology, throughout the country, capable of both providing increasingly advanced services and functions for citizens, businesses and Public Administration, and of fostering the recovery of the country's competitiveness.

Since its establishment, with the intention of operating exclusively in the wholesale market, Open Fiber has chosen ***wholesale only*** business model, so as to guarantee free access to interested operators and clear benefits to users in terms of both plurality and richness of available services. To date, indeed, **over 300 partner operators**, both national and international, have already signed commercial agreements for the use of Open Fiber's ultrabroadband network.

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

At the end of 2023, Open Fiber covered **around 14.6 million households passed in FTTH** (Fiber To The Home)[8] **technology**, confirming itself as the **main FTTH operator in Italy**, among the **leaders in Europe**, and **first among the continent's *wholesale only* operators**.

2015

Enel S.p.A. establishes **Enel Open Fiber S.p.A.** in order to build and manage an Ultra Broadband optical fiber infrastructure (Fiber To The Home - FTTH) covering the entire Italian national territory.

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 of **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 wins the **FTTH Council Europe Operator Award 2018**, the award given to those in Europe who have shown particular commitment in developing, supporting and deploying an FTTH network.
In the same year, it is awarded the **TMT Infrastructure Loan of the year 2018 - EMEA** for the largest financing of an infrastructure in the telecommunications sector (amounting to EUR 3.5 billion).
In December, Open Fiber set a new record on the ZION network, reaching **400 Gbps**.

2019

In February, Open Fiber receives the **2018 Telecomms Deal of the Year** award from PFI (Project Finance International) magazine for the most relevant financing in EMEA for the construction of an Ultra Broadband network.
In April, Open Fiber wins **the third Infratel Tender**.
Open Fiber's ZION fiber backbone brilliantly passes the 600 Gbps test: Open Fiber has the most advanced infrastructure.

2020

Open Fiber is certified **Top Employer 2020** by the Top Employers Institute and **Great Place to Work**.
In the same year, the Company finalised the extension of the project financing to EUR 4.145 billion, resulting in the largest structured finance transaction for the development of an optical fiber network in Europe.
The IDATE report published by the FTTH Council puts Italy in third place (out of 28 states) in the European FTTH/B coverage ranking and in second place as annual growth rate. The 2019-2020 contribution is approximately **80% attributable to Open Fiber**.
With 10.5 million households passed, Open Fiber is the **third FTTH operator in Europe** and the **first *wholesale only* operator in the continent**.
ZION backbone reaches **800 Gigabits** per second (Gbps) per optical channel: a new record.
Again in this year, Open Fiber achieves certification for its Quality, Safety and Environment management system according to standards ISO 9001, ISO 14001 and ISO 45001.

2021

Open Fiber publishes its first **Sustainability Report**.
In December 2021, the share trading transaction is concluded: 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** was approved. It envisages around EUR 11 billion in investments to cover **more than 20 million** households passed. The financing is the largest ever in EMEA for investments in telecommunications networks.
In 2021, Open Fiber achieves the coverage of **13.5 million households passed, with a total of 3,449 municipalities** being marketed.

2022

Around 5,000 communities corresponding to 15.5 million households passed.
In March, Open Fiber established the Open Fiber Network Solutions consortium, together with Amplia Infrastructures and CIEL, to advance the country's digitisation goals.
In May, Open Fiber was awarded 8 lots of the public tender "1 Giga Italy" (Mission 1 of PNRR, Piano Nazionale di Ripresa e Resilienza, National Recovery and Resilience Plan'). In June, the Corporate **Sustainability Committee** was established. It is an advisory body on ESG issues. In 2022, new strategic partnerships were established to accelerate the country's digital transformation (i.e. ESA, Euromilano, Svelto!, etc.).

2023

In 2023, Open Fiber was still the leading FTTH operator in Italy and one of the leaders in Europe. This was confirmed by **AGCOM**'s Communications Observatory: by the end of 2023, around **60%** of FTTH users in Italy will be using the Open Fiber network, with 17.1 million households passed and over 6,200 municipalities marketed.
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 the approval in November of the **Net Zero Plan**, an ambitious corporate pathway with the goal of achieving net zero emissions by 2040.
In 2023, Open Fiber obtained - as the first company in Italy - the **ESG certification**, a non-accredited standard certifying responsible management of ESG topics, certification of the management system for **gender equality** according to **UNI/PdR 125:2022** and of the energy management system according to **ISO 50001**.
The company was certified as **Top Employers Italia** and **Great Place to Work**.
In late 2023, Open Fiber obtained its **first European funding** by winning the tender **Connecting Europe Facilities** (CEF-2 Digital) **2021-2027** for the development of 5G coverage in the Fréjus tunnel between Italy and France.

8 To which should be added 2.5 million households passed by FWA technology, for a total of 17.1 million households passed by 31st December 2023.

With the aim of developing the most technologically advanced and efficient network, the organisational machine of Open Fiber manages various projects, both with its own investments and with public funds. Open Fiber's business plan envisages that more than 20 million households passed divided into the so-called black area, white area and grey area Clusters will be connected.

1.1.3 Business planning

The infrastructural operation underway assigns to Open Fiber the role of architect of the great project of connecting the country and thus enabling the economic and social development of the Italian system. In fact, the construction of an optical fiber infrastructure commits the company in all the areas into which the Italian territory is divided:

- in **black areas**, where the main urban centres are located, Open Fiber builds an optical fiber infrastructure (FTTH - Fiber To The Home) through private investment to reach homes and offices;
- in **white areas**, rural and peripheral areas in which operators have not declared an interest in intervening, Open Fiber has won the three public tenders called by Infratel (an in-house company of the Ministry of Enterprise and Industry) to build and manage an Ultra Broadband network under concession for 20 years, which remains public;
- in **grey areas**, as part of the "Italia a 1 Giga" Plan - falling under Mission 1 "Digitalisation, Innovation, Competitiveness, Culture and Tourism" of the National Recovery and Resilience Plan (PNRR, *Piano Nazionale di Ripresa e Resilienza*) - for which the government has called for public tenders to ensure public support for the construction of an ultra-fast network.

BLACK AREAS

Open Fiber is present in **239 large and medium-sized cities**, with an investment of more than 4 billion euro dedicated to the realisation and development of the network.

WHITE AREAS

Open Fiber will reach **over 6,000 small municipalities** in all 20 Italian regions, cabling over **6 million households passed**, such as homes, businesses and public administration offices with FTTH optical fiber. By the end of 2023, Open Fiber completed work in more than 5,800 municipalities. The network in these areas remains publicly owned and will be operated by Open Fiber under a 20-year concession.

GREY AREAS

According to the European Commission's definition, grey areas are 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** of public tenders, covering more than **3,800 municipalities** in **9 Regions**[9], for a total of around **3.9 million addresses**.

Furthermore, together with a pool of leading national and international banks, Open Fiber signed a 7.2 billion euro loan to support the business plan. This is the largest disbursement in the EMEA region for investments in optical fiber telecommunications networks. Between private and public investments, Open Fiber's overall plan is worth around 16 billion euro, of which 8 billion has already been deployed from 2017 to 2023 and a further 8 billion has been earmarked for the period 2024-2031.

1.2 BUSINESS MODEL

1.2.1 *Wholesale only*

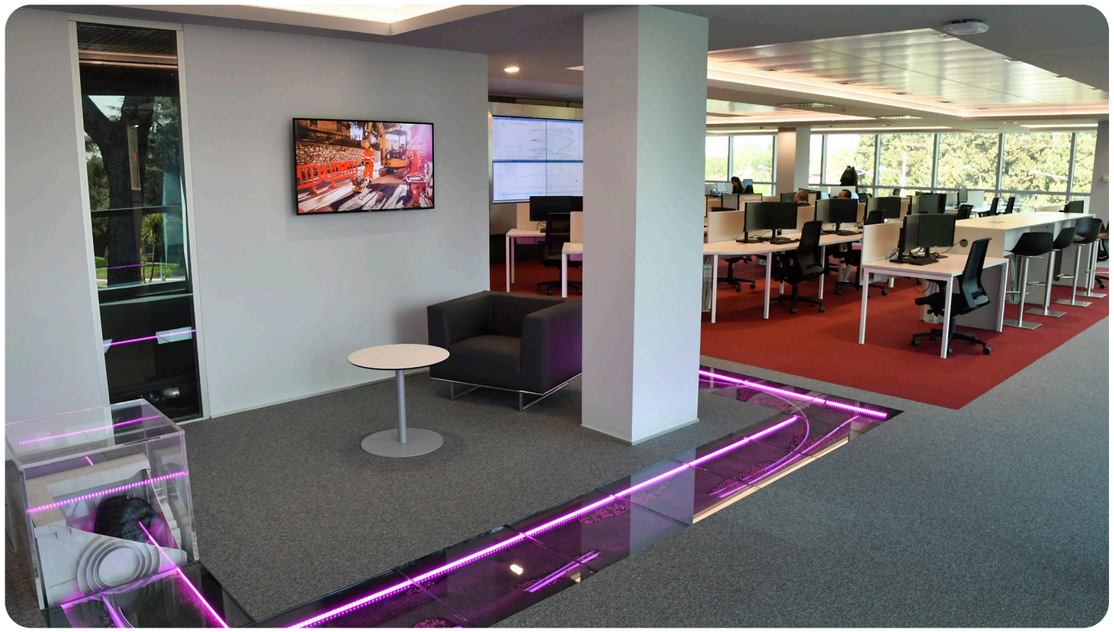
By choosing the ***wholesale only*** business model, Open Fiber acts as a **pure, neutral and non-vertically integrated infrastructure operator**, with no retail business units and consequently completely focused on the development of an increasingly high-performance network to offer to other telecommunication operators, who profile themselves as partners of Open Fiber rather than competitors. Interested TLC operators thus have access to a fiber-optic network infrastructure on an equal and non-discriminatory basis. A business model that also benefits end users, who have greater freedom to choose the provider and services they prefer.

Such model was 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 networks to which all interested service operators have equal access.

The advantages that make the *wholesale only* model the reference for the development of ultrabroadband infrastructures with FTTH technology in Italy and Europe, capable of maximising the development and growth of the digital economy, are to all intents and purposes the main elements that characterise and differentiate it:

- **neutrality** and **openness**, contributing to the development of an inclusive and competitive market in which operators selling FTTH services to the end customer have equal access rights to the network. This benefits end-users, who are able to choose the service they prefer and benefit from lower average costs;

9 Campania, Emilia-Romagna, Friuli-Venezia Giulia, Latium, Lombardy, Apulia, Sicily, Tuscany, Veneto.



- **long-term vision**, resulting from the fact that the infrastructure operator can focus exclusively on the development and ongoing improvement of the infrastructure;
- **innovation**, because the absence of a legacy network makes it possible to use the best technologies available on the market and maximise 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 fundamental to maximise the growth potential of the digital economy and has set attractive connectivity targets for 2025. The aim is to lead Europe towards the so-called Gigabit society, i.e. an interconnected society: currently, the FTTH network is the only technology that can guarantee a **symmetrical** speed of at least 1 Gbps. In fact, access all the way to the households passed is the only one to guarantee maximum bandwidth, symmetry between upload and download and minimum latency, factors that are often overlooked, but which are fundamental to the perceived speed of the connection and essential in many increasingly popular interactive applications, such as gaming, training, telepresence, e-health and many others.

By the end of 2023, Open Fiber had achieved the majority of FTTH access in Italy and supported the rapid deployment of fiber to homes, businesses, public administration and schools. At the same time, the company has also further strengthened its market, which today has around 300 OLOs - Other Licensed Operators operating in the consumer and business segments, of very different sizes and types, such as: Large Operators, Business Telco Operators, Fixed Virtual Network Operators, TowerCo, International Operators, Cloud Service Operators.

FIBER TO THE HOME (FTTH)

F fiber

Open Fiber's ultra-fast network is built in Fiber To The Home (FTTH) mode, literally "fiber to the home". The entire route from the power station to the customer's home is indeed made of optical fiber. This allows maximum performance with speeds of up to 10 Gigabits per second (Gbps). A 'future-proof' service, capable of supporting the full potential of the new technologies that will arrive in the next few years. The connection to a fixed network is made by laying an underground cable that connects the user's home or business to the so-called serving area interface, which in turn is connected to the exchange.

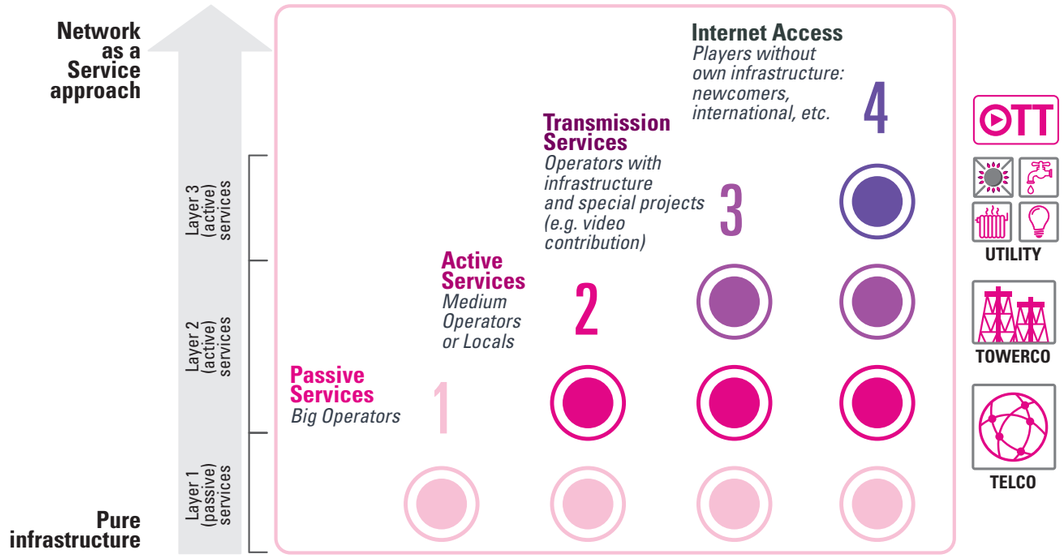
In the case of ADSL, on the other hand, the cables used in the two sections are entirely made of copper, while with FTTC technology the two connections are one in copper and the other in fiber. With the FTTH network, the connections are entirely in optical fiber, which benefits performance levels that cannot be reached with copper (ADSL) or fiber/copper (FTTC) networks. The FTTH optical fiber is the only one certified with the AGCOM green label as "true fiber".

1.2.2 Open Fiber services

Open Fiber's product portfolio consists of connectivity services that promote the digitalisation of households, businesses, schools and public administration. The offer is characterised in terms of quality and reliability, but also in terms of product flexibility: the portfolio is simple and modular and allows a choice between **Pure Infrastructure** and **Network as a Service** offerings. This approach allows both infrastructure operators and all players and newcomers without their own network infrastructure to benefit from the services provided by Open Fiber.

The services offered by Open Fiber fall into two categories: passive services and active services. In the case of **passive services**, the Company provides its own fiber-

FIGURE 4: SERVICE OFFERING



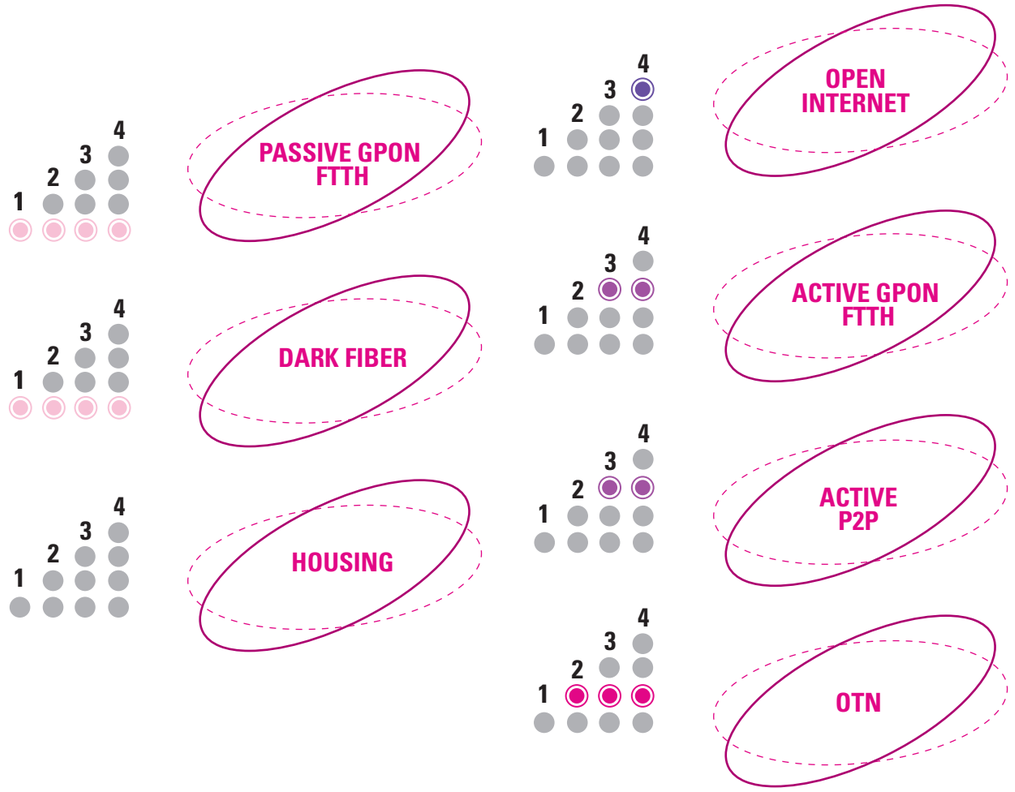
optic access network that connects the exchange - i.e. the node of the infrastructure that houses the fixed access network elements and those of transport/backhauling - to the associated end-customer sites, while the operator is responsible for connectivity in PON (Passive Optic Network) or P2P (Point-to-Point) access technology. This option is generally used by operators who autonomously manage the active part by installing their own network equipment inside Open Fiber exchanges. This service model, therefore, envisages that the operator subscribes to the Housing service, whereby it is granted a space in which to install its own transmission equipment and connect it to the fiber network in order to provide the service to end customers.

In the case of **active services**, instead, Open Fiber provides not only the fiber infrastructure, but also connectivity via the access technology called **GPON** (Gigabit Passive Optical Network)[10], **XGS-PON**[11] and

10 Gigabit Passive Optical Network: a network in which 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 power is not easily available. It is also more energy efficient. GPON technology provides unprecedented bandwidth (up to 2.5 Gbps speed) and greater distance from the exchange, enabling service providers to enable bandwidth-intensive applications.

11 XGS-PON technology (ITU-T standard 9807.1 - 2016) is the commercial successor of GPON. It enables 10 Gbps transmission speeds both downstream and upstream.

FIGURE 5: ACTIVE AND PASSIVE SERVICES



P2P (Point-to-Point) with delivery of traffic at a point of interconnection or, in some cases, inclusive of direct access to the Internet.

In the first service model the traffic generated by the operator's customers is collected and transported by Open Fiber through its backbone network, and delivered to the operator in an aggregated manner at an interconnection point within an Open Fiber exchange or an Internet Exchange Point. The second service model, on the other hand, requires the Company to manage both the access network and the direct Internet access service, including the assignment of IP addresses to the end customer, without any investment by the Operator in infrastructure or network equipment. This is an all-inclusive service aimed at small operators but above all at multi-utilities that intend to expand their offerings on the national market with a high-performance, high-quality fiber

Passive Services

Passive GPON FTTH: passive service using GPON (Gigabit Passive Optical Network) FTTH access technology with a point-to-multipoint architecture that allows traffic multiplexing of multiple users of a single tree on the same physical interface (GPON port). The service involves the provision by Open Fiber of only the optical fiber access infrastructure.

Dark Fiber: supply of a passive Point-to-Point (P2P) connection via a dedicated fiber or fiber pair, available both in Basic mode (i.e. from the Open Fiber technology site to the Customer's premises) and in Premium mode (from the Customer's premises to other Customer premises). Used mainly by large operators.

Housing: supply of a space frame within the Open Fiber technological 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 surveillance of the site.

Active Services

Open Internet: turnkey service, connectivity and direct Internet access service offered through PON FTTH access technology, with download speeds of up to 10 Gbps and upload speeds of 2.5 Gbps.

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 operator traffic transport and delivery service at an interconnection point within the Open Fiber exchange or within an Internet Exchange Point.

Active P2P: the service allows for up to 10 Giga level 2 connectivity between the customer's premises and the operator's interconnection point. It is used for the connection of business premises, operator node *backhauling* as well as central PA and local PA locations using optical fiber connections.

OTN: optical fiber access network termination device at the Customer's premises. It is a device designed to convert the light signal from the optical fiber into electrical impulses that can be managed by any router or network access device.

connectivity service. This service has made it possible for new service providers to enter the national market, including operators in the energy and utilities sector. This modular array of services provides access to the optical fiber 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 services available expanding with ever higher quality.

By the end of 2023, around 300 operators in the TLC (Fastweb, Tiscali, Vodafone, WINDTRE, EOLO, AT&T, Retelit, Illiad, Virgin Fibra, PostePay, Aruba), entertainment (Sky), energy and e-learning (Enel, Sorgenia) sectors have chosen Open Fiber as their main infrastructure and service provider. The expansion of the offer is functional to the acceleration of the country's digitalisation process with the aim of reducing the speed divide that characterises a decreasing number of areas.

Data traffic and Cloud environments

Data traffic in the network is set to increase significantly; therefore, there is a need to develop remote cloud environments, where applications can be accessed regardless of where the IT infrastructure resides.

An important part of this traffic is between the Data Centres distributed across the territory (DCtoDC - Data Centre to Data Centre) and it is in response 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 nodes of the Internet network in Italy. In essence, 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 customer operators can thus obtain dedicated and diversified connections with adequate connectivity in order to offer their end customers reliable services that allow data to travel with the highest possible speed and lowest possible latency. Open Fiber uses the latest optical transport technologies on the market and has already tested innovative solutions for transmission of up to 800 Gbps over a single optical channel.

Another rising trend in advanced computing is **Edge Cloud Computing**, in which data processing takes place at network points closer to the end user, in order to offer shorter paths and lower latency times. Here, too, Open Fiber's infrastructure has proven to be in step with the context, since in addition to already allowing the fiber connection of large data centres, it can host servers for Edge Cloud Computing in its PoPs.

Connectivity as a basic need

According to a 2023 **survey** by EY[12], despite rising prices, connectivity remains a **basic need** for citizens. The research, conducted **on 2,500 households in Italy** and more than 20,000 globally, analysed consumer attitudes towards technology, media and telecommunications and reported interesting results.

90% of households in Italy have an internet connection and 84% use the fixed network to access the web. This need for connectivity is accompanied by **increased awareness**: due to inflation and the rising cost of living, 60% of households are driven to make comparisons to find the best offers in terms of connectivity and digital content.

Secondly, perceptions about the **quality** of the fixed network are increasing. Moreover, 50% of households say they are satisfied with the value for money of content purchased from their broadband provider, up from 41% in 2022. There is also a growing **concern** among consumers in terms of network reliability and connection performance. **29%** of households claim to have experienced such problems.

The main improvement that consumers in Italy would like from internet providers is greater **network reliability**, an opinion shared by **38%** of respondents. In particular, great emphasis is placed on **guaranteed speed** (relevant for 48% of households) and Wi-Fi coverage within the home (important for 43%).

In this context, Open Fiber and optical fiber play a key role; the implementation of an Ultra Broadband infrastructure in all the regions of Italy is fundamental if the needs highlighted in the survey are to be met.

12 EY Decoding the digital home 2023 study.

1.2.3 Open Fiber Customers

Open Fiber is naturally Customer-oriented, this is clearly seen in its *Vision* and *Mission*, but also in the nature of the services offered and the business model adopted. In fact, the company wants to actively contribute to a change in the lives of citizens, improving the lives of people, families of businesses and workers by offering more services, more speed, more accessibility and more reliability through optical fiber.

Focusing on Customers: the Customer Satisfaction Survey

With the aim of pursuing ongoing improvement in the activities and services offered, as of 2021 Open Fiber has equipped itself with a **repeatable analysis model capable of analysing the service components that influence Customer satisfaction** (the operators) and then measuring and examining the data collected both at the level of the customer portfolio and at the level of the individual customer. The model, declined within a Customer Satisfaction Survey, has an extensive and inferential character, i.e. it is not limited to the analysis of how a phenomenon is distributed in the sample, but questions the inferential link of the causal relationships that determine actions. In the designed model, the collection of information in the sample survey always takes place through the adoption of a questionnaire defined in a standardised form using standardised instruments, procedures and rules, making it possible to compare information referring to different cases.

The main distinguishing features of the survey model are:

- **extensive character:** it is not limited to an analysis of how a phenomenon is distributed in the sample, but questions the inferential linkage of the causal relationships that determine actions;
- **comparability and quality of the data:** the collection of information takes place using standardised tools, procedures and rules, enabling the comparison of information referring to different cases;
- **results in quantitative form:** through statistical data processing, it is possible to produce a series of inferences based on estimation in quantitative form.

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

- **corporate image**: reputation, innovation, responsiveness to customers' needs, fair treatment of operators, the **perception of Open Fiber as a sustainable company and its contribution in helping partners pursue sustainability goals** (e.g. for reducing the carbon footprint of the services offered)
- **services and offering**: the clarity of contractual documents, satisfaction with the portfolio of services offered and the value of connectivity in terms of customer loyalty
- **commercial aspects**: the support and clarity in the commercial contract phase, the ease of use of the ARO portal and the saleability database;
- ***provisioning***: the support and clarity in the service activation process and on the relative state of progress, the ease of use of the operator portal
- ***assurance***: the speed of intervention with respect to notifications or faults, clarity of the operator portal content;
- **coverage**: the capillarity of the network in the territories of interest to the operator in the two clusters in which Open Fiber operates (A&B and C&D), the availability and clarity of 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.

Additionally, to assess the performance of Open Fiber, **qualitative aspects** were also analysed across the following survey areas: **reliability, responsiveness, communication** and **sustainability**.

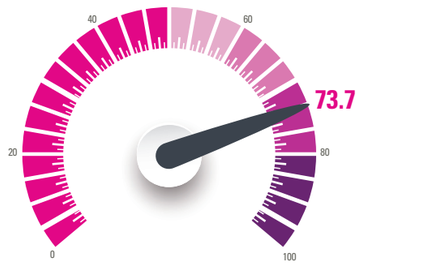
In the analysis conducted through the 2023 survey, a more detailed focus was also placed on the distinction of the **services offered**. In particular, special attention was paid to the Business and Residential sectors related to the differentiation of the two Sales Departments, exploring the nuances of their respective commercial, *provisioning* and *assurance* dynamics.

The Open Fiber questionnaire was administered to a sample of consumer and business service operators, chosen on the basis of significance and representativeness in terms of connection volumes, and the customer could use a variety of devices (desktop, mobile, tablet) to answer.

In 2023, 136 representatives of 76 customers responded to the third **Customer Satisfaction Survey**. Of the sample identified, 67.3% of the operators to whom the survey was administered completed the questionnaire (of these, 34% belonged to the residential segment, 20% to the business segment and 46% to the residential & business segment).

The results' analysis shows that, both for the **survey areas** and for the **qualitative aspects**, the scores obtained were on average high, showing a positive trend compared to the 2022 surveys for the AFC, coverage and sustainability.

FIGURE 6: CUSTOMER SATISFACTION SURVEY 2023 RESULTS



Through the analysis of the so-called **Open Fiber Satisfaction Index**, which represents a summary data of all the answers given by all the operators, the recognition of the Open Fiber brand in the market of fiber connections in Italy (in the imagination identified as an ideal supplier) was confirmed. Data on **brand awareness, reliability, sustainability and positive impacts on the community** (e.g. overcoming the digital divide, creation of induced employment, etc.) are among those highlighted as positive factors.

1.3 TRANSPARENCY AND EQUAL ACCESS AS OPEN FIBER'S WORK FOUNDATIONAL PRINCIPLES

1.3.1 Antitrust Enforcement

In pursuing the ambitious project of cabling Italy, Open Fiber avails itself of the support and collaboration of various players in the digital transformation with whom it operates in full transparency and synergy, such as the institutions for the administrative management of permits, the supplying companies for the realisation of the infrastructure, and the partner operators for the marketing of the fiber to the end customer.

In line with the principles of transparency and in accordance with the agreements made jointly with the Ministry of Infrastructure and Transport and the European Union, Open Fiber provides free access to the progress of works through its **website**, making available documents and interactive maps, through which it is possible to read in detail the progress of construction sites for each individual municipality, both for FTTH (Fiber To The Home) and FWA technology (Fixed Wireless Access)[13].

Moreover, in order to ensure full compliance with the rules set out in order to protect competition, which are an integral part of the corporate culture and of the operational choices made on a daily basis, Open Fiber has adopted an **Antitrust Code** that provides all members of corporate bodies and employees with a systematic framework of reference on the protection of competition; it has also appointed an Antitrust Oversight Board, made up of members of the Infratel Legal and Concessions Department and of the Regulatory and European Affairs Department, to which suspected unlawful acts and/or abuses are reported and which has the exclusive competence to analyse the unlawfulness.

More in detail, the Antitrust Code identifies:

- the practices and behaviours that may infringe the competition rules;
- the areas where there is a risk of possible offences occurring and the persons who, due to their responsibilities and functions, may be most exposed to such risks, in order to prevent them;
- the topics on which it may be appropriate for staff to discuss with the Antitrust Unit, which is entrusted with the task of providing the necessary support and assistance on the application of the Code.

Failure to comply with the Antitrust Code can jeopardise the reputation, corporate image and success of Open Fiber and can result in very significant penalties for the latter. For this reason, the Company decided to:

- disseminate the Code extensively, making it accessible to all personnel, by providing adequate and periodic antitrust training programmes;
- ensure the periodic review and updating of the Code in order to adapt it to developments in competition law;
- provide for a system of disciplinary sanctions to punish any violations;
- adopt internal procedures regulating the process of receiving, analysing and dealing with any violations;

13 For more details, see section 1.3.2 "Transparency and Communication with citizens, businesses and Public Administration".

- ensure the confidentiality of the identity and professional protection of those who report possible violations, in compliance with legal obligations.

In 2023, there are no pending or completed legal proceedings against Open Fiber concerning anticompetitive behaviour and antitrust violations.

1.3.2 Transparency and communication with citizens, businesses and the Public Administration

As a wholesale operator, Open Fiber has always pursued its mission to connect Italy with an Ultra Broadband network. An ambition that it cannot ground alone. This is why it relies on the support and collaboration of various players involved in the digital transformation: in fact, the company operates in full transparency and in synergy with the institutions for the bureaucratic management of permits, with supplier companies for the realisation of the infrastructure, and with partner operators for the marketing of connectivity services to the end user.

In its project to build an Ultra-Wideband network, Open Fiber is committed to inform and involve all the components of the local communities, from citizens to associations, from institutions to authorities, not only on the progress of the infrastructure development plan and the digital services that will be made available, but also on the social and environmental impacts that these activities may generate.

For the White Areas, in which it operates as an Infratel concessionaire, and the Grey Areas, where it has been awarded 8 lots of the 1 Giga Italy Plan, Open Fiber provides free access to the information on the progress of the works in accordance with the information and transparency obligations undertaken as the party awarded the public tenders. With this in mind, the company provides several information points within its website, with documentation and interactive maps, where it is possible to read in detail the progress of construction sites for each municipality, both for FTTH and FWA technology.

In addition to the digital channels of the institutional website, Open Fiber disseminates to stakeholders the results of the monitoring and impact assessments it carries out on a continuous basis, both through dedicated meetings with institutions (e.g. during conferences on innovation or digitisation) and during communication moments addressed to citizens (e.g. press conferences and meetings with associations). These opportunities are published on the company website, where it is also possible to find a special section for press releases[14], and shown on the most relevant social networks.

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

The network transforming Italy

In 2023, Open Fiber issued an **institutional advert** on Sky channels, using scenes and sequences describing the use of fiber for telemedicine, agriculture 4.0, digital monitoring and sensing systems (fiber sensing), agile working, education and training.

In 2023, Open Fiber organised and took part in **more than 30 public events** aimed at communicating the corporate *Mission* and informing the community about the opportunities arising from the deployment of an Ultra Broadband infrastructure. The events, always held in partnership or in the presence of institutional stakeholders, have taken on different forms and purposes: from press conferences for the opening of construction sites or the marketing of services in the various municipalities to sustainability events and the organisation of institutional discussions on specific projects.

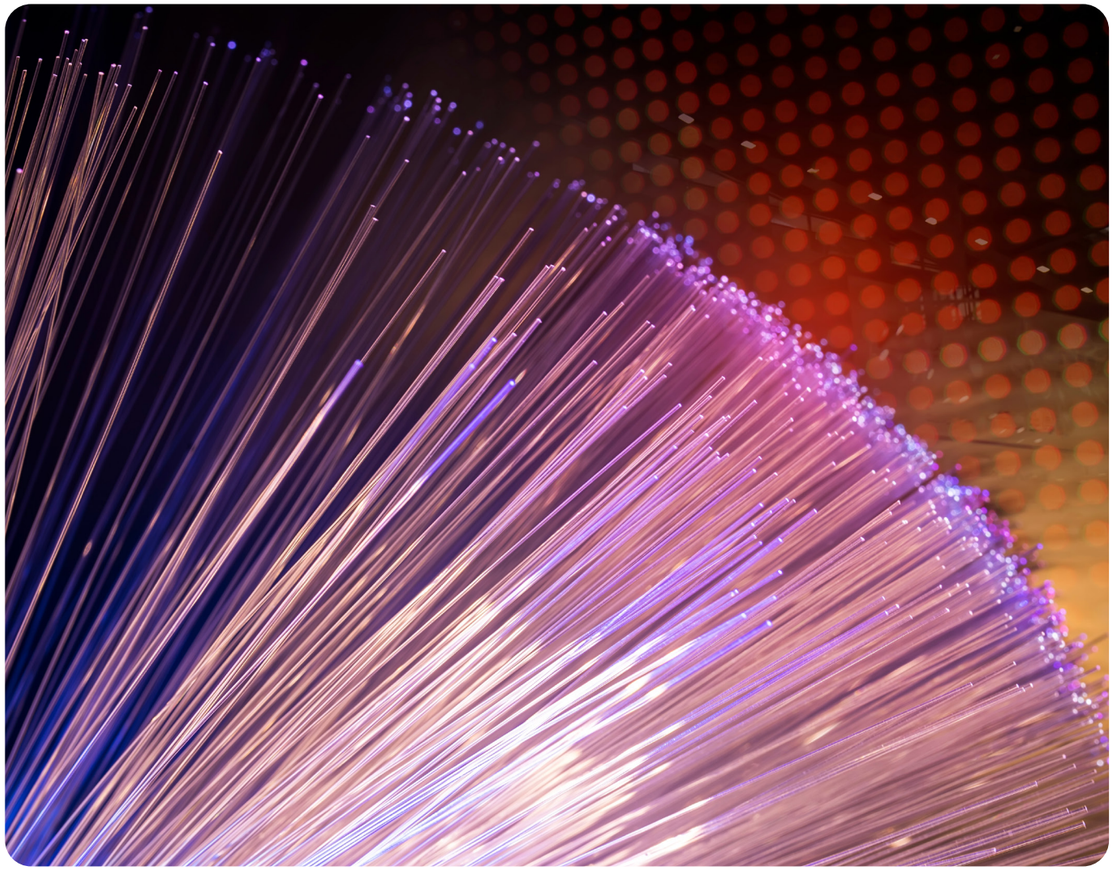
On the occasion of the 40th **National Assembly of Italian Municipalities (*Assemblea Nazionale dei Comuni Italiani,* ANCI) of 2023**, by virtue of its role as an enabler of the country's digital transformation, Open Fiber used the most effective channels available

A journey from Northern to Southern Italy with the fiber

This is the context of the **podcast project «A journey from Northern to Southern Italy with the Fiber»** launched in September 2023, which aims to accompany listeners to discover a new Italy, connected thanks to Ultra Broadband. The topics covered include projects ranging from energy efficiency to smart cities, from telemedicine to digital villages, from connected schools and PA to reducing the digital divide.

to strengthen the continuous, participatory and transparent dialogue with its stakeholders in order to make them aware of the benefits of the technological infrastructure and the ability to activate a set of innovative services. In addition, to emphasise the importance of the environmental component, it created a **stand** with structures made of recycled aluminium, cardboard and fabrics printed and made graphical by sublimation: a technique that uses sustainable materials and allows the structures to be reused for other initiatives.

Open Fiber set up channels to handle stakeholders' requests for information and complaints, committing to provide a timely response in a very short time, both through the contact forms on the website and through the activation of **social media channels**. Of the instances received in 2023, most concern requests for information on the possibility of activating the service at home, demonstrating that the benefit brought by the network infrastructure is considerable and well perceived by communities. The majority of complaints,



Digital communication

The **web**, and social networks in particular, constitute the channel through which Open Fiber keeps a direct line with users' needs and expectations, interacting with them directly. In recent years, the company has worked to increase its fanbase and interactions in order to make these channels of dialogue with stakeholders increasingly active and increase activities and interest in sustainability issues. By the end of 2023, the company's commitment to social communication has allowed it to reach approximately **96 thousand** followers on its **LinkedIn** profile, **88 thousand** on **Facebook**, **25 thousand** on **X** and **9 thousand** on **Instagram**.

Open Sustainability

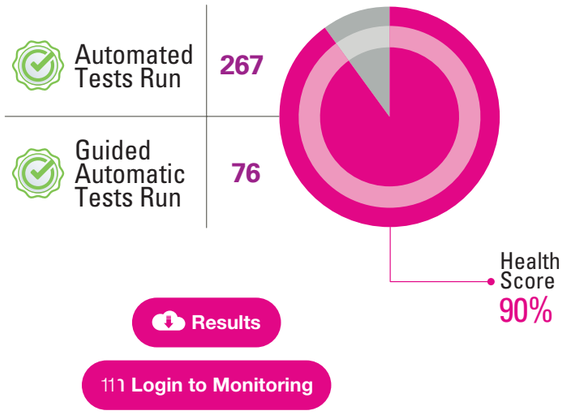
In 2023, Open Fiber launched the **new feature** "Open Sustainability" on the **Company's social media channels** (Facebook, X, LinkedIn and Instagram). The column, on a monthly basis, was created to provide a periodic overview of the company's commitments and results on **sustainable development** issues. Over time, specific aspects relating to the three pillars of sustainability - social, environmental and governance - have been explored in greater depth. Open Sustainability has incorporated some of the **main results** achieved by Open Fiber, becoming the **ideal vehicle** through which to recount the Company's commitment also to a young target audience.

on the other hand, were due to inconveniences caused by construction work.

An increasingly accessible internet is synonymous with greater social inclusion. Even though for over ten years now, internet and smartphones have been indispensable complements to our daily lives, the percentage of websites inaccessible to people with disabilities is still around 95% in Italy. Open Fiber, already committed to the theme of inclusivity with the realisation of the largest ultra-fast infrastructure in Italy, thanks to which citizens can enjoy equal opportunities and services, in order to guarantee a higher level of accessibility, has implemented a tool on its website that facilitates the use of content to persons with disabilities through **Artificial Intelligence** and the **Accessibility Interface**. The latter consists of a very intuitive management panel that provides access to six profiles: epilepsy safe profile; low vision profile; ADHD friendly profile; cognitive disability profile; navigation keyboard; blind users. Each user can configure their profile completely independently thanks to a specific section of the interface that allows them to adjust the display mode to make it as readable as possible. The section is dedicated to profiles with specific learning disabilities (SpLDs) and to all users with visual impairments, such as blurred vision and low vision.

Within the scope of this project, Open Fiber assessed how accessible its website (openfiber.it) is, in order to check whether it complies with the "**Web Content Accessibility Guidelines 2.1**". It achieved 100% compliance with the **application level AA** and 90% compliance with the maximum achievable level.

Compliance with the Web Content Accessibility Guidelines 2.1



Best in Media Communication

Open Fiber has made transparency a cornerstone of its communication. Proof of this is the 2023 certification of Best in Media Communication by **Fortune Italia** and **Eikon Strategic Consulting**, obtained **four years in a row.**

The BIC certification is a prestigious award given to companies that convey their mission, progress and achievements through **effective communication strategies and partnerships with leading companies** in their sector. A selection extended to all business sectors - companies, entities and organisations - which are assessed through a scientific methodology based on measurable criteria: the company's reputation in the media, the impact of the communication team's work and the judgement of journalists and insiders.

Within the framework of BIC, Open Fiber was also awarded the **"interactivity" award** for the "Twitch and chess" project for having been able to fully exploit its peculiarities, highlighting its close relationship with business. "*Interactivity is a constitutive element of the entire project, the core of which is the online chess tournament, complemented by the social content published on the channels of the two chess players involved. The project also stands out for its strong focus on women's empowerment issues,*" reads the award motivation.

1.4 OUR ULTRA-FAST NETWORK

Open Fiber's infrastructure consists of an Ultra Broadband network mainly based on FTTH (Fiber To The Home) technology, which guarantees **fast, efficient and reliable** data transmission. Unlike copper networks, whose cables suffer from wear and tear, adverse weather conditions and long distances, the technology behind optical fiber guarantees optimal performance under all conditions. This advantage is made possible by the composition of the cables, which are able to maintain constant performance regardless of distances 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 technology (Fixed Wireless Access).

A further asset of optical fiber is its "**future-proof**" nature, i.e. it is able to support the full

Optical fiber: an eco-friendly solution

One of the most interesting features of optical fiber is its nature as an **eco-friendly** technology. Indeed, the material it is made of is generally synthesised from silicon and, unlike copper, does not require mining. The small size of the cables allows them to be laid using techniques that minimise excavation volumes and emissions into the atmosphere.

Furthermore, all network elements are "passive", i.e. they do not require a continuous supply of electricity, thus minimising energy consumption.

Speed up to 10 Gigabit

Open Fiber has adapted its network infrastructure in order to provide FTTH connectivity services up to 10 Gigabit download speed and 10 Gigabit upload speed to end customers in the main national cities and all municipalities belonging to the Italia 1 Giga Areas.

potential of new technologies that will arrive in the years to come, as it is designed not to become obsolete as technological progress advances, always guaranteeing efficient performance even as bandwidth demand increases. Thanks to these qualities, optical fiber, particularly in the FTTH configuration, ensures faster Internet connections and extremely low latency times (in the order of milliseconds), making it the ideal solution for sending and receiving large amounts of data.

1.4.1 The infrastructure features

End-to-end process

Open Fiber's network reliability is the result not only of the fiber's intrinsic features, but also of the management of an **end-to-end** process that starts with the planning of national coverage and the technological choices concerning the **Network Creation**[15] and ends with the management of **Delivery** services (connection between the property unit and the optical fiber network or FWA[16]) and **Assurance** services

15 For more details on the Network Creation, see paragraph 5.3.2 "Non-invasive laying techniques".

16 Fixed Wireless Access.

Digital monitoring during the network creation process

Open Fiber digitally monitors the progress of works on the network through checks on the network inventory information systems used for network construction activities (pre-construction, construction and partial and final progress, pre-testing, testing and *As Built*). The companies are required to constantly update the information systems by providing all the documentation necessary for the traceability of the professional execution of the works (material technical data sheets, photographic documentation of the realised works, waste disposal certifications)

(maintenance and prevention against potential causes of network deterioration).

Open Fiber's oversight process starts with the scrupulous selection of raw materials and contractors performing the activities through the initial qualification procedure[17], and defines stringent contractual requirements, specific Service Level Agreements (SLAs) by type of intervention and penalties applicable in the event of non-compliance, and implements a performance monitoring system through checks and audits in the field and periodic evaluations through the attribution of a **Vendor Rating Index**, representative of technical-economic, production, environmental and social performance.

In order to manage *Delivery* and *Assurance* activities Open Fiber relies on specialised companies - hired through specific platforms through the opening of Work Orders (WO) and Trouble Tickets (TT) - trained by qualified personnel, respectful of the principles of Health and Safety at Work and guaranteeing the availability of equipment and tools, hardware and software, necessary for the perfect execution of the works. The quality of the service offered is also reflected in the observance of certain behavioural rules required of the companies interfacing with the customer: punctuality, speed and professionalism in operations, cleanliness and good order, helpfulness and courtesy towards the customer, respect for the principles of fairness and utmost confidentiality, and refusal of any form of compensation from the customer for any work related to the installation.

17 For further details on qualification activities, see section 2.5 "Supply Chain accountability" and the company website in its dedicated section https://openfiber.it/fornitori/diventa-fornitore/

Delivery and Assurance

In order to guarantee the Customer the best possible service, Open Fiber intervenes on two fronts through *Delivery* and *Assurance* activities. The ***Delivery*** service deals with connecting the individual property units to the optical fiber network or FWA and carrying out, where necessary and authorised by Open Fiber, the essential operations to guarantee the connection of the Customer's property unit and the activation of the required services. The ***Assurance*** service deals with all maintenance activities concerning the network and infrastructure, aimed at guaranteeing the maintenance of conditions of perfect efficiency of the technological services, continuity and regularity of the services provided by Open Fiber, preventing potential causes of damage.

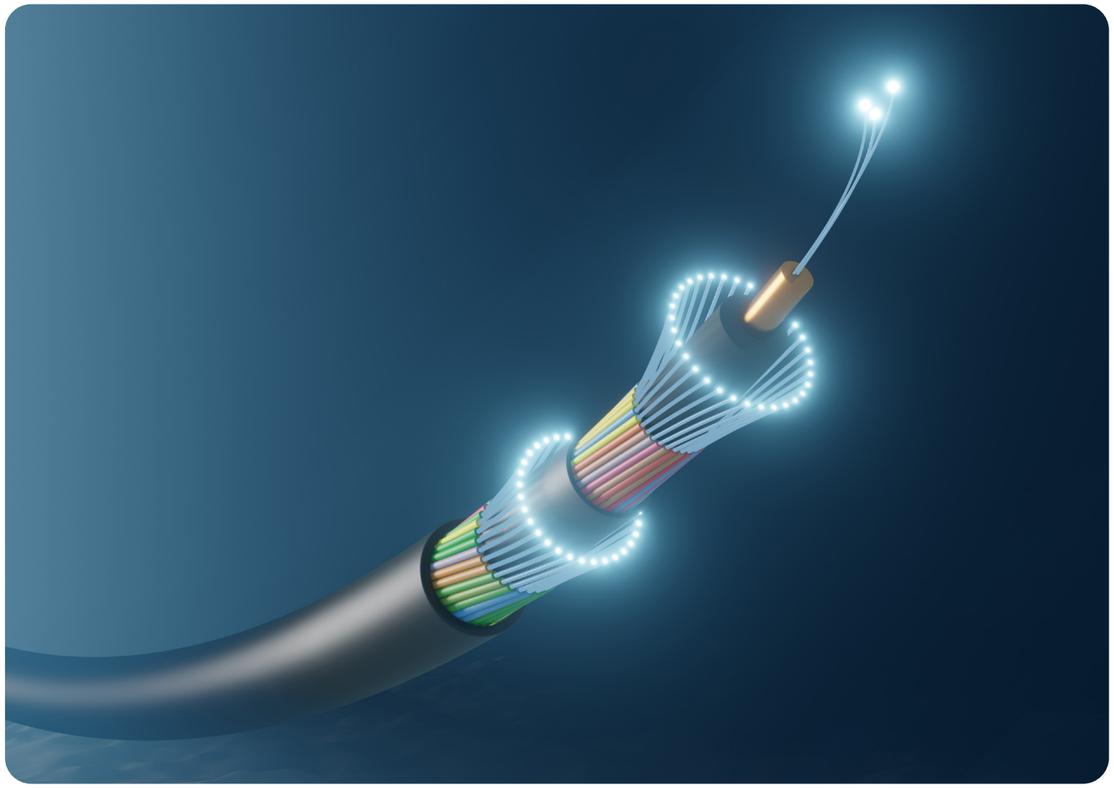
Rigorous control over materials

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

The supplier must demonstrate the conformity of the material to the technical specification in order to guarantee the Company products suitable for the quality standards set; this conformity is attested by a third-party certifying body approved by Open Fiber and all materials are subjected to tests carried out on production batches on samples taken randomly from the batches themselves. Furthermore, production procedures must provide for complete traceability of each raw material used in the process.

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

- inspections aimed at ascertaining compliance with the contractual technical terms and conditions relating to the supply of materials and the adequacy and correct application of the Quality Management System of the supplier, in compliance with UNI EN ISO 9001, and, if necessary, of the sub-suppliers
- tests, off-line tests and conformity tests, as well as all the appropriate checks on the products and materials to be supplied, in order to ascertain their reliability characteristics declared in the tender.



Furthermore, in order to enhance the Company's "Green" approach to the management of materials for the network, the following activities are being studied and scouted:

- using mini-tubes for the protection of optical fiber cables made of polyethylene derived at least 70% from recovered or recycled materials;
- reducing the number of materials used per packaging and encouraging the use of only environmentally friendly and fully recyclable materials for packaging.

Network monitoring and oversight

A project as ambitious as Open Fiber's one demands constant attention. As the ultrabroadband network takes shape, becoming ever larger and more complex, there is a need to manage it using state-of-the-art technology and expertise.

The monitoring and supervision of the correct functioning of Open Fiber's Ultra Broadband infrastructure throughout the country is carried out by the **Service Operation Centre (SOC)**, active 24 hours a day throughout the year, in order to safeguard

not only the structure, but also the continuity and quality of service to its customers, guaranteeing promptness and speed of intervention at the first sign of malfunctioning. The SOC is equipped with over 100 stations and divided into 2 sections: *Delivery* and *Assurance*.

The *Delivery* system takes care of the activation of the network for the end user on the basis of requests from Open Fiber Partner Operators who have purchased services in the "wholesale only" market. The *Assurance* systems, thanks to 24/7 monitoring and the use of optical reflectors installed in the homes of each individual user, are designed to identify and intervene, in the event of faults or anomalies in the FTTH network service, on the status of the individual fibers activated.

There are two **ways** to identify faults or anomalies: the **reactive** one and the **proactive** one. With 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 by intervening at the exact point where the fault occurs. The proactive mode, on the other hand, consists in anticipating the signalling. Technicians have created extremely advanced alarm systems, which are triggered by sensors exploiting digital Internet of Things (IoT) technology inserted in POPs (Points of Presence) and throughout the network. In this way, suppliers can restore service as soon as the anomaly is detected.

1.4.2 Creation process

Open Fiber's intervention model, as part of the **process of creating** the Ultra Broadband optical fiber network infrastructure, kicks off with the signing of an agreement with the local administration concerned[18]. The agreement includes methods, work schedules, technical and safety standards to minimise the impact on the environmental, cultural and landscape heritage, as well as the inconvenience for citizens during the work and the excavation methods for laying the optical fiber network. Once all permits and administrative authorisations have been obtained, the activities that will bring the optical fiber to the households passed begin:

1. **exploration phase:** the process begins by gathering useful information for project definition, such as the count of buildings to be cabled and the number of households passed (HP). Then, the possibility of laying the fiber using existing infrastructure or through ex novo works is assessed. In this phase, called *Walk Out*, the communication and authorisation models are issued[19], some of which are addressed to local authorities, the building administrator or the owner of the individual house/business. Once the forms have been collected, the internal census is carried out by inspecting the buildings (phase called *Walk In*);
2. **design phase:** once data, information and documentation have been collected, a "Preliminary Project" is drawn up, in which the details of the activities are defined, in particular the work to be carried out, the type of work to be carried out for the laying (e.g. type of excavation), the sizing of the network elements, and the positioning of the PFS (secondary flexibility point) street cabinet. At this stage, it is important to take into account the so-called PoPs, Points of Presence, the infrastructure nodes that house the fixed access network elements and the transport/*backhauling* elements. It is precisely these elements that allow traffic to be aggregated and distributed over the network, either for access or delivery: the objective is, therefore, to work out the most efficient configuration and way to position and connect them. Once the project is approved, it becomes executive and authorisation is requested from the relevant offices;
3. **creation phase:** creation of the FTTH connection system, through which the PoPs are constructed and connected to the building units by means of optical fiber: PoPs may be constructed indoors (inside existing buildings) or outdoors (with the construction of prefabricated structures called shelters and/or cabinets). In this phase, the work of grounding the fiber, laying the street cabinet and the Building Termination Point (PTE) or Advanced to reach individual homes, offices, businesses, and the Public Administration is carried out: in the infrastructure laying phase, Open Fiber favours the methods that have the least impact not only on the environment, but also on the community in terms of inconvenience due to the presence of the construction site[20]. Once the points of interest have been connected, the sections are tested;
4. **recovery phase:** once the infrastructure has been built and tested, the phase dedicated to restore the road surface begins. This activity is carried out with minimal inconvenience to the citizens, trying to be less invasive on the territory, including at an environmental level. These interventions are

18 For further details, please refer to the paragraph 3.3.2 "Relationships with the local authorities and bodies in permitting activities".

19 For example: notice of the start of works, authorisation for the laying and operation of the FTTH optical fiber network built in the municipality, authorisation to access to the building.

20 For more details, see paragraph 5.3.2 "Non-invasive laying techniques".

completely paid for by Open Fiber and, therefore, do not envisage any expense on the part of the municipal administration and envisage a well-defined procedure of steps:

- one of a temporary nature, which follows the excavation work, and has a laying time of at least 30 days. This is a necessary process for soil settlement and is characterised by a strip of cement mortar;
- once the technical time for soil settlement has elapsed, the second phase begins. This is about the final resurfacing, which consists of the incision of a portion of the roadway and the asphalting of the road;

5. **service activation service:** in order to activate the service, the End Customer - depending on the city in which he or she is located - must contact the operator most suited to his or her needs directly and choose from the various offers available, operators with which Open Fiber signs commercial agreements aimed at providing the service to the Customer. Once the contract has been stipulated 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, it books the network resources and it contacts the Customer to set the date and time of the intervention at the user's home. The duration of the intervention is approximately 2-3 hours, and involves the laying of the optical socket and the testing of the connection using test equipment, with the support of the Open Fiber SOC (Services Operations Center)[21].

21 For more information, see paragraph 1.4 "Our ultra-fast network".

1.5 ECONOMIC PERFORMANCE

1.5.1 Market environment

The world economy is at a particularly delicate juncture, characterised by the uncertainties that have emerged with the Russian-Ukrainian conflict, which has affected the geopolitical scenario of the old continent in the two-year period 2022-2023 and whose consequences are reflected in the main macroeconomic indicators. One of the main challenges to be faced globally is that of tensions on the energy market, characterised by the sharp rise in the prices of raw materials, especially oil and natural gas. This dynamic has triggered a historical inflationary surge also linked to the problems along the value chains that characterised the world economy during the acute phase of the pandemic, and which have created bottlenecks in the supply chain, especially with regard to certain materials and components that are crucial for production. 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 connected for the supply of asphalt, which is needed for road surface repair operations following the construction and testing of the Ultra Broadband fiber network infrastructure. This geopolitical situation has therefore led to an inevitable increase in costs for Open Fiber in order to advance the optical fiber installation works, which the company has nevertheless managed to manage and carry out without significant slowdowns in the timetable for completion.

2023 was the seventh year of operations for Open Fiber, which continues in its mission to build, manage and market a "**future-proof**" infrastructure in all Italian regions. At the end of the year, connectivity services on the Open Fiber network were available in **239 large and medium-sized cities**. In white areas, where the company operates as an Infratel licensee, ultra-fast connectivity on the public network built by Open Fiber was available at the end of the year in **over 5,800 small municipalities**. In the grey areas, falling within the 8 lots of the "Italia a 1 Giga" Plan, Open Fiber reached **145 municipalities in the so-called industrial districts**.

Open Fiber's infrastructure is a **multi-operator passive network**, mainly based on the FTTH (Fiber To The Home) standard, which supports both GPON[22] "point-to-multiple" connections, both "point-to-point" P2P connections. It is a technology that can guarantee 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 Fiber's goal is to contribute to Italy's digital growth, ensuring that the gap between those who can use the new information and communication technologies and those who, for technical, economic or social reasons, are unable to use them is bridged.

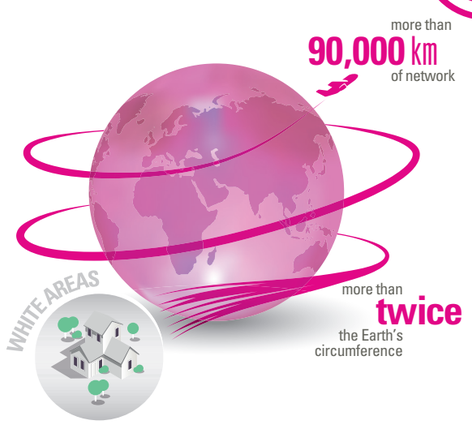
Since entering the market in 2017, Open Fiber has contributed to Italy's rise in the rankings on the digitalisation of the economy, after years of low investment. Evidence of this achievement can be found in the official documents of the European Union and AGCOM[23] and the reports issued by IDATE for the FTTH Council. Moreover, the last reports issued by the DESI index[24] and the **Report on the state of the Digital Decade[25]**, prove the Italian progress in terms of VHCN (Very High Capacity Networks) coverage, which moved from 22% in 2017 to 54% in 2022.

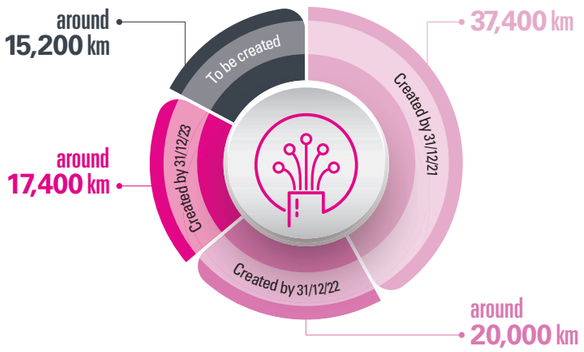
22 Gigabit-capable Passive Optical Network.
23 Communications Regulatory Authority.
24 Digital Economy and Society Index.
25 Since 2023, and in line with the Strategic Programme for the Digital Decade 2030, the DESI is now integrated into the State of the Digital Decade report and used to monitor progress towards achieving the digital goals.

As for the FTTH/B[26] coverage, the FTTH Council reports that Italy has seen its coverage of **households passed with FTTH/B increase to 56%** and, in rural areas, identifies **33%** coverage for areas with a population density of less than 150 inhabitants per km^2 [27]. Although it does not perfectly correspond to the classification of white areas established by the Ministry of Business and Enterprise, Italy's FTTH Council figure in 2015 was 0%: the results achieved in recent years make clear the positive impact Open Fiber has had on coverage in these areas. Finally – in its Telecommunication Observatory[28] No. 4/2023 - AGCOM reported that FTTH access figures increased from 440,000 in December 2016 to 4.3 million in September 2023.

2023: a year of strong acceleration for White Areas

In line with the concession granted by Infratel, the project to adopt ultra-fast bandwidth for households, young people and small businesses in white areas involves the construction of more than 90,000 km of network (more than twice the earth's circumference) and the issuance of more than 100,000 authorisations in 6,000 municipalities, to reach a total of about 6.2 million households passed (flats, offices, companies, public administration offices).





By 31st December 2023, approximately **74,800 km** of network had been built, i.e. **83%** of the total envisaged in the plan. The network kilometres represent the infrastructure development (construction, excavation, re-use, laying of cables, etc.) required to build the concession network.

From the beginning of 2022 to 31st December, approximately 20,000 kilometres of infrastructure were built: in just 12 months, the kilometres built were approximately 53% of the 37,400 kilometres built in the four years from the start of operations (2017) to the end of 2021. During 2023, about 17,400 km of infrastructure were built.

1.5.2 Open Fiber performances

Open Fiber is working to bring innovation to the entire country and stimulate the long-term growth of businesses, organisations and the public administration. The multi-year plan envisages the coverage of **more than 20 million households passed**, through the development and laying of an optical fiber infrastructure covering the entire national territory of more than 200,000 km.

Despite the objective impediments to the performance of its activities that have characterised the three-year period 2021-2023 (from the health emergency linked to COVID-19 to the Russia-Ukraine conflict), Open Fiber has succeeded in carrying out its network deployment plan and in constantly guaranteeing its service, which has become even more fundamental for citizens, businesses, and Public Administration.

1.5.3 Business development and network expansion

During 2023, households passed were 1.6 million, thus reaching a total coverage of approximately **17.1 million households passed**[29], with a **10% increase** compared to the previous year.

Infratel Italia's tenders provide that, once the works have been completed, the completed households passed must be tested by the Grantor before being put up for sale: in addition to Infratel's verification of the actual operation of the network and the work being carried out in a workmanlike manner, this process provides for the complete production of the documentation necessary for the technical reporting of the work carried out and any variants that have occurred during the course of the work.

The total number of **Municipalities marketed as of**

26 Fiber To The Home / Fiber To The Building.

27 FTTH/B in Rural Areas 2023, FTTH Council Europe, April 2023.

28 Quarterly publication issued by the Authority's Department of studies, research and statistics.

29 2.5 million of these were connected using FWA technology within the C&D cluster.

31/12/2023 is 6,224, of which 5,840 are in the C&D Cluster (under Infratel Italia S.p.A. concession)[30] and 145 in the grey areas within "Italia a 1 Giga" Plan.

1.5.4 Investments

The Company's overall investments[31], which amounted to **€1,662 million** in 2023, mainly related to the construction of the network and network infrastructure, the acquisition of rights of use on third-party infrastructure (*infrastrutture di terzi* - IRU[32]), the development of software and IT equipment, improvements to third-party assets for both the network infrastructure and the Company's premises, as well as the construction of the network under concession.

1.5.5 Generated and distributed economic value

Open Fiber is committed to achieve sustainability goals also from an economic point of view, through the generation and distribution of economic value not only to the Company, but

FIGURE 7: HOUSEHOLDS PASSED

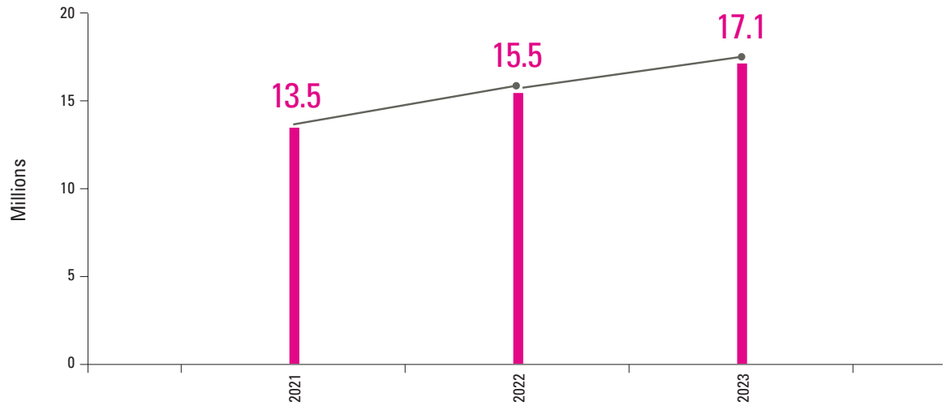


FIGURE 8: 2021-2023 OVERALL INVESTMENTS

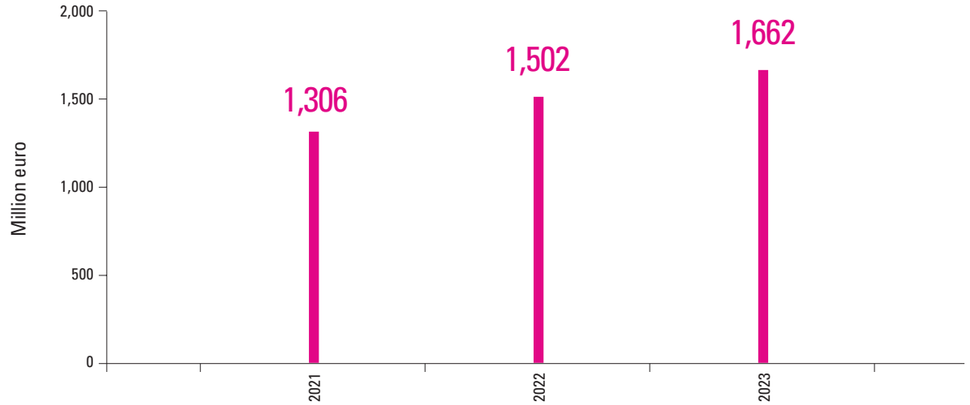


TABLE 1: MARKETED MUNICIPALITIES

Descrizione	U.M.	2021	2022	2023
A&B Cluster Municipalities	n.	219	238	239
C&D Cluster Municipalities	n.	3,230	4,690	5,840
Grey Areas Cluster Municipalities	n.	-	-	145
Total marketed Municipalities	**n.**	**3,449**	**4,928**	**6,224**

Project financing to support the business plan

On 14th 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 (and the possibility of obtaining up to a further €2,825 million. The loan is intended to support the investments envisaged in the Company's Business Plan and is the largest ever in EMEA (Europe, Middle East and Africa) for investments in telecommunications networks.

30 With reference to the network development performance in the market failure areas falling under 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 their signature and the complex definition of the Operational Manual for the tenders for the awarding of works. The activities for the regions covered by the third call were started in the second half of 2019 following the signing of the Concession in April 2019.

31 Overall Investments - These include all resources used by the Company for the construction of its own network infrastructure and the concession network, excluding user fees in application of IFRS 16, financial expenses in application of IAS 23, and gross of the contribution on the concession network.

32 Indefeasible Right of Use.

also to its stakeholders. Despite being a young company, Open Fiber aims to be a reliable partner with whom to develop partnerships and grow over time, and to contribute to strengthening the national business fabric.

In 2023, the **economic value directly generated** was €582 million, broken down as follows[33]:

- operating costs, i.e., the value distributed to **suppliers**, amounting to approximately €219.4 million (+29% compared to 2022), including costs for services, costs for the use of third-party assets and operating expenses
- value distributed to **employees**, i.e. remuneration and benefits, amounting to over €102 million (+15% compared to 2022);
- value distributed to **capital providers**, which includes financial expenses, amounting to approximately €264.6 million (+122% compared to 2022);
- value distributed to the **Public Administration**, amounting to approximately -€54.6 million (for the year 2023, it shows a negative value as the total income tax was not actually distributed to the public administration)
- value distributed to the **community**, amounting to approximately €405,000 (+10% compared to 2022), mainly consisting of charitable donations, donations and membership contributions.

The **economic value retained** by Open Fiber, which is the difference between the value generated and the value distributed, includes the profit or loss for the year, amortisation, depreciation and provisions.

TABLE 2: GRI 201-1 GENERATED AND DISTRIBUTED DIRECT ECONOMIC VALUE

Description	U.M.	2021	2022	2023
GENERATED ECONOMIC VALUE	**€/000**	**379,546**	**470,027**	**582,295**
Production value (total revenue)	€/000	379,546	469,903	581,501
Other financial income (financial income)	€/000	0	124	794
DISTRIBUTED ECONOMIC VALUE	**€/000**	**351,838**	**342,811**	**531,804**
Operating costs	€/000	124,035	170,357	219,440
Value distributed to employees	€/000	80,375	88,761	102,016
Value distributed to capital suppliers	€/000	130,668	119,363	264,581
Value distributed to the Public Administration	€/000	16,436	(36,037)	(54,638)
Value distributed to shareholders	€/000	-	-	-
Value distributed to the community	€/000	324	367	405
RETAINED ECONOMIC VALUE	**€/000**	**27,708**	**127,216**	**50,491**

33 Beginning with the 2021 reporting period, a change was made in the reclassification of the value distributed to suppliers (e.g. operating costs), the Public Administration and the community for items in the income statement relating to other operating expenses.

FIGURE 9: 2021-2023 GENERATED, DISTRIBUTED AND RETAINED VALUE TREND

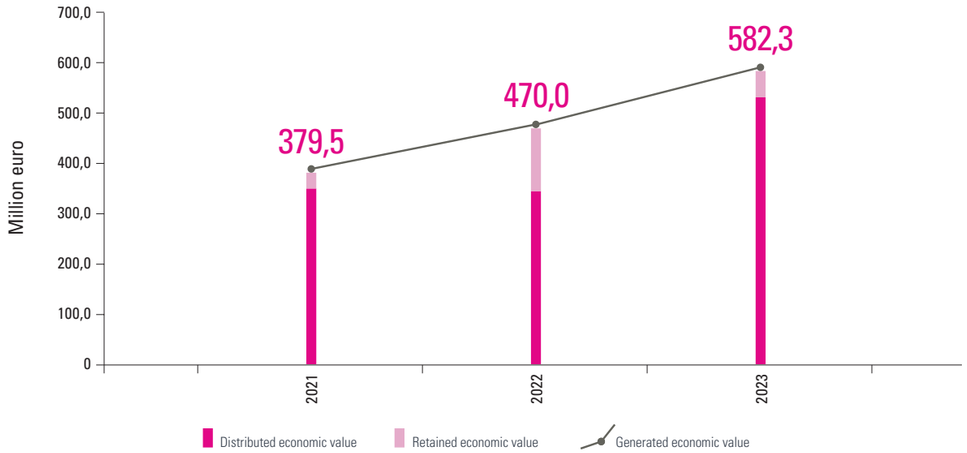
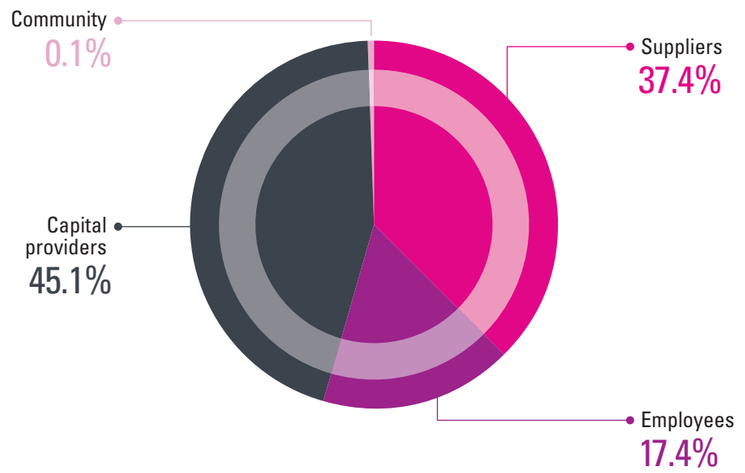


FIGURE 10: DISTRIBUTED ECONOMIC VALUE - 2023



Governance Systems

Sustainable value chain

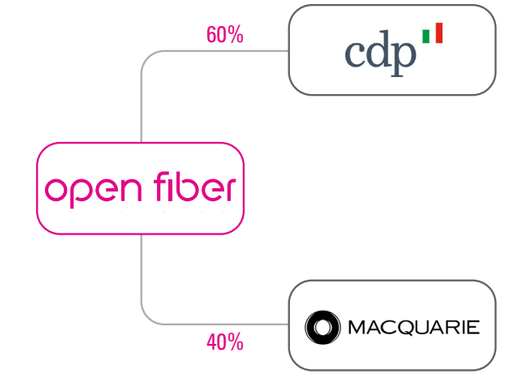
02

GOVERNANCE AND BUSINESS CONDUCT

2.1 GOVERNANCE AND CORPORATE ORGANISATION

Through its governance system, Open Fiber aims to create shared value, addressing environmental challenges and current and future social needs, in order to make Italy one of the most technologically advanced countries by bridging the existing infrastructure gap and ensuring uniform and equal access to the network. The governance system adopted by Open Fiber is the traditional one, with an administrative body responsible for managing the company and its strategy, i.e., the Board of Directors[34], and a supervisory body represented by the Board of Statutory Auditors.

Open Fiber is under the direction and coordination of



Open Fiber Holdings S.p.A., a company **60% owned by CDP Equity**, a Company belonging to the Cassa Depositi e Prestiti Group, and **40% owned by Fibre Networks Holdings S.a.r.l.**, a Company belonging to the Macquarie Group.

FIGURE 11: COMPOSITION OF THE BOARD OF DIRECTORS AS AT 31/12/2023

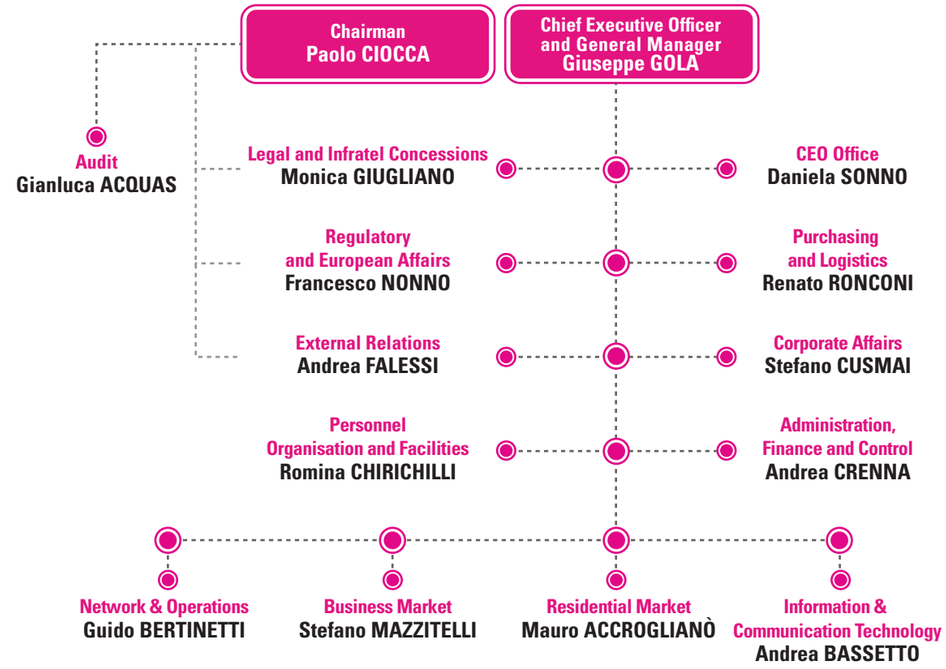
34 The Board of Directors is made up of seven members, according to that resolved by the Shareholders' Meeting.

With this shareholding configuration, **Paolo Ciocca** was appointed Chairman of the Company and **Giuseppe Gola** was appointed Chief Executive Officer and General Manager. Afterwards, by organisational arrangement of 28 December 2023, the new corporate organisation was established.

Open Fiber's organisation further evolved at the beginning of 2024 with the aim of optimising the overall operational structure and focusing key activities for the organisation.

The changes led to the establishment of the **Technology Department**, with the confluence of the activities previously managed by the Network & Operations and Information & Communication Technology Departments, and the **Risk Management & Financial Advisory Department**, to focus on activities relating to corporate risk management, sustainability as well as physical safety and information security.[35]

FIGURE 12: ORGANISATION AS AT 31 DECEMBER 2023



35 By Organisational Provisions 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. Furthermore, by Organisational Provision of 04/03/2024, the responsibilities for Logistics activities were transferred to the Technology Department and, consequently, the Purchasing and Logistics Department was renamed Purchasing Department.

The Company's Board of Directors, which is responsible for establishing, implementing and updating corporate governance rules, approved the "Procedure on the Composition, Role and Functioning of the Committees of the Board of Directors"[36], which regulates the composition, functioning and responsibilities of the **Board Committees** ("Committees of the Board of Directors"), established on 22 December 2021 with advisory and proposal-making functions.

- **Investments Committee:** it is composed of three members, two of whom are chosen from among the directors drawn from the names indicated in the List by the Majority Shareholder of Open Fiber Holdings S.p.A., including the Chief Executive Officer, and one chosen from among the names indicated by the Minority Shareholder of Open Fiber Holdings S.p.A. The Committee is responsible for assisting the Board of Directors in assessing the state of progress of the investment plan with respect to the business plan and recommending the adoption of measures to deal with delays in the start-up of capital expenditure that Open Fiber may incur, as well as analysing new investments, tenders and extraordinary transactions.
- **Related Parties Committee:** it is composed of four members, two for each Section of the List from which directors are elected. It is responsible for assessing the appropriateness and convenience of any Related Party transaction (the term "Related Party" must be interpreted in accordance with CONSOB (National Commission for Companies and the Stock Exchange) Regulation No. 17221/2010). The Company has identified criteria and rules to be followed to ensure the transparency and substantial and procedural fairness 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 Risks Committee:** it is composed of three members, appointed and removed by resolution of the Board of Directors, two of whom are chosen from among the directors indicated by the Minority Shareholder of Open Fiber Holdings S.p.A. and one of whom is chosen from among the directors indicated by the Majority Shareholder of Open Fiber Holdings S.p.A. It 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 Risks Committee meets periodically and, in carrying out its activities, involves the company Functions it deems necessary, interacting mainly with the Audit Department and the 2nd level Control Functions.
- **Remuneration Committee**: it is composed of four Directors, two for each Section of the List from which Directors are elected, appointed by resolution of the Board of Directors. The Committee, headed by an internally appointed Chairman, is set up to support the Board of Directors in evaluating and deciding on remuneration. In particular, it expresses opinions and/or sends recommendations, even of a binding nature, to the Board of Directors on:
  (i) the remuneration of Executive Directors, Directors holding special positions and the General Manager;
  (ii) the General Remuneration Guidelines, the annual and/or multi-year variable incentive plans and the definition of the performance objectives relating to the variable remuneration of the Executive Directors or Directors holding special positions, the General Manager and Top Executives.

Open Fiber also set up a number of committees and working groups responsible for specific topics, which are listed below.

36 On 3 December 2021.

- **Sustainability Committe:** it is the body with the mission to assist, in a proactive and advisory functions, the Board of Directors in assessing ESG (Environmental, Social & Governance) risks and opportunities and in making decisions relating to sustainability issues connected to Open Fiber's business, its dialogue and stakeholder engagement activities and the Company's corporate governance, with the aim of generating shared long-term value. The Committee is chaired by the Chief Executive Officer 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), members on call (identified in the Departments that support the Committee in carrying out specific activities) and the Company's Sustainability representatives[37]. Here follow the Sustainability Committe's main objectives:
  - establishment of the corporate strategy, supervision and validation of the Sustainability Plan and Policy for the creation of shared value with all stakeholders in the medium to long term;
  - validation of the assessment of risks and opportunities arising from sustainability topics;
  - verification of the progress of the strategy and monitoring of the results achieved against the objectives defined in the Plan;
  - supervision and validation of the Sustainability Report, including Materiality Analysis.

FIGURE 13: SUSTAINABILITY-RELATED RESPONSIBILITY

37 By Organisational Provision of 22/01/2024, the Security, QHSE & Sustainability function is within the Risk Management & Financial Advisory Department.

- **Access Mechanism Committee** it is the body that operates within the framework of the supplier qualification process and is in charge of examining proposals to join the Access Mechanism. It is set up within the Purchasing and Logistics Department and consists of a Chairman, two representatives to be identified within the Purchasing and Logistics Department and the Network & Operations Department[38] and a Buyer from the Purchasing and Logistics Department. In particular, the Committee is responsible for verifying applications for joining the Access Mechanism and, where there are issues related to compliance with the regulations in force, it draws on the regulatory support of the Purchasing and Logistics Department. Once the appropriate assessments have been carried out, the Committee decides on membership applications, exclusions of participating operators and suspensions.
- **Quality & HSE Committee**: it is made up by the Chief Executive Officer and the General Manager[39], by the Directors in charge of HSE, by the representative of the HSE and Quality Management System[40] and the representatives of the Departments/Functions dedicated to HSE and Quality Risk Management. It is the body involved in the Management Review process provided for by the Management System, which has the objective of guaranteeing the monitoring of the suitability, adequacy and effectiveness of Open Fiber's Management System for Quality, Occupational Health and Safety and the Environment.
- **Crisis Committee** it is the body composed of the Chief Executive Officer and the General Manager and all the Directors, which is responsible for strategic direction and coordination, as well as decision-making in the event of an incident 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 agreement with the Directors of the areas most affected by the event.
- **Corporate Areas Committee**: it is in charge of assessing and categorising Corporate Areas (**red**: high-security locked areas, requiring specific access control, video-surveillance and anti-intrusion protection measures; **yellow**: medium-security locked areas, requiring specific access control and anti-intrusion protection measures; **green**: all other areas, although subject to controlled access). Composed of six contact persons from the various company Departments, the Committee is activated by

38 By Organisational Provision of 19/01/2024, the Technology Department was set up.
39 By resolution of the Board of Directors, the Chief Executive Officer of Open Fiber S.p.A. was identified as the Employer pursuant to Article 2 paragraph 1 letter b) of Legislative Decree No. 81 of 9 April 2008 and subsequent amendments and supplements.
40 As of 22/01/2024 the Security, QHSE & Sustainability function is within the Risk Management & Financial Advisory Department.

the contact person from the Personnel, Organisation and Facilities Department, who appoints a person responsible for each red and yellow area.

- **Review of Investment and Projects Authorisation:** it is coordinated by the Administration, Finance and Control Department and is responsible for ensuring the regular and effective control of the authorisation process for expenses and investments made by the Company. More specifically, the main activities performed concern:
  - the assessment and approval of investment/purchase initiatives to be submitted to the Board of Directors;
  - the allocation of priorities for the use of corporate resources;
  - the analysis of variances between the final balance and the approved amount of expenditure, based on the evidences collected by the governance Group;
  - the approval of any re-forecasts.
- **Working Group on Reputational and Integrity Risks:** it is made up of representatives of the Purchasing and Logistics, Legal and Infratel Concessions and Audit Departments, and is responsible for supporting the Chief Executive Officer and General Manager in assessing and deciding on the reliability, professionalism and honourableness of Open Fiber suppliers and/or contractual counterparties, for all situations and critical issues that do not fall within a legal or regulatory framework in force. More in detail, the Working Group:
  - examines and evaluates the information and documents related to the critical issues that have arisen;
  - analyses the results of any activities carried out by the appointed external consultant;
  - issues its reasoned opinion on the advisability of continuing or establishing the contractual relationship with the supplier affected by the critical issues highlighted, analysing all the legal and business risks associated with its decision.

2.2 ETHICAL BUSINESS CONDUCT

2.2.1 Code of Ethics and OMM 231

Being aware of its role within the national economic system, Open Fiber recognises that it must carry out its activities in a transparent and responsible manner, thus contributing to sustainable growth for the benefit of the entire community. For this reason, the Company has adopted a **Code of Ethics** that brings together deep-rooted values and principles, considered essential by the Company in order to operate in the markets and to which all those who operate on behalf of and/or in the interest of the Company are held accountable. In fact, all members of corporate bodies, members of the Supervisory Board, employees, collaborators, consultants, suppliers and partners who, for any reason or nature, establish relationships or relations, direct or indirect, on a stable or temporary basis, with Open Fiber, are obliged to abide by it. The Code of Ethics constitutes the foundation of the corporate culture that Open Fiber is committed to guaranteeing, promoting and respecting and has the primary objective of satisfying the needs and expectations of interested parties, promoting a high level of professionalism and prohibiting conduct that conflicts with regulatory provisions, ethical principles, values and the Company's Mission.

Principles enshrined in Open Fiber's Code of Ethics

- Impartiality
- Confidentiality
- Fairness
- Conflicts of interest
- Relations with the shareholders
- Value of human resources
- Protection of the person
- Fair competition
- Quality, protection of the environment and responsibility towards the community
- Health and Safety

In line with the Legislative Decree No. 231 of 8 June 2001, Open Fiber has also adopted the Organisation, Management and Control Model (hereinafter referred to as Model or OMM 231), to protect the administrative liability attributable to the Company. This is a structured and organic internal regulatory system of procedures, policies, guidelines, operating instructions and control activities to be carried out also as a preventive measure, aimed at preventing the occurrence of any kind of offence or crime.

Open Fiber's OMM 231 is a dynamic and constantly evolving tool: the Company promotes its updating every time 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 are integrated with those set out in the Code of Ethics, which the Company has therefore updated in line with the changes made to the OMM 231[41].

The ways in which the Company concretely implements the indications contained in the OMM 231 are as follows:

- verification of corporate behaviour, with possible implementation of the sanctions system as set out in the applicable collective labour agreements[42];
- monitoring of the functioning of the OMM 231 with consequent updating where necessary;
- segregation of roles in the structuring of business processes and in the management of financial resources;
- definition of policies, procedures and operating instructions describing the methods and performance of company activities, as well as the methods of filing and storing documentation;
- definition of a system of proxies and powers of attorney consistent with the responsibilities assigned in order to formalise management, coordination and control responsibilities within the Company, with annexed hierarchical reporting levels;
- definition of the map of the Company's Risk Areas by means of a Risk Assessment activity;
- assignment of specific control tasks to the Supervisory Board on the observation of the principles of the Code of Ethics and the Model, on the functioning, effectiveness and adequacy of the Model and on the appropriateness of updating, where particular needs are identified;
- transfer of the Company's information and data, as well as compliance with EU Regulation 679/2016, thus ensuring their confidentiality.

41 The last update to the OMM 231 was approved by the Board of Directors on 18 May 2023, while that of the Code of Ethics was approved on 18 January 2024.

42 National Collective Labour Agreement.

The Company's success and the construction of a stimulating work environment cannot disregard respect for ethical principles in business management. With the aim of raising the awareness of all employees and collaborators (such as trainees and resources with personnel supply contract) of these values and helping their dissemination, Open Fiber is committed to providing training on the Code of Ethics and the OMM 231, through various training modules on conduct or circumstances that may constitute offences covered by Legislative Decree 231/2001 such as, for example, those related to **corruption**, on which no episodes have been reported in the last three years. In this context, confirming Open Fiber's constant commitment to fighting corruption in all its forms, 14 corporate processes have been mapped, each of which may be related to this offence. The main risks identified are related to the strategic sphere (e.g. definition and implementation of strategies, reputational), the financial sphere (e.g., credit, financing), the operational sphere (e.g., unlawful acts, Health and Safety, IT systems), and the external or industry area sphere (e.g., competition, regulations).

TABLE 3: CORRELATION TABLE OMM 231 AND 2023 MATERIAL TOPICS

OMM 231	Material topics
Occupational Health and Safety	• Responsible value chain management • Protection and development of workforce
Receiving stolen goods, money laundering and self-laundering	• Business ethics and compliance • Responsible value chain management
Corporate offences and private bribery	• Business ethics and compliance
Offences against the Public Administration	• Business ethics and compliance • 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 ethics and compliance
IT offences and unlawful data processing	• Privacy and cybersecurity
Offences against individual personality	• Responsible value chain management • Protection and development of workforce
Terrorist offences	• Business ethics and compliance • Responsible value chain management

OMM 231 training contents are updated in relation to developments in legislation and in the Model itself. In the event of significant changes, such as the extension of the Entity's administrative liability to new types of offences, Open Fiber will proceed with a consistent integration of the contents, also ensuring that they are available to the entire company population.

The training courses arranged for employees and collaborators in general are compulsory, and the Company informs the Supervisory Board of the results, making sure, in particular, that its collaborators attend the courses. Unjustified absence from the aforementioned training programmes by employees could lead to the imposition of a disciplinary sanction laid down in accordance with the rules set out in the OMM 231.

Managing employees responsibly and valuing and involving them positively affects the company as a whole. Therefore, the Code of Ethics and the OMM 231 also regulate principles aimed at respecting human rights and related to discrimination, mobbing, illegal residence and work, and individual rights, and they are also the subject of training for all company personnel.

In order to reiterate how important it is for Open Fiber to comply with its Code of Ethics, the OMM 231 and any company procedure or provision, the Company has chosen to make use of the EQS Integrity Line platform, a secure digital reporting channel with an anonymous dialogue function that allows employees, collaborators, suppliers and any other counterparty of the Company to report (also for the purposes of the whistleblowing legislation) any violation or suspected violation, including behaviour and practices that may cause economic damage or harm to the Company itself. Every report is handled in full compliance with data protection rules (GDPR) and ISO-certified high-security hosting, catalogued, processed, evaluated and ultimately filed. The platform is managed by a third party and independent from Open Fiber, thus guaranteeing the security of the data processed to protect the reporting and reported subjects. The reports received are taken in charge and managed punctually by the company, which implements the necessary acts for an initial verification and analysis activity in accordance with the "Reporting of irregularities" guideline, which can be consulted by the entire company population within the document management platform.

2.2.2 Risk control

The effectiveness of the risk management and internal control system is a necessary condition to ensure long-term soundness and business continuity. Therefore, Open Fiber has an Internal **Control and Risk Management System** (ICRMS), a central element of the governance system consisting of the set of rules, procedures and organisational structures aimed at enabling - through the identification, measurement, management and monitoring of the main risks - a conduct of the Company consistent with its stated principles and objectives.

The Board of Directors is the first actor in the System which, being responsible for defining the guidelines, verifies its adequacy, effectiveness and proper functioning. The other participants in the ICRMS are the Control and Risk Committee, the Chairman of the Board of Directors, the CEO, the Board of Auditors, the "Organismo di Vigilanza" (Supervisory Board - SB) and the Head of the Audit Department[43].

As part of the planned actions, the **Risk Control Committee**, composed of a number of Board members, is responsible for monitoring the risk identification, assessment and management process on behalf of the Board of Directors. Indeed, it receives the main findings of the risk management activity, the related action plans and the evidence of the controls put in place.

Taking inspiration from existing national and international best practices, the Internal Control and Risk Management System represents a qualifying element of Open Fiber's Corporate Governance as it allows the Company to:

- pursue the objective of creating value in the medium to long term, also defining the nature and level of risk compatible with the strategic objectives;
- make conscious decisions consistent with the risk appetite, spreading a proper knowledge of risks, lawfulness and corporate values.

The ICRMS operates on "three lines of defence": **first-level controls** (carried out by individual operating units on their own processes), **second-level controls** (entrusted to specific business functions to monitor typical categories of specific risks) and **third-level controls** or internal audit activities (aimed at assessing the adequacy of the ICRMS as a whole).

In line with the Company's strategic and operational model, Open Fiber has decided to adopt a reference framework for regulating the ICRMS consistent with the "Internal Controls - Integrated Framework" model issued by the Committee of Sponsoring Organisations of the Treadway Commission (COSO Report). It consists of five interconnected components integrated into processes at all levels of the organisation: Control Environment, Risk Assessment and Management, Control Activities, Information and Communication, and Continuous Monitoring of Control Systems.

Open Fiber's process of Enterprise Risk Management (ERM)

Open Fiber adopted the Enterprise Risk Management (hereafter ERM) process - put in place by the Company's Board of Directors and Management Team - in order to analyse, assess and manage all risks that may impact the company's business at different levels. The ERM Process is used to support the definition of business strategies, providing reasonable assurance of their achievement, and is designed to identify potential events that may affect the achievement of corporate objectives.

The process consists of the following steps:

- analysis of the Company's objectives and establishment of the risk tolerance (Objectives Analysis & Risk Tolerance);
- identification of the risk universe;
- assessment of the level of risk (Risk Assessment);
- establishment of the risk treatment and of the Action Plan;
- risk monitoring and reporting.

The **strategic level of risk assessment**, introduced as early as 2022, makes it possible to link the Company's objectives to its operations, as well as to integrate market demands and new risks linked to sustainability issues (so-called ESG risks) into the operational risks, which are more connected to the organisation itself.

In particular, in order to ensure the complete analysis of all risks that Open Fiber may incur, the following two approaches have been adopted:

43 By Organisational Provision of 22/01/2024, the Risk function is within the Risk Management & Financial Advisory Department.

- top-down approach for **Strategic Risks**: through an initial "desk" phase during which - starting from the inputs of the Industrial Plan and the indications of the Management Team - the main risks that could affect the achievement of the Plan's objectives are identified and described, as well as the triggers and possible consequences, with estimates of both economic and other effects, followed by a review and consolidation phase;
- bottom-up approach for **Operational Risks**: it identifies and prioritises all of Open Fiber's relevant operational risks, in order to identify and implement policies and procedures to govern day-to-day decision-making at the functional operational level.

The analysis led to the identification of ESG risks, in particular those related to extreme weather events, climate change, business continuity, corruption and occupational health and safety and environmental issues[44].

An action plan is drawn up for the Risks deemed to be priority and/or critical , and brought to the attention of the Control and Risks Committee, identifying the organisational-procedural or procedural-technological measures to be implemented.

The Company's risk profile is monitored through checks on the status of implementation of the Action Plans and activities that update the assessment of identified risks, and is regularly reported to the Governance Bodies. In particular, the Control and Risks Committee, as part of its function of supervising the Action Plan monitoring process, periodically verifies, with the support of the reports produced, the implementation of the actions defined in the Action Plan, requesting evidence and indications as to any changes or additions to the risk management strategy, corrective actions, the budget identified and the timeframe for completion of the actions.

The stages of development of the model

The activities concerning privacy followed three steps of maturation, in line with the guidelines of the Data Protection Regulation No. 679/16, as interpreted by the European Data Protection Board and the *Garante della privacy* (Data Protection Authority):

1. Gap analysis: identification of critical areas to be addressed, appointment of the Data Protection Officer (DPO), drafting of treatment records for each Department.
2. Impact assessment: identification and performance of activities aimed at mitigating the critical issues related to "high" and "very high" residual risk treatments.
3. Internal and external Privacy Audit: verification of the compliance of both the Departments and the persons appointed as data controllers

All employees have been recognised as "Authorised to process data"; in addition, System Administrators have been appointed.

2.2.3 Privacy Protection

Compliance with privacy regulations is a priority for Open Fiber, which has adopted a *Data Privacy Governance* model in order to protect the data acquired, stored and processed within the scope of its activities, thus ensuring compliance with data protection regulations, internal processing and processing carried out by third parties (e.g. suppliers) and defining control and monitoring strategies for compliance with information security principles.

The model of Data Privacy Governance, has been structured by Open Fiber to ensure integrity and confidentiality, as well as compliance with the principles of ***Privacy by Design*** and ***Privacy by Default***, which provide for the development of measures to protect data at the design stage and measures to process only the information necessary for the specific purpose.

The model also provides for the designation of the role of the Privacy Contact Person, identified within the Legal Function for the execution of the activities carried out by Open Fiber in its capacity as data controller and/or data processor, and the appointment of the Data Protection Officer (DPO).

An integral part of such model is represented by the policies and procedures outlined by the Company[45], which are updated each year with privacy-relevant company procedures in order to adapt them to the new legal and regulatory orientations and to the new measures of the Italian Data Protection Authority.

Open Fiber's data processing is carried out following the principle of accountability, introduced by the GDPR, in order to comply with the general principles of lawfulness of data processing, correctness and

44 For a complete overview, please refer to the Materiality Analysis in 7.2 "Identification of material topics".

45 More specifically, the Policy for Data Privacy Governance Model Management, the Management of Data Subjects' Rights, Privacy by Design and Privacy by Default, Data Breach Management and Notification, and the Appointment of System Administrators.

accuracy of the data processed, transparency, purpose limitation of data processing and storage.

2.3 QUALITY, OCCUPATIONAL HEALTH AND SAFETY AND ENVIRONMENTAL MANAGEMENT

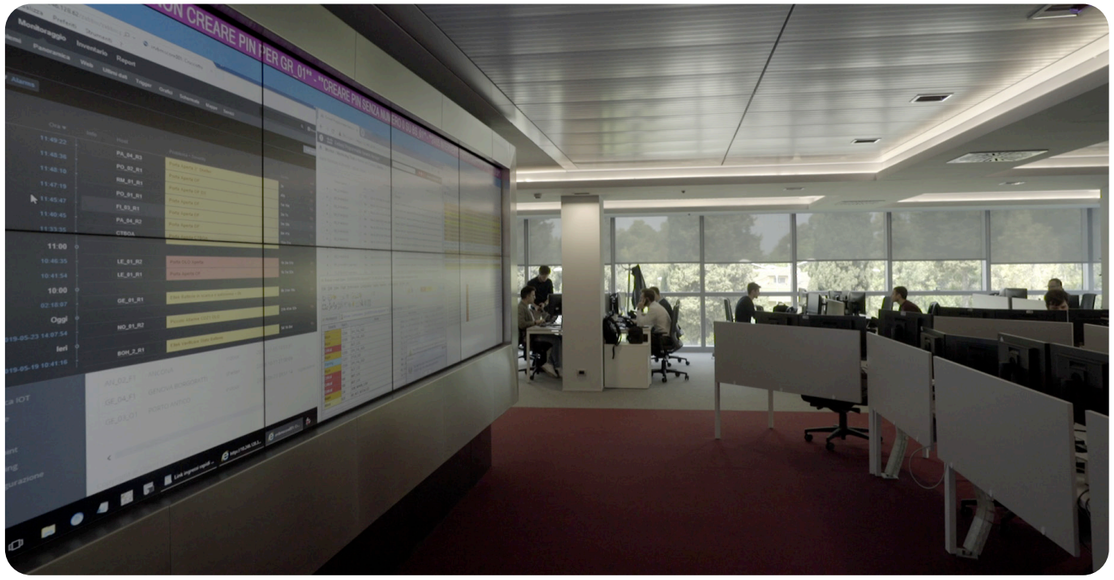
2.3.1 The Integrated QHSE Management System

Open Fiber cares about the health and safety of its employees and all those who, in any capacity, collaborate in pursuing the company's objectives. Just as it cares about protecting the territory where it operates, investing in environmentally friendly technologies and spreading an infrastructure that, by its nature, is high-performance and environmentally sustainable. For this reason, the Company has developed a Quality, Occupational Health and Safety and Environmental Management System (hereinafter QHSE), compliant with international standards UNI EN ISO 9001, UNI ISO 45001 and UNI EN ISO 14001 and certified by an independent third party since 2020[46], whose aim is to ensure compliance with the commitments and achievement of the objectives stated in the Policy for Quality, Occupational Health and Safety and Environmental Protection.

The QHSE Management System was developed by adopting a strategic and systematic approach based on risks and opportunities (***risk-based thinking***[47]) in all planning, operational and performance assessment processes: the application of risk-based thinking evaluates all internal and external factors, as well as stakeholders and their expectations, that may have an impact on the organisation, identifying scenarios that may generate a risk or opportunity in the areas of Quality, Occupational Health and Safety and Environmental Protection. It is also a conscious and sustainable approach addressed to the entire organisation, aimed at preventing and incorporating actions to improve performance and the achievement of objectives, guaranteeing the satisfaction of its stakeholders, Business Continuity of its business, research and continuous improvement: proper implementation of agreements, optimisation in the use of resources and efficiency of processes, prevention of injuries and illnesses of workers, resilience to changing environmental conditions in line with the socio-economic context within which the Company operates.

As part of its QHSE Management System, Open Fiber has defined the Policy for Quality, Occupational Health and Safety and Environment, which represents the Company's formal commitment to build relationships of mutual trust with its Customers, to ensure safe working conditions, to promote and develop sustainability initiatives and projects, and to protect the environment in carrying out its business activities, preventing pollution, supporting the conservation of natural resources and identifying actions to make their use more efficient and reduce their consumption, in order to prevent or mitigate negative environmental impacts. This Policy defines the values to which the Company, its workers, collaborators and all those who, for any reason, on a continuous or occasional basis, work for Open Fiber must conform to guarantee the achievement of the Company's objectives, the conditions of Occupational Health and Safety and Protection of the Environment considered appropriate and consistent with the responsible and sustainable growth of the Company.

The System involves all the Departments and Functions of the Company, as well as all the activities carried out directly by employees and by all those who, in any capacity, work for Open Fiber in the processes of Design, Permitting, Installation, Maintenance and Activation of telecommunication and data transmission network systems through Ultra Broadband optical fiber, including the marketing of related services[48].



46 The certifications were confirmed during the certification renewal audit in 2023.

47 Strategic and systemic approach based on risks and opportunities. International standards that adopt risk-based thinking in their latest revisions include UNI EN ISO 9001 (Quality Management Systems), UNI EN ISO 14001 (Environmental Management Systems) and UNI ISO 45001 (Occupational Health and Safety Management Systems).

48 The purpose of the certification is covered by certificates of conformity to UNI EN ISO 9001:2015, UNI EN ISO 14001:2015 and UNI ISO 45001:2018 standards. It should be noted that Open Fiber's Health and Safety Management System covers all employees (according to the numbers given in GRI Information 2-7) and all those who in any capacity collaborate with Open Fiber in the achievement of its objectives.

QHSE Management System objectives

Open Fiber has translated the commitments declared in the Policy into a series of objectives aimed at ensuring high quality services, reducing the environmental impact of its activities and preventing risk situations for the Health and Safety of workers, such as:

- promoting the implementation of the Quality, Health and Safety and Environmental Protection Management System in line with international standards;
- pursuing continuous improvement by annually defining clear and measurable objectives and targets, verifying results and identifying improvement actions, promoting the monitoring of the degree of satisfaction of end users and partner operators;
- building a relationship of mutual trust with end users and partner operators, offering high value-added services and guaranteeing the reliability of its network;
- ensuring safe and healthy working conditions in order to prevent and minimise the causes of possible accidents, injuries and occupational diseases;
- implementing all actions aimed at identifying hazards, assessing related risks and taking all necessary initiatives to eliminate them and, where this is not possible, reduce them, setting objectives and defining plans and programmes for continuous improvement, periodically verifying the results achieved and making any necessary adjustments;
- adopting a model of rationally distributed accountability, equipping the management of Open Fiber with the necessary tools for timely and efficient QHSE intervention;
- ensuring the highest safety of its workers and any other person present in Open Fiber's workplaces and within the Company's entire production cycle, giving priority to collective protection measures over individual protection measures;
- ensuring compliance with binding legislation, regulations and internal procedures, periodically checked, updated and adapted;
- promoting and developing sustainability initiatives and QHSE projects, addressed both inside and outside the Company; considering the environment in the performance of company activities, preventing pollution, supporting the conservation of natural resources and identifying actions aimed at making their use more efficient and reducing their consumption, in order to prevent and/or mitigate negative environmental impacts
- ensuring that all addressees, within the scope of their competencies and roles, are informed and trained to operate with full awareness of the potential risks associated with work activities, both in ordinary and emergency conditions, ensuring their control by means of appropriate plans and in coordination with the competent authorities;
- disseminating and consolidating the culture of Quality, Occupational Health and Safety and Environmental Protection by promoting the involvement, participation and consultation of workers also through their representatives, as well as of other interested parties, when appropriate;
- defining and monitoring, through specific evaluation criteria, the performance of suppliers of products and services, involving them in the achievement of the objectives set by the Company;
- ensuring collaboration and transparency with authorities, institutions and associations in order to ensure the maximum contribution in terms of commitment and responsibility.

For Open Fiber it is fundamental that all personnel and all persons interested in the Company's activities can contribute and participate in the improvement of the QHSE Management System. This is why it involves workers and their representatives in identifying hazards, assessing risks and establishing controls, as well as proposing technical and organisational solutions to improve the use of tools, equipment and protective devices necessary to guarantee health and safety of workers. The focal point lies in the dialogue between

managers and collaborators, which is necessary in order to be able to acknowledge needs and requirements aimed at contributing to the improvement of the working environment and the organisation.

All the company's activities and the results achieved are periodically checked through internal Audits of the Management System, to verify the effectiveness and efficiency of the company's processes, consistency with current legislation (e.g. regarding Occupational Health and Safety and Environmental Protection), technical standards, requirements and processes defined by the Management System itself.

In order to guarantee the continuous improvement of its performance, the Company shares the results achieved on QHSE issues with the Management Team (CEO and Directors) during the Management Review, a process that verifies the consistency and effectiveness of the Management System and which, starting from the performance recorded in the current year, allows it to plan and implement actions for continuous improvement and to define new objectives.

2.3.2 Control activities

The suppliers selection and qualification activities is followed by constant monitoring of their performance in terms of their implementation of contractual provisions through a Vendor Rating process[49]. In addition to this monitoring system, Open Fiber, in line with the framework adopted for Risk Management, performs checks on the performance of suppliers on services, products and works in compliance with the provisions of contracts.

The installations' compliance with the Technical Standards and the respect of Open Fiber's processes is verified through three levels of checks:

- **compliance controls**: carried out by the Field Manager and the region's Operational HSEQ on behalf of the Regional Manager, are aimed at verifying the compliance with contractual requirements and/or within the scope of legal responsibility within the network construction sites; in 2023, more than 3,000 assessments were carried out, including more than 2,000 site inspections and more than 1,000 assessments of the professionals appointed to supervise the sites;
- **operational inspections**: are aimed at monitoring operations and procedural measures for the performance of compliance controls activities. Such inspections are carried out by the Network Creation – Operational HSEQ function of the Network & Operations Department[50], within the scope of the network implementation activities, also through external specialised companies; in 2023, there were more than 1,300, of which approximately 900 inspections at construction sites and about 480 checks on the work of the professionals appointed to supervise the construction sites with regard to compliance with the respective service contracts;
- **management system audits**: performed by the Security, QHSE & Sustainability Function within the Personnel, Organisation and Facilities Department[51], both by internal personnel and by specialised external personnel, verify compliance with the company's Management System and its proper implementation within activities and processes, in accordance with UNI EN ISO 9001, UNI ISO 45001 and UNI EN ISO 14001 standards. During 2023, 64 QHSE Integrated Management System Audits were carried out throughout the country, as part of the activities carried out at Network Creation sites, technology sites, for Delivery & Assurance operations, at company sites and for the organisation's internal processes. The results

49 For the Vendor Rating process description, please refer to paragraph 2.5.2 "Periodical assessment of suppliers".
50 By Organisational Provision of 19/01/2024, the Technology Department was set out.
51 As of 22/01/2024 the Security, QHSE & Sustainability Function is within the Risk Management & Financial Advisory Department.

of the audits confirmed the effectiveness and efficiency of the QHSE Management System.

Moreover, for the purpose of verifying workplace compliance, during 2023 Open Fiber, through its Prevention and Protection Department, carried out more than 20 inspections at the Company's premises and more than 80 inspections at technology sites located throughout the country.

2.4 INFORMATION SECURITY AND BUSINESS CONTINUITY

2.4.1 Information Security and Business Continuity Management System

While the advent of digital transformation in our society has opened the door to an endless series of opportunities, it has also made us all more vulnerable to a series of risks, especially related to cyber security. In fact, everyone's digital identity, i.e. all the information within a computer system that relates to a person, is often the target of cyber criminals aiming to obtain sensitive personal information.

Given the importance of these emerging issues, Open Fiber, in full respect of its corporate values, has implemented an Integrated Management System for Information Security and Business Continuity, to confirm the mature and highly stable position it intends to maintain as a guarantee for its Customers, its employees and collaborators, and all stakeholders. The Management System modelled on the standards UNI EN ISO/IEC 27001 "Information Security Management Systems" and UNI EN ISO 22301 "Business Continuity Management Systems" is aimed at ensuring continuous improvement and the achievement of the objectives declared in the specific company policies and in the Code of Ethics.

To this end, Open Fiber has built a solid system for preventing, monitoring and responding to incidents using procedural and technological countermeasures and a group of specialised employees that are constantly dedicated to safeguarding the confidentiality, integrity and availability of information; in addition, activities are periodically conducted for the analysis and mitigation of risks related to threats that could impact the organisation's business and business continuity arising from malicious or incidental events (such as cyber-attacks, natural disasters, human error).

During 2023, Open Fiber carried out an internal audit to verify the compliance of its Management System with the requirements of the international standard for information security management **UNI EN ISO/IEC 27001**. Later that year, Open Fiber took a further step by undergoing a third-party audit that confirmed the level of maturity achieved, issuing the relevant **certificate** in December 2023.

Moreover, other significant improvements were promoted in the area of information security: in particular, a number of initiatives were launched to manage the security risk generated by the supply chain, such as, the conduct of second-party audits on more critical suppliers.

With regard to the Business Continuity Management System, during 2023, Open Fiber conducted a **gap analysis** on the UNI EN ISO 22301 standard, aimed at refining the company's approach when handling situations concerning potential business interruptions.

These initiatives also allowed for structured risk management in line with the following objectives:

Cyber Security Training & Awareness

During 2023, the Company remained committed to carrying out Cyber Security training and awareness activities, aimed at expanding the company's cyber security culture, involving personnel in various initiatives aimed at recognising and managing Cyber Security threats and risks. Such initiatives included:

- webinar courses aimed at raising awareness;
- video lessons and quizzes on a specific platform;
- publication of "Cybersecurity Bulletins" accompanied by dedicated in-depth meetings (so-called Townhall), to raise awareness among Open Fiber personnel of the most current Cyber Security issues;
- Fake Phishing campaign, aimed at assessing the level of awareness of phishing scenarios and educating potential victims to detect future attacks;
- drills on emergency response cards, especially on unavailability events;
- Cyber Crisis simulations.

- ensuring the levels of availability of services established in the contractual agreements with the Customers;
- offering availability of resources to support the infrastructure;
- ensuring the availability and safety of personnel required for the provision of "mission critical" business processes;
- ensuring compliance with mandatory and regulatory requirements applicable to Open Fiber's operating context and, in particular, to the services provided;
- ensuring compliance with contractual requirements and constraints that regulate the services;
- meeting the needs and expectations of stakeholders, both internal and external.

Annually, according to the company's priorities, a plan is drawn up to check IT security levels through activities aimed at measuring the technical resilience of specific targets (Vulnerability Assessment and Penetration Testing).

2.4.2 Business Continuity Plan

Open Fiber has drawn up its Business Continuity Plan to define the strategies and recovery actions to be implemented in the event of a critical event that results in the interruption of processes that are fundamental to the organisation, thus ensuring the continuous provision of services to its customers.

X-IRT

Since 2021, Open Fiber has been dedicated to the ongoing improvement of its services aimed at monitoring cyber events, identifying vulnerabilities, threats and threat intelligence, responding to and managing incidents in an increasingly timely manner, and investigating root causes through its **Computer Security Incident Response Team "X-IRT"**, equipped with security operations platforms and a 24/7 presence of specialized personnel.

In addition to defining roles and responsibilities in the implementation of recovery activities, the Plan outlines the strategies in action sheets, divided into five areas according to the type of unavailability, specifically, unavailability of internal personnel, of suppliers, of basic infrastructure, of ICT systems and of buildings.

Such strategies have been reviewed and updated periodically, also following the implementation of new processes and supporting technological solutions.

2.5 SUPPLY CHAIN ACCOUNTABILITY

2.5.1 The Qualification Process

Open Fiber aims to build an optical fiber infrastructure capable of covering the entire country with an Ultra Broadband network. In order to achieve this goal, collaboration agreements are required with companies capable of guaranteeing the high standards with which the Company contributes every day to wire the country.

For the **implementation, management and maintenance activities of the network infrastructure**, Open Fiber relies on leading system integrators. With the aim of respecting the environmental heritage and landscape, construction is carried out wherever possible using existing infrastructure such as underground utilities, cable ducts and piling[52]. This makes it possible to minimise not only the environmental impacts of building a new infrastructure (e.g., management of waste material from excavations, atmospheric emissions due to the operation of vehicles), but also the social impacts related to the presence of construction sites within the urban contexts in which work is carried out (e.g. inconveniences due to traffic, occupation of public land). Excavation, where necessary, uses the most modern techniques such as mini- and micro-trenching and "no-dig" horizontal drilling.

With regard to the **procurement of goods and products** - both passive (cables, cable pits, manhole covers, cabinets) and active (access equipment and OTDR[53]) – Open Fiber directly purchases almost all the necessary materials in order to guarantee the highest quality of the infrastructure. Production is located in both EU and non-EU countries and these materials are purchased both from the Italian market and from foreign suppliers: for example, purchased cables are partly produced in Italy, but to a large extent in India, China and South Korea.

Quality, transparency and sustainability of procurement are the principles Open Fiber adheres to in carrying out all its activities. For this reason, the company has defined a transparent **Qualification Process** open to all interested companies and professionals.

Qualification Processes fall into the two following categories:

- A&B Cluster, which represents the sector in which Open Fiber operates, for the construction of the infrastructure, through its own investments (cities and more urbanised areas) and which also includes all Services and Supplies used in the company's operations;
- C&D Cluster, which represents the sector in which Open Fiber operates for the construction of the infrastructure

52 In agreement with the reference managing bodies.

53 Optical Time Domain Reflectometer – used both to certify new fiber installations and to diagnose faults in optical fiber networks, which contain fault location tracking and multifunctional testing functions.

2023 Highlight

83% of the new suppliers assessed by Open Fiber according to social criteria

10% of the new suppliers assessed by Open Fiber according to environmental criteria

thanks to financing granted by Infratel Italia S.p.A. for the development of ultra broadband in areas of market failure.

The qualification process for the C&D Cluster also applies to the activities involved in the construction of the network infrastructure in the lots of the "Italia a 1 Giga" Plan[54];

Whithin the **A&B Cluster**, for each category of goods[55] a set of Basic Qualification Requirements (BQR) were defined, i.e., basic technical-qualitative requirements that companies must possess in order to be included in the list of qualified suppliers of Open Fiber. For the A&B Cluster related to works, a minimum qualification requirement has been established, which foresees the participation of those responsible for the management system (quality, environment, health and safety) and suppliers in training courses provided by Open Fiber.

In the procedures for the awarding of contract for works, services and supply contracts called as a 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 Conceding Authority Infratel Italia S.p.A. In order to participate in tenders launched in the so-called white areas, operators must have joined the Access Mechanism open to all operators meeting the necessary general, economic and technical-professional requirements[56]. Participation in the Access Mechanism takes place according to an open, objective and non-discriminatory process, developed in successive stages and aimed at the attribution of the suitability of an Economic Operator for the execution of the contracts tendered. Also for the lots

54 The "Italia a 1 Giga" Plan is the first and most important of the "Strategia per la banda ultralarga" projects financed with PNRR (National Recovery and Resilience Plan) funds. Indeed, of the 6.7 billion euros of the PNRR allocated to ultrabroadband, 3.7 billion were devoted to the "Italia a 1 Giga" Plan. With reference to the qualification process for the activities covered by the aforementioned Plan, "design" is not included since it is made to a Goods Group present in A&B.

55 For example, Network Elements, Optical Fiber Telecommunication Installation and Maintenance Work, Professional Services for the Design of Optical Fiber Networks and FWA.

56 Within the C&D Cluster, the selection of economic operators is carried out through an Access Mechanism open to all operators meeting the necessary general, economic and technical-professional requirements. For further information, please refer to the Operational Manual available on the company website at the following link: https://openfiber.it/fornitori/diventa-fornitore/

included in the **"Italia a 1 Giga" Plan** (referred to as "grey areas"), the qualification of Economic Operators takes place through the Active Access Mechanism for the awarding of contracts in the territory of white areas.

In the Qualification Process, in addition to productivity and economic reliability requirements of the operator, a series of qualitative requirements (of a mandatory or preferential nature depending on the category of goods to which they belong) are requested, which include:

- a traceability system for raw materials and products;
- a corporate Quality Management System (QMS) in accordance with the current edition of the UNI EN ISO 9001 standard issued by an accredited certification body;
- an Environmental Management System (EMS) 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.

Furthermore, during the qualification process, through business intelligence services, Open Fiber analyses the reputational risk, in order to monitor the entry into its supply chain of counterparties that meet the requirements of the culture and values outlined in the Code of Ethics adopted by the Company and Open Fiber policies. The reputational analysis includes issues falling, among others, in the environmental (e.g., responsible waste management) and social (e.g., respect for human rights and worker protection) macro-areas.

The reputational risk, in this historical moment, assumes particular importance considering the hidden risks for Italian companies of having even indirect links with sanctioned entities, such as those involved in the Russia-Ukraine conflict that has affected the verification activities for the entire 2022-2023 period.

2.5.2 Periodical assessment of suppliers

In order to measure the performance of its suppliers and to check that the technical and qualitative requirements are met in respect of the activities requested and the goods supplied, Open Fiber established a **Vendor Rating** model which identifies the main elements of evaluation, allowing a numerical value (Vendor Rating Index, VRI) to be attributed to each Economic Operator which is representative of its performance, not only technical-economic and productive, but also environmental and social.

The Vendor Rating Index applies to all Economic Operators qualified and/or adhering to the Access Mechanism that are awarded a contract for the execution of works, providing services and supplies, or that have a direct impact on the quality of services or that are considered critical for the achievement of its business objectives[57].

The macro-areas subjected to the VRI include not only compliance with requirements relating to the "performance" and linked to the agreements stipulated in the negotiation phase (e.g., compliance in the delivery of goods, products and services), but also aspects of Occupational Health and Safety management (e.g., frequency and extent of accidents), environmental protection (e.g., compliance in waste management) and compliance with quality standards as defined by the Technical Standards for the verification of Open Fiber installations during construction.

Depending on the value reached by the VRI and depending on the severity of the shortcomings detected, the Company takes targeted measures that may include the request for improvement or corrective actions by suppliers, or, in the most serious cases, the exclusion or suspension of the supplier from the Supplier Register and/or the Access Mechanism.

Assessing performance to prevent and mitigate environmental and social impacts along the supply chain

Open Fiber has identified actual and potential negative environmental and social impacts along its supply chain, on which it performs periodic performance assessments through VRI assignment.

The main impacts are:

- **social impacts:** issues related to Occupational Health and Safety, negative impacts on citizenship (e.g., in terms of disruption of utilities due to damage and in terms of injuries due to inappropriate management of construction sites) and work practices (e.g., related to the tax compliance of companies);
- **environmental impacts**: impacts related to the use of raw materials and natural resources, waste production, emissions into the atmosphere, noise emissions, as well as incidental events with negative impacts on environmental matrices.

2.5.3 Sustainable procurement

Open Fiber is committed to conducting responsible business along the entire value chain, placing integrity and respect for rules at the centre and carrying out every transaction in full transparency. These values are also extended to its entire supply chain, which is why, in addition to defining a qualification process for its suppliers, it also launched a **"Sustainable procurement"** pilot project, between the end of 2022 and the beginning of 2023, with the aim of carrying out an initial assessment of ESG (Environmental, Social and Governance) issues and investigating how far the values underpinning the business are integrated into the supply chain.

The suppliers that have the greatest impact on the

57 The scouting category of goods remain excluded from the Vendor Rating system: Scouting Supplies, Scouting Works, Scouting Services. The Vendor Rating system became fully operational in 2020.

value chain of supply chain were asked to carry out a self-assessment questionnaire based on their activity and focused on social, environmental and governance issues. The developed rating model, inspired by the international guidelines ISO 20400:2017 (Sustainable procurement guidelines), ISO 31000:2018 (Risk Management - Principles and guidelines) and ISO 26000:2010 (Guidance on Social Responsibility), was based on a "risk-based thinking" approach, i.e. focused on the mapping of the main risks related to the product categories of the corporate supply chain.

The analysis of the results allowed Open Fiber to become aware of how its supply chain deals with ESG issues and to assess the commitment to sustainability of a representative sample of suppliers.

The results of this pilot project provided further momentum in the definition of a sustainable procurement strategy and a path for the gradual introduction of tools for assessing and monitoring suppliers on ESG issues. The first important milestone of this path, which took place at the end of 2023, was Open Fiber's membership of the Open-es platform[58] as Value Chain Leader Partner for the years 2024-2025.

Joining the platform is for Open Fiber a strategic choice and an opportunity to spread its values, mission and vision along its supply chain and promote innovation along the supply chain, developing a fruitful dialogue on ESG issues not only with its own supply chain, but also with the other Partners joining the platform.

58 Open-es is a digital platform launched by Eni, Boston Consulting Group (BCG) and Google Cloud, which supports the sustainable development of companies. The platform enables all companies, from SMEs to large players, to measure their ESG performance, analyse and share data and experiences, obtain customised development plans and identify solutions for improvement.

2.6 OPEN FIBER NETWORK SOLUTIONS: COMMITTED TO UNITE THE COUNTRY

2.6.1 Objectives and Governance

Our country needs an optical fiber network capable of bridging the gap between cities and small towns across Italy and offering future-oriented services. For this reason, together with Amplia Infrastructures S.p.A. and C.I.E.L S.p.A.[59], Open Fiber S.p.A. established the Consortium **Open Fiber Network Solutions S.c.a.r.l.** in 2022, with the main objective of supporting the company's strategic plan for the construction of the optical fiber 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 shortage of skilled workforce - a problem that is also relevant in the context of the development of the plans linked to the National Recovery and Resilience Plan ("PNRR") - by expanding the production capacity of the network enterprise system as a whole and thus facilitating the realisation of the BUL Plan and the "Italia a 1 Giga" tender. A team that will build thousands of kilometres of the new digital infrastructure of the country.

Open Fiber Network Solutions

In order to guarantee the achievement of this objective, the Consortium, in view of the numerous requests for membership from both Italian and foreign companies, has provided for new members to join its structure, subject to a resolution by the Consortium Assembly.

As of 31 December 2023, OFNS has thirteen consortium members in addition to the three founding consortium members[60]. Furthermore, in May 2023, the Consortium's Board of Directors approved its Organisation and Management Model pursuant to Legislative Decree 231/2001.

2023 OFNS PERFORMANCES

16 affiliated companies

400 average resources in the field

Over 1,800 km
of infrastructure built

59 Open Fiber Network Solutions S.c.a.r.l. was established on 24 March 2022 in the form of a permanent consortium (pursuant to Article 45 of Legislative Decree 50/2016, so-called "Codice Appalti") in the form of a limited liability company and will last until 31 March 2027. The Consortium has an expected duration of five years. The non-founding affiliated companies are obliged to remain in the Consortium for at least 30 months from their entry.

60 Which, overall, own 1.3%.

2.6.2 2023 results

Over the course of 2023, the Consortium grew and was consolidated thanks to the 400 average resources in the field who, every day, work with professionalism and commitment and who, this year alone, have built more than **1,800 km** of infrastructure. Furthermore, by the end of 2024, the Consortium estimates the employment of around 350 Open Fiber Network Solutions employees, a further 180 resources from the consortium members and 50 resources from subcontractors. The consortium members that join are required to guarantee the existence of specific certifications and economic, technical, reputational and health, safety and environmental protection requirements, necessary to carry out the network construction activities in accordance with the regulations in force, as well as to comply with the commitment in terms of production capacity (i.e. resources dedicated to the execution of the order (FTE) and equipment) assumed at the time of the membership application.

Revenues in 2023 amount to €47.8 million for white areas, and about €800,000 for grey areas. The current scope of activities envisages work in white areas in 7 regions (Emilia-Romagna, Latium, Liguria, Lombardy, Piedmont, Tuscany and Marche) and, starting from October 2023, in the grey areas in Tuscany, Latium and Campania, a commitment that is expected to increase significantly during 2024.

As part of a wide-ranging social inclusion project promoted by the Italian Institutions in cooperation with the most important Italian players in the world of telecommunications, the Consortium, after having signed in 2022 the agreement concerning the "Prison Work Programme in the Rebibbia Prison" ("Hope" Project), in 2023 hired 3 employees as workers for optical fiber splicing. Those employees carried out work activities in the field, following 160-hour training course, which they completed successfully.

2.6.3 Recruiting and management of the human capital

With the firm conviction that people's central role depends on the protection of their rights - in terms of employment, empowerment, skills strengthening, inclusion - the Consortium pursued its cooperation with three Employment Agencies ("Agenzie per il Lavoro" - APL) throughout 2023, both for the "OFNS Academy" and the "Distretto Italia" project[61], with the objective of recruiting and training young people for both jointers, installers, excavator operators, drivers and technical assistants, and for the recruitment and selection for senior construction profiles. Furthermore, as a continuation of the recruitment activities in collaboration with the Employment Agencies, the Consortium held meetings with the regions of Tuscany and Lombardy, creating concrete job opportunities for all those registered at these offices.

Throughout 2023, 23 people were hired under to the "Flussi" Decree[62], in order to allow qualified candidates from non-EU countries (Tunisia, Peru and Bangladesh) to find a concrete job opportunity, with also guaranteed accommodation, meals and transportation, support for all the documentation necessary for their arrival in Italy, Italian language teaching and relevant certifications, with courses for social integration, up to the issuance of a residence permit, a tax code and the opening of a bank account. As of 31 December 2023, there were 22 employees working at the sites.

Finally, in order to ensure a balance between work and family needs, the Consortium has proposed an individual agreement for agile working modalities (smart working) and has activated a supplementary health insurance scheme, addressed to all employees.

2.6.4 Performance improvement and certifications

During 2023, the Consortium carried out audits to retain its **certifications** according to international standards **UNI EN ISO 9001, UNI EN ISO 14001** and **UNI ISO 45001** (Quality, Occupational Health and Safety, and Environmental Management Systems) and maintained its SOA **certification** (OG1, OG3, OS19[63]) as well as the certification required to operate on the low- and medium-voltage electricity infrastructure.

Furthermore, in order to highlight its particular focus on occupational health and safety and environmental protection issues, in 2023 it launched a series of initiatives aimed at improving HSE performance, among the main ones:

- "Safety walk" project involving the Consortium's top management in on site meetings with workers;
- Strengthening of QHSE skills through external consultancy and consolidation of the relevant organisational structure with internal personnel;
- Adoption of an "environmentally sustainable" vehicle fleet, through new vehicles generating less emissions.

61 "Distretto Italia" is a project of the ELIS Consortium. It brings together companies and training centres to provide new opportunities to young people: orientation, free training and a guaranteed employment.

62 Entry into Italy for reasons of employment, including seasonal work, and self-employment, must take place within the entry quotas established in the decrees - the so-called "Flussi" Decree - which are periodically issued by the Prime Minister on the basis of the criteria indicated in the three-year planning document on immigration policies.

63 Works Categories OG 1 "Civil and industrial buildings", OG 3 "Roads, motorways, bridges, viaducts, railways, subways" and OS 19 "Telecommunication network installations and transmission and processing facilities".

03

IMPACTS ON THE TERRITORY

3.1 THE ITALIAN AND EUROPEAN DIGITAL SCENARIO

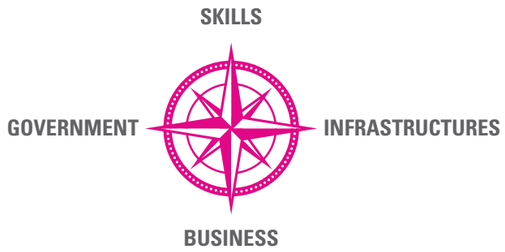
Just over 30 years have passed since its birth. During such time, Internet has acquired the size and potential of an infrastructure capable of generating new opportunities and overcoming barriers deemed insurmountable. Nonetheless, it is time to not only celebrate how far we have come, but also to reflect upon how much work we still have to do to make the World Wide Web an infrastructure that is truly public and available to everyone, whose usage should be a fundamental right and that can evolve to adapt to civil and technological progress, as stated by Tim Berners-Lee, the man who invented the web. His words were embraced and shared also by the United Nations Human Rights Council according to which Internet access is "one of the fundamental human rights in the modern era"[64]. Over time, indeed, the web has become a public square where people meet, shop, talk to institutions, schools, doctors' practices, banks, offices; all services that have radically changed our lives. More functionalities, however, have also required an improved infrastructure, and since the "Fiber Decree" of 2016[65], the need for access to high-speed communication networks has become a priority in Italy as well. Indeed, "*the right to offer access to its physical infrastructure for the purpose of installing high-speed electronic communication network elements*" is now recognised to every manager and operator, without prejudice to the principles of transparency, non-discrimination, fairness and sensibleness.

However, while on one hand we have witnessed seemingly unstoppable progress, on the other, there is a slice of the world still cut off from all the benefits that Internet can provide. Indeed, ensuring a fair digital environment enables individuals to play the role of active citizens, guaranteeing new ways to exercise rights and freedoms, thus stimulating civic engagement and democratic participation. Conversely, the inability to connect to Internet corresponds to exclusion from employment and social opportunities, as well as a limitation of freedom of expression. Moreover, the new digital technologies enabled by widespread Internet connectivity are a key lever to accelerate the transition to a climate-neutral, circular and resilient economy[66].

Today, more than five billion people have access to Internet and, although there are still more than two billion "offline" individuals, there have never been so many "connected" individuals before[67]. However, as much as significant the results achieved so far are, they are not yet satisfactory enough to achieve global connectivity by 2030, target set by the ITU - International Telecommunication Union - as part of the sustainable development agenda that the UN wants to realise by the end of the decade. Stemming the digital divide, which runs along the lines of gender inequality, social and age differences, is important in Europe and national territory as well, where there is still inequality between those who can easily access connectivity services and those who cannot.

Among the causes of this phenomenon there are the lack of infrastructures for accessing the network, the unavailability of the necessary tools for connection, unfamiliarity with new technologies, but also the lack of basic digital skills (cultural digital divide). Open Fiber is aware of this, which is why it believes it is urgent to nurture widespread and reliable connectivity, providing not only access to Internet, but also the possibility for people to use it in a safe, productive and affordable manner. This is why the Company is committed to ensure to more and more people access to Internet, contributing to the reduction of digital divide at a national level, pursuing through its corporate strategy the objectives of reducing the infrastructural gap, that exists in some areas of the country compared to others, and bridging social and geographic inequalities in favour of a greater social and territorial cohesion, also through its contribution to the digitalisation of schools, businesses and the services offered to citizens. The strategy deployed 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"**. It is an ambitious plan, which must work in synergy with the green and digital

The **Digital Compass** outlines the vision, goals and ways in which Europe will achieve digital transformation by 2030.The four cardinal points of the Digital Compass are: citizens having adequate digital skills; secure, efficient and sustainable digital infrastructure; digital transformation of businesses; digitisation of public services.



64 Resolution adopted on 5th July 2012 by the United Nations Human Rights Council.
65 Legislative Decree No 33/2016.
66 Digitalisation for the benefit of the environment: Council approves conclusions, European Council, December 2020.
67 International Telecommunication Union (ITU).

transformation advocated by the European Green Deal, and which paves the way for the implementation of programmes relevant to a multi-country vision, such as **NextGenerationEU**, the over EUR 800 billion programme 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 **EUR 191.5 billion**, to be deployed in 2021-2026 period, of which EUR 68.9 billion are non-repayable grants. The first mission of the plan is "Digitisation, Innovation, Competitiveness, Culture, and Tourism", aimed at promoting and supporting the digital transition in Italy, both in the private sector and in the Public Administration. A challenge of this magnitude requires a profound intervention, acting on several fronts by deploying various actions such as the diffusion of Ultra Broadband and fast connections throughout the country, the availability of incentives for digital transition and for the adoption of innovative technologies and digital skills by the private sector, the digitalisation of the Public Administration, and the strengthening of digital culture.

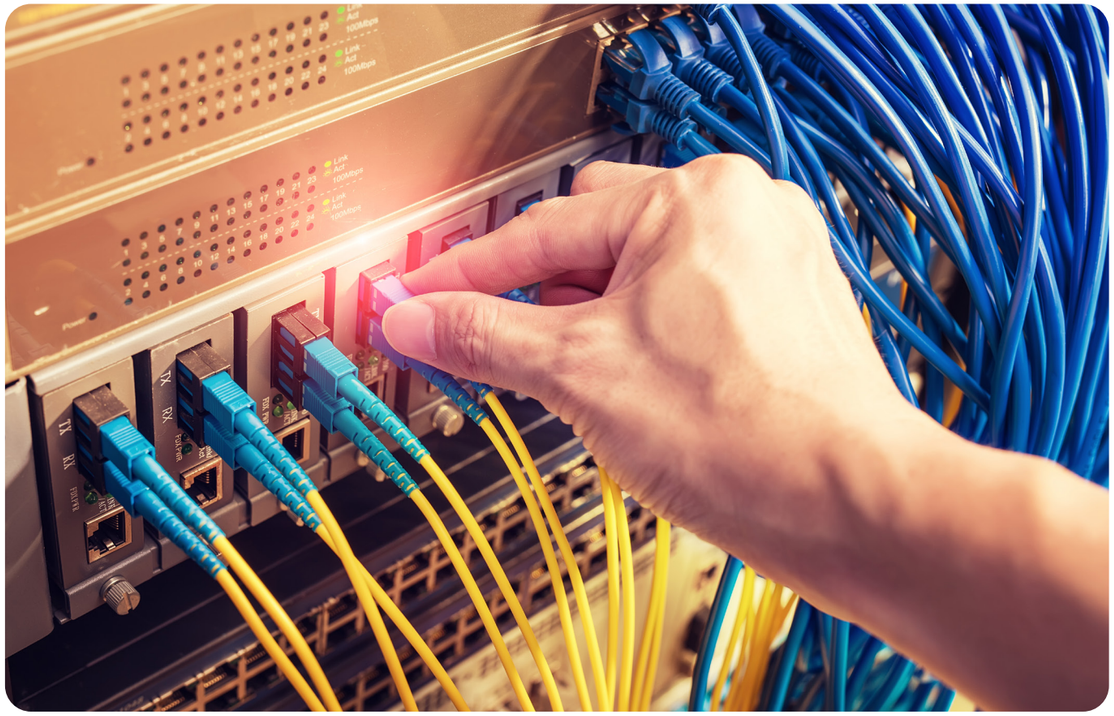
Italy chose to allocate 21 per cent of PNRR funds (about EUR 41 billion) to digital transition and innovation. The reforms and investments that contribute to this objective concern the digital transformation of the Public Administration and the judicial system, the strengthening of the health system through digital technologies, the modernisation of businesses through the dissemination of advanced technologies (Industry 4.0), and the spread of Gigabit connectivity throughout the country, also in support of tourism and culture 4.0. In line with the targets set by the European Commission for at least 70% of EU citizens in the 16-74 age group to have basic digital skills by 2025, the PNRR promotes also the development of digital literacy, with measures aimed at improving the basic skills of the population, increasing the supply of training in advanced digital skills, securing new platforms or enhancing existing ones, retraining the workforce and improving their skills by leveraging successful regional experiences.

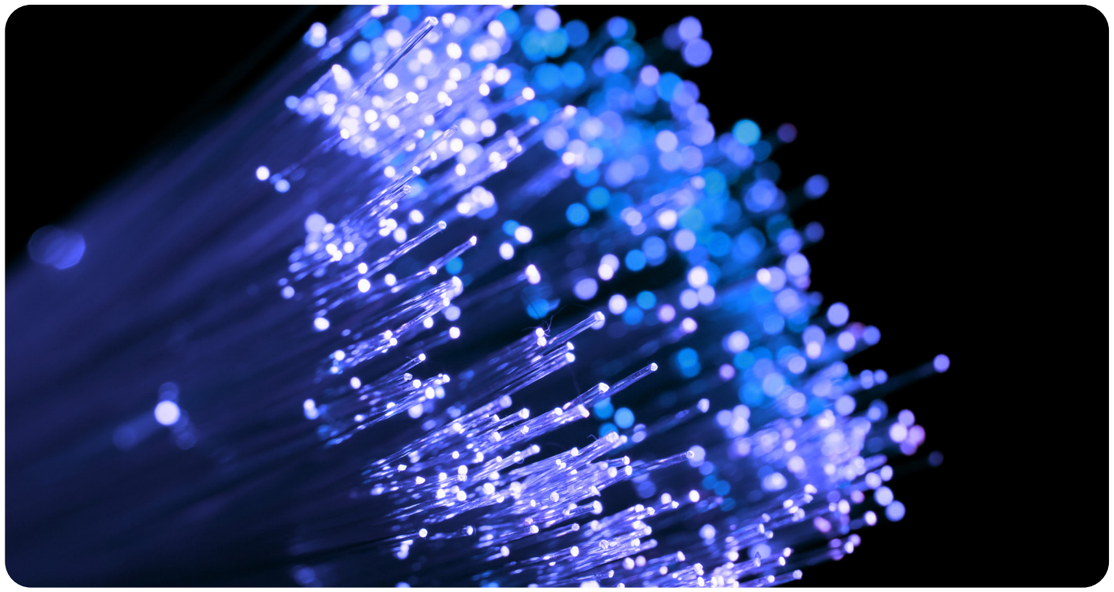
In September 2023, the annual State of the Digital Decade Report was published for the first time, a comprehensive analysis of the progress made towards realising a digital transformation in the European scenario. In the document, the European Commission presented an assessment of the

"Italia a 1 Giga" Plan

In response to the call of the first mission of the PNRR, Open Fiber took part in the "Italia a 1 Giga" Plan, a project of about EUR 3.8 billion to bring fast Internet to around 7 million civic addresses distributed throughout the country. The aim of the Plan is to promote, through public intervention, investments in ultra-wideband networks that will 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 (geographic areas) under the Plan, in 9 regions - Campania, Emilia-Romagna, Friuli-Venezia Giulia, Latium, Lombardy, Apulia, Sicily, Tuscany and Veneto - for a total of 3.8 million households in over 3,800 municipalities.





member states' progress towards the goals and targets of the 2030 strategy. In its main conclusions, the report pointed out significant steps in terms of the deployment of digital infrastructures and strategies adopted in the field of advanced digital technologies (Blockchain, Artificial Intelligence, next-generation cloud solutions, etc.) as well as in terms of concrete support provided by the reforms and investments of the PNRR. As far as the Italian landscape is concerned, according to the analysis, significant progress has been made towards achieving the Digital Decade goals in terms of **digital infrastructure**: in very high capacity networks (VHCN), Italy has made a 10 percentage point leap between 2021 and 2022 (reaching 54% of the households), achieved nationwide 5G coverage in 2021, and 93% of the harmonised spectrum has been allocated as of 2023. With regard to the **digitisation of businesses**, on the other hand, most Italian SMEs have at least a basic level of 'digital intensity' (70% compared to the EU average of 69% in 2022): progresses have been particularly evident in the use of electronic invoices, reaching the EU average of 95% already in 2020, as well as the percentage of turnover coming from e-commerce (already 14% in 2020). More could be done for advanced digital technologies: while cloud was used by 52% of enterprises in 2021 (well above the EU average of 34%), the picture is different for big data and AI (in 2020 only 9% of enterprises used big data and in 2021 6% used AI).

If Italy really wants to consolidate the results achieved so far, it needs to intensify its efforts, particularly those aimed at strengthening citizens' digital skills, for which there still seems to be a lot of work to be done: indeed, slow progress and still far from the **digital literacy** targets advocated by the EU undermine citizens' ability to benefit from the new opportunities and to fully exercise their digital citizenship. In Italy, less than half of the population, only 46 per cent, possesses basic digital skills, and only 23 per cent possess digital skills beyond basic, compared to the EU averages of 54 per cent and 26 per cent respectively. On **digital public services for citizens and businesses**, Italy also scores below the EU average (68% vs. 77% EU average and 75% vs. 84% EU average, respectively). These shortcomings weigh on the country's economy and levels of social inclusion.

In the face of these data, Open Fiber's contribution is even more crucial to support the achievement of the digital transition objectives set 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 be separated from the implementation of the Fiber To The Home (FTTH) technology and the Ultra Broadband network that the company is implementing throughout the country.

3.2 DIGITAL DEVELOPMENT OF THE COUNTRY SYSTEM

On 25th May 2021, the Interministerial Committee approved the **Strategic Plan for Ultrabroadband** "Towards the Gigabit Society", aimed at promoting the development of telecommunications infrastructures, both fixed and mobile, outlining the actions necessary to achieve the digital transformation objectives indicated by the European Commission in 2016 (Communication on Connectivity for a Digital Single European Market - 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 illustrated and shared, which puts in place, for the three-year period 2023-2026, an action plan aimed at the infrastructural consolidation of fixed and mobile networks, the development and adoption of next-generation infrastructures, and interventions to support demand.

In line with these intentions, the National Recovery and Resilience Plan (PNRR) envisaged that 27

per cent of the total resources earmarked for Italy would be dedicated to the digital transition. This gave rise to **Italia Digitale 2026**, the national strategy developed to promote digitalisation, which revolves around two main axes: the digitalisation of the Public Administration and the spread of ultra-fast networks.

According to such strategy, funding is to be allocated for activities such as innovation, security and the digitisation of Public Administration services, digital cultural infrastructures, telematic justice, tourism and digital health and telemedicine.

In particular, the systemic framework developed by Italy has five objectives:

- spread of the digital identity;
- reduction of the digital skills gap;
- moving most Italian public administration services to the cloud;
- effective online use of most essential public services;
- 100% coverage of Italian households and businesses with Ultra Broadband networks.

The infrastructure that Open Fiber is deploying throughout the entire country is aligned with these five objectives and aims to enable innovative services that promote equality among users, in terms of access to cultural and health resources and services, thus contributing to the reduction of social inequality in our country.

Impact of Russia-Ukraine conflict on the national market

The two-year period 2022-2023 will be remembered for the events that negatively influenced the economic situation on a global and national level. While the post-pandemic recovery phase heralded decisive growth, the geopolitical crisis linked to the Russia-Ukraine conflict complicated the international scenario once again. Therefore, the new situation has had repercussions on the Italian economy, impacting various sectors, including the digital sector in which Open Fiber operates.

The Russian-Ukrainian conflict has in fact turned a spotlight on the issue of **cybersecurity**, since military actions have been joined by strategies typical of a cyber war, which could have repercussions in terms of an increase in hacker attacks or, in a worst-case scenario, a cybersecurity crisis. The National Cybersecurity Agency (*Agenzia per la cybersicurezza nazionale* - ACN[68], CSIRT Italia) published a security bulletin in response to the geopolitical situation, advising individual users and, in particular, digital infrastructure operators to adopt state-of-the-art cyber defence measures. This is precisely why Open Fiber continuously makes investments aimed at improving its Integrated Management System for information security and business continuity, drawing inspiration from the best international standards.

But the Russian-Ukrainian conflict has also highlighted Italy's energy dependence on fossil fuel supplies from abroad, particularly from Russia. Therefore, a sudden revision of Italy's energy policy became necessary, with the main objective of making Italy independent of Russian gas. This urgency had already been felt by Open Fiber, which, at a time still far removed from today's geopolitical context, had already included in its strategy initiatives aimed at promoting and implementing energy efficiency and supply from renewable sources in order to mitigate its environmental impact and actively contribute in achieving the Sustainable Development Goals.

Finally, the conflict had repercussions also on the supply chain of companies both at a national and European level, especially in terms of difficulties in the availability of raw materials, increased delivery times and higher purchase prices. In this scenario of uncertainty, Open Fiber managed to guarantee the continuity of its supply chain for the laying of the network and service to its customers, demonstrating the solidity of its business model.

3.2.1 Optical fiber as an opportunity for the territory

Smart Working, **e-learning**, but also streaming, home automation, video connections and gaming: in a world where digitalisation has become a key element in the normal course of our daily lives, the demand for Internet access in Italian territories has exploded significantly. It is in this framework that Open Fiber's action takes on the connotations of an opportunity for the territory, as it provides the population, municipalities and provinces

68 *Agenzia per la cybersicurezza nazionale* (National Cybersecurity Agency).

Open Fiber for gaming

The year 2023 was characterised by the collaboration with **Konami Group Corporation**, a well-known video game producer. In particular, Open Fiber was a partner in initiatives related to the new eFootball, one of the most widely played soccer titles. In addition, the company supported the Exeed export team as a sponsor. The team made a name for itself on the Italian scene by becoming the strongest in Italy on the FIFA title, a well-known video game produced by EA Sport. The Open Fiber branded cyber athletes also successfully participated in several world tournaments.

During the year, there was no shortage of further collaborations with important pop culture events. Open Fiber participated in **COMICON** in Naples and in the **Milan Games Week**, the two most important gaming events in Italy.

with access to an Ultra Broadband telecommunications infrastructure that allows Italian territories to be more competitive in various areas, from housing innovation to tourism, from **remote work** to **telemedicine.** This is how it becomes possible to work from home, being able to transfer large quantities of data, follow distance learning programmes, quickly access the digital services of the Public Administration, make excellent quality video calls without interruptions and improve the quality of health care, enabling remote diagnosis and medical advice; all thanks to very high browsing speed, a stable connection and very low latency that avoids delays in data transmission, simplifies and improves relations between citizens and the Public Administration, between students, schools and universities, thus enabling the country to keep pace with an evolving world and accelerating the digitisation process.

In addition to the cabling of schools, the connection of hospitals, and the digitisation of Public Administration management systems, the installation of the Ultra Broadband optical fiber network is a fundamental factor for the growth of the country also in terms of its contribution to the Gross Domestic Product (GDP), because it has a positive effect on the induced activities of economic operators in terms of an increase in the number of jobs and encourages the revival of small municipalities in terms of an increase in the number of new residents.

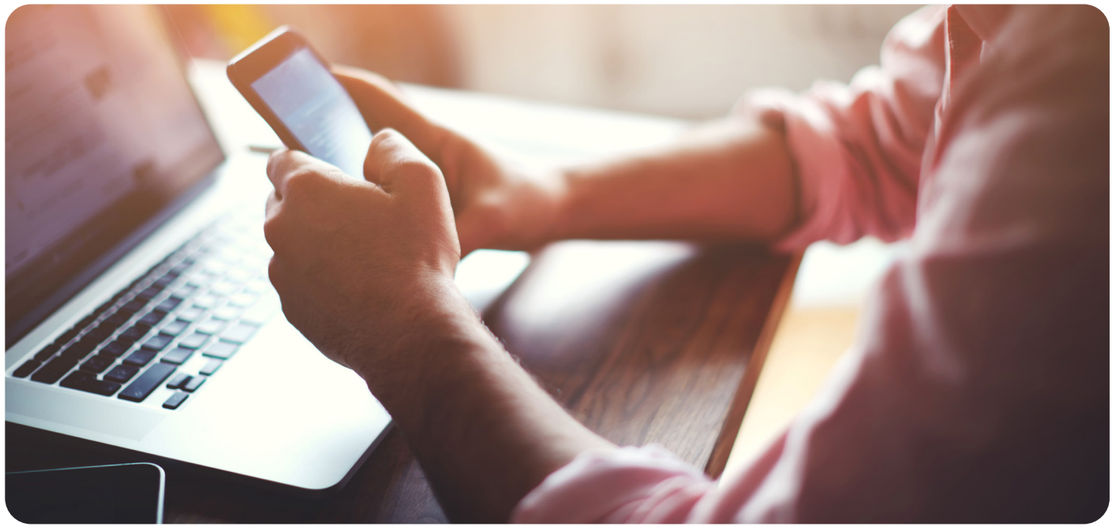
2023 COMICON

In 2023 Open Fiber was again the **connectivity partner** of Naples' COMICON, the event dedicated to **pop culture that every year attracts fans from all over the world** to the spaces of the Mostra D'Oltremare. The 2023 edition recorded record numbers: around 170,000 participants, 380 exhibitors, 300 guests, 7,000 professionals and a programme of over 400 events. Not only comics: at COMICON also print media, cinema, TV series, videogames, themed areas, music, LARP and cosplay.

Open Fiber's contribution was crucial: by cabling the entire exhibition area, it enabled guests, artists and visitors to enjoy a connection of up to 10 Gbps. In addition, Pavilion 5 of the exhibition set up a state-of-the-art console and stations where visitors and passionate pro-players could challenge each other and put Open Fiber's ultrabroadband infrastructure to the test.

The fiber of Open Fiber at the Alpine Skiing World Cup

Open Fiber is the **connectivity partner** of the 2023 Alpine Skiing World Cup in **Cervinia**. Thanks to the collaboration with Cervino S.p.A., the sporting event was able to exploit the potential of the FTTH fiber network for the entire duration of the world event, guaranteeing the dedicated **video streaming** connection between the Italian and Swiss sides of the mountain and the **safe recording of race times**. The 10 Gbps symmetrical download and upload speeds, i.e. 100 times 100 megabits, were also made available at some **strategic points** of the event in the municipality of Valtournenche: the Cervino S.p.A. **headquarters,** the **Events Pavilion** and the event's media centre, **Casa dello Sport**. Federico Maquignaz, president of Cervino S.p.A.: «*This event is unique for the area and the entire Valle d'Aosta and as such requires a special set of infrastructures and technologies, as well as reliable services. We need broadband and know-how even at high altitudes, and this is why we are happy to have established this partnership with Open Fiber, which is synonymous with the guarantee and ability to ensure an optical fiber connection of up to 10 Gigabits per second even at* ***an altitude of 3,000 metres***».



Open Fiber and AS Roma

Open Fiber has been an **official partner** of AS Roma since March 2023, thanks to an agreement with which it has committed to bringing ultra-fast connectivity to the club's **headquarters** in Viale Tolstoj, the **"Fulvio Bernardini" Technical Centre** in Piazzale Dino Viola (Trigoria) and the training facilities of **Roma Femminile** and the Giallorossi **youth sector**. The company will build a dedicated network infrastructure, entirely in optical fiber, which will connect the club's facilities. Using Open Fiber's network, AS Roma will be able to record and reprocess in real time, in each of its venues, the data related to athletes of all ages that are captured on the field and project, manage and send videos in maximum resolution.

«*The partnership with AS Roma, a cutting-edge club at the Italian and European level, testifies to* ***Open Fiber's special focus on the world of sport****, which we aim to accompany in its innovation processes*» said Stefano Mazzitelli, Open Fiber's Business Market Director. «*The optical fiber network that we will build within Roma's premises will be able to* ***contribute to the analysis and management of data****, which is increasingly important today for improving performance*».

3.2.2 Educational plan: Schools Plan

In Italy, more than 1.3 million children live in absolute poverty and more than 1 in 4 is at risk of poverty and social exclusion. According to a study published by Save the Children in 2022, these are children and adolescents living in households with an income below 60 per cent of the national average level. This economic poverty is compounded by the so-called learning loss, i.e. an impoverishment in educational terms due to school closures (the pandemic has forced 94% of the student population into an educational gap), in contrast to the efforts of recent decades to ensure access to basic academic knowledge for all.

Prior to 2020, digitisation within schools was complemented with tools to support the teaching process, such as interactive whiteboards or tablets; in the wake of the Coronavirus pandemic that swept the country, true digital learning environments were created instead, fuelled by distance learning and the use of different platforms to follow the school curriculum. These innovations have highlighted even more the existing problem of the digital divide regarding the new digitised systems for disseminating knowledge and education, which have constituted a barrier for those who do not have access to a fast connection or do not own electronic devices.

In its plan to overcome the digital divide in Italy over the next few years, Open Fiber has thus confirmed its commitment to countering this phenomenon with a business oriented towards generating positive social

The future of the school system

After the pandemic, a very different future for the school system awaits all of us: distance and face-to-face classes will be combined and projects to be carried out digitally will become even more widespread. But the advantages do not only stop with remote activities. An Ultra Broadband connection makes it possible to use the Internet for educational purposes and access state-of-the-art teaching possibilities even in schools with a shortage of equipment. Lacking a science lab? You can watch a dedicated programme. Need to practise foreign languages? One connects to a specific podcast. Where facilities fail, the web arrives. A true rewriting of the concept of study that would not be possible without optical fiber.

impacts, including the connection of educational institutions. The company, in fact, plays a key role in solving the problems of Internet connection performance in schools, offering future-proof technologies that allow pupils and teachers to access the full potential of digital technology. Ensuring that all students, even those living in small municipalities, have the same opportunities to access the web is in fact one of Open Fiber's priorities.

Optical fiber makes it possible to enable digital services, including workshops, webinars and supplementary or extracurricular online activities that the students of the school of the future will be able to access, where digitalisation will be allied to traditional teaching, and guarantees a stability and speed of connection that can support its use even by several classes at the same time. A connected school is in fact a school capable of improving education by enriching the curriculum.

Schools Plan

By 2026, Open Fiber will connect more than 45,000 schools with optical fiber, with the aim of digitising schools and enabling them to offer services in line with the new requirements. In particular, the first phase identified by the Schools 2020 Call for Proposals envisages the provision of the 1 Gbps symmetrical connection (with at least 100 Mbs guaranteed) to 35,000 school facilities (around 78% of the total), i.e. all first and second grade secondary school buildings and, in white areas, also the connection of all primary and nursery school buildings.

Open Fiber for the digital school

Guaranteeing all students, even those living in small municipalities, the **same opportunities to access** the web is a priority for the company. This is why Open Fiber is committed to cabling as many schools as possible on a daily basis, strongly believing that a connected school is a school capable of improving education, enhancing teaching programmes with supplementary or extracurricular activities. In order to enable the digital services of the school of the future, a stable connection capable of meeting the needs of several classes at the same time is required. The only possible answer is fiber optics, in particular FTTH cabling.

A remarkable result was achieved by Open Fiber in **Lecce**, where in just five days **as many as 12 schools** in the municipal area were reached, working in synergy with the local administrations.

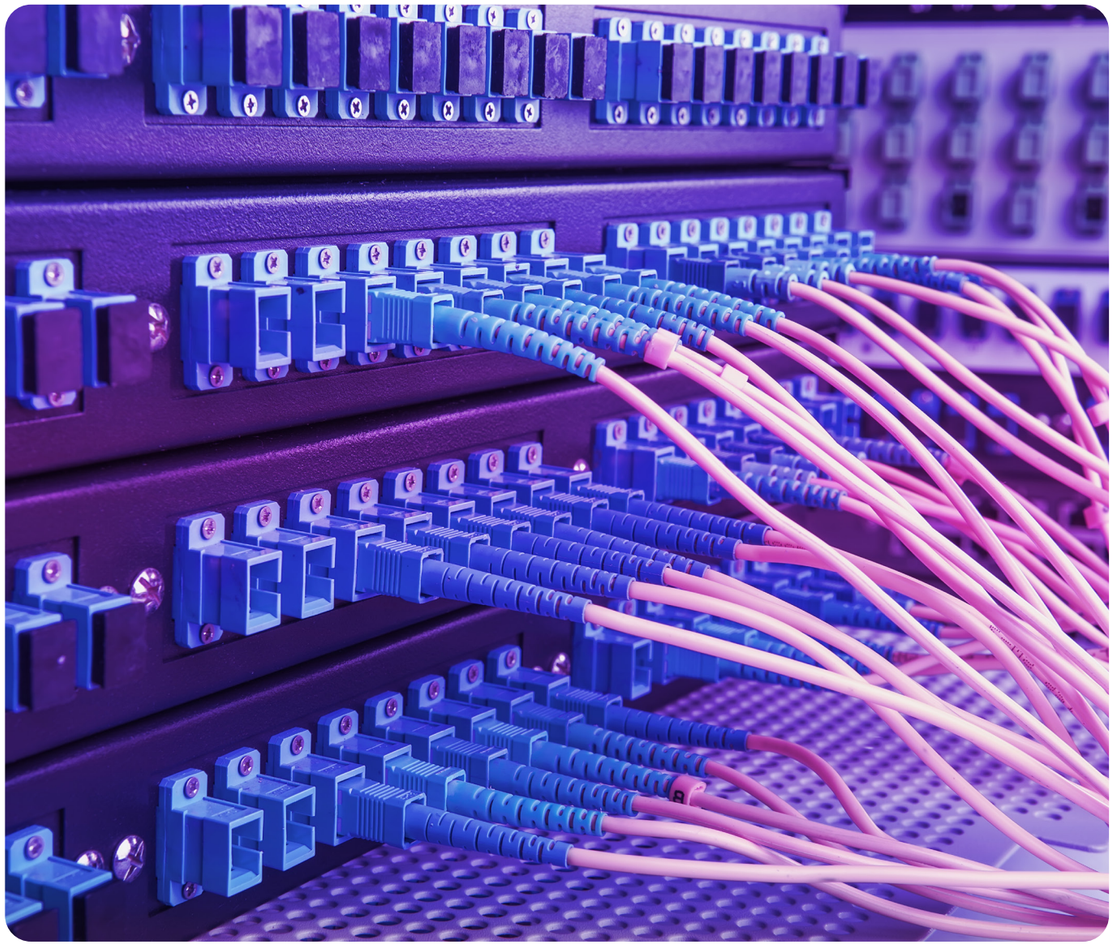
By 2023, about **21,000 schools** throughout Italy have been reached, with the aim of guaranteeing as many as possible the right to study in the school of the future, which will be increasingly digital. These schools now have the opportunity to connect to FTTH fiber optics and enjoy an ultra-fast connection of up to 1 Gbps. A large part of the schools reached are part of the "Piano Scuole" (Schools Plan) tender, launched by the Ministry of Enterprise and Industry for the provision of Ultra Broadband Internet connectivity services at school sites throughout Italy. Thanks to the call for bids, in which Open Fiber participates for the structural part of the project, schools will be able to take advantage of symmetrical optical fiber connections of up to 1 Giga per second free of charge for a period of five years.

3.2.3 Connected healthcare and Telemedicine

Remote medical check-ups, treatments and healthcare services thanks to the Internet connection: telemedicine is now a possibility that is becoming more and more concrete and is considered by some to be an evolution of traditional medicine. For a remote doctor-patient encounter to be functional, however, the means used must be able to compensate as far as possible for the absence of contact. Hence the need for an Internet connection to support the system, which is why Open Fiber has committed to connecting over 12,000 healthcare facilities by 2026. A goal that will make it possible to digitise several hospitals and offer services in line with the new requirements.

As for the location of the public health service facilities covered by the 2022 Connected Health announcement, these are distributed throughout the country. The latter is divided into eight geographical areas, which are the subject of intervention by the operators awarded the tender. The tender aims to ensure connectivity with symmetrical speeds of at least 1 Gbps and up to 10 Gbps for healthcare facilities, from outpatient clinics to hospitals. It includes the supply and installation of the access network and management services, technical support and maintenance. Infrastructure activities are to be completed by 2026, guaranteeing connectivity services for at least the next five years.

By 2023, **approximately 1,570 healthcare facilities** throughout Italy have been reached.



Telemedicine: innovative healthcare services

In recent years, the use of **telemedicine** has been growing in national and global policies. Already in 2016 the WHO[69], in its "*Global diffusion of e-health*", mapped telemedicine as one of the major developments in the health care field. Indeed, the increase in the average age of the population and the consequent onset of chronic pathologies call for a structural and organisational redesign of the home care model. Moreover, as far as Italy is concerned, the great variability of the territory has over time generated inhomogeneity in the distribution of healthcare facilities, not allowing many citizens equal access to medical services. Telemedicine represents a concrete and effective response to today's healthcare challenges, enabling monitoring, assistance, prevention and timely intervention in cases of need, cutting costs arising from waiting times and travel, which often have a strong impact on the healthcare budget as well as on the patient's budget.

Telemedicine entered the National Health Service in December 2020 with the signing by the Ministry of Health at the State-Region Conference of the guidelines with the rules for examinations, consultations, reports and teleassistance. It was the Ministry of Health itself that emphasised that telemedicine offers great potential, especially for increasing equity in access to social and health services in remote territories; in this regard, at the end of 2022 it approved the guidelines for telemedicine services (Legislative Decree No. 179/12) that set out the prerequisites to ensure homogeneity at national level. In addition, again in 2022, EUR 1 billion has been earmarked for the financing of projects enabling remote doctor-patient interactions and research initiatives on digital technologies in telemedicine, through sub-investment 1.2.3 'Telemedicine for better support of chronic patients' intended for Mission 6 (M6C1) of the National Recovery and Resilience Plan (PNRR), dedicated to health.

However, to reduce telemedicine solely to the possibility of interfacing with a specialist via videocall would be limiting. It is, in fact, one of the most remarkable IoT applications that can also be integrated into smart devices. But, to be efficient, it needs secure and reliable networks for the transmission of sensitive information and data, as well as documents, sounds and images. This is why Open Fiber, with its 1 Gigabit fiber, is a key player in the digital transformation of medical care and is involved in several projects aimed at monitoring patients in fragile situations and with chronic diseases.

69 World Health Organisation.

Spread-out and highly connected hospital: Gaslini hospital in Genoa

Gaslini Hospital has become the first hospital in Italy to have a 10 Giga connection, a power usually only required by large industrial realities. This has been made possible thanks to the "spread-out and highly connected hospital" project, conceived by the Gaslini Institute, financed by the donation of the company Fibering S.p.A. and made possible thanks to the capillarity of the fiber optic network laid in Genoa area by Open Fiber. Thanks to the guarantee of a fast and reliable connection, it has been possible to increase and improve the efficiency of numerous hospital services, including:

- **remote training**, i.e., the possibility of conducting training webinars for doctors anywhere in the world, new training courses for professionals, parents and trainees, nationally and internationally, and for teachers dealing with children with diabetes;
- **remote medical check-ups and telediagnosis** via video call, with maintenance of treatment plan updates remotely, without the need for an in-office call thanks to cloud-based data transfer;
- **empowerment and support**, through a multimedia classroom that allows families to receive support from families educated and trained by the hospital, consult medical data through smartphones with direct transfer via cloud to the hospital's medical record, thus allowing continuity of support to patients and families through remote counselling;
- **updating and networking**, with the possibility to receive immediate advice through direct connection with other institutions, to create a cultural network of experts for the discussion of difficult cases and to update quickly through, for example, the download of scientific articles;
- **transfer and dissemination of data,** characterised by a sharp reduction in the time it takes to transfer and return the results of experiments to the researcher and ultimately to the patient, with the possibility of significant impact in terms of diagnostics and fast dissemination of diagnostic images (e.g. CT scans, radiological images) to other departments and outside the hospital;
- **new lines of research**, encouraging the possibility of carrying out types of analyses that would be impossible without an Ultra Broadband optical fiber network (e.g., analyses requiring simultaneous interrogation of several data).

Moreover, thanks to optical fiber and fast connectivity, it is possible to provide entertainment on TV platforms for young patients admitted to the wards, as well as distance learning for school-age patients.

The **2021-2025 strategic plan "The Gaslini of the future"**, in line with the health mission of the National Recovery and Resilience Plan (PNRR), envisages a focus on efficiency, digitalisation and expansion of remote healthcare and telemedicine services, so that they can be used across the board by the various specialist disciplines. Open Fiber, by providing its optical fiber, will play a fundamental role in this ambitious project and in the progress that will significantly mark e-Health. After all, experiences such as these respond perfectly to the objectives that the Company has set for the country.

Open Fiber for Campus Biomedico of Rome: Fibermedicine

We-ease-it is the pilot project for the care of hospital-at-home patients carried out by the University Campus Bio-Medico of Rome, Open Fiber and ELIS, with the aim of launching a new hospital service model that uses ICT to improve the monitoring process for chronic patients.

In the first phase of the trial, several patients suffering from chronic obstructive pulmonary disease were remotely monitored through the use

of a pulse oximeter and the BPCOmedia-Aipo[70], application, which allows the monitoring of the patient's parameters (blood oxygenation level and heart rate). By means of 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 what is expected. Should the measurement not be in line with the expected parameters, the patient can be examined remotely from any device by connecting via a browser.

During the trial, a survey was conducted among patients to find out whether and how much they liked this remote monitoring system. Cross-referencing the data that emerged on the frequency of audio-video disturbance with the data on patient dissatisfaction showed that users travelling on the Open Fiber network experienced far fewer interruptions or annoying slowdowns during remote medical check-ups, confirming the essential nature of an all fiber network to guarantee an effective and smooth service for patients.

The project successfully demonstrates that the integration of information technologies, ranging from fiber optics to artificial intelligence, is essential to develop tools for predictive, precise, tailored, preventive and participatory medicine. Optical fiber is an enabler of a quality service: for remote doctor-patient interaction to be effective, it is necessary to have the means to compensate for the absence of contact and hence a fast and reliable Internet connection.

The possibility of transforming this specific service into a package for clinics and hospitals with remotely assisted patients is currently being studied.

Telemedicine at the time of the pandemic

Open Fiber in collaboration with ELIS, BPCOmedia and Open V (an American Engineering Company) contributed as an infrastructure player to the development of an innovative digital solution ensuring improvements in the treatment process of patients with COVID-19 infectious syndrome. The service implements a telemonitoring system with a control centre for specialised personnel that measures haemoglobin saturation (SpO2), heart rate and body temperature through the integration of digital technologies such as IoT, Artificial Intelligence and video streaming. The patient receives a medical kit, consisting of an app and a pulse oximeter, with which it transmits the data to be monitored to a dashboard and to the control centre. The latter, which is physically distributed and webapp-based, monitors the patient's physiological data, sends notifications to specialised personnel and integrates aTV system with an appointment to interact with the patient in real time. The control room data and systems reside on dedicated cloud systems capable of ensuring adequate levels of disaster recovery, high availability and security.

3.2.4 Digitalisation of Public Administrations

Two axes of the national strategy defined in the PNRR are the digitalisation of the Public Administration and the deployment of ultra-fast networks. The demand for fiber optics in Italy has soared and the various measures for its capillarisation see the company involved at the forefront.

As the digital community spreads globally, public administrations feel the need to adapt accordingly. To accompany them in this process of digital transformation, Open Fiber is positioned as an **enabler** able to reduce both the gap between public bodies and citizens, and the bureaucratic time, improving the quality of the service offered. This is because optical fiber, thanks to its characteristics of stability and connection speed, can guarantee the possibility of enhancing and enabling online services of the public administration and the school and health system, as well as generating economic benefits.

An ultra-fast and stable connection facilitates, for example, the dissemination of services in the area of sustainable mobility for municipalities, including electronic control of city ZTL (*Zona a Traffico Limitato*, limited traffic zone) accesses, info-parking, traffic flow management and electric vehicle recharging. It offers multiple benefits for what concern security and territorial monitoring: video surveillance and environmental remote sensing, efficient management of public lighting, digitisation of tourist, museum and cultural services. Public Administration can also benefit from the development of Ultra Broadband for electronic invoicing in commercial transactions and access to online services through SPID (*Sistema Pubblico di Identità Digitale*, Public Digital Identity System).

70 BPCOmedia is an accredited spin-off of the Campus Bio-Medico University of Rome.

Online migration of services to citizens: revamped efficiency

The online migration of services to citizens, enabled by the digitisation of public administration, makes it possible to speed up practices that would normally take time, money and patience. It thus leads to an optimisation of processes and an improvement in service quality. No more queues and wasted hours to carry out a procedure: in just a few minutes, online services allow any citizen to submit his file. Such a solution allows the user to have all the tools he needs to submit his application completely at his fingertips and to be able to see all the necessary requirements. Just try to imagine how many times in the past you have had to constantly pass by the municipal office due to a lack of documentation needed to complete the application. At the same time, a full online migration of services would make the work of officials more efficient, also reducing the time it takes to complete open files and thus increasing end-user satisfaction.

Optical fiber and advantages for Public Administrations

All the scenarios listed above also bring about significant economic benefits, bearing in mind the minimal costs required for their implementation. For the public administration, in fact, there is no need to equip itself with computers or to activate an Internet connection. As things stand at present, public bodies already have the tools to access the network and the Internet is now an intuitive reality in most everyday actions.

Consequently, one of the actions needed to improve telematisation and streamline file management flows is the activation of the Ultra Broadband network connection. The very implementation of the FTTH connection, in fact, becomes an incentive to enhance online services, creating a virtuous circle that greatly improves citizen satisfaction.

Compared to traditional copper-based networks, a network based entirely on optical fiber and in FTTH ("Fiber To The Home") mode offers an extremely higher level of performance and improves the efficiency of an organisation's entire IT infrastructure, guaranteeing high connection speed, low latency, stability and resistance to interference, covering much greater distances than traditional networks and enabling the transmission of large volumes of data. This facilitates streaming, VoIP, video conferencing 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.

3.2.5 Partnerships and initiatives for companies' competitiveness and Public Administration's efficiency

In order to promote and spread the culture and the digital transformation, Open Fiber has implemented numerous initiatives consistent with its business and activated partnerships aimed at offering the national market state-of-the-art technological solutions and connectivity with increasing speed, even in areas with low population density, meeting the new needs of citizens and businesses.

The capillarity of the network throughout the territory and the reliability of the fiber make Open Fiber the privileged interlocutor of companies, associations and administrations that need a stable and fast connection to carry out their activities, to keep up with the evolution of the reference markets (e-commerce and exports) 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 Coldiretti for smart agriculture

Open Fiber signed a Memorandum of Understanding (MoU) with Coldiretti to start a collaboration in the development of innovative digital services for the agricultural sector and to define a coordination programme for the promotion and deployment of Open Fiber's infrastructure in the territories where Coldiretti's members are present.

This is a very interesting initiative that, by promoting the extension of optical fiber to farms, contributes to improving their operational efficiency, productivity and competitiveness.

Services such as precision agriculture or resource monitoring can benefit from the high performance of optical fiber, improving productivity, reducing costs and enabling the adoption of more sustainable and intelligent farming practices. Indeed, several innovative services can be enabled, such as periodic collection of crop data and sharing with other stakeholders, measurement of soil moisture and plant health, weather conditions, and waste detection. Not to mention the supply chain related to the automation of agricultural machinery to improve productivity and make machine operations more efficient.

Open Fiber,TIM and FiberCop: an agreement aimed at speeding up Italy's digitalisation

Open Fiber, TIM and FiberCop signed a commercial agreement enabling the re-use of network infrastructure in the so-called white areas, where the construction of a telecommunications infrastructure under concession has been financed with public funds. In the white areas - where Open Fiber won the three public tenders called by Infratel - the agreement provides that Open Fiber will purchase from FiberCop, for a total value of over EUR 200 million, the right of use (IRU) for overhead infrastructure and access links to the customer's home. At the same time, TIM undertakes to make Open Fiber's optical fiber available to its customers in white areas. This will make it possible to activate at least 500,000 customers requesting FTTH technology on the Open Fiber network. This agreement will also enable Open Fiber to significantly accelerate the network construction (Creation) and connection activation (Delivery) phases in white areas. More efficiency in the use of infrastructures and the labour factor means not only speeding up the country's cabling where it is already planned, but also freeing up resources to be allocated to the further development plans envisaged by the PNRR.

Open Fiber and INWIT, agreement on infrastructure sharing

INWIT, Italy's leading tower operator, and Open Fiber signed a strategic agreement to cover more than 600 municipalities throughout Italy with FWA technology. The partnership makes an important contribution to reducing the digital divide in our country, a divide that is not only technological but also social and industrial. The agreement envisages the design and construction of up to 500 new sites by INWIT and the related hosting and infrastructure maintenance services, and the installation of FWA equipment and implementation of optical fiber connections by Open Fiber. The aim is to facilitate access to the Ultra Broadband network in areas of the country where it is still scarce or absent.

Open Fiber: voucher initiative for A&B and C&D municipalities

A voucher to be converted into a Gift Voucher has arrived. It is the offer available to citizens in 172 municipalities of the C&D Cluster who activate or will activate a new ultra-fast connection through Open Fiber's partner operators. "Open Fiber rewards you" is an initiative aimed at encouraging the use of the ultra-high speed and capacity network built in the areas involved in the Ultra Broadband Plan.

Open Fiber will reward end customers who activate with a €50 or €100 voucher in around 170 municipalities. The ultra-fast network available in the municipalities involved in the offer reaches about 294 thousand total households through FTTH technology, the only solution capable of guaranteeing connection speeds of 1 Gigabit per second and even higher. This is a strategic investment for the digitisation of the territory.

3.2.6 Contribution to companies' development

In a scenario characterised by an increasingly globalised market and by a change in the purchasing habits of consumers, who increasingly prefer to purchase online, the pursuit by businesses of a digitalisation path represents a fundamental factor for their survival and competitiveness, especially for Italian small and medium-sized enterprises (SMEs), which are increasingly suffering from international competition also determined by a technological backwardness. In this context, the ultra-fast optical fiber network can foster 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, innovative services, and a fast and immediate path to digitalisation: these are the elements on which Open Fiber is relying to nurture, support, and enhance the resilience of Italian SMEs, which make up a central part of the country's economic fabric. The main benefit of extending Ultra Broadband to all regions of Italy is to put small and medium-sized companies in a position to connect to the rest of the world and develop 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 relational network, reaching any part of the world immediately. In addition, the speed of fiber enables **optimised workflows**, minimising download times for work files and facilitating fast

Italy's support to SMEs' connectivity

In recent years, Italy has devoted increasing attention to the digitisation of the country, which necessarily has to include the digital transition of the national production fabric, especially of Small and Medium Enterprises, the country's real engine.

A fundamental prerequisite for the successful digitisation of Italian SMEs is the improvement of their connectivity. With the aim of incentivising them to increase their connectivity, the government has allocated a fund of almost EUR 600 million for the disbursement of vouchers that would guarantee a contribution, in the form of a discount, on the sale price of Ultra Broadband Internet connection fees.

and seamless use of the cloud. Moreover, thanks to the high connection stability, it guarantees the **continuity of corporate operations**: a significant advantage, given that interruptions in production or business communication lead to critical issues and significant costs for any organisation. Finally, the high volume of data and information that today's working methods require tend to quickly saturate the connection line, especially if it is based on traditional copper networks: fiber guarantees the **transmission of a much larger amount of data** while avoiding possible blockages in the connective system.

For the goal of cabling the country to become a reality, Open Fiber is aware that it needs to enter into collaboration agreements with supplier companies for the **construction, operation and maintenance of the optical fiber 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 twofold effect: on the one hand there is an economic growth of the companies themselves, which see their contribution increase in the activities of building the infrastructure, and on the other hand there is an effect on the employment of specialised workers (splicers, layers

#GOODSTORIES

Open Fiber's support to San Giuliano del Sannio's economic activities

In San Giuliano del Sannio, a small village in the province of Campobasso, Open Fiber has brought fiber to many businesses that had long been forced to use poor antennas and a bad signal. One such business is Le Scuderie del Peschio, a campsite/restaurant, which has improved its offering for customers and its business thanks to the optical fiber.

Optical fiber reaches Casoli's industrial district

Casoli's industrial district in the province of Chieti, one of the most industrialised areas in Abruzzo, has been entirely connected through optical fiber. Among the companies that have benefited from the optical fiber is Icet Impianti, an engineering company dealing with components and systems for air treatment in Italy and abroad.

and designers). Precisely for these figures, Open Fiber has provided certified courses aimed at the workers of the supplying companies with the objective of refining their practical and theoretical knowledge of the activities related to excavation, laying and installation, demonstrating a constant commitment to the people and companies in the area.

In 2023, the external workforce mobilised in infrastructure construction activities will amount to over 7.5 thousand resources, of which about 41% will be engaged in Creation activities and the remainder in Delivery and Assurance activities.

3.2.7 Smart Working

In recent years, people's need and desire to work partially or fully remotely has become widespread, with positive effects for both employees and companies. The former benefit first and foremost from a reduction in the number of hours of the day devoted, above all indirectly, to work and an optimisation in the management of their personal commitments. One only has to think of the average time taken by a worker to get to his or her workplace every morning and to return home at the end of his or her shift. At the same time, the use of remote forms of working guarantees cost savings both for the worker, thanks to a reduction in transport costs, and for the companies, thanks to a rationalisation of the costs of maintaining workstations.

In Italy, despite a widespread narrative that would see a substantial reduction, Smart Working is consolidating and continues to grow. In 2023, there will be 3.6 million remote workers in the country, a slight increase over 2022, and this figure is expected to rise further next year, determined precisely by the consolidation of the practice

Digital nomads

Not only Smart Working: the new trend in the job market is that of **digital nomads**. The era of ultra-fast Internet has revolutionized the concept of productivity, offering workers the opportunity to carry out their tasks and, at the same time, get to know ever-changing places and cultures. Digital nomads and **workation – work+vacation**, i.e., working from your holiday destination – are increasingly popular trends, to the point that even the major national media are starting to talk about them. The so-called itinerant workers are professionals who have their office everywhere and nowhere.

This is not an ephemeral trend or a mere consequence of globalization. In the last two years, the **increase** in digital nomads has followed the phenomenon of Great Resignation. The post-Covid period has caused a surge in dismissal rates by workers looking for a healthier lifestyle based on a correct work-life balance.

The widespread implementation of Smart Working, much needed to overcome the challenges presented by the pandemic, has shown employees and professionals that a new way of working is possible. Many workers, tired of organizing their days according to schedules and patterns, have embraced a more flexible lifestyle.

Itinerant workers are mostly **Millennials**, i.e., people born between 1981 and 1996, followed by **Gen X**, born between 1961 and 1980. In terms of gender, however, in Italy **59% of women** have become digital nomads, while the men reach **41%** of the total. These are mostly professionals from the **IT sector**, **creative workers** and a broad representation from the **consultancy** and **coaching** sector.

The possibility of **organising working time based on one's needs** is the first great benefit of itinerant work, as well as Smart Working in its classic form. The added value offered by digital nomadism is the possibility of **discovering environments and cultures that are always new**. Enriching your personal baggage with experiences that are not confined to the classic summer holidays is a training opportunity for the person and a source of inspiration for work. At the same time, we must not forget that digital nomadism also poses considerable challenges, first of all the difficulty of disconnecting.

For itinerant 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 an enabling factor.

especially in large companies[71]. The possibility of working from home, however, has revealed critical issues in the system, first and foremost connectivity problems. In fact, in many realities there is still a difficulty in accessing a stable and fast Internet connection, both among individuals and companies. This represents a limiting factor in the spread of Smart Working as a working method used in our country.

The progressive growth of digitalisation has highlighted the problems linked to poor connection and the widespread digital divide, which especially affects small villages and mountain areas. As a result, in recent years there has been an increase in demand for adequate Internet connections which the ultra-fast Open Fiber network can respond to, allowing you to work in flexible ways easily and without interruptions in any location. This has important effects not only on the lives of individuals but also on the development of local businesses, which, thanks to a stable and high-performance infrastructure, choose to remain in their territories of origin without being forced to move to large cities.

71 Source: *Torna a crescere lo Smart Working in Italia: 3,6 milioni di lavoratori da remoto* (osservatori.net).

Digital Alliance with South Working®

Spreading digital culture among citizens and administrators. Supporting public and private initiatives aimed at encouraging agile working, particularly in less urbanized and mountainous locations. Sharing a mapping strategy that translates into a compass for all those workers intending to operate according to the principles of Smart Working. These are the main points of the Memorandum of Understanding signed by Open Fiber and South Working® – "Lavorare dal Sud" A.P.S., an agreement aimed at coordinating a program of actions for the diffusion of Ultra-Broadband throughout the national territory. A strategic objective that has been common to the two entities since their recent establishment, engaged on different fronts in the desire to extend full and complete "digital citizenship" to the greatest possible number of individuals. A goal that has become even more pressing in the face of the challenges provoked by the pandemic.

#GOODSTORIES

Fiber is good for the environment as well

The arrival of state-funded fast Internet connection in small towns promotes smart working. And it has become an alternative option for commuters. There are 180 municipalities in the Latium region involved in the BUL Plan to bring fast fiber Internet to the country's so-called "white areas", sparsely populated small towns in which telecommunications operators have no interest in investing. And for the first time in Italy, in Castelnuovo di Porto, on the outskirts of Rome, a green power station equipped with photovoltaic panels that cut the plant's consumption by 60 per cent has been built. A project that adds to the municipality's other environmental initiatives.

3.3 PROTECTION OF THE TERRITORY

The diverse landscape that characterizes Italy also constitutes the beauty of our country. In addition to offering an unlimited quantity of panoramas all different from each other, from the hilly to the mountain, up to the maritime one with its splendid islands, the peculiarity that makes the boot truly unique in its kind is the harmonious coexistence of villages and cities that, from North to South, are an example of art, tradition and centuries-old culture. This feature is a strong point and, for this reason, Open Fiber wants to contribute to preserving the beauty of the territory, guaranteeing equal conditions in access to services in every part of Italy. The choice to create an Ultra-Broadband fiber optic network that is widespread throughout the country appears to be an effective tool to accompany every local reality towards digitalisation. In fact, Open Fiber has always paid particular attention to small municipalities, which are often subject to depopulation also due to the lack or scarcity of fast connections. The work done in recent years and still ongoing has meant that not only have some cities evolved into real Smart Cities, but also that many small towns have been invested with a new attractiveness for citizens and tourists.

Given the numerous benefits brought about by the fiber, network construction activities can sometimes cause inconvenience, mainly due to the presence of construction sites and interference with other infrastructures and underground services. For this reason, Open Fiber always carries out a careful assessment of the real and potential environmental and social impacts and constantly monitors its activities in order to minimize the negative effects on the territory in all phases of development, starting from a oriented towards maximum reuse of existing infrastructures - thus minimizing the construction of new infrastructures and the generation of negative impacts on the environment and the community - up to the use of excavation procedures and technologies with low environmental impact.

3.3.1 Small Italian municipalities' repopulation and attractiveness

If it is true that the population is decreasing in Italy, in small municipalities the phenomenon has been underway for a longer time. The danger of these territories where depopulation is more marked is that they are destined to become uninhabited towns, with historic centers deprived of citizens and commercial activities. The reasons that push the inhabitants of small towns to move towards Italian metropolises are almost always linked to the search for better job growth opportunities. Even the National Association of Small Municipalities (ANPCI), in its Atlas of Small Municipalities, has highlighted how in recent years towns with fewer than 5,000 inhabitants have undergone unequivocal depopulation. More specifically, 73% of small Italian municipalities were considered to be subject to an exodus, i.e., a negative shift in the resident population.

Coverage goals in white areas

- **+6,000 Municipalities**
- **6.4 million** households

2023 Risults

- **5,840 small Municipalities** on the market
- **178** Very white Municipalities were covered

In addition to the phenomenon of depopulation, a further aspect not to be underestimated is the increase in the average age of the population: reading the Istat data, residents in municipalities with less than 5,000 inhabitants appear to be older and those over 65 represent almost 25% of the resident population, while the younger groups tend to reside in larger municipalities.

#GOODSTORIES

The fiber of Open Fiber in the isolated village of Loro Ciuffenna

One of the most isolated villages in Tuscany, where not even a mobile phone could catch a signal, has been completely rebuilt with optical fiber. It is a mountain municipality covering 87 square kilometres with 20 hamlets and an altitude of up to 1600 metres. Before the arrival of the BUL network, all citizens had serious communication and network access difficulties.

MindsHub: CyberOrto arrives in the Municipality of Ala

Open Fiber's ultra-fast fiber continues its expansion in the municipality of Ala in Trentino. MindsHub, a non-profit association that promotes the conscious use of technological tools, is only the latest reality to take advantage of it in the municipality in the province of Trento. The so-called CyberOrto manages to sow, irrigate and plough the soil completely by itself. The only inputs that are sent are through Open Fiber's optical fiber remotely, via the MindsHub control interface.

It is therefore clear that in the case of small municipalities there is a need to undertake ad hoc actions that counteract the progressive depopulation and consequent abandonment of certain municipalities, thus impoverishing a heritage which can instead represent an important economic opportunity. Furthermore, these Municipalities risk being left out of the development and digitalisation progress that our country is facing. This is why Open Fiber's work is relevant: by pursuing the Ultra-Broadband Strategic Plan[72] and "Italia a 1 Giga" Plan[73], with the aim of bridging the digital divide, it will allow to reverse the trend of depopulation and aging of small municipalities and so-called "market failure areas".

This process is complex and must be tackled gradually over time. The implementation of infrastructures, indeed, cannot ignore the need for digital skills and the development of a true digital culture in the population. In recent years, Italy has made many steps forward in the use of the Internet: according to Istat data, regular use of the Internet among Italians has increased by approximately 25% and a similar result is also observed in the number of families who have access to the internet (+28%). Despite this, if we observe the data by size of the municipality to which they belong, it is clear that the availability of Internet access is significantly lower in

Support to the dissemination of connections in the White areas

In order to support the spread of FTTH connections in White Areas, Open Fiber promoted an important commercial operation at the beginning of 2023, concerning both passive and active GPON services, which resulted in a reduction in the costs incurred by operators for the activation of end customers by approximately 50% in terms of connection contribution and approximately 25% in terms of the fee relating to active services. The initiative has allowed us to expand the portfolio of operators interested in providing FTTH connectivity services in the White Areas, such as Vodafone and Iliad.

72 The Ultra-Broadband Strategic Plan is aimed at developing an Ultra-Broadband network across the entire national territory with greater attention to areas of market failure. Infratel actions are aimed exclusively at the white areas of the national territory, according to the provisions of the community guidelines and in coherence with the results of the Public Consultation for the Telecommunications Operators for Ultra-Broadband on the National Territory.

73 "Italia a 1 Giga" Plan aims to promote, through public intervention, investments in Ultra Broadband networks that allow all users to be guaranteed connection speeds in line with the European objectives of the Gigabit Society and Digital Compass. 1 Giga Italy is the first of the public intervention plans of the Italian Ultra-Broadband Strategy 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 to be seized

The possibility of Smart Working from a small municipality, guaranteed by the installation of the Ultra Broadband network even in small towns, represents a real opportunity for growth and recovery, both for the historic villages and for the people who live there, as it favors their repopulation, thus creating new job opportunities.

The possibility of being able to navigate thanks to a reliable and ultra-fast connection has meant that Smart Working has become a reality no longer typical of large metropolises but of any place, thus allowing you to work easily even from a well-lit desk that overlooks historicity and on the beauty of the vibrant medieval villages.

Smart Working from a small municipality allows to rediscover a slower lifestyle, as well as a more relaxed working dimension, as the quiet life of the historic village becomes a faithful ally of mental well-being.

#GOODSTORIES

Castell'Arquato (PC): living in the beauty without giving up on services

In Castell'Arquato, the medieval pearl in the Piacenza hills of the Val d'Arta, Open Fiber laid no less than 44 kilometres of ultra broadband network to allow 2,790 buildings in the ancient village to surf the Internet at the same speed as a large metropolis. Thanks to optical fiber, the number of residents in Castell'Arquato has not dropped for a few years now, reversing the trend of depopulation. Today, young couples and families can decide to live in the beauty without giving up on the most advanced connection services.

Bagnara (RA) runs in network with Open Fiber

In the municipality of Ravenna, 11 kilometres of optical fiber infrastructure have been laid, for one thousand households reached, in order to reverse the depopulation trend and guarantee an ultra-fast connection to all residents.

#GOODSTORIES

San Bartolomeo in Galdo (BN), the optical fiber "gem"

It is an optical fiber "gem" the municipality of San Bartolomeo in Galdo, in the province of Benevento. With 4,091 households wired out of a total of 4,315 inhabitants, the small town in Campania boasts close to 100% optical fiber coverage. And the area reaps the benefits: from schools to businesses to the municipal administration.

Pentidattilo (RC): ancient village at the heart a process of regeneration

A long-abandoned ancient village is now at the heart of a regeneration process in the name of hospitality and traditions. Pentidattilo, a hamlet of Melito Porto Salvo at the southernmost tip of the peninsula, is the central element of a process of technological innovation triggered by the start of works on an Ultra Broadband network within the context of the Ultra Broad Band Plan.

small towns and this is often associated with the scarce presence (or even absence) of digital skills in small Municipalities.

Being aware of the challenge that lies ahead, Open Fiber keeps pursuing its objective of reducing the exodus of people and companies from small towns and the phenomenon of marginalization for those born in the province. Indeed, with the Ultra Broadband, every territorial and professional barrier can be eliminated and small entrepreneurs can contact and collaborate with larger companies, or make themselves known anywhere without the need to travel. Thanks to fiber optics, for example, many digital professionals, such as graphic designers and creatives, have chosen to return to live in small municipalities because they can finally carry out their work exactly as they would in a large metropolis. Ultra Broadband allows you to quickly send large files, hold long video calls and advertise the beauty and products of the place. Not only companies and small entrepreneurs benefit from the advantages of Ultra Broadband, but also the community and the Public Administration, thanks, for example, to the services that this technology enables, such as telemedicine, Smart Working or public service digitised.

Very white municipalities project

A study conducted by AGCOM during 2020, upon the request of the Department for Digital Transformation (at that time Ministry of Technological Innovation and Digital Transition), identified the so-called "no-Internet" or "very white" areas, where the connection is not present even in ADSL technology. In Italy these are about 200 municipalities, located mainly in Piedmont, Molise, Liguria and Sicily. We are talking about 150 thousand total households and about 186 thousand citizens who cannot take advantage of a web connection. This is a gap that needs to be filled as soon as possible, also in view of the challenges that the nation has been facing for some time now.

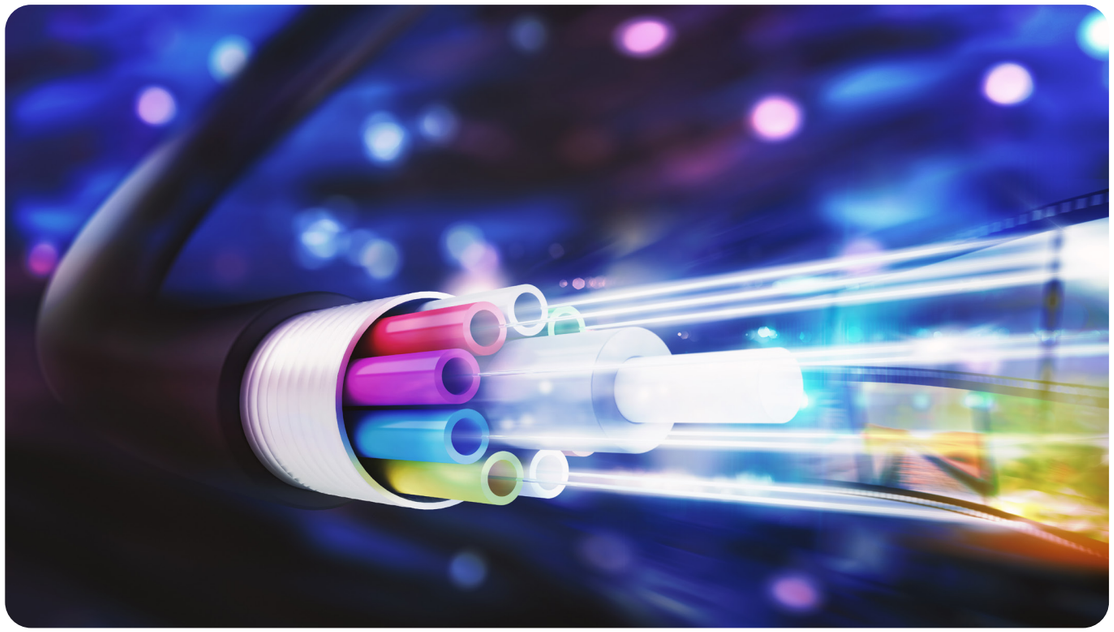
Most of the homes in the white areas are located on hilly or mountainous terrain (about 89 percent), where the route to travel is particularly impassable and there are almost always no tracks that can be upgraded. Cabling the fiber optic network in the traditional way, i.e., by digging and laying cables underground, is often too time-consuming or infeasible from a technical and economic point of view. Open Fiber found the ideal solution, i.e., FWA technology (Fixed Wireless Access)[74], also known as Wireless Local Loop, which involves the use of radio solutions to cover the last mile toward scattered homes in very sparsely populated areas. Thanks to the creation of a radio bridge, in fact, it is possible to send the Ultra Broadband signal from one transmitter to another,

Rocchetta Ligure

An important example is the action taken by the Company, thanks to its partner operator WINDTRE, in **Rocchetta Ligure** (AL), where the first Customer on FTTH network in the white areas of Piemonte was activated. Today, citizens and businesses in Rocchetta Ligure, a very small town in Val Borbera, can finally benefit from the latest generation of digital services by taking advantage of the infrastructure built by Open Fiber both in FTTH mode and with FWA technology.

More than 370 households have been connected in Rocchetta Ligure, partly through a new all-fiber network, while the most difficult-to-reach homes already have the possibility of activating a connection in FWA mode, a far cry from when the municipality did not have good fixed and/or mobile connectivity.

74 Point-to-Multipoint wireless link on licensed band, running from the FWA site to the Terminal Station (TS) located at the individual Property Unit (PU).



making it possible to cover long distances even without laying cables and to overcome obstacles, such as the wall of a mountain, that would otherwise require expensive and unsustainable interventions. In addition, because of its characteristics, Open Fiber's FWA technology has a very low environmental and electromagnetic impact[75].

Following this acceleration in the connection of the White Areas (through transitional intervention with FWA), Open Fiber has provided, where possible, for the cabling of the FTTH network as predetermined by the Infratel Notice. This work will be largely financed by the Company: in fact, coverage has been proposed while maintaining the expense charges of about 5 million euros. The Company is also in the process of making at its own expense backhauling connections - the radio-network link - and reusing Infratel's backhauling. A necessary investment to break down the digital divide and promote a digital renaissance for a more inclusive society, now more than ever.

In line with the ambitious plan presented in 2020, Open Fiber has covered 178 municipalities, including 166 with FTTH/FWA technology and 12 with STTH technology (Satellite To The Home)[76].

75 For more information on the environmental benefits of FWA technology, see paragraph 5.3.2 "Non-invasive laying techniques".

76 The Service STTH (Satellite To The Home) allows for the delivery of broadband connectivity via satellite technology, in the most remote areas of the country. The service is provided by Open Fiber to its Partner Operators, through the agreement signed with Telespazio. For more details, see paragraph 4.3 "Innovation Lab".

3.3.2 Relationships with the local authorities and bodies in permitting activities

In the Italian territories with low population density, known as market failure or white areas and falling within the so-called **C&D Cluster**, the Ultra Broadband Strategic Plan stipulates that for each municipality, 10 to 15 permits must be issued to allow network laying activities to begin. Considering the large number of municipalities in which Open Fiber operates, the volume of permits to be applied for is extremely high. For this reason, the Company, through public relations activities, raises awareness among local authorities about the adoption of uniform national regulations so as to simplify and facilitate the issuance of authorization opinions. This also accelerates the time it takes to open construction sites and, consequently, the achievement of community goals. In past years, it has also taken the form of raising awareness among municipalities about the need to hold service conferences, which are considered a fast and certain approval tool. Over the past six years, **more than 200** have been held, and each of these has involved all of the many entities directly impacted by the project.

There are numerous forms of coordination tailored to each territory managed by the individual Regions (steering cabins, service conferences, periodic meetings) in which the main stakeholders of the project are involved in order to share objectives and resolve any critical issues. In addition, in some regions, rounds of meetings have been held with all the municipalities that have participated in the various service conferences in previous years, with the aim of monitoring the progress of the project, communicating news and solving any problems.

In areas with a high population density (known as black areas and falling within the so-called **A&B Cluster**), the Company, prior to the start of works, initiates discussions with the Municipal Administration in order to share the business plan and the operating procedures for the realisation of the infrastructure. These discussions often

Permitting "Italia a 1 Giga Plan"

Over 3,800

Municipalities impacted by the "Italia 1 Giga" Plan (grey areas - industrial districts).

Since 2022, **13** moments of discussion (webinars, roundtables) have been organised involving about **500** municipalities.

On 5th December 2023, the webinar ***Ultrafast Networks: "Italia a 1 Giga" Plan-information and operational tools for Municipalities,*** in collaboration with the Department for Digital Transformation, Infratel and ANCI.

lead to the signing of an **agreement** between Open Fiber and the Municipality that formalises the above-mentioned aspects. Since it began its activities, the company has signed **around 230** such agreements with large and medium-sized municipalities.

In May 2022, Open Fiber was awarded 8 of the 15 lots of the tender announced by Infratel for the **"Italia a 1 Giga" Plan**, one of the projects of the Ultra Broadband Strategy financed with funds from the National Recovery and Resilience Plan (PNRR). The subject of the call for tenders is "the granting of public subsidies to finance investment projects for the construction of new telecommunications infrastructures and related access equipment capable of delivering services with a capacity of at least 1 Gbps in download and 200 Mbit/s in upload". The eight lots awarded to Open Fiber coincide with the regions of Sicily, Apulia, Campania, Latium, Tuscany, Lombardy, Emilia-Romagna, Veneto and Friuli-Venezia Giulia, and provide for interventions in over **3,800 municipalities.**

In order to facilitate permitting activities, and given the number of municipalities impacted by the plan, Open Fiber organised, in collaboration with the regional ANCIs[77] (National Association of Italian Municipalities) and some Regions, a series of moments of discussion, in the form of webinars and round tables, aimed at involving the municipalities affected by the project to inform them about the characteristics of the plan and the methods of intervention of Open Fiber.

Permitting

- Over **200** service conferences in 6 years with small municipalities
- Around **230** agreements with large and medium-sized municipalities

Starting from November 2022, **13 webinars** have been organised in **8 regions** (Sicily, Emilia-Romagna, Apulia, Tuscany, Campania, Latium, Lombardy and Veneto) involving around **500 municipalities.**

Furthermore, over the course of 2023, in order to facilitate once again the achievement of the objectives of the "Italia a 1 Giga" Plan, working tables were opened with the Department for Digital Transformation (*Dipartimento per la Trasformazione Digitale*, DTD) of the Presidency of the Council of Ministers, ANCI and Infratel in order to fix the problems arisen during the course of the project.

On 5 December 2023, the webinar ***Ultrafast Networks: "Italia a 1 Giga" Plan - information and operational tools for municipalities*** was held, with the aim of informing municipalities scheduled to open in 2024 on how to implement the Plan.

In addition to dedicated permitting procedures and channels, there are some transversal activities that the Company carries out for all the areas where it operates. Particularly important are the relations, based on dialogue and discussion, that Open Fiber maintains with the superintendencies - aimed at protecting the heritage from an archaeological, monumental and landscape point of view - and with the companies managing infrastructure and public utilities, aimed at sharing the opportunity to reuse an existing infrastructure for laying fiber.

3.3.3 Open Fiber for the protection of the historic heritage

Supporting the transition between past and future and preserving the natural and artistic heritage of our country has always been a fundamental part of Open Fiber's mission.

The cabling activities that Open Fiber performs on a daily basis make it possible to equip some of our cultural assets with a state-of-the-art network that paves the way for important technological innovations in the field of tourism promotion and digitalisation, to the benefit of the territory and its citizens.

In addition, in a country with a millenary history like ours, excavation activities can reserve unexpected surprises, real **gems**, such as **archaeological relics** or **ancient buildings**. When this happens, Open Fiber is committed to enhancing them by putting itself in contact with experts in the field who can analyse and assess the newly-discovered site, and continuing the work without interruption by means of original cabling plans reworked so as not to affect the newly-discovered heritage.

Discovering the "Certosa di Padula"

Legend has it that it was once impossible to see the white walls of Padula Charterhouse, so many works of art and paintings decorated them. Even today, the **"Certosa di San Lorenzo"** is considered an artistic jewel: its value was recognised internationally by becoming a UNESCO World Heritage Site in 1998.

Open Fiber's objective was to equip one of the cultural assets with a state-of-the-art network that would pave the way for important technological innovations in the field of tourism promotion and digitalisation, to the benefit of the area and its citizens.

For the cabling of the Padula Charterhouse, existing infrastructures were reused, where they already existed, bringing optical fiber into the heart of the Certosa without affecting its historical and cultural wealth.

Pennabilli (RN): Open Fiber revives the village cultural heritage through optical fiber

Open Fiber has also arrived in Pennabilli, a town of around 2,600 inhabitants on the Romagna Apennines

77 National Association of Italian Municipalities.

with suggestive views, surprising historical relics and an important gastronomic tradition. The village is a unique combination of antiquity and contemporary history which, despite its cultural heritage also recognized by the Touring Club, before the arrival of optical fiber it was heavily penalized by the digital divide, as the more decentralized hamlets were lacking satisfactory connection or mobile service. Open Fiber's FTTH fiber has reached 2,600 households. Given the historical richness of the place, the works required particular care for the creation of the network. In addition to homes and commercial activities, several public buildings such as the Vittoria Theater and the Computing Museum and many schools in the area have been wired.

Gela: museum project financed by Open Fiber

What took place to connect the **Municipality of Gela** (CL) to Open Fiber's FTTH network is perhaps the perfect example of the attention paid to historical and cultural heritage: during the work carried out in the area, artefacts from the period between the 7th and 5th centuries BC came to light, including a unique necropolis. The site dates back to the time of the very first Rhodian-Cretan settlers who settled in the area, and the ten burials found belong to a children's cemetery, dating from around the 6th century BC. Along with the graves, an altar for funeral rites and various grave goods were also found.

Open Fiber, together with the archaeological monitoring team of the Caltanissetta Superintendency, has rewritten the intervention plan to make the most of these discoveries of enormous historical value, transforming the necropolis of Gela into a veritable open-air museum and greatly enriching its archaeological heritage with obvious benefits for the city and its visitors.

Other discoveries

Numerous discoveries are made while carrying out work on Open Fiber's infrastructure. In **Piacenza**, work has brought to light the remains of the ancient Farnese city, allowing some historical aspects of the urban layout within the 16th-century city walls and the curtain wall that surrounded the Palazzo Madama complex and its gardens to be investigated. In **Garaguso** area, in the province of Matera, a tomb dating back to the 7th or 6th century B.C. came to light, with a surprising funeral outfit consisting of numerous vases and a sword complete with fibula. **Teramo**, in Abruzzo, took us back several millennia, first with a floor from the Roman imperial era, then with the discovery of a skeleton dating back to the Neolithic period. Not to mention **Palermo** and its underground canal that, in the Middle Ages, was used to bring water to the city centre.

3.4 SOLIDARITY PROJECTS AND INITIATIVES BENEFITTING THE COMMUNITY

3.4.1 Partnerships and innovations supporting culture

Partnerships with the academic world

Open Fiber has established synergies with some of Italy's academic centres of excellence through a virtuous circuit of ad hoc partnerships through which it promotes initiatives and activities in favour of master's degrees and specialised courses, thus fostering not only social cohesion but also interesting job prospects. Again in 2023, partnerships were realised with different master's courses, both technical-engineering oriented and soft. The activities involved didactic co-design, classroom interventions and testimonials, internships, project work and scholarships.

As part of the partnership initiatives with the main university poles already consolidated in Open Fiber, the collaboration with the world of scientific research continued through the funding of a scholarship for the first national industrial doctorate in Artificial Intelligence promoted by the University of Pisa.

This cooperation, lasting three years, is aimed at increasing specific skills related to the application of data science and big data techniques, which are fundamental to enable Open Fiber to become a data-driven organisation.

Furthermore, in 2023, Open Fiber financed a further research project by awarding a scholarship for a national PhD in Information Technology and Electrical Engineering, in partnership with the University of Naples "Federico II".

Open Fiber and ELIS: Transversal Skills and Orientation Pathways (PCTO, Percorsi per le Competenze Trasversali e per l'Orientamento)

Five Italian cities and as many schools, around **140 students** involved, **15 corporate masters of their craft** from different professional fields, and more than **70 hours of training delivered** through face-to-face meetings between school desks, culminating, at the end of the course, in around 10 internships. Such are the figures of **PCTOs *(Percorsi per le Competenze Trasversali e per l'Orientamento*, Transversal Skills and Orientation Pathways)** for the academic year 2022/2023, the Open Fiber training project carried out in cooperation with ELIS, now in its fifth year.

The sixth edition for the academic year 2023/2024 has already begun.

From the Istituto Paleocapa in Bergamo to the ITIS G. Armellini in Rome, passing from the ITI Ferraris in Scampia in Naples to the IIS Marconi-Hack in Bari to the ITIS Vittorio Emanuele III in Palermo, the fourth and fifth grade students participated with interest in the meetings with the company and the relevant masters, during which they were able to ask questions and interact with the organisation's professionals. In this way, the young students listened first-hand to diverse experiences and testimonies of other professionals invited to the meetings, and also clarified doubts about the range of the choices they may have to make along the way.

Italian Academy of optical fiber

Open Fiber and ELIS, with the support of major telecommunications companies, are committed to providing training courses for splicers, technical assistants and FTTH optical fiber technicians to train professionals in the sector, also aimed at young graduates wishing to enter the world of optical fiber. Thanks to the participation of the network of companies involved in the project, past editions have recorded a job placement rate close to 100%.

Technical School

Open Fiber's Technical School pilot project was launched to support partner companies in their training and professional qualification processes in order to meet the need for specialised manpower. In fact, Technical School envisages the provision of training courses on the professional skills most in demand by companies in the national territory with a focus on Lombardy and Piedmont.

#GOODSTORIES

San Michele complex

Thanks to a total investment of around EUR 15 million from private funds and as part of the Ultra Broadband Plan, Open Fiber has already connected numerous households in **Salerno**, which is among the most wired cities in Italy. Among the households connected to Open Fiber's fibre-optic network is now also the historic **convent complex** of San Michele, managed by the **Fondazione Cassa di Risparmio Salernitana**. Thanks to a renovation and urban redevelopment project, the ancient building now houses co-working spaces and promotes various socio-cultural initiatives.

"Distretto Italia"

Since 2017, Open Fiber, in partnership with ELIS, has been supporting the transition between the world of work and the academic world with the aim of bridging the mismatch between supply and demand by supporting the orientation and placement of young people.

In 2023, the "**Distretto Italia" (*Italy District*)** project was launched, aimed at NEETs (young people who do not study and do not work) and, through the creation of value **networks** engaging **companies, training centres, universities and schools,** aims to **train technical-specialist professional figures**, starting from the collection of needs from companies and orienting students, accompanying them in the search for their professional vocation.

Bridging the cultural digital divide: Open Learning platform

The digital divide is not only caused by geographical or territorial factors, but can also arise from the inability of citizens and businesses to know how to make the best use of existing and available innovative and technological services. The rapid developments that characterise the sector also force people to constantly update and improve their personal and professional know-how. Unfortunately, not everyone manages to bridge this gap alone. In fact, according to the first Digital Decade Report published in 2023, in Italy only 46% of people possess at least basic digital skills (54% in the European Union), compared to 42% a year earlier (56% in the European Union), and only 23% have digital skills beyond basic digital skills (26% in the

European Union), compared to 22% a year earlier (31% in the European Union).

It is precisely for this reason that Open Fiber set a new ambitious goal: helping all those who wish to improve their telecommunications and digital skills to achieve their objectives. With this in mind, it has launched a project that puts the company's skills and knowledge fully at the disposal of anyone wishing to train in the sector, thanks to the **Open Learning** platform: a free and specialised online training support, whose courses are divided into clear and comprehensive video lessons. Using the platform is as simple as connecting to the web, accessing the courses directly through your browser and choosing the one that best suits your needs:

- network basics: for newcomers to the field or for those who feel they need to reinforce their basic knowledge, a guide through the world of fixed and mobile networks from the basics to the analysis of lesser-known technologies, such as FWA;
- advanced network systems: for those who already have some basic knowledge of telecommunications infrastructures;
- Digital & Information Management: for anyone wishing to expand their professional digital know-how with respect to team collaboration, branding, data management, content creation, corporate culture and internal security;
- YouDigital: tailored tests for those who do not know what their initial profile is, with the aim of assessing their digital knowledge.

3.4.2 Initiatives in support of the community

Open Fiber supports people and the territory by promoting projects and initiatives aimed at encouraging the economic and social growth of the community in which it operates. In 2023, the main initiatives in favour of the community revolved around the themes of innovation, sustainability, digitalisation, support for local businesses and the fight against inequality.

Open Fiber and YEP against gender inequality

Open Fiber continually steps up its efforts to promote inclusivity in all its forms and to combat gender inequality, and this is why in 2023 it renewed its partnership with the Ortygia Business School Foundation, supporting the fifth edition of **YEP** (Young Women Empowerment Program), a mentoring programme for female empowerment addressed to female students enrolled in business and STEM faculties in the most important

universities in Southern Italy. The aim of this training programme is the enhancement of female talent through the acquisition of useful skills and tools to face the world of work with greater awareness.

The six-month project, with plenary events and one-to-one meetings, allowed the girls to benefit from the individual support of volunteer professionals from the initiative's partner companies.

Degree Thesis Award *Ingenio al Femminile*

Ingenio al Femminile is a project promoted by the CNI (*Consiglio Nazionale Ingegneri*, National Council of Engineers) with the aim of contributing to the enhancement of female talent and professionalism in engineering. It also represents a concrete institutional response to one of the goals set by the United Nations' 2030 Agenda for Sustainable Development. In particular, it refers to Goal 5: achieve gender equality and empower all women and girls.

The authors of the best thesis received a cash prize and will have the opportunity to carry out an internship at the supporting companies. In addition, the curricular database will be made available to enable the companies themselves, based on their own needs, to select profiles for further internships.

Solidarity runs in our blood

Open Fiber took part in the Blood Donation Days, promoted by the association GEDS (*Gruppo ENI Donatori Sangue*, ENI Blood Donors Group) and the Bambino Gesù Children's Hospital in Rome, with the aim of promoting periodic blood donation in the spirit of pure volunteerism.

Plastic Free

The Company made a donation to the non-profit organization Plastic Free, a voluntary association created with the aim of informing and raising awareness among people about the dangers of plastic pollution, aimed at the supply of water bottles for employees accompanied by an awareness-raising activity among schools against single-use plastic. In this sense, the association held an intervention in a school in Rome, involving 193 students.

Support towards Nord di Prato Comprehensive Institute

Open Fiber saw first-hand the strength and courage of the Tuscan community during the floods of autumn 2023: the fury of the mud and water, in addition to producing suffering and destruction, also damaged some fundamental nodes of the technological infrastructure. Many volunteers supported Open Fiber colleagues working night and day in the area, allowing the connectivity service to be reactivated in record time. A collective effort that the company intended to partly repay with a solidarity initiative: the budget allocated by the President and CEO for the Christmas presents was in fact allocated to the "Nord di Prato" Comprehensive Institute. A non-random choice given that that school, in addition to the damage from the flood, had suffered the theft of the IT equipment essential for the training activities of the digital classes. Classrooms which, thanks to the Open Fiber donation, were able to begin to repopulate as soon as the end-of-year holidays were over.

04

INNOVATION

Since its establishment, in the name of innovation Open Fiber has achieved important results, and not only in terms of network cabling but also in terms of its impact on the country's growth. Acting as the standard-bearer for Italy's new digital development, the Company has made available a product that is highly revolutionary compared to the standard provided in the past by other companies in the sector: the **FTTH fiber.** However, Open Fiber's strong point is to pursue the development of innovation in order to create shared value in all the corporate activities in a variety of aspects, thus achieving ongoing improvement of its core services, especially in the constant search for new proposals and new links between its services and other market sectors.

4.1 THE PROJECTS AIMED AT EXPANDING THE NETWORK AND THE DEVELOPMENT OF NEW SERVICES

Building an ultra-fast infrastructure spread throughout the territory would be a futile undertaking without a long-term vision. Open Fiber is aware of the speed at which technological progress advances, particularly in the field of telecommunications, and always takes into account possible future challenges in this field. This is why it has designed a network that is characterised by its neutral, open, optimised architecture, which allows all Operators to provide their electronic communication services without any constraints in their choice of technologies and network architectures. The decision to maximise fiber coverage was made with a view to setting up a **future-proof** network, that can enable increasingly high-performance services, aimed at achieving the objectives of the European Gigabit Society, making it possible to develop new technologies, including 5G and its evolutions. Thanks to its capillary, lean, efficient, technologically neutral structure, Open Fiber is capable of:

- allow for the most effective unbundling of access services;
- provide maximum flexibility to the most infrastructured OLOs (Other Licensed Operators), thanks to their widespread presence throughout the territory;
- enable maximum efficiency for the least infrastructured OLOs, thanks to the possibility of delivering their services in the DP[78] that is closest to their networks;
- ensure scalability, quality and continuity of service thanks to the technologies adopted and the redundancy of the equipment and infrastructures that make it up;
- guarantee efficiency in management and speed in service provisioning thanks to the architecture, simplicity and homogeneity of technologies that characterise a greenfield Operator.

In the current historical period, the issue of having a resilient and high-performance network is even more relevant. Open Fiber, as a wholesale operator, designs and builds its network in such a way as to make it capable of supporting the **progressive increase in demand**, while guaranteeing efficiency and security. In fact, Open Fiber's network is highly scalable due to its simplicity and flexibility in adapting to the growth of traffic volumes over time and already aims to be easily extended to other portions of the territory and/or types of users or services that may emerge in the future, facilitating optimisation and automation, simplifying management and encouraging the creation of innovative services, particularly in multi-operator environments.

Over the next few years, Open Fiber plans to establish partnership-oriented agreements aimed at direct selling to capacity Operators of computing, enabling their customers - end users - to remotely deploy processing

"Network Resilience" project

The increase in the number of customers and services offered by the Open Fiber network, as well as the ever-increasing demand for capacity by end users, has made it necessary to launch the "Network Resilience" project with the aim of providing an increasingly high-quality service to the OLOs (Other Licensed Operators) accessing our network.

The project, which will be launched in 2023 and will be developed over the next three years, consists of several initiatives, which will address the different layers of the Open Fiber network, from transport, to regional networks, to MANs (Metropolitan Area Networks), as well as the physical infrastructure of the PoPs (Points of Presence), allowing for a strengthening of the network to ensure continuity of service and increased 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 resilience level of the backbone network.

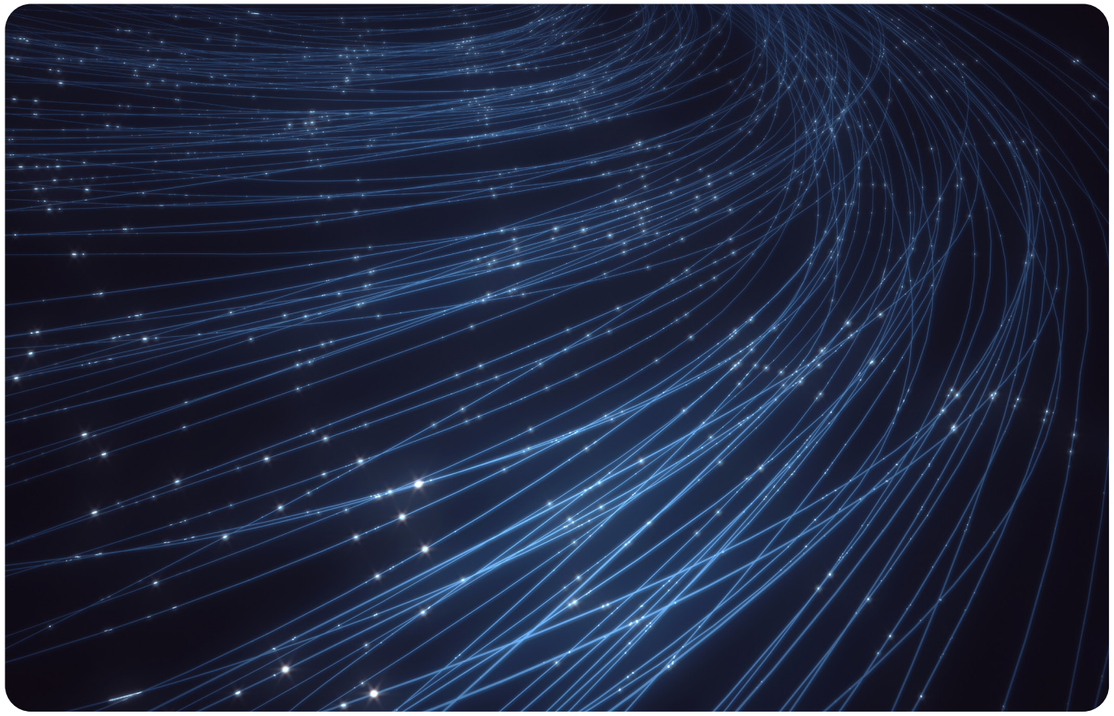
78 Delivery Point.

capacity, eliminating the large upfront investments required for ICT solutions. Optical fiber will support the **development of city services** to be introduced in the near future and modernise public utilities, facilitating, for example, the interconnection of a sensor network capable of constantly monitoring the quality of air and water in our cities.

Already today, Open Fiber manages projects for the interconnection of national utility cabins aimed at the constant monitoring performance trends and balancing the electrical grid with the goal of enabling the energy transition.

In addition to that, smart infrastructures interconnected by fiber, which adjust their operation according to actual 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 movements and make the roads safer, surveillance systems that recognise dangerous situations and promptly alert the authorities.

Smart points will be enablers for all these indispensable services in metropolitan areas as well as in small urban centers, and will also be crucial in the next decade for the implementation of new innovative technologies such as the deployment of self-driving vehicles.



4.1.1 Backbone 2.0 project

In light of the expected increase in network traffic in the coming years, Open Fiber has planned a project to expand the capacity of its Transport Network (the so-called Backbone 2.0 project), in order to evolve towards an infrastructure that can guarantee maximum network scalability, performance and resilience.

Open Fiber, as a wholesale-only network operator, is planning to upgrade its backbone with the aim of providing access not only to Telecommunication Operators but also to multi-utility Operators. This infrastructure will guarantee better performance, as well as greater network scalability and resilience, also thanks to maximum reuse of underground infrastructure, and will connect strategic points such as xPOP, landing Station, IXP[79], and Data Centre.

Moreover, the design of a resilient and high-performance national backbone is in line with the EU's goal of strengthening backbone connectivity transport networks for global digital gateways, i.e. the deployment of strategic networks that contribute to enhancing the quality of connectivity where redundancy is lacking on a route or where the backbone infrastructure cannot reliably meet demand.

By strengthening a long-distance network, Open Fiber also aims to expand its service portfolio by entering into the offer of dull fiber connections on national routes. The market, in fact, will require increasing volumes of long-distance fiber infrastructures for the realisation of new ecosystems on the national territory (Data Centres, Industrial Areas, etc.), including the landing on the Italian coasts of new submarine connection systems.

Finally, the Backbone 2.0 project enables the sale of OTN[80] services on terminations and capacities not currently served by the current Open Fiber network architecture, is of particular strategic interest to the Business segment and makes the network increasingly future-proof by preventing any additional future investments in fiber expansion due to saturation of the Backbone.

4.1.2 Edge Data Centres

In an increasingly digitised and connected world, the sector of Data Centres is also adapting to meet the new demands for greater data management capacity and processing speed. This is why, in this context, the construction of a nationwide network of Edge Data Centres, small data processing centres installed at the

79 Internet Exchange Point.
80 Optical Transport Network.

edge of a telecommunications network, will enable data processing and content storage at network points closer to the end user, thus offering shorter paths and lower latency times.

Edge Data Centres can offer performance and efficiency benefits to offices, teams, retail outlets and other widely distributed sites. Another important driver is the geographic location of data, whereby the development of local data centres is geared towards keeping data (especially the most sensitive data) within national borders for strategic and security purposes. The Italian Government itself, with the PNRR and the path of digitisation of the Public Administration, is rationalising its infrastructures through the creation of a National Strategic Pole (NSP) for the management of critical data and applications.

In 2023, the Italian Data Centres scenario experienced an unprecedented acceleration: 23 organisations (including 8 new entrants to the Italian market) announced the opening of 83 new infrastructures in the 2023-2025 period, the commissioning of which could bring up to EUR 15 billion in total investment. The new openings have led to a growth in nominal active energy capacity in the territory of 80 MW[81], by increasing Italian data centres' total power to 430 MW (+23% compared to 2022).

Also in this case, Open Fiber's future-proof infrastructure proved to be up to the task, since, in addition to allowing for the fiber connection of large Data Centres, it can now host in its (duly equipped) technological sites, servers for Edge Computing processing, providing the same devices and services available in traditional Data Centres, and therefore significant benefits in terms of speed and latency.

The future connectivity network will therefore be a mix of data storage, processing and transmission services, like a computer continuum network. Open Fiber has embraced this vision and started this transformation in collaboration with innovators from academia and industrial partners. Thanks to the large number of technological sites spread throughout the country, Open Fiber is indeed the ideal candidate for building a national network of Edge Data Centres (or Edge Nodes[82]), offering distributed computing and storage capacities and providing access to data services wherever Business and Residential customers are located, offering several advantages in relation to:

- **reduced latency**: Edge Data Centres are located closer to end users, which reduces the distance that data have to travel, resulting in reduced latency and faster response times;
- **improved performances**: 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 typically 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 quickly adapt to changing market conditions;
- **security and safety**: Edge Data Centres can offer advanced security features, such as physical safety, access control and surveillance, to protect critical data and applications.

Open Fiber Project envisages up to 100 Edge Nodes (approximately 5 per Region), which will grow with the demand for services. Although the Data Centre market is populated by a large number of players, Open Fiber

81 Mega Watt: Unit of measurement of power. One megawatt corresponds to 1,000 kiloWatts (kW) or to 1,000,000 Watts.

82 Decentralised edge nodes system.

stands out by offering a unique solution in Italy thanks to its assets:

- **new technological sites**: designed to be more resilient and scalable, in addition to further peripheral technological sites to reach the edge of the network;
- **FTTH access**: pervasive broadband access network that collects traffic directly at the technology sites where most operators are already located/ connected;
- **Backbone**: proprietary transport infrastructure suitable for providing high capacity and differentiated routes;
- **ITC**: local presence and interconnection with all major IXPs (MIX, NAMEX, etc.).

The inherent features of the Edge Data Centres', meaning a large territorial presence and small size, make it possible to drastically reduce the network traffic and computing power used, while also substantially lowering the energy consumption required to transport data, thus coming closer to the global mega-trend affecting all production sectors also in terms of sustainability.

The Digital Transformation challenge facing businesses has turned the spotlight on IT infrastructures, including data centres, the true foundation of the digital ecosystem. However, ecological and 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 Data Centre facilities of limited size and distributed throughout the country, Open Fiber therefore aims to position data storage and processing close to customers.

4.2 OPEN FACTORY

Launched in 2019, **Open Factory** is Open Fiber's experimental laboratory where the most innovative technologies for the FTTH network and the FWA wireless access network[83], are tested and experimented, offering advanced connectivity solutions to operators (OLOs) for both residential and business applications.

Featuring all the equipment and instrumentation needed to test the new technological solutions and services to be released in the field, the laboratory is used to create a place that guarantees a rapid and accurate service innovation path. The complex, which is functional and modern, consists of a control room, equipped with workstations dedicated to Open Fiber and external personnel, and an equipment room, equipped with all the network elements and instrumentation useful for testing. Within the Open Factory, moments of study and experimentation are continuous. Verification and Validation tests (VVT), Proof of Concept (PoC) of new network functions and performance, demos of innovative services, development of know-how in the new technologies: these are just some of the activities that are carried out within the laboratory. Tests are carried out using automation tools and a high-precision robotic optical matrix, which ensure a fast and automated set-up of the testing environment, making it easy to switch from one testing scenario to another.

Companies operating and providing instrumentation for Open Factory make use of highly specialised technological solutions and are oriented towards optimising and reducing consumption and carbon footprint. They are thus initiated to certain virtuous practices such as reducing the production of paper documentation through the intensive use of digital documentation, favouring the use of low-impact means of transport such as the train, recycling the packaging of all the material they handle and adopting the best practices that international partners put in place with the aim of reducing emissions.

The advantages of this environment and the benefits found are manifold:

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

Therefore, it is a true "factory of ideas" where the experimentation of the most innovative technologies is combined with the adoption of measures to minimise the impact on the environment and the territory in the company's business value chain.

Over the course of 2023, several innovative activities were carried out in Open Factory, including:

- **testing outdoor/indoor FWA:** an outdoor test environment was created in order to simulate a real radio environment with outdoor environmental conditions that cannot be reproduced with indoor connections. This simulation allows testing of FWA (Fixed Wireless Access) technology solutions to provide operators with point-to-multipoint wireless connectivity.

  In the indoor environment, tests were carried out on equipment working on licensed frequencies in order to meet the data transfer speed requirements of the "Italia a 1 Giga" Plan for grey areas;
- **50G-PON:** Open Fiber is among the first companies in Italy to have tested in a controlled environment

83 Fixed Wireless Access.

Virtual Server Farm

The **Virtual Server Farm** consists of a set of servers within a dedicated area, networked for the purpose of providing different IT services and offering data backup and disaster recovery management. Open Fiber chose a virtual greenfield solution for the creation of its **Virtual Server Farm**, leveraging the advantage of being a young and innovation-driven company.

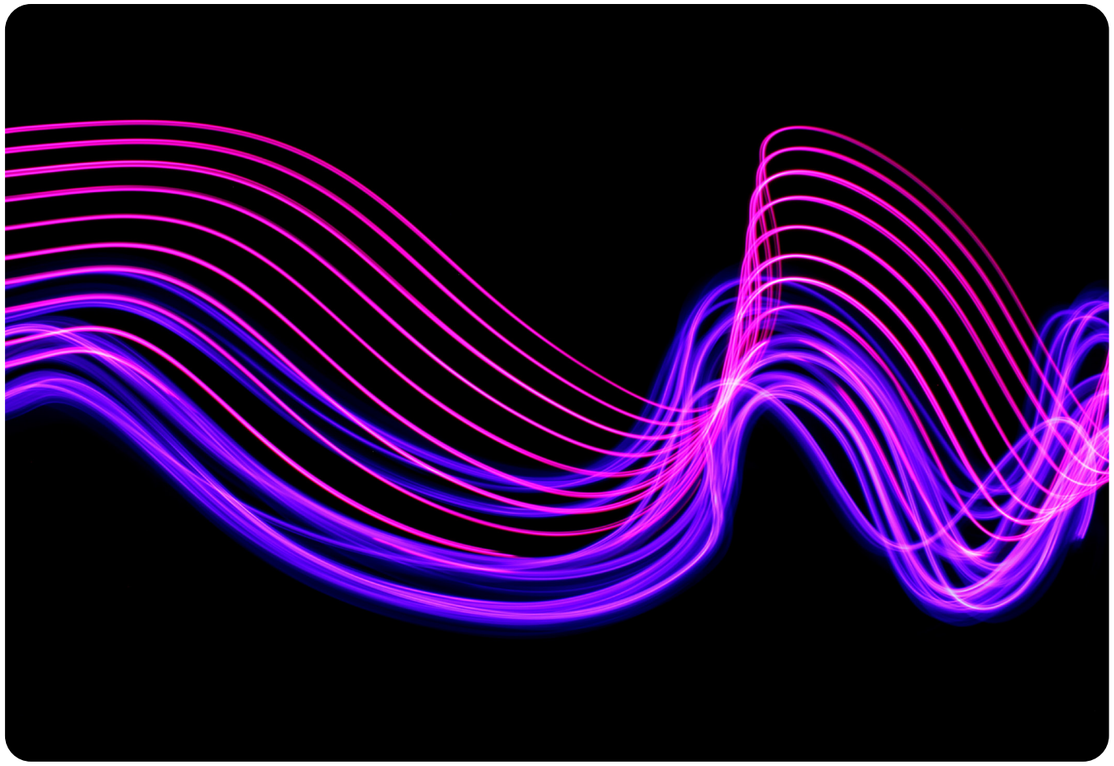
In Open Fiber's Virtual Server Farm, to date, most of the critical control platforms operate on a virtual platform. For example, the fiber status control systems, the equipment fault management systems, the DNS (Domain Name System) and the end-user authentication system, as well as the network management and control platform, have all been made virtual.

The main advantages of the virtual solution are:

- reduction in capital and operating costs;
- savings on physical space and energy consumption (power supply to servers and cooling systems);
- downtime reduction and elimination;
- higher levels of Business Continuity and disaster recovery;
- simplified management of the Data Centre;
- faster provisioning of applications and resources.

the new broadband access service **50G-PON** (50 Gigabytes), with which speeds of up to 50 Gbps (500 times 100Mbps) can be achieved in the access network. Test results show the great potential of this technological upgrade in terms of bandwidth and latency times of a few tens of microseconds. These features will be crucial to continuing to meet users' needs in terms of quality of experience and speed, which are growing steadily and rapidly: the 2022 AGCOM[84] report shows, indeed, that average monthly traffic per user on the fixed network increased by 87 per cent compared to 2019. Moreover, this new technological frontier will open up a series of new service scenarios and will be decisive in the binding of the access network elements of 5G mobile networks. Indeed, next-generation mobile networks need densification of transmission antennas (microcells) and a large transmission capacity of the networks themselves. Thanks to the 50G-PON technology and the ubiquity of the PON network, the FTTH access network becomes a platform that enables fixed-mobile convergence, becoming an important enabler for new applications that will run on the 5G network, from home automation to assisted driving, from Metaverse to AI. The test also demonstrated the possibility of running the new 50 Giga service in parallel, and without interference, to the services already offered by the company (XGS-PON, i.e., 10Gb);

- **Disaggregated POC OLT:** the OLT (Optical Line Terminal) that aggregates fixed network access points allows hardware (HW) from different vendors to be used with a single software



84 *Autorità per le garanzie nelle comunicazioni* (Communications Regulatory Authority).

solution (SW), as the existing network control and management logic is independent from the HW used. The solution allows to make a optical fiber network flexible and scalable, with benefits for user customers. The tests were aimed at verifying the compatibility of the unbundled solution for a possible implementation in Open Fiber's network architecture.

4.3 INNOVATION LAB

With the aim of identifying and defining new business models, the **Open Fiber Innovation Lab (OFIL)** was created, a widespread innovation laboratory that supports and promotes the adoption of Open Fiber's services in competitive sectors such as Fintech and Industry 4.0, through the development of concrete and market-oriented cases for Italian companies with high innovation potential. Within the Open Fiber Innovation Lab, collaborations have been established with leading academic and research institutions with the aim of giving the company a leading role in the innovation ecosystem in Italy. OFIL places at the centre of its mission the transformation of Open Fiber into a Data-Centric organisation, capable of using data to make strategic decisions.

Collaborations with the world of research

Collaboration initiatives with the world of research include 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 "Artificial Intelligence For Society" area coordinated by the University of Pisa**. The theme of the grant 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 intervention based on the Point-To-Market (PtM) approach aimed at expanding the B2B segment and based on the following principles:

- any basic innovation becomes rooted in the market because of the opportunity it offers to develop functional applications capable of changing business processes and consequently the competitive dynamic;
- such innovation finds inertial resistance in the adoption system until most stakeholders find in it either an element of differentiation or an explicit advantage;
- the class of innovations brought by Open Fiber touches all industries and transforms supply chains into multi-lateral business platforms.

The project is about the implementation of some pilot projects in areas where the fiber of Open Fiber, carried by an operator selected on a case-by-case basis according to the scope of intervention, allows companies to try out a **bundle** consisting of Ultra Broadband connectivity and a specific application identified together; if the trial proves to be strategic for the customer, then it will be proposed commercially in agreement with the selected operator and suitably branded. The aim is to maximise support for the deployment of high-performance fiber by Open Fiber's customer and partner OLOs.

The target sectors identified, besides being crucial for the country's economic system, are characterised by a strong need for competitive innovation.

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

With regard to **culture and entertainment**, a project with the Antonio Canova Gypsotheca Museum in Possagno (Treviso), which houses the historical and artistic legacy of the great neoclassical sculptor, has been successfully concluded. Thanks to Open Fiber's ultra-fast fiber, which also contributed to the development of a webapp dedicated to visitors, 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 the country thanks to satellite technology.

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

The **STTH (Satellite To The Home) satellite connection** is a complementary solution to Open Fiber's offer and represents an alternative opportunity to cable places that would otherwise remain without connectivity. Furthermore, thanks to the forthcoming VHTS (Very High Throughput Satellite) satellites there will be the possibility of even higher performance depending on the evolution of the market and the needs of customers.

4.4 5G FUTURE PROSPECTS

Fifth generation mobile networks represent the future of telecommunications and a necessary infrastructure to support telemedicine, autonomous driving, precision robotics, smart cities and immersive experiences with virtual reality. Technology must therefore take a leap forward to keep up with the innovations of the near future and, in this context, 5G represents the main tool capable of taking connectivity to the next level.

The Fifth generation of mobile networks (5G) is emerging, together with full-fiber networks, as the most advanced technology ever made available for mobile data transmission. 5G will not only enable fast Internet browsing from smartphones and tablets, but will also create a network to which everything will be connected (Internet of Things - IoT).

5G technology also responds well to the challenge of energy consumption, helping to contain costs and emissions while meeting the ever-increasing demand for data. In fact, networks are capable of requiring 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 4G and will increase its efficiency by 20 times by 2030 thanks to the use of transmission techniques that allow for better power management of the devices.

Through extremely high data rates, reduced energy consumption and ultra-low response time (latency), 5G will improve the interconnection of billions of people and devices. This revolution will be possible thanks to the widespread deployment of 5G mobile sites (Small Cells), connected with an optical fiber network, such as the one Open Fiber is developing in Italy. In fact, the performance of 5G technology requires a high-performance mobile site interconnection network that enables this technological evolution; only an optical fiber infrastructure, spread throughout the country, can adequately meet this need, guaranteeing speeds not of Megabits but of Gigabits per second. Copper or mixed fiber-copper networks are not adequate and would represent a "bottleneck" for a 5G network.

The optical fiber network, developed by Open Fiber, constitutes the enabling infrastructure for the development of 5G services, both in rural areas, thanks to the optical fiber connection of macro sites (currently over 9,000 BTS[85] Operator Nodes are connected by optical fiber), both in the urban area, thanks to the capillary coverage, which allows for densification of sites with Small Cells in the outdoor area and the development of Distributed Antenna Systems (DAS) in the indoor area.

Optical fiber and Small Cells are therefore in perfect synergy and form the supporting structure of the new 5G networks, making their development project not only sustainable, but also future-proof for all operators in the sector and throughout the country.

The integration of the new fiber-5G networks will radically influence the growth and development of various sectors, which will finally be able to fully exploit the potential of

85 Base transceiver station.

IPv6 project

Over the course of 2023, Open Fiber pushed ahead with the IPv6 project, which was successfully tested and will be implemented on the field in early 2024. This involves the introduction of a new class of IP addresses, coded at 128 bits, which is different from the traditional IPv4, coded at only 32 bits.

Over the last few years, characterised by an explosion in the spread of the Internet, IPv4 has been the most widely used IP address. It is, however, a limited resource (232 possible addresses, or approximately 4.3 billion), the reserves of which are becoming increasingly scarce.

Consequently, Open Fiber, in order to fulfil its objectives of fuelling the digitisation process of the country and the development of the Internet ofThings and accelerating the deployment of FTTH, took on the role of pioneer in the use of IPv6 addresses (2128 possible addresses). Indeed, it is among the first companies in Italy to adopt this IP address plan management method.

The IPv6 project is a necessary element to prevent the digitisation process from grinding to a halt. Every object that wants to be connected to the network needs an IP address to identify it; for this reason, IPv4 and IPv6 are fundamental elements in the digitisation process. 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 allow billions and billions of objects to be addressed.

Increased connection of objects (e.g. sensors) to the network will offer new opportunities to minimise travel and monitor energy loss and climate events. In order to do this, it is necessary to have a distributed and widespread coverage of associated sensors, so IPv6 is an indispensable asset.

digital transformation, offering people, professionals and companies a range of innovative services such as holographic augmented reality (eMBB[86] services), from Smart Homes to Smart Cities (mMTC[87] services), from Smart Grids to Connected Cars (URLLC[88] services). These are just a few examples of sectors that will be most affected by the potential of the integration of new fiber-5G networks, which will undoubtedly be one of the main drivers of the economy and innovation in the near future, towards the achievement of the Gigabit Society.

4.5 SMART CITY

Global urbanisation is one of the most significant developments of the 21st century and has created major challenges. Indeed, the process of moving more than half of the world's population from rural areas to cities, global centres of economic prosperity, has made them responsible for significant environmental impacts and affected people's quality of life. For years, people have been talking about Smart Cities, they do so in an approximate way, thinking only of the evolution of urban areas in technological terms. Actually, these Smart Cities exploit the potential of innovations to promote sustainable development, offer new solutions for mobility, infrastructure and energy resource management, and thus completely change the lifestyle of citizens. At the core of the Smart City of the future is indeed the citizen, but in a completely revolutionary way compared to the past, based on four pillars closely interconnected with each other: **infrastructure, sensors, service delivery platform** and **services**. In order to increase people's safety and efficiency, all while taking into account eco-sustainability and the territory, the mere presence of infrastructure is no longer sufficient. What is needed is a sensor system that analyses citizens' activities, from traffic to video surveillance, and then provides the best service available through dedicated platforms. This interactive automation system can exist thanks to the Internet of Things (IoT), which has also enabled objects to connect to each other and communicate. As the interconnection of infrastructures and services and communication platforms with citizens rely on the Internet, cities need to have a **reliable connection** and to be able to **support the data traffic** generated by millions of devices and people at the same time. Thanks to the efficiency of the polymeric materials that make up optical fiber cables and the high speed of transmission, **FTTH connection** is essential for the functioning of modern Smart Cities, thus confirming itself as the main means of making cities smart, functional and interconnected

86 Enhanced Mobile Broadband.
87 Massive Machine-Type Communications.
88 Ultra-Reliable Low Latency Communication.

UpTown

In the western suburbs of Milan, UpTown, **Italy's first smart district**, the result of a futuristic urban regeneration project dedicated to sustainable living, is born. Three are the cornerstones of the project 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 built-up area, running under the streets to reach every home, guaranteeing ultra-fast connection and the possibility of using the most advanced digital services: from the Internet of Things to home automation, from cloud computing to video surveillance.

In the district, **all the flats are already connected by optical fiber**; in fact, the urban project responds to a precise philosophy: that of considering connectivity not as a plus, but as a **primary good**.

Smart District: MIND

Open Fiber has cabled a first lot of buildings at the site in the Milan-Rho area that hosted Expo 2015 and is called "MIND" - Milano Innovation District. This is the new Italian centre of scientific excellence and district of the city, a large contemporary international district, an environment of knowledge and sustainable growth, open to anyone who innovates, researches or studies, to institutions and companies, to people's lives.

In its role as a hub and catalyst for development, MIND has immediately brought together scientific and technological players with different origins and aims, all linked by their interest in progress, experimentation, and new perspectives for the advancement of society. In this unique and highly dynamic ecosystem, Open Fiber plays a key role in supporting the activities of research centres, R&D departments, large companies and start-ups in the area.

Internet of Things

One of the technologies driving the digital transformation of cities that is most enabled by optical fiber is the **IoT**, the sensor system 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 make it possible to generate new governance and revenue models. By creating innovative and customised services in mobility, public lighting and beyond, the Internet ofThings aims to improve users' quality of life and achieve more by wasting less. Smart cities use IoT to collect real-time data in order to understand how citizens' demands and needs are changing and to respond with faster and cheaper solutions.

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 number of innovative digital solutions can be enabled, such as:

- the rapid identification of **events dangerous to public order** (fights, facial recognition of criminals and/or missing persons, recognition of abandoned objects, etc.);
- the reduction of **parking** search times and **traffic congestion** thanks to smart alerts of free parking spaces in real time and the installation of smart traffic lights;
- the **reduction of electricity consumption** thanks to intelligent lighting poles that can reduce the intensity of lighting when there are no vehicles or pedestrians present;
- the **optimisation of road maintenance services** by concentrating operations (street/sidewalk cleaning, asphalt maintenance, etc.) where it is most needed;
- the **optimisation of urban waste management services**, by optimised scheduling of waste collection operations and identifying negligent behaviours (e.g. leaving waste outside collection areas).

4.6 NOT ONLY SMART CITIES, BUT ALSO DIGITAL HAMLETS

The presence of the FTTH network built by Open Fiber makes smart not only the cities, but also the hamlets of the future, centres of tradition, culture and hospitality able to offer services similar to those of Smart Cities thanks to digital and technology. To date, in fact, there is no "universal smart city" model, but there are activities capable of improving not only the lives of citizens and those who live and move about in that city, but also of enhancing the territory. Open Fiber is therefore both an engine for the development of large centres, but also an enabler of progress in small realities, thus making its infrastructure technology a true driver for the digital economy, and not only, of the entire country. In fact, the extension and branching of the FTTH network enables the development of a wide range of smart services designed and customised on the basis of local needs, clustering the needs and objectives of local Public Administrations and defining a digitalisation path for each location, with positive impacts on energy efficiency, territorial monitoring and security, mobility, public services, monitoring and enhancement of the territory, and local culture.

An ideal candidate to become the first **Digital Hamlet** of Italy was Pitigliano, a small town strategically located in the Tuscan Maremma, rich in history and surrounded by nature. The municipality boasts two of the most prestigious recognitions at national level: it is included in the list of the "Most Beautiful Hamlets in Italy" and has been awarded the Orange Flag for the three-year period 2021-2023. Its history began in the Neolithic period, of which it preserves several testimonies, but even more impressive are the traces left by history in the following centuries. Ancient hollow streets, necropolises, 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 starting from digital to implement useful services for the municipality and citizens, which take into account the context of the area and its peculiarities.

#GOODSTORIES

Open Fiber supporting economic activities in San Giuliano del Sannio

In San Giuliano del Sannio, a small village in the province of Campobasso, Open Fiber has brought fiber to many economic activities that had long been forced to use poor antennas and a bad signal. These include Le Scuderie del Peschio, a campsite/restaurant, which has improved its offer for customers and its business thanks to optical fiber.

With Open Fiber the Trentino hamlet of Canale di Tenno is smarter

Canale di Tenno, a medieval town in Trentino just a stone's throw from Lake Garda, is now pulsating with a smart soul: Open Fiber has completed the laying of ultra-fast optical fiber bandwidth, making this hamlet, one of the most beautiful in Italy, more efficient, competitive and affordable for everyone. Thanks to less invasive excavation techniques, the hamlet has been connected without damaging the area's cultural and scenic treasures.

Open Fiber reaches Rionero del Vulture

In Monticchio Bagni, a small hamlet in the municipality of Rionero in Vulture in the province of Potenza, the works for the laying of Open Fiber's ultra-fast fiber have been completed. The company is continuing its mission to connect the country's inland areas to promote growth and reduce the digital divide.

A fundamental premise is the FTTH (Fiber To The Home) optical fiber infrastructure, built by Open Fiber as a Concessionaire of Infratel Italia.

The activities envisaged range from the experimentation of augmented reality to enhance the cultural heritage to the application of ENEA's PELL (Public Energy Living Lab) project to schools, hospitals and public lighting systems, passing through edge computing and energy efficiency, and finally to a feasibility study of an energy community. Of particular importance, given the tuffaceous nature of the terrain, will be the start-up and testing of territorial monitoring, which will see the involvement of the National Institute of Geophysics and Volcanology, and which will involve the use of the optical fiber laid by Open Fiber as a sensor distributed throughout the territory.

The main challenge of this project is to develop digital services and technologies that can then be replicated in other Italian municipalities with similar characteristics, encouraging their digital transition, while 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 their inhabitants. 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 specificities and peculiarities. Among the services that can be enabled:

- **Smart Working and remote activities**: the use of optical fiber allows the reduction of impacts on the environment and the community;
- **E-Mobility**: reduce parking search times and decongest traffic, managing tourist flows in real time;
- **telemedicine**: provide the infrastructure for continuous remote monitoring of patients, to support the transmission of high-resolution data;
- **education**: facilitate distance learning and the digitisation of educational institutions with a view to safeguarding the right to study and reducing the gap related to existing infrastructural differences;
- **energy efficiency**: reducing electricity consumption also through intelligent lighting systems;
- **land monitoring through fiber sensing**: creating a sensor system, using optical fiber as a transducer and means of transporting information (e.g., aimed at earthquake detection);
- **security**: developing solutions for improving territorial security and monitoring flows.

Thanks to this infrastructure, the Hamlet will become to all intents and purposes a "smart" hamlet, which will have among its main positive effects the reduction of the digital divide, which has always been at the heart of Open Fiber's mission, and, above all, the fight against depopulation.

4.7 SMART GRID

Smart Grid projects generate a real technological leap forward in electricity grid management in two different ways. The first is the possibility of **remotely monitoring, implementing and automating interventions** on individual electricity substations, an aspect that improves the electricity distribution system by minimising inefficiencies in the grid. The other is related to the concept of "**smart grids**" itself: no longer an electricity grid with single large generation points and many points of use, but a much more distributed generation system consisting of multiple generation points, even of medium and small size. This distributed system makes it possible to increase the grid's capacity to accommodate and integrate further distributed generation from renewable sources, enhancing even small-scale point production and creating a single national nervous system that connects points of generation and points of use.

To enable all of this, it is necessary to have technology with very low latency times, a feature that only optical fiber can guarantee today.

Open Fiber is involved in the optical fiber connection of E-Distribuzione's secondary and primary substations with the aim of evolving the national electricity grid, enabling new functionalities, benefiting those accessing the grid and those involved in the management of the electricity system, and accelerating technological and industrial evolution in the energy transition process. The **DSO 4.0 – Digital Network** project envisages the creation of a communication system of maximum reliability and resilience at the service of E-Distribuzione's network, enabling the implementation of new functionalities capable of significantly improving network performance. The project is based on the relaying of secondary and primary substations to an optical fiber network, in order to achieve a series of objectives and benefits that are fundamental for the development of the distribution network also in the future. To this end, in addition to the binding of more than 56,000 electrical substations to the optical fiber network, it is planned to install components and sensors of new technological conception that, together with structural interventions, will contribute to improving the quality of the electricity service, as well as to the technological evolution of E-Distribuzione's network, in line with the forecasts and scenarios outlined in the National Integrated Energy and Climate Plan (NIECP).

Thanks to the combination of innovative technological solutions and structural and component interventions, the project will make it possible to:

- make use of a highly reliable and resilient communication system, of the always-on type, to support the distribution network, thanks to the use of the potential offered by the optical fiber network;
- improve technical performance and quality of service, essentially as a result of advanced automation (smart fault selection), the effectiveness of which will be maximised through the use of optical fiber as a communication vector and the use of data relating to physical parameters (Big Data analytics), from sensors installed in the substations, for the prevention of maintenance faults;
- increase operational efficiency by increasing the degree of network remote control, new communication systems and advanced sensors installed in the substations;
- increase the hosting capacity for distributed generation of electricity from renewable sources through grid reinforcements;
- monitor in real time the production from renewable sources connected to the MV-LV grid.

Open Fiber has also signed a Memorandum of Understanding with Italgas to assess synergies between the optical fiber network and the gas network, and one of the working tables concerns the digitalisation of the gas infrastructure. Technologies such as fiber sensing, exploiting the intrinsic characteristics of optical fiber, could be used to monitor pressure losses, temperature variations, and vibrations, accelerating the process of digitising networks and improving their operational efficiency.

Substations binding project in sicily

In April 2021, Open Fiber launched a study on the passive Smart Grid, with a focus on the Region of Sicily. The goal is to connect the greatest number of substations in the C&D Cluster where there is a greater dispersion of networks and less overlapping by 2025. It was necessary to develop an innovative network project, which saw the collaboration of Open Fiber in the definition phases of the methodology; this methodology can also be applied outside the Region of Sicily and be extended to other regions.

The current situation, which sees about 3,600 secondary and primary substations connected, all concentrated in 12 municipalities of the A&B Cluster, will be joined by the connection of about 75 municipalities of the C&D Cluster (equal to about 20% of the total municipalities of Sicily), with over 900 secondary and primary substations.

In this way, Sicily will represent a region of excellence in the field of Smart Grids in Italy.

4.8 FIBER SENSING

Exploiting the existing global fiber network already installed for TLC purposes (both in long range transport and medium haul access) could add significant value to the infrastructure, through reliable optical systems for geotechnical, environmental and artefact surveillance in various urban and regional areas. Fiber sensing strategies that are fully compatible with TLC transmission (in terms of wavelength, power, crosstalk, etc.) would allow exploiting the pervasive penetration of telecommunication networks from the most remote geographical areas of the planet to the end user in our cities.

This dense metropolitan TLC fiber represents a distributed optical sensing network that provides real-time monitoring of mechanical and thermal disturbances affecting the network itself, as well as the occurrence of stress events in civil infrastructures and buildings. A dedicated extended optical fiber could add further value by monitoring specific parameters such as deformation, vibration, acoustic and ultra-acoustic waves.

Relevant use cases in this field include:

- network health monitoring against unpredictable damage: this activity is complementary to conventional Optical Time Domain Reflectometer (OTDR) techniques, which allow analysing and diagnosing fiber faults, and is focused on damage prevention and early warning;
- new services for early prediction and detection of erratic or catastrophic events (e.g., natural and man-made events), using optical fiber networks installed as distributed sensors;
- detection of seismic waves in the presence of telluric events;
- monitoring and surveillance of large civil works such as embankments and trenches for motorway, railway and pipeline systems;
- monitoring and surveillance of large infrastructures such as bridges, viaducts and tunnels and large industrial facilities in general;
- geomonitoring of landslides, rocks, embankments and the geological state of the territory in general.

4.8.1 MEGLIO project

Open Fiber, in collaboration with BAIN, the NIGV (National Institute of Geophysics and Volcanology), the NIMR (National Institute of Metrological Research) and Metallurgica Bresciana S.p.A., has developed the **MEGLIO** Project (Measuring Earthquakes signals Gathered with Laser Interferometry on Optic fibers), an experimental project to create a **fiber sensing system for the detection of earthquakes** throughout Italy, thanks to the optical fiber that Open Fiber is building.

This project will give NIGV the opportunity to optimise its surveys by reaching areas where normal sensors have not yet arrived.

In the case of seismic events, the optical fiber undergoes an almost imperceptible elongation (on the order of a thousandth of a millimetre), 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 be transported even thousands of kilometres away and, once processed, indicate the exact location of genesis, intensity and other parameters.

The benefits of optical fiber over traditional point detection systems (seismographs placed in areas considered most at risk) are countless:

- the considerable capillarity of the optical fiber network throughout the country, which becomes

Experimentation of MEGLIO project

The two Open Fiber sites of **Ascoli Piceno** and **Teramo** - territories where there is a high probability of seismic events as indicated by NIGV[89] - were chosen for the trial. Two ultra-stable lasers (one for each site) designed by NIMR were installed in those two sites.

In this phase, the signal transmitted and received by the laser after an initial on-site data processing was subsequently sent to the Open Fiber servers via the infrastructure already set up as a BEA (Business Ethernet Access) service.

In order to identify seismic events, the data were first analysed and processed via web application with advanced algorithms such as Artificial Intelligence (AI), and finally examined and validated by NIGV.

The system was able to detect external disturbances caused by seismic waves in the global and national area, as well as in the Mediterranean area. Earthquakes with a magnitude from 2.6 to 4.1 were validated.

This experiment demonstrates once again how the extensive and capillary optical fiber infrastructure is a useful tool not only for transporting data, but also for countless technological applications such as, in this case, earthquake monitoring.

89 National Institute of Geophysics and Volcanology.

a single sensor capable of monitoring ground movements and allowing accurate epicentre localisation;

- the speed with which light signals propagate within it, providing valuable and highly accurate real-time information on the smallest seismic signals;
- the immunity from electromagnetic interference and resistance to a wide range of temperatures (-100°C to 300°C), high pressures (10,000 psi) and mechanical stress;
- the adaptability also to submarine applications, which are not currently being tested.

The plan involved the design, construction and installation of ultra-stable laser sensors, deployed in pairs per individual fiber route, all ensuring coverage of hundreds of kilometres. The data collected was made available on the web application interface, in order to synthesise the data and make it easily accessible. The application thus makes it possible to monitor the seismic activity of the territory adjacent to the identified portion of the optical fiber and to analyse the information through a mathematical-statistical artificial intelligence system (machine learning) that guarantees immediate transmission and accurate monitoring. Once the event has been identified, it is verified by NIGV.

4.8.2 FaaS: Fiber as a Sensing

Open Fiber financed and implemented in collaboration with PoliTo (Polytechnic of Turin), SM Optics and NIGV (National Institute of Geophysics and Volcanology) the **FaaS (Fiber-as-a-Sensing)** project, with the aim of finding an alternative and/or integrative solution to that of the MEGLIO project, in order to improve and maximise the use of the existing infrastructure to offer innovative and alternative services such as seismic event monitoring, network, infrastructure, etc. Although in fact the MEGLIO project allowed a total integration between seismic detection techniques and the telecommunication network, with the FaaS project, there is a sharper transition from Fiber Sensing to Network Sensing. The idea is to use the telemetry parameters already present in the telecommunication nodes for network management with the intention of developing an environmental monitoring framework. This approach not only validates the operator's infrastructure, but also makes it possible to develop services with a strong social impact.

On the basis of a preliminary study and state-of-the-art scientific research, it was shown that Differential Group Delay (DGD) parameters, linked with Polarisation Mode Dispersion (PMD) and States of Polarisation (SOP) measurable at the optical interfaces on the link, are sensitive to the physical stresses experienced by the fiber.

In October 2023, the project was launched at Open Fiber's site with a planned duration of two years, and involves the development of AI (Artificial Intelligence)/ ML (Machine Learning) based Signal Processing algorithms capable of processing the physical parameters by identifying the entity of the mechanical stress suffered by the fiber. The main use case that will be studied is earthquake detection and monitoring. Preliminary and simulative analysis activities will be undertaken in the laboratories of PoliTo and SMO (SIAE Microelettronica Optics), which will be made available during the project, and in a second phase the development of the PoC (Proof of Concept) in the Open Fiber lab. Finally, field experimentation activities will be organised to collect and process real data. The final result will be validated by NIGV considering the actual detection of seismic events and comparing the data obtained from traditional sensors.

4.9 RESEARCH AND INNOVATION THROUGH THE RESTART PROGRAMME

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"**, financed with PNRR (National Recovery and Resilience Plan) resources[90].

The programme involves **25 partners**: in addition to Open Fiber, the University of Roma Tor Vergata, the National Research Council (NRC), the Polytechnic University of Bari, the Polytechnic University of Milan, the Polytechnic University of Turin, Scuola Superiore Sant'Anna of Pisa, the University of Bologna, the University of Catania, the University of Florence participate in the programme, the University of Naples Federico II, the University of Padua, the University of Reggio Calabria, the University of Rome Sapienza, the National Interuniversity Consortium for Telecommunications (NICT), Ugo Bordoni Foundation, TIM, Vodafone, WINDTRE, Ericsson, Prysmian, Italtel, Leonardo, Athonet and Tiesse.

The RESTART Research Programme will outline the evolution of telecommunications in Italy, with a direct link to European programming, addressing the main R&D issues as defined by European programmes such as Horizon Europe[91] and Digital Europe[92]: evolutions of network architectures towards 6G, distributed clouds, network optimisation based on artificial intelligence, evolution 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 computation, development of hybrid photonic and opto-electronic integration technologies, sensor technology and others.

Participation in the RESTART programme allows Open Fiber to be part of the most important R&D programme ever developed in Italy in the telecommunications sector and to start collaborations with the main national universities and research centres as well as with the main Italian TLC companies, tackling together the innovation issues that will characterise the next decade.

Organisation of programme

The RESTART Programme covers three years, from 2023 to 2026, and includes 25 projects and 7 Missions, covering not only scientific research projects through the development of new technologies, services, network architectures, but also challenging objectives (Missions) such as: education & training, increasing the number of students, PhD Programmes, creation of new start-ups, technology transfer, creation of laboratories, Proof of Concept (PoC), demonstrators, reduction of gender and north-south gaps in the TLC sector. Open Fiber's participation in the RESTART programme responds precisely to the need to work on the culture of digitalisation, promoting a digital renaissance of the country.

Open Fiber commitment

Open Fiber became a member of the RESTART Foundation (implementing party, hub of the Research and Innovation Programme, and responsible for the launch, full implementation and management of the Innovation Ecosystem Research and Innovation Programme), which is in charge of monitoring 8 spokes represented by the coordination centres.

The Company will participate in the programme with 6 projects aimed at developing new services, architectural solutions and technologies of strategic interest. These are all initiatives in line with Open Fiber's sustainability practices and commitments, including innovation and technology for the environment, fiber as an enabler of

90 Mission 4, Component 2 "From Research to Enterprise", 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".

91 EU framework programme for research and innovation for the 2021-2027 period.
92 EU funding programme focusing on the introduction of digital technology for businesses, citizens and Public Administrations.

innovative services, and the enhancement of human capital as a driver of sustainability strategy.

- **Rigoletto**[93]: structural project coordinated by Scuola Universitaria Superiore Sant'Anna in Pisa, of which it has the governance, focused on communications security through the use of quantum technology. Open Fiber will contribute to the definition of network architectures and applicable scenarios for Quantum Key Distribution (QKD) in the telco network, and will participate in demo activities (field experimentation) for QKD and fiber sensing technologies by making available its existing fiber network and know-how.

  The aim of this project is to develop an energy-efficient optical network, new optically integrated devices, an innovative data plan for an optical fiber infrastructure supporting capacity enhancement via MB, SDM, wireless access and security via QKD. It also includes the development of a platform for monitoring data transmission and conversion and the construction of a framework for an AI-assisted network. Subsequently, the results of these initiatives will be shared for the involvement of partners to promote the adoption of the solutions.

- **Pesco**[94]: structural project coordinated by the NRC (National Research Council), focusing on User-centric Pervasive Internet and edge computing architectures. Open Fiber will be responsible for the definition of network architectures and use cases. The project envisages the development of foundations, IoT paradigms and concrete technological enablers for a future pervasive Internet, including new communication paradigms with embedded data management and data-based intelligence. Another objective is to provide a reference architecture and performance assessment. The results of the project will be linked to scientific and technological development programmes worldwide.

- **Net4Future**[95]: structural project coordinated by the University of Catania, in collaboration with various research organisations and universities, focused on fostering a new regulatory framework to encourage innovation. It consists of the study of multiple future scenarios with a focus on the responsibilities and opportunities of the telecommunications sector. This project involves a high degree of synergy with the other RESTART initiatives. Net4Future requires the use of shared tools in order to define the platforms and components needed to develop tests and validation tools for beyond-5G networking.

Quantum Key Distribution

With the arrival of quantum computing and current encryption techniques, the possibility of hacking computer security keys increases exponentially.

Optical fiber lends itself to the use of a new quantum-based technique for distributing security keys, the purpose of which is to make them impossible to breach and, consequently, to make data transmissions practically inviolable. Since the 1980s, several quantum communication protocols have been defined that have characteristics such as r**eliability, security** and **key rat**e.These parameters are very important for the definition of a communication protocol and are directly related to each other.To introduce such technology into a telecommunications ecosystem, parameters such as cost, architecture and management must be considered.

To speed up computation, quantum computers directly tap into an unimaginably 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 innovations in numerous areas.

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 simultaneously. This superposition of states, together with the other quantum-mechanical phenomena of entanglement and tunnelling, allows quantum computers to manipulate huge combinations of states simultaneously.

The exponential growth in computing power resulting from the development of a viable quantum computer looks set to revolutionise a wide range of sectors and applications such as healthcare (research, diagnostics, treatment), finance (automated high-frequency trading, fraud interception), marketing, meteorology and logistics.

93 Spoke 1, S4: Green autonomic optical networks, systems and integrated devices.

94 Spoke 1, S8: PErvasive user-centric integrated Sensing and Communications.

95 Spoke 2, S14: Cross-project vision and results, Evolution of Networking technologies for a Future sustainable and inclusive society.

Finally, the innovation potential of regulatory aspects considering the facilitation of regulation in the wholesale market and solutions to keep competition and technology investments together will be analysed.

- **Sensing Net**[96]: focused project coordinated by Open Fiber, in collaboration with industrial partners and universities to develop fiber sensing services for seismic monitoring and to deploy diagnostics and surveillance in urban and regional scenarios. The aim of the project is to enhance existing network infrastructures by introducing fiber sensing technologies to investigate potential applications for the development of new services for public, governmental and private use.
- **Graphics**[97]: focused project coordinated by the University of Naples Federico II, in collaboration with various research institutions and universities, aimed at the development of a fully optical, remotely programmable active switch. Open Fiber is in charge of defining the requirements and testing activities. This project will bring several advantages to the PON (Passive Optical Networks) system, including easy network reconfiguration, full power transmission in each device, and increased data security.
- **TeleSmeg**[98]: focused project coordinated by WINDTRE, in collaboration with universities and industrial partners, with the aim of offering solutions for improving energy efficiency. In particular, Open Fiber's efforts focus on using the grid to improve the monitoring and control of electricity consumption. The main objective of this project is to revolutionise smart grids by means of automatic failure detection of the energy distribution network in order to make it more environmentally friendly, remote inspections of defined working areas at the distribution level, millisecond-accurate control of distribution generation and optimisation of residual energy storage.

Scholarships to support skills

In order to support the Graphics project, measures are envisaged for the promotion and strengthening of high-level training and postgraduate specialisation at PhD level. Specifically, the measure aims at enhancing high-profile skills, especially in the Key Enabling Technologies areas, through the establishment of dedicated PhD programmes, with the contribution and involvement of enterprises. The PhD scholarship will cover: R&D activities on topics of interest to companies, in particular it will focus on the study of "Integrated Photonic Circuits for Passive Optical Networks" with the ultimate aim of developing an active optical switch for use in optical fiber networks with remote control to replace the SFP (Secondary Flexible Point).

The scholarship is intended for students on the PhD course in Information Technology and Electrical Engineering (ITEE) at the University of Naples Federico II and co-funded by Open Fiber. The planned duration is 3 years (2023-2026), 10 months of which will be spent in the company, demonstrating Open Fiber's intention to connect the worlds of research and business.

4.10 DIGITAL CEF-2

At the end of 2023, Open Fiber, together with its partners Cellnex Italia, Cellnex France, IRN (Italian Railway Network), Anas, National Institute of Metrological Research(NIMR) and Accenture, was awarded the Tender "**5G coverage along Transport Corridors**"[99] withing **Connecting Europe Facilities (CEF-2) 2021-2027**, EU funding programme with the aim of promoting growth, employment, inclusion and competitiveness through the efficient interconnection of transport, energy and digital networks within and between Member States.

This call for tenders financed the «5G Fréjus Inception study for deployment of 5G in the Fréjus cross border section between Italy and France», for the development of 5G coverage in the Fréjus tunnel between Italy and France. The project is the first to be financed in a European context involving Open Fiber.

The objective of the CEF Digital funding is to contribute to the development of projects of common interest related to the development of safe and sustainable high-performance digital infrastructures (including Gigabit and 5G networks). In this sense, the project, which will run for 6 months from the beginning of 2024, aims as:

96 Spoke 1: F11: Introducing SENSING capabilities in deployed TLC fiber NETworks.
97 Spoke 1: F5: Graphene/a-Si:H Photonic Integrated Circuit Switch.
98 Spoke 5, F12: Telecom as a service in the next SMart Energy Grid.
99 CEF-DIG-2022-5GCORRIDORS.

- assessing the effort needed to equip the transport corridor between Italy and France (Fréjus rail and road tunnels) through a neutral passive and active **infrastructure** dedicated to the development of **digital services**;
- mapping the list of **applications** that could be enabled by **5G coverage** within the railway tunnel;
- assessing the **sizing of the fiber** to serve the cross-border section of the corridor and exploiting synergies in sharing common passive infrastructure, minimising the impact on the rail network;
- assessing opportunities to create **synergies** in the future deployment of 5G coverage.

The corridor identified for this study includes the **rail and road tunnel** connecting Italy to France along the TEN-T Mediterranean corridor. Open Fiber will contribute to the project by:

- developing a **study on the connectivity** through fiber of the DAS coverage of the tunnel, in the implementation of the architecture and services;
- contributing to the **environmental impact and sustainability analyses** of the solution and to the **cost-benefit analysis** of the project;
- designing an **implementation plan**, which will then be the subject of a subsequent call for tenders, also within the CEF framework;
- participating in the **dissemination and communication** activities of the results.

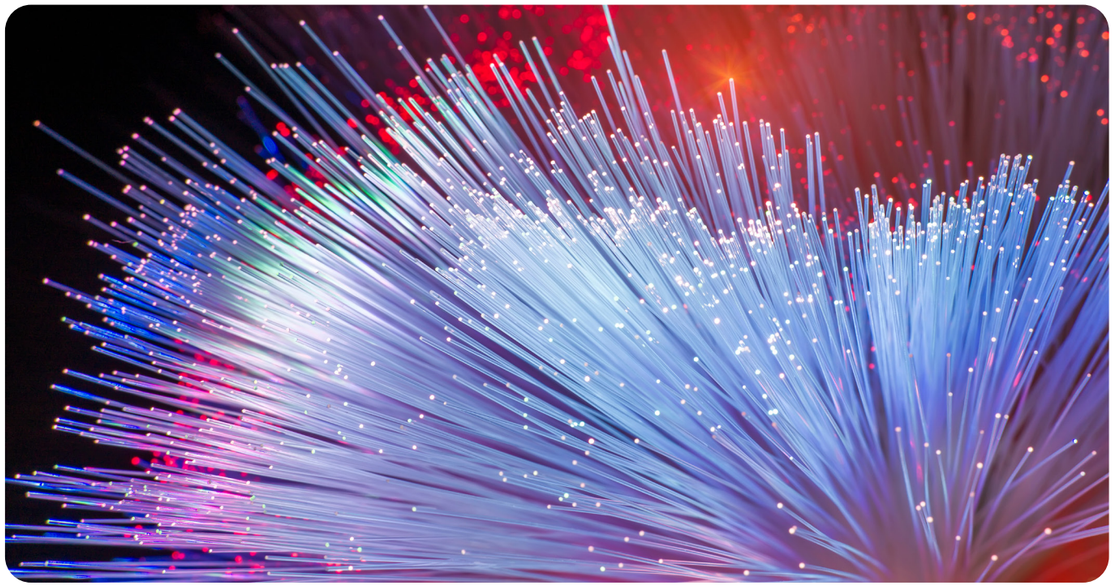
4.11 DIGITAL TWIN: REALCITY PLATFORM

Open Fiber has adopted a new system for the design of its optical fiber network through RealCity, a software platform thanks to which it is possible to navigate a real, three-dimensional model of the territory, carrying out measurements and surveys remotely, making the design phase faster, more efficient and sustainable thanks to the introduction of a **Digital Twin**. Open Fiber, as part of its constant search for innovative solutions, ranks among the first companies in Italy to implement this type of technology on such an extensive and diversified scale as the one in which it operates.

During the design activity, useful information is gathered for the definition of the project: the count of buildings to be cabled, the number of households passed (HP) within a building, the individual dwellings in a given street. Once all this information is available, a preliminary design is produced in which the work to be carried out, the type of excavation, the sizing of the fibers, and the positioning of the street cabinet SFP (secondary flexible point) are defined. All this will now also be done through the use of RealCity. Thanks to the new software it will be possible to:

- display georeferenced data and have a real representation of the territory and the network by placing a measurable three-dimensional model of the territory alongside the traditional street view, which is limited to a photographic view of the territory;
- visualise routes and nodal elements of the network in a 3D environment of the territory;
- perform accurate measurements (e.g., distances between wells, restoration surface, etc.) for remote testing and accounting;
- monitor the quality of work and carry out tests also remotely;
- exchange georeferenced information between the RealCity 3D environment and the GIS (Geographical Information System) that contains the database of network elements (infrastructures, cables, fibers, devices).

There are numerous benefits: firstly, it will be possible to carry out surveys useful for the construction of the network remotely. Technicians will no longer have to physically travel to the area in question, but will be able to carry out the necessary measurements and information gathering from their own offices, with a significant saving in resources and in a faster and more efficient execution; secondly, travel can be avoided, making the design phase more sustainable; finally, this model will allow the monitoring of the network construction phases by following the work of the companies involved in the construction phase more nimbly and accurately.



13 CLIMATE ACTION

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

8 DECENT WORK AND ECONOMIC GROWTH

Fighting climate change

Circularity

Sustainable value chain

05

FIGHT AGAINST CLIMATE CHANGE AND PROTECTION OF RESOURCES

5.1 FIGHT AGAINST CLIMATE CHANGE

5.1.1 The urgency to act

Coping with the consequences of **climate change** and **global warming** is the challenge facing all inhabitants of the planet today. After all, last year was the warmest since 1850; in 2023, the average global temperature was 14.98°C, 0.17 points higher than the record set in 2016. For the upcoming world, it is wise to already ask the question: "When will climate change become irreversible?". And while we strive to never reach this point, we are witnessing significant and worrying changes such as the 50% growth in greenhouse gas emissions compared to 1990, rising ocean surface temperatures, record-breaking sea level rise, the lowest Antarctic sea ice[100] levels ever reached, the numerous extreme events - such as heat waves, floods, droughts, fires - that, between 1998 and 2017, killed 1.3 million people and injured[101] 4.4 billion others.

The *Synthesis Report*, published by IPCC[102] in March 2023, pointed out that, at the current level of commitment and action, the global average temperature increase will surely exceed 1.5°C compared to the pre-industrial era, with forecasts of reaching 2.5°C by 2100, thus failing to meet the target set by the historic **Paris Agreement** in 2015. At that time, indeed, the text bound and spurred all countries to limit the temperature increase as close as possible to 1.5°C, a threshold that then seemed exceedable as far away as 2045 and that today's forecasts, instead, show to be reachable as early as 2024[103]. Therefore, we are running out of time, but reversing the trend is still possible according to the scientific community, which recommends **raising ambitions and achieving net zero emissions by 2050.**

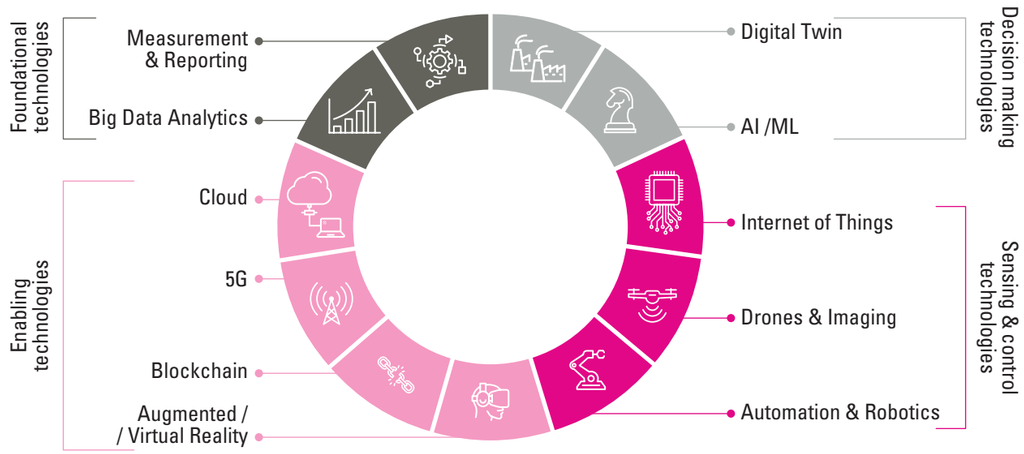
Governments recognise that they play a major role in achieving this goal, which is why the latest UN Climate Change Conference - **COP 28**[104] - held in Dubai in December 2023, ended with a historic agreement that saw for the first time signatory countries commit to abandon all fossil fuels, the main contributors to global warming, by 2050. A goal to which the European Union is leading the Member States, also setting them the intermediate target of reducing greenhouse gas emissions by 55% by 2030.

In order to reach this goal, it is essential to join forces also with the **private sector and enterprises**, key players in this process, which are called upon to initiate solid and structured **decarbonisation actions**, reducing emissions, both direct and indirect, by acting on supply and value chains. Only action by all companies at a systemic level will make it possible to move closer to achieving not only **SDG 13 of the 2030 Agenda** (which specifically concerns climate action), but also the goals closely linked to it, thus contributing to leaving a fairer and more equitable world to the future generations[105].

An analysis carried out by Accenture, in collaboration with the World Economic Forum[106], shows that **digital technologies**, if spread across all industries, could **reduce emissions by 20% by 2050 in the three sectors that emit the most**: energy, materials and mobility.

Not only do these three sectors contribute respectively 34%, 21% and 19% to total emissions, but they are also the sectors where digital technologies have the highest decarbonisation potential. Indeed, there are four clusters of high-impact digital technologies that

FIGURE 14: CLUSTER OF DIGITAL TECHNOLOGIES



Source: Accenture

100 World Meteorological Organization (WMO) https://wmo.int/resources/publications/provisional-state-of-global-climate-2023.
101 UNDP, Goal 13 - CLIMATE ACTION https://www.undp.org/sustainable-development-goals/climate-action.
102 IPCC- Intergovernmental Panel on Climate Change is the United Nations' scientific forum established in 1988 to study global warming.
103 Analysis by Copernicus Climate Change Service – C3S.
104 Conference of the Parties of the United Nations Convention on Climate Change. For more details, please refer to the following link https://unfccc.int/

105 *"Italian business commitment towards Net-Zero"* survey, promoted by the UN Global Compact Network Italia, in collaboration with IPSOS Institute (Social Research Institute), which outlines the state of the art with respect to companies' commitment and action on climate change issues in general and the net-zero target in particular, highlighting drivers and barriers that are characteristic of the Italian context.
106 https://www.weforum.org/agenda/2022/05/how-digital-solutions-can-reduce-global-emissions/

can improve the environmental performance of energy, materials and mobility:

- fundamental technologies such as big data analysis, already incorporated in current operations;
- decision-making technologies such as artificial intelligence, machine learning and digital twins;
- enabling technologies such as the cloud, 5G, blockchain and augmented reality;
- sensing and control technologies such as the Internet of Things and automation.

Data transparency, digital talent and partnerships will therefore be the key ingredients for large-scale deployment of technology. At the same time, it is important to ensure that the digital transformations that drive the energy transition are themselves inclusive and sustainable, so that the benefits trickle down to everyone. It is therefore crucial to **mitigate the carbon footprint of digital technologies**, assuring that they have a positive impact on the planet.

Open Fiber, with its commitment to digitising Italy, therefore plays a fundamental role in this scenario. With the capillary diffusion of **optical fiber communication networks**, on one hand it contributes to the penetration in every environment of digital solutions capable of accelerating the ecological transition, and on the other it is committed to provide an 'enabling' technology and to build an infrastructure with the lowest possible impact on the environment.

5.1.2 The journey to Net Zero

The fight against climate change requires concrete actions. Open Fiber is well-aware of this as much that has made it an essential pillar of its sustainability strategy, for success and value creation in the medium to long term. While maintaining the measures already taken to limit environmental impacts, the company has decided to take up the challenge of decarbonisation and officially join the ranks of companies committed to achieve a *Net Zero* future, i.e., net zero emissions.

Most climate-conscious companies 2024

Open Fiber has been officially ranked 13th in the list of the **Most climate-conscious companies 2024**, the report made by **Corriere della Sera, Pianeta 2030 and Statista** - a company specialised in market research ranking and analysis of corporate data - which rewards the Italian companies that have most reduced the ratio of their CO_2 emissions to turnover.

The ***Net Zero*** concept has been defined by the IPCC as "the state of balance of the emissions produced by human activities with as many emissions removed from the atmosphere" to be reached by 2050 at the latest.

The **Net Zero Plan** developed by Open Fiber constitutes the first strategic document aimed at supporting the decarbonisation projects of the company, its partners and customers by contributing, in turn, to the achievement of their emission reduction targets in a concrete way. The Plan, validated by the Sustainability Committee, was approved by the Board of Directors in November 2023.

Open Fiber promoted a corporate climate strategy in line with the target set by the Paris Agreement, according to the maximum level of ambition identified by the *Science Based Targets initiative* (i.e., greenhouse gas emission reduction targets aligned to 1.5°C):

- **Scope 1&2**: absolute emission reductions by 42% by 2030 and 90% by 2040, compared to the base year 2022;
- **Scope 3** (with reference to "*Purchased Goods and Services*" and "*Capital Goods*"[107]): absolute emission reductions by 42% by 2030 and 90% by 2040, compared to the base year 2022.

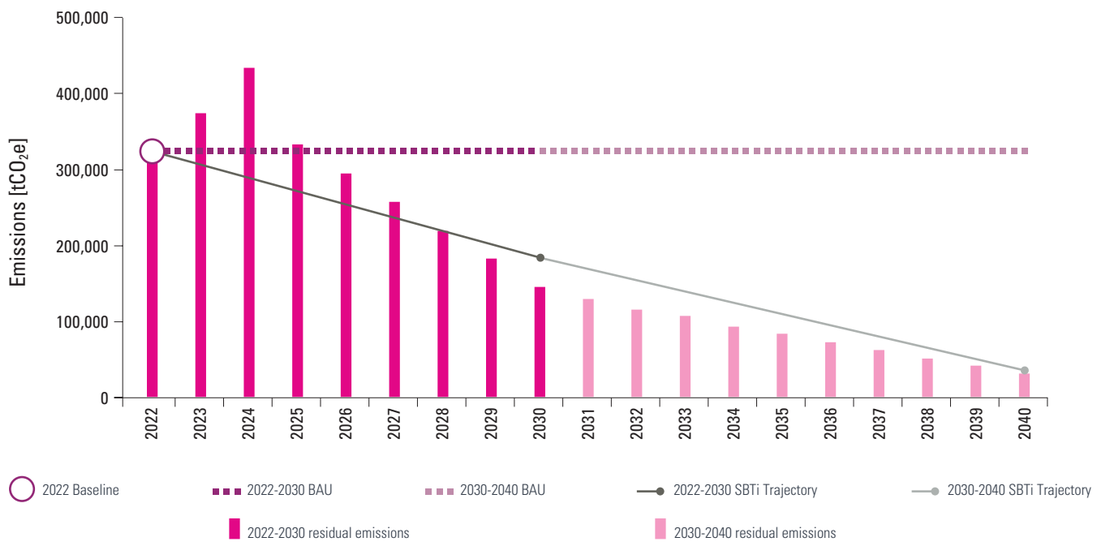
107 The "Purchased Goods and Services" and "Capital Goods" categories represent around 98% of the Scope 3 emissions of the base year.

Science Based Target initiative (SBTi)

In 2023, Open Fiber signed its **Commitment to Science Based Targets initiative (SBTi)**, a partnership between CDP (ex-Carbon Disclosure Project), the UN Global Compact, WRI (World Resources Institute) and WWF, whose aim is to promote an ambitious climate initiative in the private sector by allowing organisations to set emission reduction targets adopting a science-based approach.

For more details on the commitment, please refer to the following link https://sciencebasedtargets.org/companies-taking-action/

FIGURE 15: NET ZERO PLAN - AMBITIOUS SCENARIO



Base year identification and inventory certification

In line with the SBTi standards and the GHG Protocol[108], Open Fiber identified a base year (2022) in relation to which it should set its emission reduction targets and it extended its inventory of GHG emissions[109], including indirect emissions related to the value chain. The Company's carbon footprint therefore consists of three scopes:

- Scope 1 - atmospheric emissions directly produced by the company;
- Scope 2 - indirect emissions related to energy purchased for company consumption;
- Scope 3 - indirect emissions related to activities outside the perimeter of company structures but connected to Open Fiber's value chain[110].

The inventory of GHG emissions of 2022 was certified by an independent third body according to ISO 14064-1 rule.[111].

Open Fiber's **business evolution** as identified in the Industrial Plan guidelines, together with the Company's **Energy Plan** and **external decarbonisation scenarios**, constitute the cornerstones for the Company's decarbonisation path. In order to see a gradual reduction in overall emissions from its activities and value chain over the next few years, the Company commits, through the Net Zero Plan,

108 Based on a 20-year partnership between the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), the GHG Protocol works with governments, industrial associations, NGOs, enterprises and other organisations. It developed a set of standards establishing a comprehensive and standardised global framework for measuring and managing greenhouse gas (GHG) emissions from private and public sector operations, value chains and mitigation actions.

109 List of processes that release greenhouse gases into the atmosphere with their respective emissions (also referred to as «carbon footprint»).

110 Those indirect emissions include the following categories, which can be applied to the business: 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.

111 In line with the scopes indicated by SBTi when setting emission reduction targets, this document reports a reclassification of emissions in accordance with the GHG Protocol. Furthermore, in accordance with SBTi's requirements, which envisage addressing reduction targets by covering at least 90% of Scope 3 emissions and avoiding spreading efforts over minority categories, Open Fiber considers a reference baseline of 323,909 tCO_2e (including Scope 1, 2 and 3 emissions for the "Purchased Goods and Services" and "Capital Goods" categories of Scope 3), instead of the total 330,397 tCO_2e of the 2022 greenhouse gas inventory.

to meet the SBTi requirements on the pathway to *Net Zero*, implementing the **challenging actions** (defined as **additional and enabling**) to be taken to achieve the science-based reduction targets by 2030 and 2040 and the future commitment to use carbon removals to neutralise unabated emissions by 2040. Along with the reduction actions, Open Fiber will undertake offsetting actions in line with SBTi's proposed *Beyond Value Chain Mitigation* strategy on the path to *Net Zero*, investing in climate action financing to an extent sufficient to cover the volume of current Scope 1 and 2 emissions, even before they are reduced according to the planned decarbonisation actions.

5.1.3 Open Fiber's carbon footprint

Open Fiber's emissions inventory[112] in 2023 includes:

- 1,989 tonnes of CO_2e for Scope 1 and 2 emissions (respectively, 1,462 tCO_2e and 527 tCO_2e)[113], with an average intensity of 0.12 kg CO_2e per household passed, considering 17.1 million households passed;
- 398,531 tonnes of CO_2e for Scope 3 emissions, mainly due to the "Purchased goods and services" and "Capital goods" categories, which account for about 98% of the total Scope 3 emissions.

In 2023, with reference to the Consortium, 2,752 tCO_2e are recorded for Scope 1 and 2 emissions (2,746 tCO_2e and 6 tCO_2e, respectively). As the Consortium is involved in the construction of Open Fiber's fiber optic infrastructure, Scope 3 emissions are already included in the reporting of Open Fiber's other indirect emissions.

FIGURE 16: INVENTORY OF GHG EMISSIONS FOR OPEN FIBER S.P.A.

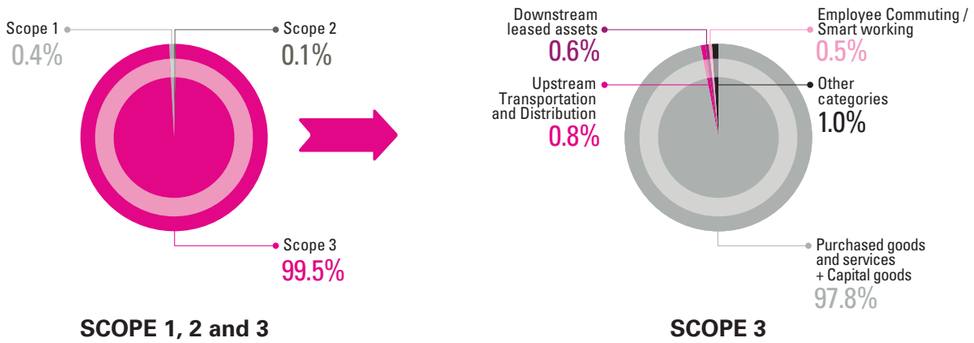
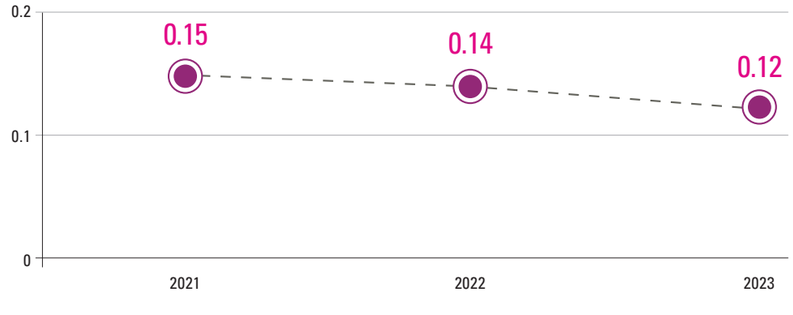


FIGURE 17: EMISSION INTENSITY TREND (SCOPE 1 AND 2) PER HOUSEHOLD PASSED (KGCO_2E/HP) - OPEN FIBER S.P.A.



Happy B-Day & New Born

The Happy B-Day & New Born project aims to celebrate important days for Open Fiber employees by making an active contribution to the preservation of the ecosystem. On their birthday or the birthday/adoption date of a child, each employee receives an email with a link enabling them to plant their own tree remotely and follow its growth online. The initiative was developed in collaboration with Treedom, a web platform that allows people to plant trees remotely: all trees are planted directly by local farmers and contribute to producing not only environmental, but also social and financial benefits.

To date, **around 7,050 trees** have been planted in the Happy B-day & New Born forest in **12 countries** (Cameroon, Colombia, Ecuador, Ghana, Guatemala, Haiti, Italy, Kenya, Madagascar, Malawi, Nepal, Tanzania), leading to the offsetting of around **1,300 tonnes of CO_2**.

For more details, please refer to the following link: https://www.treedom.net/it/organization/open-fiber-s-p-a

112 The data shown in the pie charts refer to Open Fiber S.p.A. (market-based approach). The emissions related 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 on the emissions produced by Open Fiber Network Solutions S.c.a.r.l, please see paragraph 7.5 "Data and Indicators Tables".

113 Market-based approach. The market-based approach considers only the share of electricity to which no Guarantees of Origin have been associated providing an insight into the benefits in terms of fighting climate change commitment that Open Fiber has achieved through the use of energy from renewable sources.

5.2 OUR EFFORT FOR ENERGY

5.2.1 Energy sustainability

The development of a sustainable strategy cannot be separated from the implementation of a sound energy policy. The one implemented by Open Fiber has as its pillar the commitment to continuous improvement in terms of energy performance. To this end, the company maintains an Energy Management System compliant with the UNI CEI EN ISO 50001 standard[114], certified in 2023 and aimed at managing consumption levels of office buildings, technology sites and the company car fleet in a structured manner, under the guidance of the Energy Management team. The Energy Management System contributes to **increasing market competitiveness, the level of technological innovation, business circularity and resilience** and represents an important tool for monitoring environmental compliance and compliance with the obligations imposed by current legislation 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 the energy optimisation initiatives developed within the scope of energy systems management and in defining a strategy for implementing these projects. Starting from the energy assessment and consumption analysis, the Energy Management System allows Open Fiber to identify and plan improvement proposals aimed at energy efficiency according to the critical issues that emerge during the data analysis phase and the definition of the energy model of the sites, performing cost-benefit analyses of a technical and economic-financial nature.

THE PILLARS OF OPEN FIBER ENERGY MANAGEMENT SYSTEM

COMPETITIVENESS
Implementation of **corporate energy policy** able to identify inefficiencies, allowing to generate the same level of services with a net reduction of the resources employed

TECHNOLOGICAL INNOVATION
The quest for efficiency by applying cutting-edge technological solutions, able to increase the value and performance of the company's assets

ENVIRONMENTAL SUSTAINABILITY
Accelerator of the business level of sustainability, in line with the founding value of the company, promoting a circular and green economy

BUSINESS EVOLUTION
Energy efficiency as a way to look for new models of business/revenues streams, able to diversify the services offered

114 Energy Management Systems - Requirements and practical guidelines.

Energy plan

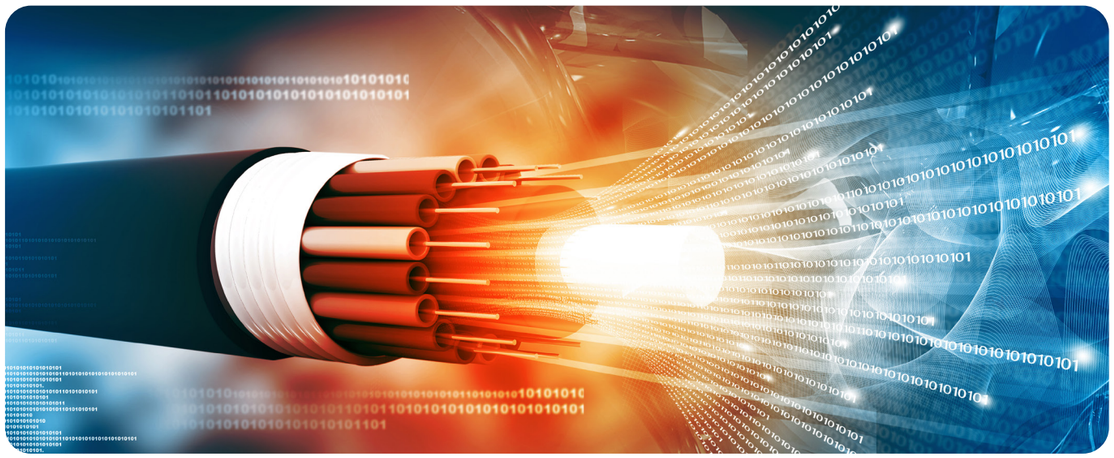
Open Fiber's Energy Plan represents the strategic tool with which the company intends to achieve its efficiency and rationalisation objectives and, as a result, reduce its carbon footprint, thanks also to the use of renewable energy. This Plan includes two lines of action:

Infrastructural actions involving headquarters, technological sites and motor vehicles, with the aim of:

- Reducing and rationalising energy consumption;
- decarbonising: reducing, zeroing or offsetting greenhouse gas emissions;
- using energy from renewable sources, through the installation of renewable energy plants (wind power, photovoltaic, etc.);
- monitoring energy, so as to achieve greater awareness of consumption, also for implementing the actions mentioned in the previous points;

Operational Management actions of corporate processes aimed at:

- computerising processes: digitising data acquisition, monitoring, analysis and reporting;
- implementing and maintaining the Energy Management System in accordance with the ISO 50001 standard;
- optimising business processes from an energy and environmental perspective.



Energy consumption monitoring

Open Fiber is aware that the first step for an effective management of energy resources is **monitoring**. This is why the company has planned the integration of a monitoring system based on the Internet of Things (IoT) technology to be installed in its technological sites and office buildings, which will allow to collect and manage the organisation's energy consumption data through the integration of the monitoring architecture with a dedicated *business intelligence* software, capable of automatically acquiring and processing the data, analysing the information and producing ad hoc reports.

Purchased electrical energy: 100% from renewable sources

Open Fiber strives every day to reduce the emissions generated by the operation of its network. In line with such commitment, it started in 2020 an incremental process of purchasing energy from renewable sources. As of 2022, 100% of the electrical energy purchased by Open Fiber is certified as coming from renewable sources.

Solar panels serving the network

In addition to the **technological site (PoP) in Settimo Milanese**, built in 2022, Open Fiber has installed two other photovoltaic plants for the production of renewable electricity in **Castelnuovo di Porto** and **Casoli**, with a respective capacity of 4.5 kWp[115] and 5.5 kWp. Both will be able to provide approximately 13,000 kWh each year for the operation of the technological site.

Sustainable fleet management

Open Fiber's commitment includes the management of its car fleet. For this, it launched a plan to convert the thermal energy used in its car fleet to hybrid/plug-in/full-electric solutions.

Awareness campaigns promoting an efficient use of energy

Open Fiber conducts awareness-raising campaigns on the importance of reducing energy consumption both in the office and at home. To this end, training contents are created, which can be used by all employees and which focuses on the company's energy management system besides providing useful tips for saving energy through simple actions.

115 kWp - peak kilowatt: measurement used for the maximum instantaneous power that can be produced by an electric generator.

5.2.2 Energy performances

The use of electricity for the company offices and technological sites (about 89% of the total energy consumed); the consumption of diesel and petrol for the company car fleet (about 10%); the use of natural gas for heating the offices (about 1%): these are the main energy consumptions of Open Fiber. 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 (about 99.6%) with a small share linked to the consumption of natural gas (about 0.1%) and electricity for operating the warehouses (about 0.3%)[116].

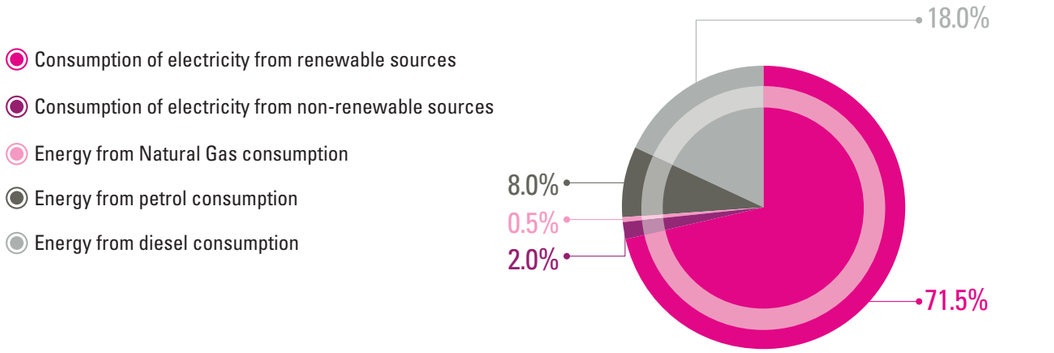
As regards electricity consumption, a share of approximately 151,083 GJ of energy from **renewable sources** was reached in 2023 (through Guarantees of Origin)[117], meaning 72% of the total energy consumed by Open Fiber and the Consortium[118].

2023 Highlights

Open Fiber and OFNS
- **211,309 GJ** total consumption in 2023
- **72%** energy from renewable sources on total consumption of 2023

Open Fiber
- **100%** of electricity purchased by Open Fiber comes from renewable sources

FIGURE 18: ENERGY CONSUMPTION WITHIN THE ORGANISATION - OPEN FIBER AND OPEN FIBER NETWORK SOLUTIONS



116 The share related to natural gas consumption is approximately 0.04%.

117 The energy procured and certified through Guarantees of Origin (according to the Directive (UE) 2018/2001) comes from renewable energy plants as proven by the certification system managed by the Manager of Energy Services pursuant to the regulations in force.

118 The percentage decrease of energy from renewable resources compared to 2022 is because the 2023 is the first year of consolidation of the Consortium's consumption within Open Fiber performance. Due to the operational nature of the activities carried out by the Consortium, the share of energy from non-renewable sources attributable to the fuel consumption of the vehicle fleet if of greater importance.

The increase in overall consumption in 2023 is due to two main factors: the former the increase in the number of households passed (17.1 million in 2023 compared with 15.5 million in 2022), and consequently of technology sites, of on-field staff and within the company premises; the second is associated with the implementation of the Open Fiber Network Solutions Consortium activities, which contributes more than 37,000 GJ of energy consumption in the reporting year.

5.3 INFRASTRUCTURE WITH A REDUCED ENVIRONMENTAL IMPACT

Green economy, ethical choices and materials with a low environmental impact are the three pillars around which the eco-sustainable revolution launched by Open Fiber revolves. Indeed, the company has inherent in its mission the desire to wire the whole of Italy without affecting its natural and cultural beauty. Hence the attention paid by Open Fiber in carrying out the activities of building and managing the network infrastructure while minimising the impact on the environment, starting with cable-laying techniques, and always seeking innovative and environmentally virtuous solutions. On top of this comes the choice of materials: an optical fiber network infrastructure has a **reduced environmental impact** compared to other types of networks, such as, for example, copper networks. This stems from the intrinsic characteristics of this technology, which is made of readily available raw materials, whose transport and installation is easier and whose energy consumption is significantly lower. In other words, **using an optical fiber connection** not only allows a **more effective communication**, but also **reduces the impact on the environment**.

5.3.1 FTTH: a sustainable technology

As also highlighted by the FTTH Council[119], optical fiber is the perfect answer for those seeking environmentally friendly solutions. Indeed, **the advantages it offers are numerous**: extremely flexible filaments and high resistance to wear and tear; high conductive capacity, low attenuation and bandwidth that are particularly valuable for connections over long distances and at a high bit rate; immunity to electromagnetic interference as well as a small size and low weight. These characteristics guarantee not only an **intrinsic network efficiency**, but also ensure reduced maintenance effort with the resulting **environmental benefits** in terms of reduced energy consumption, resource usage, waste generation and greenhouse gas emissions into the atmosphere.

The positive environmental impacts of optical fiber networks become even more significant when compared to the environmental performance of traditional copper networks. The latter involve emissions-intensive mining and processing techniques, entail electromagnetic dispersion and, due to their vulnerability to weather and temperature fluctuations, require ongoing maintenance with a higher number of construction sites and the resulting production of more waste and emissions.

By comparing the two solutions, it becomes clear that more digitisation corresponds to a lower waste of resources.

119 FTTH Council Europe is an industry association with the mission to promote optical fiber connectivity throughout Europe.

PRODUCTION OF OPTICAL FIBER CABLES

At the heart of the infrastructure built by Open Fiber are optical fibers, a set of filaments of glassy or polymeric materials. The basic material of which the optical fiber is composed, indeed, is glass[120], coated with acrylic resins, in order to provide the fiber with the mechanical resistance required to handle it and wind it onto reels.

Copper cables, instead, are made of a raw material that must be extracted from mines in a few countries in the world (particularly Latin America and Africa) or must be produced by means of special recycling processes. The extraction of 2 kg of the raw material required to produce a copper wire of about 60 metres long produces roughly 1,000 kg of CO_2e. The production of the equivalent length of an optical fiber 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, much more than 60 metres of copper would be required to match the performance of the same length of a fiber cable[121].

In addition, while the optical fiber - starting with a glass preform - is produced by means of a spinning process that pulls the glass fiber and wraps it in an acrylic resin coating, the copper, once extracted, must then be processed through procedures that create additional dust and emissions before it is installed as cable.

TRANSPORTATION AND LAYING OF OPTICAL FIBER CABLES

Optical fibers are smaller in size and weight than copper cables, and this characteristic allows for the use of alternative, low-impact excavation techniques that also provide for shorter installation times, thus reducing not only the time required to build the network but also the emissions associated with the work involved.

Furthermore, by being able to install a transmission capacity greater than needed in the same space without incurring additional operating costs or emissions, there will be no need for additional installations at a later date.

> *To find out more read the **insight** boxes "**Innovative and sustainable laying materials under study**" and the paragraph "**Non-invasive laying techniques**"".*

Optical fiber network operation

Optical fiber networks are 'passive' networks, i.e., they do not require a continuous supply of electricity and do not generate electromagnetic dispersion in the environment.

Optical fiber networks also use fewer active devices than traditional copper networks. The latter, indeed, require amplifiers over a distance in the range of 100 m-2 km, whereas fiber can support 100 km without amplifiers. Over an area of 40 km this is equivalent to having hundreds of active nodes for copper networks versus a single active node for FTTH networks. Thus, copper networks, in order to transmit the same signal as a fiber network, involve considerably higher electricity consumption and require a more energy-intensive structural architecture than a fiber network. In addition, the additional heat generated by the energy consumption of copper networks also requires a substantial increase in cooling equipment, resulting in higher energy consumption and associated emissions into the atmosphere.

Several studies show that, especially in a switch-off scenario of copper networks, more than 60% of energy would be saved[122].

120 For example, oxide-based compounds such as silicon oxide, phosphorus and/or germanium.

121 Carbon Smart "Our digital infrastructure needn't cost the earth".

122 Sources: ETNO, "State of Digital Communications 2024", which estimates savings of up to 80%; WIK-Consult, "Neutral fibre and the European Green Deal", October 2020. Furthermore, according to a study commissioned by Open Fiber there would be annual savings in energy consumption of 560 GWh, i.e., -61% (-89% for the access part and -21% for the transportation part).

Optical fiber maintenance and end of life

The optical fiber cable has an estimated life span that ranges between 25 and 38 years[123], thanks to its structure consisting of glass filaments encased in a polymer coating that makes it resistant to both mechanical and thermal phenomena.

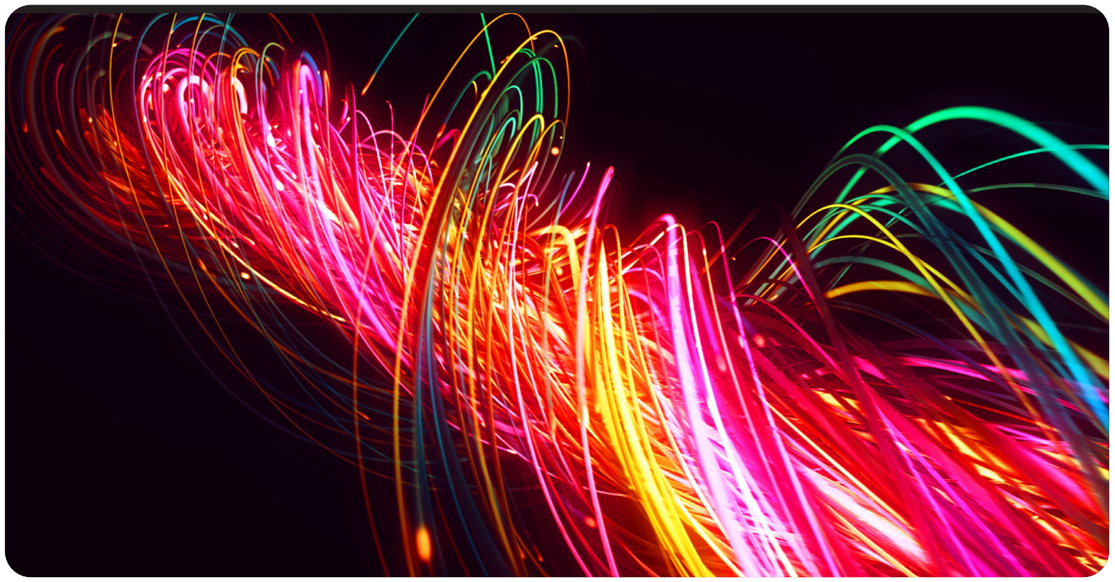
The optical fiber represents the best solution in case of extreme weather conditions as well, because it is less prone to degradation due to high humidity, frost or electrical interference. Copper, on the other hand, by its nature can be subject to oxidative phenomena, corrosion, and short circuits that deteriorate its efficiency and in the most serious cases shorten its operational life, requiring replacement. Furthermore, being a very valuable material, it is often subject to theft with serious consequences on network operation to the point of service interruption.

Finally, technological upgrades of the fiber network do not require any intervention on the distribution network, but only changes in the power plant and user premises, with a consequent positive impact on the environment.

> *To find out more read the **insight** box "**Effective and environmentally friendly network monitoring**".*

Use of an optical fiber connection

When comparing optical fiber and copper connections, a further environmental and economic advantage emerges in relation to the different performances also experienced by end users. Assuming constant, uninterrupted use, a copper cable connection results in an energy consumption per user of 10 Wh, which drops to around 2 Wh with an optical fiber connection, generating an estimated average saving of 8 Wh per user.



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

Innovative and sustainable laying materials under study

To enhance the green approach to the management of materials for the construction of the network, Open Fiber has successfully experimented a solution to reduce the weight of **concrete manholes** by reducing their thickness and varying their composition with different types of concrete used in smaller quantities, while retaining the original mechanical characteristics, and therefore not compromising the intrinsic properties of the product.

Open Fiber is also committed to researching solutions for the use of **pipes to protect 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 laying underground to protect cables for optical fiber, in compliance with the CEI EN 61386-24 standard and in possession of the label PSL (Plastic Second Life), an environmental product certification system dedicated to materials and artifacts obtained from the enhancement of recovered or recycled plastic waste. The low environmental impact of the system originates from the structure of the polyethylene-based pipeline, at least 70% of which is derived from recovered materials with PSL compliance certification issued by the IPPR (*Istituto per la Promozione delle Plastiche di Riciclo*, Institute for the Promotion of Recycled Plastics). The product, free of halogens and heavy metals, is fully recyclable at the end of the product life cycle where intelligent disposal methods are used for waste, scrap and residues so that none of the recyclable material is wasted.

Moreover, the possibility of reducing the materials used per package and using fully recyclable and environmentally friendly materials is being investigated and scouted.

Effective and environmentally friendly network monitoring

By installing the **OTDR (Optical Time Domain Reflectometer)** can not only guarantee an efficient network and continuity of service, but also to reduce the costs and impacts associated with analysing and diagnosing faults in its optical fiber network. Indeed, the OTDR makes it possible to detect possible faults quickly and accurately: in just a few minutes, the result of the measurement is available for intervention. While previously the intervention team identified the fault starting from the technological site and, once it had located the spot, went to the site to fix the problem and then came back to work on the site, today. thanks to the OTDR installed inside the technological sites, it is possible to isolate the intervention area. In this way, the team can go directly where the fault occurs as all the measuring and monitoring is performed centrally by Open Fiber.

This type of analysis and diagnosis significantly improves the maintenance process, reducing the cost in terms of intervention time, but also saving resources (human resources, equipment and natural resources) and lowering environmental pollution (for example, lower CO_2 emissions related to travel).

5.3.2 Non-invasive laying techniques

Optical fiber, by its very nature, is a considerably more sustainable and better performing technology than copper. In order to further improve its environmental performance, Open Fiber studies the territory and existing structures in depth, in an attempt to build its network while minimising the effects on the territory, upgrading, when possible, the available infrastructure and existing routes and, where this is not possible, resorting to non-invasive excavation techniques, such as mini and micro-trenching.

Thanks to these more innovative excavation techniques, the laying, reuse, rehabilitation and replacement of underground utility networks takes place with zero or little need for open excavation, removing very small volumes of soil, using miniaturised network accessories that require less raw material and ensuring that design processes require as little paperwork as possible.

Reuse of existing infrastructures

The preferred option for the laying of Open Fiber's optical fiber network is the re-use of existing infrastructure as it avoids generating negative impacts on the environment and the community at the outset. Precisely for this reason, the company promotes the use of this solution by guaranteeing municipalities that make their infrastructure available the free connection of public administration buildings such as schools, offices or libraries.

A specialised Open Fiber team and the operator or owner of the existing infrastructure check - before the start of activities - the state of the infrastructure, the possibility of coexistence of the different services and, in particular, everything concerning operation and maintenance requirements. The modalities for re-use vary according to the destination of the infrastructure (for optical cables, telecommunication networks, electricity grids, railway networks, etc.). If it is not possible to work on the road, Open Fiber resorts to aerial laying, a technique that involves the use of piles already present in the territory and the connection of cables from one to the other with the help of special clamps and suspensions. In this case, it is possible to reuse already existing tracks, since the fiber - as it does not generate dispersion of any kind - can be laid a short distance from other infrastructures, such as electricity cables.

Low-impact excavation techniques

When the reuse of existing infrastructures is not possible, Open Fiber resorts to alternative excavation techniques that represent a novelty not only from a technological point of view but, above all, in relation to the different impact these technologies have on the community. Compared to traditional excavation, indeed, these reduce socio-environmental impacts and energy consumption, as well as improving the safety levels for personnel on site and those passing through its close surroundings.

The efforts made in industrialising small-scale excavation techniques have allowed the development of the following types of **mini-trenching**[124], which have as their strong point the radical reduction of the volumes of soil to be removed and then recovered or disposed of and, consequently, the reduction of the consumption of resources linked to the inert material required to perform backfilling operations, with consequent additional transportation constituting a further factor in the environmental impact. The use of minitrenching systems is particularly suitable in urban or suburban areas on asphalt or cemented surfaces, such as roads or pavements, with a base of compact material, while it is limited when there is a high presence of gravel, cobblestones or valuable material (such as porphyry, stone materials, self-locking paving stones) in the subsoil. Upon completion of the laying, the technique provides for a final, cold filling using a single-component, controlled-shrinkage mortar that 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 laying techniques are divided into **traditional mini-trenching**

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

and **reduced mini-trenching**. This type of excavation involves the construction of trenches approximately 5 centimetres wide, which is why it is not necessary to close roads to traffic, and the laying is very quick and the road can be reopened to traffic in a short time. The stages of excavation and suction of the spoil are simultaneous, so as to speed up the cleaning of the trench. These operations are carried out using appropriate dust removal methods in order to keep the site clean and to limit inconvenience to citizens and environmental pollution.

Micro-trenching is an even more advanced technology for laying optical fiber cables and can be used under certain special environmental conditions. Micro trenching is as small as possible (only 2.5 centimetres wide and a maximum of 30 centimetres deep, at the kerb of the pavement) and reduces the use of machines, thus streamlining the operations involved in opening and closing the sites. A further advantage is the simplification of operations related to the opening and closing of construction sites. For example, restoring the road surface in normal excavation activities involves two stages of restoration (temporary restoration and permanent restoration), while with the micro-trench it is possible to carry out permanent restoration starting from the filling of the excavation by means of a special cement mortar that has chemical, physical and mechanical characteristics that guarantee rapid setting and perfect adherence to the walls of the excavation and prevent the creation of cracks and fissures and, consequently, the need to restore the excavation itself. For example, just reducing the size of the excavation to 3x30 cm results in a reduction of approximately 75% of the volume of soil to be removed, corresponding to more than 40 tonnes of material for a 1 km section. This is why, whenever possible, Open Fiber utilises mini-trenching or micro-trenching excavation techniques to lay its network.

Another excavation technique with a significantly reduced impact is the **no-dig** technique, i.e., "without excavation", which consists of remote-controlled drilling into the ground, where pipes are placed and cables

are run through them. Only two precise excavations are made in the ground, one at the beginning and one at the end of the route, usually far from the roadway. This eliminates the need for open excavations, making it possible to easily overcome natural and man-made obstacles along the route, as well as minimising the use of materials and waste to be taken to landfill and thus minimising the amount of restoration work to be done. According to a study based on the model of the Confederation of Swedish Enterprise, the use of this excavation technique allows for an 80% saving on costs and a 67% reduction in work accidents.

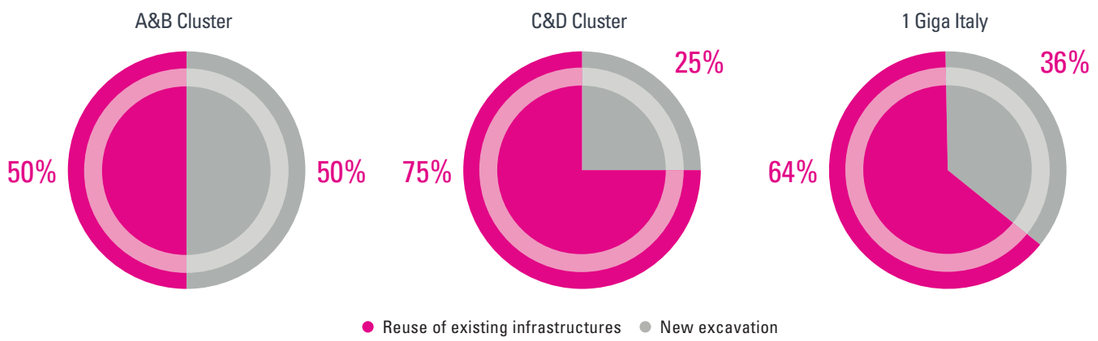
In addition, even for this type of excavation, the work is completed in a few hours and restrictions on road and pedestrian traffic are limited.

In order to standardise these innovative techniques and the restoration of safe road surface conditions after excavation work, Open Fiber is participating in a technical roundtable to define guidelines. Road owners, regions and municipalities, universities, major telecommunications operators, some installation companies and some suppliers of excavation machines are participating in this important project. The company's contribution focuses on defining how excavation techniques are to be carried out, establishing the cost of the work while taking into account the safety conditions of the road, and determining the exact size of the excavation (surface area and depth of the ground). The objective is to define the methods for building the infrastructure with the lowest impact on the environment, the best value for money and the highest speed of construction.

In 2023, similarly to what was achieved in 2022, existing infrastructures were used by Open Fiber for 50% of its optical fiber cable laying activities for the **A&B Cluster**[125]. Such percentage has reached 75% in the case of the **C&D Cluster**[126]. Also in 2023, activities continued on the areas covered by the **"Italia a 1 Giga" Plan**, with approximately 64% of the network reused and a remaining 36% of new excavations. Such data demonstrate the Company's commitment and results in the reduction of the environmental and social impact resulting from the presence of construction sites.

Where reuse of existing infrastructure was not possible, low-impact excavation techniques such as mini-trenching, micro-trenching and the no-dig technique were used.

FIGURE 19: EXCAVATION METHODS FOR DIFFERENT CLUSTERS



125 With regard to new excavation activities for the A&B Cluster, Open Fiber employed mini-trenching and micro-trenching in 40% of the cases, traditional excavation technique in 40% of the cases and the no-dig excavation technique was used for the remaining 20% of operations.

126 With regard to new excavation activities for the C&D Cluster, Open Fiber used mini-trenching and micro-trenching in 69% of the cases, the traditional excavation technique in 21% of the cases and for the remaining 10% of the operations the no-dig excavation technique was employed.

5.4 WASTE MANAGEMENT

Open Fiber cares about the health and safety of its employees and all those who, for whatever reason, collaborate in pursuing the company's objectives. As we have seen, such care involves protecting the territory where it operates, investing in environmentally friendly technologies, and deploying an infrastructure that, by its very nature, is highly efficient and environmentally sustainable. In order to implement such commitments, the Company adopted the **Management System for Quality, Occupational Health & Safety and Environment**[127] that - among other things - aims to ensure close monitoring and ongoing improvement of the Company's environmental performances.

And it is precisely the great attention that the company pays to environmental sustainability that has prompted Open Fiber to analyse the impact of its activities also in terms of waste production and management, extending this reflection to its value chain with a view to analysing the entire life cycle, with the aim of identifying appropriate actions to improve performance.

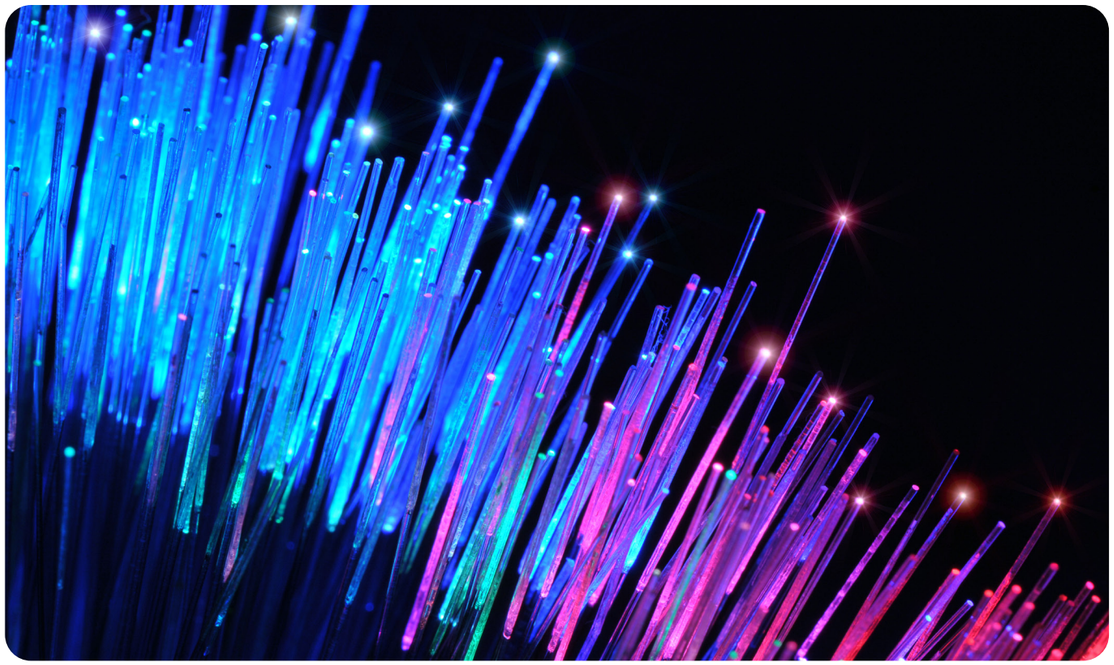
As already explained in the previous paragraphs, Open Fiber prefers non-invasive laying techniques: thanks to this strategy, the company minimises the production of waste materials that would then have to be managed as waste compared to traditional excavation techniques.

The **waste directly produced by Open Fiber** consists mainly of waste assimilated to urban waste, deriving from the office activity carried out at the company's premises and, as such, is managed separately and entrusted to the public collection service and mostly sent for recycling and recovery at authorised plants. The production of special waste may occur sporadically when certain stocks of materials directly supplied by Open Fiber for the construction and maintenance of the FTTH network become obsolete or are unusable. In such cases, the Company strives to determine whether it is possible

127 Open Fiber's QHSE & Energy Management System obtained UNI EN ISO 14001 certification in the year 2020. For further details on the management systems adopted by the Company, see section 2.3 Quality, Occupational Health and Safety and Environment Management.

to allow their reuse by third parties[128] or to manage them in compliance with current regulations and, when possible, send them for recovery operations conducted by authorised parties.

As for the waste generated within the context of the **activities of building and maintaining the FTTH infrastructure** and the maintenance of company premises, in most cases Open Fiber is not the producer of the waste as the operational activities are entrusted to external suppliers. Under such circumstances, the generation and management of waste through recovery or disposal are the responsibility of the contractors and subcontractors operating under contracts, which are assessed both during the qualification phase and during the execution of works. In all these cases, Open Fiber defines appropriate clauses on environmental protection, which its suppliers must comply with and verifies possession of the technical capabilities and appropriate qualifications to best handle waste management processes in compliance with existing regulations (e.g., by verifying possession of authorisations by destination plants, registration with the National Register of Environmental Managers for transporters, etc.).



As for the other contractors involved in the construction of the optical fiber network, the waste produced by the **Open Fiber Network Solutions** consortium is largely derived from the waste materials produced during excavation for the laying of cables and is managed according to specific procedures defined within the framework of the Environmental Management System certified according to the ISO 14001 standard.

Open Fiber controls and monitors data and information proving the correct management of special waste by suppliers and contractors involved in its activities. Controls and documentary requests are regulated under Open Fiber's contracts and environmental management system, with which contractors are obliged to comply. The main control and monitoring activities include:

- request for filing and checking of the Waste Identification Forms (Formulari Identificativi dei Rifiuti - FIR) issued within the scope of contracted activities;
- sample checking of MUDs (Modello Unico di Dichiarazione Ambientale - Consolidated Environmental Declaration Form) submitted by suppliers/contractors involved in the activities;
- on-site verification of the correct management of the waste produced and of the temporary deposits;
- on-site and documentary verification of legislative compliance with regard to operational management of waste, aimed at establishing the absence of cases of littering.

Environmental controls are carried out on a number of levels, through systematic checks carried out by the Site Manager (first level controls) and sample checks carried out by the Technology Department (second level controls) by filling in specific checklists focused on monitoring the significant environmental aspects associated with the activities. In addition to these two levels, there are sample checks performed during internal audits of the Management System, carried out by the Quality & HSE reference persons[129].

The results of these checks are also processed through the Open Fiber portal, which allows the monitoring of any non-compliance found and periodically reported to the Management Team.

128 By sale in any manner permitted by the law.

129 As of 22/01/2024 the Security, QHSE & Sustainability function is within the Risk Management & Financial Advisory Department.

06

Protection and development of human capital

Diversity, Equity & Inclusion

HUMAN CAPITAL

6.1 OUR PEOPLE

Awareness of the importance of Open Fiber's project for the future of Italy is the driving force behind its action. This strong sense of responsibility towards technological development and the digitalisation of the country is combined with a corporate culture based on key values such as encouraging innovation, excellence in execution and the centrality of the individual through the enhancement of diversity and talent. Passion, expertise and the ability to network have led to the development of a unique identity that allows employees to build themselves to the fullest as individuals and professionals, and to be part of a young, flexible, collaborative and sustainable reality.

A team that constitutes Open Fiber's wealth of skills, experience and quality. After all, the pursuit of excellence is a complex and ambitious journey that can only be accomplished with a close-knit team of individual talents working towards a common goal.

It is people who make the difference in business development processes. Skills and experience are the pillars on which Open Fiber continues to base its way of doing business, investing in the women and men who take part in the success of the Company. Being able to meet the challenges of the future means, in fact, being ready and equipped with a wide range of skills, professionalism and talent.

2023 WORKFORCE (Open Fiber and Open Fiber Network Solutions)

- **2,095** employees
- **28%** women

2023 OPEN FIBER TEAM

- **1,734** employees (**+10%** vs 2022)
- **33%** women

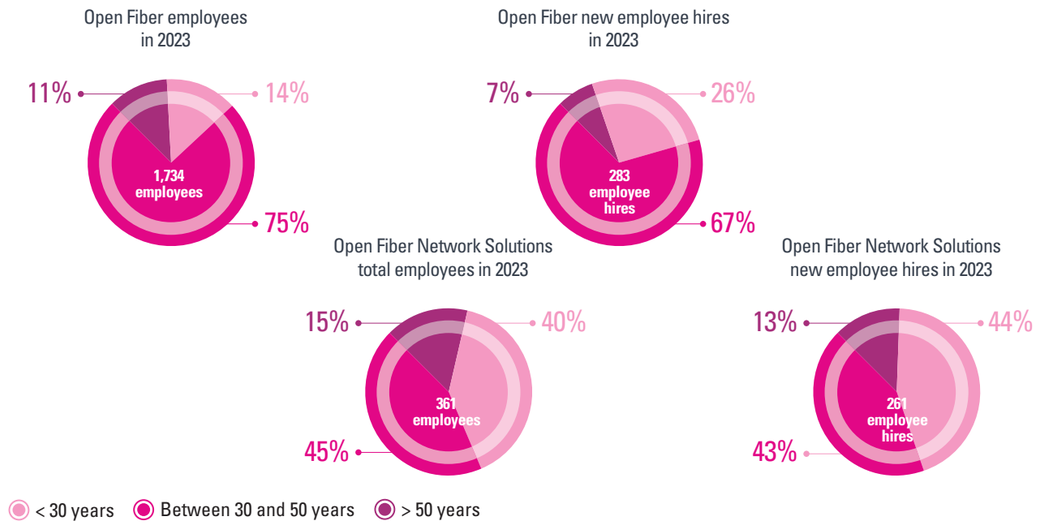
For this reason, Open Fiber is committed to being a place of growth, as well as a place of work, encouraging the continuous updating and learning of skills necessary to meet the challenges of a rapidly evolving context. The Company adopts a tailor-made approach in guaranteeing appropriate training and professional growth paths for its employees, in order to enhance and increase their skills and abilities, aware that added value can be found in the uniqueness of each person. The company proposes a "model of excellence" that brings together the skills, behaviours and competencies of those who work within it and merges them with the company's culture, mission and values, to ensure that everyone can express their potential, both professional and human. This model is used in all development, training, evaluation and feedback processes, in which great importance is given to professional growth and the conditions are created for people to follow a career path consistent with their skills and expectations.

Open Fiber strongly believes that the centrality of people passes through the enhancement and strengthening of skills, the promotion of an inclusive culture and the strengthening of an increasingly modern and flexible corporate welfare system. For this reason, despite the events that have disrupted the global scenario in recent years, the company has always maintained high levels of permanent employment by increasing its workforce every year. It has also confirmed to its employees the possibility of working for some days of the month in Smart Working mode, laying the foundations to promote the creation of a proper work-life balance.

At the end of 2023, the **Open Fiber team** comprised **1,734 employees** (up by around 10% compared to 2022), mostly concentrated in the cities of Rome and Milan: women make up around 33% of the workforce (in continuity with 2022) and the majority of employees are in the 30-50 age bracket (around 75%), followed by the under-30 bracket (14%).

During 2023, **Open Fiber Network Solutions** strongly increased its workforce (+42% compared to 2022), becoming fully operational and reaching **361 employees** as at 31 December. The Open Fiber Network Solutions workforce is characterised by a preponderance of men compared to women (5% of employees) depending on the type of business and a high proportion of young employees (around 40% under 30 and 45% between 30 and 50 years of age).

FIGURE 20: OPEN FIBER AND OPEN FIBER NETWORK SOLUTIONS PERSONNEL - DISTRIBUTION BY AGE GROUP



Social recruiting channels

In 2023, Open Fiber strengthened its employer activity on social recruiting channels, in particular on the LinkedIn platform.

During the second half of 2023, more than 29,000 applications were received in relation to the alerts posted on the LinkedIn platform, while those received on the company website in the "Work with us" section amounted to approximately 2,400.

6.1.1 The talent attraction

Nurturing teamwork; fostering the creation of a healthy and stimulating environment in which everyone can express their skills and talent, thus feeling a sense of belonging, pride and motivation; enhancing skills within the company. For Open Fiber, these constitute real competitive advantages that can make the difference.

The strategic role acknowledged to human capital is also charged with significant value in the search for new talent: a constant practice that enhances Open Fiber with innovative ideas and new skills.

Open Fiber's strategy to find new talent and enhance employer branding is developed mainly through:

- the implementation of different attraction channels and sourcing tools such as the corporate database and the "Careers" section of the corporate website, thanks also to the support of external headhunting companies and the use of the main social recruiting platforms;
- the enhancement of the **talent attraction** of target candidates, through participation in innovative and **digital-oriented** initiatives, favouring the positioning of the Open Fiber brand as the Best Digital Workplace;
- the consolidation of Open Fiber's presence as an active employer in the **main academic centres** in Italy, through a virtuous circuit of **ad hoc partnerships** and a special focus on excellence in the field of engineering (TLC, Electronics, Civil and/or other)[130];
- participation in employer branding events/activities with a focus on the presence on the **territory**, thus enhancing the contribution of our professionals as ambassadors of corporate best practices and inviting them to target events (e.g. career days);

Career Day

In 2023, Open Fiber renewed its membership of the **Digital Career Day** events circuit - also in digital mode - to strengthen networking with the main university hubs in the country, choosing digital-oriented events to encourage the meeting between the best talents and professional opportunities. During the year, the Company took part in 5 such events, reaching thousands of participants among students and visitors, and promoting orientation activities, webinars, cv checks, assessments, challenges and interviews.

Masters and Courses co-design

Open Fiber collaborates with some of Italy's leading academic centres of excellence through a virtuous circuit of ad hoc partnerships, through which it promotes initiatives and activities in favour of masters and specialised courses.

Again in 2023, collaborations were set up with different technical-engineering-oriented and soft master's courses. The activities carried out concerned didactic co-designing, classroom interventions and testimonials, internships, project work and the awarding of scholarships.

As part of the partnership initiatives with the main university poles already consolidated in Open Fiber, the collaboration with the world of scientific research continued through the **funding of a scholarship for the 1st national industrial PhD in Artificial Intelligence** promoted by the **University of Pisa**.

This three-year cooperation is aimed at increasing specific skills in the application of **data science and big data** techniques, which are fundamental to enable Open Fiber to become a data-driven organisation.

130 For more details please refer to paragraph 3.4.2 "Initiatives in support of the community".

- the support and promotion of **social impact** projects, such as the "PCTO" (formerly school/work training[131]).

6.1.2 Employer branding

Being pioneers. Uniqueness and teamwork. Towards excellence. Beyond expectations. These are the main values that constitute the compass by which Open Fiber orients the actions and work of the people and teams that take part in its mission.

Since its inception, Open Fiber has favoured an avant-garde mode of action in managing its people, following an unconventional and sustainable approach and exploiting the potential of digital technology to identify and meet their needs. In fact, the company philosophy is based on sharing a common vision and an evolved employee experience, which can only be achieved through the collaboration and commitment of everyone. This is why a working environment has been created that allows employees to perform at their best, enhancing their talent, through a flexible, collaborative and sustainable logic. A responsible human resources management strategy and the enhancement and involvement of people positively influence the company as a whole and the quality of its performances.

Open Fiber's dedication expressed in its policies for managing and enhancing the value of its people is further confirmed by the renewal of two important awards: **Top Employers Italia** - issued by the Top Employers Institute, an organisation that certifies the excellence of HR best practices - and **Great Place To Work** - issued by the international company of the same name, which has specialised in analysing the company climate and employer branding for forty years.

People's Values

In order to achieve the objective of creating a digital highway to ensure coverage in both large cities and small towns, Open Fiber promotes an organisational culture oriented towards the values that the company seeks in its people:

BEING PIONEERS: experimentation, which takes place with curiosity, reactivity and proactivity, plays a fundamental role in Open Fiber because it allows us to explore new scenarios and increase skills by designing and offering innovative solutions. Their drive towards the future represents their extra gear for the company.

UNIQUENESS AND TEAMWORK: people are the driving force behind company performance. Open Fiber recognises and believes in the value of the team and the uniqueness of each person and is committed to creating a climate of trust, respect and inclusion in which everyone can express their skills and talent. It considers it its responsibility to maintain a sense of belonging, pride and motivation.

TOWARDS EXCELLENCE: Open Fiber people are inspired by a sense of responsibility, competence and intellectual honesty. These characteristics make it possible to achieve excellence represented by attention to detail, quality and the desire to work together towards a common goal.

BEYOND EXPECTATIONS: shared ambition is a multiplier of competitiveness. Open Fiber sets increasingly challenging goals, which can only be achieved thanks to the experience of all its employees who challenge themselves, without letting themselves be limited by the obstacles encountered.

131 For more details, please refer to paragraph 6.4 "Diversity, Equity & Inclusion".

2023 Open Fiber Highlights

- **Over 83.000** hours of training provided* (**+46%** roughly compared to 2022)
- **47** average training hours per person
- **100%** of employees received at least 4 hours of training
- **around 27.000** hours of Health, Safety and Environment (HSE) training
- **around 13.000** hours of training in relation to the Green and Black Belt Lean Six Sigma, Agile PM and Project Management certification paths
- **80%** hours of training provided by a teacher in a physical or virtual class **20%** e-learning training

*Training data refer to the courses mapped by the Internal System for Training Management LMS.

6.2 GROWTH AND TRAINING OF OUR EMPLOYEES

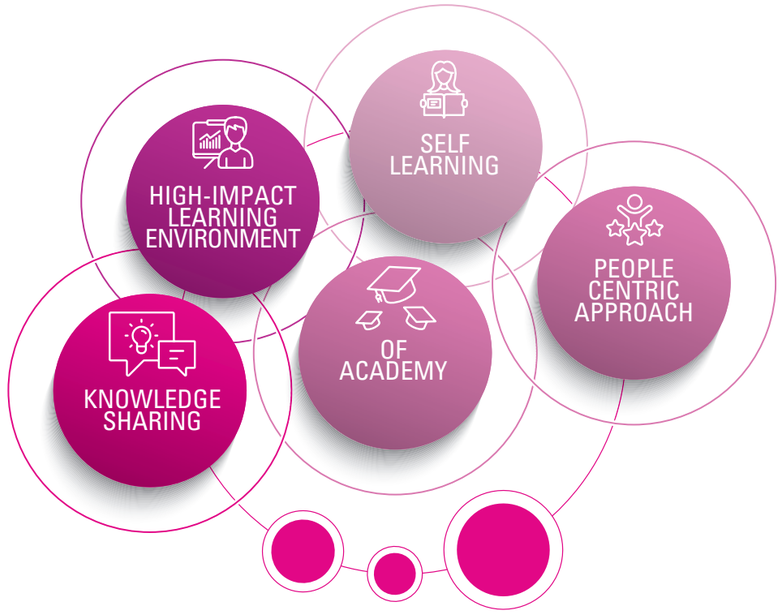
6.2.1 Training

For Open Fiber, innovation is an element of utmost importance, which constitutes, together with the central role played by human resources, one of the pillars of the Company. In this context, therefore, training plays a fundamental role in achieving increasingly challenging objectives. In fact, the tests to which the market calls can only be overcome by allowing its resources to be constantly prepared and competitive, to develop new skills and to reach levels of excellence. For Open Fiber, each employee is a unique resource to be enhanced and personnel training represents a fundamental tool to support the business, capable of developing and enhancing the skills and competences of human capital.

On the strength of this conviction, the company invests all the necessary resources to identify and define the skills to meet the objectives of the strategic plan, integrate them into the organisational approach, map out the relative spread within the company population and activate customised training courses.

By virtue of the tailor-made approach it adopts, the Company has created an increasingly customised training offer, combining courses of a compulsory nature or aimed at the entire population, with more specific ones to deepen and update one's skills, soft skills and hard skills, according to one's qualification and company role. A possibility open to everyone, from the management team to new recruits, for whom specific OnBoarding courses have been developed.

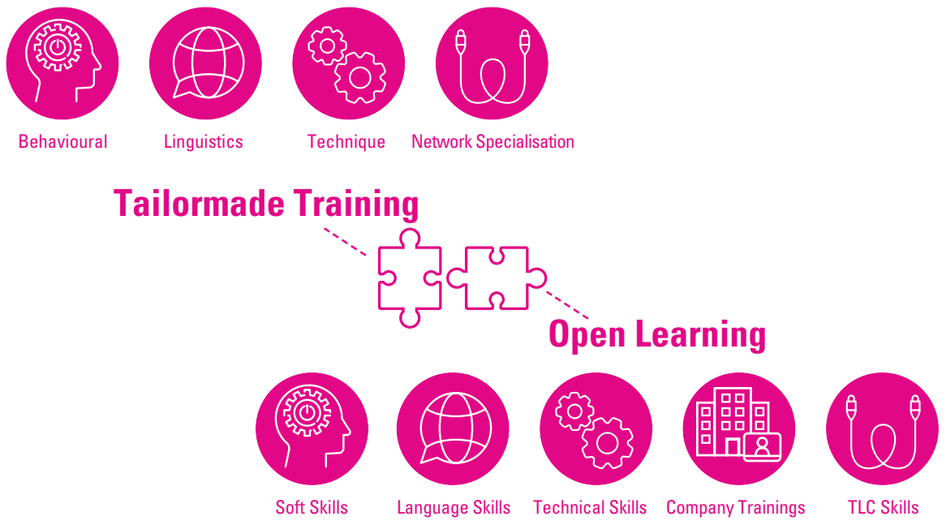
Socio-economic events that have occurred in recent years - such as the pandemic or rising inflation - and their consequences have never prevented Open Fiber from providing training to its employees. The development of increasingly digital paths and



innovative methodologies has been promoted, with both in-person and online training. In the last year alone, the Company has thus reached more than **83,000 training hours**, divided into company training (institutional training, relating to OMM 231, Code of Ethics, Antitrust, etc.), technical training and training for network specialists, behavioural, language and digital training, as well as compulsory training (ex lege) on occupational health and safety issues (aimed at all workers and those designated in roles such as fire-fighting officers, first aid officers, workers' safety representatives and supervisors, as well as PES and PAV[132] workers for electrical works) and necessary training (in addition to legislative compliance) on Security and HSE issues, aimed at increasing employees' awareness of Information Security, Occupational Health and Safety and Environmental Protection. These are complemented by the Consortium's training commitment, which in 2023 recorded more than **23,500 hours of training** on health, safety and the environment.

Open Fiber also stimulates the principle of continuous self-learning by ensuring that all

FIGURE 21: TRAINING OFFERING



OnBoarding Program for newly-hired Field Managers and Regional Operational Support

The OnBoarding and shadowing model developed and launched in 2020 for the figures of Field Manager, Operational Support and Operational Management aims to provide employees with the main tools needed to perform the specific activities of each position in the best possible way and to introduce them to the knowledge of the organisation's processes and dynamics, as well as networking. The OnBoarding courses have a total duration of 6 weeks and include training activities in virtual classrooms, coaching on monitoring and control activities also with senior figures in the same role, as well as the use of training pills.

2023 Open Fiber Highlights

3 OnBoarding editions for Field Managers, Operational Supports and Operational Management

139 participants

MOFS - Museum OF Sustainability

Over the course of 2023, Open Fiber developed and made available to its own resources a **training course** focusing on the topics **of sustainability** and its integration into business. Conceived as a **virtual museum**, the e-learning course unfolds in real "sustainability exhibition spaces". Through works of art and audiovisual content, all employees were offered the opportunity to explore the different dimensions of sustainability, the main challenges posed by climate change, the social aspects of sustainability and some best practices to be implemented for a more sustainable future.

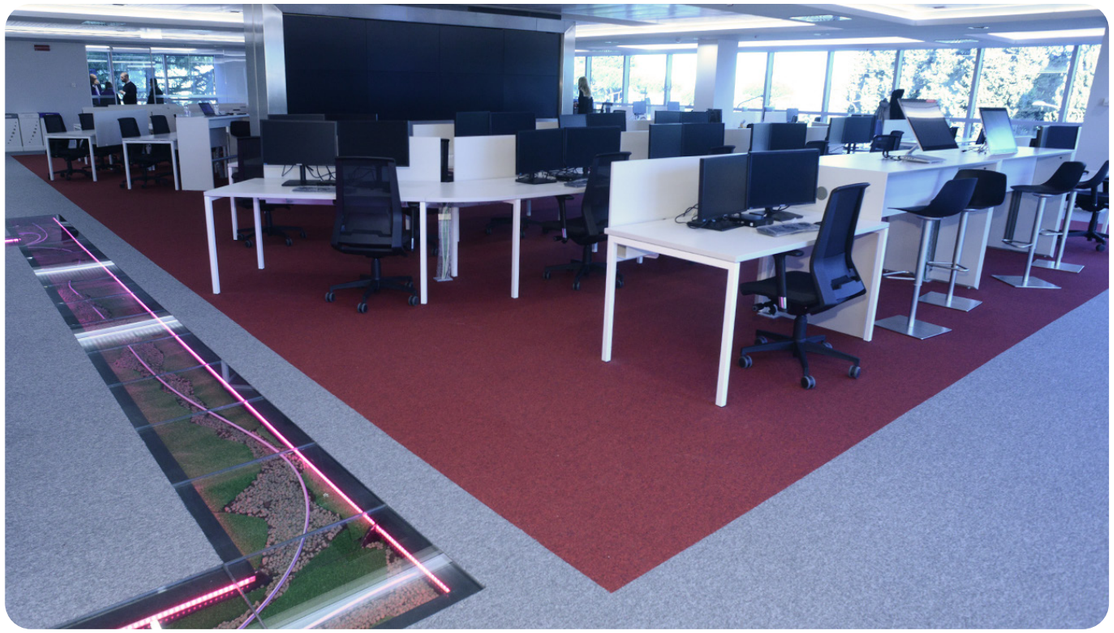
The aim of the museum tour was to **involve** the corporate population and make them aware of the **fundamental role** of sustainability for Open Fiber and the importance of each person's contribution in implementing effective sustainability strategies.

132 "Persone esperte" (PES) and "Persone avvertite" (PAV).

employees can access various dynamic self-learning training platforms, including:

- **OFCourseMe:** based on artificial intelligence, is a platform that offers over 200,000 aggregated contents from the best MOOCs (Massive Online Open Courses), a real online catalogue of courses, video tutorials, TEDs, from all over the web, selected and constantly updated and usable on the corporate LMS;
- **Open English:** as a means of enhancing English language training, there are customised programmes available to all employees and a family member, based on virtual classes, exercises and in-depth study, with qualified native speakers, adapted to each individual's needs, available on the company LMS[133], 7/7 days and 24/24 hours;
- **Open Learning:** a digital learning experience free of charge to all users of the corporate website, accessible 7/7 days and 24/24 hours, ensuring constant digital training on key corporate issues.

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



133 Learning Management System.

6.2.2 Training to support continuous improvement

If the world is constantly evolving, the last few years have seen an unprecedented acceleration, also in the way of working and in the tools needed to perform daily tasks, giving rise to new realities and new challenges. The emergence and demand for new skills and the lack of appropriate training create a professionalism gap in the labour markets, so much so that the continuous training of professionals in the workplace is now an essential element of a company's organisation.

This is firmly believed by Open Fiber which, in continuity with previous years, during 2023 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 compliance with the international standard ISO 18404:2019, **Agile PM** and **Project Management.**

In particular, Lean Six Sigma courses aim to develop the ability to analyse and improve business processes through the use of a "Problem Solving" methodology and following the DMAIC (Define, Measure, Analyze, Improve, Control) cycle. The Lean Six Sigma method combines the principles and tools of Six Sigma and Lean Production, with the aim of reducing variability and waste in company processes, optimising the use of resources, work areas and production cycles, while ensuring high quality in production and process management. By the end of 2023, more **than 190 resources** have been certified since the launch of the paths.

The Agile PM path includes a project management methodology and a methodology for the realisation and release of products, i.e. everything needed to manage the project life cycle and its strategic alignment through business cases to be studied in depth to gain awareness of the benefits and added value. By the end of 2023, more than **90** resources had been certified since the launch of the pathways.

The training contents of the Project Management pathway of the Italian Institute of Project Management are consistent with the UNI ISO 21502:2021 guidelines and the international reference credential models. They have been developed taking into account the specific references to the Italian legislative and regulatory reality and are generalisable but also adaptable to different specific realities. The objective of the path can be defined as the ability to achieve the necessary competencies to correctly define a project within the foreseen timeframe, the budgeted costs, 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 2023, more than **114** resources had been certified since the launch of the courses.

Open Fiber Digital HR

Document Dossier

People Management is crucial for a company like Open Fiber, which aims increasingly to boost the satisfaction and well-being of its resources: simplifying processes and activities relating to day-by-day administration/management and evolving the "**People Experience**" are critical success factors for Open Fiber. With this in mind, the Company has created a new portal, called **Documents Files**, 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, management, up to the closure of the employment relationship.

The system provides a customised view for each employee and a specific view designed for the Personnel, Organisation and Services Department. The latter allows to:

- centralise and access all documents related to corporate employees in one single place;
- carry out analyses and statistics according to different information grouping criteria, e.g. the list of employees having a certain type of document, with an expiring or missing document, etc.

Employee Profile Evolution

In line with the market trend, Open Fiber aims to enhance and simplify the tools available to personnel to **improve the People Digital Experience**. To this end, the Company created a new application, called "**My Profile**" and integrated into **My Fiber Place** (the Company's intranet), with the aim of providing employees with an evolved **User Experience** of their profile and acting as a single gateway to the company services offered. "**My Profile**" allows employees in an easy and intuitive way to consult different sections, including:

- my data
- training and development;
- my services;
- my activities.

By browsing the various sections, employees can easily consult the company organisation chart, professional relationships, personal and organisational information, and monitor their **training** and **development plan**.

6.2.3 OF Academy: Faculty and Fiber School

The physiological transformation of the telecommunications sector, the technological evolution of infrastructures and the market challenges related to the development of new digital and innovative services require a labour market

Boosting People Culture in the Company: Radio OF

In 2023, in order to consolidate the corporate culture and strengthen the spirit of belonging, Open Fiber decided to integrate the radio channel within its corporate communication strategy. This led to the creation of the Radio OF project, the first corporate visual radio with the aim of narrating and exploring together the company's values and behaviour live from the various territorial offices.

During the six episodes, employees were engaged and involved to tell how they live the values in Open Fiber in their daily work through their testimony and experience.

The adoption of the radio format made it possible to build **a new channel** for communication and training useful for fostering engagement and transferring business content.

Radio OF started its "journey" in Rome and then continued to Naples, Milan, Pescara, Cagliari and finally Padua. The main contents of the episodes include:

- Uniqueness and Team 1: creation of an inclusive working environment aimed at enhancing each unique feature;
- Uniqueness and Team 2: the culture of feedback;
- Diversity, Equity & Inclusion: overview "Unici nel Connettere" programme;
- Beyond Expectations: discussion on how to face challenges and unexpected events using error as a source of learning;
- Being Pioneers: the ability to anticipate needs and develop new approaches and out-of-the-box solutions;
- Towards Excellence: the quality of the result in a data driven company.

During the episodes, there was a high degree of engagement and enthusiasm among colleagues who actively participated in the initiative, and the episodes were followed with interest and participation by the entire company population.

that constantly improves. In this context, therefore, specialised skills play a strategic role and it is important to keep up with the changes. This is why Open Fiber, with the aim of structuring and enhancing its **internal know-how**, launched the Open Fiber Academy **Faculty**, a **centre of excellence** made up of **36 internal teachers**.

The path of this community was developed through activities of consolidation, sharing of experiences and competences and co-design meetings with the aim of building a **constantly updated and distinctive training offer** of Open Fiber's core competences. Following the mapping of the skills of the faculty members, the community co-designed **8 training courses** on technical-specialist topics which were included in the Academy's training catalogue. At the same time as designing the courses, the **Fiber School** was launched with the aim of further enhancing the value of the training products and to disseminate and share, also externally, the key skills of the TLC world and the FTTH network infrastructure. The Fiber School will increasingly offer in-depth courses on the subject to academic and other main streams, some of which have already been delivered to Open Fiber employees in 2023.

2023 Open Fiber Highlights

- **256** Team Building participants
- **47** employees participated in the individual growth path (Individual Coaching)
- **59** employees engaged in Digital Coaching paths
- **10** mentees and **4** mentors engaged in the Mentoring pilot project

6.2.4 Coaching, Mentoring and Team Empowerment paths

For companies, investing in professional development means increasing employee loyalty. Perceiving that the company cares about people and offers development opportunities helps to preserve both the interest and commitment of its employees.

This is why Open Fiber, in addition to fostering a climate of collaboration and mutual trust, offers its employees opportunities for professional and career growth and development.

Furthermore, it believes that, to be successful in their own evolution process, employees must share their knowledge with each other and incorporate new ways of learning. The ability to combine technical and soft skills is an integral part of future success.

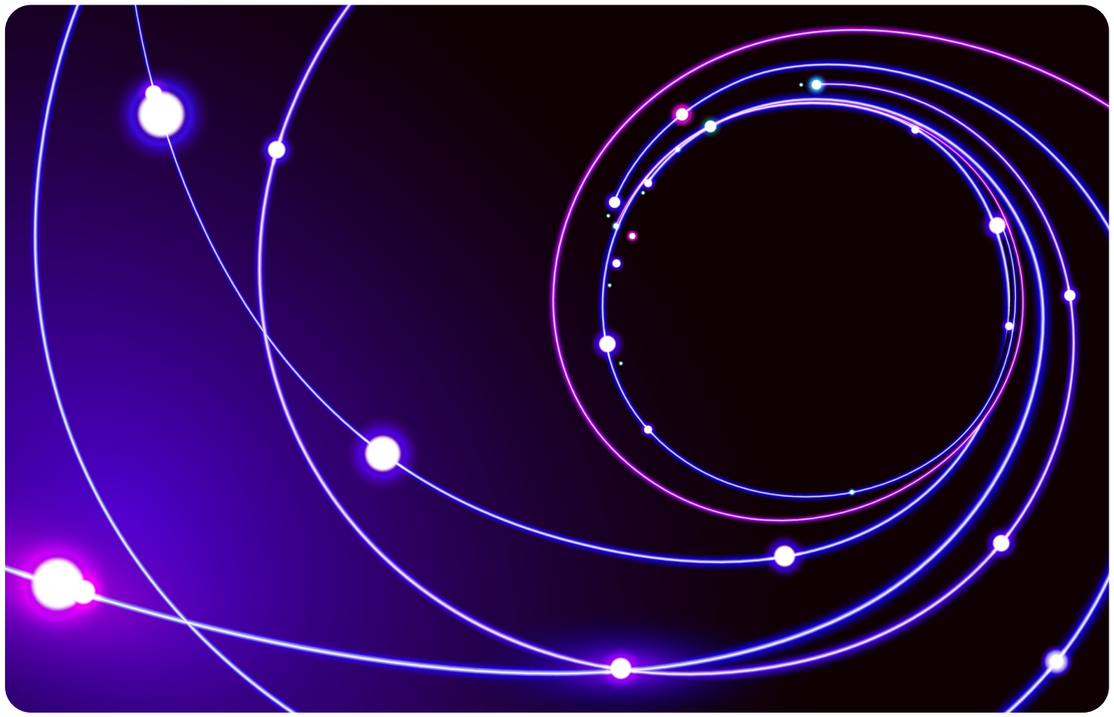
Team building

During 2023, numerous **team-building** activities were carried out, in which people could test and learn to strengthen their **soft skills**.

Increasing collaboration and trust within the team, enhancing problem solving and proactivity in difficult situations, change management skills, active listening, cohesion, collective efficiency and communication were the main objectives of the activities organised.

The initiatives, dedicated to individual company departments/functions, included:

- preparation and staging of a short play on a real stage;
- orienteering tests;
- culinary challenges;
- real detective case to be solved.



For this reason, support for professional growth is not only provided through training and awareness-raising activities, but also through Team Building and Individual and Digital Coaching projects.

As part of the growth and development of work teams, both functional and cross-functional, ad hoc **Team Building** initiatives have been implemented in order to strengthen **team identity**, develop a clear and shared vision of business objectives and priorities, and stimulate **networking**, communication and integration between colleagues in the team involved.

The corporate **Individual Coaching** course - which for the year 2023 involved 47 new employees - is aimed at contributing to the growth of coordination figures and developing managerial skills in order to effectively preside over their role, processes and company dynamics.

In 2023, the Individual Coaching course was complemented by a **Digital Coaching** course - which saw the participation of 59 employees - aimed at Key People and delivered through a flexible and customisable digital platform with the aim of supporting and promoting the enhancement and development of skills in line with corporate organisational needs.

The **Digital and Individual Coaching** paths start with a meeting aimed at exploring the aims of the coaching path, continue with a phase of defining individual development goals between the coachee and his/her coach and end with a series of meetings aimed at identifying effective actions to achieve the identified goals and verifying the learning achieved through the path.

Company engagement **surveys** have shown the need to activate internal **Mentoring paths** useful to support and develop **intergenerational knowledge sharing**. In this sense, a **pilot Mentoring** path was designed and implemented in 2023, involving 10 mentees and 4 mentors, with the aim of sharing and transmitting know-how among employees, involving, motivating and keeping people engaged through networking and promoting Diversity, Equity and Inclusion.

6.2.5 Behaviour & Performance Evaluation

Behaviour & Performance Evaluation

Enhancing one's own resources means defining clear and shared growth paths, with this in mind, the **Behaviour & Performance Evaluation (BPE) 2022-2023** was launched, the performance management process signed by Open Fiber aimed at the entire company population.

New and different distinctive elements were thus introduced from a people-centric perspective, including a new way of assigning **individual development objectives** according to a bottom-up approach.

In order to improve the dynamics within the working group and to strengthen the team identity, a further innovation in the process is the opportunity to consider **team development objectives**, in addition to individual ones, and moments of manager-collaborator confrontation have been intensified with the aim of strengthening the feedback culture within the company.

In 2023, the BPE 2022-2023 involved **more than 1,400 people** and saw the implementation of all its phases, from the assignment of development objectives to the final head-collaborator face-off on the evaluations carried out.

Development Assessment

As part of Open Fiber's talent management policies, several Individual Development Assessment and Group Assessment paths were designed and implemented during 2023, differentiated by company population cluster, with the aim of supporting the individual growth of resources and accelerating their individual development, facilitating internal development paths in relation to the company's needs and the evolution of the organisation, mapping the target company

FIGURE 22: INDIVIDUAL DEVELOPMENT ASSESSMENT OBJECTIVES

population in order to identify valuable resources, also with a view to creating a pipeline of talent at various levels of seniority in the company, and measuring the level of involvement towards the company, the role and values of Open Fiber. **Over 90** employees were involved during the year 2023.

In addition to the individual and group assessment paths, an ad hoc path was designed and implemented for Field Managers with the aim of mapping **technical, soft and leadership skills** useful for implementing **upskilling and reskilling** paths.

The project involved about **308 Field Managers** through the provision of **fast assessment** through an online platform customised on the basis of the **Open Fiber skills** model and the specific **technical knowledge** of each position in order to assess the expected skills' coverage.

Succession Planning

In 2023, the **Succession Planning** was implemented. This is a corporate process that aims to identify the company's key positions and potential successors.

The aim of the process is to ensure the organisation's **business continuity** and to support the enhancement and development of people through actions aimed at increasing their **readiness** for more complex roles. The process involved all company departments and ended in December 2023.

6.3 WELFARE AND WELLBEING

Employee well-being is considered a priority and Open Fiber is committed to providing modern and flexible tools and working models that meet specific personal needs and ensure work-life balance[134]. This principle inspires Open Fiber every day in its efforts to improve the quality of life of its people, the beating heart of the Company.

In particular, Open Fiber's Welfare programme encompasses three areas:

- **People Care**: initiatives aimed at promoting people's psychological and physical wellbeing;
- **Family Care**: initiatives aimed at promoting the Work-life integration;
- **Community Care**: initiatives aimed at fostering culture and 'social welfare'.

The focus on people is one of Open Fiber's main cornerstones and is reflected both in its numerous welfare initiatives and in its agreements with employees and their representatives on gender equality, remote working, risk prevention and safeguarding health in the workplace.

134 For more information, please refer to paragraph 6.5 "Protection of the human capital".

6.3.1 Listening channels

With the aim of nurturing a dialogue with its people, listening to their needs and requirements and gathering insights and ideas directly from the corporate population, Open Fiber has activated direct channels for monitoring and assessing people's needs. Those it mainly uses are **periodic surveys** focused on specific topics, initiatives, conventions, **focus groups** carried out in partnership with specialised suppliers and **Eureka**, the listening channel where each employee can propose a project or initiative they would like to see implemented. Each year these proposals are evaluated on the basis of the criteria of innovation, feasibility and implementation. Winning proposals are awarded and implemented during the following year.

The management talks that each employee has the opportunity to engage in throughout the year with his or her HR Business Partner are particularly valuable. Equally important are parenting meetings for both parents in the case of births, adoptions and pre-adoptive fostering.

My Fiber Place

For over a year now, the corporate **intranet My Fiber Place** has become the **first point of access** to all corporate information and communications. The portal, seamlessly integrated with our corporate software, is crucial for employee **engagement** and improving the **employee experience**, thus becoming a time-saver and work-optimiser.

Moreover, My Fiber Place hosts **strategic sections** aimed at keeping employees **constantly updated** on the evolution of crucial issues for the Company, including those dedicated to the state of deployment of the FTTH ultra broadband optical fiber network infrastructure in all Italian regions, sustainability, security and diversity, equity and inclusion (DE&I).

6.3.2 Work-life balance and support to parenthood

In order to support parenthood and encourage the reconciliation of its employees' work and personal needs, Open Fiber has implemented a series of targeted projects with the aim of promoting a culture of shared care and caring duties between both parents and a better balance between work and family.

In addition to guaranteeing its employees the benefits provided for by law, the company has signed a **Level II Agreement** through which it undertakes to offer them further support in terms of **hourly flexibility**. In terms of **parenthood**[135] support, the II level agreement provides for:

- an increase in **allowances** for parental leave, including the achievement of an allowance equal to 100% for the maximum duration of one month, for one of the two parents alternatively, up to the sixth year of the child's life through a **20% supplement** provided by Open Fiber;
- the granting of an **additional 5 paid days** of paternity leave for the birth, adoption and pre-adoptive fostering of a child, to be taken, also on a non-continuous basis, within the child's first year of age. With regard to the institution of child illness, an additional 5 paid annual days have been recognised, which can also be taken by the hour, until the child reaches 14 years of age;
- from July 2023, moreover, a novelty has been introduced concerning the payment of a **one-off sum** of 200 euros to employees if they enrol their tax dependent children in the TLC - Telemaco supplementary pension fund within the child's first three years of age.

Open Fiber also promoted activities addressed to employees' children, divided according to their age target. In July and September 2023, the third editions

135 For more details, please refer to paragraph 6.4 "Diversity, Equity & Inclusion".

Back to School programme continued in 2023 too, with employees with children up to secondary school (grade III) receiving paid leave to take them to their first day of school. In addition, employees with children attending up to the first year of primary school (grade I) are given the opportunity to apply for up to 5 additional days of Fiber Working.

On the occasion of the Christmas holidays, Open Fiber premises opened their doors for **Open Kidsmas Day 2023**, an event dedicated mainly to the children of employees, with games, live concerts and meetings with Santa Claus.

Parenthood Kit

As part of its activities aimed at supporting families, on the occasion of the birth and/or adoption of a child, Open Fiber sends new parents a gift kit containing useful products for the first months of the child's life accompanied by a DEM (Direct Email Marketing) greeting for the happy event.

of **Weschool** and **Codemotion** were activated. The **Weschool** initiative allowed employees' children to participate in individual tutoring through a digital learning platform. Participants explored the subject of their preference with a tutor specialised in didactics and pedagogy or a native speaker with the aim of finishing the school year in the best possible way. The **Codemotion** initiative, instead, gave the children of Open Fiber employees the opportunity to approach technology and the STEM[136] world by participating in interactive online workshops dedicated to coding, robotics and digital creativity. At the end of the course, the boys and girls presented their projects in a contest with an award ceremony.

6.3.3 Open Welfare

Initiatives in favour of employees are channelled through the **Open Welfare** portal, an exclusive platform that gives everyone the opportunity to access and activate with a simple click a rich list of services, including work-life integration and caring measures.

Among the activities envisaged there is the possibility for employees to convert their bonus - in net form, without tax charges and with an increase of **up to 20%** - into Welfare credit that can be spent on goods and services: education, health, family assistance (caregiving), babysitting, supplementary pensions, sports, culture, wellness, travel, transport, grocery and shopping vouchers.

Fringe Benefit and Household Bills

This year, Open Fiber employees with dependent children were able to take advantage of a fringe benefit limit of € 3,000 and the reimbursement of expenses incurred for the use of electricity, gas and water through their Welfare credit.

6.3.4 A people-friendly work environment, at the office and at home

Striking a balance between the time and energy dedicated to work and private life: this is work-life balance, a balance between professional and personal responsibilities. It is in this spirit that the company believes it is essential to promote work-life integration, i.e. the possibility of reconciling work and personal life in a synergic manner.

With this in mind, in 2023 Open Fiber signed a **new agreement** on **Smart Working**, which has become an integral part of the company culture, offering the possibility of alternating office and remote work for a total of **21 days every two months**.

Thus, if externally the company is committed to creating the conditions to foster connectivity throughout the country, internally it seeks to exploit the network and technologies to foster a very flexible approach to work, with a project it has called **Fiber working**, thus developing a culture of agile work also through training courses dedicated to managers and employees, the so-called Fiber Leaders and Fiber Workers of the future. Moreover, in order to improve and make Fiber Working even more comfortable, in 2023 the **DTTH 2.0 (Dotazioni To The Home) project** was also relaunched for the fourth consecutive year, i.e. the delivery of equipment (ergonomic chairs and IT equipment) to employees' homes.

6.3.5 New ticketing platform in support of employees

In order to improve the **digital experience** for employees and encourage the exchange of information, during 2023 Open Fiber started implementing a **ticketing platform** to manage its employees' requests to the personnel administration.

This platform, by means of a guided path that helps the user to find their way around the different topics, automatically assigns the ticket to the appropriate category, simplifying its management and making every step towards resolution transparent.

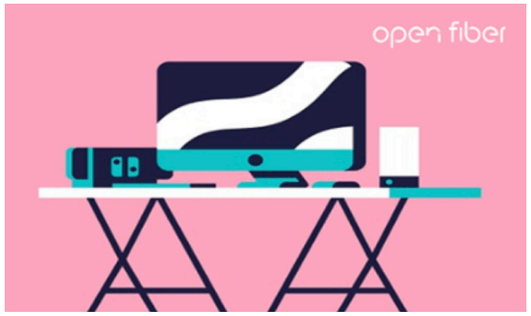
Within his or her personal area, the employee can monitor the progress of requests, consult any details, provide new information and/or respond to requests from the HR Administration team.

The **user-friendly interface** supports the employee in formulating his or her requests, while the information and related documentation are collected in a single tool for easy access.

6.3.6 Health, Wellness & Wellbeing

Open Fiber regards the **promotion of the health** of its employees as a fundamental value and, to this end, makes **supplementary health insurance** available to the entire company population, which also includes cohabiting partners or civil partners and children in the coverage.

136 Science, Technology, Engineering and Mathematics.



Also in 2023, Open Fiber has launched two **prevention campaigns** in October and November, recognised respectively as Women's and Men's Prevention Month. This is a way of inviting the corporate population to make use of the prevention package provided by their health insurance to book a free visit to a participating facility.

In order to promote the **physical wellbeing** of all employees, the use of the **Fitprime** virtual platform for physical activity goes on. Through the dedicated application, it is possible to access a network of **gyms and sports centres** at very advantageous conditions, to exercise at home by participating in live lessons, and to receive a personalised **diet plan** from dedicated professionals.

Furthermore, between June and October 2023, 10 limited number sessions of the **Open Trekking** initiative were organised throughout the country: nature hikes through forests, lakes and valleys led by a professional trekker. More than 1,100 Open Fiber employees expressed their willingness to participate in the initiative, in which **250 people** took part. The strengthening of the caring culture aimed at the corporate population will continue in 2023 through the following initiatives:

- the continuation of the **EAP (Employee Assistance Program) service**, a customised programme of **psychological, legal, tax and social support**, free of charge and anonymous, for all employees and their families;
- the organisation of a series of meetings on **postural education and conscious eating**, which involved more than 250 employees throughout the country;
- the implementation of **free eye check-ups** at Open Fiber sites which involved more than 200 employees.

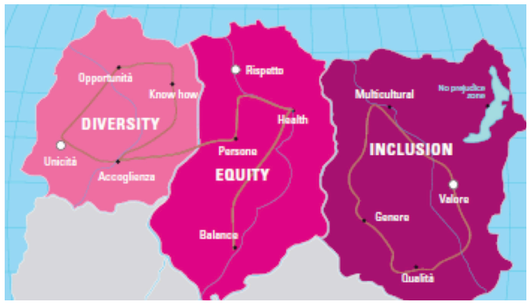
6.4 DIVERSITY, EQUITY & INCLUSION

Inclusive and **Open Minded**: this is the working environment that Open Fiber is committed to guaranteeing, respectful and diverse, in which everyone can express their potential. A strategic asset that defines

At top sport!

Since 2023, accepting a proposal received through Eureka!, Open Fiber has taken part in four stages of **Giro-E**, the **e-bike** cycling race on the roads and routes of the Giro d'Italia, organised by RCS Sport.

In addition, employees of the Rome headquarter have the opportunity to travel to the office on e-bikes on a daily basis. Through **Open Bike**, in fact, the company provides its employees with a fleet of pedal-assisted bicycles for the home-office journey, together with a special rack, private smart lockers for personal items, reflective waistcoats and seat covers, and also offers the possibility of using showers and changing rooms.



the inspiring principles and corporate objectives that Open Fiber pursues in terms of diversity, equity and inclusion: gender equality and protection of women, maternity and family care, disadvantaged areas and support for workers, multiculturalism, attention to disabilities.

Policy Diversity, Equity & Inclusion

In 2023, Open Fiber approved the Diversity, Equity & Inclusion Policy, a statement of the Company's ongoing commitment to promoting and supporting the principles of diversity, equity and inclusion through the adoption of organisational and management practices characterised by respect for each individual. Following these values, Open Fiber operates according to impartiality and does not admit any form of discrimination, favouring diversity in all its dimensions and enhancing it as a competitive advantage for the Company. With the Policy Open Fiber commits to:

- **Spreading a culture of diversity and equal opportunities** both within the corporate population and among stakeholders, ensuring that it is shared by all, not only by encouraging behaviours that promote inclusion, but also by adopting, where necessary, instruments aimed at punishing behaviours that go against these principles.
- **Raising personnel awareness of the culture of diversity** and ensuring that each individual is aware of his or her responsibility to respect and defend the rights of persons, whether internal or external to the Company.
- **Promoting an inclusive working environment**, in which the individual feels valued, free from any discrimination and/or behaviour detrimental to diversity - be it gender, age, disability, ethnic, social and geographical affiliation, trade union, language, religion, political and/or sexual orientation, gender identity, nationality, marital status, health status - during selection, recruitment, training, remuneration, rewards, access to benefits and termination of employment.

"Unici nel Connettere" programme

Within the framework of the "Unici nel Connettere" programme, in 2023 the company organised a series of initiatives focusing on specific themes, each time different: caregiving, disability confidence, generations, women's empowerment. Live events hosted personalities of the calibre of **Irma Testa**, the first Olympic medallist in history for Italian women's boxing, and Andrea Notarnicola, director of the Global Inclusion Committee and co-founder of **Parole O_Stili association**, accompanying workers to discover the dimensions of DE&I.

Open Fiber people were also involved in experiential value labs including "**Dialogue in the dark**", an intense journey on diversity and inclusion at the Institute of the Blind in Milan, and "**Musical journey"**, a workshop in which to discover a new way of listening to and perceiving diversity. In addition, a series of **thematic workshops** were held in 2023 to listen to the views of employees and gather their input.

The involvement of the corporate population also involved the creation of the **DE&I Gallery**, a digital art gallery linked to the themes of diversity, equity and inclusion composed of 14 works representative of these values, proposed precisely by the people of Open Fiber.

Open Fiber believes in the value of uniqueness. The diversity that makes each person different is a valuable resource, a harbinger of complementarity, capable of generating impact on the environment, people and results. This is why the Company has developed **"Unici nel Connettere"** (literally, Unique in connecting) programme, which encompasses all Diversity, Equity & Inclusion initiatives in favour of people, focusing on their uniqueness. The programme is the bearer of a plan of initiatives towards excellence, consistent with the company's values, to guide Open Fiber's growth and evolution.

Based on the results of the surveys conducted during 2023, initiatives were launched to improve the Diversity, Equity & Inclusion dimensions, such as webinar cycles and live events for the entire population, thematic value labs and training courses aimed at Fiber Leaders. The programme is aimed at enhancing differences, ensuring equal growth opportunities for every individual talent, regardless

Gender Equality Certification

The focus on people and the enhancement of their uniqueness has always been a strength and asset for Open Fiber, which in 2023 obtained certification of its **gender equality management system** in accordance with UNI/PdR 125:2022. Open Fiber has implemented and made operational a gender equality management system compliant with the reference practice (UNI/PdR 125:2022), introduced as part of the **"PNRR"**[137] **(National Recovery and Resilience Plan)**[8] with the specific aim of accompanying and encouraging companies to adopt adequate policies to reduce the gender gap in all the areas that are most critical for women's professional growth. The certification obtained confirms the company's commitment to equal opportunities and is in line with the objectives of the PNRR, which aims to promote greater inclusion of women in the labour market, considering this as an **essential tool** for improving social and territorial cohesion, as well as being of fundamental importance for the country's economic growth.

of gender, age, background and nurturing an inclusive culture to which everyone feels they belong.

The focus on Diversity & Inclusion is one of the 20 topics that were analysed for the purpose of obtaining the Top Employer Italia certification and the Great Place to Work workplace quality certification.

Moreover, in July 2023 Open Fiber obtained **UNI/PdR 125:2022 Gender Equality Certification**, recognised after a careful analysis of the policies the Company has adopted in the areas of Diversity, Equity and Inclusion.

6.4.1 Gender equality & women safeguard

Open Fiber therefore takes concrete actions to create a collaborative and inclusive work environment in which interpersonal relationships based on the principles of Diversity, Equity and Inclusion are favoured. Examples of this are equal opportunity policies at all stages of growth, from entry to professional development, and ad hoc programmes that facilitate inclusion and enhance female talent with the aim of reducing the gender gap in the country.

137 Mission 5 "Inclusion and Cohesion", Component 1 "Active labour market policies and in support of employement".

Gender quotas for technical professions

Open Fiber promotes the enhancement of Diversity, Equity & Inclusion right from the personnel recruitment phase, ensuring a pipeline equally composed of male/female candidates.

Role Models for tutorship and mentoring projects (2018-2023)

The aim of the project is to identify women holding key positions within the company organisation in order to orient high school and university students towards the professions of the future. Employees who can become agents of change and mentors, with a view to inclusion and enhancement of female talent.

- **+ 350** selected Italian middle schools and high schools (technical institutes and high schools) will take part in the project over the next two years and over five universities in Southern Italy.
- **+ 65.400** students reached.
- **+ 90** participating companies.
- **16** Open Fiber Role Models engaged.

YEP - Young Women Empowerment Program

Open Fiber's commitment to support YEP, the mentoring programme aimed at fighting against gender inequality in Southern Italy promoted by Ortygia Business School, a foundation whose mission is to increase cooperation and economic development between Mediterranean countries, continues. The project aims to offer the new generations useful tools to guide their personal and professional choices and promote confidence in the future. Thanks to YEP, deserving young women enrolled in a Master's degree programme in economics and STEM faculties at leading universities in Southern Italy are accompanied by established professionals in a one-to-one mentoring relationship. The aim of YEP is to bring young female students closer to the world of work, to provide them with useful tools for consciously orienting their academic and career choices and to offer inspiring female role models. The opportunity is totally free of charge for female students and university institutions.

Ingenio al Femminile Degree Thesis Award

Once again in 2023, Open Fiber was the Company Ambassador of Ingenio al Femminile Degree Thesis call promoted by the CNI (National Council of Engineers) with the aim of awarding prizes to recent female graduates in STEM disciplines who have developed brilliant engineering theses.

This Unique

In 2023, Open Fiber installed dispensers containing women's sanitary pads in the women's toilets of its premises with a view to gender equality in order to ensure the provision of an essential good and break down gender barriers in the workplace.

Libellula Foundation

In 2023, a partnership was also signed with Fondazione Libellula, in order to promote gender equality culture and prevent all forms of violence against women and gender discrimination. In cooperation with the foundation, the webinar "Microaggressions, harassment and verbal violence: how communication hurts women" was also promoted on the occasion of the **2023 International Day Against Violence Against Women**. The webinar aimed to identify statements that constitute forms of violence against women with a view to promoting respectful, fair and positive language.

6.4.2 Maternity & all kind families care

Regarding parenthood, Open Fiber signed an agreement that provides for the integration of leave and absences, the extension of health insurance to all families, the implementation of hourly flexibility and Smart Working, and the organisation of events and initiatives dedicated to parents and children.

6.4.3 Disadvantaged areas & workers support

Precisely because it is committed to contributing to the construction of the inclusive society of the future, Open Fiber is keen to offer the same opportunities for growth and training: this is why it encourages social inclusion by collaborating with institutes in

Leaves and permits integration

The initiative provides for a pay supplement to parental leave, which can be taken up to the child's 12th birthday, also on a non-continuous basis, and paternity leave increased to 15 days, sick leave for children increased to 5 and extended up to 14 years of age, and for taking children to medical appointments.

Health insurance extended to all kinds of families

It is an insurance that provides for the inclusion of the cohabiting partner and the civil partner and children in the coverage.

Projects dedicated to families

In order to reconcile the work and personal needs of its employees, every year Open Fiber proposes a series of initiatives aimed at involving the families and children of employees: Codemotion, Weschool, Parenting Kits and Open Kidsmas are just a few examples of this commitment.

disadvantaged areas and pays special attention to the inclusion of professionals, both junior and senior, from particular categories of workers.

6.4.4 Multiculturalism

In an increasingly diverse labour market, companies must be able to manage and value cultural diversity.

Fenix Project

The project is aimed at 20 minors and young adults - aged between 14 and 20 - who are subject to measures restricting their personal freedom, with the intention of responding to their need for social redemption and human and professional growth with a pathway of learning, training and socialisation. The initiative, in fact, combines psychological support for young people with technical and vocational training in line with the demands of the labour market, providing beneficiaries with immediately spendable skills that facilitate their job placement. The main objective of the project is to provide training in the digital field, not only because professions in this sector are increasingly in demand, but also to educate young people in the use of smart devices, often a vehicle for cyberbullying or other crimes. Open Fiber supports this project by offering curricular internships within the Company.

Employment of disadvantaged groups

Open Fiber pays special attention to the inclusion of professionals, both junior and senior, belonging to categories of disadvantaged workers (unemployed, workers with fixed-term contracts, from disadvantaged production sectors, etc.). With this in mind, in 2023 the company signed a collaboration agreement with **LICE (Italian League Against Epilepsy)** to activate traineeships to enable people with epilepsy to gain work experience that can lead to their social inclusion. In order to enable trainees to be better accommodated, Open Fiber has also provided its employees, referred to as "mentors", with the necessary skills and competences to enable them to follow them in all their needs.

In this respect, Open Fiber guarantees an inclusive working environment, aimed at enhancing diversity, also due to cultural factors, favouring the architecture of a heterogeneous workforce composed of different nationalities: Open Fiber employees come from more than 100 companies and more than 18 different nationalities.

6.4.5 Disability Confidence

Open Fiber cares about disability and demonstrates this not only by breaking down any environmental and architectural barrier, but also by adopting a diversity-oriented approach, capable of structuring an organisational process that supports each colleague in achieving their professional goals.

Diversity Career Day

The Company joined the Diversity Digital Career Day circuit dedicated to people with disabilities and protected categories, in order to make it easier for them to find employment and enter the world of work. During 2023, Open Fiber also took part in the "Inclusion Job Day 2023" career days, promoted by CESOP and "Synergie & Inclusion", promoted by Synergie, as part of which Open Fiber took part in the round table "Disability and work in dialogue".

Open Learning

For Open Fiber, innovation is of utmost importance, constituting one of the pillars of the digital society. For this reason, access has been guaranteed to training pills made available on Open Fiber's website; moreover, subtitles were added to allow hearing-impaired persons to access them too.

6.5 PROTECTION OFTHE HUMAN CAPITAL

Open Fiber cares about the health and safety of its employees, which is why every day it strives to minimise risks, developing initiatives aimed at employees and all those who, in any capacity, work within the company's premises, technology sites and within the Creation, Delivery and Assurance activities.

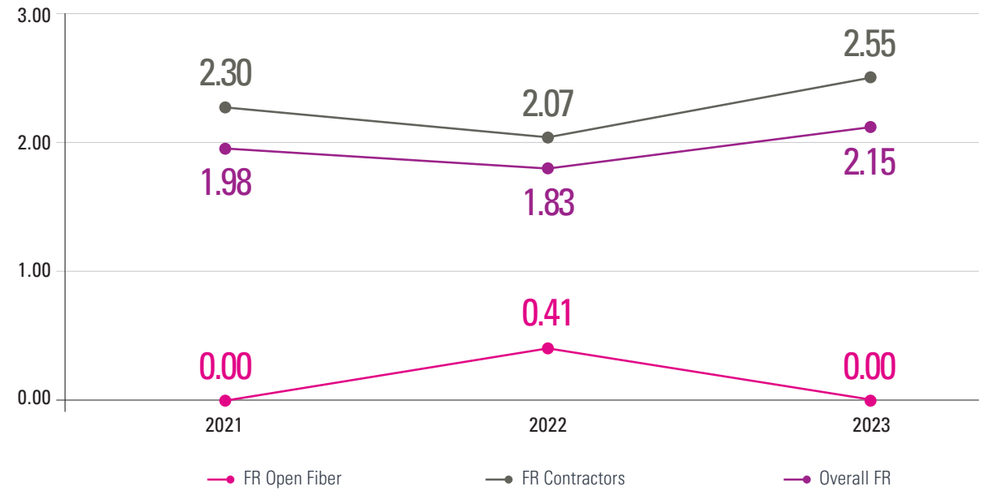
Open Fiber has identified and assessed the risks associated with the company's activities and the workplaces where they are carried out, in full compliance with current Occupational Health and Safety regulations, identifying the best solutions for reducing risks and adopting the most appropriate prevention and protection measures. In order to identify risks, field inspections, interviews with company personnel and instrumental surveys are carried out, ensuring discussion with the Workers' Safety Representatives (RLS) and the participation of competent doctors. An important role is played by the occupational medicine service which, through health surveillance, safeguards the state of Health and Safety of workers, taking into account occupational risk factors related to the work environment and the activity carried out within it.

Occupational Health and Safety management involves all levels of the company organisation, from the CEO to the employees, also through their representatives, guaranteeing a joint analysis and confrontation between all parties involved. Relations with the RLS are maintained by the Personnel Management function of the Personnel, Organisation and Services Department which, with the support of the Prevention and Protection Service (SPP), organises periodic meetings to share Health and Safety issues for Open Fiber employees (e.g. meeting pursuant to art. 35 of Legislative Decree 81/08).

In this context, 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 for the continuous improvement of company performance, 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 all Open Fiber employees in all company locations and applies to all activities carried out by third party companies with whom Open Fiber has signed contracts in the context of network construction and management activities[138].

138 For more details, see paragraph 2.3 "Quality, Occupational Health and Safety and Environmental Management".

FIGURE 23: TREND OF WORK-RELATED INJURIES RATES - OPEN FIBER



6.5.1 Performance monitoring

Among the most significant indicators in the field of Occupational Health and Safety, Open Fiber monitors injury performance trends, linked not only to its own employees, but also to contractors and subcontractors working in Creation, Delivery and Assurance activities. The purpose of analysing accident indices is to monitor performance over time, in order to identify any anomalous trends and possible related causes, as well as to identify areas of weakness and points of attention where to focus corrective and improvement actions, evaluating their effectiveness.

In 2023, Open Fiber S.p.A. recorded no accidents among its employees (frequency rate equal to 0). On the other hand, the injury performance of companies involved in Creation, Delivery and Assurance activities, among which the Open Fiber Network Solutions Consortium is included, is slightly worse (albeit with low absolute values in terms of frequency and severity index).

By analysing the work involved in the construction and maintenance of the optical fiber infrastructure, Open Fiber identified the main risks that can lead to serious injuries to the workers involved manual handling of loads (in particular the handling of elements of varying weights consisting of materials and network elements such as manholes, cabinets, reels); investment (the activities are carried out on roadways or to the side or very close to roadways and ordinary roadway traffic in urban and suburban contexts); crushing of limbs, as well as impacts or impacts (among the highest risks are the opening and closing of manhole covers generally made of cast iron and with a 'segmented' opening) electrical risk (in particular for certain underground or aerial laying activities that may take place in the vicinity of electrical cables); risk of falling from heights (the work frequently involves laying cables on piles and/or on the façade of buildings in both urban and suburban contexts); slipping (as a result of various ground conditions and/or distractions of the operators themselves).

Open Fiber has defined a specific procedure for analysing accidents and work-related injuries, which is activated whenever an accident occurs in the context of activities carried out by the Company's personnel or activities covered by contracts for works or services between Open Fiber and contractors and subcontractors, including contracts with self-employed workers and consultants. On the basis of the seriousness of the incident that has occurred (classified with a green, yellow or red code), a specific process of analysis of the event is activated which, if it is among the most serious, involves the establishment of a multifunctional Investigation Group, coordinated by the QHSE Contact Person.

This process aims to analyse and identify the **immediate causes** that directly led to the incident (e.g. technical causes) and the **underlying causes** (so-called root or original causes), downstream of which corrective actions and improvement actions are defined, the effectiveness of which is verified through subsequent follow-up. Even during these investigations, the information of the workers involved is treated in strict compliance with the Privacy Code adopted by Open Fiber.

In an even more systematic manner, during 2023, the Organisation monitored the episodes of "near misses" that occurred during the conduct of activities, both for personnel employed by Open Fiber and for personnel of contractors in the areas of Creation, Delivery and Assurance. With reference to the type of near misses reported, for Open Fiber personnel most of the reports referred to areas and facilities of the company's premises (about 77%), while for contractors near misses were recorded mainly related to failure to comply with safety procedures and measures (about 36%), incorrect management of the worksite and signs (about 32%) and unsafe conditions (about 18%).

6.5.2 Mitigation of impacts

The activities carried out by Open Fiber as part of the construction, operation and maintenance of the network, if not properly managed and planned, can have a negative impact on people's health and safety, exposing the staff employed (mainly external staff) to potential accidents. This, in addition to undermining the integrity of people, could lead to penal or civil sanctions against those responsible and, in some cases, to violations also pursuant to Legislative Decree No. 231/2001, with consequent additional costs for the Company and damage to its image and reputation.

The construction, operation and maintenance of the network - which mainly involves external personnel - is subject to the normal risks connected to work activities (e.g. excavations, use of equipment and means of work, opening of manholes and under-equipment) and to risks connected to external interference of an anthropic nature (e.g. vehicular and pedestrian traffic, presence of infrastructures for the supply of public utilities such as gas, water and electricity) or environmental-climatic risks (e.g. ordinary and extraordinary climatic events, natural disasters). Risks related to normal work activities can derive mainly from incorrect execution of work phases and improper use of equipment and means of work. To deal with these risks, Open Fiber

has developed a Management System which, for the Occupational Health and Safety component, is certified according to the UNI ISO 45001 standard. This Management System applies to all activities connected with the Company's business, including those subject to tender and supply contracts: to this end, in the general conditions and particular 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 continuous improvement of company performance.

In order to incisively guarantee compliance with current legislation and internal procedures, a series of penalties to be applied in the event of non-compliance, including in the field of Occupational Health and Safety, is provided for in the contract. The attention devoted to contractors and other suppliers who work with Open Fiber on a daily basis covers all phases of the contract implementation:

- initial phase: the Company promotes information meetings with the contractors of contracted services in order to share and investigate the main critical issues detected in the work activities with a view to preventing the main risks and sharing the Management System documents;
- contract implementation: Open Fiber promotes periodic meetings with the service and works contractors, during which it shares the findings from the controls carried out at the worksites and the processing of data in the company systems in order to monitor and improve performance. These findings are also sent monthly to the contractors via automatic emails generated by the Business Intelligence platform developed by Open Fiber.

Moreover, in order to guarantee a widespread presence in the territory and the execution of adequate checks on compliance with the regulations in force in the area of tenders, Open Fiber publishes special service tenders, which also include the service of safety coordination. Within the tenders, in order to select the most suitable profiles, more stringent requirements are detailed, in addition to the minimum requirements provided for by law for the roles, from which technical rewarding scores are derived. In the year 2023, with the aim of further improving the surveillance and control process, quarterly assessments were introduced to control the performance of service providers through the development and monitoring of a series of Key Performance Indicators (KPIs) inherent to contractual fulfilments that contribute to the development of the Vendor Rating Index.

With regard to risks related to the Health and Safety of its workers, in addition to continuing to provide specific mandatory training in the area of Occupational Health and Safety addressed to all newly hired personnel, with a specific focus on the importance of a cultural approach to Health and Safety issues, Open Fiber continued and implemented a series of specific initiatives during 2023, including:

- **C.A.R.E. programme**, an initiative aimed at strengthening the HSE culture at all organisational levels by acting on 4 drivers (Communication, Awareness, Responsibility, Engagement) in order to increase the sense of responsibility at all levels, increase the involvement of employees and suppliers, foster the culture and strengthen communication with employees and suppliers;
- adoption for all personnel of a training model that goes beyond the legal obligation, in line with the work performed with content deemed necessary[139]. Within the framework of this model, which included specific focuses for field staff and Operational Support staff, targeted initiatives were developed such as:
  - OnBoarding programme[140] and in-depth sessions on the management of Health and Safety on site and on the management of significant environmental aspects related to the network construction and maintenance activities;
  - Open Fiber's "My QHSE & SPP" corporate portal, the fulcrum for the dissemination of the culture of quality, safety and environment, divided into a series of areas (regulatory area, educational area, multimedia area, reserved area, useful links) and with the aim of providing all Open Fiber personnel with a reference point for Occupational Health and Safety issues;
  - briefing on general company risks and conduct to be adopted in the event of an emergency, on the use of personal protective equipment and for work activities carried out in the Fiber Working regime;
  - briefing on risks and behaviour to be adopted by workers during visits to Open Fiber construction sites and technological sites;
  - introductory information video on company risks and the behaviour to adopt in the event of an emergency shared in the virtual classroom during OnBoarding sessions for all new employees.

139 For more details, see paragraphs 6.2 "Growth and training of our employees" and 6.3 "Welfare and Wellbeing".
140 For more details, see paragraph 6.2 "Growth and training of our employees".

C.A.R.E Programme

Open Fiber is deeply convinced that Occupational Health and Safety and Environmental Protection have top priority. For this reason, through the C.A.R.E. (Communication, Awareness, Responsibility, Engagement) programme, it wants to promote a culture of Health and Safety and Environmental Protection, inspired by the Safety Culture Ladder model. According to this model, it is possible to identify 5 steps of the "safety ladder" (Pathological, Reactive, Calculative, Proactive and Generative), which divide the two main approaches of organisations to the management of HSE issues: Blame Culture (the approach according to which any incident can be traced back to an employee's wrongdoing) and Just Culture (the approach according to which each employee feels he or she is the main actor in reporting hazardous conditions and proactively resolving them). C.A.R.E. aims to strengthen the HSE culture in Open Fiber, moving towards the Just Culture area. The programme is based on four drivers (Communication, Awareness, Responsibility, Engagement) for each of which various initiatives have been included in 2023.

Communication

MY QHSE & SPP Portal: in 2022, the first Health & Safety portal was created on MYHR, which was entirely renewed during 2023. The portal is structured in four main sections an area dedicated to regulatory updates on HSE and its impact on the organisation[141], which contains regulations and provisions on Occupational Health and Safety, taken from the various sources indicated and updated quarterly by the SPP, as well as useful references for finding guidelines and good practices relating to the world of Health and Safety in the workplace; a didactic and multimedia area in which the didactic materials of the training courses held have been uploaded, documents with information on the risks present in the Open Fiber workplaces and in-depth studies on specific Occupational Health and Safety topics; an area dedicated to useful and emergency numbers available to Open Fiber employees and to reporting near misses (unsafe behaviour and dangerous conditions).

- **Monthly HSE Newsletter**: regulatory update newsletter aimed at covering the main updates in the fields of Occupational Health and Safety and Environmental Protection.
- **HSE Bulletin**: periodic QHSE newsletter for all employees with the most important updates in the field of HSE.

Awareness

- **QHSE Pills**: 3 new specific training pills: "Introduction to the new Best In Class APP" addressed to Open Fiber personnel, with the aim of guiding employees in the correct use of the "Best in Class Employee" application through which it is possible to assess the level of knowledge and awareness of HSE issues and allows them to report near misses easily and immediately; "The Quality Management System" with the aim of spreading the culture of quality; "Leadership and Culture of Safety" with the aim of promoting the spread of safety leadership and good practices in HSE matters within the organisation.
- New edition of the **necessary HSE Training** dedicated to Regional Managers, Field Managers and Area and Regional QHSE to improve knowledge of regulations and recent best practices on Open Fiber activities.
- **HSE Induction Training** for all newly-hired Open Fiber employees.
- **«Interactive» simulations,** a pilot project using augmented reality for the training of emergency workers in the Rome headquarter.

Responsibility

- **HSEQ performance meetings:** thematic meetings between Area and Regional Operational HSEQ contact persons and central HSEQ functions.
- **Contractors performance meeting**: thematic meetings between company managers and Open Fiber's central HSEQ functions, aimed at improving HSE performance within the framework of Network Creation activities.

Engagement

- **Best-in-Class Contractors**: over the course of 2023, the Best in Class contractor initiative was launched to evaluate and reward the companies with the best HSE performance in 2023.
- **Best HSE Employees**: in 2023, the Best in Class Employee initiative was launched to evaluate and reward employees with the best HSE performance in 2023.

141 Within this section, the monthly HSE Newsletters are made available.

07

GUIDANCE

Open Fiber's 2023 Sustainability Report is an effective and voluntary tool adopted by the organisation to communicate to its internal and external stakeholders the commitment and initiatives undertaken on environmental, social and governance issues. This document has been prepared in such a way as to ensure an 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 a financial impact on the company. The structure of the report has been defined on the basis of the results of the materiality analysis, focusing more on material topics, to which specific in-depth paragraphs have been dedicated that deal within them with the individual topics and report the relative indicators (also reported in detail in paragraph 7.5 "Data and Indicators Tables".

For further details on the initiatives dedicated to customers, communities and the territory, 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 new requirements introduced at European level by the Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS) adopted through the EU Delegated Regulation 2023/2772 were taken into account.

In line with the reference standards and in order to ensure the quality and fair presentation of the information reported, the process of defining the contents followed the principles of accuracy, equilibrium, clarity, comparability, completeness, sustainability context, timeliness and verifiability.

Consistent with these principles, the reporting period of this document is the financial year 2023 (1st January to 31st December) and the performance indicators refer, where possible, to the three-year period 2021-2023. With the aim to provide a comprehensive view of the company's performance, the most significant events occurring in the first months of 2024 have been reported.

The information and data contained in this Report make reference to Open Fiber S.p.A. and Open Fiber Network Solutions S.c.a.r.l.[142], a Consortium set up 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. Unlike the Sustainability Report 2022, where a general qualitative information on the Consortium was provided, this document fully consolidates the performance of Open Fiber Network Solutions. In order to ensure the comparability of information with respect to previous years, the main KPIs are reported separately for the performance of Open Fiber S.p.A. (for the period 2021-2023), for the performance of Open Fiber Network Solutions (for the year 2023) and for the consolidated performance (for the year 2023, the first year of consolidation of the Consortium) within paragraph 7.5 "Data and Indicators Tables"[143].

Within the Report, all disclosures contained in "GRI 2 - General Disclosures 2021" have been reported; where, based on valid reasons, certain disclosures have been omitted, this has been highlighted in the "GRI Content Index" with explanations for omissions. The material topics were identified and reported in compliance with the criteria set forth in "GRI 3 - Material topics 2021" and in accordance with the "**double materiality**" perspective envisaged by the CSRD. For each of the material topics, the applicable disclosures of the "GRI Specific Standards" were reported. Where there are more appropriate tools to represent performance on a specific topic (e.g. Annual Report and Code of Ethics), reference has been made to the relevant paragraphs and to the "Comments" column of the "GRI Content Index" for discussion or in-depth analysis. There are currently no sector GRI standards applicable to Open Fiber's activities. The "GRI Content Index" has been published within this Report and the use of GRI Standards is notified to GRI.

Finally, reference to the main Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda, to which Open Fiber contributes through its activities, has been included.

7.2 IDENTIFICATION OF MATERIAL TOPICS

In 2023, Open Fiber updated its analysis methodology for identifying material topics, with the aim of adopting for the first year the "double materiality" introduced by the CSRD[144] and the European Sustainability Reporting Standards (ESRS), anticipating the entry into force of the relevant legislative obligations. Based on this approach, material topics are identified according to impact materiality and financial materiality, i.e. assessing the significance of the impacts that the organisation has or could have on sustainability topics and the significance of the financial impacts generated by sustainability topics on the company.

142 Subsidiary of Open Fiber S.p.A. (83.7% share) and owned by Amplia S.p.A. (10%) and C.I.E.L. S.p.A. (5%), which are the founding partners, and by some of the companies that joined the Consortium in 2023 (1.3% share).

143 Except for economic performances, in relation to which only consolidated performences are reported.

144 Corporate Sustainability Reporting Directive.

The process started from 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 key industry trends, reporting standards and sustainability ratings at an international level;
- Analysis of applicable legislation, including programmatic legislation (e.g. PNRR – National Recovery and Resiliency Plan, Taxonomy, Corporate Sustainability Reporting Directive and EU Delegated Regulation 2023/2772);
- Benchmarking of competing and comparable companies through the main public sustainability and social responsibility documents;
- Press review with the main articles covering 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 formalising management systems in accordance with international standards adopted by the organisation (e.g. ISO 9001, ISO 14001, ISO 45001, ISO 27001, ISO 22301).

By engaging the Management Team, the weight of the impacts identified was assessed based on the seriousness[145] of concrete impacts and the combination of seriousness and the probability that these actually will occur, in the case of potential impacts (impact materiality).

Subsequently, in line with the company's Enterprise Risk Management methodology, risks and opportunities relating to sustainability topics capable of entailing actual or potential impacts on the company's economic-financial prospects were identified and assessed. The significance of risks and opportunities was assessed according to their financial impact (financial materiality).

From the combination of impact materiality and financial materiality, the material topics were identified:

- **Contribution to territory and community development**: contributing to the digitalisation and socio-economic development of the country and local communities and minimising the impacts associated with network implementation and management activities, including through careful management of relations with local administrations and relevant authorities.
- **Business ethics and compliance**: ensuring ethical business management, combating illegal activities of various kinds 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 related to business, including energy efficiency and the use of energy from renewable sources. Identifying and taking appropriate measures to prevent or minimise damage from climate change or exploit opportunities that may arise.
- **Biodiversity and ecosystems**: contributing to the preservation of biodiversity and the conservation of ecosystems, carrying out its activities in full respect of habitats and minimising the environmental impacts of its activities.
- **Circular economy**: contributing to the transition to a circular economy by sourcing materials and products with reduced environmental impact throughout their life cycle, minimising waste generation and maximising reuse, recycling and recovery practices.
- **Responsible value chain management**: selecting and evaluating suppliers and business partners on specific social and environmental criteria such as Occupational Health and Safety, fair contractual conditions and minimising environmental impacts.
- **Protection and development of workforce**: guaranteeing 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.
- **Customers and end users**: guaranteeing customers and end users continuity, reliability and quality of service, responding to market needs through the development of innovative offerings, while ensuring access to adequate information on the economic, environmental and social impacts of activities carried out.
- **Privacy and cybersecurity**: ensuring adequate levels of privacy for customers and end users and preventing cyber attacks that could jeopardise service continuity and network reliability.

Here follows the correlation table between the 2023 material topics, the 2022 material topics and the aspects of the GRI Standard of reference, with relevant indications on the perimeter (internal and external scope of the organisation) and possible limitations.

145 In the case of negative impacts, seriousness is determined by: 1) Severity scale (scale), 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. In the case of positive impacts, seriousness is determined only by the first two criteria already mentioned for negative impacts, namely: scale of severity and scope.

2023 MATERIAL TOPIC	2022 MATERIAL TOPIC	GRI STANDARD	PERIMETER AND ANY LIMITATIONS
Contribution to territory and community development	Contribution to economic development Innovation and digitalisation Relationship with the territory	**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 Defined benefit plan obligations and other retirement plans 201-4 Financial assistance received from 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 programs	Open Fiber S.p.A. and Open Fiber Network Solutions
Business ethics and compliance	Fight against corruption Transparency and equal access	**205: Anti-corruption 2016** 205-1 Operations assessed for risks related to corruption 205-2 Communication and training about 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 behavior, anti-trust, and monopoly practices	Open Fiber S.p.A. e and Open Fiber Network Solutions
Climate change	Fighting climate change	**302: Energy 2016** 302-1 Energy consumption within the organization 302-3 Energy intensity **305: Emissions 2016** 305-1 Direct (Scope 1) GHG emissions 305-2 Indirect GHG emissions from energy consumption (Scope 2) 305-3 Other Indirect GHG emissions (Scope 3) 305-4 GHG emissions intensity 305-5 Reduction of GHG emissions	Open Fiber S.p.A. and Open Fiber Network Solutions

2023 MATERIAL TOPIC	2022 MATERIAL TOPIC	GRI STANDARD	PERIMETER AND ANY LIMITATIONS
Biodiversity and ecosystems	-	**304: Biodiversity** 304-2 Significant impacts of activities, products and services on biodiversity	Open Fiber S.p.A. and Open Fiber Network Solutions
Circular economy	Circularity and waste management	**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
Responsible value chain management	Responsible management of the supply 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 Suppliers engaged in the network creation, management and maintenance (Creation, Delivery & Assurance)
Protection and development of workforce	Development of human capital Occupational Health & Safety Diversity, Equity & Inclusion	**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 parttime 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

2023 MATERIAL TOPIC	2022 MATERIAL TOPIC	GRI STANDARD	PERIMETER AND ANY LIMITATIONS
Protection and development of workforce	Development of human capital Occupational Health & Safety Diversity, Equity & Inclusion	403-4 Worker participation, consultation, and communication on occupational health and safety 403-5 Worker training on occupational health and safety 403-6 Promotion of worker 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	
Customers and end users	Network reliability and service quality	**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 Suppliers engaged in the network creation, management and maintenance (Creation, Delivery & Assurance)
Privacy and cybersecurity	Privacy and cybersecurity	**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

MATERIAL TOPICS AND 2030 AGENDA SDGS

OPEN FIBER MATERIAL TOPIC AND SDGS	SPECIFIC TARGET
Contribution to territory and community development 	**8.2** Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors **8.3** Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services **9.1** Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all **9.3** Increase 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, upgrade infrastructure and retrofit 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** Strengthen efforts to protect and safeguard the world's cultural and natural heritage **17.6** Enhance 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 ethics and compliance 	**9.1** Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all **16.5** Substantially reduce corruption and corruption in all their forms
Climate change 	**13.2** Integrate climate change measures into national policies, strategies and planning **7.2** Substantially increase the share of renewable energies in total energy consumption by 2030 **7.3** Double the global rate of energy efficiency improvement by 2030
Biodiversity and ecosystems 	**15.3** By 2030, combat 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, achieve the sustainable management and efficient use of natural resources **12.5** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

OPEN FIBER MATERIAL TOPIC AND SDGS	SPECIFIC TARGET
Responsible value chain management 	**8.7** Take 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 recruitment and use of child soldiers, and by 2025 end child labour in all its forms **8.8** Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment
Protection and development of workforce 	**3.d** Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks **4.3** By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university **4.4** By 2030, substantially increase 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, achieve 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** Protect 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, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status **10.3** Ensure equal opportunities and reduce inequalities by eliminating discriminatory laws, policies and practices and promote relevant laws, policies and actions in this regard
Customers and end users 	**9.1** Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all
Privacy and cybersecurity 	**9.1** Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

7.3 STAKEHOLDERS' EXPECTATIONS AND ENGAGEMENT CHANNELS

Here follows the table linking the different stakeholders categories and their expectations and methods of engagement, activities and responses on the part of Open Fiber. For the mapping of Open Fiber's stakeholders, please refer to paragraph "Strengthening of the stakeholder engagement strategy".

STAKEHOLDERS	EXPECTATIONS	COMPANY ENGAGEMENT, ACTIVITIES AND RESPONSES
Local communities	Honesty, ethics, fairness, integrity. And again safety, health protection, human rights protection and environmental care. Open Fiber and its network, a strategic combination for the improvement of social conditions in various areas, are embedded in the territory in a capillary manner, avoiding environmental impacts, respecting the territory and its landscape, managing incidents, avoiding accidents. Fiber creates jobs, engages young people, reduces the digital divide and boosts the infrastructure for the country's digital network.	• Promotion and information on Open Fiber institutional website • Promotion and information on social networks • Press releases • Specific outreach projects
Media, Press and Opinion Makers	Social commitment and solidarity, transparency and responsible marketing, protection of human rights and the environment and promotion of territories are just a few of the things that the media, press and opinion makers expect from the company. Through specific campaigns, Open Fiber raises public awareness of its social commitment and attention to environmental protection. With a transparent approach, it traces the progress of its activities and presents its assets for the future of the country: foresight, community support, 5G, innovation.	• Promotion and information on Open Fiber institutional website and on social network • Specific projects • Press releases and press conferences • Interviews and publications • One-to-one meetings
Associations	Occupational safety, protection of the environment and human rights, social solidarity, diversity, equity and inclusion, improvement of public service: these are the topics inspiring the cooperation between Open Fiber and the associations. Particular attention is also paid to the reduction of the digital divide, emissions in the TLC sector, the digitalisation of the economy, companies, PA and society and European funds and projects in the digital field.	• Events and conferences • Memberships and agreements
Customers	Focus on listening and service quality are two characteristics of the company that are in the interest of its customers. They also include speed in responding to enquiries, protection of privacy, protection and security of personal data, digitalisation, development of local businesses, optimisation of the supply chain, occupational safety, environmental protection and human rights.	• One-to-one meetings • Corporate events • Contracts and agreements

STAKEHOLDERS	EXPECTATIONS	COMPANY ENGAGEMENT, ACTIVITIES AND RESPONSES
Universities and Research Institutes	Development of collaborations, participation in career days, education on the future, these and many other issues inspire the relationship between the company and universities and research centres. Open Fiber represents a potential partner for collaborations, a job opportunity for its students, an example of technological and open innovation, a support for sports, social and cultural initiatives and an opportunity for school-work alternation projects.	• Career Days • Open Days • Collaboration and specific projects
Third-party certifying body	In order to undertake a virtuous path in carrying out its activities, Open Fiber is required to comply with international standards of reference and to preserve the reputation and professionalism of the Entity itself.	• Audits
Supervisory bodies and Institutions	Compliance with regulations on safety and the protection of heritage - landscape and archaeology - during network installation work has led to a reduction in the rate of accidents and injuries at Open Fiber worksites. The construction of digital infrastructures for the country, an opportunity for the development of employment, comply with current regulations, also in terms of compliance of contracts and subcontracts.	• Working tables • Mandatory and on-demand notices • Events and conferences • Framework agreements
Financial Community and Investors	Open Fiber is assessed based on its financial strength, 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 • Presentations of financial and non-financial results (financial statements) • Funding projects • One-to-one meetings
Insurance companies	They assess Open Fiber for its economic and financial soundness, for the adoption of customised insurance products for health, safety and environmental risks, for prevention practices aimed at reducing incidents, for the methods adopted for crisis/emergency management and related communication and for the adequate compensation of damaged third parties.	• Agreements • One-to-one meetings
Outsourcers and Suppliers of goods/services/works	After examining Open Fiber for the preliminary assessment of the risks that the Company carries out when performing contracted activities, compliance with health, safety and environmental protection regulations at all Open Fiber workplaces, choices regarding privacy, protection and security of personal data, ensure a virtuous working relationship and a significantly improved image.	• Agreements • One-to-one meetings • Events and workshops
Consultants and external collaborators	They choose Open Fiber on the basis of its compliance with Health and Safety regulations in all workplaces and for the choices made regarding privacy, protection and security of personal data.	• One-to-one meetings • Events and workshops

STAKEHOLDERS	EXPECTATIONS	COMPANY ENGAGEMENT, ACTIVITIES AND RESPONSES
Public concessionary authority	Development of digital infrastructures for the country, ensuring network reliability and quality of service, while complying with Health and Safety regulations for workers and environmental protection at working sites: this is what the Concessionary Authority is requesting Open Fiber to do.	• Direct contacts • Mandatory and on-demand notices
Existing infrastructures operators	Open Fiber is responsible for the compliant use of existing infrastructures for IRU contracts, the prevention of damage to sub-service networks and the management of service disruptions or situations that affect security.	• Direct contacts and IRU contracts • Communications relating 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/ worker safety representatives (WSR)	Development of skills appropriate to the job, Occupational Health and Safety, enforcement of the collective bargaining agreement, increased employment, promotion of diversity, equity and inclusion in the work environment, protection of human rights, sound governance and transparent conduct.	• Regular meetings with representatives • Press releases
Employees	A healthy, wholesome and safe working environment, availability of protective equipment and safe and functional work tools, work life balance, support for parenthood, focus on continuous improvement of corporate welfare and occupational well-being, protection of human rights, diversity, equity and inclusion, corporate ethics and integrity, active involvement in health, safety and environmental protection issues, skills development and training, protection of privacy, protection and security of personal data, zero occupational diseases and injuries.	• Internal organisational communications • Company intranet • Training and refresher courses • Engagement and team-building initiatives • Company meetings • Company events
Outsourcers' and Contractor's workers	Safe and functional work equipment, zero occupational diseases and injuries, development of local business activities, protection of privacy, protection and security of personal data.	• Communications to suppliers
Shareholders	In Open Fiber they look for safety and value of the investment, cost efficiency for management, construction of the network and operational efficiency, care for environmental and social sustainability, prevention of crisis and emergency situations, brand reputation, competent, trained and satisfied staff, compliance with the legislative framework, compliance with the principles of conduct contained in the Code of Ethics, implementation of control protocols contained in the Model pursuant to Legislative Decree 231/2001 for the prevention of crimes covered by the decree, privacy protection, protection and security of personal data, network reliability and quality of service, strong governance and transparent conduct and responsible marketing.	• Assembly • Presentations of financial and non-financial results

STAKEHOLDERS	EXPECTATIONS	COMPANY ENGAGEMENT, ACTIVITIES AND RESPONSES
Management	From Open Fiber they expect a satisfactory relationship with the Customer, the definition of S.M.A.R.T. objectives, availability of resources for the achievement of objectives, performance of work activities in a safe and environmentally friendly manner, implementation and maintenance of the Integrated Quality, Safety and Environment Management System, responsible management of the supply chain, protection of privacy, protection and security of personal data, network reliability and quality of service, operational efficiency and motivated people.	• Internal organisational communications • Corporate meetings • Corporate events
Supervisory Board (Italian Legislative Decree 231/2001)	Compliance with the principles of conduct 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	With a view to being totally eco-friendly, Open Fiber undertakes - in the development of its network - not to have negative environmental impacts, to respect the landscape, to reduce CO_2 emissions and to use energy coming from renewable sources.	• Assessment of social and environmental impacts related to its activities • Definition of requirements in terms of environment protection • Framework agreements with municipalities • Dialogue with competent entities and superintendencies
Policy Maker	Italian and European legislators are aiming to reduce the digital divide, giving everyone equal opportunities to access a fast, stable and secure connection. In this sense, Open Fiber stands as a valuable ally in the construction of digital infrastructure for the country. Furthermore, the European Union, in line with the Digital Compass and the Next Generation EU, is aiming for digital transformation by 2030. In this scenario, Open Fiber stands as a key interlocutor in the transition to the new technology with which to wire Italy.	• Dialogue with institutions and politicians at Italian and European level • Active participation in sector associations

7.4 ASSOCIATIONS AND MEMBERSHIP

Open Fiber has long been a member of various associations, both national and international, with the aim of contributing to spread a more digitally aware culture:

- **FTTH Council Europe:** Open Fiber currently sits on the Board of Directors of the association - whose objective is to promote faster adoption of all-fiber connectivity in every area of Europe - actively participating in all of 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 - also on the initiative of Open Fiber - studies to calculate the environmental impact of optical fiber networks, the benefits of the same, especially in a scenario of a switch off of copper networks; it is also promoting the inclusion of the sector in the taxonomy regulation to favour access to so-called sustainable finance.
- **Confindustria Europa:** Open Fiber participates in activities organised by Confindustria's European office related to the company's areas of interest, including the participation in meetings with representatives of European institutions.
- **Gruppo Iniziativa Italiana (GII):** founded in 1995, the association represents the Italian community in Brussels in the fields of business, agribusiness, innovation, research, and services. GII is committed to enhancing Italy's image in the European capital by promoting high-profile meetings between key Italian players and top representatives of Italian and European institutions.
- **Assotelecomunicazioni (ASSTEL):** trade association that, within the Confindustria system, represents the telecommunications supply chain made up of the companies of the various product areas that belong to it. Its mission is to foster and promote the development and growth of the supply chain, in the general interest of the national economic-productive system. It safeguards the interests of member companies at institutional, political and economic, public and private venues and the representation in trade union and labour matters of member companies that apply the TLC CCNL (TLC National Collective Labour Agreement) and/or the Outbound Agreement, supporting them in the management of issues of interest.
- **Assonime:** association of Italian joint-stock companies. Its purpose is to study and deal with problems that directly or indirectly affect the interests and development of the Italian economy. Its member companies are provided with tailor-made assistance services such as advice, consultancy activities and customised one-to-one meetings.
- **Assolombarda:** association of enterprises 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 safeguards the interests of 6,900 enterprises of all sizes, both national and international, producing goods and services in all product sectors, especially in relations with institutional interlocutors and local stakeholders active in various fields such as education, environment, culture, economy, labour, civil society.
- **Unione degli Industriali e delle Imprese - Unindustria:** operating on a regional scale

(Latium Region), it is the largest in terms of territorial extension in 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 projects and strategic and operational proposals, and to accompany them in solving problems that hinder corporate life.

- **Associazione Italiana Professionisti Security Aziendale (AIPSA):** it is aimed at enhancing the professional order of the security manager, training and updating members in corporate security, spreading the culture of security and deepening 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 in the register of Health Funds in order to comply with the Sacconi Decree[146], it is a non-profit association without legal personality targeting those companies wishing to provide their employees with certain welfare benefits provided for by the National Collective Labour Agreements, 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 welfare assistance and innovative services aimed at optimising the management of reimbursements for healthcare expenses.
- **Associazione Italiana Internal Auditors (AIIA):** non-profit association established in 1972 and recognised as the Italian affiliate of the IIA (Institute of Internal Auditors), world leader in standards, certification and training for the internal auditing profession. With over 4,900 members, representing around 800 companies, AIIA has always been a point of reference for risk management, corporate governance and internal audit issues.
- **Associazione dei componenti degli Organismi di Vigilanza ex D. Lgs. 231/2001 (AODV 231):** non-profit association that brings together professionals and company representatives who have first-hand experience of the Supervisory Bodies (*Organismi di Vigilanza*, OdV) envisaged by the Organisational Models adopted pursuant to Legislative Decree 231/2001. Founded in February 2008, it studies the field application of Decree 231/2001, assessing what it means, in practical terms, to adopt and implement an Organisational Model and how a Supervisory Board must, and can, concretely act in order to effectively perform its duties without hindering the conduct of business.
- **4.Manager:** business culture, managerial development and active labour policies are the levers that Confindustria and Federmanager have decided to focus on to step up their collaboration aimed at boosting the country's growth. On this basis, 4.Manager association was set up in October 2017, called upon to design and implement high value-added initiatives to respond to emerging needs for the overall growth of industrial managers and entrepreneurs.
- **I-COM - Istituto per la Competitività:** the institute is a think tank founded in 2005 by a group of scholars, professionals and managers based in Rome and Brussels. The aim of I-Com is to promote issues and analyses on competitiveness from an innovative perspective within the Italian, European and international political-economic framework. The main areas 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 on innovation issues.
- **ANFoV:** association working with the biggest players in the market to make a contribution to innovating and modernising our country. From fostering the development of optical fiber networks for BUL to researching the best solutions for a 5G connection that can be useful to citizens, the business system and Public Administration.
- **ANSA Bruxelles:** ANSA has been publishing and distributing news and in-depth reports since 1945, in all modes and on all transmission platforms. The key values that make it a leader among customers and in the international information scene are: independence, timeliness, completeness and reliability. In particular, Open Fiber promotes with ANSA Brussels a newsletter focused on topics relevant to the double transition, digital and ecological.
- **ANRA - Associazione Nazionale Risk Manager e Responsabili Assicurazioni Aziendali:** made up of risk officers, risk managers, insurance managers and risk management consultants, more than 800 members who work in the field on a daily basis and who benefit from the continuous exchange of their experiences and the sharing of projects for the benefit of the sector's development. In the full conviction that experience is the best argument for spreading

146 D. M. 27/10/2009.

the culture of risk management, ANRA organises meetings open to professionals and companies on corporate risk issues, training courses for new figures and exchanges of experience with foreign colleagues.

- **IFMA - International Facility Management Association:** non-profit association founded in 1980 in the United States with the aim of promoting and developing facility management, a discipline defined as the strategy of managing a company's instrumental real estate and the services underlying the business, divided into building, space and people services. The association, active in Italy since 1995, aims to help create a class of professionals capable of advancing the sector; it pursues this objective through detailed studies of the market, as well as communication and training activities.
- **AIGI - Associazione Italiana Giuristi d'Impresa:** it was set up 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 - similarly to what was already happening in other countries - their legal status. The association's purpose is the promotion, training and development of the corporate lawyer and his role in Italy.
- **CED - Centro Economia Digitale**: is an independent, non-partisan think tank founded in 2017, established 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 Partners of the centre are among the most important Italian strategic companies operating in sectors with a very high innovation component.

Moreover, 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), associations in which it also takes part in technical committees and working groups:

- **Comitato Elettrotecnico Italiano (CEI):** it is an association under private law responsible for technical standardisation in the field of electrotechnology, electronics and telecommunications at a national level. Its mission, as a super partes national body, is to publish good technical standardisation documents in Italy, to participate in the drafting of the corresponding European and international standards and to see to their transposition, as well as to disseminate technical and scientific culture in general and that of technical standardisation in particular.
- **Italian Association for Trenchless Technology (IATT):** it is an association that promotes the advancement of scientific and technical knowledge in the field of trenchless (no-dig) technologies; its members include major Italian utilities, university and research institutes, specialised companies, consultants and professionals in the sector. The Mission is to research and apply technically advanced solutions to limit road trespassing, excavation and soil movement, as well as harmful gas emissions, accidents on construction sites, reduce construction time and energy consumption, and moderate the negative environmental and social impact that excavation activity inevitably entails.
- **Ente Italiano di Normazione (UNI):** association dedicated to the drafting, publication and dissemination of standards, the adoption of which, on a voluntary basis, guarantees the best solution for making a product, conducting a process and 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 drafting process, openness for participation in the drafting of the standard, consensus for approval, voluntary membership, independence of the association and efficiency of the standards issued.
- **Commissione Elettrotecnica Internazionale** (*International Electrotechnical Commission* - IEC): IEC is a global non-profit organisation whose work underpins quality infrastructure and international trade in electrical and electronic products. Its work facilitates technical innovation, affordable infrastructure development, efficient and sustainable access to energy, urbanisation and intelligent transport systems, climate change mitigation and enhances 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 globally. It operates 4 Conformity Assessment Systems whose members certify that devices, systems, installations, services and people function as required.

As regards 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 keeps in contact with the Permanent Representation of Italy to the European Union.

7.5 DATA AND INDICATORS TABLES

Tables with GRI metrics and key performance indicators related to Open Fiber's material topics are reported below.

With reference to **Biodiversity and ecosystems** and **Customers** and **end-users'** topics, please refer to the GRI content index.

7.5.1 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.**	**2021**	**2022**	**2023**
Permanent	Female	no.	405	511	579
	Male	no.	884	1,060	1,155
	Total	no.	**1,289**	**1,571**	**1,734**
Fixed term	Female	no.	0	0	0
	Men	no.	0	0	0
	Total	no.	**0**	**0**	**0**

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER					
Contract type	**Gender**	**U.M.**	**2021**	**2022**	**2023**
Full-time	Female	no.	402	505	574
	Male	no.	883	1,059	1,154
	Total	no.	**1,285**	**1,564**	**1,728**
Part-time	Female	no.	3	6	5
	Male	no.	1	1	1
	Total	no.	**4**	**7**	**6**

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER				
Description	**U.M.**	**2021**	**2022**	**2023**
Total employees as of 31st December	no.	**1,289**	**1,571**	**1,734**

OTHER WORKERS AS OF 31ST DECEMBER				
Description	**U.M.**	**2021**	**2022**	**2023**
Employees of other organization	no.	5	2	1
Interns	no.	17	17	18
Outsourced workers	no.	11	6	14
Collaborators	no.	1	2	6

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.**	**2021**	**2022**	**2023**
Permanent	Female	no.	-	-	15
	Male	no.	-	-	258
	Total	no.	**-**	**-**	**273**
Fixed term	Female	no.	-	-	2
	Male	no.	-	-	86
	Total	no.	**-**	**-**	**88**

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER					
Contract type	**Gender**	**U.M.**	**2021**	**2022**	**2023**
Full-time	Female	no.	-	-	17
	Male	no.	-	-	344
	Total	no.	**-**	**-**	**361**
Part-time	Female	no.	-	-	0
	Male	no.	-	-	0
	Total	no.	**-**	**-**	**0**

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER				
Description	**U.M.**	**2021**	**2022**	**2023**
Total employees as of 31st December	no.	**-**	**-**	**361**

OTHER WORKERS AS OF 31ST DECEMBER				
Description	**U.M.**	**2021**	**2022**	**2023**
Employees of other organization	no.	-	-	7
Interns	no.	-	-	2
Outsourced workers	no.	-	-	35
Collaborators	no.	-	-	0
Employees of the associated companies	FTE	-	-	131

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.	2021	2022	2023
Permanent	Female	no.	-	-	594
	Male	no.	-	-	1,413
	Total	no.	**-**	**-**	**2,007**
Fixed term	Female	no.	-	-	2
	Male	no.	-	-	86
	Total	no.	**-**	**-**	**88**

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER

Contract type	Gender	U.M.	2021	2022	2023
Full-time	Female	no.	-	-	591
	Male	no.	-	-	1,498
	Total	no.	**-**	**-**	**2,089**
Part-time	Female	no.	-	-	5
	Male	no.	-	-	1
	Total	no.	**-**	**-**	**6**

EMPLOYEES BY EMPLOYMENT CONTRACT AS OF 31ST DECEMBER

Description	U.M.	2021	2022	2023
Total employees as of 31st December	no.	**-**	**-**	**2.095**

OTHER WORKERS AS OF 31ST DECEMBER

Description	U.M.	2021	2022	2023
Employees of other organization	no.	-	-	8
Interns	no.	-	-	20
Outsourced workers	no.	-	-	49
Collaborators	no.	-	-	6
Employees of the associated companies	FTE	-	-	131

Notes: As regards data relating to 2021 and 2022 years, please refer to the performances of Open Fiber S.p.A.

7.5.2 Contribution to territory and community development

GRI 201 Economic performance

GRI 201-1: DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED - Consolidated performance

DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED

Description	U.M.	2021	2022	2023
ECONOMIC VALUE GENERATED	**€/000**	**379,546**	**470,027**	**582,295**
Value of production (Total Revenues)	€/000	379,546	469,903	581,501
Income from investments	€/000	-	-	-
Other types of financial income (financial income)	€/000	-	124	794
Extraordinary income	€/000	-	-	-
ECONOMIC VALUE DISTRIBUTED	**€/000**	**351,838**	**342,811**	**531,804**
Operating costs	**€/000**	**124,035**	**170,357**	**219,440**
Costs for raw materials	€/000	-	-	-
Costs for services (costs for services)	€/000	120,567	159,783	197,653
Costs for using third-party goods (Costs for using third-party goods)	€/000	3,282	5,357	7,178
Changes in inventory of raw materials	€/000	-	-	-
Other operating expenses* (net of taxes)	€/000	186	5,216	14,609
Extraordinary expenses	€/000	-	-	-
Value distributed to employees	**€/000**	**80,375**	**88,761**	**102,016**
Costs for personnel (costs for personnel)	€/000	80,375	88,761	102,016
Value distributed to capital providers	**€/000**	**130,668**	**119,363**	**264,581**
Interest and other financial charges (financial charges)	€/000	130,668	119,363	264,581
Value distributed to the Public Administration	**€/000**	**16,436**	**(36,037)**	**(54,638)**
Current and prepaid income taxes (income tax)	€/000	13,911	(39,557)	(60,288)
Miscellaneous operating costs** (only the value of taxes)	€/000	2,525	3,520	5,650
Value distributed to shareholders	**€/000**	**-**	**-**	**-**
Dividends distributed	€/000	-	-	-
Value distributed to the community	**€/000**	**324**	**367**	**405**
Generosities	€/000	1	40	14
Sponsorships	€/000	-	-	-
Membership fees	€/000	323	328	391
ECONOMIC VALUE RETAINED	**€/000**	**27,708**	**127,216**	**50,491**
Profit (or loss) for the year (net of dividends)	€/000	(209,728)	(162,382)	(296,304)
Write-downs and provisions	€/000	20,751	27,824	19,462
Depreciations/amortisations	€/000	216,685	261,774	327,333
Deferred taxes	€/000	-	-	-
ECONOMIC VALUE GENERATED	**€/000**	**379,546**	**470,027**	**582,295**
DISTRIBUTED ECONOMIC VALUE	**€/000**	**351,838**	**342,811**	**531,804**
ECONOMIC VALUE RETAINED	**€/000**	**27,708**	**127,216**	**50,490**

Notes: As regards data relating to 2021 and 2022 years, please refer to the performances of Open Fiber S.p.A.

GRI 201-4: FINANCIAL ASSISTANCE RECEIVED FROM GOVERNMENT - Open Fiber S.p.A.

FINANCIAL ASSISTANCE RECEIVED FROM GOVERNMENT				
Description	**U.M.**	**2021**	**2022**	**2023**
Monetary value of financial assistance received from the public organisation	€/000	128,940	99,328	182,595

Notes: Here are reported the contributions received from Infratel Italia S.p.A. (an in-house company of the Ministry of Enterprise and Made in Italy) for the development of Ultra Broadband in market failure areas (BUL Strategic Plan). Monetary values shown 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.

OPERATIONS WITH LOCAL COMMUNITY ENGAGEMENT, IMPACT ASSESSMENTS, AND DEVELOPMENT PROGRAMMES				
Description	**U.M.**	**2021**	**2022**	**2023**
Operations with local community engagement, impact assessments, and/or development programmes	%	100%	100%	100%

Notes: 100% of infrastructure implementation activities involve local community engagement on at least one of the following: social impact screenings, environmental impact screenings and ongoing monitoring, public dissemination of the results of environmental and social impact screenings; local community development programs 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.

7.5.3 Business ethics and compliance

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.**	**2021**	**2022**	**2023**
Total processes	no.	12	12	14
Processes assessed for risks related to corruption	no.	12	12	14
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. 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 identified 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				
Description	**U.M.**	**2021**	**2022**	**2023**
Total processes	no.	-	-	10
Processes assessed for risks related to corruption	no.	-	-	10
Processes assessed for risks related to corruption	**%**	**-**	**-**	**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.**	**2021**	**2022**	**2023**
Executives trained	no.	8	35	7
Percentage of Executives trained	**%**	**17%**	**60%**	**12%**
Middle Managers trained	no.	16	117	26
Percentage of Middle Managers trained	**%**	**12%**	**82%**	**16%**
Office Workers trained	no.	228	1,229	304
Percentage of Office Workers trained	**%**	**21%**	**90%**	**20%**
Total employees trained	**no.**	**252**	**1,381**	**337**

Notes: There is a significant reduction in 2023 compared to the previous year, as the courses under analysis have not been updated, so that the courses taken in 2022 remain valid.

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.**	**2021**	**2022**	**2023**
Executives trained	no.	-	-	0
Percentage of Executives trained	**%**	**-**	**-**	**0%**
Middle Managers trained	no.	-	-	0
Percentage of Middle Managers trained	**%**	**-**	**-**	**0%**
Office Workers trained	no.	-	-	2
Percentage of Office Workers trained	**%**	**-**	**-**	**4%**
Laborers trained	no.	-	-	0
Percentage of Laborers trained	**%**	**-**	**-**	**0%**
Total employees trained	**no.**	**-**	**-**	**2**

Notes: Anti-corruption training has been provided since December 2023 through content available within the Company's Learning Management System. As a result, the corporate population was able to attend this training from that date. Therefore, the hours of training on these topics were recorded in the first months of 2024.

GRI 205-2: COMMUNICATION AND TRAINING ABOUT ANTI-CORRUPTION POLICIES AND PROCEDURES - Consolidated performance

EMPLOYEES WHO HAVE RECEIVED ANTI-CORRUPTION TRAINING

Description	U.M.	2021	2022	2023
Executives trained	no.	-	-	7
Percentage of Executives trained	**%**	**-**	**-**	**12%**
Middle Managers trained	no.	-	-	26
Percentage of Middle Managers trained	**%**	**-**	**-**	**15%**
Office Workers trained	no.	-	-	306
Percentage of Office Workers trained	**%**	**-**	**-**	**20%**
Laborers trained	no.	-	-	0
Percentage of Laborers trained	**%**	**-**	**-**	**0%**
Total employees trained	**no.**	**-**	**-**	**339**

Notes: As regards data relating to 2021 and 2022 years, please refer to the performances of Open Fiber S.p.A.

7.5.4 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.	2021	2022	2023
Electricity consumption from non-renewable sources	GJ	5,930.7	4,119.0	4,096.5
Electricity from renewable sources	GJ	75,277.7	118,432.4	151,075.8
Energy consumption from natural gas consumption	GJ	2,786.8	2,222.7	1,094.3
Energy consumption from (transport) diesel consumption	GJ	5,379.2	5,129.9	3,899.2
Energy consumption from (transport) petrol consumption	GJ	7,418.6	11,538.5	14,095.6
Total energy consumption	**GJ**	**96,792.8**	**141,442.5**	**174,261.4**

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 and natural gas for the virtual transport site 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 0.002% 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.	2021	2022	2023
Electricity consumption from non-renewable sources	GJ	-	-	50.2
Electricity from renewable sources	GJ	-	-	41.1
Energy consumption from natural gas consumption	GJ	-	-	15.6
Energy consumption from (transport) diesel consumption	GJ	-	-	34,046.8
Energy consumption from (transport) petrol consumption	GJ	-	-	2,893.8
Total energy consumption	**GJ**	**-**	**-**	**37,047.6**

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. The consumption of diesel for motor vehicles was determined through the fuel card balances of the vehicles.

GRI 302-1: ENERGY CONSUMPTION WITHIN THE ORGANISATION - Consolidated performance

ENERGY CONSUMPTION WITHIN THE ORGANISATION

Energy consumption	U.M.	2021	2022	2023
Electricity consumption from non-renewable sources	GJ	-	-	4,146.7
Electricity from renewable sources	GJ	-	-	151,116.9
Energy consumption from natural gas consumption	GJ	-	-	1,109.9
Energy consumption from (transport) diesel consumption	GJ	-	-	37,946.1
Energy consumption from (transport) petrol consumption	GJ	-	-	16,989.4
Total energy consumption	**GJ**	**-**	**-**	**211,309.0**

Notes: As regards data relating to 2021 and 2022 years, please refer to the performances of Open Fiber S.p.A.

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 18 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 2021-2023.

GRI 302-3: ENERGY INTENSITY - Open Fiber S.p.A.

ENERGY INTENSITY				
Description	U.M.	2021	2022	2023
Total energy consumed	GJ	96,792.8	141,442.5	174,261.4
Energy intensity	**MJ/HP**	**7.1**	**9.1**	**10.2**

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 connected 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.	2021	2022	2023
Total energy consumed	GJ	-	-	37,047.6
Energy intensity	**MJ/€**	**-**	**-**	**0.8**

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 and consumption of diesel and petrol for motor vehicles. The turnover for the reference year is the organisation's specific parameter for calculating the intensity.

GRI 302-3: ENERGY INTENSITY - Consolidated performance

ENERGY INTENSITY				
Description	U.M.	2021	2022	2023
Total energy consumed	GJ	-	-	211,309.0
Energy intensity	**MJ/€**	**-**	**-**	**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 and consumption of diesel and petrol for motor vehicles. The turnover for the reference year is the organisation's specific parameter for calculating the intensity. As regards data relating to 2021 and 2022 years, 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.	2021	2022	2023
Scope 1 emissions from fossil fuels	tCO2eq	1,093.5	1,354.1	1,385.4
Scope 1 emissions from refrigerant gases	tCO2eq	176.6	300.1	76.7
Total Scope 1 emissions	**tCO2eq**	**1,270.1**	**1,654.2**	**1,462.1**

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 2022 were adjusted 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.	2021	2022	2023
Scope 1 emissions from fossil fuels	tCO2eq	-	-	2,745.9
Scope 1 emissions from refrigerant gases	tCO2eq	-	-	0,0
Total Scope 1 emissions	**tCO2eq**	**-**	**-**	**2,745.9**

Notes: The GHGs considered in the calculation are: CO_2, CH_4, N_2O.

GRI 305-1: DIRECT (SCOPE 1) GHG EMISSIONS - Consolidated performance

DIRECT (SCOPE 1) GHG EMISSIONS				
Description	U.M.	2021	2022	2023
Scope 1 emissions from fossil fuels	tCO2eq	-	-	4,131.3
Scope 1 emissions from refrigerant gases	tCO2eq	-	-	76.7
Total Scope 1 emissions	**tCO2eq**	**-**	**-**	**4,208.0**

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. As regards data relating to 2021 and 2022 years, 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. With reference to Scope 1 emissions, the following emission factors were assumed for the year 2023:

- Fossil fuels: Ministry of the Environment and Energy Security - National Standard Parameter Table for the year 2023; ISPRA - Italian Greenhouse Gas Inventory 1990-2021 National Inventory Report 2023 (no. 383/2023); BEIS (UK) -Greenhouse gas reporting: conversion factors 2023.
- 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.**	**2021**	**2022**	**2023**
Scope 2 emissions - Location-based	tCO_2eq	5,860.5	10,062.07	12,738.9
Description	**U.M.**	**2021**	**2022**	**2023**
Scope 2 emissions - Market-based	tCO_2eq	755.5	530.05	526.8

Notes: The GHGs considered in the calculation are: CO_2, CH_4 and N_2O. The data for 2022 were adjusted following verification of compliance with the requirements of ISO 14064-1 of Open Fiber S.p.A.'s GHG inventory. The increase in location-based Scope 2 emissions - linked to the increase in energy consumption - is due to the progress in the implementation of the Open Fiber network, with an increase in the number of technology sites in operation and connected real estate units.

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.**	**2021**	**2022**	**2023**
Scope 2 emissions - Location-based	tCO_2eq	-	-	7.5
Description	**U.M.**	**2021**	**2022**	**2023**
Scope 2 emissions - Market-based	tCO_2eq	-	-	6.4

Notes: The GHGs considered in the calculation are: CO_2, CH_4, N_2O.

GRI 305-2: INDIRECT GHG EMISSIONS FROM ENERGY CONSUMPTION (SCOPE 2) - Consolidated performance

INDIRECT (SCOPE 2) GHG EMISSIONS FROM ENERGY CONSUMPTION				
Description	**U.M.**	**2021**	**2022**	**2023**
Scope 2 emissions - Location-based	tCO_2eq	-	-	12,746.4
Description	**U.M.**	**2021**	**2022**	**2023**
Scope 2 emissions - Market-based	tCO_2eq	-	-	533.2

Notes: The GHGs considered in the calculation are: CO_2, CH_4, N_2O. As regards data relating to 2021 and 2022 years, 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.
For the calculation of indirect emissions from the consumption of electricity used by the organisation, the following conversion factors were used for the year 2023:
- Location-based approach: ISPRA - Efficiency and decarbonization indicators in Italy and in the biggest European Countries. Edition 2023 (no. 386/2023), Dataset Ecoinvent 3.9.1.
- Market-based approach: AIB - Association of Issuing Bodies - European Residual Mixes, European Residual Mixes Results of the calculation of Residual Mixes for the calendar year 2022 and Dataset Ecoinvent 3.9.1, for the share of energy not subject to Guarantee of Origin.

GRI 305-3: OTHER INDIRECT GHG EMISSIONS (SCOPE 3) - Open Fiber S.p.A.

OTHER INDIRECT GHG EMISSIONS (SCOPE 3)				
Description	**U.M.**	**2021**	**2022**	**2023**
Scope 3 emissions - Location-based	tCO_2eq	-	333,363.9	406,482.6
Description	**U.M.**	**2021**	**2022**	**2023**
Scope 3 emissions - Market-based	tCO_2eq	-	328,213.0	398,531.0

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.

GRI 305-3: OTHER INDIRECT GHG EMISSIONS (SCOPE 3) - Consolidated performance

OTHER INDIRECT GHG EMISSIONS (SCOPE 3)				
Description	**U.M.**	**2021**	**2022**	**2023**
Scope 3 emissions - Location-based	tCO_2eq	-	-	403,729.2
Description	**U.M.**	**2021**	**2022**	**2023**
Scope 3 emissions - Market-based	tCO_2eq	-	-	395,778.7

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 included 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.

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 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 following conversion factors were used to calculate the organisation's value chain emissions for the year 2023:
- Dataset CEDA 6, Dataset Ecoinvent 3.9.1, BEIS (UK) -Greenhouse gas reporting: conversion factors 2023, ISPRA - Efficiency and decarbonization indicators in Italy and in the biggest European Countries. Edition 2023 (no. 386/2023).

GRI 305-4: GHG EMISSIONS INTENSITY - Open Fiber S.p.A.

GHG EMISSIONS (LOCATION-BASED)				
Description	**U.M.**	**2021**	**2022**	**2023**
Scope 1 emissions	tCO_2eq	1,270.1	1,654.2	1,462.1
Scope 2 emissions - Location-based	tCO_2eq	5,860.4	10,062.1	12,738.9
Scope 3 emissions - Location-based	tCO_2eq	-	333,363.9	406,482.6
GHG emissions intensity	**$kgCO_2eq$/HP**	**0.53**	**0.76**	**0.83**
(Scope 1 + Scope 2 Location-based)				
GHG emission intensity	**$kgCO_2eq$/HP**	**-**	**22.26**	**24.60**
(Scope 1 + Scope 2 + Scope 3 Location-based)				
GHG EMISSIONS (MARKET-BASED)				
Description	**U.M.**	**2021**	**2022**	**2023**
Scope 1 Emissions	tCO_2eq	1,270.1	1,654.2	1,462.1
Scope 2 Emissions - Market-based	tCO_2eq	755.5	530.0	526.8
Scope 3 emissions - Market-based	tCO_2eq	-	328,213.0	398,531.0
GHG emissions intensity	**$kgCO_2eq$/HP**	**0.15**	**0.14**	**0.12**
(Scope 1 + Scope 2 Market-based)				
GHG emissions intensity	**$kgCO_2eq$/HP**	**-**	**21.32**	**23.42**
(Scope 1 + Scope 2 + Scope 3 Market-based)				

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 connected real estate units at 31/12 of the reference year is the organisation-specific parameter for calculating intensity. The data for 2022 were adjusted following verification of compliance with the requirements of ISO 14064-1 of Open Fiber S.p.A's GHG inventory, with the reporting boundary being extended to Scope 3.

GRI 305-4: GHG EMISSIONS INTENSITY - Open Fiber Network Solutions S.c.a.r.l.

GHG EMISSIONS (LOCATION-BASED)				
Description	**U.M.**	**2021**	**2022**	**2023**
Scope 1 emissions	tCO_2eq	-	-	2,745.9
Scope 2 emissions - Location-based	tCO_2eq	-	-	7.5
Scope 3 emissions - Location-based	tCO_2eq	-	-	-
GHG emissions intensity	**gCO_2eq/€**	**-**	**-**	**56.7**
(Scope 1 + Scope 2 Location-based)				
GHG emission intensity	**gCO_2eq/€**	**-**	**-**	**-**
(Scope 1 + Scope 2 + Scope 3 Location-based)				
GHG EMISSIONS (MARKET-BASED)				
Description	**U.M.**	**2021**	**2022**	**2023**
Scope 1 Emissions	tCO_2eq	-	-	2,745.9
Scope 2 Emissions - Market-based	tCO_2eq	-	-	6.4
Scope 3 emissions - Market-based	tCO_2eq	-	-	-
GHG emissions intensity	**gCO_2eq/€**	**-**	**-**	**56.6**
(Scope 1 + Scope 2 Market-based)				
GHG emissions intensity	**gCO_2eq/€**	**-**	**-**	**-**
(Scope 1 + Scope 2 + Scope 3 Market-based)		-	-	-

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.

GRI 305-4: GHG EMISSIONS INTENSITY - Consolidated performance

GHG EMISSIONS (LOCATION-BASED)				
Description	U.M.	2021	2022	2023
Scope 1 emissions	tCO_2eq	-	-	4,208.0
Scope 2 emissions - Location-based	tCO_2eq	-	-	12,746.4
Scope 3 emissions - Location-based	tCO_2eq	-	-	403,729.2
GHG emissions intensity (Scope 1 + Scope 2 Location-based)	**$gCO_2eq/€$**	-	-	**29.1**
GHG emission intensity (Scope 1 + Scope 2 + Scope 3 Location-based)	**$gCO_2eq/€$**	-	-	**722.5**

GHG EMISSIONS (MARKET-BASED)				
Description	U.M.	2021	2022	2023
Scope 1 Emissions	tCO_2eq	-	-	4,208.0
Scope 2 Emissions - Market-based	tCO_2eq	-	-	533.2
Scope 3 emissions - Market-based	tCO_2eq	-	-	395,778.7
GHG emissions intensity (Scope 1 + Scope 2 Market-based)	**$gCO_2eq/€$**	-	-	**8.1**
GHG emissions intensity (Scope 1 + Scope 2 + Scope 3 Market-based)	**$gCO_2eq/€$**	-	-	**687.8**

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 2021 and 2022 years, please refer to the performances of Open Fiber S.p.A.

7.5.5 Circular economy

GRI 306 Waste

GRI 306-3: WASTE GENERATED - Open Fiber S.p.A.

WASTE GENERATED							
Description	U.M.	2021		2022		2023	
		Not intended for disposal	Directed to disposal	Not intended for disposal	Directed to disposal	Not intended for disposal	Directed to disposal
Total waste	**t**	**0.00**	**0.00**	**111.50**	**0.00**	**208.68**	**0.00**
Hazardous waste	t	0.00	0.00	0.00	0.00	1.62	0.00
Non hazardous waste	t	0.00	0.00	111.50	0.00	207.06	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 assimilable to urban waste produced in offices and delivered to the public waste collection service.

GRI 306-3: WASTE GENERATED - Open Fiber Network Solutions S.c.a.r.l.

WASTE GENERATED							
Description	U.M.	2021		2022		2023	
		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**
Hazardous waste	t	-	-	-	-	0.00	0.00
Non hazardous waste	t	-	-	-	-	**28,110.97**	0.00

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 assimilable 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.	2021		2022		2023	
		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**
Hazardous waste	t	-	-	-	-	1.62	0.00
Non hazardous waste	t	-	-	-	-	28,318.03	0.00

Notes: This table does not include the amounts of waste assimilable to urban waste produced in offices and delivered to the public waste collection service. As regards data relating to 2021 and 2022 years, 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.	2021	2022	2023
Total hazardous waste	**t**	**0.00**	**0.00**	**1.62**
- 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	0.00	1.62
Total non-hazardous waste	**t**	**0.00**	**111.50**	**207.06**
- 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	0.00	111.50	207.06

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 - Open Fiber Network Solutions S.c.a.r.l.

WASTE DIVERTED FROM DISPOSAL				
Description	U.M.	2021	2022	2023
Total hazardous waste	**t**	**-**	**-**	**0.00**
- of which preparation for re-use	t	-	-	0.00
- of which recycled	t	-	-	0.00
- of which in addition to recovery operations	t	-	-	0.00
Total non-hazardous waste	**t**	**-**	**-**	**28,110.97**
- of which preparation for re-use	t	-	-	0.00
- of which recycled	t	-	-	28,110.97
- of which to other recovery operations	t	-	-	0.00

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.	2021	2022	2023
Total hazardous waste	**t**	**-**	**-**	**1.62**
- of which preparation for re-use	t	-	-	0.00
- of which recycled	t	-	-	0.00
- of which in addition to recovery operations	t	-	-	0.00
Total non-hazardous waste	**t**	**-**	**-**	**28,318.03**
- of which preparation for re-use	t	-	-	0.00
- of which recycled	t	-	-	28,110.97
- of which to other recovery operations	t	-	-	207.06

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 2021 and 2022 years, please refer to the performances of Open Fiber S.p.A.

7.5.6 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.	2021	2022	2023
Total number of new suppliers	no.	230	118	71
New suppliers selected using environmental criteria	no.	51	21	7
New suppliers selected using environmental criteria	**%**	**22%**	**18%**	**10%**

Notes: included in new suppliers assessed according to environmental criteria are all suppliers that were newly accredited 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 2023 decreased compared with 2022 as there were fewer renewals of qualifications. The lower number of suppliers evaluated 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).

GRI 308-2: NEGATIVE ENVIRONMENTAL IMPACTS IN THE SUPPLY CHAIN AND ACTIONS TAKEN - Open Fiber S.p.A.

NEGATIVE ENVIRONMENTAL IMPACTS IN THE SUPPLY CHAIN AND ACTIONS TAKEN				
Description	**U.M.**	**2021**	**2022**	**2023**
Suppliers assessed for environmental impacts*	no.	53	57	52
Suppliers identified as having significant actual and potential negative environmental impacts.	no.	53	57	52
Suppliers identified as having significant actual and potential negative environmental impacts, with which improvements were agreed upon as a result of assessment**	no.	22	26	25
Suppliers identified as having significant actual and potential negative environmental impacts, with which improvements were agreed upon as a result of assessment	**%**	**42%**	**46%**	**48%**
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 assessment	**%**	**0%**	**0%**	**0%**

Notes: nboth 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 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.**	**2021**	**2022**	**2023**
Total number of new suppliers	no.	230	118	71
New suppliers selected using social criteria	no.	178	104	59
New suppliers selected using social criteria	**%**	**77%**	**88%**	**83%**

Notes: all suppliers that were newly accredited 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 the year 2023, compared to 2022, the absolute number of suppliers is decreased due to a minor number of qualification renewals.

GRI 414-2: NEGATIVE SOCIAL IMPACTS IN THE SUPPLY CHAIN AND ACTIONS TAKEN - Open Fiber S.p.A.

NEGATIVE SOCIAL IMPACTS IN THE SUPPLY CHAIN AND ACTIONS TAKEN				
Description	**U.M.**	**2021**	**2022**	**2023**
Suppliers assessed for social impacts*	no.	65	68	66
Suppliers identified as having significant actual and potential negative social impacts	no.	65	68	66
Suppliers identified as having significant actual and potential negative social impacts, with which improvements were agreed upon as a result of assessment	no.	40	45	44
Suppliers identified as having significant actual and potential negative social impacts, with which improvements were agreed upon as a result of assessment	**%**	**62%**	**66%**	**67%**
Suppliers identified as having significant actual and potential negative social impacts, with which relationships were terminated as a result of assessment**	no.	2	3	7
Suppliers identified as having significant actual and potential negative social impacts, with which relationships were terminated as a result of assessment	**%**	**3%**	**4%**	**11%**

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 (single firms and one consortium member) were excluded from the access mechanism/supplier register due to contribution irregularities that have not been remedied.

7.5.7 Protection and development of 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.	2021	2022	2023
New employee hires by age group	< 30 years old	no.	63	121	75
	Between 30 and 50 years old	no.	152	267	189
	> 50 years old	no.	6	19	19
New employee hires by gender	Female	no.	83	142	110
	Male	no.	138	265	173
Total new employee hires		**no.**	**221**	**407**	**283**
Rate of employee hires by age group	< 30 years old	%	32%	49%	31%
	Between 30 and 50 years old	%	16%	23%	78%
	> 50 years old	%	4%	11%	8%
Rate of employee hires by gender	Female	%	20%	28%	19%
	Male	%	16%	25%	15%
Total rate of employee hires		**%**	**17%**	**26%**	**16%**

TERMINATIONS OF EMPLOYMENT FROM 1ST JANUARY TO 31ST DECEMBER

Gender	Age group	U.M.	2021	2022	2023
Terminations of employment by age group	< 30 years old	no.	19	24	25
	Between 30 and 50 years old	no.	59	90	84
	> 50 years old	no.	4	11	11
Terminations of employment by gender	Female	no.	28	36	42
	Male	no.	54	89	78
Total terminations		**no.**	**82**	**125**	**120**
Turnover rate by age group	< 30 years old	%	10%	10%	10%
	Between 30 and 50 years old	%	6%	8%	6%
	> 50 years old	%	3%	7%	6%
Turnover rate by gender	Female	%	7%	7%	7%
	Male	%	6%	8%	7%
Total turnover rate		**%**	**6%**	**8%**	**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.	2021	2022	2023
New employee hires by age group	< 30 years old	no.	-	-	115
	Between 30 and 50 years old	no.	-	-	112
	> 50 years old	no.	-	-	34
New employee hires by gender	Female	no.	-	-	13
	Male	no.	-	-	248
Total new employee hires		**no.**	**-**	**-**	**261**
Rate of employee hires by age group	< 30 years old	%	-	-	80%
	Between 30 and 50 years old	%	-	-	70%
	> 50 years old	%	-	-	58%
Rate of employee hires by gender	Female	%	-	-	76%
	Male	%	-	-	72%
Total rate of employee hires		**%**	-	-	**72%**

TERMINATIONS OF EMPLOYMENT FROM 1ST JANUARY TO 31ST DECEMBER

Gender	Age group	U.M.	2021	2022	2023
Terminations of employment by age group	< 30 years old	no.	-	-	52
	Between 30 and 50 years old	no.	-	-	69
	> 50 years old	no.	-	-	33
Terminations of employment by gender	Female	no.	-	-	5
	Male	no.	-	-	149
Total terminations		**no.**	**-**	**-**	**154**
Turnover rate by age group	< 30 years old	%	-	-	36%
	Between 30 and 50 years old	%	-	-	43%
	> 50 years old	%	-	-	56%
Turnover rate by gender	Female	%	-	-	29%
	Male	%	-	-	43%
Total turnover rate		**%**	–	–	**43%**

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.	2021	2022	2023
New employee hires by age group	< 30 years old	no.	-	-	190
	Between 30 and 50 years old	no.	-	-	301
	> 50 years old	no.	-	-	53
New employee hires by gender	Female	no.	-	-	123
	Male	no.	-	-	421
Total new employee hires		**no.**	**-**	**-**	**544**
Rate of employee hires by age group	< 30 years old	%	-	-	49%
	Between 30 and 50 years old	%	-	-	78%
	> 50 years old	%	-	-	14%
Rate of employee hires by gender	Female	%	-	-	21%
	Male	%	-	-	28%
Total rate of employee hires	%	**%**	**-**	**-**	**26%**

TERMINATIONS OF EMPLOYMENT FROM 1ST JANUARY TO 31ST DECEMBER

Gender	Age group	U.M.	2021	2022	2023
Terminations of employment by age group	< 30 years old	no.	-	-	77
	Between 30 and 50 years old	no.	-	-	153
	> 50 years old	no.	-	-	44
Terminations of employment by gender	Female	no.	-	-	47
	Male	no.	-	-	227
Total terminations		**no.**	**-**	**-**	**274**
Turnover rate by age group	< 30 years old	%	-	-	20%
	Between 30 and 50 years old	%	-	-	11%
	> 50 years old	%	-	-	17%
Turnover rate by gender	Female	%	-	-	8%
	Male	%	-	-	15%
Total turnover rate		**%**	-	-	**13%**

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 2021 and 2022 years, please refer to the performances of Open Fiber S.p.A.

GRI 401-3: PARENTAL LEAVE - Open Fiber S.p.A.

EMPLOYEES THAT WERE ENTITLED TO PARENTAL LEAVE IN THE REPORTING YEAR

Description	U.M.	2021	2022	2023
Employees that were entitled to maternity leave	no.	405	511	579
Employees that were entitled to paternity leave	no.	884	1,060	1,155
Total	**no.**	**1,289**	**1,571**	**1,734**

EMPLOYEES THAT TOOK PARENTAL LEAVE IN THE REPORTING YEAR

Employees that took maternity leave	no.	29	37	44
Employees that took paternity leave	no.	45	43	67
Total	**no.**	**74**	**80**	**111**

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.	15	29	26
Employees that returned to work after the paternity leave ended	no.	45	43	65
Total	**no.**	**60**	**72**	**91**

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.	10	15	25
Employees that returned to work after paternity leave ended that were still employed 12 months after their return to work	no.	32	45	42
Total	**no.**	**42**	**60**	**67**

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.	29	37	44
Employees that were due to return to work after taking paternity leave	no.	45	43	67
Total	**no.**	**74**	**80**	**111**

RETURN TO WORK RATE

Female	%	52%	78%	59%
Male	%	100%	100%	97%
Total	**%**	**81%**	**90%**	**82%**

RETENTION RATE

Female	%	100%	100%	86%
Male	%	84%	100%	98%
Total	**%**	**88%**	**100%**	**93%**

GRI 401-3: PARENTAL LEAVE - Open Fiber Network Solutions S.c.a.r.l.

EMPLOYEES THAT WERE ENTITLED TO PARENTAL LEAVE IN THE REPORTING YEAR				
Description	**U.M.**	**2021**	**2022**	**2023**
Employees that were entitled to maternity leave	no.	-	-	17
Employees that were entitled to paternity leave	no.	-	-	344
Total	**no.**	**-**	**-**	**361**
EMPLOYEES THAT TOOK PARENTAL LEAVE IN THE REPORTING YEAR				
Employees that took maternity leave	no.	-	-	0
Employees that took paternity leave	no.	-	-	8
Total	**no.**	**-**	**-**	**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
Employees that returned to work after the paternity leave ended	no.	-	-	7
Total	**no.**	**-**	**-**	**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.	-	-	-
Employees that returned to work after paternity leave ended that were still employed 12 months after their return to work	no.	-	-	-
Total	**no.**	**-**	**-**	**-**
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
Employees that were due to return to work after taking paternity leave	no.	-	-	8
Total	**no.**	**-**	**-**	**8**
RETURN TO WORK RATE				
Female	%	-	-	0%
Male	%	-	-	88%
Total	**%**	**-**	**-**	**88%**
RETENTION RATE				
Female	%	-	-	-
Male	%	-	-	-
Total	**%**	**-**	**-**	**-**

GRI 401-3: PARENTAL LEAVE - Consolidated performance

EMPLOYEES THAT WERE ENTITLED TO PARENTAL LEAVE IN THE REPORTING YEAR				
Description	**U.M.**	**2021**	**2022**	**2023**
Employees that were entitled to maternity leave	no.	-	-	596
Employees that were entitled to paternity leave	no.	-	-	1,499
Total	**no.**	**-**	**-**	**2,095**
EMPLOYEES THAT TOOK PARENTAL LEAVE IN THE REPORTING YEAR				
Employees that took maternity leave	no.	-	-	44
Employees that took paternity leave	no.	-	-	75
Total	**no.**	**-**	**-**	**119**
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
Employees that returned to work after the paternity leave ended	no.	-	-	72
Total	**no.**	**-**	**-**	**98**
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.	-	-	-
Employees that returned to work after paternity leave ended that were still employed 12 months after their return to work	no.	-	-	-
Total	**no.**	**-**	**-**	**-**
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
Employees that were due to return to work after taking paternity leave	no.	-	-	75
Total	**no.**	**-**	**-**	**119**
RETURN TO WORK RATE				
Female	%	-	-	59%
Male	%	-	-	96%
Total	**%**	**-**	**-**	**82%**
RETENTION RATE				
Female	%	-	-	-
Male	%	-	-	-
Total	**%**	**-**	**-**	**-**

Notes: As regards data relating to 2021 and 2022 years, 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.**	**2021**	**2022**	**2023**
Total number of hours of training on Health, Safety and Environment (HSE)	h	5,492	9,498	25,801
Average hours of training on HSE per employee	h/employee	4	6	15

HOURS OF TRAINING ON OCCUPATIONAL HEALTH AND SAFETY AND ENVIRONMENTAL PROTECTION - OPEN FIBER EMPLOYEES + OTHER PERSONNEL				
Description	**U.M.**	**2021**	**2022**	**2023**
Total number of hours of training on Health, Safety and Environment (HSE)	h	5,570	9,776	26,807

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 is due to an increase in voluntary courses falling under the category "required training" (16h per person - high risk) dedicated to HSE topics at all company levels.
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.**	**2021**	**2022**	**2023**
Total number of hours of training on Health, Safety and Environment (HSE)	h	-	-	23,558
Average hours of training on HSE per employee	h/employee	-	-	65

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.**	**2021**	**2022**	**2023**
Total number of hours of training on Health, Safety and Environment (HSE)	h	-	-	49,359
Average hours of training on HSE per employee	h/employee	-	-	24

HOURS OF TRAINING ON OCCUPATIONAL HEALTH AND SAFETY AND ENVIRONMENTAL PROTECTION - OPEN FIBER AND OPEN FIBER NETWORK SOLUTIONS EMPLOYEES + OTHER PERSONNEL				
Description	**U.M.**	**2021**	**2022**	**2023**
Total number of hours of training on Health, Safety and Environment (HSE)	h	-	-	50,365

Notes: As regards data relating to 2021 and 2022 years, 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.	2021	2022	2023
Hours worked		h	2,175,973	2,417,521	2,881,118
Lost Time Injuries (including fatalities)	**Total number**	**no.**	**0**	**1**	**0**
	With high consequences*	no.	0	0	0
	fatalities	no.	0	0	0
Commuting injuries**		no.	2	2	9***
Lost time injuries Frequency rate		-	0.00	0.41	0.00
Lost Time Injuries Frequency Rate (including commuting injuries)		-	0.92	0.92	3.12
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.
** Only if the transport was organised by the company and the journeys took place within working hours.
*** The increase compared to previous years is due to the resumption of work in attendance following the reduction of 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.	2021	2022	2023
Hours worked		h	13,467,097	14,006,513	15,289,678
Lost Time Injuries (including fatalities)	**Total number**	**no.**	**31**	**29**	**39**
	With high consequences*	no.	1	1	2
	fatalities	no.	0	0	0
Commuting injuries**		no.	0	0	0
Lost time injuries Frequency rate		-	2.30	2.07	2.55
Frequency rate for lost time injuries with high-consequences		-	0.07	0.07	0.13
Frequency rate of work-related fatalities		-	0.00	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.
** 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 the companies operating in Creation, Delivery & Assurance activities, the estimated number of FTEs for the year 2023 is 7,670. 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.	2021	2022	2023
Lost time injuries frequency rate	-	1.98	1.83	2.15
Frequency rate for lost time injuries with high-consequences	-	0.06	0.06	0.11
Frequency rate of work-related fatalities	-	0.00	0.00	0.00

GRI 403-9: WORK-RELATED INJURIES - Open Fiber Network Solutions S.c.a.r.l.

OPEN FIBER NETWORK SOLUTIONS EMPLOYEES

Description		U.M.	2021	2022	2023
Hours worked		h	-	-	442,162
Lost Time Injuries (including fatalities)	**Total number**	**n.**	**-**	**-**	**15**
	With high consequences*	n.	-	-	0
	fatalities	n.	-	-	0
Commuting injuries**		n.	-	-	3
Lost time injuries Frequency rate		-	-	-	33.92
Lost Time Injuries Frequency Rate (including commuting injuries)		-	-	-	40.71
Frequency rate for lost time injuries with high-consequences		-	-	-	0.00
Frequency rate of work-related fatalities		-	-	-	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.
** Only if the transport was organised by the company and the journeys took place within working hours.

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.	2021	2022	2023
Hours worked		h	-	-	374,621
Lost Time Injuries (including fatalities)	**Total number**	**no.**	**-**	**-**	**12**
	With high consequences*	no.	-	-	0
	fatalities	no.	-	-	0
Commuting injuries**		no.	-	-	0
Lost time injuries Frequency rate		-	-	-	32.03
Frequency rate for lost time injuries with high-consequences		-	-	-	0.00
Frequency rate of work-related fatalities		-	-	-	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.
** Only if the transport was organized by the company and the journeys took place within working hours.

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.	2021	2022	2023
Lost time injuries Frequency rate	-	-	-	33.06
Frequency rate for lost time injuries with high-consequences	-	-	-	0.00
Frequency rate of work-related fatalities	-	-	-	0.00

GRI 403-9: WORK-RELATED INJURIES - Consolidated performance

OPEN FIBER AND OPEN FIBER NETWORK SOLUTIONS EMPLOYEES

Description		U.M.	2021	2022	2023
Hours worked		h	-	-	3,323,280
Lost Time Injuries (including fatalities)	**Total number**	**n.**	**-**	**-**	**15**
	With high consequences*	n.	-	-	0
	fatalities	n.	-	-	0
Commuting injuries**		n.	-	-	12
Lost time injuries Frequency rate		-	-	-	4.51
Lost Time Injuries Frequency Rate (including commuting injuries)		-	-	-	8.12
Frequency rate for lost time injuries with high-consequences		-	-	-	0.00
Frequency rate of work-related fatalities		-	-	-	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.
** Only if the transport was organised by the company and the journeys took place within working hours.
As regards data relating to 2021 and 2022 years, 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.	2021	2022	2023
Hours worked		h	-	-	14,847,516
Lost Time Injuries (including fatalities)	**Total number**	**no.**	**-**	**-**	**24**
	With high consequences*	no.	-	-	2
	fatalities	no.	-	-	0
Commuting injuries**		no.	-	-	0
Lost time injuries Frequency rate		-	-	-	1.62
Frequency rate for lost time injuries with high-consequences		-	-	-	0.13
Frequency rate of work-related fatalities		-	-	-	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.
** 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 2021 and 2022 years, 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	2023
Lost time injuries Frequency rate	-	-	-	2.15
Frequency rate for lost time injuries with high-consequences	-	-	-	0.11
Frequency rate of work-related fatalities	-	-	-	0.00

Notes: As regards data relating to 2021 and 2022 years, 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.	2021	2022	2023
Training by employee category	Executives	h/employee	14	24	34
(average hours per capita)	Middle managers	h/employee	36	27	37
	Office workers	h/employee	39	35	49
Training by gender	Female	h/employee	36	32	46
(average hours per capita)	Male	h/employee	38	34	48
Average hours of training per employee		**h/employee**	**38**	**34**	**47**
Total hours of training		**h/employee**	**48,435**	**52,926**	**81,661**

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.	2021	2022	2023
Training by employee category	Executives	h/employee	-	-	0
(average hours per capita)	Middle managers	h/employee	-	-	0
	Office workers	h/employee	-	-	15
	Laborers	h/employee	-	-	74
Training by gender	Female	h/employee	-	-	10
(average hours per capita)	Male	**h/employee**	-	-	68
Average hours of training per employee		**h/employee**	**-**	**-**	**65**
Total hours of training		**h/employee**	**-**	**-**	**23,558**

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.	2021	2022	2023
Training by employee category	Executives	h/employee	-	-	34
(average hours per capita)	Middle managers	h/employee	-	-	37
	Office workers	h/employee	-	-	48
	Laborers	h/employee	-	-	11
Training by gender	Female	h/employee	-	-	45
(average hours per capita)	Male	h/employee	-	-	52
Average hours of training per employee		**h/employee**	**-**	**-**	**50**
Total hours of training		**h/employee**	**-**	**-**	**105,219**

Notes: As regards data relating to 2021 and 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.	2021	2022	2023
Executives	%	100%	100%	100%
Middle managers	%	97%	89%	76%
Office workers	%	71%	56%	75%

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEW BY GENDER

Gender	U.M.	2021	2022	2023
Female	%	58%	50%	69%
Male	%	83%	66%	80%

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEW

Description	U.M.	2021	2022	2023
Total of employees receiving regular reviews	%	75%	61%	76%

Notes: in 2023, the performance management process was strengthened through the introduction of a new performance and behavior assessment tool of the Open Fiber Values model directed toward the entire company population (effective as of 24th October 2022) with a view to continuous improvement. This system is added to the long-term incentive system.

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.	2021	2022	2023
Executives	%	-	-	0
Middle managers	%	-	-	0
Office workers	%	-	-	3
Laborers	%	-	-	0

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEW BY GENDER

Gender	U.M.	2021	2022	2023
Female	%	-	-	1
Male	%	-	-	2

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEW

Description	U.M.	2021	2022	2023
Total of employees receiving regular reviews	%	-	-	3

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.	2021	2022	2023
Executives	%	-	-	100%
Middle managers	%	-	-	74%
Office workers	%	-	-	74%
Laborers	%	-	-	0%

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEW BY GENDER

Gender	U.M.	2021	2022	2023
Female	%	-	-	67%
Male	%	-	-	62%

PERCENTAGE OF EMPLOYEES RECEIVING REGULAR PERFORMANCE AND CAREER DEVELOPMENT REVIEW

Description	U.M.	2021	2022	2023
Total of employees receiving regular reviews	%	-	-	63%

Note: As regards data relating to 2021 and 2022 years, 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.	2021	2022	2023
BoD Members as of 31st December	Female	< 30 years old	%	0.0%	0.0%	0.0%
		Between 30 and 50 years old	%	17.0%	29.0%	14.0%
		> 50 years old	%	17.0%	14.0%	0.0%
	Total Female		**%**	**34.0%**	**43.0%**	**14.0%**
	Male	< 30 years old	%	0.0%	0.0%	0.0%
		Between 30 and 50 years old	%	33.0%	29.0%	29.0%
		> 50 years old	%	33.0%	29.0%	57.0%
	Total Male		**%**	**66.0%**	**57.0%**	**86.0%**

Members of the Board of Directors belonging to vulnerable groups by gender		U.M.	2021	2022	2023
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.	2021	2022	2023
Employees with an employment contract as of 31st December	Executives	Female	%	10.6%	19.0%	18.6%
		Male	%	89.4%	81.0%	81.4%
	Middle managers	Female	%	20.0%	19.7%	24.6%
		Male	%	80.0%	80.3%	75.4%
	Office workers	Female	%	33.6%	34.4%	34.9%
		Male	%	66.4%	65.6%	65.1%
	Total Female		**%**	**31.4%**	**32.5%**	**33.4%**
	Total Male		**%**	**68.6%**	**67.5%**	**66.6%**

DIVERSITY OF EMPLOYEES

Employees by gender and age group			U.M.	2021	2022	2023
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	%	36.2%	39.7%	30.5%
		> 50 years old	%	63.8%	60.3%	69.5%
	Middle managers	< 30 years old	%	0.0%	0.0%	0.0%
		Between 30 and 50 years old	%	70.0%	65.5%	65.3%
		> 50 years old	%	30.0%	34.5%	34.7%
	Office workers	< 30 years old	%	17.5%	18.3%	16.0%
		Between 30 and 50 years old	%	76.4%	75.8%	77.4%
		> 50 years old	%	6.1%	5.9%	6.6%
	Total < 30 years old		**%**	**15.1%**	**16.0%**	**14.0%**
	Total Between 30 and 50 years old		**%**	**74.3%**	**73.5%**	**74.6%**
	Total > 50 years old		**%**	**10.6%**	**10.5%**	**11.4%**

Employees belonging to vulnerable groups	U.M.	2021	2022	2023
Executives	%	0.0%	0.0%	0.0%
Middle managers	%	0.8%	1.4%	1.8%
Office workers	%	3.2%	2.9%	2.5%
Total employees belonging to vulnerable groups	**%**	**2.9%**	**2.7%**	**2.4%**

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.
2021 and 2022 data of "total employees belonging to vulnerable groups" have been updated.

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.	2021	2022	2023
Employees with an employment contract as of 31st December	Executives	Female	%	-	-	0.0%
		Male	%	-	-	0.0%
	Middle managers	Female	%	-	-	25.0%
		Male	%	-	-	75.0%
	Office workers	Female	%	-	-	31.4%
		Male	%	-	-	68.6%
	Laborers	Female	%	-	-	0.0%
		Male	%	-	-	100%
	Total Female		**%**	**-**	**-**	**4.7%**
	Total Male		**%**	**-**	**-**	**95.3%**

Employees by employee category and age group			U.M.	2021	2022	2023
Employees with an employment contract as of 31st December	Executives	< 30 years old	%	-	-	0.0%
		Between 30 and 50 years old	%	-	-	0.0%
		> 50 years old	%	-	-	0.0%
	Middle managers	< 30 years old	%	-	-	0.0%
		Between 30 and 50 years old	%	-	-	25.0%
		> 50 years old	%	-	-	75.0%
	Office workers	< 30 years old	%	-	-	29.4%
		Between 30 and 50 years old	%	-	-	47.1%
		> 50 years old	%	-	-	23.5%
	Laborers	< 30 years old	%	-	-	41.8%
		Between 30 and 50 years old	%	-	-	45.5%
		> 50 years old	%	-	-	12.7%
	Total < 30 years old		**%**	**-**	**-**	**39.6%**
	Total Between 30 and 50 years old		**%**	**-**	**-**	**45.4%**
	Total > 50 years old		**%**	**-**	**-**	**15.0%**

Employees belonging to vulnerable groups	U.M.	2021	2022	2023
Executives	%	-	-	0.0%
Middle managers	%	-	-	0.0%
Office workers	%	-	-	2.0%
Laborers	%	-	-	0.0%
Total employees belonging to vulnerable groups	**%**	**-**	**-**	**0.3%**

Notes: With regard to governance bodies, 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.	2021	2022	2023
Employees with an employment contract as of 31st December	Executives	Female	%	-	-	18.6%
		Male	%	-	-	81.4%
	Middle managers	Female	%	-	-	24.6%
		Male	%	-	-	75.4%
	Office workers	Female	%	-	-	34.8%
		Male	%	-	-	65.2%
	Laborers	Female	%	-	-	0.0%
		Male	%	-	-	100.0%
	Total Female		**%**	**-**	**-**	**28.4%**
	Total Male		**%**	**-**	**-**	**71.6%**

Employees by employee category and age group			U.M.	2021	2022	2023
Employees with an employment contract as of 31st December	Executives	< 30 years old	%	-	-	0.0%
		Between 30 and 50 years old	%	-	-	30.5%
		> 50 years old	%	-	-	69.5%
	Middle managers	< 30 years old	%	-	-	0.0%
		Between 30 and 50 years old	%	-	-	64.3%
		> 50 years old	%	-	-	35.7%
	Office workers	< 30 years old	%	-	-	16.5%
		Between 30 and 50 years old	%	-	-	76.4%
		> 50 years old	%	-	-	7.1%
	Laborers	< 30 years old	%	-	-	41.8%
		Between 30 and 50 years old	%	-	-	45.4%
		> 50 years old	%	-	-	12.7%
	Total < 30 years old		**%**	**-**	**-**	**18.4%**
	Total Between 30 and 50 years old		**%**	**-**	**-**	**69.6%**
	Total > 50 years old		**%**	**-**	**-**	**12.0%**

Employees belonging to vulnerable groups	U.M.	2021	2022	2023
Executives	%	-	-	0.0%
Middle managers	%	-	-	1.8%
Office workers	%	-	-	2.5%
Laborers	%	-	-	0.0%
Total employees belonging to vulnerable groups	**%**	**-**	**-**	**2.0%**

Notes: As regards data relating to 2021 and 2022 years, please refer to the performances of Open Fiber S.p.A.

7.5.8 Privacy and Cybersecurity

GRI 418 Customer Privacy

GRI 418-1: FOUNDED COMPLAINTS CONCERNING BREACHES OF CUSTOMER PRIVACY AND LOSSES OF CUSTOMER DATA - Open Fiber S.p.A.

FOUNDED COMPLAINTS CONCERNING BREACHES OF CUSTOMER PRIVACY AND LOSSES OF CUSTOMER DATA				
Description	**U.M.**	**2021**	**2022**	**2023**
Total founded complaints received regarding breaches of customer privacy	**no.**	**0**	**0**	**0**
of which complaints about breaches of customer privacy received from third parties and substantiated by the organisation	no.	0	0	0
of which complaints about breaches of customer privacy received from regulatory bodies	no.	0	0	0
Total identified incidents of leaks, thefts or loss of customer data	**no.**	**1**	**0**	**0**

Notes: The data breach recorded in 2021 concerned the disclosure of personal data of some users of the Open Fiber website (the impact concerned only common, not special data of about 250 users) to third parties. The event was immediately disclosed to users and repaired. A disclosure was submitted to the Privacy Authority without any response.

GRI 418-1: FOUNDED COMPLAINTS CONCERNING BREACHES OF CUSTOMER PRIVACY AND LOSSES OF CUSTOMER DATA - Open Fiber Network Solutions S.c.a.r.l.

FOUNDED COMPLAINTS CONCERNING BREACHES OF CUSTOMER PRIVACY AND LOSSES OF CUSTOMER DATA				
Description	**U.M.**	**2021**	**2022**	**2023**
Total founded complaints received regarding breaches of customer privacy	**no.**	**-**	**-**	**0**
of which complaints about breaches of customer privacy received from third parties and substantiated by the organisation	no.	-	-	0
of which complaints about breaches of customer privacy received from regulatory bodies	no.	-	-	0
Total identified incidents of leaks, thefts or loss of customer data	**no.**	**-**	**-**	**0**

GRI 418-1: FOUNDED COMPLAINTS CONCERNING BREACHES OF CUSTOMER PRIVACY AND LOSSES OF CUSTOMER DATA - Consolidated performance

FOUNDED COMPLAINTS CONCERNING BREACHES OF CUSTOMER PRIVACY AND LOSSES OF CUSTOMER DATA				
Description	**U.M.**	**2021**	**2022**	**2023**
Total founded complaints received regarding breaches of customer privacy	**no.**	**-**	**-**	**0**
of which complaints about breaches of customer privacy received from third parties and substantiated by the organisation	no.	-	-	0
of which complaints about breaches of customer privacy received from regulatory bodies	no.	-	-	0
Total identified incidents of leaks, thefts or loss of customer data	**no.**	**-**	**-**	**0**

Notes: As regards data relating to 2021 and 2022 years, 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 2023 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 01/01/2023 - 31/12/2023
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			Comments
			Requirement(s) omitted	Reason	Explanation	
GENERAL DISCLOSURES						
GRI 2: General Disclosure 2021	**The organisation and its reporting practices**					
	GRI 2-1 Organizational details	22-26, 27-29, 52-55, 62-69				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) Headquarters Via Laurentina, 449 - 00142 Rome For further details www.openfiber.it
	GRI 2-2 Entities included in the organization's sustainability reporting	258-259				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.
	GRI 2-3 Reporting period, frequency and contact point	258-259				The reporting period adopted for the report is from 01/01/2023 to 31/12/2023. The reporting period is annual and aligned with the financial reporting period. The Sustainability Report 2023 was published in June 2024. Contacts: csv.of@openfiber.it
	GRI 2-4 Restatements of information	258-259				The previous version of the Open Fiber Sustainability Report (for the year 2022) is available on the company website: https://openfiber.it/corporate/sostenibilita/obiettivi-sostenibilita/ For changes in data from previous years and the reasons for them, please refer to the comments in section 7.5 "Data and Indicators Tables".
	GRI 2-5 External assurance	348-350				Report of the auditing firm Deloitte
	Activities and workers					
	GRI 2-6 Activities, value chain and other business relationships	22-26, 29-35, 38-40, 87-92, 93-95, 141-144				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.
	GRI 2-7 Employees	214-215, 276-278				
	GRI 2-8 Workers who are not employees	276-278				With reference to the companies operating in Creation, Delivery and Assurance, the number of FTEs estimated for the year 2023 is 7,670.

GRI Standard/Other sources	Disclosure	Location	Omission			Comments
			Requirement(s) omitted	Reason	Explanation	
GENERAL DISCLOSURES						
GRI 2: General Disclosure 2021	**Governance**					
	GRI 2-9 Governance structure and composition	62-69				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 2023) and its members are eligible for reelection. One board member, as well as a member of all four endoconsiliar Committees, is a member of the Board of Directors of Autostrade per l'Italia S.p.A. 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, please refer to disclosure GRI 405-1. None of the board members are independent.
	GRI 2-10 Nomination and selection of the highest governance body	-				The Company is administered by a Board of Directors consisting of seven members, as resolved by the Shareholders' Meeting, the board members are appointed on the basis of a single list submitted by the Shareholders, the Board of Directors consists of 4 directors, including the Chairman of the Board of Directors and Chief Executive Officer, and 3 directors, including the Vice-Chairman. For the procedures for the appointment and selection of the Board Committees, please refer to paragraph 2.1 "Governance and Company Organisation". Since the Company is neither listed nor subject to compliance with particular criteria specified in special regulations, the lists are submitted by the shareholders. Furthermore, the Articles of Association provide that criteria that take into account diversity and gender balance should be considered when choosing the members of the corporate bodies. The expertise present within the Board of Directors reflect the diverse expertise required in business management in the telecommunications sector.

GRI Standard/Other sources	Disclosure	Location	Omission			Comments
			Requirement(s) omitted	Reason	Explanation	
GENERAL DISCLOSURES						
GRI 2: General Disclosure 2021	**Governance**					
	GRI 2-11 Chair of the highest governance body	-				The Chairman of the Board of Directors is not a senior executive of the organization.
	GRI 2-12 Role of the highest governance body in overseeing the management of impacts	62-69				The Board of Directors is responsible for approving the Sustainability Report prepared annually by the organization on a voluntary basis. Within the Sustainability Report Open Fiber declares its mission, vision, values and strategies also in the area of economic, environmental and social issues, as well as the policies and objectives from the Company related to sustainable development. With reference to the management of risks and their impact related to ESG issues, please refer to what is reported about the Control and Risks Committee in paragraph 2.1 "Governance and company organisation".
	GRI 2-13 Delegation of responsibility for managing impacts	-				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. With specific reference to the management of occupational health and safety and environmental protection in accordance with Legislative Decree 81/2008 and Legislative Decree 152/2006, these proxies provide for a distribution of responsibilities in this area and are designed to ensure the oversight of these issues at all levels of the company. With reference to delegated powers in HSE matters, the Board of Directors has identified the CEO as the Employer, giving him powers in environmental matters as well. The CEO has delegated functions to a number of corporate executives with reference to HSE issues on the basis of the Department to which they belong. In turn, the delegates identified by the CEO have given sub-delegations to their respective reports with reference to the HSE issues under their responsibility. The manner and frequency with which the delegates report to the Board of Directors is defined within the specific delegated powers.
	GRI 2-14 Role of the highest governance body in sustainability reporting	-				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			Comments
			Requirement(s) omitted	Reason	Explanation	
GENERAL DISCLOSURES						
GRI 2: General Disclosure 2021	**Governance**					
	GRI 2-15 Conflicts of interest	-				The Company's Code of Ethics and OMM 231 stipulate that in the conduct of any activity, situations must be avoided where the individuals involved in the transactions are, or may even just appear to be, in conflict of interest. In addition, in order to ensure that each board member can fulfill the duty (also in compliance with the Civil Code) to declare any interest in the transaction of which he/she takes note or whose approval is required, the documentation relating to the items on the agenda of the Board of Directors' meeting is sent 5 working days in advance of the date of that meeting (given the holidays in Rome, Milan, Luxembourg and London). The expression of interest at the meeting is recorded in the minutes of the relevant Board meeting. In general: - the Articles of Association provide that "the Persons who will hold the position of Chairman of the Board of Directors, Vice Chairman, Chief Executive Officer and Chief Financial Officer of the Company shall not be in a situation of conflict of interest with the Shareholders, as well as with the Company and/or Open Fiber Holdings." - Open Fiber is a wholly owned subsidiary of Open Fiber Holding S.p. A. whose members of the Board of Directors coincide with those of Open Fiber; - the Company, on December 3, 2021, established a Related Parties Committee. In addition, Open Fiber has adopted a Procedure for the Management of Related Party Transactions and is in the process of implementing the Register of Entities and Individuals, which will also include tracking of any offices held in other companies and/or ownership of shares in other companies. The Code of Ethics is available on the company website https://openfiber.it/corporate/societa/codice-etico
	GRI 2-16 Communication of critical concerns	38-40, 62-69, 69-73				Open Fiber has defined a number of channels to ensure the management and tracking of any critical issues. For more details, please refer to paragraphs 1.3.1, 2.1 and 2.2.1 and, 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			Comments
			Requirement(s) omitted	Reason	Explanation	
GENERAL DISCLOSURES						
GRI 2: General Disclosure 2021	**Governance**					
	GRI 2-17 Collective knowledge of the highest governance body	62-69				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 argued.
	GRI 2-18 Evaluation of the performance of the highest governance body	-	a, b, c	Confidentiality constraints	Open Fiber, a single-member joint-stock company subject to the management and coordination of Open Fiber Holdings S.p.A., as it is not listed on the stock exchange, 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) and thus the information on the performance evaluation procedures of the Board of Directors.	
	GRI 2-19 Remuneration policies	-	a, b	Confidentiality constraints	Open Fiber, a single-member joint-stock company subject to the management and coordination of Open Fiber Holdings S.p.A., as it is not listed on the stock exchange, 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) and thus information regarding the remuneration of members of the Board of Directors.	
	GRI 2-20 Process to determine remuneration	-	a, b	Confidentiality constraints	Open Fiber, a single-member joint-stock company subject to the management and coordination of Open Fiber Holdings S.p.A., as it is not listed on the stock exchange, 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) and thus the information on the procedure for determining remuneration.	

GRI Standard/Other sources	Disclosure	Location	Omission			Comments
			Requirement(s) omitted	Reason	Explanation	
GENERAL DISCLOSURES						
GRI 2: General Disclosure 2021	**Governance**					
	GRI 2-21 Annual total compensation ratio	-	a, b, c	Confidentiality constraints	Open Fiber, a single-member joint-stock company subject to the direction and coordination of Open Fiber Holdings S.p.A., as it is not listed on the stock exchange, 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) and therefore information on compensation paid, including that of the highest-paid individual within the organization, is not made public. 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 make public information that to date is classified as confidential.	
	Strategy, policies and practices					
	GRI 2-22 Statement on sustainable development strategy	2-3, 8-14				
	GRI 2-23 Policy commitments	8-14, 22-23, 24-26, 69-78, 78-84, 84-86, 87-92, 186-193, 194-198, 209-211, 240				Open Fiber's Sustainability Policy is available on the company website at the following link: https://openfiber.it/corporate/sostenibilita/obiettivi-sostenibilita/
	GRI 2-24 Embedding policy commitments	8-14, 22-23, 24-26, 62-69, 69-78, 78-84, 84-86, 87-92, 240, 251-255				
	GRI 2-25 Processes to remediate negative impacts	15-17, 36-38, 69-73, 74-77, 78-84, 233, 259-266				
	GRI 2-26 Mechanisms for seeking advice and raising concerns	69-73, 233, 267-270				

GRI Standard/Other sources	Disclosure	Location	Omission			Comments
			Requirement(s) omitted	Reason	Explanation	
GENERAL DISCLOSURES						
GRI 2: General Disclosure 2021	**Strategy, policies and practices**					
	GRI 2-27 Compliance with laws and regulations	-	-			With reference to significant cases of non-compliance with laws and regulations, the following penalties are noted in the 2020-2023 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 04/0.2/.2022 Open Fiber paid the full amount of Euro 206,468.00; - five payment reminders received 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, for which a request was sent to rectify the amounts and a meeting was held with the Province and the collection company; - three notices of payment 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. The significance criteria applied concerned penalties in the criminal sphere and penalties in the administrative or civil sphere for amounts greater than 10,000 euros.
	GRI 2-28 Membership associations	270-275				
	Stakeholder engagement					
	GRI 2-29 Approach to stakeholder engagement	17-18, 267-270				
	GRI 2-30 Collective bargaining agreements	-				All employees (100%) are covered by a national collective bargaining agreement.

GRI Standard/Other sources	Disclosure	Location	Omission			Comments
			Requirement(s) omitted	Reason	Explanation	
MATERIAL TOPICS						
GRI 3: Material topics 2021	GRI 3-1 Process to determine material topics	15-17, 259-266				
	GRI 3-2 List of material topics	15-17, 259-266				
CONTRIBUTION TO TERRITORY AND COMMUNITY DEVELOPMENT						
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-17, 52-59, 74-77, 94, 130-141, 141-146, 259-266				
GRI 201: Economic Performance 2016	GRI 201-1 Direct economic value generated and distributed	57-59, 94, 279				
	GRI 201-2 Financial implications and other risks and opportunities due to climate change	74-77, 186-188				
	GRI 201-3 Defined benefit plan obligations and other retirement plans	-				Open Fiber employees can access the Telemaco supplementary pension fund (National Supplementary Pension Fund for Workers of Telecommunication Companies). Participation is on a voluntary basis and occurs automatically after 6 months of employment in case the employee does not express a contrary will (as provided by the CCNL). In 2023, the Company contributed 1.4% of each employee's fixed salary to the fund, totaling €327,000 (in 2021, Open Fiber's contribution was 1.3%, totaling €213,000, and in 2022 it was 1.4%, totaling €260,000). Open Fiber has not provided a separate fund for the payment of obligations under the pension plan.
	GRI 201-4 Financial assistance received from government	280				
GRI 203: Indirect Economic Impacts 2016	GRI 203-1 Infrastructure investments and services supported	56-57				
	GRI 203-2 Significant indirect economic impacts	56-57, 103-129, 141-146				
GRI 413: Local Communities 2016	GRI 413-1 Operazioni con il coinvolgimento della comunità locale, valutazioni degli impatti e programmi di sviluppo	130-141, 164-169, 198-209, 280				

GRI Standard/Other sources	Disclosure	Location	Omission			Comments
			Requirement(s) omitted	Reason	Explanation	
BUSINESS ETHICS AND COMPLIANCE						
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-17, 38-40, 69-73, 74-77, 87-92, 259-266				
GRI 205: Anti-corruption 2016	GRI 205-1 Operations assessed for risks related to corruption	69-73, 74-77, 280-281				
	GRI 205-2 Communication and training about anti-corruption policies and procedures	69-73, 74-77, 281-282				Open Fiber provides training modules aimed at raising the awareness of the entire corporate population on behaviors or circumstances that may occur in 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 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.
	GRI 205-3 Confirmed incidents of corruption and actions taken	-				There are no reported incidents of corruption in the 2021-2023 period.
GRI 206: Anti-competitive behaviour 2016	GRI 206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	38-40				In 2023, there are no pending or concluded legal actions against Open Fiber regarding anti-competitive behavior and violation of antitrust and monopoly regulations.
CLIMATE CHANGE						
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-17, 78-82, 87-92, 186-193, 194-198, 259-266				
GRI 302: Energy 2016	GRI 302-1 Energy consumption within the organization	194-198, 282-283				
	GRI 302-3 Energy intensity	194-198, 284				
GRI 305: Emissions 2016	GRI 305-1 Direct (Scope 1) GHG emissions	186-193, 285				
	GRI 305-2 Energy indirect (Scope 2) GHG emissions	186-193, 286				
	GRI 305-3: Other indirect (Scope 3) GHG emissions	186-193, 287				
	GRI 305-4 GHG emissions intensity	186-193, 288-290				
	GRI 305-5 Reduction of GHG emissions	186-193				

GRI Standard/Other sources	Disclosure	Location	Omission			Comments
			Requirement(s) omitted	Reason	Explanation	
BIODIVERSITY AND ECOSYSTEMS						
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-17, 259-266				
GRI 304: Biodiversity 2016	GRI 304-2 Significant impacts of activities, products and services on biodiversity	-				Open Fiber's activities generally take place in urbanised 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.
CIRCULAR ECONOMY						
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-17, 209-211, 259-266				
GRI 306: Waste 2020	GRI 306-1 Waste generation and significant waste-related impacts	209-211				
	GRI 306-2 Management of significant waste-related impacts	209-211				
	GRI 306-3 Waste generated	209-211, 291				
	GRI 306-4 Waste diverted from disposal	209-211, 292-293				
	GRI 306-5 Waste directed to disposal	209-211				In the three-year period 2021-2023, no produced waste was directed to disposal.
RESPONSIBLE VALUE CHAIN MANAGEMENT						
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-17, 87-92, 259-266				
GRI 308: Supplier environmental screening 2016	GRI 308-1 New suppliers that were screened using environmental criteria	87-92, 293				With reference to the Open Fiber Network Solutions Consortium, the entire purchasing process and thus the qualification of new suppliers was managed by another consortium company (Amplia) as provided for in the service contract between Amplia and OFNS, in line with the MoU between the parties and the articles of association of the consortium.
	GRI 308-2 Negative environmental impacts in the supply chain and actions taken	87-92, 294				With reference to the Open Fiber Network Solutions Consortium, the entire purchasing process and thus the qualification of new suppliers was managed by another consortium company (Amplia) as provided for in the service contract between Amplia and OFNS, in line with the MoU between the parties and the articles of association of the consortium.

GRI Standard/Other sources	Disclosure	Location	Omission			Comments
			Requirement(s) omitted	Reason	Explanation	
RESPONSIBLE VALUE CHAIN MANAGEMENT						
GRI 414: Supplier social assessment 2016	GRI 414-1 New suppliers that were screened using social criteria	87-92, 295				With reference to the Open Fiber Network Solutions Consortium, the entire purchasing process and thus the qualification of new suppliers was managed by another consortium company (Amplia) as provided for in the service contract between Amplia and OFNS, in line with the MoU between the parties and the articles of association of the consortium.
	GRI 414-2 Negative social impacts in the supply chain and actions taken	87-92, 295				With reference to the Open Fiber Network Solutions Consortium, the entire purchasing process and thus the qualification of new suppliers was managed by another consortium company (Amplia) as provided for in the service contract between Amplia and OFNS, in line with the MoU between the parties and the articles of association of the consortium.
PROTECTION AND DEVELOPMENT OF WORKFORCE						
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-17, 62-69, 78-82, 94-95, 214-219, 220-232, 232-239, 239-247, 248-255, 259-266				
GRI 401: Employment 2016	GRI 401-1 New employee hires and employee turnover	94-95, 216-218, 296-298				
	GRI 401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	232-239				Benefits such as supplementary health insurance, 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.
	GRI 401-3 Parental leave	234-236, 244-245, 299-301				

GRI Standard/Other sources	Disclosure	Location	Omission			Comments
			Requirement(s) omitted	Reason	Explanation	
PROTECTION AND DEVELOPMENT OF WORKFORCE						
GRI 403: Occupational Health and Safety 2018	GRI 403-1 Occupational health and safety management system	78-82, 248-255				
	GRI 403-2 Hazard identification, risk assessment, and incident investigation	78-82, 248-255				
	GRI 403-3 Occupational health services	78-82, 248-255				
	GRI 403-4 Worker participation, consultation, and communication on occupational health and safety	78-82, 248-255				
	GRI 403-5 Worker training on occupational health and safety	220-232, 248-255, 302-303				
	GRI 403-6 Promotion of worker health	232-239				Open Fiber provides 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.
	GRI 403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	78-82, 87-92, 248-255				
	GRI 403-9 Work-related injuries	248-255, 304-309				
	GRI 403-10 Work-related ill health	-				There were no cases of occupational disease recognized by INAIL during 2023.
GRI 404: Training and education 2016	GRI 404-1 Average hours of training per year per employee	220-224, 225-226, 227-228, 228-232, 310-311				
	GRI 404-3 Percentage of employees receiving regular performance and career development reviews	230-232, 311-313				
GRI 405: Diversity and Equal opportunity 2016	GRI 405-1 Diversity of governance bodies and employees	62-69, 314-317				

GRI Standard/Other sources	Disclosure	Location	Omission			Comments
			Requirement(s) omitted	Reason	Explanation	
CUSTOMERS AND END USERS						
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-17, 82-84, 259-266				
GRI 416: Customer Health and Safety 2016	GRI 416-1 Assessment of the health and safety impacts of product and service categories	82-84, 198-209				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.
	GRI 416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	-				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 2023.
GRI 203: Indirect economic impacts 2016	GRI 203-1 Infrastructure investments and services supported	56-57				
	GRI 203-2 Significant indirect economic impacts	56-57, 103-129				
PRIVACY AND CYBERSECURITY						
GRI 3: Material topics 2021	GRI 3-3 Management of material topics	15-17, 77-78, 84-86, 259-266				
GRI 418: Customer privacy 2016	GRI 418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	318-319				

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 subsidiaries (hereinafter "Open Fiber Group" or "Group") as of December 31, 2023.

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 engagement")*, 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:

1. 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;

2. 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;

3. 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.

- For Open Fiber Network Solutions we have obtained evidence on a sample basis about the correct application of the procedures and calculation methods used for the indicators.

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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 subsidiaries as of December 31, 2023 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
June 24, 2024

This report has been translated into the English language solely for the convenience of international readers.

Design and Layout

PRC PROMOTION RESEARCH CONSULTANCY