

FOCUS

## Beyond Monopoly

What effect has liberalisation had on the development of fixed electronic communications networks?

January 2025

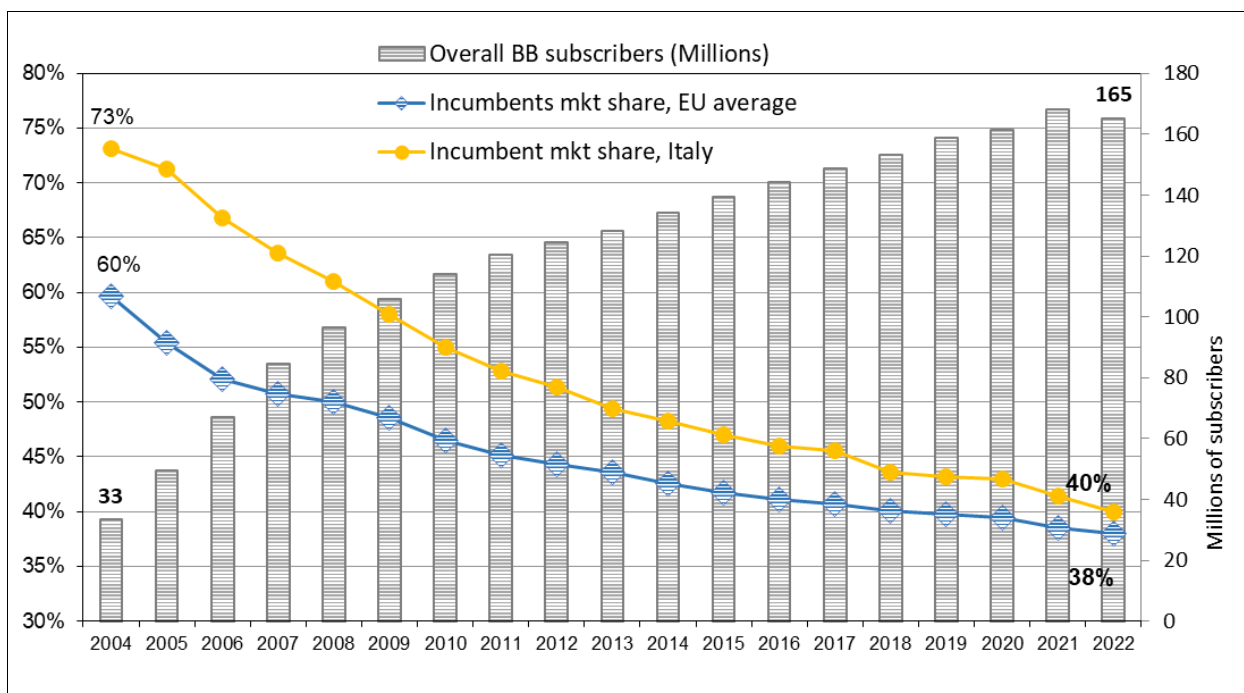
*In 1996 the European Union liberalised the telecommunications industry, reaching the main service of the sector: **the fixed telephony market**. A new generation of operators has thus made its appearance. And competition has been good for consumers, who have been able to enjoy, in recent years, a progressive **lowering of tariffs**: 20% on average in the EU, with a record 45% in Italy.*

*Thanks also to a policy of **regulatory incentives for investment**, fixed networks in the EU are now, according to the OECD, generally of good quality.*

*However, intense price competition seems to limit the investment capacity of companies, while the development of increasingly advanced fixed and wireless networks requires the availability of significant resources. To stimulate the roll-out of ultra-broadband also in market failure areas, Member States have launched **massive public aid plans** (Italy has committed around €5.3 billion since 2015). However, according to the most recent analyses, the European market requires overcoming the current fragmentation of operators, as well as updating the entire regulatory framework.*

### The starting point

The Full Competition Directive (96/19) was followed by numerous regulatory interventions that established a common regulatory framework for electronic communications networks and services in the EU.

**Figure 1. Evolution of the average market share of EU incumbents for Broadband connections**

Source: Processing on EU Commission data – Key indicators 2023

## Analysis

In the last thirty years, following the long wave of liberalisations that began in the 1990s, the European Union has drawn up a regulatory framework aimed at **developing competition** also in telephony and fixed connectivity services.

Liberalisation has led to the gradual **entry into the market of new operators** and the progressive **reduction of the presence of former monopolists**. The average share of broadband connectivity services (BB, *Broadband*) held by European incumbents decreased by **22 percentage points** over 18 years to **38% at the end of 2022** (Figure 1).

This trend varies from country to country: at the end of 2022, it ranged between 11.5% for Romania and almost 60% for Luxembourg. **In Italy**, the trend in the market shares of the former TIM monopolist has progressively approached the EU average, reaching **40%**.

Competition has led to a progressive **reduction in broadband prices for EU consumers**: from 2005 to 2022 they decreased by **almost 20%** with peaks of **45% in Italy** (Figure 2). Tariffs in Europe are now much lower than in the United States and Japan, and Italy in

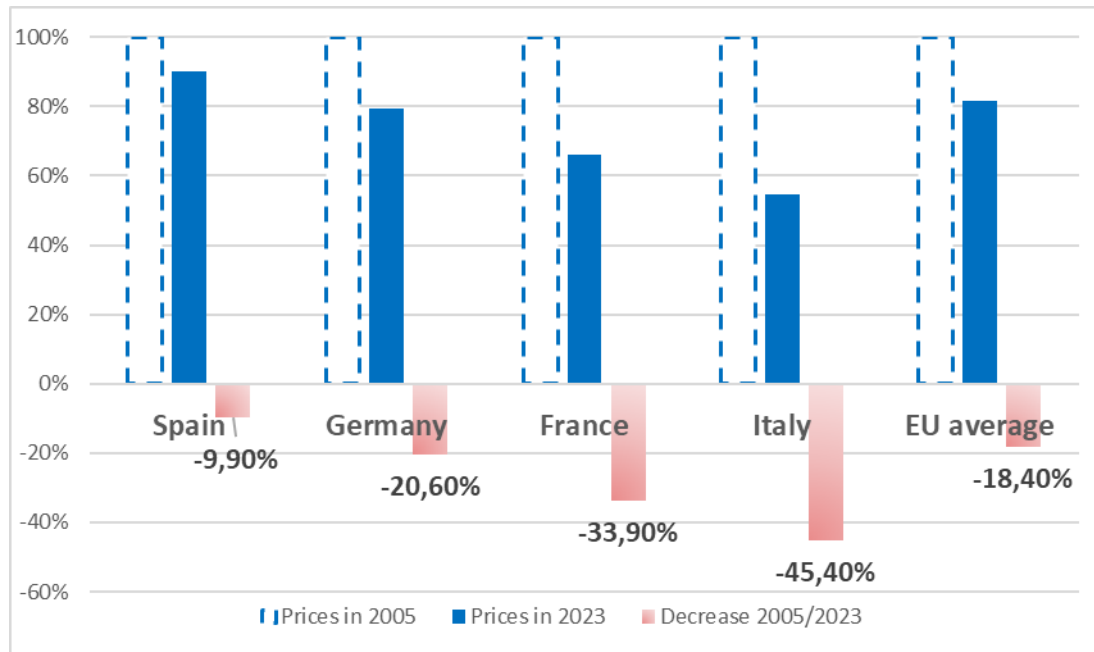
particular is the EU country with the lowest average retail prices for telecommunications services.

Also, with regard to **mobile connectivity**, prices are constantly lower in Europe than in other parts of the world, even lower than those of South Korea and the USA.

This has had an **impact** on the margins, profitability and, in general, **on the financial situation of companies** in the sector, and therefore on their ability to innovate and invest.

Thanks to a **policy of strong investment incentives**, fixed and mobile networks in the EU are generally of **good quality**: according to OECD data, they have a relatively high share of FTTH (*Fiber To The Home*) and FTTP (*Fiber To The Premises*) in their broadband mix.

As regards mobile networks, although Europe's **late adoption of 5G networks** is well documented, most EU citizens have mobile **download speeds above 100 Mbps**, in line with other regions of the world.

**Figure 2. Broadband price developments in Europe from 2005 to 2023**

Source: Processing on AGCOM data – Communications Observatory

## What effect on GDP and productivity? What the research says

Several empirical analyses acknowledge a positive causal effect of the deployment of telecommunications networks and services on **GDP growth** [Roller, Waverman 2001; Czernich, Falck, et al. 2011]. Specific studies on fibre investments in Italy have shown that the use of ultra-fast connections has positive effects both on **the productivity of businesses** [Cambini, Grinza, Sabatino 2023] and on **market dynamics**, favouring the entry of new businesses into sectors with greater use of digital technologies [Cambini, Sabatino 2023].

At the same time, from a macroeconomic point of view, the growth effect that new transmission technologies generate is mainly linked to the demand-side adoption of services based on new infrastructures, while it is much weaker when measured by reference to supply alone [Briglauer, Cambini, et al. 2024]. Today, data indicate **a low uptake of ultra-fast broadband services** in most EU countries. For this reason, industrial policies on the demand side have become more important for the deployment of new networks and services.

A recent study presents an updated overview of economic research on the impact of state aid for high-speed broadband on the economy [Briglauer, Grajek 2023]. The authors note that these programmes have been highly cost-effective due to the economic benefits induced by increased network availability and consumer adoption, but conclude that these socio-economic benefits only manifest themselves after broadband adoption by users. **Broadband effects also differ significantly between urban and rural areas.**

As a result of these macroeconomic effects, the EU has progressively set **connectivity (coverage and performance) targets for new networks**, implying an increasingly extensive (geographical) and capillary (towards the end-user) construction. These industrial policies have moved from the targets set under the **2010 Digital Agenda for Europe (DAE)** to the ambitious 2016 **Gigabit Society (GS)** targets. With the 2016 SG, the Commission set the following connectivity targets for 2025:

- all households in the Union, whether rural or urban, should have internet connectivity with a

- download speed of at least 100 Mbps, which can be upgraded to 1 Gbps;
- Socio-economic factors, such as digitally intensive businesses, schools, hospitals and public administration, should benefit from a download speed of at least 1 Gbps and an upload speed of at least 1 Gbps;
- all urban areas and major transport routes should have uninterrupted 5G coverage.

## In detail

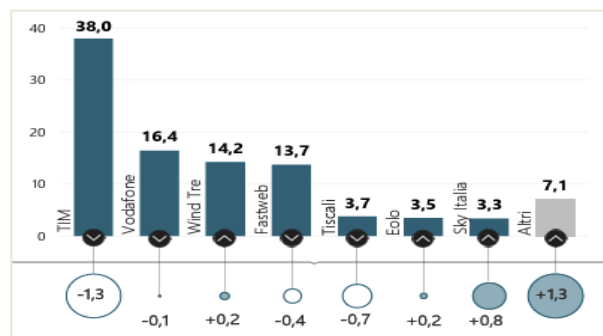
### The situation in Italy

The Italian market is characterised by high geographical fragmentation and inhomogeneity, both as regards access to ultra-broadband and competitive dynamics on the ground, ranging from very densely populated areas – such as the city of Milan, where the development of VHCN (Very High Capacity Network) is profitable for several operators – to ‘market failure’ areas, where public initiative and economic support were needed to develop a VHC network or even simply BUL (Ultra-Wide Band).

The BB and UBB (broadband and ultra-broadband) market shares of the incumbent operator in Italy, first Telecom Italia and then TIM, have steadily decreased and stood at 38% at the end of 2023.

For mobile, at the end of 2023 TIM's market shares were 27.8%, quite in line with the other two main mobile operators (Vodafone and Wind Tre).

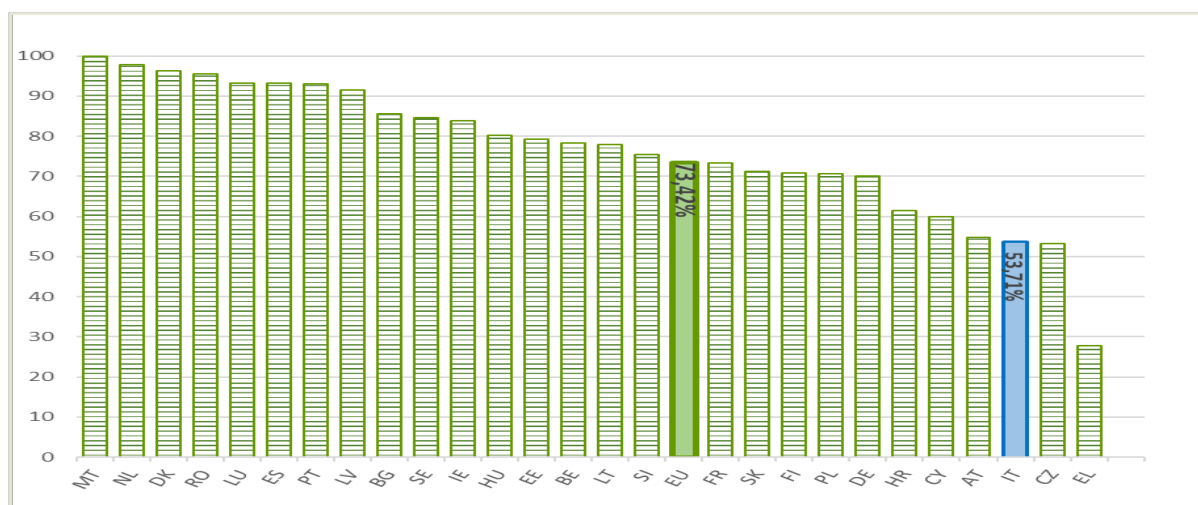
Figure 3. Market shares December 2023: Fixed (BB and UBB)



Source: Agcom – Communications Observatory 1/2024

As regards NGA (Next Generation Access) and VHCN networks, Italy has good NGA coverage (connections  $\geq$  30 Mbps), while it is lagging behind on VHCN connections. At the end of 2023, it was in 25th place among the EU27 countries: only 53.7% of homes had VHCN coverage, compared to 73.4% of the EU average

Figure 4. VHC network coverage in 2023 (percentage of housing units reached)

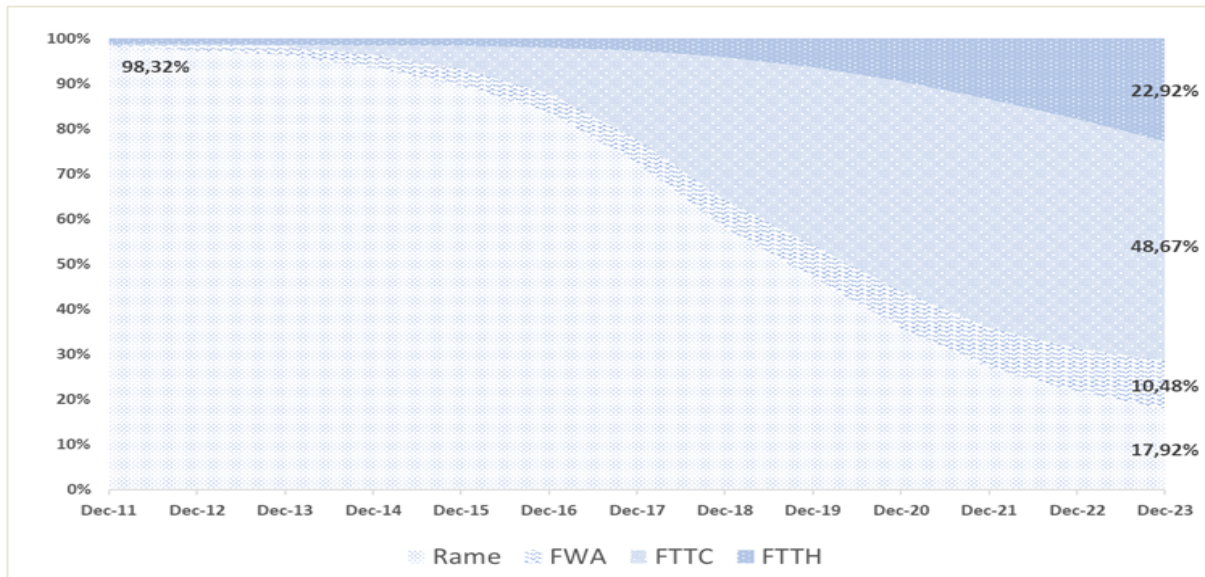


Source: European Commission data processing - DESI Index

Italy's delay in coverage for ultra-wideband networks stems from the **traditional absence of very-high capacity connections**. For this reason, in Italy the entire VHCN coverage is based on FTTH (*Fiber To The Home*) networks and, in part, on FWA (*Fixed Wireless Access*) networks.

The high NGA coverage, on the other hand, is based on FTTC (*Fiber To The Cabinet*) networks, which in Italy are able to meet much of the current demand for bandwidth. The technology mix has been repositioning since 2015, with a rapid decline in copper in favour of the FTTC, which is starting to decline in favour of the FTTH.

**Figure 5. Percentage distribution of direct access by technology in Italy**



Source: processing on AGCM data – Communications Observatory

### Industrial policy and public subsidies

In Italy, **two plans have been defined for massive and extensive investment in the fixed network**: the BUL strategy and the 'Italy 1 Giga' plan. Around **€5.3 billion** euro of public funds have been committed to incentivise the provision of VHCN networks. Especially the first of the two plans has recorded a continuous temporal and substantial remodeling. The NRRP, which allocated EUR 6.7 billion to the objectives of the Digital Strategy, allocates approximately EUR 3.8 billion to the 'Italia 1 Giga' Plan.

The great **difficulties of interaction with local administrations** and the **lengthy procedures** for issuing permits and permits represent one of the main obstacles to the development of VHCN networks, in Italy and beyond. In the last 5 years, therefore, administrative simplification measures have been adopted at both Italian and European level (GIA – *Gigabit Infrastructure Act*).

The **national ultra-broadband strategy (BUL)** was launched by the Government in 2015 with the aim of **developing a network with connectivity of at least 100 Mbps**. The national territory has been divided into 4 *clusters* (A, B, C, D): 'black areas' (cluster A), with at least two alternative NGA networks planned for 2016-2020; 'grey areas' (Cluster B) with an NGA network in 2016-2020; 'white' (Cluster C and D) and 'market failure' areas, with a copper network and no upgrades declared for the period 2016-2020.

The construction of new networks in areas C and D, which cover about 25% of the population, received support from public funding due to insufficient market incentives. In the 'white' areas, on the other hand, public assistance was granted in accordance with a 'concession' model: the network infrastructure co-financed by the public contributions is publicly owned but is awarded a 20-year concession to the successful tenderer, with the obligation to give access to market operators who request it.

In this context, the operator Open Fiber entered the market - a company now owned by Cassa Depositi e Prestiti for 60% and the Australian investment bank Macquarie for 40% - and won the tenders for the 'white areas' and the public funding for the construction and 20-year management of ultra-broadband networks in zones C and D.

Open Fiber's action extended to profitable areas (zones A and B) where it made large private investments without public subsidies. Open Fiber invests and operates according to the wholesale-only infrastructure operator model, with the aim of developing a nationwide FTTH network covering 271 large and medium-sized cities and around 9.5 million homes, which together with those in white areas amount to around 19 million (2/3 of the country).

Outside the 'white areas', in addition to the wholesale-only model, a first co-investment project between TIM and Fastweb took shape in 2015 through the Flash Fiber joint venture (TIM 80% and Fastweb 20%), which had the objective, completed in 2020, of providing FTTH coverage to 3 million households in 29 large Italian cities.

### New market models and regulators

The EU regulatory framework has encouraged/allowed the adoption of co-investment models (FiberCop, of which the MEF holds 16.6%), the development of an operator active only in wholesale markets (Open Fiber) and, recently, the vertical structural separation of the former TIM monopoly. In July 2024, TIM sold its fixed network to FiberCop, which is therefore the only fixed wholesale-only network operator covering the entire national territory. TIM, on the other hand, remained active only in the retail market with regard to voice and fixed connectivity.

### Towards the Gigabit Society

On 25 May 2021, the Interministerial Committee for the Digital Transition (CITD) approved Italy's **new ultra-broadband strategy**

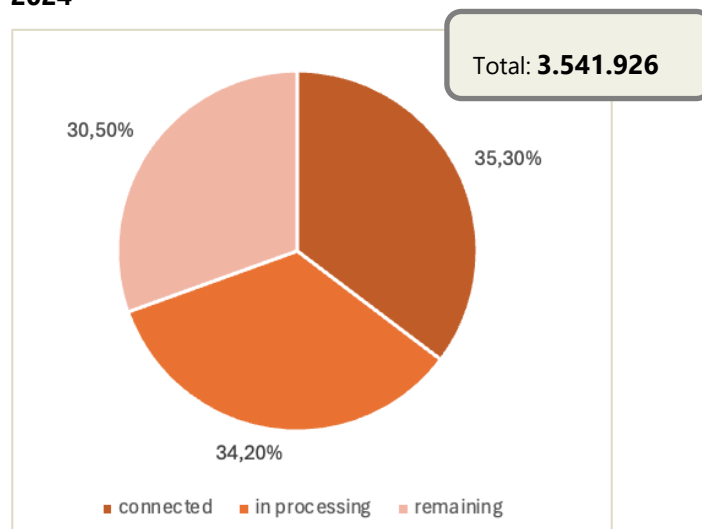
- **Towards the Gigabit Society:** It consists of seven interventions, including the 'Italia a 1 Giga' plan, which aims to **provide connectivity** at least 1 Gbps in download and 200 Mbps in upload by June 2026 to real estate units in **'new market failure' areas**.

Following the mapping of the infrastructure present or planned by 2026, very fragmented areas within the so-called grey and black areas of the previous strategy, containing a total of around 7 million housing units, were found to be 'new market failure'.

On 15 January 2022, the 'Italia a 1 Giga' call was published, divided into 15 geographical areas (lots), with a maximum award ceiling of 8 lots per participant. The plan adopted the so-called "incentive" model, i.e. public co-financing of the investment, up to 70% of the costs incurred for the construction of the infrastructure, which then remain the property of the successful tenderer.

The successful tenderer will have strict wholesale access obligations to the infrastructure financed, which all operators will be able to access on the basis of the addresses established by AGCOM.

Figure 6 – 'Italy 1 Giga' progress report. April 2024



Source: Processing on Infratel data

### Where are we on the job?

In June 2023, the operators awarded 'Italia a 1 Giga' completed the verification phase in the

field of floor-level civics; the final number of citizens to be covered was around 3.5 million. By November 2024, 1,249,545 households (about 30%) had been connected and another 1,211,429 (about 35%) were in the works.

As regards the state of play of the previous BUL plan, work to cover the 'white areas' was still ongoing in September 2024.

Their conclusion was initially planned for 2020. According to the Court of Auditors, '*at the end of 2023, FTTH covered approximately 3.4 million dwellings (54% of the target) and 18,616 public administration offices and industrial areas (62%), in addition to 437,000 real estate units under testing (7%) and more than 2.2 million under processing (36%)*'. The data, in any case, must be evaluated taking into account the real estate units in the testing phase (over 437 thousand units, equal to 7%) and those in the works, equal to over 2.2 million (36% of the total).

Also to overcome this slowdown, the FTTH/FWA ratio has been adjusted in the coverage of 'white areas': more FWA connections have been progressively authorised, with less development time and cost than FTTH but with performance that can lead to them qualifying as VHCN in some circumstances (FWA 5G).

The presence of **FTTH** now exceeds 80% only in Lombardy (91%), Molise (90%), Abruzzo (89%), the province of Trento (83%) and Veneto (81%).

The highest incidence of **FWA** is recorded in Campania (47%), Calabria (46%), Sardinia (41%), Puglia (37%) and Piedmont (31%).

### The new strategy 2023-2026

In July 2023, the Council of Ministers endorsed **the update of the ultra-broadband strategy**: for the three-year period 2023-2026, it provides for **action to support demand** (communication and awareness-raising actions); **cross-cutting actions** (such as updating legislation to increase the operational capacity of telcos, actions on platforms and information databases, support for strategic infrastructures); **interventions for the development of fixed networks** (from the qualified demand of the PA to the development of networks in priority sectors); and **interventions for the development of mobile networks** (e.g. the development of 5G networks and innovative services).

As for the **objectives** set by the Government, the most challenging are to support the **creation of an Edge Cloud Computing infrastructure** to ensure better quality of application services and significant savings (up to 60%) for Italian telecommunications operators, and the **adoption by users of at least 50% of the fixed network with speeds equal to or greater than 1 Gigabit/s** by 2026, resulting in migration from copper to fibre.

### 2024: from the EU White Paper to the Letta and Draghi reports

In March 2024, the European Commission adopted the White Paper *How to master Europe's digital infrastructure needs?* As for infrastructure and technology development, the paper highlights the limited FTTH/P coverage (56%) and *stand-alone* 5G (20%), as well as the low adoption rate of VHC networks (14% 1 gigabit and 55% 100 Mbps) and the low number of edge nodes. It also emphasises the **difficult financial situation of the sector**, where private resources are difficult to find: **the current investment needs** to reach the European targets amount to **more than €200 billion for terrestrial connectivity alone**, in addition to the additional needs for satellite connectivity for remote areas and the investment gap for cloud (€80 billion until 2027). Achieving cost savings and the necessary scale of operators is therefore a priority for the future.

The Commission's White Paper was followed by reports by former Italian Council Presidents Enrico Letta and Mario Draghi on the single market and European competitiveness respectively, which proposed solutions to the challenges facing the sector.

The **Letta's report** focuses on the current **geographical fragmentation** of the

telecommunications ecosystem in the application of sector-specific rules, noting that these place a limit on the ability of European operators to expand. To this end, it stresses the need for maximum **harmonisation of consumer protection rules** and proposes that the Commission should, in the short term, provide guidance on the *Open Internet Regulation* (so-called “net neutrality”) and, in the longer term, undertake a comprehensive review thereof.

The **Draghi’s report** focuses on the problematic economic and financial situation of the telecommunications industry and suggests that the sector should become a priority in the Commission's next term of office. The report proposes a number of **recommendations**, including the adoption of an *EU Telecoms Act* to replace the current regulatory framework; the introduction of the ‘same service, same rules’ principle across the EU, which implies the adoption of uniform rules for TLC and OTT operators if and when they provide services considered substitutable by consumers; the introduction of the passport for B2B services (Business To Business, including IoT); simplifying and harmonising legislation on cybersecurity and legal interception obligations; the introduction of the concept of *fair share*, i.e. fair compensation for the use of telecommunications networks by content and application providers (primarily large digital platforms, the ‘Big Tech’: Google, Meta, Netflix, Amazon, Microsoft and Apple).

## Conclusions

Looking at the evolution of competition policies and the regulatory framework over the last 25 years, it can be seen that the telecommunications market is still on the **long wave of the liberalisation process**.

The whole sector has undergone a major industrial and market transformation over the last decade, due to technological progress and changing business models. **Pro-competitive regulation** is still in action, although it has shrunk sharply as alternative operators to former monopolists have consolidated. At the same time, in order to achieve the objectives of **developing new very high-speed access networks**, as well as **ensuring the security and resilience** of those networks, pro-competitive action has progressively been subject to technical and regulatory balancing with **industrial policy objectives**.

Tariffs in Europe, and in particular in Italy, are now much lower than in other countries, such as the United States or Japan. These price dynamics, indicative of very intense (price) competition, are at the centre of an intense debate as the cause of the deep **economic and financial crisis in the sector**, especially in a context of new and substantial investments. In Europe, and especially in Italy, many operators argue that too stringent regulation has produced too intense competition between companies, and therefore consider it necessary to redefine some basic

concepts of the EU regulatory framework.

The Commission carried out a wide public consultation and drafted a White Paper with proposals for a substantial revision of the European Code taking into account the fact that electronic communications services will be an integral part of a wider digital ecosystem (the so-called **Digital Network Act**).

## The dossier

It describes the role of economic regulation in promoting competition and creating incentives for investment in voice and fixed connectivity, with particular regard to the Italian market. It analyses the positive effects and limitations of this approach, including the need to adopt industrial policy instruments and direct subsidisation. It describes the results and some criticalities of this industrial policy approach.

The study was carried out by  
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