

Fiber infrastructure, key enabler of digital transformation¹

Franco Bassanini

This morning, I downloaded from my PC the program of the 2010 FTTH Council Conference held in Lisbon. The comparison with the program of our today's Amsterdam Conference is impressive, starting with the participants in the keynote session. In Lisbon, the largest operator in the panel was Portugal Telecom, while the others represented potential future users. The focus was still on convincing the participants of the benefits of deploying fiber to the home, by letting content providers to plead for higher connectivity.

In less than ten years, the telecommunications landscape has been marked by dramatic changes and exceptional progresses.

As for the TLC infrastructure sector, in comparison with 2010, I see **three** main evolutions.

First, there is no longer a need to argue in favor of deploying fiber to the home. Nobody challenges that investing in fiber networks is a crucial need for growth and jobs and for the European competitiveness in the global economy. The reason is obvious and indisputable: the digital transformation holds the key to unlock the future growth; and the gigabit connectivity – assured only by the fiber networks - is the key enabler to foster the digital transformation.

Therefore, today, the question is no longer “*if*” but “*when*”. Today, many national policies do not focus only on fiber to the home but include fiber to

¹ Text of a key note speech held in the opening session of the Fifth FTTH Conference, March 12-14, 2019, Amsterdam.

the cabinet. But, in the new electronic communications code, the European Union has now indicated optical fiber as the point of reference for very-high capacity networks. The Juncker Commission is promoting very high capacity networks by its gigabit society objectives. And several Member States governments adopted national gigabit policies to implement the goal of a European Gigabit connectivity by 2025.

Second, in 2010, fiber to the home deployment was still at a very early stage, except in few countries like Portugal and Lithuania. Today, fiber to the home deployment has become mainstream. This results, partly, from the EU support through the connecting Europe facility.

Last year, Italy had the highest growth rate in Europe of both fiber to the home deployment and take-up. This outcome has been made possible primarily thanks to the role of Open Fiber, a recently found wholesale-only operator with the sole goal to deploy a fiber to the home network all over Italy and to make it available for all interested retail operators.

Thirdly, since 2010, the most remarkable development is the emergence of wholesale-only operators. The **wholesale-only model has attracted new players all over the EU**; it might represent the way forward in the construction of the new infrastructure. Last year, the European Union has acknowledged formally the benefits of the wholesale-only business model and the fact that wholesale-only companies are better placed to attract long-term investments in the new infrastructures. The new European electronic communications Code has for this reason provided (*rectius*: has suggested and authorized the National Regulatory Authorities to provide) a lighter regulatory regime in favor of wholesale-only operators, even when these operators enjoy significant market power.

Let us now imagine our successors in 2025 looking back at the program of this conference. Let us distinguish between what we can already predict and what will depend on factors and circumstances which cannot yet be anticipated.

Let us start with the certainties.

First, the implementation by the national governments and regulators of the European Electronic Communications Code will provide for a positive regulatory framework for the development of fiber to the home networks in Europe. It is of course fundamental that the EU Member States implement the code within the deadline of 21 Decembers 2020. Important are, meanwhile, the guidelines that the board of the European regulators, BEREC, is to issue in the coming months over a number of aspects of the utmost relevance for the market, starting from the definition of very-high capacity networks. Like everywhere, the devil is in the details. BEREC will have to provide a common identification of the network termination point and of the first concentration and distribution points. BEREC will also have to draft a common approach to the co-investment and to geographical surveys of network deployment.

Second, 5G will boost the deployment of FTTH networks. Both the backbone FTTH infrastructure, as well as the one required to connect all the small cells which form the very dense 5G network must consist of fiber. Operators who deploy fiber to the home are able to deploy dense fiber networks also for 5G at marginal cost.

Already in 2016, the European Commission highlighted the interplay between fiber and wireless deployment requirements and called for coordination between the actors as for investments in cellular base stations and fiber infrastructure. Recent researches show that the synergies between the FTTH and mobile 5G networks can be very significant and can lead to huge savings in capex, especially if these synergies are considered from the beginning in the construction of greenfield infrastructural projects.

Moreover, the possible integration of fixed and mobile infrastructures into a single, double face network infrastructure eliminates, for the investors in the asset class of the TLC infrastructure greenfield projects, the uncertainties and the risks of future demand split between fixed and mobile service provision, as well as the risk connected to the potential competition between these two ways to access the network.

Third, the wholesale-only model will further gain traction. There are different reasons to believe this. First of all, as a wholesale-only operator is not active on the retail market, it has no conflict of interest with activities on the latter, unlike a vertically integrated operator. Moreover, normally wholesale-only operators do not have copper legacy networks and only focus on the deployment of new fiber to the home infrastructures, which are less costly to manage. In addition, building fiber to the home infrastructures requires considerable time and medium-long term investments: wholesale-only operators are better placed to mobilize investors specialized in the asset class of greenfield infrastructural projects, who are attracted by lower risks and RAB modeling.

If we look ahead, the model will benefit from another important evolution of the market. In the next years players active on the telecom market will multiply and diversify producers and distributors of audiovisual products (such as Sky), OTTs (such as Facebook, Google, Amazon), energy, gas and water distribution companies, insurance companies. It is highly probable that these new players will prefer dealing with wholesale-only operators allowing more flexibility for the services the new players intend to provide and guaranteeing fairer competition among all players involved than vertically-integrated operators.

Let's now move to the **uncertainties**.

These uncertainties relate to the continuation of the current impressive growth rate of fiber to the home deployment. As a matter of fact, the continuation of the growth rate will depend from various factors.

The first factor is whether regulators will succeed in fostering the switch-off of copper networks and the consequent migration to FTTH networks. Agreed medium-term timetables for the switch-off, region by region, would definitely accelerate the development of FTTH networks. However, while in some countries (like in Spain) the incumbents themselves have decided to focus on the FTTH, in other countries reliance on the existing copper networks is still seen as a medium-term strategy for the deployment of very-high capacity

networks. These operators are betting on technological developments (such as VDSL, G-Fast, Vectoring) that boost the connectivity of fiber to the cabinet networks, which in some cases might reach up to 1Gbps. But the adoption of these technologies it is not easily compatible with the need to ensure full equivalence of input among all the service providers as requested by several NRAs. And, in any case, even in the best-case scenario, G-fast and VDSL can only represent short-term solutions which will not be able to satisfy the more demanding connectivity needs of the Gigabit society.

Where copper switch-off plans are drafted by the incumbent operator, it will be fundamental that these plans are approved by national regulators, after consultation with other stakeholders, and implemented in a manner that is consistent with the commitments made by the network operators. Otherwise, there will be a risk of market pre-emption by the former incumbent.

The **second** question mark relates to the market support. Will consumers subscribe to FTTH networks, which provide better services and are thus more expensive than copper connections? In several countries the demand could be weak, due to adverse marketing practices on the side of some incumbents, such as anti-competitive pricing policies and misleading advertisement (such as FTTCab and FTTH packages offered as if they were the same product). As national governments did to promote the take up of digital terrestrial television, they will have to develop schemes to support the migration of end-users to FTTH networks, such as vouchers to families and SMEs.

The **third** question mark relates to the digital policy objectives that will be set by the future European Commission that will be sworn in this autumn. As mentioned, setting the Gigabit society objectives contributed to render FTTH deployment 'mainstream'. Will the next Commission pursue this policy? Will the next Commission update current connectivity targets? Connectivity up to 1Gbps represents only the beginning. Will the next Commission follow the trend of the leading countries and set 10Gbps as the next objective?

Finally, the **fourth** question relates to the usage of economies of scope and scale. Parallel deployment of FTTH and 5G networks, except in very dense city

areas, is not the most effective way to spend scarce resources. The FTTH Council Europe study on the convergence between fixed and mobile networks, to be presented during our conference, shows that converging both networks in order to have a single infrastructure capable of offering all possible services both at fixed and at mobile level is not only the most economically rational option, but also the only one that allows us to enjoy the benefits of countless new services as soon as possible. But will operators reach agreements for joint deployment and other network sharing formulas? Will regulators accept operators merging their networks, into a single network company?

A broader reflection begins to take shape and is already developing in some countries, such as the USA and Italy. The global technological competition, which is in progress, is also played on the ground of telecommunications infrastructures. Several countries (China above all) have strongly accelerated the realization of future proof infrastructures (FTTH, 5G, edge cloud computing), through the allocation of huge amounts of public resources and the power to strongly coordinate the investments of private actors. How can the western Countries face this competitive challenge? Is the infrastructural competition among private operators the most suitable model to compete? Are the virtues of the free competition among private players enough to compensate for the lack of coordination, the ineffective duplication of investments and the natural short-term vision of private investors, reluctant to finance long-term greenfield projects? Or should the States promote or incentivize the consolidation of telecommunications infrastructures, or even the development of a single double-sided network (FTTH-5G) capable of mobilizing the long-term public and private investments needed to accelerate the deployment of the latest generation network throughout the country, guaranteeing absolute equality of treatment to all service providers according to the whole sale only model²?

² The current Italian government, but also the previous ones, explicitly declared the intention to favor a sort of re-monopolization of the TLC ultrabroadband network, through a merger between the network of the former incumbent and the new fiber network of Open Fiber in a single network, held and managed by a non-vertically integrated operator

The pros and cons of the two solutions (infrastructure competition versus a single wholesale only infrastructure) must be carefully weighed. I do not have an answer. But I think that this question is now unavoidable.

according to the wholesale only model. The Parliament has foreseen that the merger could be favored by some incentives decided by the NRA.

Such move would reduce the risk of inefficient duplication of investment in most dense areas and no investment at all in less dense and rural areas. A single operator serving the whole market of retailers could have all the incentives necessary to extend coverage and guarantee a geographically averaged access price, favoring the development of a strong competition among service providers. By moving in this direction, the society will not bear the costs of duplicated assets and will benefit from the higher coverage of networks and services.

It is clear, however, that the project could only be carried out with the consent of the shareholders of the companies concerned (or at least of their majority). The issue is now the subject of a lively discussion among the shareholders of the incumbent Telecom Italia and the shareholders of Open Fiber. The outcome is not predictable. The alternative could be the merger in a single wholesale only company only of the assets useful for the deployment of the FTTH infrastructure (and of the 5G backbone) with agreements assuring a gradual migration from the hybrid to the fiber network. The incumbent could, by virtue of its contributions, become an important minority shareholders of the wholesale only fiber company, directly or indirectly controlled by the Government .

What I can exclude is a consolidation of the two networks within the incumbent, which would, in my opinion, face insurmountable obstacles in the light of the Italian and the European competition laws.