



Very High Capacity and 5G Networks: from the EU code to the EU market

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Francesco Nonno
Head of Regulatory Affairs

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The EU Electronic Communications Code (EECC)

The general provisions

- The **EU Electronic Communications Code (EECC)** introduces the following general objectives:
 - promoting the **deployment and take-up of *Very High Capacity* Networks (VHCN's)**;
 - promoting **sustainable competition** in the provision of electronic communications networks;
 - ensuring the provision of “**good quality, affordable, publicly available services**” to end users.
- It changes the traditional regulatory **trade-off between competition and incentives to investments**: the NRAs **are entrusted** to provide regulatory measures aimed at fostering investments in *ultra-broadband* infrastructures.

Article	Regulatory provisions
SMP Wholesale-only operators (art. 80)	Light regulation that provides the following conditions to all wholesale services: <ul style="list-style-type: none">• non-discrimination and access obligations to networks• fair and reasonable pricing (instead of price control)
Commitment to co-invest in VHC Networks proposed by SMP operators (art. 76)	Usual obligations (including cost orientation and price control) are not applicable to VHCN, if it is guaranteed: <ul style="list-style-type: none">• flexibility in terms of the value and timing of the participation of each co-investor to the investment project• access obligations on fair, reasonable and non-discriminatory terms to the VHCNs

The investment choice of a private investor

Main issues

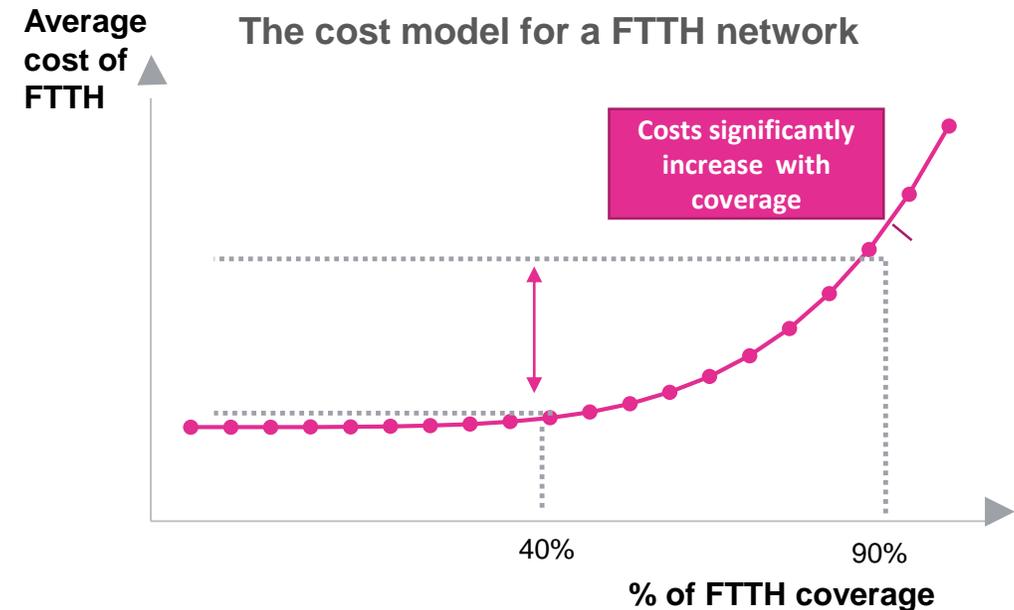
When a potential investor evaluates the business case of an investment in VHC Networks, he has to answer a few relevant questions:

- What price level can be expected in the near future ?
- What level of average cost is sustainable with this pricing ?
- How much of existing infrastructures can be re-used ?
- Which areas can be covered with this average cost and this expected level of re-usage?

The business case for FTTH

➤ The deployment of a “full-fibre” network is quite costly:

- the average per unit cost of deploying a FTTH network significantly increases for high levels of FTTH coverage (the effect is enhanced in rural areas);
- a coverage of about 90% of the households requires average realization costs up to 30-40% more than a 40% coverage;
- Retail operators need uniform coverage (>70/80%) for their marketing strategies
- if private investment is desired, an equilibrium price should guarantee an adequate remuneration for the coverage of at least 80-90% of the market



The NRA should find a difficult balance between reducing market failure areas (allowing a fair return on investment) and guaranteeing that retail operators can compete with the incumbent

Private vs Public investment

- Regulated prices act as an anchor price for VHC Networks. Therefore the choices of the NRA have a relevant impact on investment
- NRA tools:
 - ✓ Level of prices (but trade-off between competition and promotion of investments)
 - ✓ Geographic differentiation (based on “Color” of areas)
 - ✓ Management of copper switch off and of migration to VHC Networks
- Private investment by itself can not guarantee both:
 - ✓ The policy targets of DAE and Gigabit Society
 - ✓ The Universal Service

The national deployment of a “full-fibre” network requires a strong coordination among policy objectives and regulatory intervention

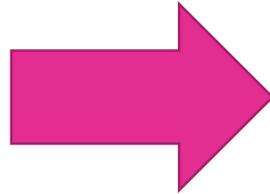
The Wholesale-only Model

Economic incentives to the deployment of VHCNs

- The “Wholesale-only Model” seems **beneficial to the VHC infrastructure deployment** as:
 - ✓ it is **more effective in attracting the necessary long-term investments** for the new infrastructures;
 - ✓ it has the potential to **trigger more investments** in new FTTH infrastructures also on the side of incumbents;
 - ✓ the vast majority of **wholesale-only operators are new entrants** that modify the structure of the wholesale market (from a monopoly to a competitive oligopoly);
 - ✓ **Wholesale-only operators usually do not have copper legacy networks** and only focus on the deployment of new FTTH infrastructures;
 - ✓ it is aimed at **developing an “open access network”**, which implies that the *future-proof* network is made available to all the operators on fair and non-discriminatory terms and conditions;
 - ✓ access prices ensure an adequate profitability of investments in NGA networks, while **open access ensures that the benefits of VHC deployment** are shared with all the market players.

Incumbents have no incentives to accelerate investment in VHC Networks, unless they are pushed by competition

- High return on depreciated copper
- Control of the most relevant infrastructure
- Opportunity to manage wholesale pricing
- Incumbents have a very large share (close to 100%) of wholesale market
- Incumbents know where the customers are



- Low incentive to invest, unless they are pushed by competition or network degradation
- Advantages in re-usage
- Ability to make the migration to VHCN easier/more difficult
- Opportunity to leverage existing commercial relationships
- Opportunity to concentrate efforts

Incumbent anticompetitive and unfair practices

- To achieve the objectives of the “Gigabit Society” NRAs have to guarantee that the wholesale-only business model can evolve in a fairly competitive market since it is able to foster both competition and VHC networks roll-out.
- Incumbents have replied to the entry of wholesale-only operators by adopting anticompetitive practices, mainly:
 1. **Selective price cuts** (on a geographic or product basis) and cross subsidies
 2. **Lock-in practices and conditional rebates** (aimed at reducing demand for new entrants) – i.e. *Easy Fiber wholesale offer*;
 3. **Strategic investment in selected areas** (cherry picking aimed at threatening financial soundness of new entrants’ projects)
 4. **Refusal to grant access to essential facilities** («Deny, delay, detail» strategies applied to horizontal infrastructure, access to buildings, in-building infrastructure)
 5. **Marketing strategies** (confusion between fibre and non-fibre products, both through communication/advertising and retail pricing; forcing migration of customers to FTTC services)

Conclusions

- The new provisions introduced in the EECC are positive, but are not sufficient to foster investment
- The opportunity to invest largely depends upon the pricing of copper services (and/or Hybrid Fiber/Copper services) and the stability of pricing rules over time (NGA Recommendation)
- The level of pricing set by the regulator has a relevant impact on the amount of public resources needed in order to meet the policy targets: a strict coordination among policy makers and regulators is required
- New entrants may take the opportunity to invest, when incumbents do not. New entrants are quite exposed to incumbent's reactions
- When new entrants enter the market, the role of NRA and NCA in contrasting strategic investment and abusive pricing behaviour of incumbents is key