



Work Programme 2016 BEREC Board of Regulators

Contributions of NGI S.p.A to the public consultation

About NGI and the Eolo network

NGI S.p.A was established in 1999 and started to deploy the Eolo network in 2007. Nowadays, Eolo is one of the most extended fixed wireless broadband (FWB) networks in the world. Our network is **fully independent from the Italian incumbent** (Telecom Italia) and covers more than 4.700 municipalities within 13 Italian regions.

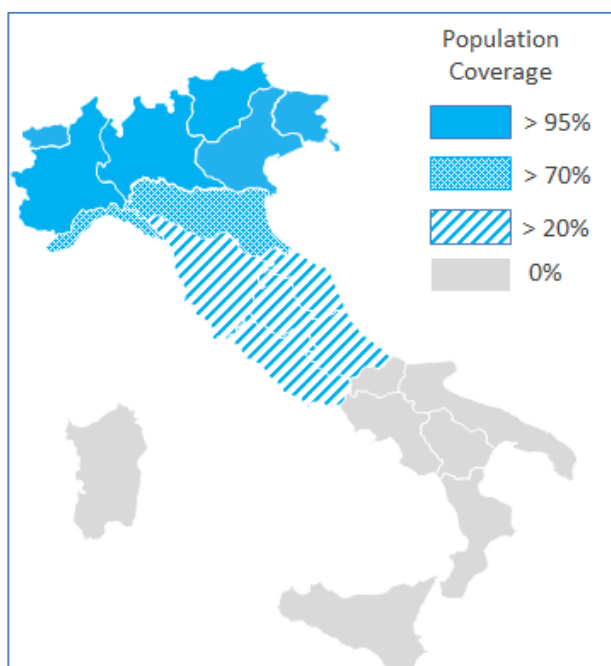


Figure 1: Italian population coverage of the Eolo network updated to 09/2015

The speed and quality of service supplied by Eolo are strictly comparable to those typical of an ultra-broadband access. Today Eolo provides a connectivity of 30 Mbps to the households and of 1 Gbps to the business customers.

	EOLO Top	EOLO30 Plus
	Symmetrical Point-to-Point Connection	Residential Ultra-Broadband
Download	from 25 Mb/s to 1 Gb/s	up to 30 Mb/s
Upload	from 25 Mb/s to 1 Gb/s	up to 3 Mb/s
Band Guarantee	99%	128/128 Kb/s
VoIP	n/a	Free
IP address	Static	Dynamic (Static upon request)
Installation	Custom-designed	Free
Post-sale support	Custom-designed	Standard
Monthly fee (VAT excluded)	starting from 1.050,00 €	36,80 €

Figure 2: Preview of the Eolo offers for business and residential customers

The Italian Ministry of Economic Development (Mise) has recently selected NGI for the co-financing project able to achieve the DAE 2020 targets in four Italian regions (Liguria, Emilia Romagna, Marche e Umbria), to reduce the digital divide and boost the broadband accesses diffusion. In these territories, NGI exceeded the initial target defined by the Mise and currently supplies a connectivity of 30 Mbps.

The NGI financial performances are currently experiencing a very positive trend, even though the unfavourable macroeconomic context, with a yearly gross revenues of 42,5 mln € in 2014 (+20% compared to 2013), an Ebtada of 12 mln € in 2014 (+27% compared to 2013), **more than 180 thousands of residential and business customers.**

Promoting Competition and Investment

In light of recent market trends, including developments of NGA networks and the encouragement of investment in high-speed broadband infrastructure, NGI would suggest to the BEREC to consider the **positive contribution of the Fixed Wireless Access technologies to the Union targets.**

The Fixed Wireless Access (FWA) represents a very important vehicle to achieve the objectives of the Digital Agenda for Europe 2020 (DAE 2020)¹. Currently, the **FWA technologies are able to supply a real connectivity of 30 Mbps to the households and of 1 Gbps to the business users.** Moreover, the state of play of the FWA research allows planning an offer above 100 Mbps for the residential users, thanks to the Multi User-MIMO technologies.

In this context, the Broadband Italian Strategy² and the report³ of the Italian Commissioner for the Digital Agenda already appreciated the strategic role of the FWA in the achievement of the first and second target of the DAE 2020 and considered a related role for the third step too. The same for the Italian NRA for Communications (AGCOM) that in his last quarterly report⁴ highlighted the importance of the FWA, connected to the rising share of medium/small operators in the fixed access market and to the development of the whole sector: **“the rise of the FWA accounts half of the whole fixed market growth”**.

¹ A Digital Agenda for Europe, European Commission (2010), <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0245:FIN:en:PDF>

² Strategia italiana per la banda ultralarga; Presidenza del Consiglio dei Ministri (2014), http://www.agid.gov.it/sites/default/files/documenti_indirizzo/strategia_bul_nov_2014.pdf

³ Achieving the Objectives of the Digital Agenda for Europe (DAE) in Italy: Prospects and Challenges, Francesco Caio, J. Scott Marcus and Gérard Pogorel (2014), <http://www.governo.it/backoffice/allegati/74621-9208.pdf>

⁴ Osservatorio sulle comunicazioni 3/2015, Autorità per le Garanzie nelle Comunicazioni (2015), <http://www.agcom.it/documents/10179/3021709/Studio-Ricerca+16-10-2015/c6c0bfd0-815f-4a11-a40f-fd5064312b98?version=1.0>

The chart below shows the rising share of the small/medium operators (+0,8%) thanks to the “increasing trend of the FWA accesses”.

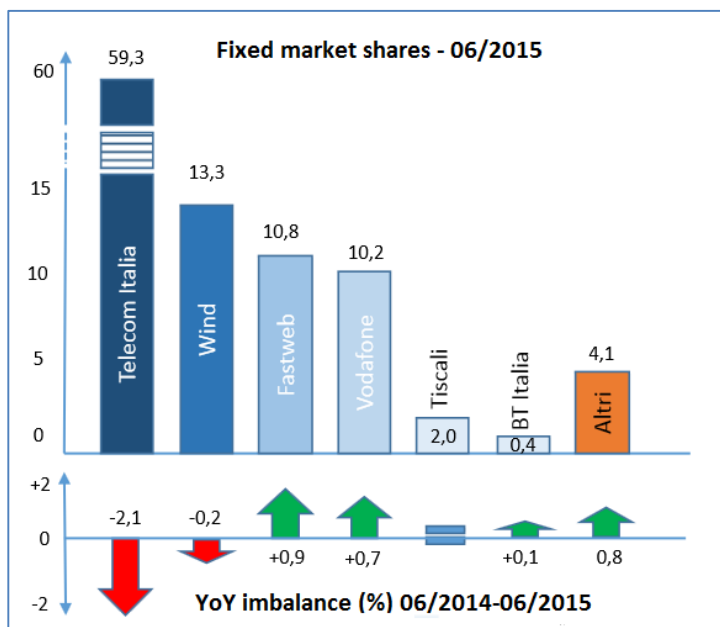


Figure 3: Fixed market shares (%) in the third quarter of 2015 - AGCOM quarterly report 3/2015

Here, it is possible to appreciate the yearly contribution of the Fixed Wireless Access to the Italian fixed market progression, +120.000 FWA links on a total growth close to 250.000 links.

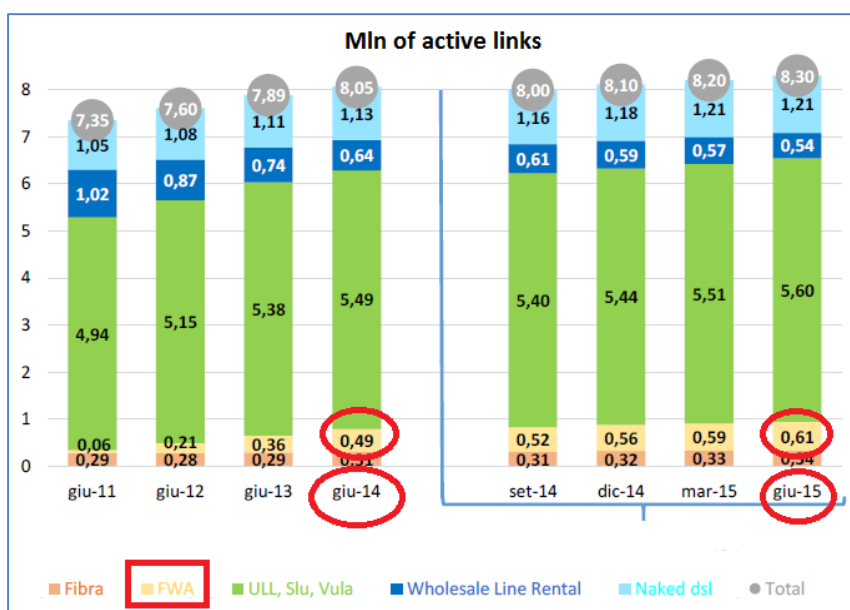


Figure 4: Millions of links per type of network

Furthermore, as mentioned in the **Review of the Regulatory Framework**, the DAE 2020 targets seem far to achieve in some particular areas of the Union. More in depth, the number of households with a broadband connection in rural areas is substantially lower to the European average coverage. And even assuming a very broad deployment of 4G services, some areas, including extremely low density areas and places with very difficult geographical conditions (such as mountain valleys, islands, or other peripheral sub-urban or rural areas) are likely to remain not covered with high-speed networks providing at least a 30 Mbps connectivity.

Thanks to his infrastructure features, the **Fixed Wireless Access technology should be fully included in the implementation of the DAE 2020 targets in the sub-urban, rural and remote areas**. The deployment of this kind of infrastructure should be encouraged especially compared to the more costly and time-consuming fiber optical networks, surely more appropriate in urban and highly populated areas. Lastly, a so oriented focus of the Berec would also drive the market to solve the European Commission concerns about a *“lack of sufficient investment notably in rural areas, problems which will not be fully resolved in the context of the ongoing discussions on the Telecoms Single Market package”* (**Digital Single Market Strategy**, par. 3.1).

Challenges and drivers of NGA rollout and infrastructure competition

The necessity of the FWA networks to ensure a direct visibility between the radio mast, where the BTS is arranged, and the small antenna placed in the customer (residential or business) location allows this technology to be especially appropriate for sub-urban and rural areas. Here, the lack of buildings concentration is not able to interfere with this point to multi-point (point to point for business users) last mile data transmission. The above-mentioned feature and the different deployment costs outline the **complementarity between fixed wireless and optical fiber networks**.

In accordance to his 2015-2017 strategy, the Berec should consider this complementarity in order to boost that **infrastructure mix necessary to ensure a favorable climate for the investment**, useful to ensure the access to high-performance broadband services to the 100% of the European citizens by 2020. Including those users placed in the so-called “challenge areas” (Review of the Regulatory Framework, par 3.3.2).

In effect, the FWA could represent an example of **infrastructure-based competition**, which has not yet been performed by the market even in a context of *“continued access investment by competing operators”* as noted in the Berec Strategy 2015-2017.

In this way, the distribution of the population and the particular orography of the Italian territory have recently contributed to highlight the **positive dynamic of the Fixed Wireless Broadband** especially verified in those remote areas.

Input to the Review with regard to the spectrum (in cooperation with RSPG)

According to NGI, the spectrum regulatory framework review should not take in account just only the mobile (broadband) services but also the Fixed Wireless Access services, which use the **frequency bands as substitution for the last mile wired infrastructure**. A proper availability of the spectrum is therefore crucial for the development of fixed wireless access industry, which is especially interested in band packages useful to maximize quality and speed of the service. Furthermore, also the assignment procedures and conditions appear to be a decisive factor to promote the investment and minimize the terms of return.

In this regard, the **European Commission has specifically included the Broadband Wireless Access within the purpose of the frequency bands**, like as for the 3.400-3.800 MHz in the 2008/411/CE and 2014/276/UE. It is useful here to remind that this application of the spectrum does not collide with the existence and the functioning of a competitive mobile broadband market, since it is strictly focused in the highly dense populated areas while the fixed wireless business, as above stated, sets his best-fit application in the sub-urban and rural areas.

Lastly, in relation to the mobile technologies, the report⁵ of the Italian Commissioner for the Digital Agenda underlined *“FWB (Fixed Wireless Broadband) radio planning can be more effective and more predictable than with mobile wireless technology. The performance provided to active customers can be better than with mobile because the radio link is not dependent on the mobility of terminal equipment”*.

Within the scope of the DAE 2020 and the Berec’s role on the framework review, NGI invites the Berec to promote, in collaboration with the Radio Spectrum Policy Group, an **efficient and investment-leading use of the spectrum** that would take in account the Fixed Wireless Access requirements. In depth for each of the below listed frequency bands, NGI would ask for:

- **3.4-3.6 GHz**: a proper surveillance activity on the real use of the band and a reallocation of the spectrum unused by WiMAX operators;
- **3.6-3.8 GHz**: a strict monitoring on the ongoing allocation procedure started by the Italian NRA;
- **3.8-4.2 GHz**: a quick allocation to the Fixed Wireless Access operators, taking in account that this frequencies are currently empty, since no more coupled with the 3.6-3.8 GHz;
- **5.8 GHz**: a quick allocation to the Fixed Wireless Access operators as requested by the European regulation⁶, taking in account the current lack of utilization of this band and considering any form of light licensing or simplified procedures, like as for the allocation mechanism adopted in Italy for the Wireless Local Loop⁷. Considering the compelling need of spectrum, it appears practicable a not uniform allocation procedure throughout the whole Italian territory.

⁵ Achieving the Objectives of the Digital Agenda for Europe (DAE) in Italy: Prospects and Challenges; Francesco Caio, J. Scott Marcus and Gérard Pogorel (2014).

⁶ ECC Recommendation (06)04 Use of the band 5725 – 5875 MHz for Broadband Fixed Wireless Access (BFWA).

⁷ AGCOM Deliberation 195/14/CONS.

Implementation of the Cost Reduction Directive

The Directive 2014/61/EU on measures to reduce the cost of deploying high-speed electronic communications networks represents one of the most important tools of the Union to achieve the DAE 2020 targets. Especially for the new entrants (small and medium telecoms), which can take advantage of re-using existing physical infrastructures, including those of other utilities, in order to roll out electronic communications networks. Especially in those areas where no suitable electronic communications network is available or where it may not be economically feasible to build up a new physical infrastructure.

In this context, NGI suggests to guarantee the free utilization of any kind of infrastructure in the availability of a public administration or public-owned company like as masts, ducts, etc. in order to support the achievement of public targets of broadband coverage.

It is therefore important to remark that **the implementation of the Directive should be in line with the technological neutrality principle**, especially for those technologies able to ensure connectivity services of 30 Mbps in download or more.

Here, it appears essential to remind the central role of the infrastructure access obligation, and the connected regulated conditions, for those telecoms with significant market power or in occasion of public financing interventions. Civil works and networks fully or partially financed by public means should aim to maximise the positive collective outcome, by exploiting the positive externalities of those works across sectors and **ensuring equal opportunities to share the available and planned physical infrastructure in view of deploying high-speed networks**.

In this case, not only the infrastructures realized thanks to a public intervention (especially in rural and remote areas) but **also all the portions of network necessities to make use of that infrastructure should be offered at regulated conditions**. In case of that infrastructure have already been regulated for the presence of a significant market power, those conditions should be proportionally revised considering the contribution of the public financing.



NON CONFIDENTIAL VERSION

For any further detail, feel free to contact Armando Massaro at (mail) armando.massaro@eolo.it

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NGI S.p.A.
Head of Public Affairs, Regulation and New Business
Antonio Rita