

**PART II EUROPE 2020 PROGRAMMATIC
SINGLE-DONOR TRUST FUND**

CONNECTED COMMUNITIES TECHNICAL ASSISTANCE PROGRAM

**Next Generation Internet Access in
Europe's Gray Areas:**

The Case of Friuli Venezia Giulia

Case Study Series

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Disclaimer: The following is a case study based on project work under the Connected Communities Initiative. The findings made below are non-binding and may be subject to further modification.



1- Market Overview

The Friuli Venezia Giulia (FVG) region situated on the Northeastern seashore of Italy is home to 1.2 million people. Less than one quarter of that population have access to a broadband connection faster than 30 Mbps. Like other regions in Europe, the most competitive broadband services are offered in densely populated urban areas. In FVG, this includes Udine, Trieste, Pasion di Prato and Pordenone where it is commercially feasible for internet service providers to offer fast and affordable access solutions to their customers.

It is worth noting that these four municipalities (communes) in FVG are home to only one third of the overall population of the region. The remaining 212 municipalities are split between two areas in terms of broadband coverage.

A- Gray Areas

Areas where there is one telecom service provider (Telecom Italia) providing broadband services using the local copper loop with some instances of Fiber to the Cabinet connectivity and at speeds under 30 mbps

B- White Areas

Areas where broadband access is not possible due to absence of operators and/or required infrastructure that can support broadband connectivity

In summary, around 40% of the population of FVG resides in gray areas with limited availability of broadband access and 31% are in white areas with no broadband access at all (figure 1).

Figure 1: Broadband Market Classification (Friuli Venezia Giulia)¹

	Black Areas	Gray Areas	White Areas
% of population	29%	40%	31%
Market Players	Full Competition	One operator	No operators
Connection Speed	Greater than 30 Mbps	Less than 30 Mbps	No Broadband Access

2- Broadband Access Challenge

Italy’s recently announced ultra-broadband plan 2016-2022 aims to bring connectivity with a minimum of 100 Mbps for up to 85% of the Italian population and guarantees coverage of at least 30 Mbps to all citizens by 2022. To meet this objective massive state aid investments have been earmarked for all white areas in the FVG region. This allows the regional government to build and expand its existing publically owned ERMES broadband backbone to provide Next Generation Access for citizens in areas that still do not have any coverage at all. However, these investments

¹ As specified by Infratel in a 2015 public mapping process commission by the Ministry of Economic Development

will likely increase the divide in terms of broadband access by putting gray areas at a serious technological disadvantage.

To understand this phenomenon, we take the example of two municipalities in FVG: one in a gray area (Gorizia) and the other in a white area (Travesio). Today 4.6% of households in Gorizia have access to 30 Mbps+ connectivity, something unheard of in most municipalities across FVG. Travesio, on the other hand, is in a white area where there are no broadband services. According to the statistics published by the Ministry of Economic Development in 2020 it is expected that 70% of households in Travesio (former white area) will have access to 100 mbps connectivity compared to only 8.4% in Gorizia (gray area).

Why is this the case?

Figure 2: Broadband Speed Projection (Friuli Venezia Giulia)²

	Black Areas	Gray Areas	White Areas
2017 Speeds	> 30 Mbps	< 30 Mbps	No Broadband Access
2022 Speeds (expected)	> 100 Mbps	> 30 Mbps	> 100 Mbps

The challenge for FVG’s gray areas is two-fold:

A- Commercial Viability

They do not present a sufficient business case for operators to upgrade connectivity (i.e. invest in FTTH or FTTB replacing the copper loop and upgrading FTTC connections in certain places)

B- State Aid Rules

They cannot benefit from state aid due to unclear rules and local government fears of promoting anti-competitive behavior

That said, in the case of FVG, there is a risk of gray areas becoming the next white areas in 2020 in terms of NGA access. That is where the GANDHI project has been devised to come up with non-state aid measures that can help incentivize the development of broadband services in gray areas of the region.

3- Project Description

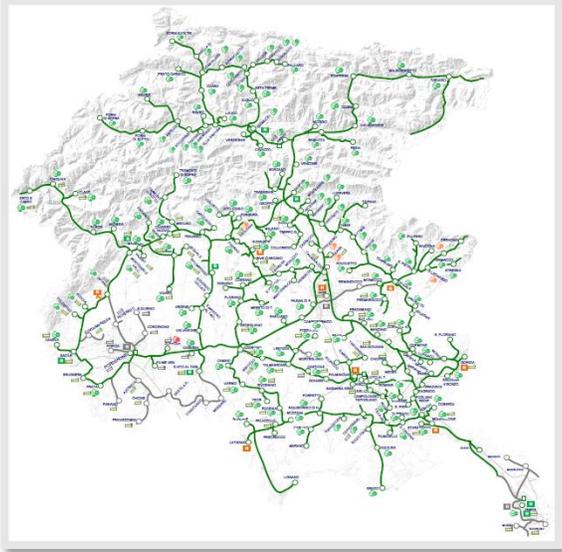
The Connected Communities Initiative has worked with the FVG regional government (proposal #5879) to create a program that can help incentivize private investment in high capacity networks

² As outlined by the Italian National Broadband Plan 2016-2022 <http://bandaultralarga.italia.it/en/italy-ultra-broadband-map/regione/friuli-venezia-giulia/6/>

in the region's gray areas where market conditions otherwise would not have facilitated the development of next generation access.

The GANDHI (Gray Area Network Densification for a Hundred mbps Improvement) project aims to encourage private investment in ultra-fast broadband access networks by providing several incentives that facilitate accessing and upgrading the publically owned backbone network ERMES (figure 3) in gray areas through a transparent and competitive public tender.

Figure 3: Map of Publically Owned Broadband Backbone ERMES (Friuli Venezia Giulia)³



The operator(s) awarded the tender would build, own and operate broadband access infrastructure with a speed of at least 100 Mbps leveraging the existing backhaul assets of ERMES according to the rules set by Commission Decision 3498/2011 and 1337/2014 DGR or to any modified conditions in line with state aid and internal market rules.

The GANDHI project aims to cover 511 gray areas of FVG (as per the classification provided by Infratel) with approximately 318,379 households in 47 municipal areas, for a total of 490,486 inhabitants. Coverage obligations will be set to exceed EU 2020 Digital Agenda objectives. This means that by 2020, the awarded operator(s) will need to have covered 70% of the households with a 100 Mbps connection. The final target of 90% - 95% of households will need to be covered by the end of the 15-year concession.

4- Project Business Model

The GANDHI project aims to create a Public Private Partnership Special Purpose Vehicle that provides technology neutral wholesale broadband access according to the conditions defined by

³ As per Regione FVG official data provided by Insiel Spa

Italian regulator AGCOM. The PPP will be implemented in coordination between Regione FVG, its in house telecoms team Insiel S.p.A., and the awarded private NGA operator(s).

Under GANDHI the FVG region provides the following incentives that help improve the business case for private participation in the PPP:

1. **Access to backbone:** Provide access to the publicly owned ERMES infrastructure according to EC decision 3498/2011 and DGR 1373/2014
2. **Facilitated payments:** Devise different forms of payment of IRU for access to ERMES passive infrastructure (shares in SPV, by installments, long term payment periods, volume based pricing regime, etc.)
3. **Local technical support:** Provide technical assistance to telecom operators when necessary via the in-house local company INSIEL spa
4. **Rights of ways:** Simplify the authorization of use of right of ways for roads owned by FVG region
5. **Community building:** Facilitate interaction with local municipalities, and other public entities to simplify and sponsor public works at local level
6. **Vouchers:** Welfare support activities, through vouchers to be used for payment of connectivity to disadvantaged categories such as unemployed, elderly, and low-income families
7. **Demand Aggregation:** Organize local stakeholders (families and firms), and facilitate local interest groups to aggregate demand
8. **Guarantees and Support Letters:** Issue non-financial guarantees
9. **Mapping:** Play a proactive role in the digital mapping of telecom infrastructure
10. **Capital contribution:** Take part in the SVP, through debt/quasi-equity or equity investment limited to 12.5%

5- Financial Structuring

FVG regional authorities have recently issued a public consultation regarding the terms and agreements under the GANDHI program. According to preliminary analysis the total investment needed to bring Ultra-Fast Broadband access to 93% - 95% of the dwelling units with FTTH connectivity above 100Mbps, is between 90 and 140 million Euros.

Financial structuring of the project is contingent on the result of this public consultation and the number of lots that will be activated under the tendering process.

As a part of the consultation the region's gray areas have been divided into four lots as follows:

- Lot 1 – Trieste (about 63,689 households in grey areas) – 20% of target households
- Lot 2 – Gorizia- Monfalcone- Lignano- Grado - Litorale (58,000 households) – 18% of target households
- Lot 3 – Pordenone (84,000 households) – 27% of target households
- Lot 4 – Udine-Tolmezzo-Codroipo (112,000 households) – 35% of target households

It is expected that the region may receive equity stake in the SPV in return for certain in-kind contributions as long as they do not conflict with state aid rules. The region is also open to contributing with debt or equity towards the SPV's working capital under a maximum ceiling of 12.5% of total project cost.

6- Key Lessons Learned

Following are the key lessons learned from FVG's experience under the Connected Communities Initiative:

1- The challenge of Europe's Gray Areas: Areas that have limited competition between broadband operators are in danger of being left behind in terms of NGA access since they do not present a sufficient business case for investing in and upgrading of existing broadband infrastructure (backbone, backhaul and access). Thus, densification of 100 Mbps connectivity in gray areas should be a policy priority for governments in meeting Europe 2020 objectives.

2- Lack of clarity regarding state aid rules: State aid rules have been put in place to ensure the most efficient use of public money. But in some gray areas where there is limited competition, state aid may be justified to incentivize private sector investment in NGA infrastructure. It remains an open question regarding what form state aid may take in such situations and to what extent would it be placing the existing operator at a disadvantage.

3- Leveraging existing publically owned broadband networks: Publically owned networks have been built using tax payers' money but in many instances have not been properly leveraged by the private sector. A new bundle of policies or incentive programs can be set in place to promote access to and usage of existing public broadband backbones thereby unleashing a wave of localized broadband investments across Europe.

4- The power of legacy networks in hindering broadband demand at the access level: many communities in rural and suburban parts of Europe are provided internet by a telecom incumbent that relies on its position in the market by virtue of legacy. In such a situation, demand for NGA services may be lagging due to the absence of forward looking internet service providers with a strong drive for service level innovation. Such innovation and service level competition is difficult under market legacy conditions which opens up a debate regarding possible measures that can be taken to rectify possible market failures.

5- Coordination with central government authorities is key: coordination with central government authorities regarding connectivity and infrastructure issues is key especially for autonomous regions in Europe. Framing local projects in line with national objectives facilitates positive cooperation with central government authorities. In the case of FVG no progress could have been made without the full endorsement of relevant authorities in Rome since most infrastructure investment decisions must be made at a central government level.