

Tackling the Rural Digital Divide

Insights from the European Broadband Community

A conference paper with contribution of the European Broadband Community participating in the Governmental Day Workshop in the frame of the FTTH Conference 2018, Valencia

CONTACT

atene KOM GmbH | Agency for Communication, Organisation and Management
Invalidenstr. 91
10115 Berlin
www.atenekom.eu
Tel. +49 (0)30 / 22183-0
Fax +49 (0)30 / 22183-1199
info@atenekom.eu

YOU CONTACT PERSON

Johannes Feldmann
Tel. +49 (0)30 / 22183-1110
j.feldmann@atenekom.eu

Content

1	Executive Summary	3
2	Background and Objectives of the Workshop	3
3	Workshop Presentations.....	4
4	Challenges, Recommendations and Success Factors Tackling the Rural Digital Divide	6
4.1	Challenges	6
4.2	Success Factors	7
4.3	Recommendations for action	9
5	Conclusions & Outlook.....	10
	Appendix A – Workshop Agenda.....	11

1 Executive Summary

atene KOM hosted the **Governmental Day Workshop** on 13th of February 2018 in the frame of the FTTH Conference in Valencia, Spain. The purpose of this workshop was to provide an interactive platform for broadband stakeholders in the EU with a strong focus on addressing and tackling the challenges of broadband deployment that occur for public local and regional authorities. The approach was not only to inform stakeholders about policy developments on the European level, but also to demonstrate possible solutions to given challenges and to foster a fruitful exchange in order to consolidate a robust broadband stakeholder community.

Besides a keynote from the European Commission and presentations by the winners and finalists of the European Broadband Awards 2017, interactive “Multilogues” facilitated a knowledge exchange where broadband stakeholders from the EU could discuss the challenges in the areas of regulation, finance, technology, communication and take-up to overcome the digital rural divide and jointly identify recommendations for action addressed towards society, politics and industry.

This report contains background information that was presented to participants, summarizes workshop discussions and categorises the outputs of the “Multilogues” that were identified by workshop participants. This report addresses central challenges and solutions commonly identified and agreed on by the participants of the workshop representing a sample of the broadband stakeholder community of Europe.*



Figure 1 Photos taken at the Governmental Day Workshop 2018 – FTTH Conference by atene KOM (audience, speakers, stage).

2 Background and Objectives of the Workshop

The European Commission’s strategy on [Connectivity for a European Gigabit Society](#) adopted in September 2016 sets the vision of a Europe, where availability and take-up of high-capacity networks enable the widespread use of products, services and applications in the [Digital Single Market](#). The

* Ca. 100 participants joined the Workshop and ca. 50 participants joined the “Multilogues”.

strategy states that by 2025 all schools, transport hubs and main providers of public services as well as enterprises should have access to internet connections with download/upload speeds of 1 Gbps and uninterrupted 5G coverage for all urban areas and major terrestrial transport paths. All European households, rural and urban, should have access to networks offering a download speed of at least 100 Mbps, which can be upgraded to 1 Gbps.

Geographically segmented areas (i.e. remote and rural areas) are facing severe difficulties in regard to their limitations in broadband connectivity. Infrastructural investment in these areas is not adequately delivered due to e.g. high financial burden for private investors. Associated with the lack of high-speed broadband infrastructure, digital skills and the use of digital technologies, businesses and public administrations regularly fail to meet a certain level of progress. Local authorities are often not aware of their current and future-coming digital needs and end-users have limited skills to create an effective level of demand.

The **Governmental Day Workshop** is an initiative that aims at providing an interactive platform for broadband stakeholders in the EU with a strong focus on addressing and tackling the challenges of broadband deployment that are faced by public local and regional authorities. The approach was multi-dimensional and comprised of three priority areas: (1) to inform stakeholders about policy developments on the European level by means of a keynote presentation by the European Commission Head of broadband unit, (2) to demonstrate possible solutions to given challenges by means of presentations from regional and local Best Practice broadband deployment projects and (3) to facilitate a fruitful exchange between all participants coming from different EU Member States thus knowing different regional situations in order to consolidate a robust broadband stakeholder community.

Against this background, the objectives of the interactive session was to discuss different dimensions of broadband development (regulation, finance, technology, communication and take-up) in rural areas and to exchange ideas and potential solutions to overcome the rural digital divide and to enhance the use of digital services. By means of exchanging experiences and views, participants had the chance to learn from each other and benefit from ideas that may be transferred to their regions or applied in a different context.

3 Workshop Presentations

In a keynote, **Carlota Reyners Fontana, Head of Unit B5 at [DG CONNECT](#)**, gave a policy update on broadband actions set by the European Commission. Carlota Reyners Fontana provided a thorough insight into the following EU initiatives:

- [BCO network](#),
- [Funding and financing possibilities](#),
- [Connectivity for a European Gigabit Society](#),
- [WiFi4EU](#) and
- [Broadband Europe](#).

In her presentation, she put in context current standings and objectives, strategies, measures undertaken and to be launched, but also an idea of what to emphasise, where to intensify and how to move on with European and global perspectives.

Subsequently, presentations from regional projects focused on innovative concepts to overcome the digital rural divide. Four Good Practice examples from Italy, England, Sweden and Germany – all **finalists and winners of [European Broadband Awards 2017](#)** – and the case of Guifi.net from Spain, a

winner of the European Broadband Awards 2015, demonstrate their strategies and solutions to overcome the barriers of digital transformation in rural areas.

Colchester Business Broadband, UK | Steven Eke, Project Manager Colchester Borough Council

Colchester's open access passive fibre network delivers up-to-gigabit connectivity over active Ethernet and GPON connections to more than 850 SMEs and 1,100 residential addresses in a previously underserved town centre location. It is the first real-life deployment of a local authority-owned passive fibre infrastructure in the UK, and is available to all ISPs and business connectivity providers on an equal and open basis. The project represents a highly cost-effective deployment method, based on the modernisation and making fit for purpose, of an existing CCTV infrastructure, and includes innovative final-drop deployment measures to simplify the cost and logistical issues involved in providing these.

Coviolo Wireless, Italy | Valeria Montanari, Assessor Digital Agenda Reggio Emilia

The project aimed at overcoming the digital divide in the neighbourhood of Coviolo through a broadband wireless infrastructure in a suburban area lacking market offers. It guarantees affordable service cost to the whole community as the funding of the infrastructure comes from public sources (municipality and regional government) while management costs are borne by local community members. The project was developed within a participatory process launched by the Municipality of Reggio Emilia in Coviolo.

Optic fiber to all houses on Gotland, Sweden | Anne Ståhl Mousa, IT Strategy and International Officer Gotland County

Gotland has paved the way for the roll-out of fibre to all houses in a rural region with scattered settlements, by boosting the household interest to fibre connections and by keeping the costs low. By the end of the project, every house on the island of Gotland will be offered connection to the fibre network. The network itself is robust and pre-designed for future redundant connections between the local parishes. An alternative connection model was created for summer residents: a competitive price to be paid only during the periods they stay on the island.

Initial impulse Glass-Fiber-City Lauchhammer Brandenburg, Germany | Heinz-Peter Labonte, Media Group Lausitz

The project presents an innovative financing approach for FTTH broadband deployment in the community of Lauchhammer, Grünewalde deployed and operated by the LKG Lausitzer Kabelbetriebsgesellschaft mbH. LKG is a company of the MediaGroup Lausitz. The main objective of the project was to provide a fast internet connection (100% FTTH) to households in the rural area. The project up to that time, seemed not very attractive for competing private investors. However, due thorough analysis of local demand, it has proved that even comparably small scale projects (<= 600 homes) can be financially viable.

Building a collaborative economy as in commons - Local example for tackling the rural digital divide | Roman Rocca, Guifi-net foundation, Spain

The guifi.net foundation is a comprehensive initiative where various stakeholders (volunteers, ISPs, public administrations, etc.) cooperate to plan, deploy and operate network infrastructure as a Common Pool Resource (CPR). Its mission is to protect and promote the networks held in common. It has a set of tools (e.g. IP address space, legal identity, possibility to operate under its name) available to anyone who wishes to contribute to expand the network, professionals included.

Ideas from the Interreg NSR Project Connecting Remote Areas with digital infrastructure and services (CORA) | Peyman Khodabakhsh, CORA project developer and manager, atene KOM, Germany

CORA added a transnational perspective of the topic on tackling the digital rural divide. The CORA partnership comprises a consortium of 18 partners from seven European Member States. CORA partners will help local authorities to identify their common challenges and empower them to exchange experiences, test innovative solutions and create an advanced digital environment. To do so, CORA emphasizes the main components of digital divide, namely lack of digital infrastructure, services and skills.

All presentations can be retrieved from <http://www.valencia.ftthconference.eu/programme/conference-programme/13-february>.

4 Challenges, Recommendations and Success Factors Tackling the Rural Digital Divide

All workshop participants were offered the chance to actively get involved, express their views and exchange ideas and experiences with others concerning broadband development in rural areas. This interactive exchange among the participants dealt with digitalisation challenges in rural areas and solutions for stimulating the digital infrastructure and services in areas lagged behind. The results of the interactions during the workshop can be divided into 3 sections: **Challenges, success factors and recommendations for action.**

4.1 Challenges

The identified main challenges for bridging the digital divide in rural areas were multifold and comprise of a set of infrastructural as well as socio-economic issues. These include:

- **Cultural differences.** Inhabitants of urban and rural areas are exposed to different situations concerning internet and transport connections, labour market, costs for energy, taxes, access to educational institutions, quality of living and the social infrastructure. As a result, different expectations and needs occur for urban and rural population, also with regard to digitisation. The challenge is, especially for the public sector, to take these differences into consideration when planning a broadband project and to respond to them appropriately, which could mean for rural planning, to shift foci and concentrate more on demand-stimulation, demand aggregation and bringing together relevant actors.
- **Low take-up rates.** The financing and funding of rural broadband expansion projects often demonstrate a major hurdle as it is linked to higher investment risks for private investors. Rural regions often show low customer potential and take-up rates – a problem that is also associated with a lack of sufficient demand stimulation and awareness raising measures.
- **High investment costs.** Physical and geographical barriers (e.g. bridging long distances between settlements) in rural areas mean higher investment and deployment costs for the network. In addition, investments in infrastructural projects often face administrative barriers which impede cash-flows.
- **Limited digital literacy.** Limited access and use of digital technologies in rural areas are accompanied with a lack of digital skills of different social groups (e.g. elderly people) and in businesses. However, digital literacy and the awareness of the possibilities that digitalisation offers is a key driver for new business models, applications and services to be developed.

- **Convergence of technologies.** Next generation communication systems demonstrate converged networks where wired and wireless communications will use the same infrastructure. The fifth mobile radio generation (5G) will provide ultra-high bandwidth and low latency and will thus serve a wide range of applications and sectors. To date the conditions for a 5G roll-out (e.g. connections of mobile base stations with fibre) especially exist in urban areas, which leads to a major challenge for rural areas to not fall behind.

4.2 Success Factors

In the run-up to the interactive “Multilogues”, all workshop participants had the chance to take part in an online survey expressing their personal opinion on what they consider the **main characteristics of successful and profitable broadband deployment projects in rural areas**. The identified success factors can be categorised as following:

1. Support from public authorities

- Leadership and strong support and interest of national, regional and local public administrations and politicians is key to successful and sustainable broadband expansion projects in rural areas. A clear national or regional digital strategy underlines the endeavours and brings together the relevant stakeholders. In this context, collaboration between communities and local authorities is perceived as essential. Furthermore, support should also come from other sectors involved, i.e. the local community, telcos, financial institutions, etc.).

2. Marketing and demand stimulation

- Political leaders, committed citizens, industry and digital frontrunners should strive for a better awareness of the local and individual needs for connectivity promoting marketing and demand stimulation measures on site. Awareness raising activities should aim at aggregating and increasing the demand for high-speed connectivity for individuals and local businesses. This in turn stimulates the development of new business models, applications and services and attracts investors.

3. Right technology choice

- Broadband networks require different infrastructure types and technological solutions based on different logistic, economic or demographic conditions. Questions regarding needs in terms of type and quality of service, existing and upgradeable infrastructure and long-term political goals should be openly considered when deciding over technology options.

4. Right business models

- Different business models are available to public authorities and other market actors. Especially for deployment projects in rural areas, one could consider public or cooperative ownership of the network or a bottom-up approach, where the community depends on their own commitment in order to achieve a rapid broadband upgrade. The success of such business models is often a long-term horizon without short-term return on investment expectations. In other cases, “traditional” investment by private telcos might be suitable.

5. Open access networks

- Open access networks ensure that the infrastructure is available to all market participants at equal conditions. On the service layer, the end users select the services from their operator

of choice for a service fee, thus various service providers compete on the very same infrastructure. The advantage of these models is that the capacities can be used more efficiently without duplication of infrastructures. Thus, the competition for the costly deployment of infrastructure is being decreased without disadvantage for the end customers.

6. Digital literacy (skills)

- Improving access to digital skills will enable a digital society, also in rural areas. Awareness raising and training of citizens is key to exploit already existing networks and to ensure the future expansion of the network.

7. Affordable connectivity

- Affordable internet connections for individual households, businesses and public institutions are the basis for a good take-up of the network. However, especially in remote areas, deployment and operational costs are high. Therefore, a crucial task is to keep investment costs down, e.g. by sharing and reusing existing physical infrastructure from the community and utilities, efficiently coordinating civil works and granting access to in-building infrastructure. Operational costs can be kept low by “outsourcing” the operation of the network to a service provider. Keen and equal competition on the active layer of the network ensures the best prices for the end-user.

8. Collaboration

- A common approach to address the broadband gap in rural areas is key to ensure a sustainable broadband development. Collaboration on a community or district level aligning goals and interests in broadband expansion can bring great benefits to a whole region (e.g. use of synergies for planning, deployment, leasing and operation of the network). Unprofitable and profitable regions are tendered as a whole, which raises interests for potential service providers and ensures the operation of the network (avoid “cherry picking”).

The success factors described above can be weighted differently based on the number of indications. The chart below shows the distribution:

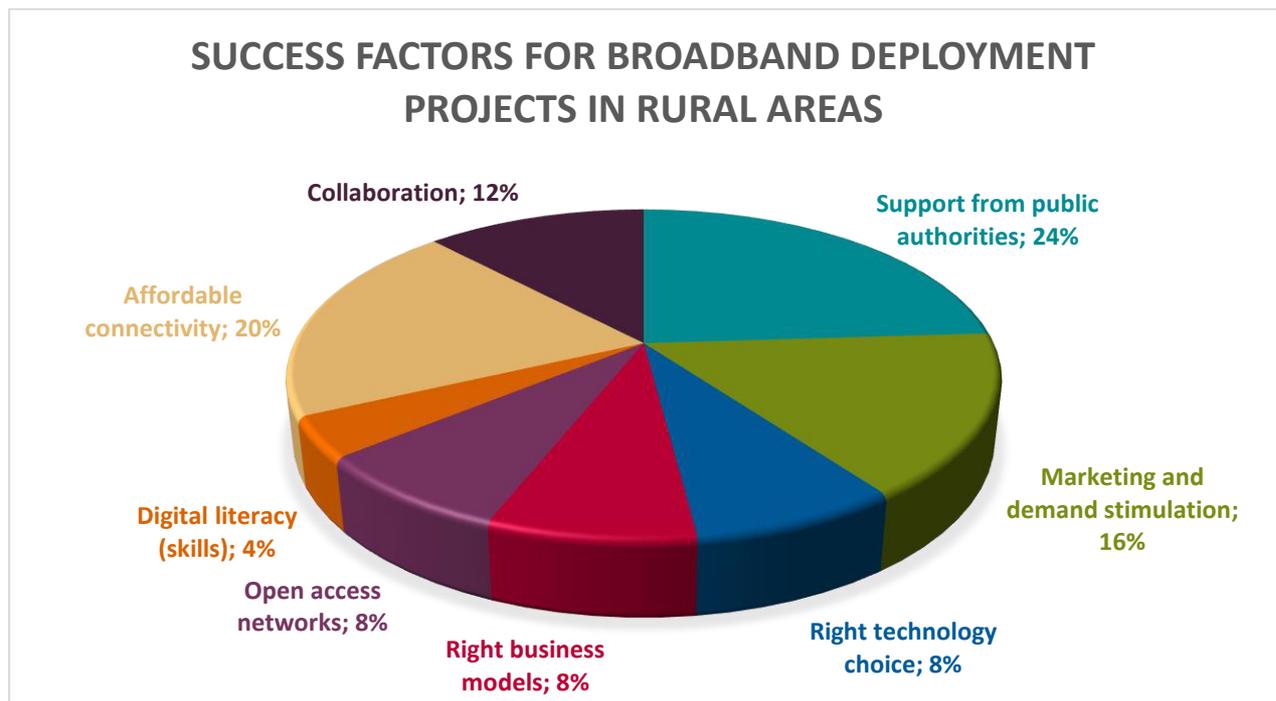


Chart 1 Success factors for broadband deployment projects in rural areas identified by the participants of the Governmental Day Workshop via an online survey (25 answers given in total).

4.3 Recommendations for action

The workshop participants identified recommendations for action for approaching the challenges elaborated above and based on the described success factors. The recommendations are addressed towards society, politics and industry, and can be categorised as following:

1. Involvement of all actors

- ➔ Ensure strong leadership, political and community commitment: Get local authorities on board as digital frontrunners.
- ➔ Talk and closely cooperate with the existing utility providers with the aim of enhancing synergies and minimising the deployment costs.
- ➔ Introduce and expand training of digital skills in the perspective of life-long learning in order not to leave anyone behind.
- ➔ Take rather long-term perspective instead of short-term thinking i.e. investing in future proof technologies

2. Demand stimulation and consideration of specific regional characteristics

- ➔ Understand local needs and take the regional perspective and context into account.
- ➔ Consider the strong role of local communities.
- ➔ Communicate about the importance of internet and digitisation.
- ➔ Lighthouse and piloting: concentrate on tourism spots, public places and local businesses in rural areas to show people what digitalisation may do and can bring into effect.
- ➔ Promote tax deductions and incentives for broadband rollout and digital services.
- ➔ Exercise caution and flexibility in passing regulatory measures on EU and national level to give space to the Member States, regions and local communities.

3. Development of new business models

- Introduction of new broadband offers, products and services by utility providers.
- Present innovative solutions and business plans to financial institutions and investors.
- Develop creative solutions for new business models.

5 Conclusions & Outlook

This fifth edition of atene KOM's **Governmental Day Workshop** has been once more a fruitful platform for all actors involved in broadband expansion in Europe. Especially the interactive parts (online survey and "Multilogues") disclosed the big variety of digitisation challenges and actions to take here and now to bridge the connectivity gap. Continuation is planned.

Appendix A – Workshop Agenda

atene KOM Governmental Day Workshop 2018 in the frame of the FTTH Conference

The “Governmental Day” Workshop is an initiative that aims at providing an **interactive platform** for broadband stakeholders in the EU with a strong **focus on addressing and tackling the challenges of broadband deployment that occur for public local and regional authorities**. Our approach is not only to **inform stakeholders about policy developments on the European level**, but also to **demonstrate possible solutions to given challenges** and to **facilitate a fruitful exchange in order to create a robust broadband stakeholder community**.

13.02.2018

Workshop Moderation: Tony Shortall (Director at TELAGE)

Session		Speakers	From	To
Welcoming	Welcome and opening remarks	Tim Brauckmüller <i>Managing Partner at atene KOM BCO Germany</i>	14:00	14:05
European Commission Policy Update	European commission policy update on broadband development, initiatives, actions (e.g. Broadband Platform), BCO Network, funding possibilities (e.g. Connecting Europe Broadband Fund), Connectivity for a European Gigabit Society, 5G and converged networks, WiFi4EU and Broadband Europe	Carlota Reyners Fontana <i>Head of Unit B5, European Commission DG Communications Networks, Content and Technology Investment in High-Capacity Networks</i>	14:05	14:35
Planning successful broadband rollout! Best Practices from European regions	Winners of the 2017 European Broadband Awards share their experiences	Winners of the European Broadband Awards <ul style="list-style-type: none"> ▪ Colchester Business Broadband, UK <i>Steven Eke, Project Manager Colchester Borough Council</i> ▪ Coviolo Wireless, Italy <i>Francesco Berni, Municipality Reggio Emilia</i> ▪ Optic fiber to all houses on Gotland, Sweden <i>Anne Ståhl Mousa, IT Strategy and International Officer Gotland County</i> ▪ Initial impulse Glass-Fiber-City Lauchhammer Brandenburg, Germany <i>Heinz-Peter Labonte, Media Group Lausitz</i> 	14:35	15:30
Moderation: Tony Shortall				
Coffee Break			15:30	16:00
Tackling the digital rural divide	Ideas from the Interreg NSR project <i>Connecting Remote Areas with digital infrastructure and services</i>	Peyman Khodabakhsh <i>CORA Project Partner atene KOM</i>	16:00	16:10
Building a Collaborative Economy over Networks as in Commons	Local/regional example for tackling the rural divide	Ramon Roca <i>Project Manager, Guifi-net foundation, Spain</i>	16:10	16:20
Multi/ogues – Tackling the rural digital divide		All Participants <i>Multi + Dialogue = Interactions of the broadband stakeholder community</i>	16:20	16:45
Moderation: Darijus Valiucko				

Round Table Presentations		All Participants	16:45	17:20
Workshop summary	Summary of outputs of the workshop and outlook	Tim Brauckmüller <i>Managing Partner at atene KOM BCO Germany</i>	17:20	17:30