

Promoting the Digital Transformation

Insights from the European Broadband Community

A Workshop report with contribution of the European Broadband Community participating in the “Governmental Day” Workshop in the frame of the FTTH Conference 2019, Amsterdam



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1 Executive Summary

atene KOM hosted the fifth “Governmental Day” Workshop on the 12th of March 2019 in the frame of the FTTH Conference in Amsterdam, The Netherlands. The purpose of this Workshop was to provide an interactive platform for broadband stakeholders in the EU with a strong focus on addressing the challenges of broadband deployment and digitisation for municipalities, regions and their public administrations. The approach was not only to inform stakeholders about policy developments on the European and Member States’ level, but also to present best-practice solutions to given challenges, and to support the establishment of a strong community of all actors involved in the digitisation process. About 150 participants from the public (national, regional and local authorities), private and academic sector all over Europe joined the “Governmental Day” Workshop this year.

The opening keynote by the European Commission gave an update on broadband policy, including strategic objectives for 2025 and the current regulatory and financial framework. In their inspirational speeches, two winners of the European Broadband Awards 2018 introduced local broadband deployment initiatives from Wales and Sweden. Ensuring a fine-tuned and adjusted regulatory framework for electronic communications, a member of BEREC explained how markets in different geographical areas depend on different competitive conditions and are thus subject to different market analysis. The Finnish national broadband objectives and connectivity aims were introduced by the Finnish Ministry of Transport and Communication. Successful planning of broadband can be supported by mapping tools for effective implementation and monitoring of infrastructure roll-out – an approach presented by atene KOM GmbH. The last presentation picked up on the three main dimensions to bring about digital transformation: Digital infrastructure, digital services and digital skills. In the EU-funded Interreg project “CORA – **C**onnecting **R**emote **A**reas with digital infrastructure and services”, partners from seven EU Member States develop a digital transformation ecosystem model, which provides a comprehensive set of guiding measures towards digitalisation in rural areas.

Special feature of the “Governmental Day” Workshop is the interactive session where participants can express their views and talk about their experiences. In this fifth Workshop edition, participants came together in three working groups to identify measures that speed up broadband infrastructure development, solutions to support the uptake of digital services and approaches for improving the level of digital skills amongst communities.

This report summarises the Workshop presentations and the outputs of the interactive session expressed by Workshop participants.



Figure 1 Speakers and Organisers of the “Governmental Day” Workshop. From left to right: Magdalena Jähler, Peyman Khodabakhsh, Kristina Lundberg, Maija Ahokas, Wouter Degadt, Alexandra Rotileanu, Jorge Infante Gonzalez, Tony Shortall. Photocredit: Florian Schuh, atene KOM GmbH 2019.

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 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. The [European Electronic Communications Code](#) facilitates the roll-out of very high capacity networks through increased competition and predictability for investment.

Geographically segmented areas (i.e. remote and rural areas) are facing severe difficulties resulting from their limitations in broadband connectivity. Infrastructural investment in these areas is not adequately delivered due to e.g. high financial burdens for private investors. Associated with the lack of high-speed broadband infrastructure, digital skills and the use of digital technologies, businesses, communities and public administrations 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 addresses these issues by

- ➡ informing stakeholders about policy developments on the European and Member States' level (keynote by European Commission, presentations from Finnish Ministry),
- ➡ introducing possible solutions to given challenges (presentations from winners of European Broadband Awards 2018),
- ➡ presenting a European interregional cooperation project which develops measures towards digitalisation in rural areas, and
- ➡ facilitating 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.

The aim of the interactive session was to discuss the different dimensions for digital transformation, especially in rural areas, and to exchange ideas and potential solutions to overcome the rural digital divide. 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 Presentations

In her keynote, **Alexandra Rotileanu**, Policy Officer Unit B5 at **DG CONNECT**, gave an update on broadband policy by the European Commission. Alexandra Rotileanu provided a thorough insight into the strategic connectivity objectives for 2025 set within the [“European Gigabit Society”](#) and the [European Electronic Communications Code](#). She emphasised the financial support for broadband under the current multiannual financial framework (MFF) and especially outlined the telecoms strand under the [Connecting Europe Facility \(CEF\)](#) that also includes the [Connecting Europe Broadband Fund \(CEBF\)](#) and the [WiFi4EU initiative](#). The new MFF 2021 to 2027 allocates 3 billion EUR to CEF DIGITAL and also looks e.g. for synergies with transport and energy networks to enable the digital transformation. Alexandra Rotileanu was satisfied with the success of the WiFi4EU program – the vouchers for European municipalities to be applied for the installation and purchase of Wifi equipment were exhausted within the first hour after the opening of the first call for funding. The next call is expected in spring 2019.



Figure 2 Alexandra Rotileanu, Policy Officer Unit B5 at DG CONNECT, European Commission. Photocredit: Florian Schuh, atene KOM GmbH 2019.

Two winner projects of the [European Broadband Awards 2018](#) presented their local initiatives.

In her speech, **Carina Dunk** introduced the [Michaelston-y-Fedw Internet Community Interest Company, UK](#) – a project that gained start-up capital from the local community and provides broadband to a small region in Wales. The project is a great example of installing a gigabit up- and download FTTP network. Any profits generated by the broadband services are reinvested back into the services and infrastructure, or in further community-level projects, identified by the shareholders of the community interest company.



Figure 3 Carina Dunk, Project Manager Michaelston-y-Fedw Internet Community Interest Company, UK. Photocredit: Florian Schuh, atene KOM GmbH 2019.

Kristina Lundberg presented the [Welcoming Sunne in Sweden to the Network of the Future](#)-project. In this project, the old copper network was replaced with fibre and mobile networks in this Swedish municipality. Thanks to the successful collaboration of the municipality with the internet provider Telia, all residents benefit from a modern communication infrastructure with download speeds of up to 1 Gbps. Besides the infrastructure, the municipality and internet service provider Telia launched an educational initiative “More Digital”, as a key part of helping seniors take their first steps to become digitally literate.



Figure 4 Kristina Lundberg, Business manager at Sunne Municipality. Photocredit: Florian Schuh, atene KOM GmbH 2019.

Fine-tuning the regulatory framework based on **different geographical areas and market and competitive conditions** was the topic of **Jorge Infante Gonzalez**' presentation. The Co-Chair of the Market & Economic Analysis Experts Working Group at BEREC explained how the Body of European Regulators for Electronic Communications ensures independent, consistent, high-quality application of the European regulatory framework for electronic communications markets for the benefit of Europe and its citizens. Thereby, the concept of geographical segmentation aims to differentiate market definition or imposition of remedies in different geographical areas depending on different competitive conditions. Geographical differences can occur for example in the coverage of alternative networks, retail or wholesale market shares of the incumbent or economies of scale.



Figure 5 Jorge Infante Gonzalez, BEREC. Photocredit: Florian Schuh, atene KOM GmbH 2019.

Finland's Presidency of the Council of the European Union begins on 1 July 2019. On this occasion, the Member State was selected to present their broadband and connectivity aims in the frame of the Workshop. Represented by **Maija Ahokas, the Ministry of Transport and Communications Finland** determines the objective of access to at least 100 Mbps for all households by 2025, which is in line with the objectives of the European Commission. As an outstanding fact: Finland is the top European user of mobile data and benefits from a 3G/ 4G network coverage of over 99%. Finland's aim is to be amongst the international leaders in testing, developing and introducing 5G networks.



Figure 6 Maija Ahokas, Ministry of Transport and Communications, Finland. Photocredit: Florian Schuh, atene KOM GmbH 2019.

Christian Zieske emphasised in his presentation that **successful broadband roll-out can be supported by a geo-information system (GIS)** – the visualisation of data in GIS facilitates analyses, decisions and planning processes of the public sector. The Federal Funding Programme in Germany makes use of the Geonode tool visualising network components. An initiative by the German head Chamber of Industry and Commerce and atene KOM GmbH provides regional industry and chambers of industry and commerce with information on where broadband development is planned in commercial or industrial zones. Also the Broadband Competence Centre in the federal state of Schleswig-Holstein uses Geonode as a new Broadband Information System.



Figure 7 Christian Zieske, atene KOM GmbH. Photocredit: Florian Schuh, atene KOM GmbH 2019.

In the last Workshop presentation, **Peyman Khodabakhsh (atene KOM GmbH)** and **Wouter Degadt (Interkommunale Leiedal)** took up the three main dimensions to bring about digital transformation: Digital infrastructure, digital services and digital skills. In the EU-funded [Interreg NSR Project “Connecting Remote Areas with digital infrastructure and services \(CORA\)”](#), 18 partners from seven EU Member States develop a digital transformation ecosystem model, which provides a comprehensive set of guiding measures towards digitalisation in rural areas. 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 emphasises the main components of digital divide, namely lack of digital infrastructure, services and skills. The presented CORA pilot projects illustrated the diversity of the digital transformation.

- In Leiedal (Belgium), an intelligent business park with open access optical fiber infrastructure is part of the project. There, the data collected with the help of sensors and cameras are used for measuring the air quality and for ensuring the safety of the business park.
- The THINK project at the University of Lincoln (UK) is about bringing people and technology together in a meaningful way to raise interest, initiate learning, and drive innovation in the Lincolnshire area.

- In Syddjurs (Denmark), a digitally equipped bus is part of the project. Together with four project team members, the bus helps patients and families to learn more about dementia.
- The collective municipality Hüttener Berge (Schleswig-Holstein) has developed a digital citizen portal used by the municipalities of the rural region.

As part of CORA, a free of charge [e-learning](#) course is now available that gives local communities and decision-makers a better understanding of the possibilities and implementation of digital infrastructure, digital skills and digital services.



Figure 8 Peyman Khodabakhsh, atene KOM GmbH. Photocredit: Florian Schuh, atene KOM GmbH 2019.



Figure 9 Wouter Degadt, Interkommunale Leiedal. Photocredit: Florian Schuh, atene KOM GmbH 2019.



Figure 10 Moderator of the “Governmental Day” Workshop: Tony Shortall, Director of Telage. Photocredit: Florian Schuh, atene KOM GmbH 2019.

All presentations can be retrieved from

- ➔ <https://atenekom.eu/company/events/governmental-day-workshop-2019-amsterdam/?lang=en>
- ➔ <https://www.ftthconference.eu/programme/conference-programme/12-march>

4 Promoting the main dimensions of digital transformation

All workshop participants were offered the chance to get actively involved, express their views and exchange ideas and experiences with fellow stakeholders concerning the digital transformation process. This interactive session dealt with the three main dimensions of digital transformation, namely digital infrastructure, digital services and digital skills and competences. Precisely, participants were asked to come together in three working groups to (1) identify measures that speed up broadband infrastructure development, (2) solutions to improve the uptake of digital services and (3) approaches for improving the level of digital skills within communities.



Figure 11 Working groups at interactive session. Photocredit: Florian Schuh, atene KOM GmbH 2019.



Figure 12 Participants of the interactive session. Photocredit: Florian Schuh, atene KOM GmbH 2019.

4.1 Digital infrastructure

The EU and the national governments support broadband development and the creation of the Giga-bit society with a number of initiatives. Most importantly, a substantial amount of public money is allocated to different funding pools that support broadband expansion projects as well as research and development activities for accelerating new technologies. The proposed EU budget for the 2021-2027 period includes a priority on strategic infrastructure, digital transformation and the Single Market. Additionally, the EU set up a network of the Broadband Competence Offices (BCOs) that connects national and regional authorities supporting broadband deployment across the EU.

The session emphasises the **main measures that really help speeding up broadband development** and the **reasons why Europe still lacks behind despite of these favourable initiatives**.

The participants of this working group came up with the following important measures:

- ➡ Financial, administrative and advisory support by regional authorities, national governments and the EU, especially for small municipalities that do neither have the financial capacities or the experience to deal with the challenges of broadband development
- ➡ Guaranteeing open access networks and other minimum rules in order to qualify for EU funding
- ➡ Determination of standards and recommendations by governments for infrastructure deployment
- ➡ Promotion of competition amongst sub-contractors on the active layer to ensure the best prices for end users and the development of innovative digital services
- ➡ Implementation of positive business cases can supersede public funding
- ➡ Overcoming the lack of knowledge to diminish the most crucial barrier in many remote areas



Figure 13 Haakon Gjems, Grue Municipality Norway presenting the outcomes of the working group on digital Infrastructure. Photocredit: Florian Schuh, atene KOM GmbH 2019.

4.2 Digital services

Take-up means the regular internet and e-services used by people, enterprises and administration. This indicator is used to estimate how and if the use of internet has become a tool of everyday life. In this context, main barriers for local authorities, enterprises and citizens to increase the take-up of digital services are for example a lack of knowledge and skills, affordability, accessibility as well as lack of awareness.

During the session participants discussed different **solutions and approaches**, which local and regional authorities can implement **to improve the level of availability and take-up of digital services** in their region!

The participants of this working group came up with the following important measures:

- ➔ Successful pilot projects for the take-up of digital services should be implemented at larger scale – this especially includes “advertising” pilots and communicating the successful projects
- ➔ Ensuring a return-on-investment for digital services – positive business cases are key
- ➔ Dissemination and further development of readily accessible digital services connected to personal/ social/ emotional experiences (e.g. Skype video calls with family and friends or on-demand streaming of big sport events).
- ➔ Digital skills need to be further developed in order to exploit the networks and improve the level of availability and take-up of digital services. Limited digital literacy is closely connected with a lack of take-up, but actually presents a key driver for new business models, applications and services to be developed.



Figure 14 Wouter Degadt, Interkommunale Leiedal and Christian Zieske, atene KOM GmbH working together with the participants on digital services. Photocredit: Florian Schuh, atene KOM GmbH 2019.

4.3 Digital skills and competences

Awareness raising and training of citizens is key to enable a digital society and successfully exploit already existing networks, to ensure the future expansion and use of digital technologies. Measures need to be in place to improve a range of basic to advanced digital skills of different socio-economic groups of the society. One of the questions would be, whether an enhanced level of skills will have a direct influence on the demand for very high-speed networks and fibre, and in how far it presents a wheel to speed up the pace of broadband development?

In this session, different **solutions and approaches** were discussed, which local and regional authorities can use **to improve the level of digital skills within communities**.

The participants of this working group came up with the following important measures:

- ➔ Awareness raising and training of citizens is key and should be supported to exploit already existing networks and to ensure the future expansion of the network.
- ➔ Children should teach adults or elderly people how and for what to use the internet (e.g. online banking, shopping, research, etc.)
- ➔ Digital learning centres (e.g. in libraries) should be set up – also in rural areas, such centres should be easy to reach for all people
- ➔ Support of community-led local development of initiatives to enhance the level of digital skills amongst the people
- ➔ Promotion of innovation and business development through a higher level of digital skills and competences (not only basic digital skills)



Figure 15 Jens Myrup Pedersen, University of Aalborg presenting the outcomes of the working group on digital skills. Photo-credit: Florian Schuh, atene KOM GmbH 2019.

5 Conclusions and 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 session disclosed the big variety of digitisation challenges and actions to take here and now to get the digital transformation off the ground. Continuation is planned in the frame of the next FTTH Conference taking place in Berlin from 21-23 April 2020.

6 Appendix

6.1 Workshop Agenda

12 MARCH 2019, RAI AMSTERDAM, THE NETHERLANDS

Moderation: Tony Shortall, Director at Telage

Session		Speakers
14:00 - 14:10 Welcome and opening remarks		Tim Brauckmüller CEO atene KOM GmbH
Part I: Policy Update		
14:10 - 14:30 Digital Single Market	European Commission broadband policy update <ul style="list-style-type: none"> » Connectivity for a European Gigabit Society » European Communication Code » WiFi4EU » Mapping » Post 2020 plans 	Alexandra Rotileanu Policy Officer, DG Communications Networks, Content and Technology, European Commission
14:30 - 15:00 Broadband Deployment in EU Member States	Presentations of Best Practice solutions from European regions <ul style="list-style-type: none"> » Innovative models of financing » Cost-reduction measures » Territorial cohesion in rural areas » Socio-economic impact of high-speed infrastructure 	Winners of European Broadband Awards 2018: Carina Dunk Michaelston-y-Fedw Internet CIC, Wales, UK Kristina Lundberg Welcoming Sunne municipality to the Network of the Future, Sweden
15:00 - 15:20 Geographical identification	Measures and implications for authorities and investors: How does regulation influence the pace at which innovative services are brought to the market?	Dr Jorge Infante Gonzalez Co-Chair Market & Economic Analysis Experts Working Group BERE
15:20 - 15:35 Coffee Break		
Part II: "European Broadband Safari": Bridging the Rural Digital Divide		
15:35 - 15:50 Rural digital inclusion	Finland's broadband achievements, targets and planned actions to close the digital gap	Maija Ahokas Ministry of Transport and Communications, Finland
15:50 - 16:10 Mapping the fibre infrastructure rollout	Presentation of a spatial data platform for planning, effective implementation and monitoring of the infrastructure roll-out	Christian Zieske Expert, atene KOM GmbH
16:10 - 16:30 Digital inclusion in rural Europe	Presentation of pilot activities that improve the attractiveness and productivity of rural areas <ul style="list-style-type: none"> » What are the existing common local gaps in digital skills and services? » Guiding measures for local authorities that help bridging the digital divide » Pilot projects 	Dr Peyman Khodabakhsh Project Manager CORA, atene KOM GmbH Wouter Degadt Coordinator e-Government at Intercommunale Leiedal
16:30 - 17:25 Interactive session	Workshop participants discuss different dimensions of the digital divide and draw up solutions / quick win strategies.	
17:25 - 17:30 Closing remarks		Tim Brauckmüller CEO atene KOM GmbH

6.2 Speakers Brochure

SPEAKERS

**“GOVERNMENTAL DAY”
WORKSHOP 2019,
FTTH CONFERENCE
AMSTERDAM**



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The “Governmental Day” Workshop is a concept by atene KOM GmbH that is implemented in the frame of different events focusing on broadband development and digitisation.

The “Governmental Day” Workshop provides an interactive platform for European broadband stakeholders. It tackles the challenges of broadband deployment and digitisation for municipalities, regions and their public administrations. It informs about political developments at European level, presents innovative best-practice solutions and supports the establishment of a strong community of all actors involved in the digitisation process.

The “Governmental Day” Workshop addresses policy makers, public officials, and regional and local bodies. It includes a keynote by the European Commission and presentations from EU Member States. Panel discussions and participatory sessions cover current key issues in broadband and digitisation in Europe.

The aim of the “Governmental Day” Workshop is to provide decision makers and actors from all EU Member States and regions an information and knowledge exchange platform, and thus to promote their cooperation in the fields of digital infrastructure, services and skills

12 MARCH 2019, RAI AMSTERDAM, THE NETHERLANDS

Moderation: Tony Shortall, Director at Telage

Session	Speakers	
14:00-14:10	Tim Brauckmüller CEO atene KOM GmbH	
Welcome and opening remarks		
Part I: Policy Update		
14:10-14:30	European Commission broadband policy update <ul style="list-style-type: none">» Connectivity for a European Gigabit Society» European Communication Code» WiFi4EU» Mapping» Post 2020 plans	Alexandra Rotileanu Policy Officer, DG Communications Networks, Content and Technology, European Commission
Digital Single Market		
14:30-15:00	Presentations of Best Practice solutions from European regions <ul style="list-style-type: none">» Innovative models of financing» Cost-reduction measures» Territorial cohesion in rural areas» Socio-economic impact of high-speed infrastructure	Winners of European Broadband Awards 2018: Carina Dunk Michaelston-y-Fedw Internet CIC, Wales, UK Kristina Lundberg Welcoming Sunne municipality to the Network of the Future, Sweden
Broadband Deployment in EU Member States		
15:00-15:20	Measures and implications for authorities and investors: How does regulation influence the pace at which innovative services are brought to the market?	Jorge Infante Gonzalez Co-Chair Market & Economic Analysis Experts Working Group BEREC
Geographical identification		
15:20-15:35		
Coffee Break		

Part II: "European Broadband Safari": Bridging the Rural Digital Divide		
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16:30-17:25 Interactive session	Workshop participants discuss different dimensions of the digital divide and draw up solutions / quick win strategies.	
17:25-17:30 Closing remarks	Tim Brauckmüller CEO atene KOM GmbH	

SPEAKERS



Tim Brauckmüller

Managing Partner of atene KOM GmbH, Berlin, Germany

Tim Brauckmüller is the managing partner of atene KOM GmbH, the first chairman of the European Institute for Innovation e.V. and managing director of the Federal Broadband Bureau Germany (National Broadband Competence Centre).

As a renowned expert for broadband development, Tim Brauckmüller is the project manager for the “Broadband Europe” portal that is implemented on behalf of the European Commission, DG Connect, as well as the German federal funding programme for broadband development, which was initiated by the Federal Ministry of Transport and Digital Infrastructure in 2015.

Tim Brauckmüller initiated the “Governmental Day” Workshop for the first time in 2014 with the aim to provide decision makers and actors from all EU Member States and regions an information and knowledge exchange platform, and thus to promote their cooperation in the fields of development of digital infrastructures and services, building digital competences and innovative use of high-capacity networks.



Tony Shortall

MODERATION
Director at Telage

Tony Shortall is Director of Telage, a consultancy in the field of telecommunications economics and regulation. He is an economist specialising in the regulation of network industries and is acknowledged expert in the area of telecommunications policy and regulation. Tony previously worked as senior economist at the European Commission and the Irish Competition Authority, Tony also worked in the telecommunications industry having worked with both fixed and mobile operators. He has written extensively on these matters and has advised governments, regulators and firms.

Tony is advising the FTTH Council Europe on policy and regulatory matters for a number of years and has been working with the Governmental Day workshop since its inception in 2014.

He holds degrees in economics (M.A.) and computers (B.A.) from University College Cork, Ireland and an LLM from the BSC in Brussels, Belgium.



Alexandra Rotileanu

Policy Officer, DG Communications Networks, Content and Technology, European Commission

Alexandra Rotileanu is a Policy Officer in the unit “Investments in High Capacity Networks” in DG CONNECT at the European Commission. The unit is in charge of developing and implementing a consistent EU broadband policy. Alexandra Rotileanu is closely involved in the negotiations on the digital strand of the Connecting Europe Facility after 2020 as well as in the reflection regarding its future implementation.

Alexandra Rotileanu has extensive experience in DG CONNECT’s broadband funding activities, including the use of ESIF funds and regarding the Connecting Europe Broadband Fund, as well as a solid background in telecom regulation.



Kristina Lundberg

Welcoming Sunne municipality to the Network of the Future, Sweden

Kristina Lundberg is a manager at the Business and Development unit at Sunne municipality, Sweden. The unit is responsible for promoting entrepreneurship, growth in existing companies and attracting new investments to the municipality. One of the most important issues in 2010 was to create a model for broadband expansion throughout the municipality and Kristina Lundberg was assigned the role as the project manager.

This was the basis from which the project “Welcoming Sunne to the Network of the future” started in 2017 and also included digital education for the older population. The project won the European Broadband Award 2018 assigned by the European Commission.



Carina Dunk

Michaelston-y-Fedw Internet CIC, Wales, UK

Carina Dunk’s past career included Human Resources, Training, Recruitment and Outplacement. Having been retired for the past 5 years, Carina’s time is taken up with golf, dressmaking, entertaining friends and a community project which is ongoing. Her main roles in the internet project are splicing fibres and producing the regular newsletters for the website www.myfi.wales. The project won the European Broadband Award 2018 assigned by the European Commission.



Dr Jorge Infante Gonzalez

Co-Chair Market & Economic Analysis Experts Working Group BEREC

Jorge Infante is a senior expert at the National Regulatory Authority for electronic communication services in Spain (CNMC). He is involved in BEREC, the Body of European Regulators for Electronic Communications, co-chairing the expert working group on Market and Economic Analysis, having also chaired the BEREC expert groups on International Roaming and Convergence.

Along his professional career, he has been involved in the development of network and service systems in the Telefonica R&D labs, Retevisión and Indra and has also been a visiting professor in Universitat Pompeu Fabra. Jorge Infante is the author of various publications in the field of telecommunications and regulation.

In 2015-16 Jorge Infante joined the OECD, where he was involved in the coordination and preparation of a broadband policy toolkit for Latin America and the Caribbean region.

He is a telecommunications engineer and has a doctoral degree on “Knowledge and Information Society”.



Maija Ahokas

Ministry of Transport and Communications, Finland

Maija Ahokas is the Director of the Networks Regulation Unit, Networks Department at the Ministry of Transport and Communications of Finland.

The Networks Department is responsible for matters relating to networks and channels used for transporting people, goods, services, information and data as well as network markets; coordination of land use, housing, services and business operations with networks; environmental issues and climate policy; energy issues and propulsion systems; guidance and management regarding mobility and network use; spectrum policy; operating licences for the construction and use of networks; consumer aspects regarding networks and internet governance.

Maija Ahokas served in several different ministries before joining the Ministry of Transport and Communications in 2010. Before the current position, Maija Ahokas worked as a Director in the Ministry's Services Department.

Maija Ahokas holds a Master's degree in Law from the University of Helsinki.



Dr Peyman Khodabakhsh

Project Manager CORA, atene KOM GmbH

Dr Peyman Khodabakhsh is project manager at atene KOM GmbH and responsible for transnational project development and management in the area of digital transformation (e.g. EU funded projects such as CORA and DANS ON).

He has been the coordinator of the Governmental Day Workshop series since 2015 and contributed in handling studies and analysis in the areas of broadband development, digitalisation and smart cities (e.g. National Broadband Plans study on behalf of the EU Commission, DG Connect). He has been project manager of the Broadband Europe Portal and contributed to the pre-evaluation of the European Broadband Awards 2017 on behalf of the European Commission.



Christian Zieske

Expert, atene KOM GmbH

Christian Zieske worked as a freelancer and academic tutor for planning regulations, urban infrastructure and EU-funded co-operation and exchange programmes.

He practised as Research Officer and Senior Finance Officer at the Interreg North Sea Region programme secretariat in Viborg, Denmark. He was assigned with pre-assessing and evaluating project applications, major event management and analysis for various boards and committees. He was also responsible for the communication with national and international control levels and produced reports and claims, proposals and presentations for the EU administration and authorities.

Since 2012, Christian works for atene KOM GmbH, mainly in charge of and co-operating in the development and implementation of projects in the European context, consulting on strategic and operational embedding into co-funding schemes and active around the urban and rural space. Apart from his knowledge and engagement about the Digital Agenda for Europe, he is working as deputy CEO in the Federal Broadband Bureau. Christian holds a state exam in business administration and marketing and a degree as Engineer in architecture and town planning.



Wouter Degadt

Coordinator e-Government at Intercommunale Leiedal

Wouter Degadt is the coordinator for e-Government, smart cities and digital transition at Intercommunal Leiedal, Belgium.

Wouter is responsible for multiple European projects. He brings innovation, open data, digital services and infrastructure to municipalities and their citizens to create a smart region in the South-West of Flanders, Belgium.

6.3 Presentation Broadband Policy Update by Alexandra Rotileanu, EU COM



Update on Broadband Policy

Governmental Day Workshop

12 March 2019

Amsterdam

EU 2018



59.7% coverage with ultrafast broadband

19.9% rural areas

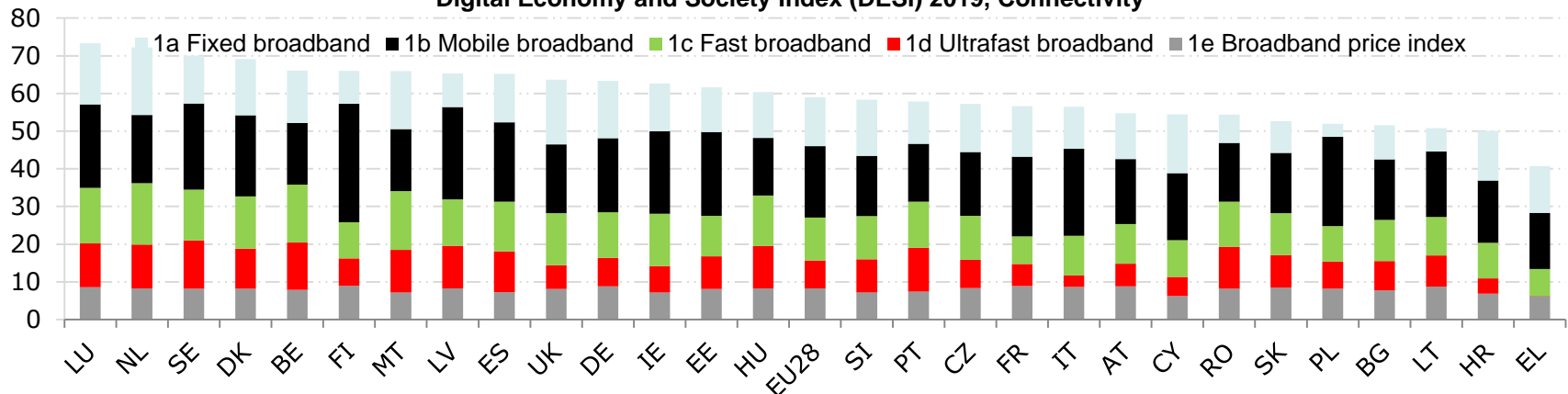
40.6% take up of ultrafast broadband

15% rural areas

29.6% FTTP coverage

14.1% rural areas

Digital Economy and Society Index (DESI) 2019, Connectivity



Towards a "European Gigabit Society"

3 strategic connectivity objectives for 2025

1. **All main socio-economic drivers** should have **access to gigabit connectivity**: schools, business parks, universities, research centres, hospitals, etc.
2. **All urban areas and major roads and railways** should have **uninterrupted 5G coverage**; 5G should be commercially available in at least one major city in each EU Member State by 2020
3. **All European households**, rural or urban, should have access to connectivity offering a **download speed of at least 100 Mbps**, upgradable to gigabit speed

Policy &
Regulation

EU funding
initiatives for
broadband

Post-2020
Multi-Financial
Framework

European Electronic Communications Code

Facilitate the roll-out of very high capacity (VHC) networks through increased competition and predictability for investment by:

- ☐ Promoting **co-investment deployment** to reduce the risk faced by single operators.
- ☐ Simplified regulatory model for **wholesale-only networks** to facilitate deployment of VHC networks deeper into suburban and rural areas.
- ☐ Empowering national regulators with tools for **mapping of broadband infrastructure and investment intentions** to provide investment certainty in less attractive areas.
- ☐ Facilitating **access to civil infrastructure**, such as ducts, masts, and cabinets etc., which will lower significantly deployment costs.
- ☐ **Coordinated timing of 5G spectrum assignment:** deadline for 5G Pioneer Bands December 2020
- ☐ Sufficiently long **duration of rights for 5G harmonized spectrum: 20 years**
- ☐ **Facilitation of small cells deployment** and RLAN access: removal of administrative obstacles and undue restrictions

Financial support for broadband under the current MFF

Structural and Investment Funds (ESIF)

- European Regional Development Fund (ERDF)
- European Agricultural Fund for Rural Development (EAFRD)
- € 6 billion for digital networks

Connecting Europe Facility (CEF) – Telecoms strand

- EUR 17.5 million commitment under the **CEF Debt Instrument** reserved for broadband
- **Connecting Europe Broadband Fund (CEBF)** with an expected leverage of € 1-1.7 billion
- **WiFi4EU initiative** € 150 million for equipment

European Fund for Strategic Investments (EFSI)

- As of February 2019, EUR 3.53 bn **EFSI guarantee** having unlocked **total related EFSI investments of EUR 16.2 billion** into pure broadband projects

Update on WiFi4EU



The European Union is bringing free Wi-Fi to the public parks, squares, libraries, town halls...

€120 million of EU investments in vouchers

At least 6,000 to 8,000 local communities

WHO WILL BENEFIT?

Increased
to EUR 150
million

Everyone: WiFi4EU will give free internet access to local residents and visitors throughout the entire EU in the main centres of community life (parks, squares, libraries, public buildings, etc.).



WHO CAN APPLY?

Municipalities or groups of municipalities:

Who would like to offer digital public services such as eGovernment, eHealth, eTourism, etc.

Who seek funding for equipment and installation and can provide free connection to their community for at least 3 years.



one voucher per municipality
= €15,000

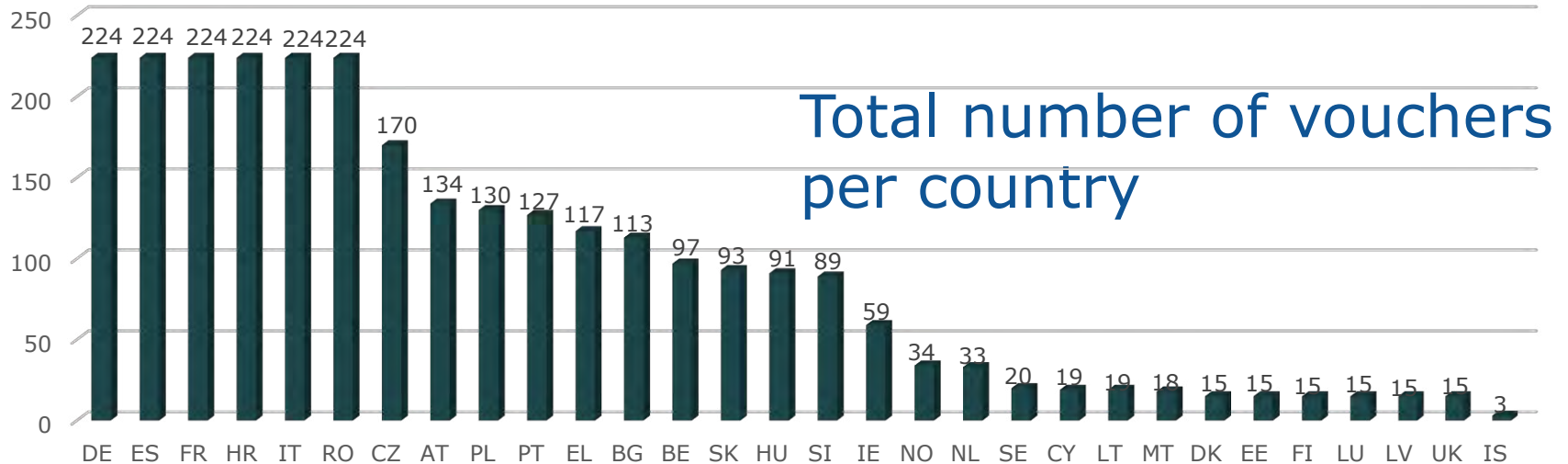
Call 1: 7-9 November 2018 - 2800 vouchers – EUR 42 million

Current rules:

- **First come first served:** first 2800 municipalities to hit the Apply button
- In addition, to balance the geographical distribution, some automatic adjustments are made to the list of the first 2800 ones:
 - if a country does not reach the minimum 15 vouchers, we go beyond the first 2800 ones to first guarantee the minimum 15
 - if a country reaches more than the maximum 8% (224 vouchers), then we stop allocating vouchers for that country
- As requested by some Member States, the cap has been increased to 15%

- **17.000** municipalities registered, **13.200** applied
- **99,6%** of the 2800 vouchers were exhausted within the first hour,
 - **IT DE ES FR**: all vouchers exhausted within **first 3 seconds**
 - Other countries within **first 8 minutes** (but UK IS LU LV)
 - last voucher on the second day at 9:06.
- **Six countries reached the maximum** number of vouchers (**DE ES FR IT RO HR**)
- **All countries reached the minimum** of 15 vouchers, but Iceland
- **2.658** grant agreements signed

Wifi4EU results of the first call– Distribution of the 2800 vouchers

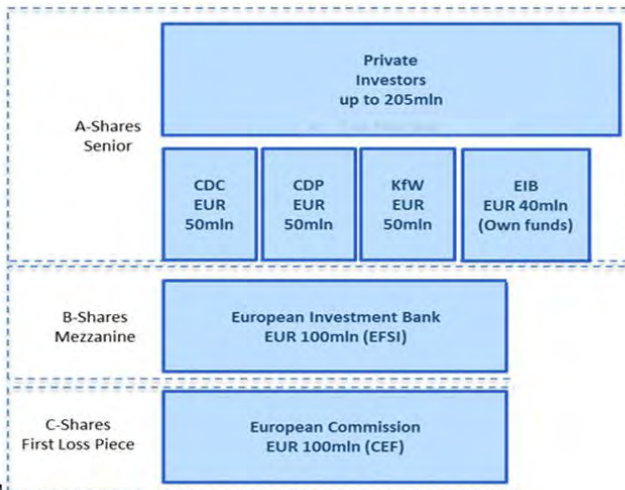


Time at which
countries
reached their
number of
vouchers

TIME OF THE LAST « WINNING » APPLICATION			
COUNTRY			
PT	2018-11-07 13:01:12.544		
IT	2018-11-07 13:00:01.179	CZ	2018-11-07 13:01:12.659
DE	2018-11-07 13:00:02.144	BG	2018-11-07 13:01:12.701
ES	2018-11-07 13:00:02.536	IE	2018-11-07 13:01:13.430
FR	2018-11-07 13:00:03.626	HU	2018-11-07 13:01:13.766
RO	2018-11-07 13:00:09.613	PL	2018-11-07 13:01:13.996
CY	2018-11-07 13:00:13.312	SE	2018-11-07 13:01:14.179
LT	2018-11-07 13:00:28.221	SK	2018-11-07 13:01:14.321
HR	2018-11-07 13:00:29.350	AT	2018-11-07 13:01:14.393
DK	2018-11-07 13:00:37.502	BE	2018-11-07 13:01:15.657
SI	2018-11-07 13:01:02.156	EE	2018-11-07 13:02:28.447
MT	2018-11-07 13:01:09.627	FI	2018-11-07 13:07:58.177
NO	2018-11-07 13:01:10.473	UK	2018-11-07 13:40:16.604
EL	2018-11-07 13:01:11.269	IS	2018-11-07 17:02:04.002
NL	2018-11-07 13:01:11.936	LU	2018-11-08 08:47:37.529
		LV	2018-11-08 09:06:36.607

- **Installation of equipment:** The municipalities that have a grant agreement signed with the Commission can start installing. Companies will be able to **declare the installation** around end March-early April.
- **Single authentication:** Goal is to provide a secure solution for WiFi authentication with an easy to access experience across the EU. **Call of tender** expected to be published in Q1 2019.
- An **interactive forum** that serves as a direct, focal point with stakeholders (i.e. municipalities and Wi-Fi installation companies) for information exchange <https://ec.europa.eu/futurium/en/wifi4eu>
- **Next call:** spring 2019

Fund Description



- Aimed at directing private investors to **smaller, riskier broadband projects in underserved areas**
- Minimum 420 million EUR, 20-year fund with an expected leverage of **1 to 1.7bn EUR**
- Layered fund with **market standard governance** structure and **attractive risk / return profile**
- **Independent** fund manager Cube IM
- Public investors supervise compliance with **investment guidelines**

Strategy & types of investments

- Eligible projects according to the legal base of Connecting Europe Facility Regulation, i.e. broadband projects contributing significantly to the achievement of **EU connectivity targets** → focus on **less dense areas** (mostly rural), white and grey areas + requirement to invest in minimum 12 countries, target **20 countries**
- **Equity** and quasi-equity
- **Minority** positions
- **Small, but technically and commercially viable greenfield projects** (EUR 1-30 mln*, average EUR 12 mln)

First Close

- First close in June 2018
- Invested until June 2021

Second Close

- Expected after 18 months
- Cap at EUR 600 million

First project

- RENE Project Croatia: (FTTH) open-access network for residential, business and public administration in the rural areas of the Primorje-Gorski Kotar and Istria regions - over 135,000 locations

Contact for project promoters

www.cubeinfrastructure.com
cebf@cubeim.com

CEF DIGITAL 2021-2027

€3 billion

Focus on connectivity infrastructure to enable digital transformation

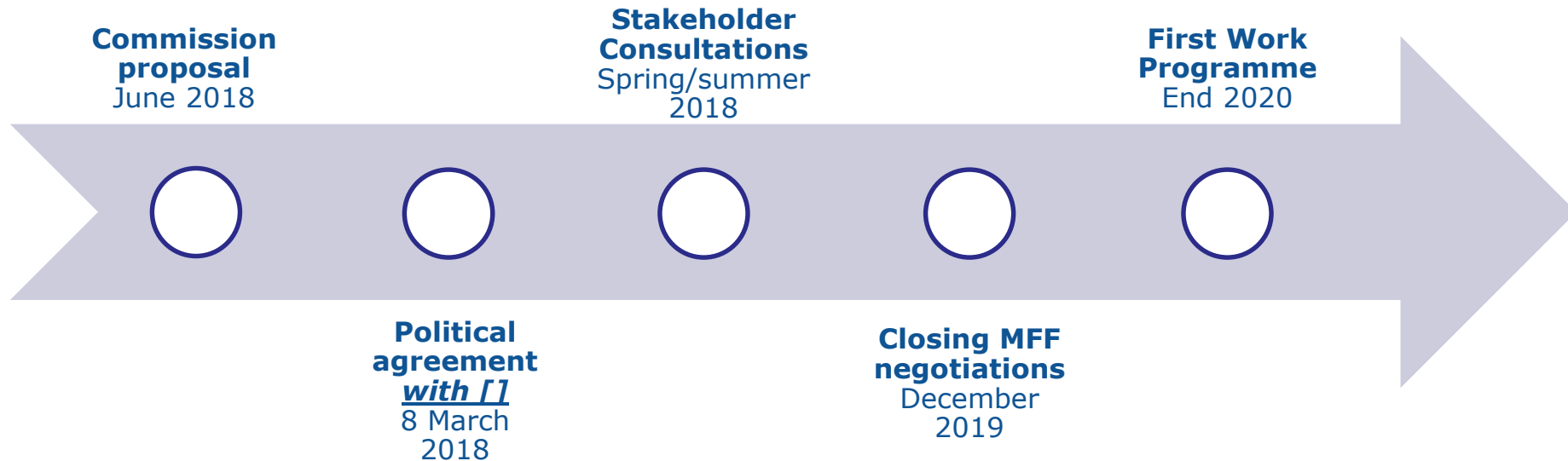
Alignment with Gigabit Society Strategy objectives (€ 155 bn gap)

Complementarity with Digital Europe, structural funds & InvestEU

Synergies with transport and energy networks within CEF

- Cross-border 5G automotive corridors
- Gigabit connected hospitals, schools, business parks, public WiFi & coverage of surrounding areas
- Key international/ cross-border connectivity

CEF DIGITAL 2021-2027 Timeline



5G corridors along transport paths

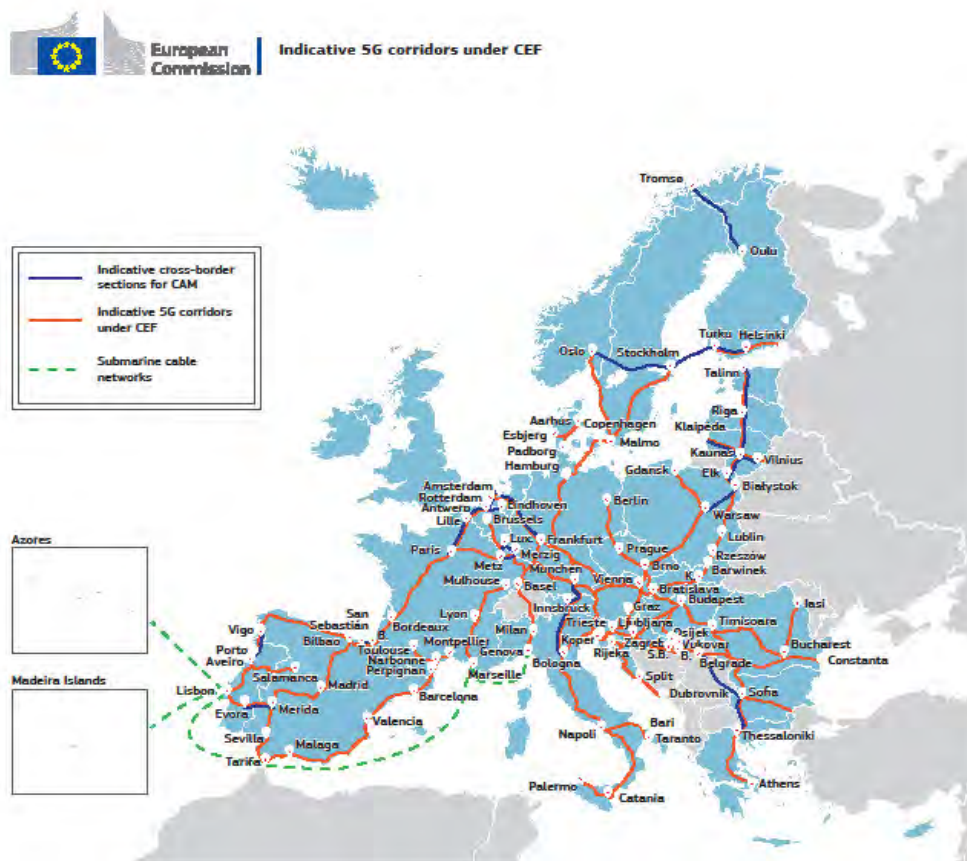
- Uninterrupted 5G coverage of cross-border sections on pre-agreed (indicative) corridors
- 5G coverage of other transport paths (rail, inland waterways)

2nd objective
Gigabit Society
5G Action Plan

- Strategic deployment agenda & cross-sector public - private partnerships

- Access to roads and spectrum as pre-condition & intra-MS continuation of service

- Complementary to Digital Europe and Horizon Europe Programmes



Gigabit connectivity for socio-economic drivers & coverage of surrounding households

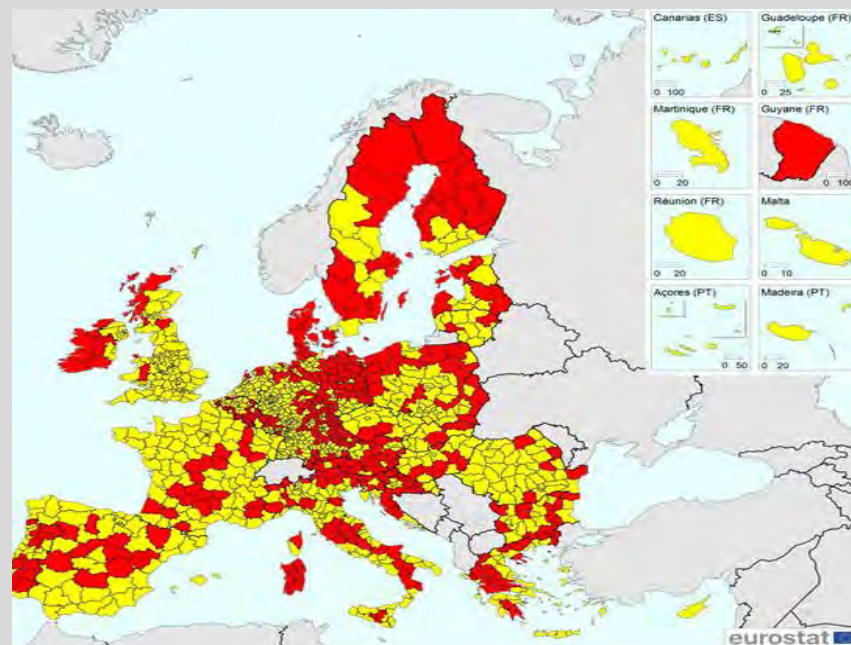
**VHC (including 5G) connectivity to as many
socio-economic drivers as possible**

**Maximising number of household coverage in
the surrounding areas**

**1st Gigabit
Society
objective**

Build 5G communities
Boost use of online services
Reduce digital divides

Complementarity with Digital Europe
Delineation from structural funds and
InvestEU



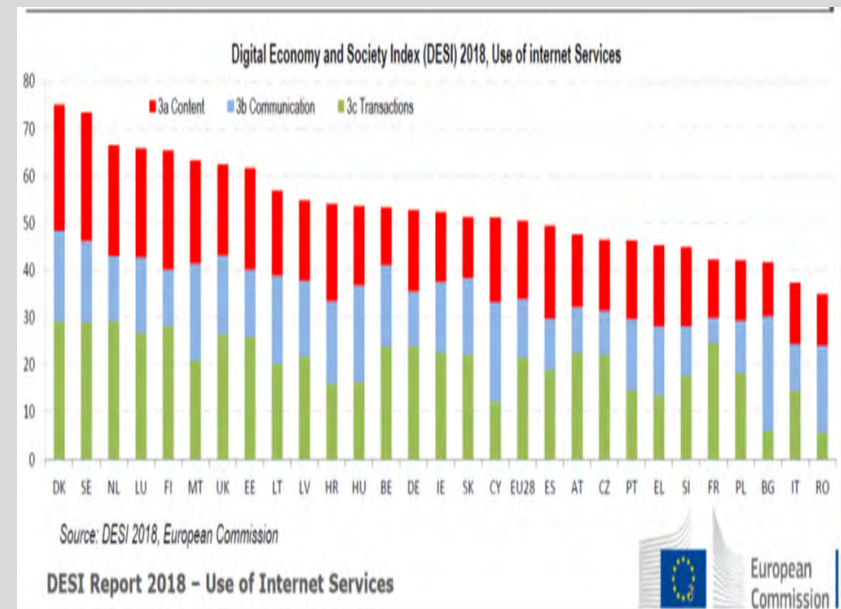
**European
Commission**

Evolution of WiFi4EU & synergy projects

Next generation “WiFi4EU”: different selection criteria & possible integration with 5G ready small cells

Gigabit Society objective

- Massive demand for Wifi4EU vouchers
- Synergies with SED connectivity, Digital Europe Programme
- Possibilities for smart cities, including via synergy projects (e.g. digital operational platforms)



Key international and cross-border connectivity

Terabit links making high performance computing available throughout Europe

Increasing capacity & resilience of connections to EU islands or between EU and external hubs



Examples:
Submarine cables intra EU or reaching outside EU;
Links between digital innovation hubs to HPCs

Thank you for your attention!

Questions?

6.4 Presentation Michaelston-y-Fedw Internet CIC by Carina Dunk, Wales, UK

Michaelston-y-Fedw
Internet CIC

**Community Built Project
to Install 1 Gbps FTTP**

www.myfi.wales

Michaelston-y-Fedw Internet CIC

FINANCE

Welsh Government Grants :

ABC ~ Access Broadband Cymru for residential properties currently receiving less than 30 Mbps

UCV ~ Ultrafast Connectivity Voucher for businesses.

Grants paid upon completion of connection and a live service
Total income around £300,000

Investors :

Start up Capital required for materials and contractors.

SEIS ~ Seed Enterprise Investment Scheme

3 year investment plan



Michaelston-y-Fedw Internet CIC



BUSINESS

Community Interest Company :

Not for Profit ~ any future profits will be used to upgrade and improve the network, equipment or for community projects ~ voted on by the shareholders

Directors and Sub Committee:

Unpaid / voluntary

Farmers and Landowners :

Free wayleaves around the community

Volunteers:

Working on tasks including blowing of fibre, fusion and splicing, installing FTU's, laying ducts to properties, fitting out the Hub, etc

Local Contractors

Preferential rates providing work to local businesses

Expertise

Local residents with the required skills trained volunteers

Michaelston-y-Fedw Internet CIC

INVESTMENT

Investors

£150,000 start up capital
(maximum allowed under SEIS Scheme)

SEIS Scheme (Approved by HMRC)

New Start up Companies
High risk business
50% of investment returned in the
form of a tax voucher
Investment paid back at end of third
year ~ providing funds available
Investors must reside in the Community and
benefit from the project



Michaelston-y-Fedw Internet CIC

ACHIEVEMENTS

200 + properties to benefit from 1 Gbps FTTP
~ £300,000 secured from Grants

Incentive to Early Subscribers of first 12 month free
and subscription of £30.00 per month thereafter

Michaelston-y-Fedw Internet CIC installation = £1,500
per property

**Cost Savings = Hundreds of thousands of pounds for
the whole community**

No Commercial Operator would undertake this project as
too expensive to roll out on a commercial basis



6.5 Presentation Welcoming Sunne to the Network of the Future by Kristina Lundberg, Sunne Municipality, Sweden

Welcoming Sunne to the Network of the Future



SUNNE | VÄRMLAND

2010...

- 0.5 % HC FTTH
- Poor mobile coverage in rural areas
- 30 % no ADSL



Financing

- European Agricultural Fund for Rural development funded the economic associations with part of the investment
- Sunne municipality funded the transportation network
- Telia funded fiber and mobile set-up and gave access to existing infrastructure
- Citizens and companies approximately 2 000 €/fiber access



BRIDGING THE GAP...



SUNNE KOMMUN

SUNNE | VÄRMLAND



SUNNE | VÄRMLAND

Thank you!

kristina.lundberg@sunne.se



6.6 Presentation Geographical identification by Jorge Infante Gonzalez, BEREC

Jorge Infante

Co-Chair Market & Economic Analysis

Experts Working Group

Geographical identification

Geographical aspects of market analysis in the context of regulatory obligations

Body of European Regulators
for Electronic Communications

BEREC

Amsterdam, March 12th 2019

□ BEREC

- **Body of European Regulators for Electronic Communications**
- **NRA established in each EU Member State, and other NRAs from third countries having entered into agreements with the EU with primary responsibility for overseeing the day-to-day operation of the markets for electronic communications networks and services**
- **Committed to ensure independent, consistent, high-quality application of the European regulatory framework for electronic communications markets for the benefit of Europe and its citizens.**
- **NRAs and the European Commission have to take utmost account of any opinion, recommendation, guidelines, advice or regulatory best practice adopted by BEREC.**

□ MEA-EWG

- **Market & Economic Analysis BEREC Experts Working Group**
- **Experts from all BEREC NRAs**
- **Focus on market analysis regulatory issues: market definition, SMP, etc.**
- **Recent work done by MEA-EWG (2018):**

“BEREC report on the impact of premium content on ECS markets and the effect of devices on the open use of the Internet” BoR (18) 35 March, 2018

“BEREC Opinion on draft SMP Guidelines” BoR (18) 50 March, 2018

“BEREC Report on Post-Merger Market Developments -Price Effects of Mobile Mergers in Austria, Ireland and Germany” BoR (18) 119 June, 2018

“BEREC Report on the application of the Common Position on geographic aspects of market analysis” BoR (18) 213 December, 2018

“Draft BEREC Report on Access to physical infrastructure in the context of market analysis” BoR (18) 228 December, 2018

“BEREC Public Consultation on the data economy” October, 2018

□ MEA-EWG reports on geographic segmentation

- **“ERG Common Position on Geographic Aspects of Market Analysis (definition and remedies)”** ERG (08) 20 October, 2008
 - **“BEREC Common Position on geographic aspects of market analysis (definition and remedies)”** BoR (14) 73 June, 2014
 - **“BEREC Report on the application of the Common Position on geographic aspects of market analysis”** BoR (18) 213 December, 2018
-
- **ERG Common Position (2008) and BEREC Common Position (2014): set the criteria to be applied by NRAs when applying geographical segmentation**
 - **BEREC Report 2018: Situation at 2018 on how NRAs apply the 2014 CP. No need to update the Common Position.**

❑ What is geographical segmentation?

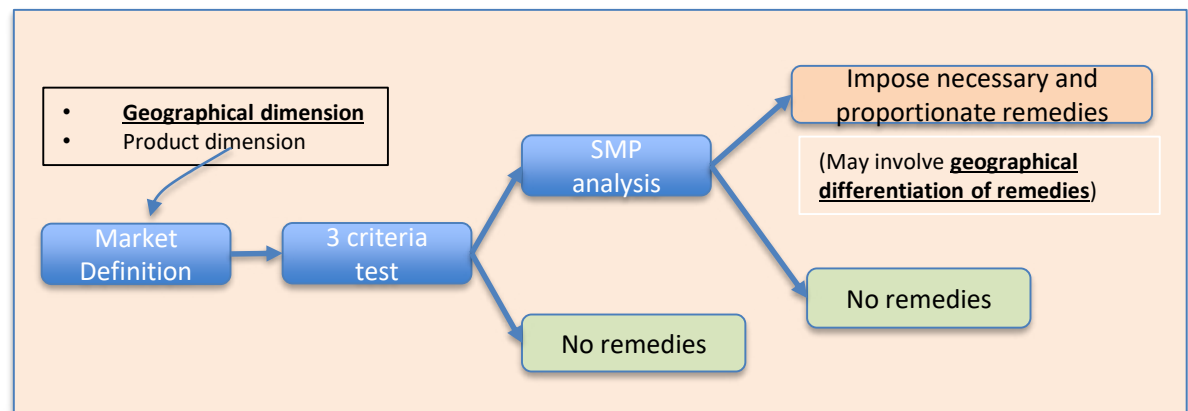
Geographical segmentation aims to differentiate market definition or imposition of remedies in different geographical areas depending on different competitive conditions.

❑ Geographical segmentation in market definition:

- Markets in different areas are subject to different market analysis.

❑ Geographical segmentation in remedies:

- Applied when the evidence found points to varying competitive conditions, but the differences between geographic areas are not yet sufficiently stable



☐ Main reasons for competitive variations across the territory (multiple answers are possible)

Geographic differences in ...	M 3a	M 3b	M 4
Coverage of alternative networks (e.g. cable or fibre).	4	9	5
The take-up of regulated access services in an upstream market.	1	5	1
Retail market shares of the incumbent.	1	6	1
Wholesale market shares of the incumbent.	2	6	4
Geographical differences resulting from commercial wholesale offers of alternative operators.	1	2	2
Retail prices of the incumbent operator and/or alternative operators.	0	2	1
Retail commercial offers (other than price) or marketing strategies of the incumbent operator and/or alternative operators.	0	1	0
Wholesale prices of the incumbent operator and/or alternative operators.	0	1	2
Population density (economies of scale)	0	3	2
Other	3	1	3
number of cases	7	12	7

Source: BEREC

(Based on questionnaire sent to NRAs, 33 responses)

❑ Markets where geographical segmentation is applied (1/5)

MARKET	GEOGRAPHIC SEGMENTATION
Market 1/2014: Wholesale fixed call termination	0 cases
Market 2/2014: Wholesale mobile call termination	0 cases
Market 3a/2014: Wholesale local access at a fixed location – WLA	7 cases
Market 3b/2014: Wholesale central access for mass-market products – WCA	13 cases
Market 4/2014: Wholesale high-quality access at a fixed location	6 cases
Market - 14/2003 14. Wholesale trunk segments of leased lines.	2 cases (submarine routes)

Source: BEREC

(Based on questionnaire sent to NRAs, 33 responses)

GEOGRAPHICAL SEGMENTATION

☐ Markets where geographical segmentation is applied (2/5)

	M 3a	M 3b	M 4
Definition of sub-national geographical markets	3	8	3
Geographic differentiation of remedies in a national market	4	4	2
Geographic differentiation of remedies in a sub-national geographic market	0	1	1
Other	0	0	0
Number of cases	7	13⁴⁹	6

	market 3a	market 3b	market 4	other markets
geographic market segmentation		BE ⁴⁰ , DE, ES, IE, PL	AT	BE ⁴¹ , ES ⁴²
		HU		
		FI, UK		
		PT ^{43,44}		
geographic differentiation of remedies in a national market	CY, ES	SI	IE ⁴⁵	
		FR		
		BE, ³⁷ DK	PT ⁴⁰	
no geographic segmentation	BG, CH, CZ, EE, HR, GR, IT, LI, LT, LU, LV, ME, MT, NL, NO, RO, ⁴⁶ RS, SE, SK			

Source: BEREC

(Based on questionnaire sent to NRAs, 33 responses)

GEOGRAPHICAL SEGMENTATION

☐ Markets where geographical segmentation is applied (3/5)

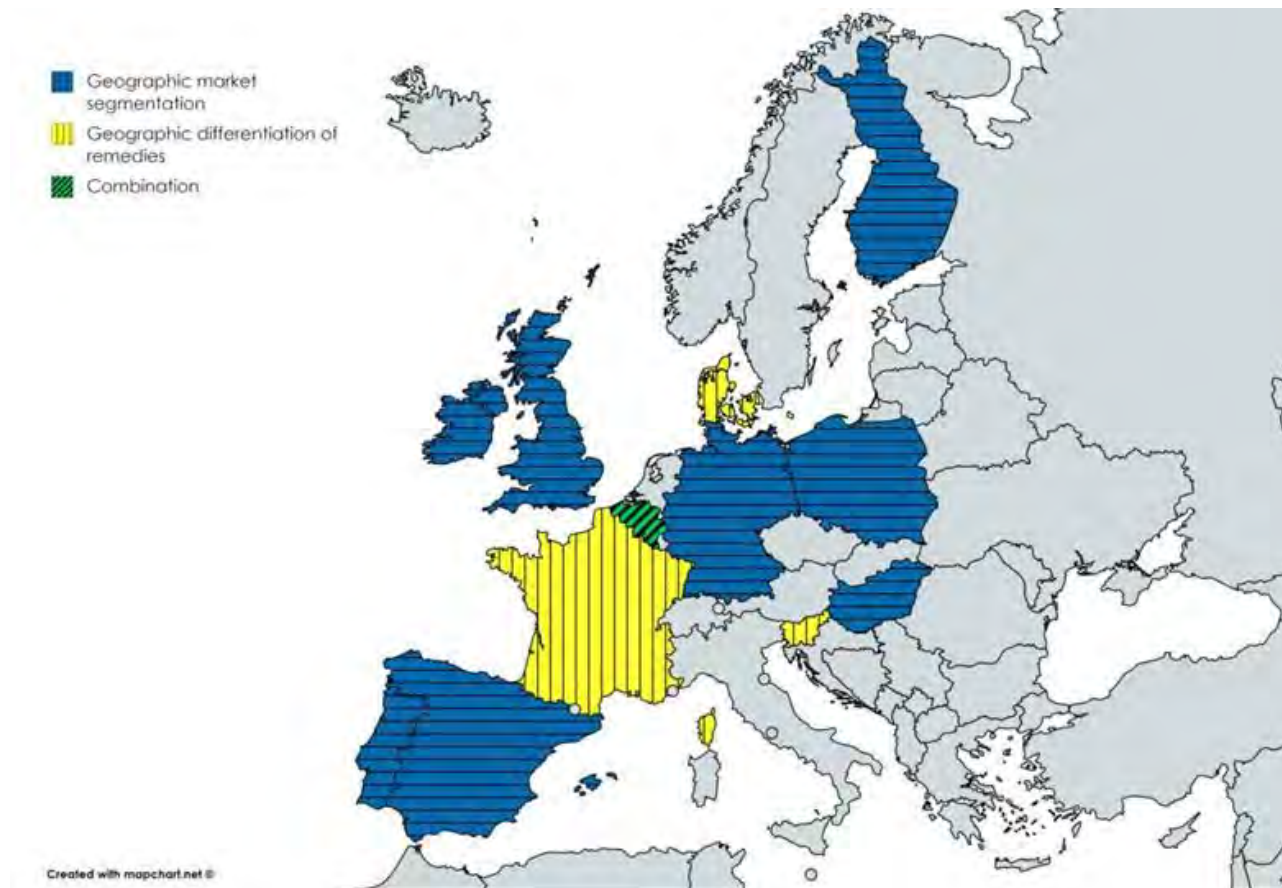
Market 3a



Source: BEREC (Based on questionnaire sent to NRAs, 33 responses)

☐ Markets where geographical segmentation is applied (4/5)

Market 3b

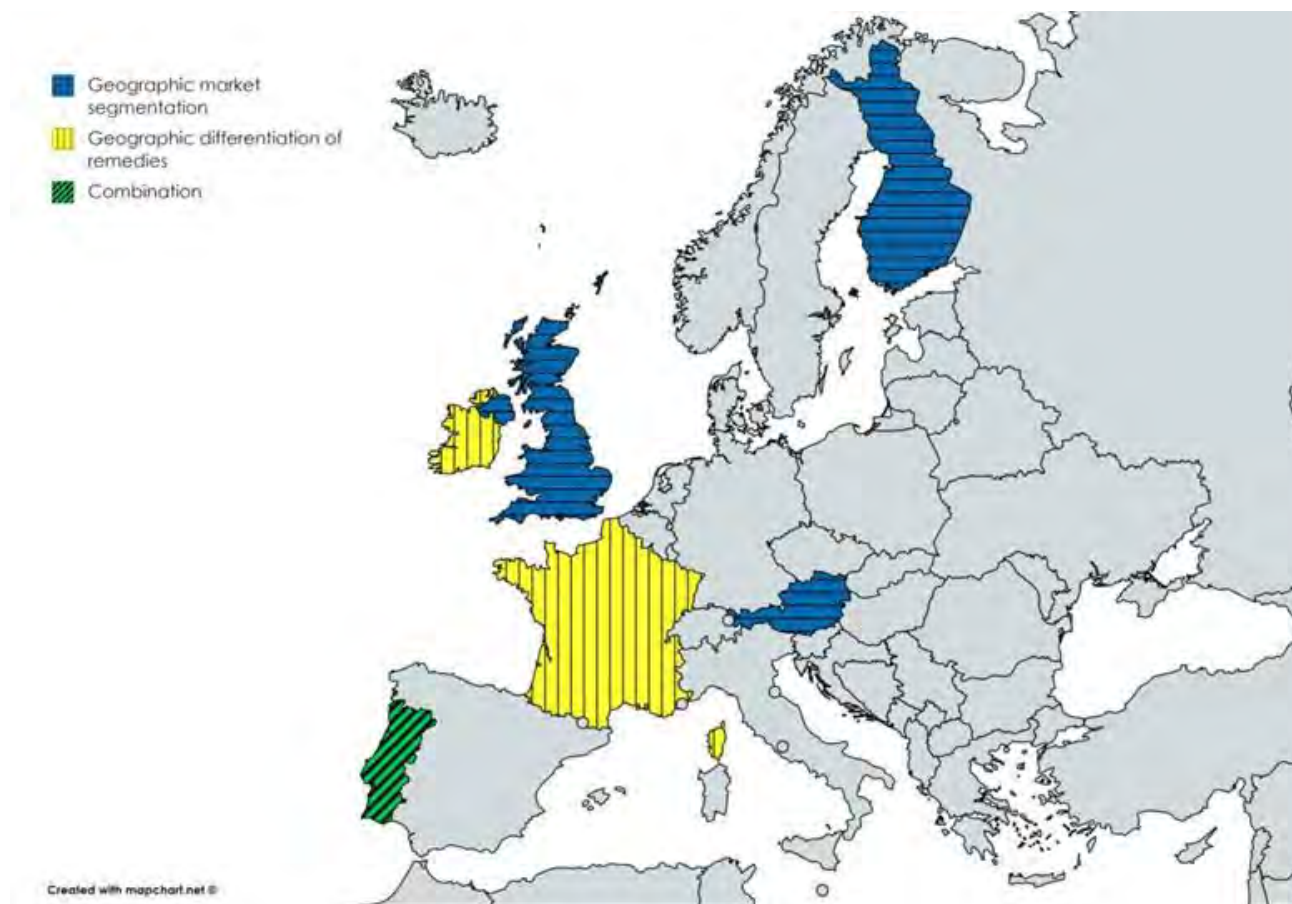


Source: BEREC (Based on questionnaire sent to NRAs, 33 responses)

GEOGRAPHICAL SEGMENTATION

□ Markets where geographical segmentation is applied (5/5)

Market 4



Source: BEREC (Based on questionnaire sent to NRAs, 33 responses)

❑ Criteria for selecting geographical units

- They are mutually exclusive and less than national;
- The network structure of all relevant operators and the services sold on the market can be mapped onto the geographic units;
- They have clear and stable boundaries;
- They are small enough for competitive conditions to be unlikely to vary significantly within the unit, but at the same time large enough that the burden on operators and NRAs with regard to data delivery and analysis is reasonable.

Table 7: What geographic unit have you applied for the geographical segmentation? (multiple answers are possible)

	M 3a	M 3b	M 4
Network based on MDF-level ⁵³ of the incumbent(s)	1	5	2
Network based on ODF-level ⁵⁴ of the incumbent(s)	0	0	0
Network of alternative operators	0	0	0
Administrative units (municipality, district, commune) or postal code areas	5	7	5
Other	3	1	1
Number of cases	7	12	7

□ Indicators for competitive constraints

- **Barriers to enter the market;**
- **Number of operators that exert a relevant competitive constraint on the (supposed) SMP operator;**
- **Market shares of the SMP operator and the alternative operators;**
- **Price differences;**
- **Other aspects that may derive from relevant competitive differences between the geographic areas (e.g. marketing strategies, commercial offers and functionalities of the offers, nature of demand, etc.).**

Competitive conditions do not have to be perfectly homogeneous within the boundaries of one geographic market, but rather should be sufficiently similar.

GEOGRAPHICAL SEGMENTATION

□ Criteria and thresholds for aggregating geographical units

- NRAs will have to find suitable thresholds for competitive constraints.
- Some possible criteria: Barriers to enter the market, number of operators that exert a relevant competitive constraint on the (supposed) SMP operator, Market shares of the SMP operator and the alternative operators, price differences, marketing strategies, commercial offers and functionalities of the offers, nature of demand.
- Competitive conditions do not have to be perfectly homogeneous within the boundaries of one geographic market, but rather should be sufficiently similar.
- The criteria identified as relevant by the NRAs should be applied cumulatively.

	M 3a	M 3b	M 4
Number of ("significant") alternative operators	2 (ES, HU)	1 (FR), 2(PT, HU), 3 (DE)	1 (FR, AT), 2 (PT, UK)
Competitors' market share	10% (ES), 15% (HU)	10% (ES, IE), 15% (HU)	
Competitors' coverage	20% (ES), 60% (HU), 75% (DK) ⁵⁸	30% (IE), 50%(PT), 60% (HU), 65% (SI), 75% (DK) ⁵⁹	50% (PT)
Market share of the incumbent operator	40% (DK) 50% (ES, HU)	40% (DE, DK, SI) 50% (ES, HU, IE, PT)	40% (AT) 50% (PT, FR)

□ Case study: Spain

	M 3a	M 3b	M4
<u>National</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>
<u>Geographical segmentation</u>	<u>Remedies</u>	<u>Market definition</u>	<u>National</u>
<u>Geograp. Unit</u>	Municipalities	Local Exchanges (LEs)	N/A
<u>Criteria</u>	<p><u>Competitive municipalities:</u> At least 1 local switch fulfilling criteria for B_1 AND 2 alternative NGAs with a market share > 10% each (66 municipalities covering 35% of total population)</p> <p><u>Non-competitive municipalities:</u> conditions for B_1 are not fullfiled.</p>	<p><u>B 1:</u> 2 at least 2 network operators with market share above 10% and Telefónica's market share< 50% (758 LEs)</p> <p><u>B 2:</u> conditions for B_1 not fullfiled. (8109 LEs)</p>	N/A
<u>Remedies</u>	<p><u>All:</u> Access to the civil infrastructure and LLU to the traditional copper access network</p> <p><u>Non-competitive areas:</u> VULA over FTTH (flexibility for Telefonica to set prices, subject to a ERT on retail flagship products)</p>	<p><u>B 1:</u> Copper and fibre bitstream</p> <p><u>B 2:</u> no remedies</p>	<p><u>High quality bitstream</u> over Telefónica's copper and fibre <u>networks/cost orientation for copper</u> while fibre high quality bitstream is subject to a <u>business economic replicability test</u>/communication obligation for tailor-made business offers above 100.000 Euros/year</p>

☐ Conclusions BEREC report 2018

- Geographical segmentation increasingly relevant for markets 3a, 3b and 4.
- Both, in market definition (16 cases) and in remedies (10 cases)
- Main reasons: rollout of access infrastructure and take-up of wholesale remedies not uniform in the whole national territory.
- Important to apply an harmonized approach.
- NRAs adhering to the BEREC Common Position and SMP guidelines.
- Criteria for geographical segmentation typically based on structural market indicators (coverage, market share for the incumbent, number of significant competitors).
- In general, results not challenged by the EC nor Courts.
- No need for CP updating, that is still valid.

☐ Impact of geographical segmentation

- Regulation for the market is fine-tuned and adapted to different competitive conditions.
- Allow for lifting regulation in areas where the market is effectively competitive, while ensuring a certain level of competition based on access to SMP operator network in areas where infrastructure competition is not likely to take place in the time horizon for the market analysis.
- Not always geographical segmentation is the optimal solution, as it is burdensome for all actors and only justified when competitive conditions are clearly different in certain geographical areas

□ Implications for actors

▪ SMP operators

- In general, softer approaches in certain areas where infrastructure competition takes place. Still, remedies are imposed in those areas where competition is not enough.

▪ Alternative operators

- Can pace investments depending on the level of competition, and take different positions in the ladder of investment. In non-competitive areas they can use wholesale offers, while in competitive areas they are encouraged to invest in access networks or reach commercial agreements.

❑ Implications for actors

▪ Municipalities (and consumers)

- **Competitive areas: infrastructure competition may render the best results in terms of pricing and QoS**
- **Non-competitive areas, tailored remedies allow for competition without deploying access networks not economically viable.**
- **Potential differentiation of retail prices between competitive and non-competitive areas**
- **Municipal operators: SMP obligations are in general not imposed to them, but should take into consideration availability of regulated wholesale offers for SMP operators when planning their business models**

❑ Other related regulations

- The new EECC does not add or change provisions on geographical segmentation
- Wholesale-only operators are subject to a special regime (to be taken into account by municipalities launching local networks)
- Specific provisions for co-investments may override SMP regime.

+ remedy applies - - remedy does not apply - +- application depends on circumstances

Remedies	Vertically integrated operators	Wholesale-only operators Art. 80 EECC	Voluntarily separated operators Art. 78 EECC	VHON co-investment Art. 76 EECC
Standard remedies on SMP operators following a market analysis				
Transparency Art. 69 EECC	+	-	+ ⁽¹⁾	-
Non-discrimination Art. 70 EECC	+	+	+ ⁽¹⁾	-
Accounting separation Art. 71 EECC	+	-	+ ⁽¹⁾	-
Civil engineering access Art. 72 EECC	+	-	+ ⁽¹⁾	-
Network access Art. 73 EECC	+	+	+ ⁽¹⁾	-
Price control and cost accounting Art. 74 EECC	+	-	+ ⁽¹⁾	-
Specific obligations based on SMP				
Fair and reasonable pricing based on a market analysis Art. 80.2 EECC	-	+ ⁽²⁾	-	-
Notification of migration from legacy infrastructure Art. 81 EECC	+	+	+	+
Retail regulation Art. 83 EECC	+	+ ⁽³⁾	+	+
Non-SMP remedies				
Symmetric access Art. 61.3 EECC	+	+ - ⁽⁴⁾	+	+
Sharing of passive and active infrastructure Art. 61.4 EECC	+	+	+	+
Localised roaming Art. 61.4 EECC	+	+	+	+
Caps on wholesale termination rates Art. 75 EECC	+	+	+	+
Caps on intra-EU international voice and SMS Art. 5a TSM Regulation	+	+	+	+

(1) As appropriate, following any commitments made by the operator. (2) Specific obligation on wholesale-only operators. (3) Wholesale-only providers providing retail services solely to business users larger than small and medium-sized enterprises (i.e. with an annual turnover of more than €50m and a staff headcount over 250) should still be regarded as wholesale-only providers according to recital 208. (4) Not beyond the first distribution point. NRAs can decide to impose symmetric access obligations if the wholesale-only network is publicly funded. (5) Sharing of active infrastructure when sharing of passive infrastructure alone does not suffice.

Interested in more in-depth research on the EECC and BEREC Regulation 2018? Contact us at discovery@culleninternational.com © Cullen International, January 2019

□ Further reading

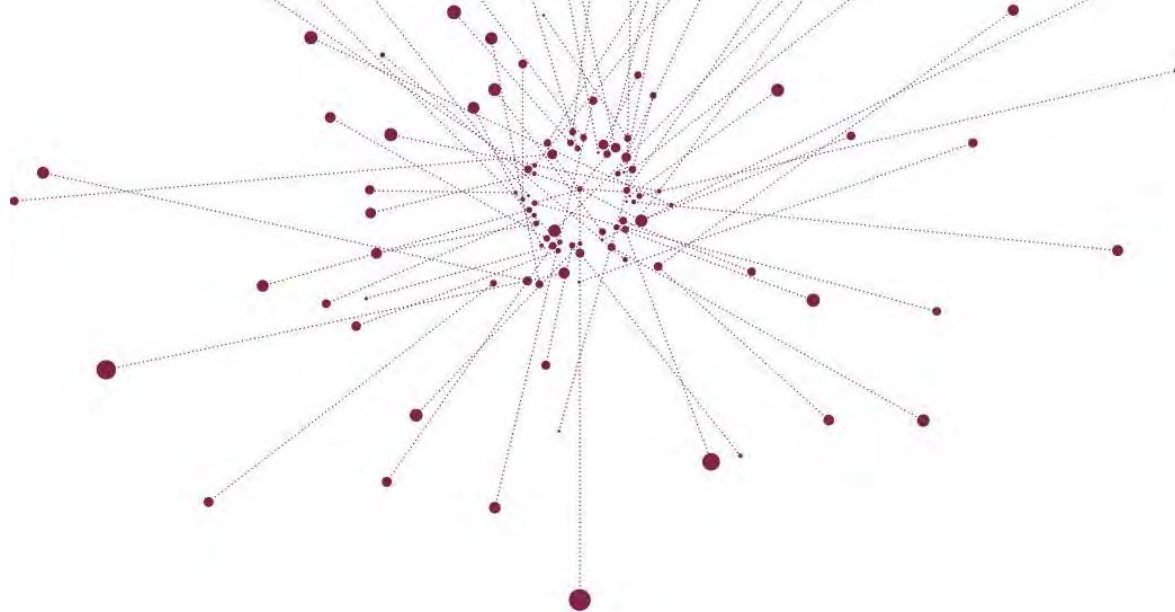
- SMP Guidelines

- In line with BEREC Common Position (pointed out in BEREC Opinion)
- Last update: April, 2018

- Recommendation on relevant product and service markets

- In line with BEREC Common Position (pointed out in BEREC Opinion)
- Last update: October, 2014
- On-going public consultation

- ECC: No relevant changes in the approach for geographical segmentation



Thank you!

Body of European Regulators
for Electronic Communications

BEREC

6.7 Presentation Closing the Digital Gap – Finnish Perspective by Maija Ahokas, Ministry of Transport and Communications, Finland

FTTH Conference 12 March 2019

Closing the Digital Gap – Finnish Perspective

Maija Ahokas, Director of Unit
Ministry of Transport and Communications
Networks Regulation Unit
@mmaija

The world is changing – how does the EU maintain its competitiveness?



Services

Data

Climate

Networks

Strategy for Digital Infrastructure

- determines objectives for the development of the digital infrastructure in Finland by 2025 as well as the methods for achieving this objective
- promotes both fixed and wireless connections
- aims for the development connections in accordance with the objectives of the European Commission.

> By 2025 all households should have access to at least 100 Mbit/s connection



**Finnish broadband
policy builds on
technology neutrality
and market-based
solutions.**

Finnish mobile market: competition and innovations benefits the consumers

The fierce competition in the mobile markets ensures good services for the consumers:

- 3G/4G networks cover over 99% of the population
- Unlimited data plans are affordable and widely used

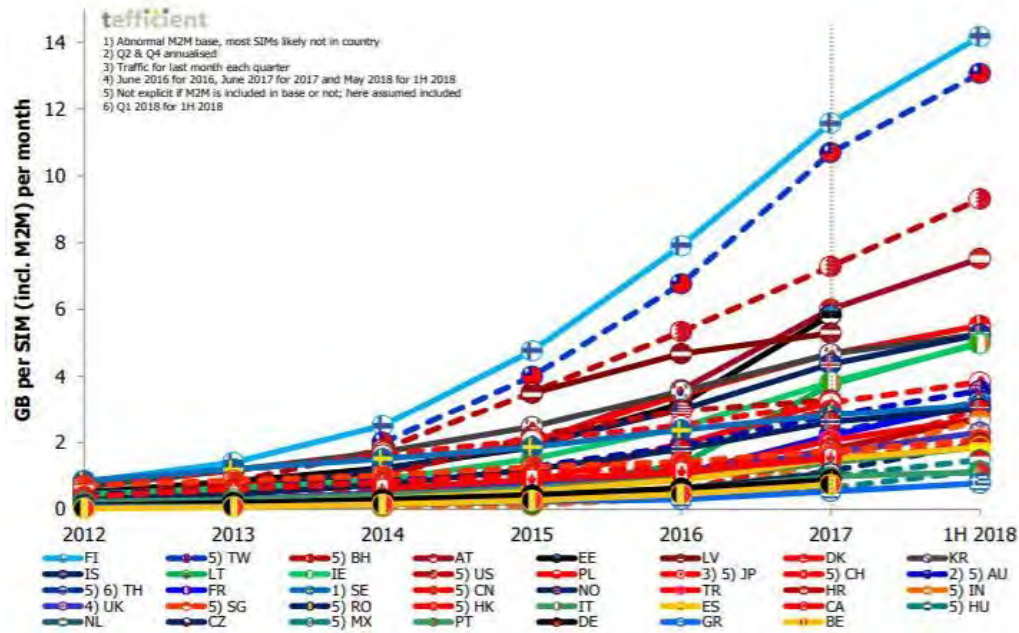
Forward-thinking regulation ensures that test licences facilitate innovation.

Allocating as much spectrum for mobile broadband as possible a key priority for Finland.

Universal service obligation includes:
2 Mbit/s internet access to permanent place
of residence or location.



Finns use most mobile data per subscription



The average Finnish SIM card carried 14.2 GB of data per month in the first half of 2018.

57% of the Finnish SIMs had unlimited data volume in June 2018

Development of mobile data usage per SIM (incl. M2M) per month

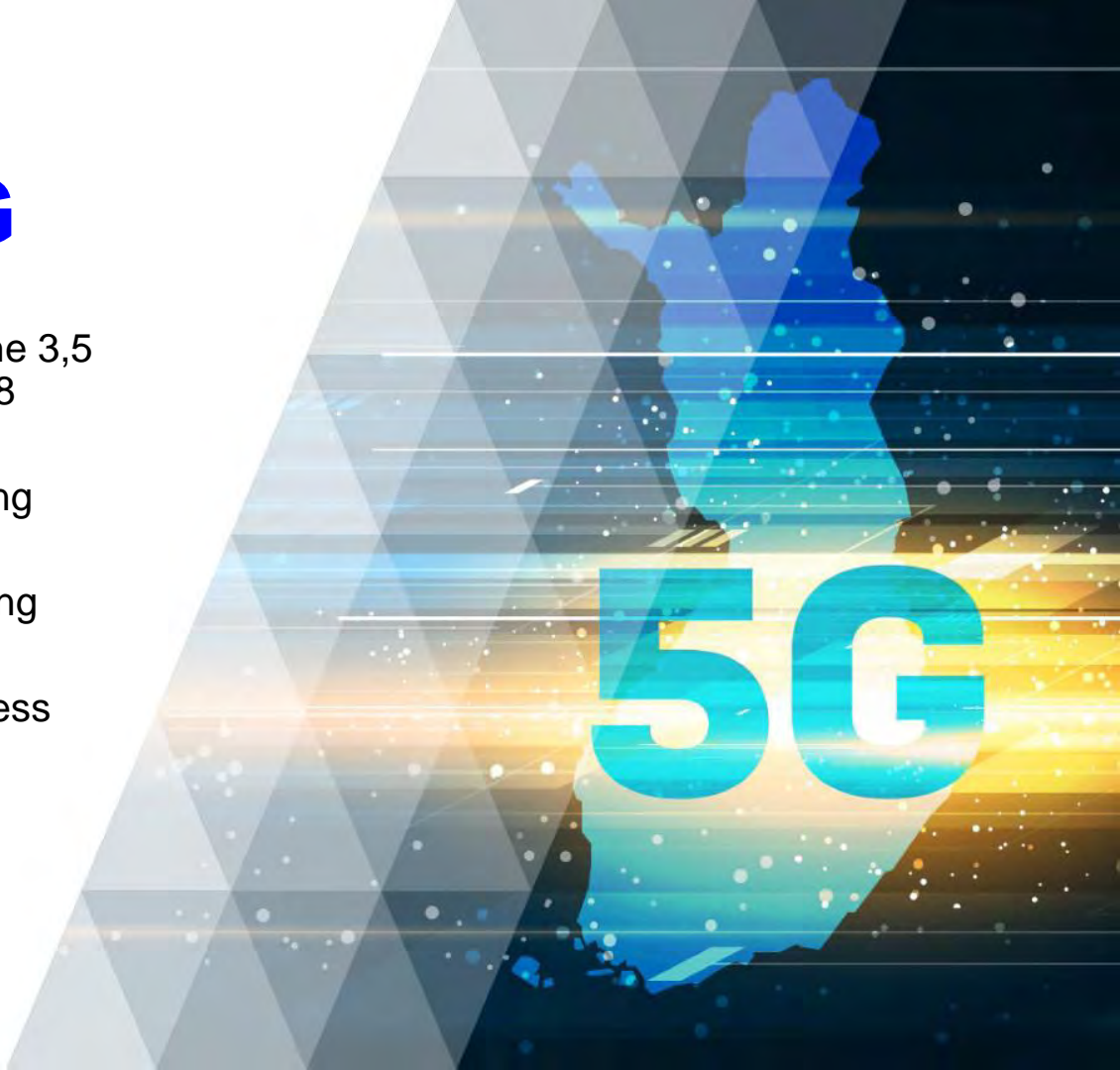
Finland as a forerunner in 5G

The auction of network licences within the 3,5 GHz was concluded on 1st October 2018

Aim to position Finland as one of the international leaders in testing, developing and introducing 5G networks

The licences are valid for 15 years starting from January 1, 2019

5G brings new services and more business opportunities



5G testing and innovation

Frequencies available for research and trials. About 30 licences issued for 5G testing so far

The Finnish Transport and Communications Agency has created a 5G Momentum Ecosystem to facilitate collaboration and accelerate the development of new services

Members of the ecosystem include cities, ports, research centers and teleoperators



New innovations require extensive fibre network

The availability of 100 Mbit/s fixed broadband
52% of the population

Fibre mainly built on market terms

In the future the need for fibre network will only
increase: new innovations and services will
require higher data rates.

Also 5G will require optical-fibre networks



Enhancing fixed broadband in sparsely populated areas

Fast Broadband project aims to ensure that fast broadband networks are built in sparsely populated areas where their commercial availability is unlikely

A total of EUR 130 million of public aid available to fixed broadband projects.

Access to fixed broadband brought to over 80 000 end users (130 000 expected to be reached within the project)

Deadline for new applications 31st Dec 2018: construction expected to continue until 2021.



The theme year of joint construction 2019

The Finnish Transport and Communications Agency has launched a competition to reward exemplary joint construction projects.

The goal is to share best practices and innovative operations models

Partners include for example major telecom companies and public authorities.



Networks goals: well functioning transport and communications networks

Transport and communications networks provide the basis for prosperous economy

The speed and quality of the communications networks must be sufficient to meet the needs of future services and innovations

High-speed 5G networks deployed EU-wide

Thank you!

lvm.fi  @lvmfi

LVM MINISTRY OF TRANSPORT
AND COMMUNICATIONS

6.8 Presentation GIS Products and Services by Christian Zieske, atene KOM GmbH

GIS Products and Services

Dipl.-Ing. Christian Zieske, 12.03.2019, Amsterdam

About us



atene KOM GmbH, Agency for Communication, Organisation and Management, is a European consulting and project development company based in Berlin, with field offices in Leipzig, Osterholz-Scharmbeck, Bonn, Wiesbaden, Munich, Schwerin, Stuttgart und Brussels.



atene KOM

Core Competencies

✓ **Business Fields**

Organisational Development,
Technology and Funding Consultancy,
Project Management,
Studies, Evaluations.

✓ **Network**

ATeNe GmbH, Initiative D21,
European Institute for Innovation,
...

✓ **Team**

We assume responsibility and we place
great value on an experienced team.

✓ **Experience**

10 years of experience in subsidy consultancy
and communal consultation.

✓ **Portfolio**

We offer pan-european consulting services on
the following topics: regional development,
digitization and renewable energies.

atene KOM

Agenda items

- The Federal Funding Programme (FFP) Database
- Geonode
- Project DIHK
- Project BISH
- Routing
- Tracking of the Infomobile

atene KOM Federal Funding Programme

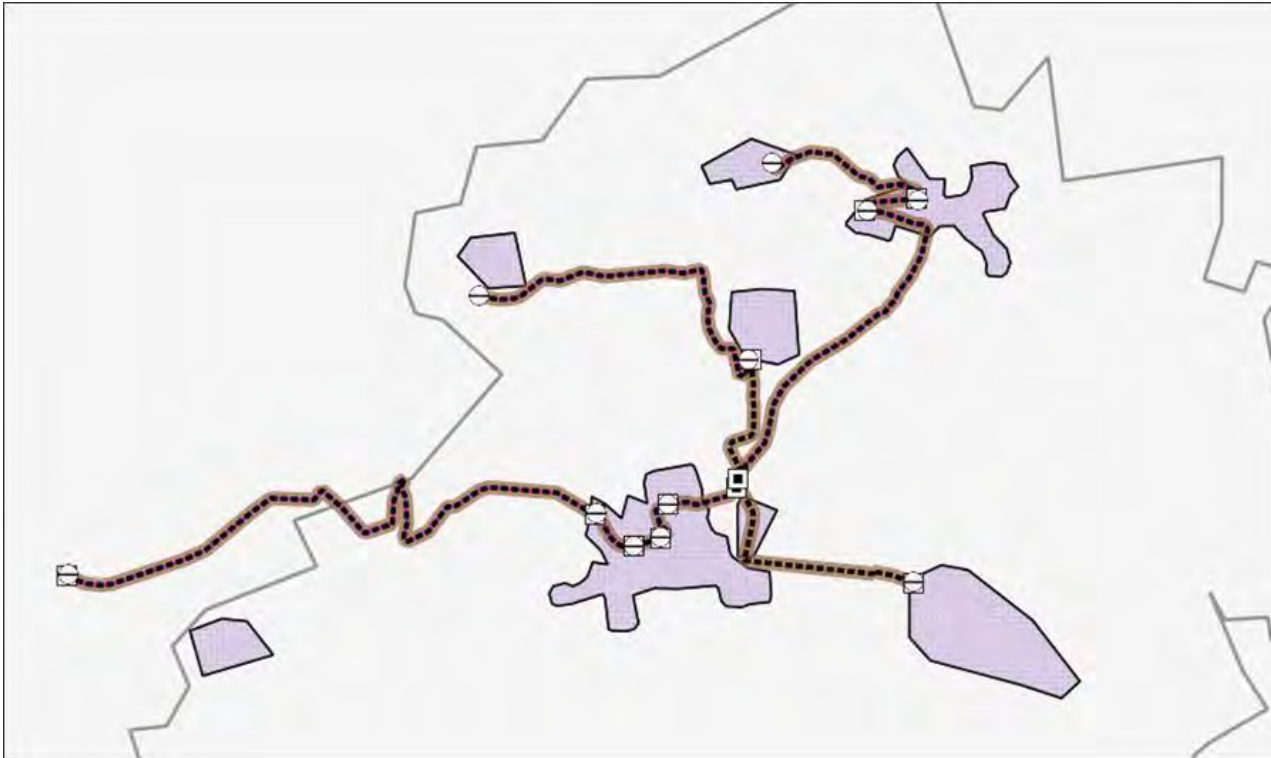
Breitband-Ausschreibungen											
<div>  <div> <div>Bundes Breitband Büro</div> <div>atene KOM</div> </div> </div> <div> <div>Rückmeldung erwünscht</div> <div>Verfahren wird mittels einer Feedback-Mappe, die sich über das Projekt, Netzwerke und andere, weiterverbreiten.</div> <div>Feedback anfordern</div> </div>											
Übersicht über laufende und abgeschlossene Verfahren											
<div> <div>zurück</div> <div>Filtern nach Bundesland: Alle Bundesländer</div> <div>Suchen</div> </div>											
Projektinformationen				Bedarfsermittlung		Markterkundung		Interessenbekundungsverfahren		Ausschreibung	
Bundesland	Organisation	Projektname	Ansprechpartner	Veröffentlichung	Ergebnis	Veröffentlichung	Ergebnis	Veröffentlichung	Ergebnis	Veröffentlichung	Ergebnis
Baden-Württemberg	Althengstett	Markterkundung Gemeinde Althengstett	Herr Maier-Nagel			15.02.2017	17.03.2017				
Baden-Württemberg	Bad Mergentheim	Netzbetreiberabfrage Stadt Bad Mergentheim	Herr Stephan			24.11.2015	28.12.2015				
Baden-Württemberg	Baiert	Baiert - Gewerbegebiete - FTB-Ausbau	Herr Abele			09.02.2017		14.04.2014	14.04.2014	14.04.2017	
Baden-Württemberg	Biberach	Breitbandausbau Gemeinde Biberach (Baden)	Frau Bröder			18.09.2015	19.10.2015				
Baden-Württemberg	Bisingen an der Teck	Stadt Bisingen an der Teck - Markterkundungsverfahren	Herr Hommel			18.02.2016	31.03.2016				
Baden-Württemberg	Breitbandversorgung im Landkreis Ravensburg	Markterkundung	Herr Fuchs			15.09.2015	16.10.2015				
Baden-Württemberg	Breitbandversorgung im Landkreis Ravensburg	Markterkundung	Herr Fuchs			03.11.2015	04.12.2015				
Baden-Württemberg	Breitbandversorgungsgesellschaft im Landkreis Sigmaringen mbH & Co. KG	FTTC Ausbau Höhenstein	Herr Gräfe							16.01.2017	
Baden-Württemberg	Breitbandversorgungsgesellschaft im Landkreis Sigmaringen mbH & Co. KG	Markterkundung Beuron	Herr Gräfe			08.11.2016	12.12.2016			27.03.2017	
Baden-Württemberg	Breitbandversorgungsgesellschaft im Landkreis Sigmaringen mbH & Co. KG	Markterkundung Sigmaringen Ortsteil Gulenstein	Herr Gräfe					27.10.2015	21.11.2016		
Baden-Württemberg	Breitbandversorgungsgesellschaft im Landkreis Sigmaringen mbH & Co. KG	Netzbetreiberausschreibung	Herr Zimmermann							14.06.2016	
Baden-Württemberg	Bürgermeisteramt Großbottlingen	Breitbandausbau Gemeinde Großbottlingen	Herr Fritz			20.03.2017	21.04.2017				
Baden-Württemberg	Bürgermeisteramt Königheim	Breitbandausbau in Königheim	Herr Keller					30.10.2014	08.12.2014		
Baden-Württemberg	Bürgermeisteramt Miltachheim	Breitbandausbau in Miltachheim	Herr Kötter			01.08.2015	07.08.2015				

Source: atene KOM GmbH

- Application via www.breitbandausschreibungen.de
- Applicants' network maps are to be uploaded to a tendering platform

atene KOM



Network maps



Source: atene KOM GmbH

- Applicants have to hand in spatial data in order to pass a number of different process gateways
- Content and technical specifications of the network maps are defined in so-called GIS annotations
- The following layers need to be uploaded:
 - Applicant, White Spots
 - Development Areas FFP
 - Buildings, Network Technology
 - Sections, Ductworks, Connections
- The network maps are presented and evaluated in a WebGIS, Geonode

atene KOM Federal Funding Programme



Breitband-Ausschreibungen

[Arbeitsbereiche](#) [Förderprogramme und Richtlinien](#) [Ansprechpartner](#) [Administrationsbereich](#) [Öffentlicher Bereich](#) [Passwort ändern](#)

[zurück](#)

Netzplan hinzufügen

Neuen Netzplanlayer hinzufügen bzw. ersetzen

Hinweis: Laden Sie hier die Netzpläne gemäß der [GIS-Nebenbestimmungen zur Breitband-Förderrichtlinie](#) hoch. Vergewissern Sie sich bitte insbesondere, dass Sie das richtige Dateiformat, die korrekten Sachattribute und das Koordinatenreferenzsystem ETRS89 (EPSG:4259) verwenden. Als Datenformat wird für jeden Upload jeweils eine GeoJSON-Datei oder eine ZIP-komprimierte ESRI-Shape akzeptiert (z. B. Leerrohre.geojson oder Leerrohre.zip bestehend aus Leerrohre.shp, Leerrohre.stx, Leerrohre.dbf, Leerrohre.prj ...).

Vor dem Upload ist im Auswahlfeld anzugeben, um welche Daten es sich handelt. Wenn eine Datei für einen bereits bestehenden Layer hochgeladen wird, werden die alten Daten des jeweiligen Layers überschrieben. Maximale Dateigröße pro Upload: 80 MB.

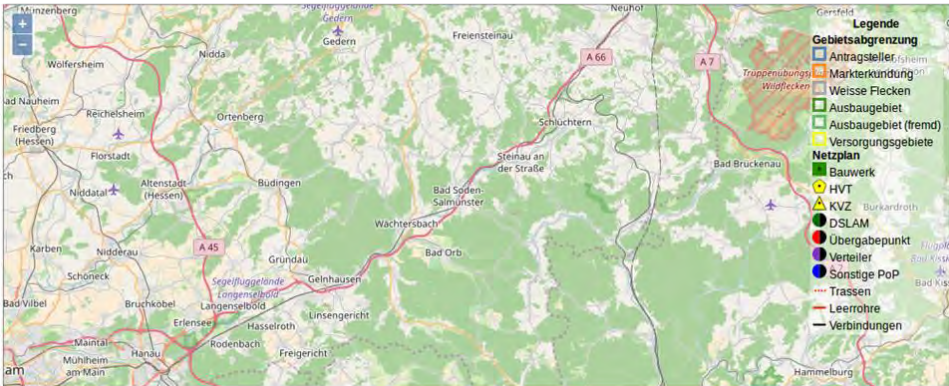
Für diesen Upload verlangte Version der GIS-Nebenbestimmungen: 3.1

3.1.1 Antragsteller

Durchsuchen...

Keine Datei ausgewählt.

Prüfe



- Upload form

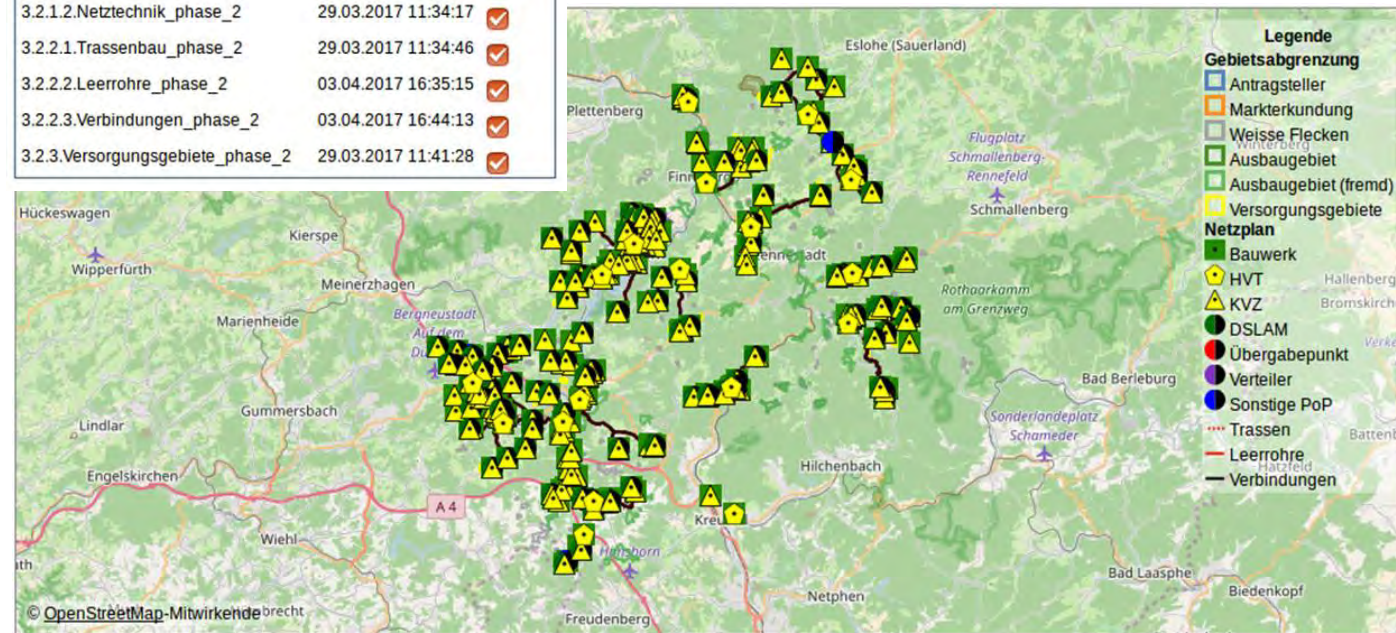
Source: atene KOM GmbH

atene KOM

Federal Funding Programme

Bereits hochgeladene Netzpläne

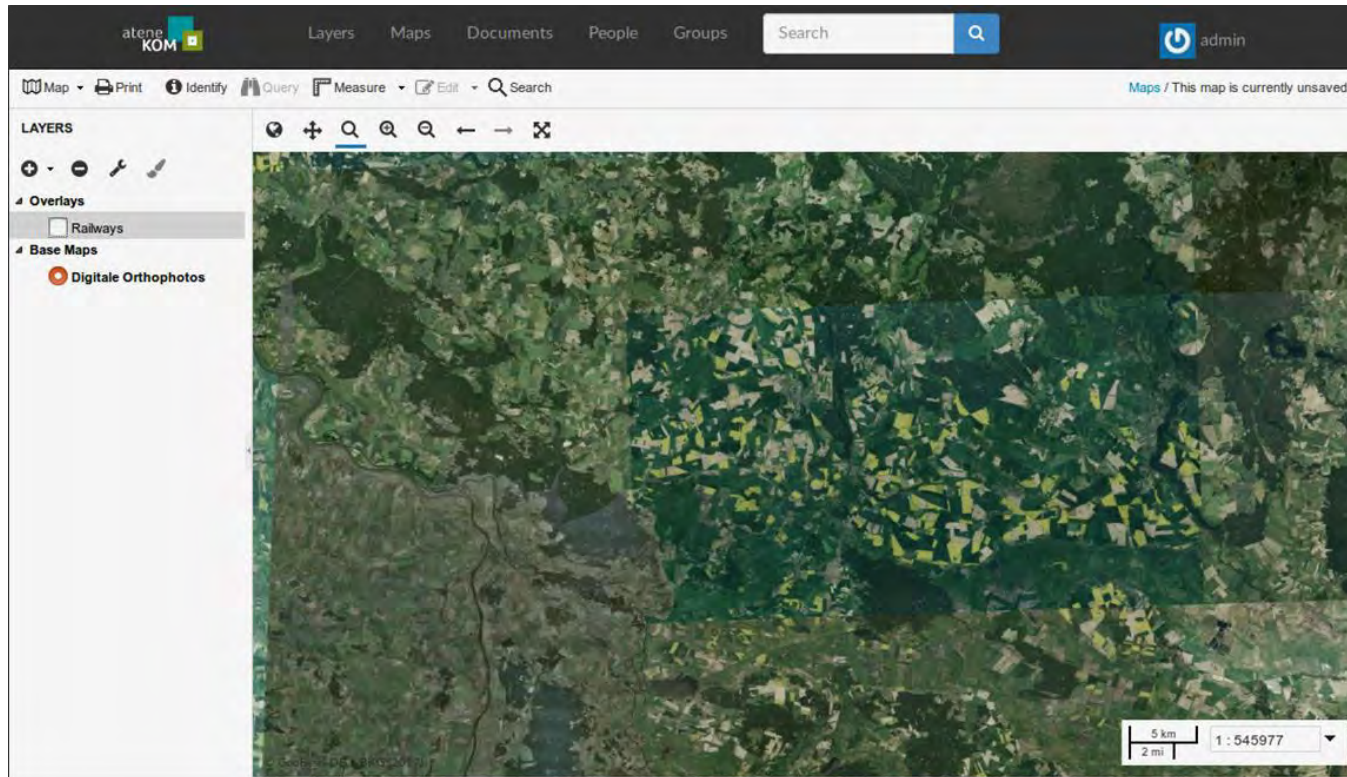
Layer	Hochgeladen am	Anzeige
3.1.3.Weisse_Flecken_phase_2	29.03.2017 11:24:05	✓
3.1.4.Ausbauggebiete_BFP_phase_2	29.03.2017 11:33:42	✓
3.1.5.Ausbauggebiete_fremd_phase_2	29.03.2017 12:09:01	✓
3.2.1.1.Bauten_phase_2	14.03.2017 16:22:49	✓
3.2.1.2.Netztechnik_phase_2	29.03.2017 11:34:17	✓
3.2.2.1.Trassenbau_phase_2	29.03.2017 11:34:46	✓
3.2.2.2.Leerrohre_phase_2	03.04.2017 16:35:15	✓
3.2.2.3.Verbindungen_phase_2	03.04.2017 16:44:13	✓
3.2.3.Versorgungsgebiete_phase_2	29.03.2017 11:41:28	✓



Source: atene KOM GmbH

- Overview of uploaded layers
- List of names and timestamps
- Overview map to display uploaded map data

atene KOM Geonode

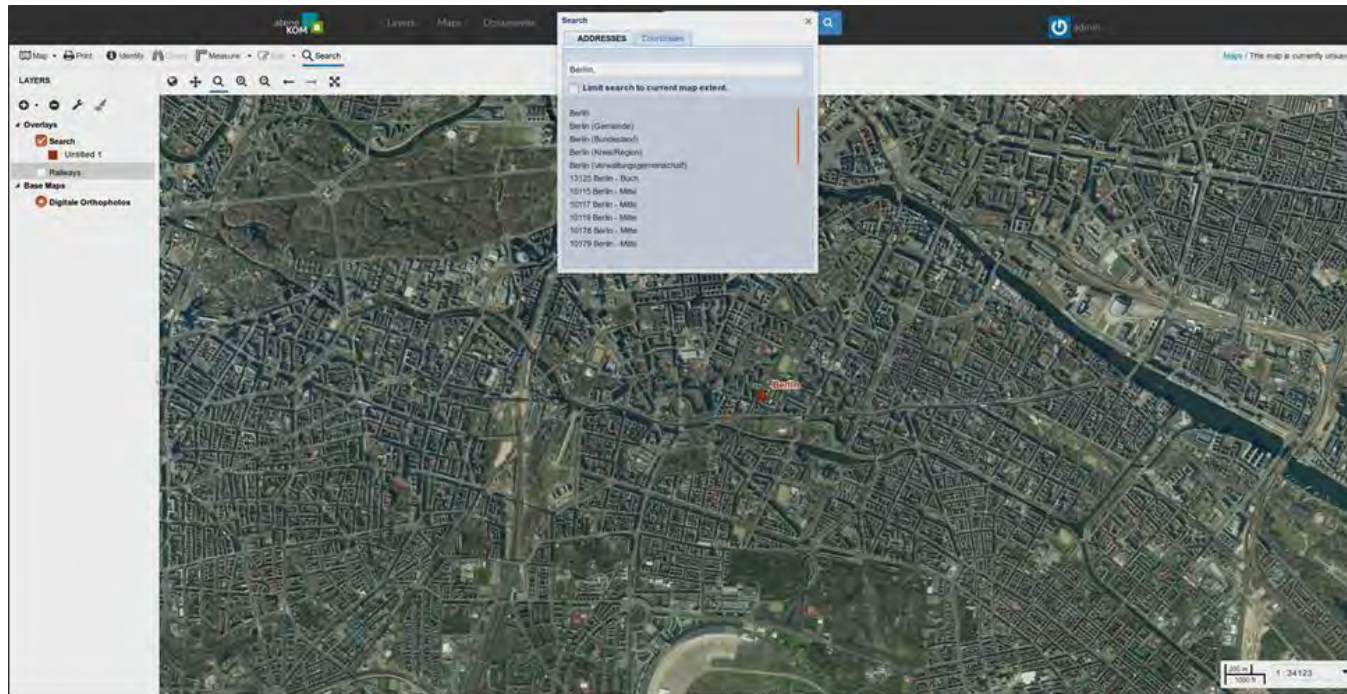


Source: atene KOM GmbH

- Geonode is an open source platform for the display and administration of spatial data
- It is being developed further in-house and adapted to the respective projects' requirements

atene KOM

Geonode - functions



Source: atene KOM GmbH

- External data is implemented via WMS, e.g. aerial photos as background maps
- Data is managed via open source software (Geoserver)
- An address search tool based on a geocoding service by the Federal Administration of Cartography and Geodetics (BKG) is integrated

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Geonode - functions

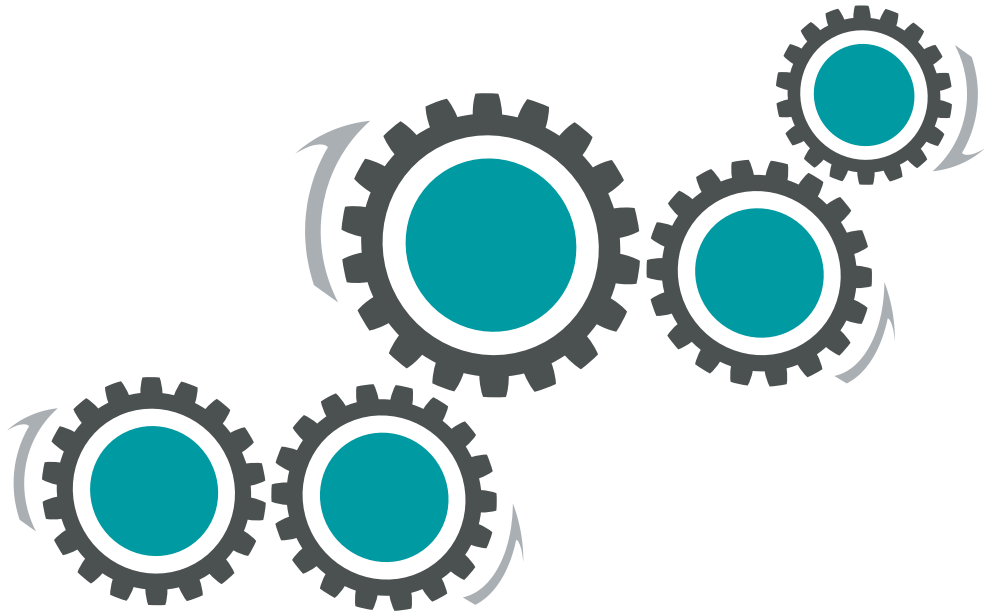
The screenshot displays the Geonode AtlasStyler web application. On the left, the 'Style file' editor shows an SLD (Styled Layer Descriptor) XML file for a layer named 'Absichtserklärung'. The XML includes a filter for 'status' and a geometry-based fill style. Below the editor are buttons for 'Validate', 'Preview legend', 'Submit', and 'Cancel'. On the right, a map preview shows a street map with a red polygon overlay. Below the map, the 'Query' tool is active, showing 'Query by current map extent' and 'Query by attributes'. The 'Query by attributes' section has a dropdown set to 'id' and a value of '352'. A table on the right lists the results of the query:

id
159
288
125
352

Source: atene KOM GmbH

- The styling of layers along SLD allows for a flexible adaptation
- As the common structure of layers for use with the FFP is defined in the GIS annotations, it is possible to use a uniform styling of basic attributes granting a quick pick-up and easy comparison
- Thus it is possible to query the data more comprehensively

atene KOM Interfaces



- Network maps are checked for consistent form and content during the uploading process, in accordance with the GIS annotations
- Applicants' data is stored in a Postgresql-database
- Publishing of data is automated by using python scripts
- As soon as a network map is completely uploaded, it is published in Geonode
- Data is made available by OGC defined standards such as WMS, WFS
- Geoserver can read and create various formats
- Tables and queries may be published in Geonode using Geoserver

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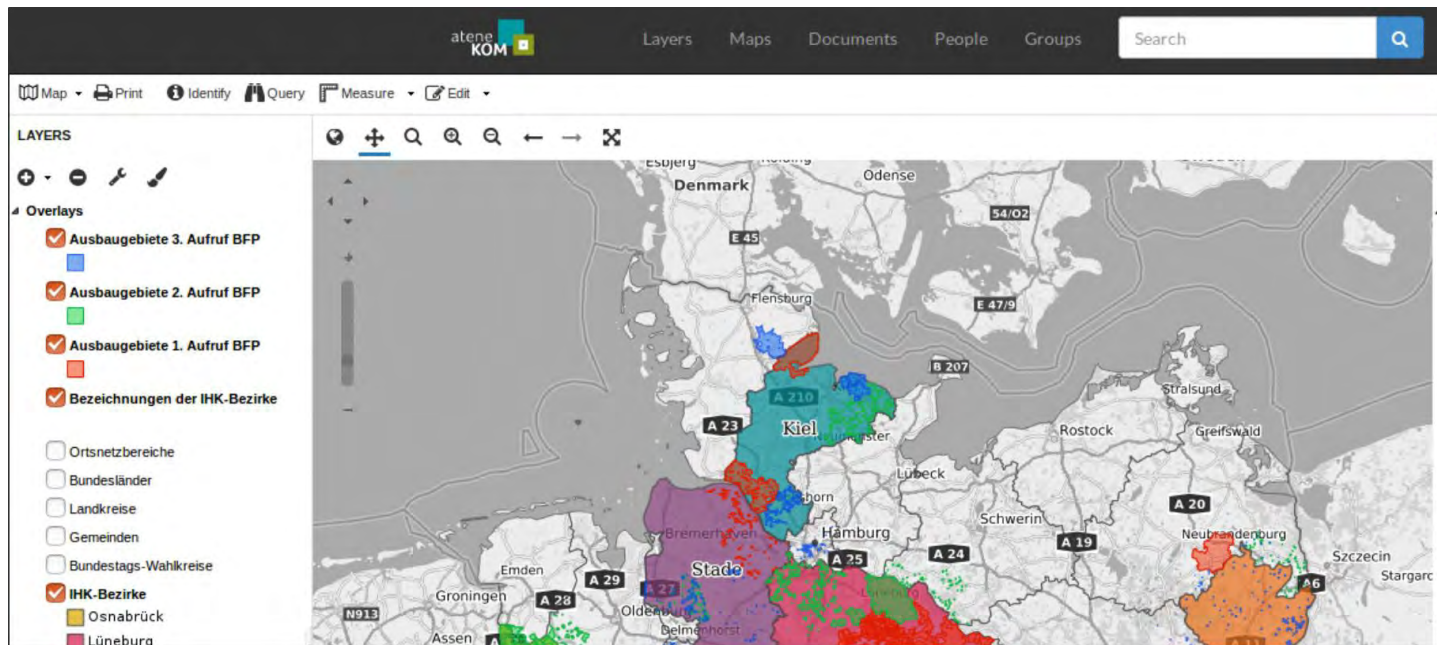
Photo documentation



Source: atene KOM GmbH

- Applicants need to supply proof of their infrastructure development of their infrastructure in photos taken on-site
- It is possible to upload geotagged photos on the tendering platform
- They can be assigned to elements in the network map
- Documentation on various stages of development possible

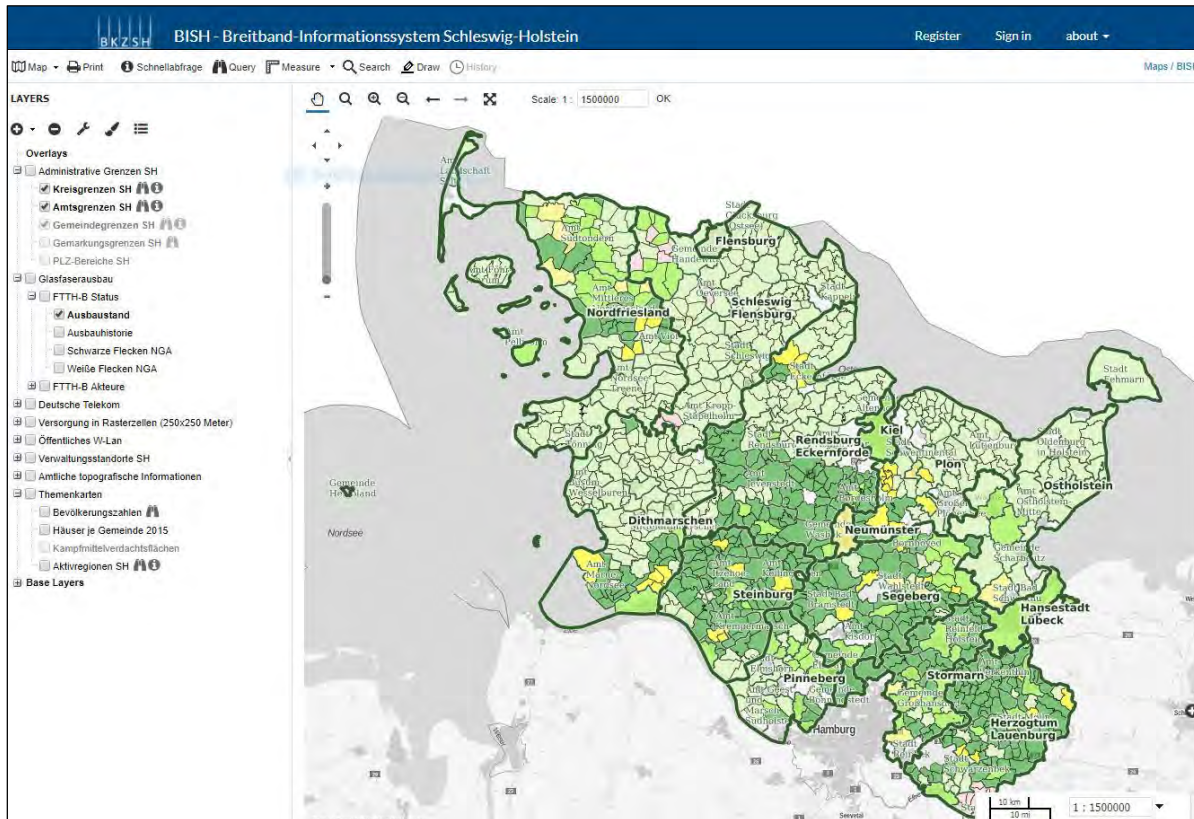
atene KOM DIHK Project



Source: atene KOM GmbH

- DIHK: The German head Chamber of Industry and Commerce
- The initiative by DIHK and atene KOM is to provide regional industry and chambers of industry and commerce with information on where broadband development is planned in commercial or industrial zones
- Members of local chambers have access to various thematic maps in Geonode
- So far, atene KOM has set up user accounts for all project participants
- Data such as addresses, points of contact and commercial or industrial zones is gathered from local chambers and made available in Geonode
- Data on development areas from the Federal Funding Programme is made available for respective regions

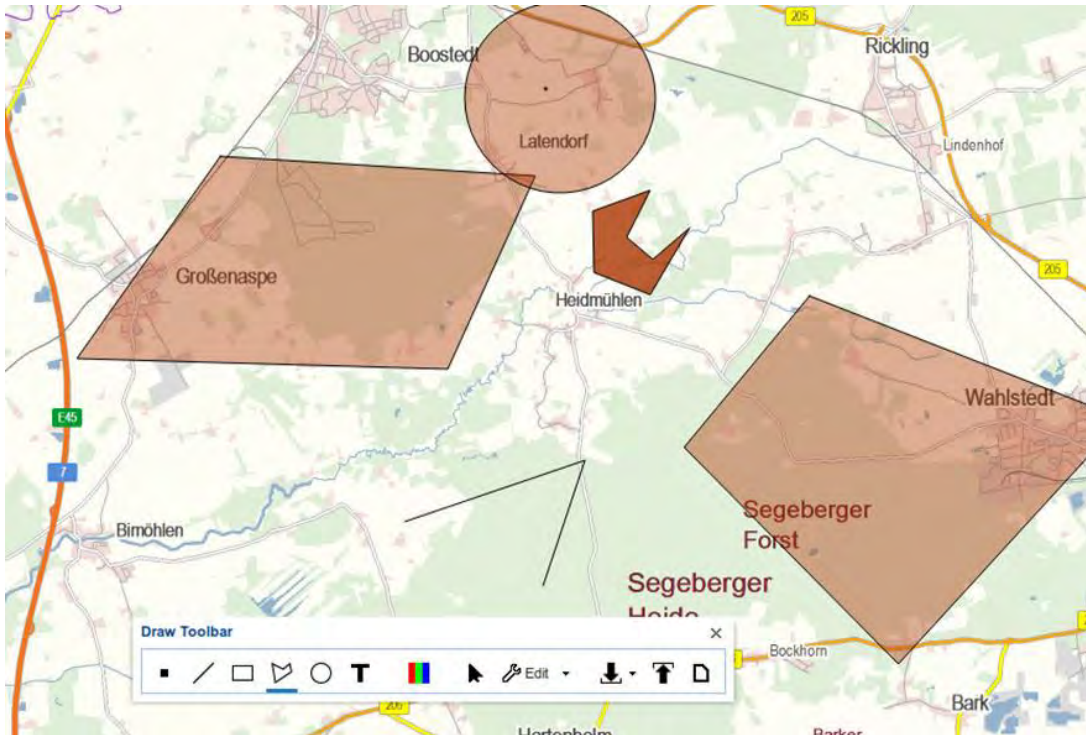
atene KOM BISH Project



Source: atene KOM GmbH

- atene KOM is setting up an extensive spatial data infrastructure for BKZSH (Broadband Centre of Competence Schleswig-Holstein)

atene KOM BISH Project

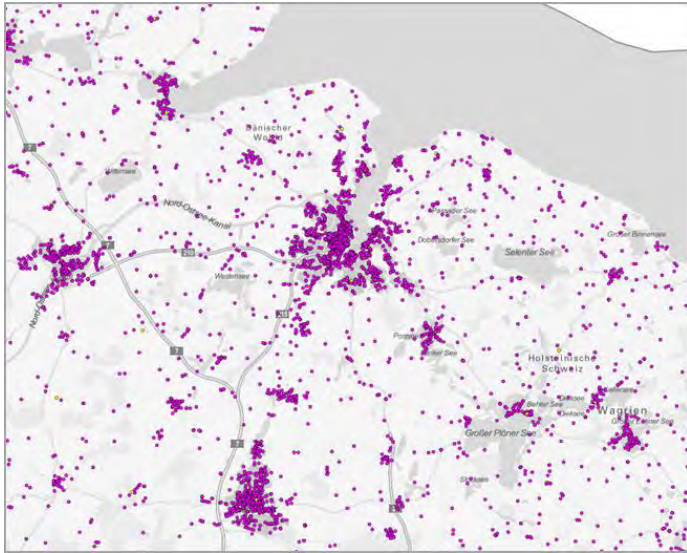


Source: atene KOM GmbH

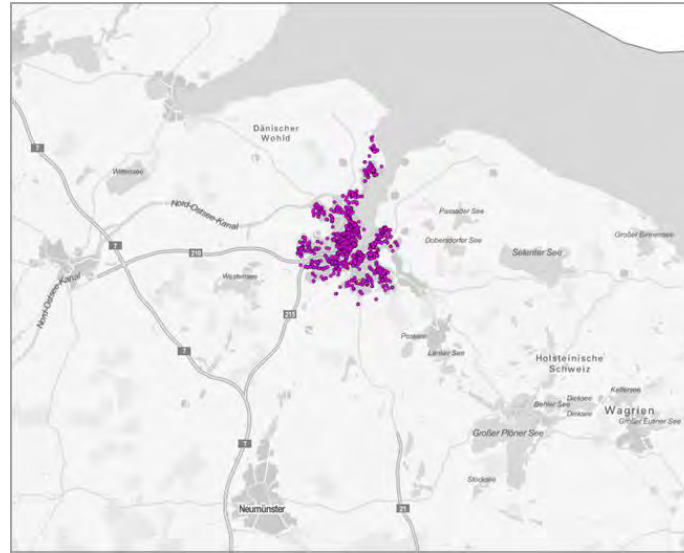
- The old BISH, the Broadband Information System Schleswig-Holstein, will be replaced
- The new system is based on Geonode
- Various adaptations are necessary, such as
 - Drawing tools
 - Definition of the spatial extent of data
 - Distinct user profiles
 - Display of data history
 - Data export and map production

atene KOM

BISH – Spatial Restriction



Administrators view



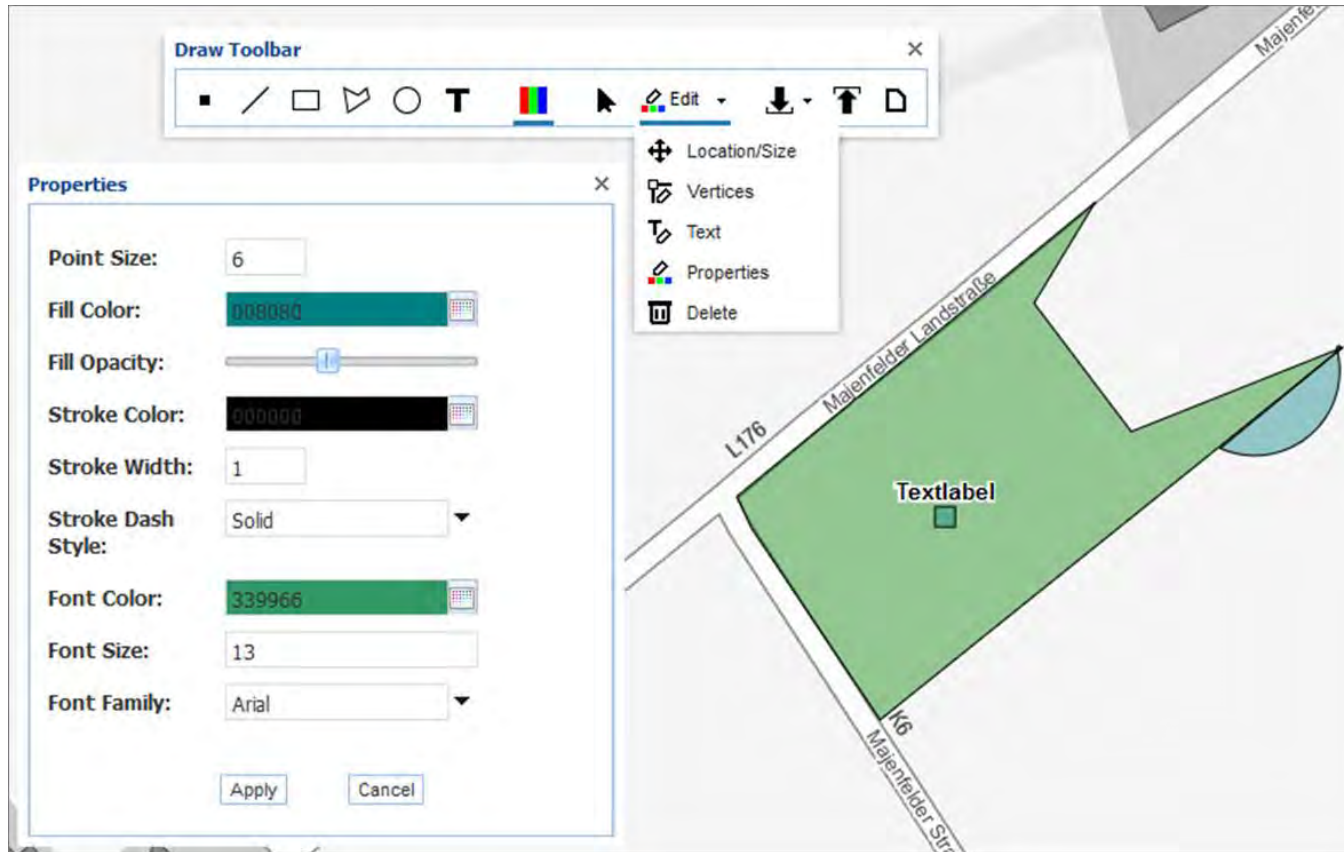
Userprofile with restrictions

- Individual views for different users / groups
- Feature is also applicable to all vector layers

Source: atene KOM GmbH

atene KOM

BISH – Drawing Tools

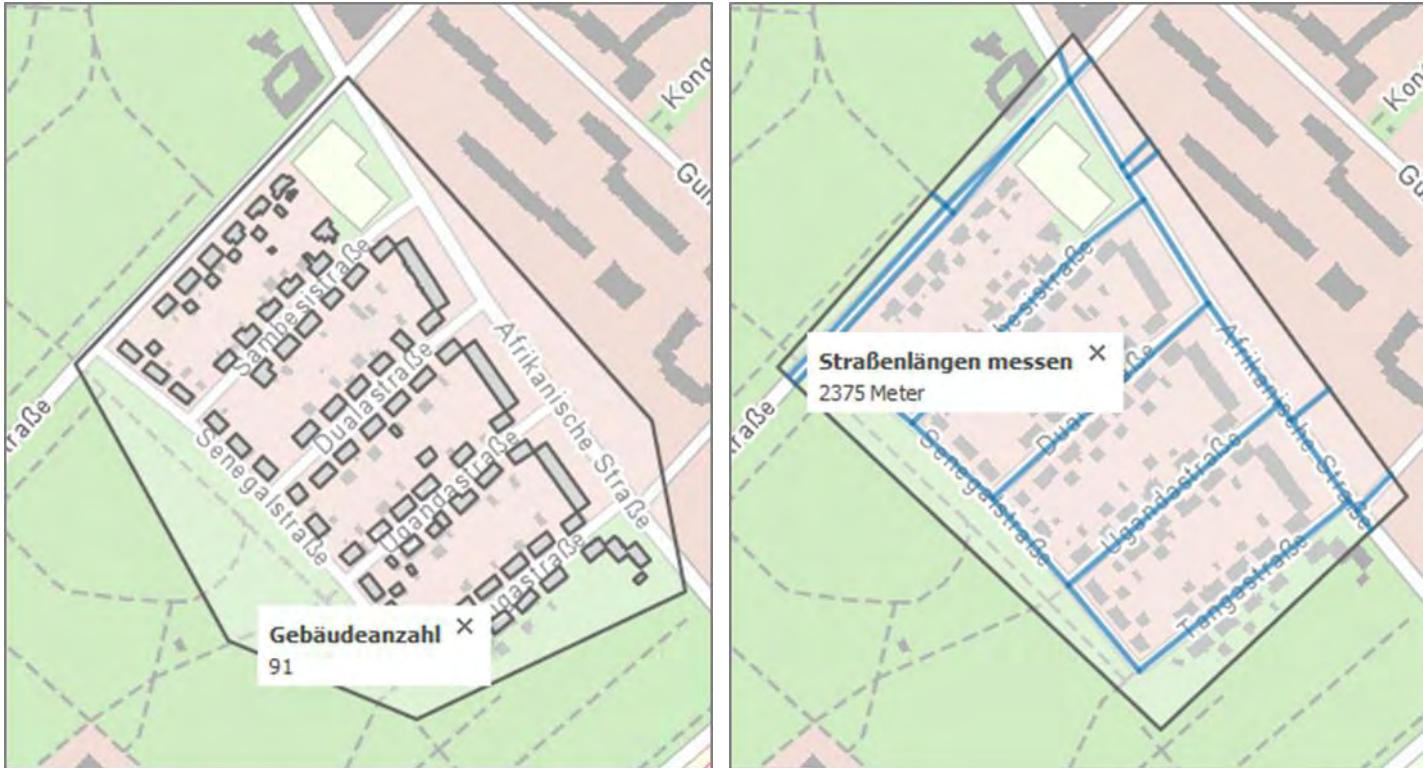


Source: atene KOM GmbH

- Extensive annotation and editing functions
- Areas and lengths can be measured
- Technical drawings can be saved and restored

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BISH – Measuring Queries

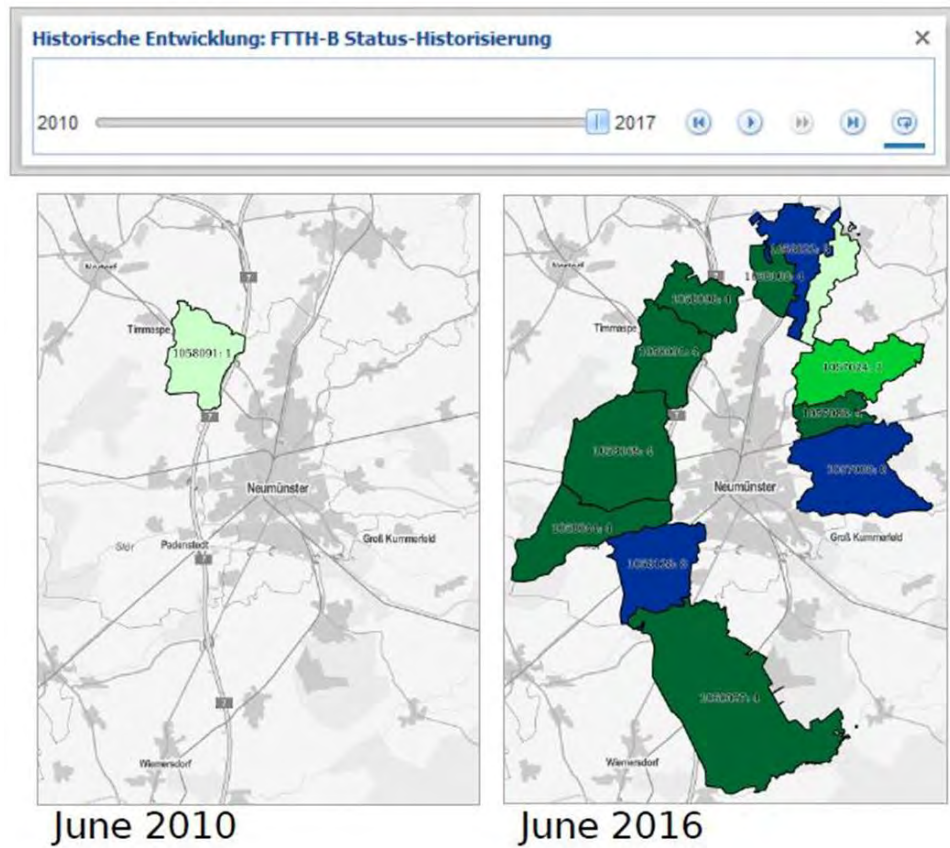


Source: atene KOM GmbH

- Count or measure features in a polygon
- Different datasources are possible (in this case OpenStreetMap is used)

atene KOM

BISH – Time Slider

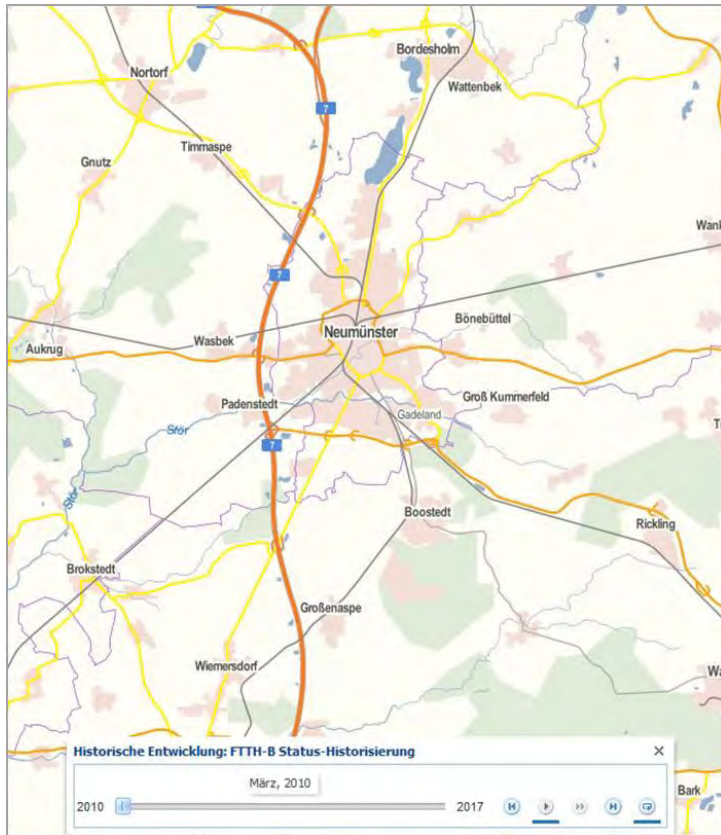


Source: atene KOM GmbH

- Visualize various development stages
- Usable with all kinds of datasets (data needs to provide timestamps)

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BISH – Time Slider



Source: atene KOM GmbH

- Select a specific date or run an animation

01

Goal: determination of areas eligible for funding for broadband access via satellite

02

Calculation of accessibility of buildings from existing broadband infrastructure

03

Building points were retrieved from OpenStreetMap and cadastral land register

04

Broadband infrastructure: various distribution units such as (main) distribution frames, LTE locations, stations on electrified tracks and optical fibre networks

01

Determination of the next accessible infrastructure and calculation of distance.

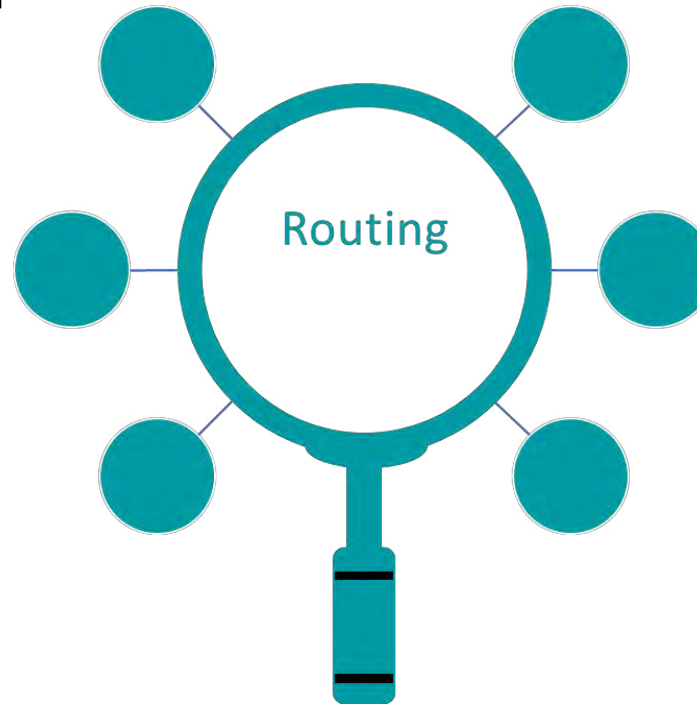
02

Distance is used to estimate development costs and identify undersupplied buildings

03

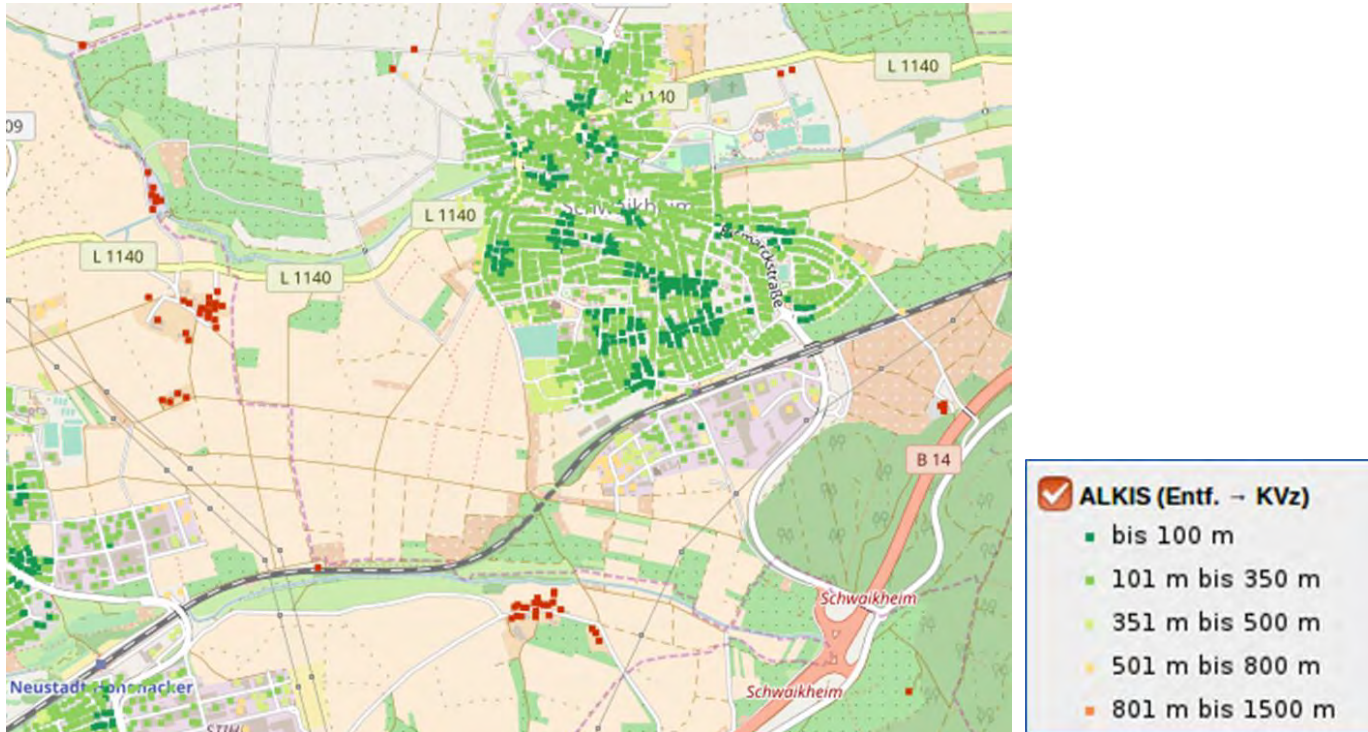
Results were joined with a municipalities dataset from the Federal Agency for Cartography and Geodesy (BKG)

- Use of a Ring-Search algorithm
- The script calculates routes from each member of a Source Geometry dataset to each member of a Target Geometry Dataset within a given radius within specific areas
- Routing is done by either distance or costs.



- Sources can be points, targets can be any geometry supported by PostGIS.
- An area is to be a polygon
- Costs are estimated by $\text{distance} * \text{street density} * \text{street density factors} * \text{street type factors}$

atene KOM Routing



Source: atene KOM GmbH

Final outputs:

- Number of homes passed
- Number/share of homes to connect
- Average distances between buildings and access points, cabinets etc.

atene KOM

Tracking the Infomobile

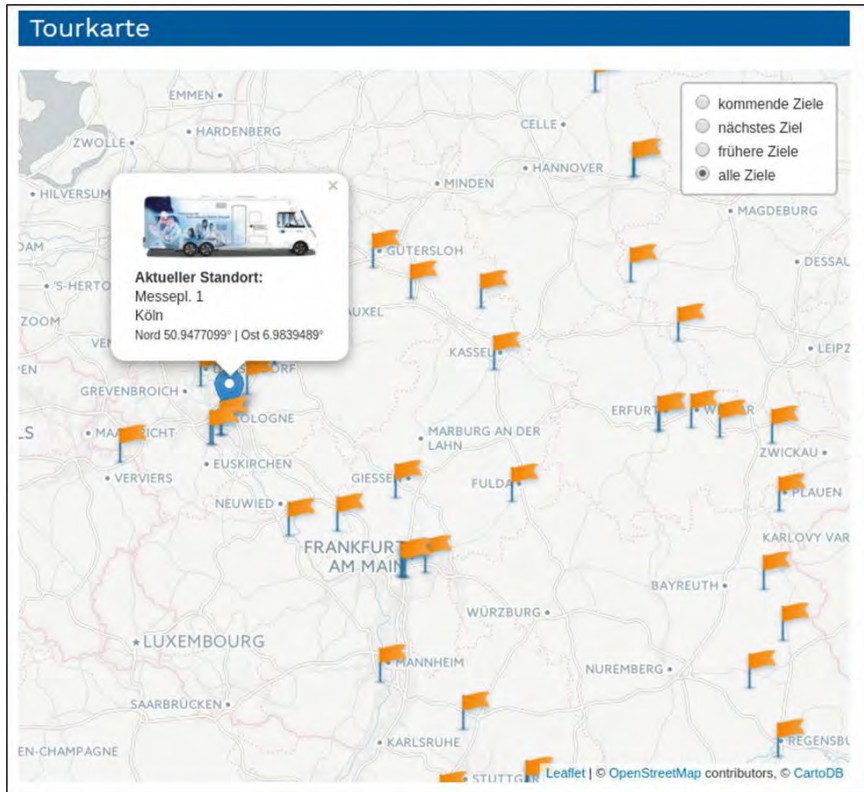


Source: Florian Schuh (BBB)

- Information campaign on broadband access for businesses
- A transferred mobile home (Infomobil) works as a roadshow
- For tracking the Infomobil, a web map was placed on the Federal Broadband Bureau web site (www.breitbandbuero.de)
- The map shows actual, previous and future locations of the bus as well as addresses and coordinates
- The web map was produced with open source webmapping tool Carto-DB

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Tracking the Infomobile



Source: atene KOM GmbH

- A zooming down to building level is possible
- The map can be filtered by destinations past, present and future
- Included is a real-time tracking

atene KOM GmbH
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Management

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6.9 Presentation Digital Transformation in Europe by Dr Peyman Khodabakhsh (atene KOM GmbH) and Wouter Degadt (Interkommunale Leiedal)



Digital Transformation in Europe

Dr. Peyman Khodabakhsh

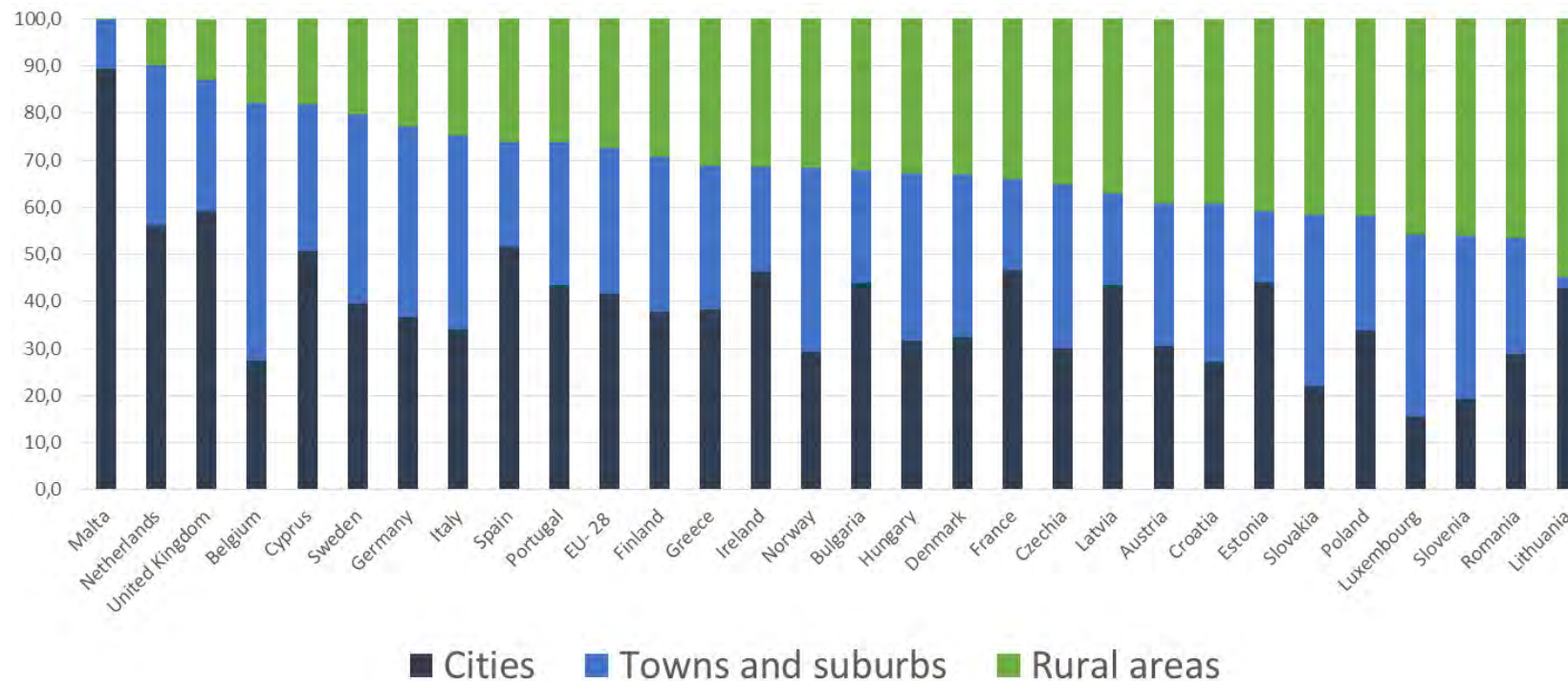
atene KOM

Wouter Degadt

Intercommunale Leiedal

Fact and Figures

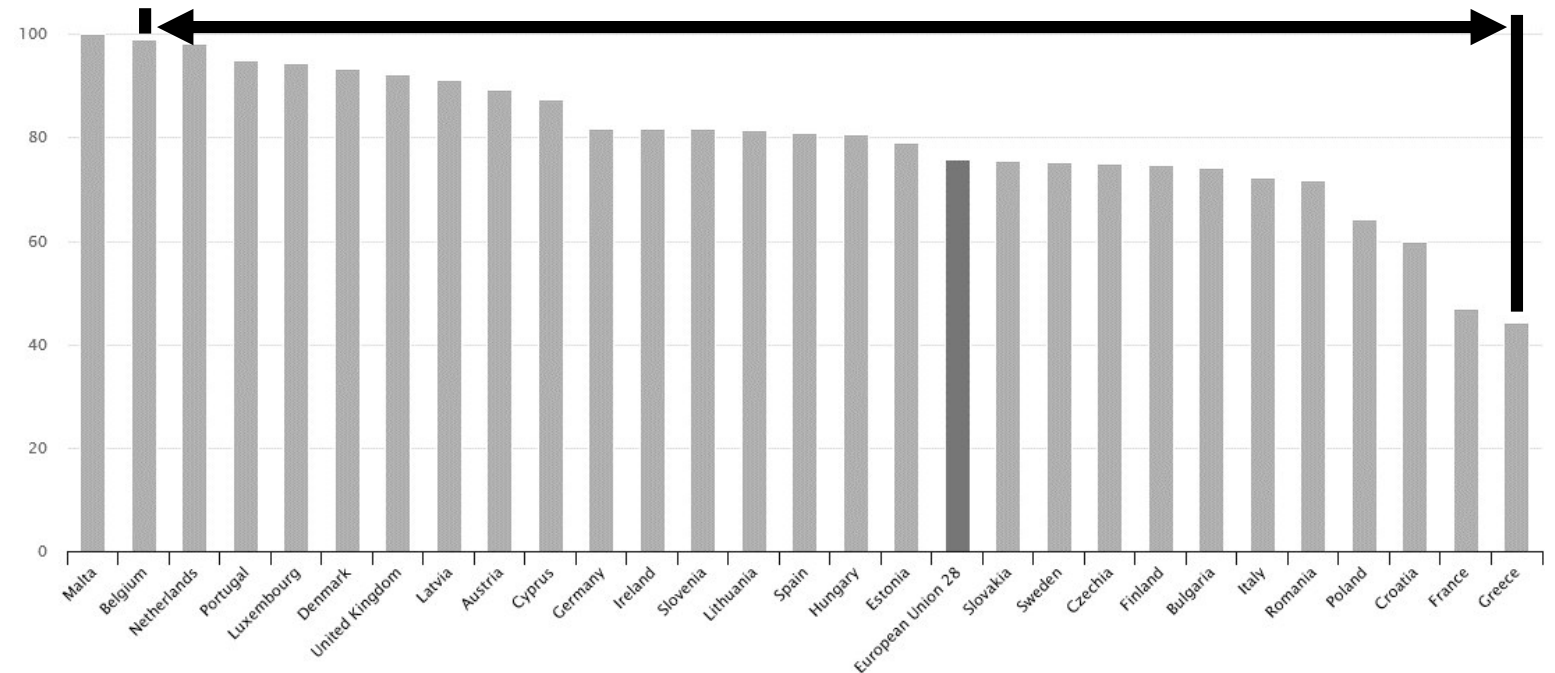
Distribution of population, 2017



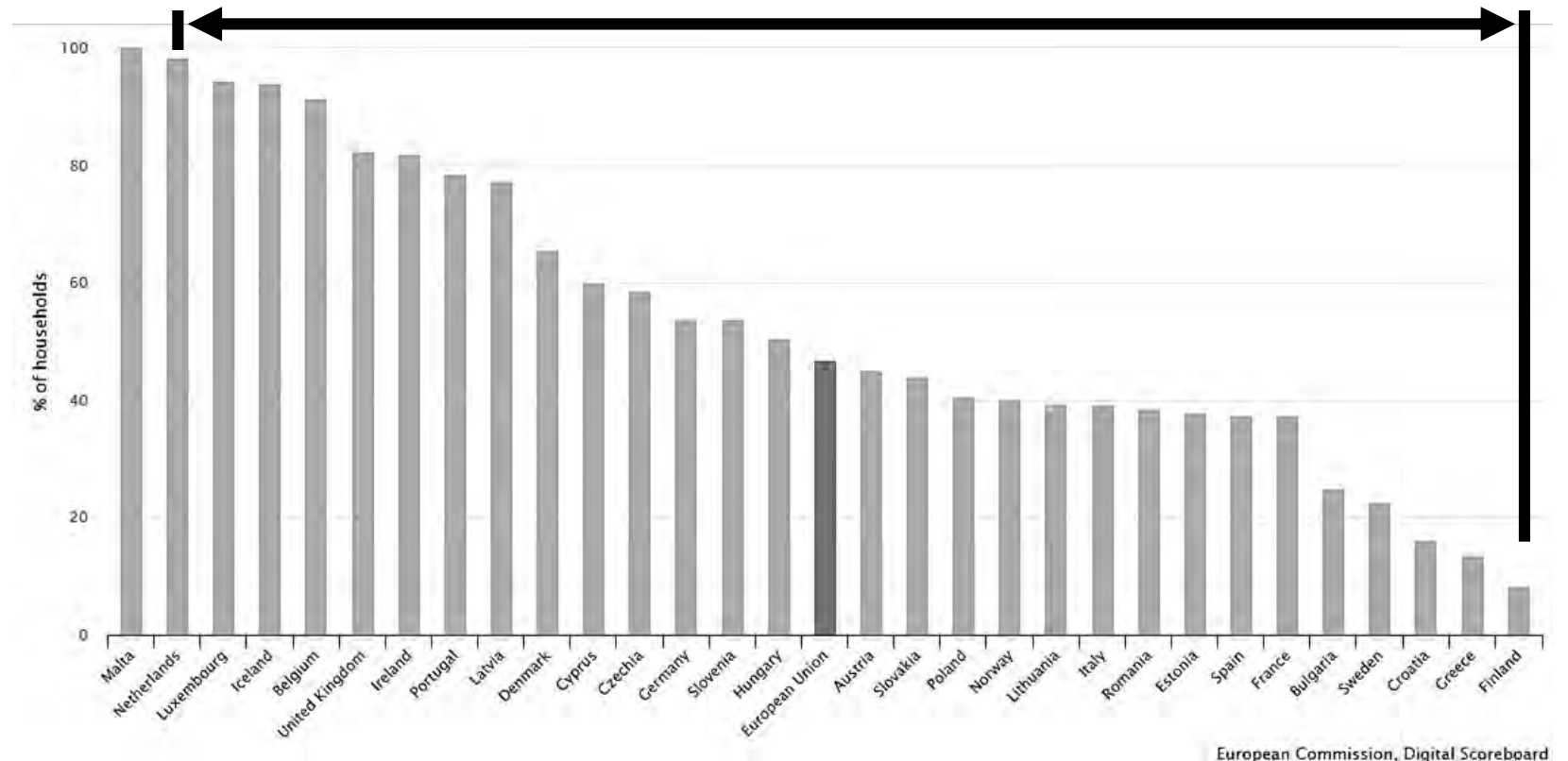
27% = 140 Mio



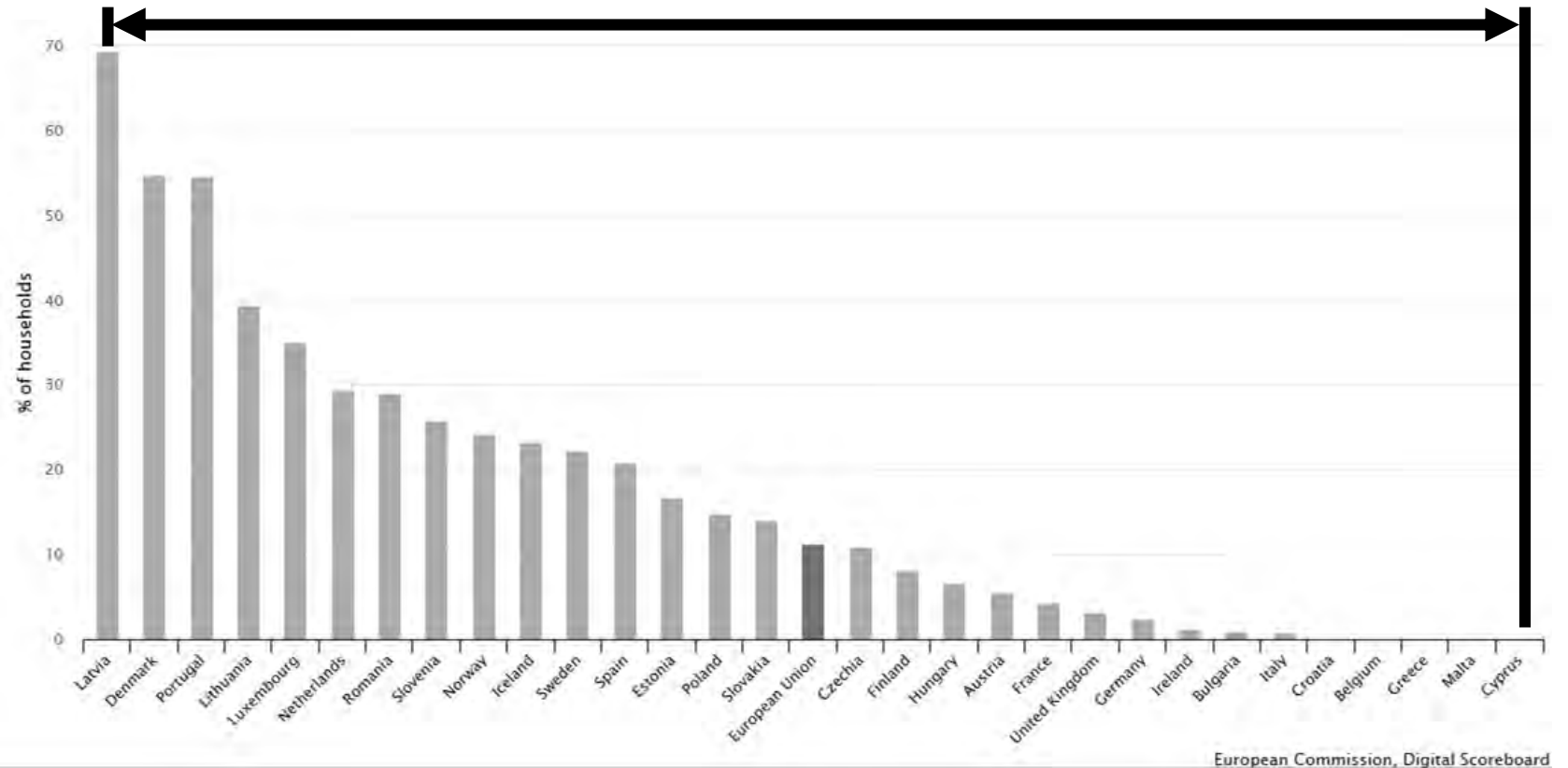
Total NGA broadband (Coverage/availability) 2017



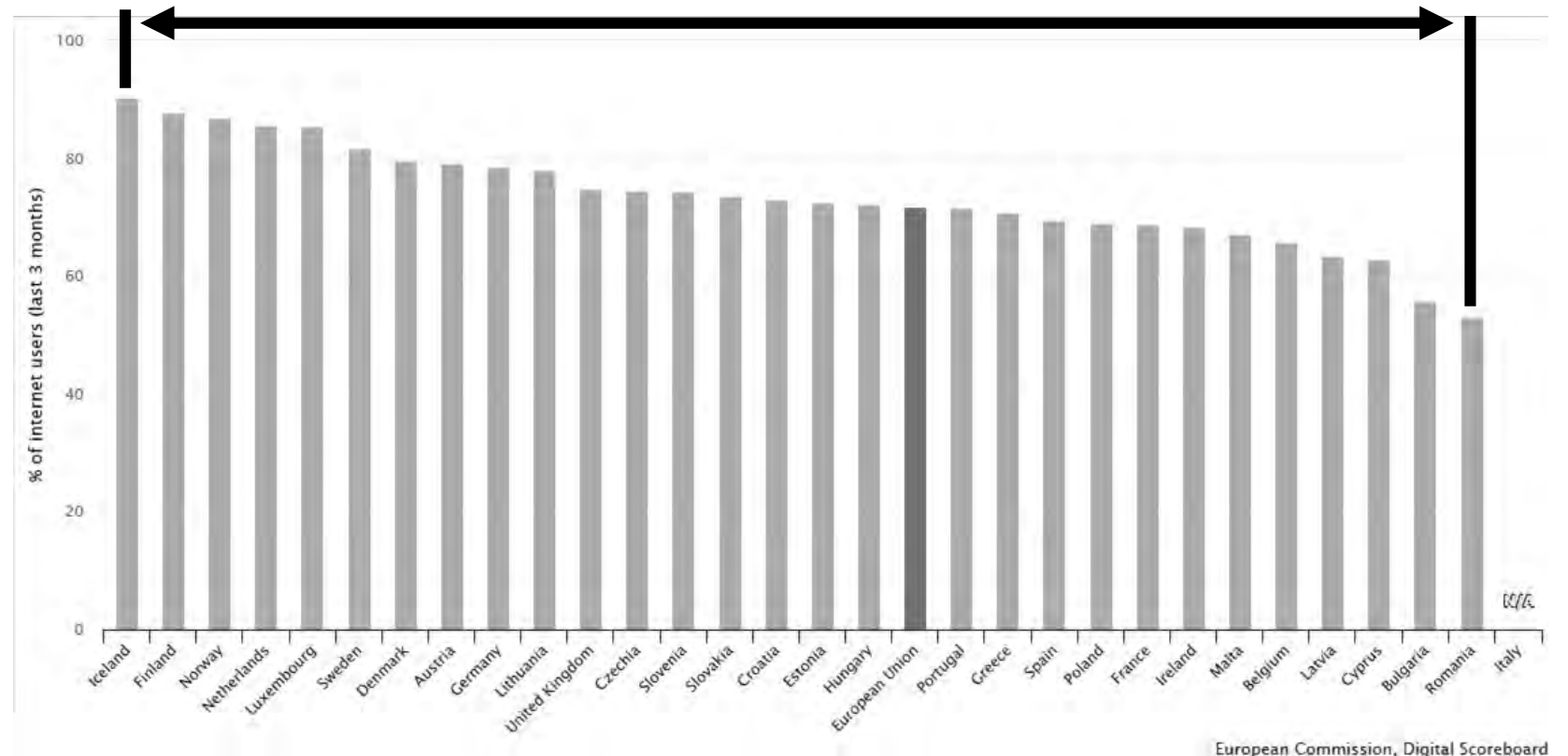
Rural NGA broadband (Coverage/availability) 2017



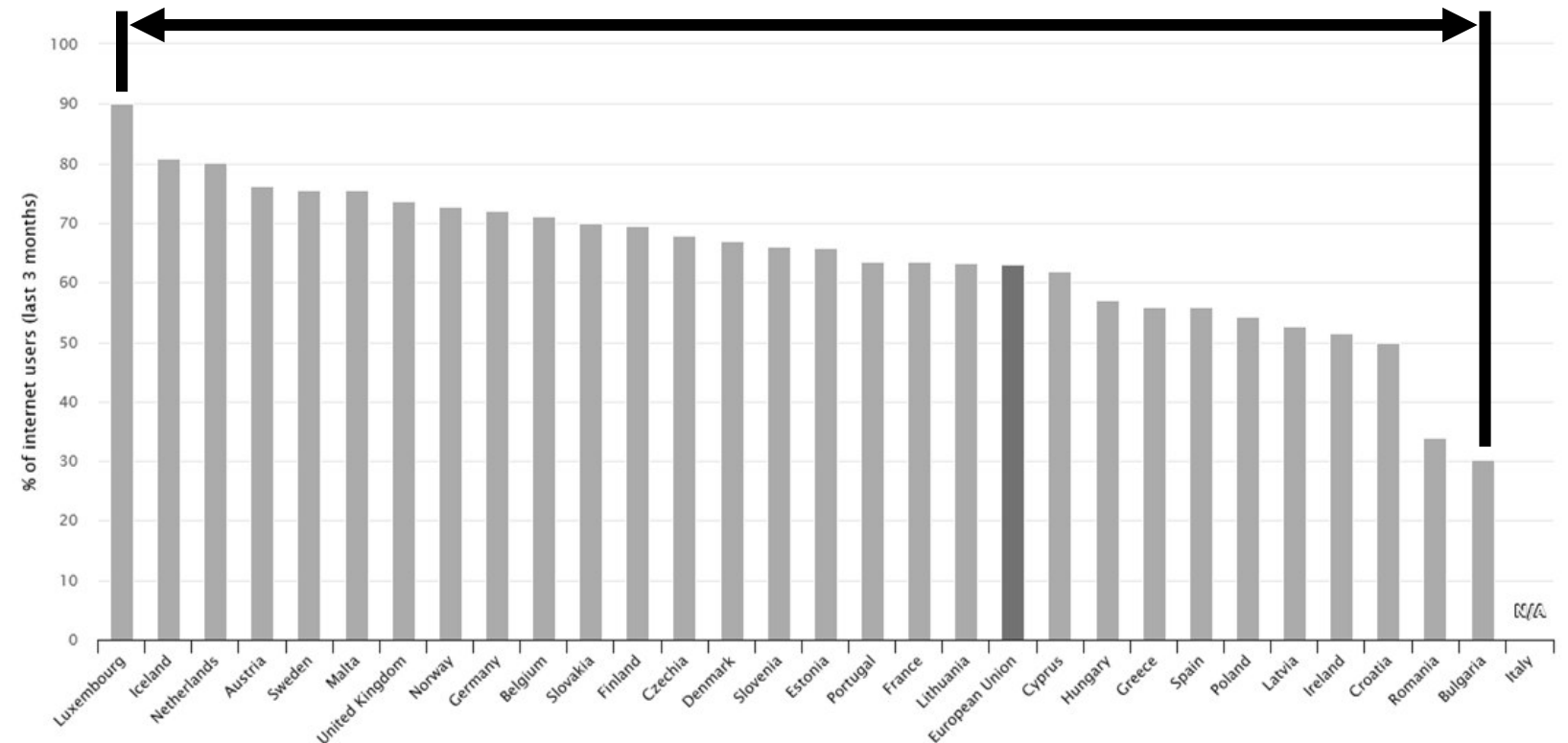
Rural Fiber to the premises (Coverage /availability) 2017



Individuals with basic and above basic digital skills in urban areas (2017)

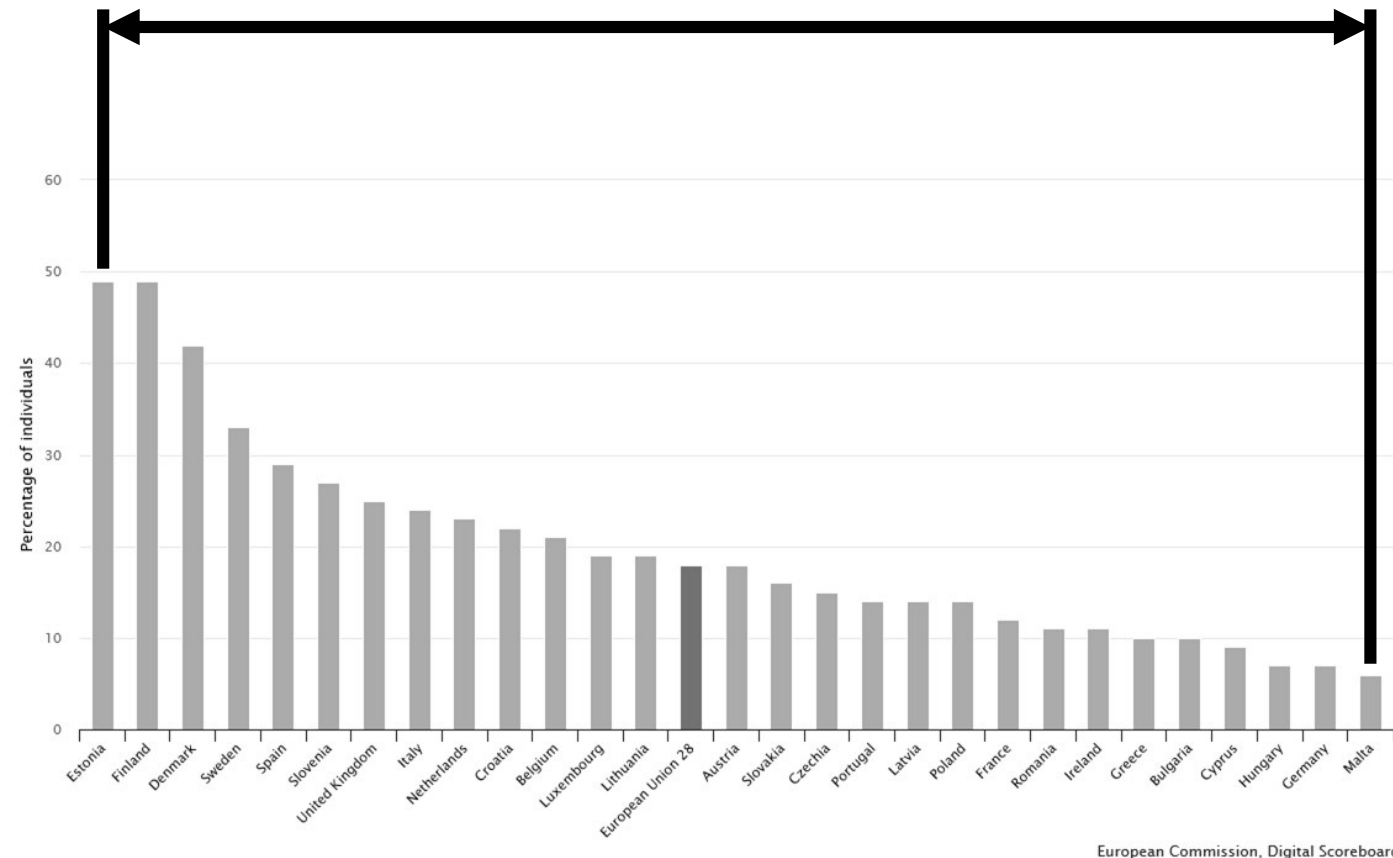


Individuals with basic and above basic digital skills in rural areas (2017)

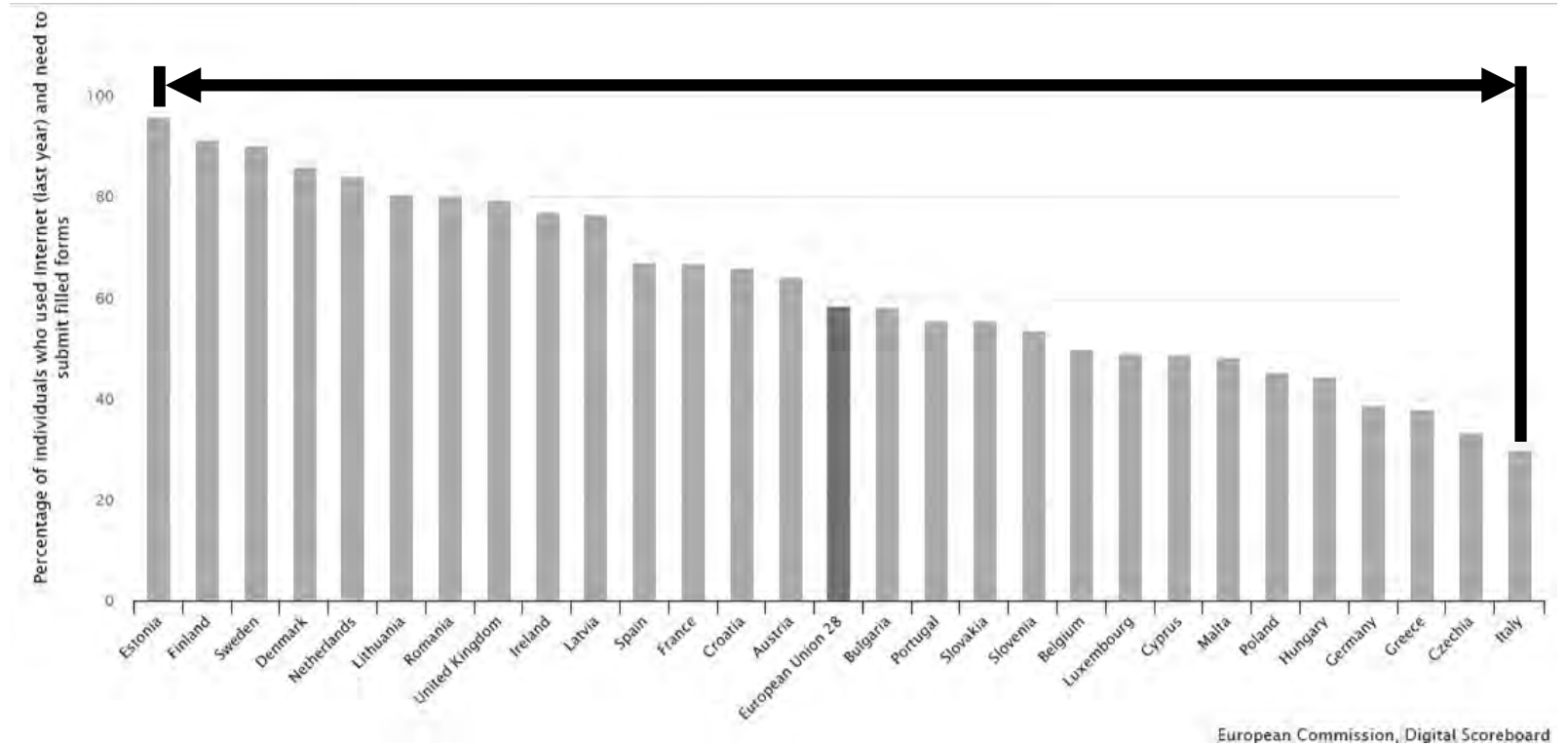


European Commission, Digital Scoreboard

E-Health users total (2018)



E-GOV users total (2018)





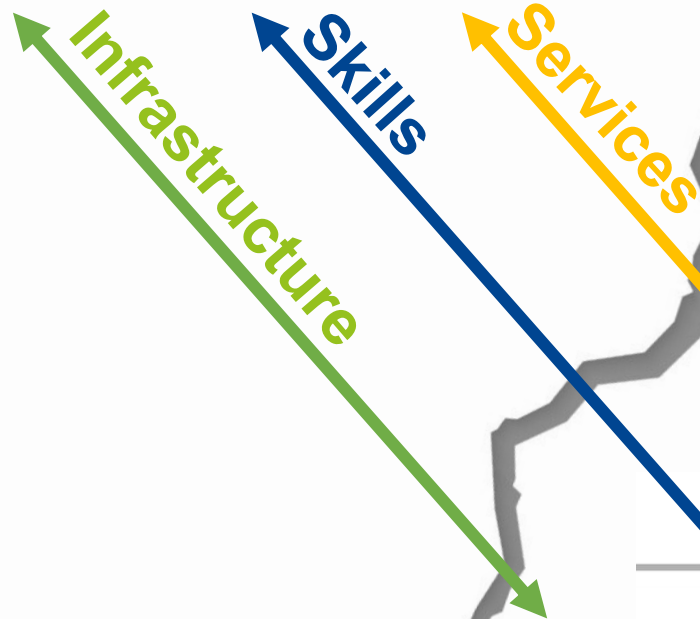
1. Still some regions lack superfast **digital infrastructure**

2. Infrastructure is there, but **demand not**

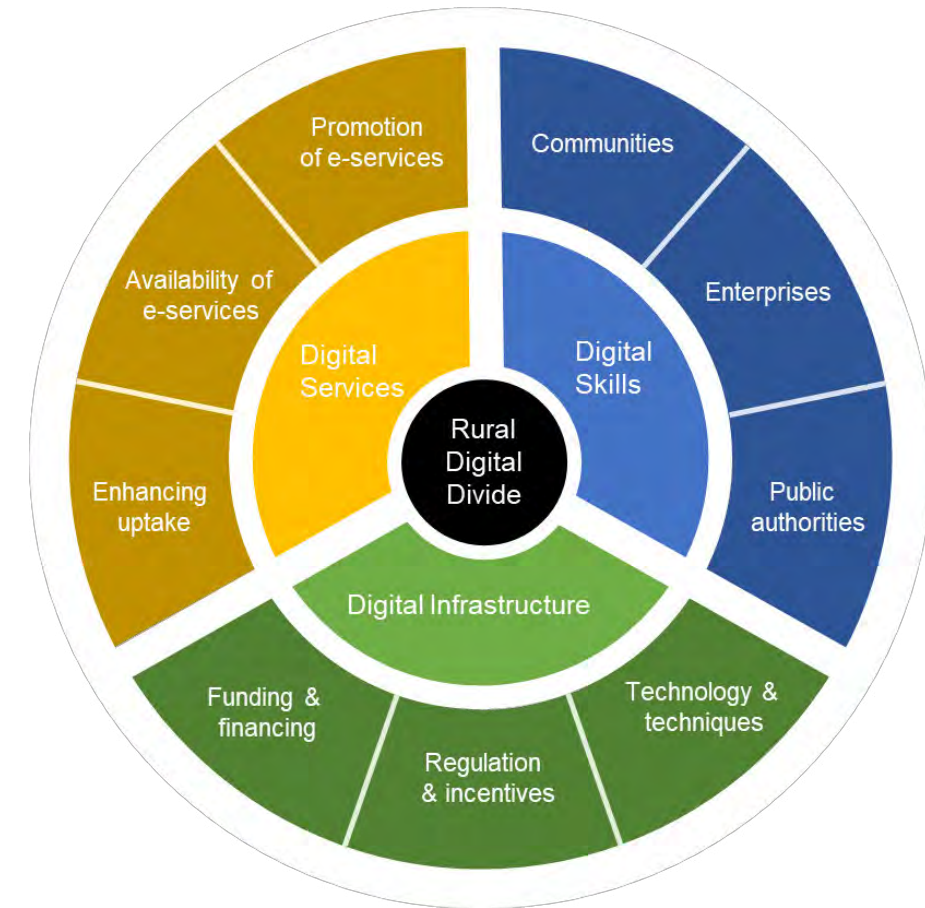
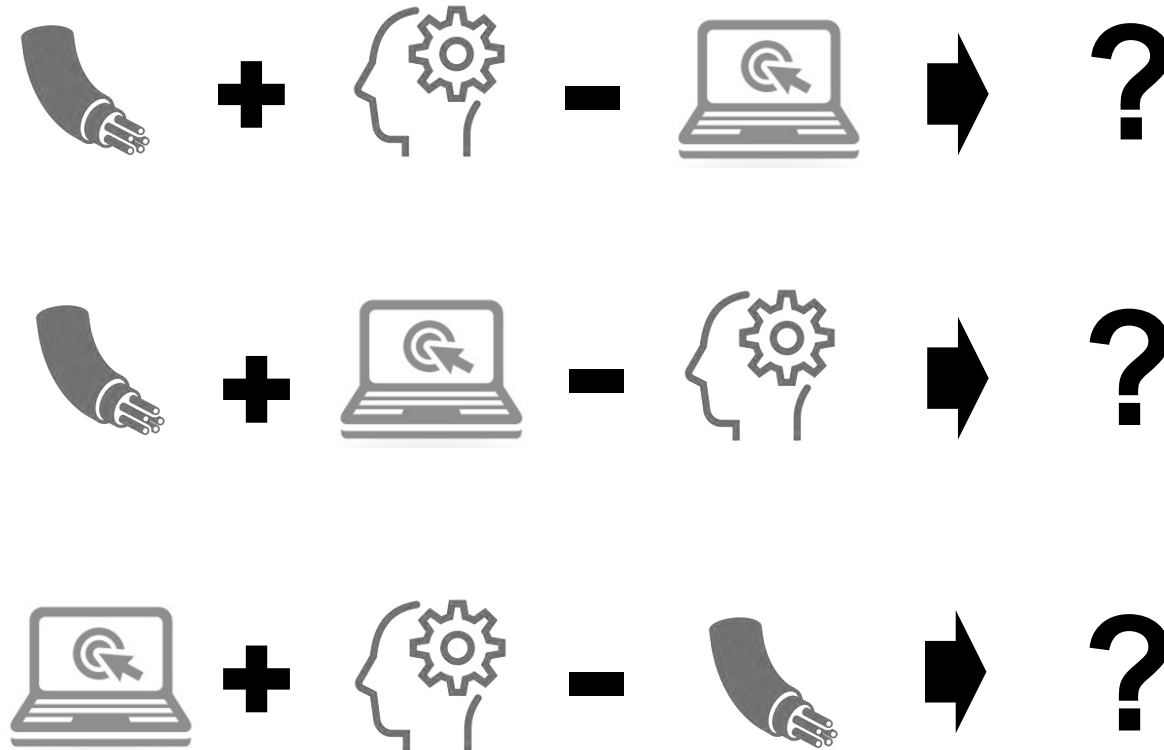
3. Skills are lacking

4. Digital services are missed in several spheres of life

5. Users of e-services



Digital transformation ecosystem

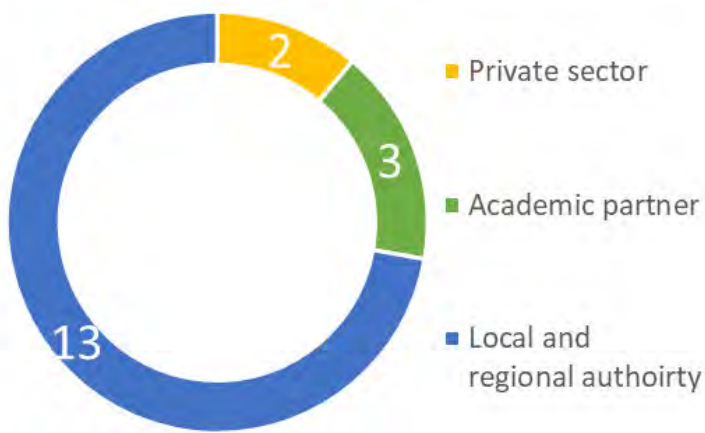


Transnational joint forces!

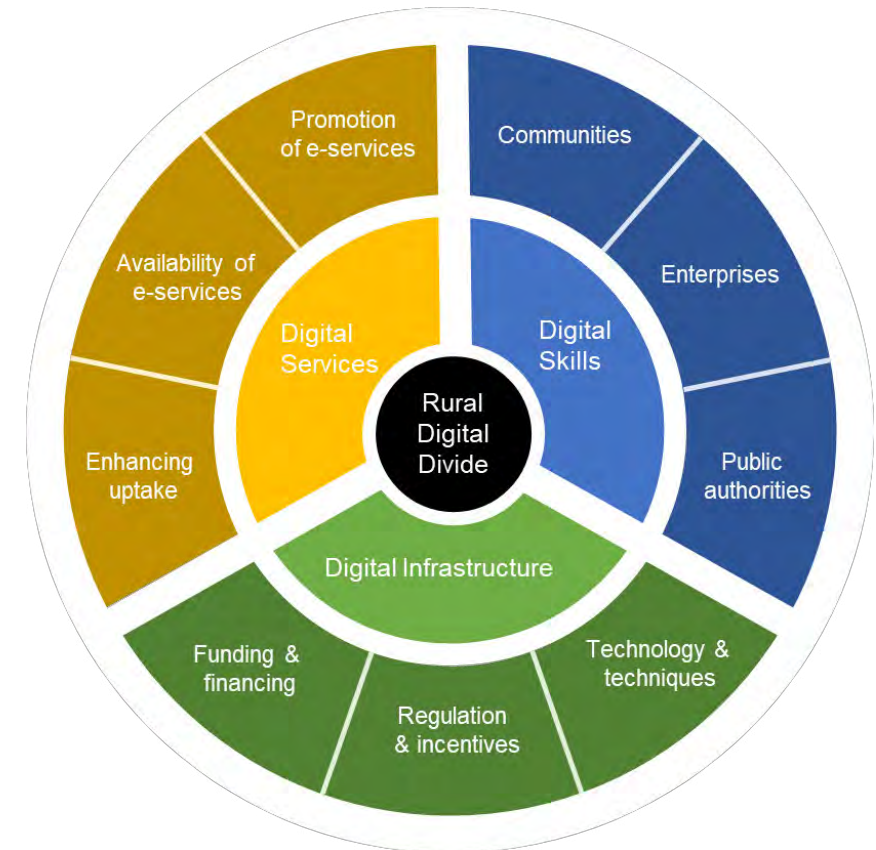


18 Partners from 7 EU member states:

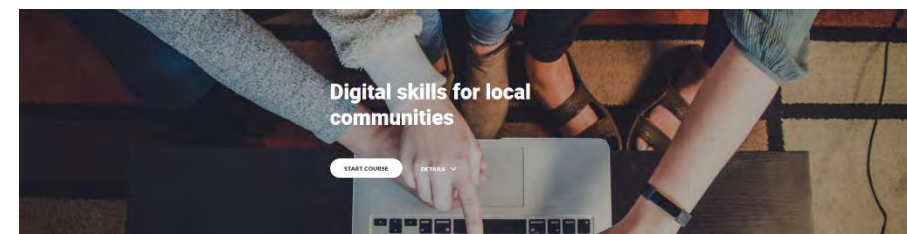
Total Budget → 3.845.000,00 €



**Building up the capacity for
local and regional actors !!!**



Training and capacity building



MENU

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JOIN THE
CORA
COMMUNITY

ABOUT

Digital divide across rural areas of the North Sea region is limiting their attractiveness for families and businesses. This phenomenon represents a market failure, as infrastructural investment is not adequately delivered to rural areas due to high financial risks. Digital skills also fail to meet a certain level of progress. Local authorities are often not aware of their future-coming digital needs and end-users have limited skills to create an effective level of demand. CORA targets these issues and **emphasizes on main components of digital divide, namely digital infrastructure, services and skills. It helps local authorities to identify their common challenges and empowers them to exchange experiences and test innovative solutions to create an advanced digital environment.** 10 regions will demonstrate one or more dimensions of digitalization according

Testing solutions



Infrastructure solutions



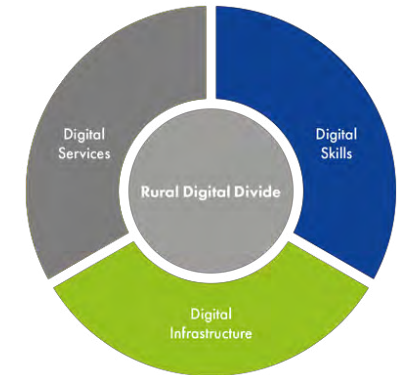
Services solutions



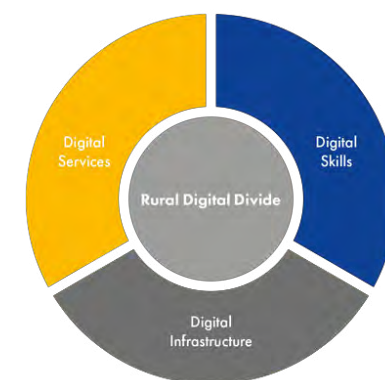
Skills solutions



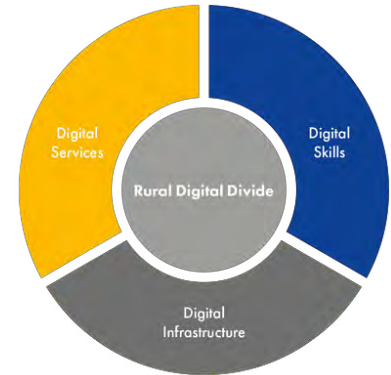
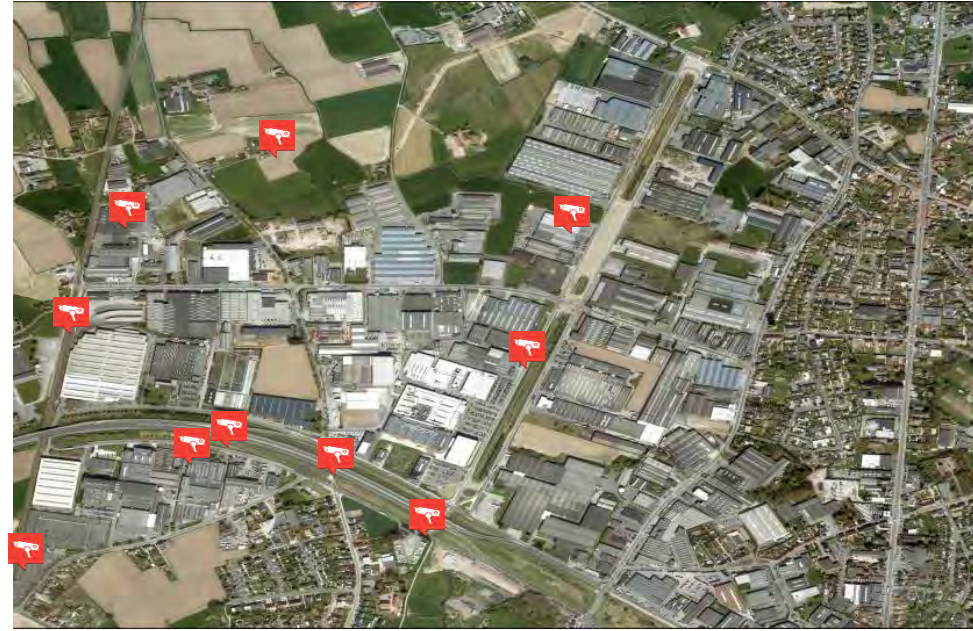
Synergies in cross-border cooperation



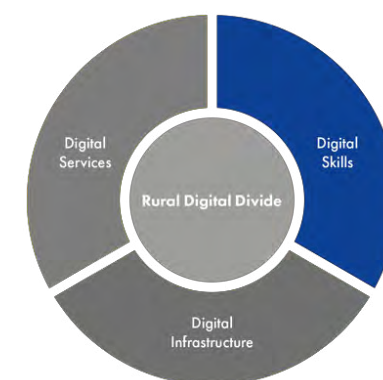
Smart public services



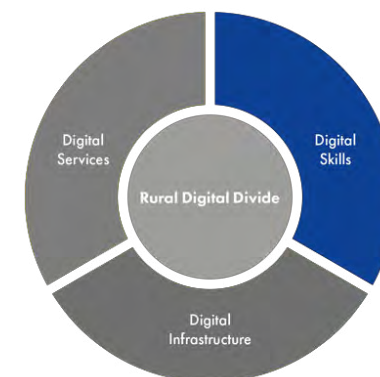
Smart public services



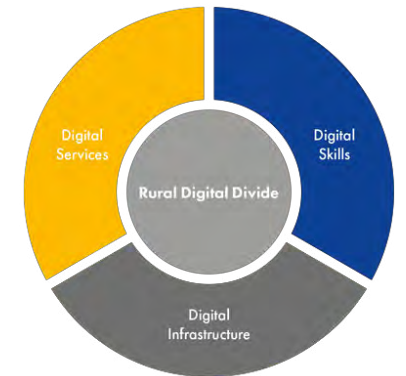
Digital HUBs



Improving digital skills & training



Effective public e-service



 **norddjurs**

 **Syddjurs**
KOMMUNE

New services for citizens and tourists

usgabe generiert für: ePaper-Kundennummer: KN_PHONE0000011403

30 SEHESTEDT

DONNERSTAG, 15. NOVEMBER 2018

KURZNOTIZEN

Barkelsbys Rücklage wächst kräftig

BARKELSBY. Natürlich sind auch ungeplante Ausgaben drin, doch insgesamt dürfte der Beschluss über den Nachtragshaushalt für dieses Jahr Barkelsbys Gemeindevertretern heute Abend leicht fallen. Unter anderem durch Einnahmen durch Grundstücksverkäufe können Ersparnisse noch mehr erhöht werden, als ohnehin schon geplant war. Gemäß Plan wächst die Rücklage um 441 000 Euro auf 1,294 Millionen Euro. Näher Erläuterungen zu den Zahlen gibt es ab 19.30 Uhr im Gemeindefreizeit.

Steueranstieg in der Diskussion

WAABS. Die Erhöhung um ein Prozent würde 13 000 Euro mehr Einnahmen für die Gemeinde Waabs bringen. Über das mögliche Anheben der Zweitwohnungssteuer diskutieren die Mitglieder des Haupt- und Finanzausschusses heute Abend im Feuerwehrhaus. Derzeit liegt der Hebesatz bei zwölf Prozent hochgerechneter Jahres-

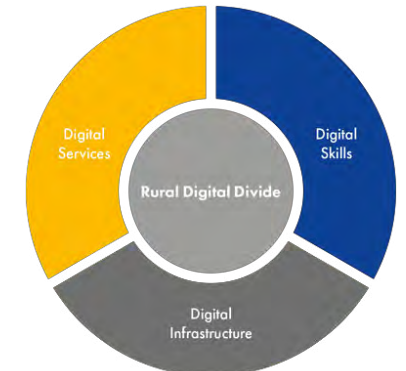
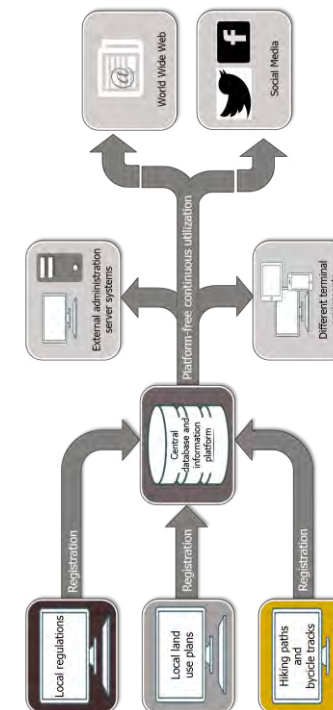


Unter anderem zur Finanzierung von Informationsstellen mit Touch-Screens fließen über das Cora-Projekt 144 500 Euro Fördergeld ins Amt Hüttener Berge. Andreas Betz informierte die Cora-Partner Wouter Degadt (links) und Peyman Khodabakhsh über den Stand der Dinge.

FOTO: RAINER KRÖGER

Treffen der Digitalisierungsvorreiter

Internationale Partner im Cora-Förderprogramm zu Gast im Amt Hüttener Berge



CORA online

northsearegion.eu/cora

 @coraproject



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