



ITU Regional Workshop for Europe on “Mapping of Terrestrial Broadband Infrastructure and Services”

Office of Electronic Communications of Republic of Poland

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DG CONNECT B5: Investment in high capacity networks



2016 EC Communication "**Connectivity for a Competitive Digital Single Market - Towards a European Gigabit Society**"

EU broadband strategic objectives for 2025:

- 1. Gigabit connectivity for all main socio-economic drivers such as schools, transport hubs and main providers of public services as well as digitally intensive enterprises.**
- 2. All urban areas and all major terrestrial transport paths to have uninterrupted 5G coverage.**
- 3. All European households, rural or urban, will have access to Internet connectivity offering a downlink of at least 100 Mbps, upgradable to Gigabit speed.**

BROADBAND IN THE NEXT MFF: OVERVIEW



CEF - Digital Connectivity

€3 billion

- 5G roll out
- BB 4EU, Connecting communities
- Synergies with Transport /Energy
- Complementarity with ERDF-EARDF

European Regional and Development Fund

- Cabling solutions to and in buildings
- Measures to reduce the cost of deployment of VHC
- Measures to support the national/regional broadband strategy and regional/local BCOs

European Agricultural & Rural Development Fund

- Access to broadband a precondition for modern CAP
- Address **underinvestment in most rural, also less dense, areas**
- Measures such as **Smart Villages, Leader and local investments**

Digital Europe: Capacities & roll out

1. High Performance Computing (HPC)
2. Artificial Intelligence (AI)
3. Cybersecurity
4. **Advanced digital skills**
5. **Digital transformation and interoperability**



Relevance of mapping data at EU/MS Level

- 1. Monitoring and benchmarking the achievements of the Digital Single Market objectives** (Digital Economy and Society Index: DESI)
- 2. Developing MS Broadband plans (update by September 2019):**
 - review progress of their National Broadband Plans and update them with a time horizon of 2025,
 - in line with the strategic objectives set in this Communication and the 5G Action Plan.
- 3. Programming, implementing and monitoring the impact of ESIF (ERDF and EAFRD);**
 - **ex-ante conditionality:** Broadband Strategy (2014-2020)
 - **enabling conditions:** Broadband Plan (2021-2027)
 - **Aid CEF/Invest EU** to build project pipeline on relevant areas;
- 1. Notification of State Aid measures** to EC for the purpose to allow interventions in areas affected by market failure



ESIF 2021-2027: Enabling condition on broadband

A **national or regional broadband plan** is in place which includes:

1. An assessment of the **investment gap** that needs to be addressed to reach the EU Gigabit connectivity objectives , based on:
 - a recent **mapping (1) of existing private and public infrastructure** and quality of service using standard broadband mapping indicators
 - a **consultation on planned investments**
2. The justification of planned public intervention on the basis of **sustainable investment models** that:
 - enhance, **affordability and access to open, quality and future-proof** infrastructure and services
 - adjust the forms of **financial assistance** to the market failures identified
 - allow for a **complementary use of different forms of financing** from EU, national or regional sources
3. **Measures to support demand and use of Very High Capacity (VHC) networks**, including actions to **facilitate their roll-out**, in particular through the effective implementation of the **EU Broadband Cost-Reduction Directive (2)**
4. **Technical assistance mechanisms, including Broadband Competence Offices** to reinforce the capacity of local stakeholders and advise project promoters
5. **A monitoring mechanism based on standard broadband mapping indicators**

1. **In line with article 22** of the new European Electronic Communications Code].

2. Directive 2014/61/EU



Towards an EU integrated platform mapping broadband services in Europe

<https://www.broadband-mapping.eu/>

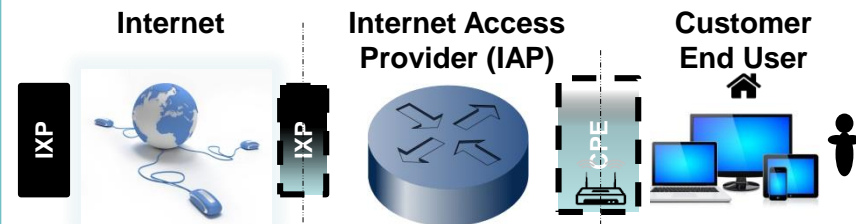
Main aims:




- **aggregate measurements of connectivity of quality of service (QoS) and quality of experience (QoE) connectivity.** (TUV Rhineland Consulting will develop this IT project until Sept 2019 – Next phase being planned).
- **facilitate information exchange and benchmarking between Member States.** The portal will be complementary to the mapping activities of EUMS and EEA (Ministries, NRAs, regional agencies, users and consumers organisations etc.) and will also gather private crowdsourcing QoS/QoE actions.

A Technical Review Panel: made up of representatives from various data providers and international experts assists the European Commission. It includes representatives from MS, from NRAs and from BEREC Working Groups.

Eu mapping portal: "Quality of Service/experience"

The EU-Broadband mapping project collects data on different Quality of Service (QoS) definitions



<p>QoS-1: Theoretical</p>	<p>What: Predicted network performance / technical ability of existing infrastructure Where: Between core network of the Internet Access Provider (IAP) and Network Termination Point (NTP), where end user's premises / buildings are reached How: Assessment / calculation by providers</p>	 <p>QoS-1</p>
<p>QoS-2: Practice optimal</p>	<p>What: Line qualification Where: Between reference points / interfaces of Internet Access Service (IAS) - from Internet Exchange Point (IXP) to Network Termination Point (NTP), where end user's premises / buildings are reached. IXP refers to the place where multiple Internet Service Providers interconnect their respective networks How: Measurement by providers or initiatives</p>	 <p>QoS-2</p>
<p>QoS-3: Practice experienced</p>	<p>What: Actual user's experience when using Internet Access Service (IAS) Where: QoS measurement initiated by end user, triggered via the user terminal equipment (wired and wireless) connected behind Customer-Premises Equipment (CPE). Measurement <u>including</u> individual end user's activity and environment How: Measurements via online speed tests</p>	 <p>QoS-3</p>



NEW CODE for electronic communications: article 22: Geographical surveys

Main objective:

- National regulatory and/or other competent authorities shall conduct a **geographical survey of the reach of electronic communications networks** capable of delivering broadband ('broadband networks') **by 21 December 2023** and shall update it at least every three years thereafter.

Surveys will involve

- a survey of the **current geographic reach of broadband networks:**
- (may also include) a **forecast on investments** including information on planned deployments by any undertaking or public authority, of **VHCN** and significant upgrades or **extensions of networks to at least 100 Mbps**
- **national regulatory authority shall decide the extent to which it is appropriate to rely on** all or part of the information gathered in the context of **such forecast.**



NEW CODE for electronic communications article 22: Geographical surveys-2

National regulatory and/or other competent authorities:

- **may designate** and publish an area with clear territorial boundaries where no undertaking or public authority has deployed or is planning to deploy a very high capacity network or significantly upgrade or extend its network to a performance of at least 100 Mbps download speeds.
- **invite undertakings** and public authorities to declare their intention to deploy very high capacity networks or significantly upgrade or extend its network to a performance of at least 100 Mbps over the duration of the relevant forecast period.
- **inform any undertaking** or public authority expressing its interest whether the designated area is covered or likely to be covered
- shall **supply those results** subject to the receiving authority ensuring the same level of confidentiality and protection of business secrets as the originating authority



NEW CODE for electronic communications article 22: Geographical surveys-3

- For the application of **state aid rules**
- To assess the reliability of all or part of the information of **investment forecast**
- To **designate an area** where no undertaking or public authority has deployed or is planning to deploy a VHCN or significantly upgrade to at least 100 Mbps
- For the **design of national broadband plans**
- For the **deployment of electronic communications networks** by local, regional and national authorities with responsibility for the allocation of public funds
- For defining **coverage obligations** attached to rights of use for radio
- To make available information tools enabling **end-users** to support their choice of operator or service provider.
- In **defining relevant (geographic) markets, NRAs** shall, where relevant, also take into account the results of the geographical survey (market analysis)
- To **impose appropriate universal service obligations** and for **verifying availability of services** falling within the universal service obligations.



NEW CODE for electronic communications article 22: Geographical surveys- 4

Open issues at stake for the guidelines:

- 1) level of ambition/harmonisation** – possible differentiation depending on the task for which the data is required;
- 2) Type of data required:** QS1 (theoretical), QS2 (tests), QS3(crowdsourcing), and specification of technology, architecture/topology, medium,
- 3) Granularity/resolution of the data:** address level, grids size, NUTs level
- 4) GIS representation of associated facilities:** GIS coordinates of network elements/associated facilities (cabinets, distribution points, antenna sites etc).
- 5) Publication and visualisation of the data:** who has access to what
- 6) Confidentiality, level of aggregation, information to other entities** (users, PA, operators/investors)



NEW CODE for electronic communications article 22: Geographical surveys- 5

Timeline for the guidelines:

- **Consultation workshop (NRAs, OCAs) 21/5/2019;**
- **A BEREC workshop with operators on the 5th of July**
- **Consultation workshop (NRAs, OCAs) by November/December 2019;**
- **Public consultation document by end of 2019;**
- **Consultation workshop (NRAs, OCAs) by May/June 2019;**
- **Final Draft guidelines to be approved by mid-2020.**



Development of a methodology to map broadband coverage

- **Carried out in parallel with the work of the BEREC EWG on Geographic Surveys**
- **Aims to discuss and agree concepts, definitions and a market consultation process** that would be satisfy the execution of relevant EU policy and regulatory tasks.
- **Expected to feed the EU requirements** into the work of the BEREC Guidelines on Geographic Surveys of article 22.
- **A technical Review panel** including a few NRAs and MS authorities
- are currently helping to review the work

Timeline:

- First draft September 2019,
- Final methodology in September 2020
- followed by 12 months of testing phase (mid-end 2021)



End

Questions?