

Public debriefing

Outcomes of the 61st BEREC ordinary plenary meetings
5-6 December 2024

11 December 2024

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BEREC Work Programme 2025

**Incoming BEREC Chair
Robert Mourik (ComReg)**

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Overview post public consultation

- 50 Projects
 - 31 recurring, mandatory or carry-over projects
 - 19 new projects (including an external study on data centres)
- Public Consultation from 4th October to 4th November 2024
- Submissions received from 15 stakeholders:

BEUC

ecta

GSMA

MVNO Europe

Vantage Towers

CCIA

EENA

GSOA

Samsung

Vodafone

Connect Europe

FTTH Council

Liberty Global

Twilio

WaveThru

Changes in WP related to Public Consultation

- Text to reflect importance of the review of the EECC (Introduction & project **5.2.1 Ad hoc input to the EU/NRAs**)
- **1.1 Update of criterion 3 of the BEREC Guidelines on very high-capacity networks** - adoption for PC at P1 2025 and not P2
- **1.11 Submarine cables connectivity in Europe** – substantial change to reflect the BEREC will produce report for PC at P2 2025 and finalisation at P4 2025
- **2.5 BEREC external workshop on telecom regulators’ role in the development and implementation of sustainability indicators in the ICT sector** - completed

Changes in WP related to Public Consultation

- **2.5 BEREC contribution on the impact of Artificial Intelligence on the competition dynamics, internet openness and end-users' rights** – substantial change to reflect Co-Chair's proposal to produce report for Public Consultation
- **5.1 BEREC Strategies 2026-2030: Mid-term strategy, International and Institutional** – additional text to emphasise the direct link to the EECC & alignment with broader EU policy goal (e.g. twin transition)
- **5.3.5 BEREC Opinion to EC Implementing Act on Intra-EU communications**
- **6.1/6.3 New text for the BEREC Stakeholder Forum and Communications Plan 2025**

13 Public Consultations

Working Group	Title of Project	Reference in WP	Timing
FNE	Update of criterion 3 of the BEREC Guidelines on very high-capacity networks	1.1	P1 2025
ROAM	Update of BEREC Intra-EU communications Guidelines	5.3.6	P1 2025
FNE	BEREC Guidelines on the coordination of civil works according to Art. 5(6) of the Gigabit Infrastructure Act	1.3	P2 2025
FNE	BEREC Guidelines on access to in-building physical infrastructure according to Article 11(6) of the Gigabit Infrastructure Act	1.4	P2 2025
DM	BEREC Report on the domestic submarine cables in the different Member-States	1.11	P2 2025
PFT	BEREC Strategies 2026-2030: Mid-term strategy, International and Institutional	5.1	P2 2025
DM	BEREC report on the integration of AI in the telecommunications sector	2.5	P3 2025
PFT	Developing the BEREC Work Programme 2026	6.4	P3 2025
CSR	ECASEC-BEREC: Guidelines on preventing smishing	3.7	P3 2025
MEA	Fact finding report on the competition indicators and regulatory highlights in different jurisdictions	1.9	P4 2025
EU	BEREC report on switching and termination of contracts	3.2	P4 2025
PFT	BEREC Report on Virtual Worlds and Web 4.0	1.13	P1 2026
RAMM	Update to BEREC Guidelines on Geographical surveys of network deployments	1.14	TBD

7 External Workshops

Working Group	Title of Project	Reference in WP	Timing
MEA	Workshops on the competitive effects of strategic fibre networks deployment, including in the context of copper switch-off	1.10	Q3 2025
EU	BEREC external workshop on practical issues preventing number misuse and possible fraudulent activities as a result of impact of new technologies	3.3	Q2 2025
EU	BEREC-BEUC Joint workshop on end-user rights	3.4	Q4 2025
RAMM	BEREC external workshop on implementation of Equivalence of Inputs (EoI) by NRAs	2.7	Q3 2025
CSR	BEREC External workshop on the technological advances as security opportunities and challenges for network resilience	1.8	Q4 2024
SUST	BEREC external workshop on digital services' ecodesign for greener networks and ICTs	3.6	Q1 2025
SUST	BEREC external workshop on environmental footprint of satellite constellations	2.12	Q3 2025

Draft BEREC Report on infrastructure sharing as a lever for ECN/ECS environmental sustainability

Sustainability Working Group

Kateřina Dėkanovsk (CTU), Sandrine Elmi Hersi (Arcep)

Objectives of the workflow

BEREC Work Programme 2024 and PRD on Infrastructure sharing
as a lever for ECN/ECS environmental sustainability

- ✓ **Analysis of the implementation of the relevant EU provisions, especially Article 44, regarding co-location and sharing of infrastructures based on or which includes environmental considerations**
- ✓ **To review the existing data or impact studies and to identify possible development prospects in collaboration with stakeholders**
- ✓ **To gather BEREC member NRAs' feedback on the possibilities of how to weigh up identified benefits to the environmental impact from network sharing and/or take decisions motivated by the promotion of the environmental sustainability**

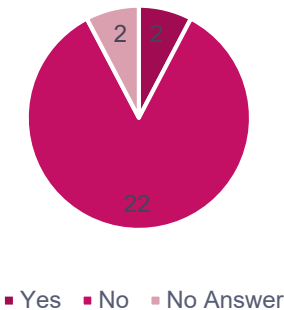
Deliverables

- A questionnaire distributed to BEREC members on the topic (feedback from 26 NRAs reviewed)
- Technical workshop with stakeholders (e.g. Connect Europe, ECTA and European Wireless Infrastructures association; no reply from other entities invited)
- BEREC Draft report published in December 2024 for a 6-week public consultation / Final report in June 2025

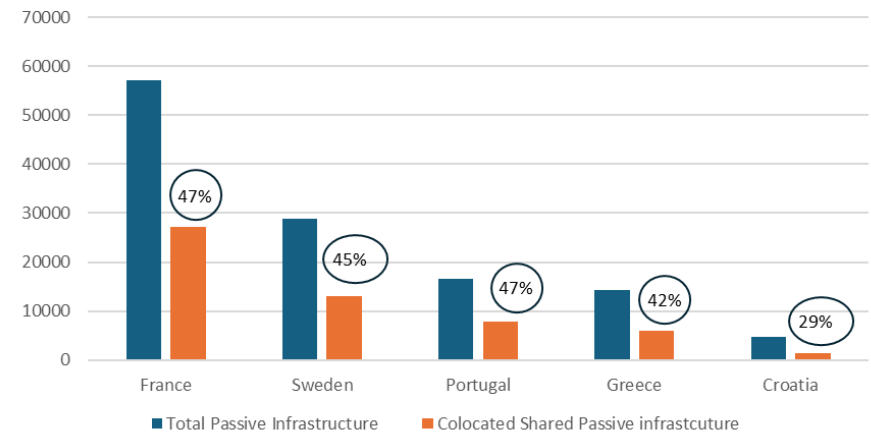
Among the main results

- Most of the national acts transposing **EECC Article 44** include the **protection of the environment** as a possible ground for decisions to impose infrastructure sharing. Only **few cases of mandatory infrastructure sharing** based on **EECC Article 44**.
- **Between two to seven NRAs impose infrastructure sharing obligations, depending on the regulatory basis considered (e.g. Articles 44 and 67 of the EECC or spectrum licenses).**
- **Environmental aspects** are rarely part of the decision-making process on infrastructure sharing (e.g. based on EECC Art. 47, 61, 72 and BCRD).
- Only **partial data** were shared by NRAs on the number of sites where infrastructure is shared. There is a **lack of studies assessing the environmental impact of infrastructure sharing**.
- **A majority of NRAs are interested in further investigating how infrastructure sharing regulation can contribute to building more sustainable digital infrastructures.**

1.2 Have your NRA and/or competent authorities made use of the possibility to impose co-location and sharing of network elements and associated facilities based on Article 44 of the EECC (and the national provisions transposing it)?



Number of collocated/shared passive infrastructure as % of total number of passive infrastructure

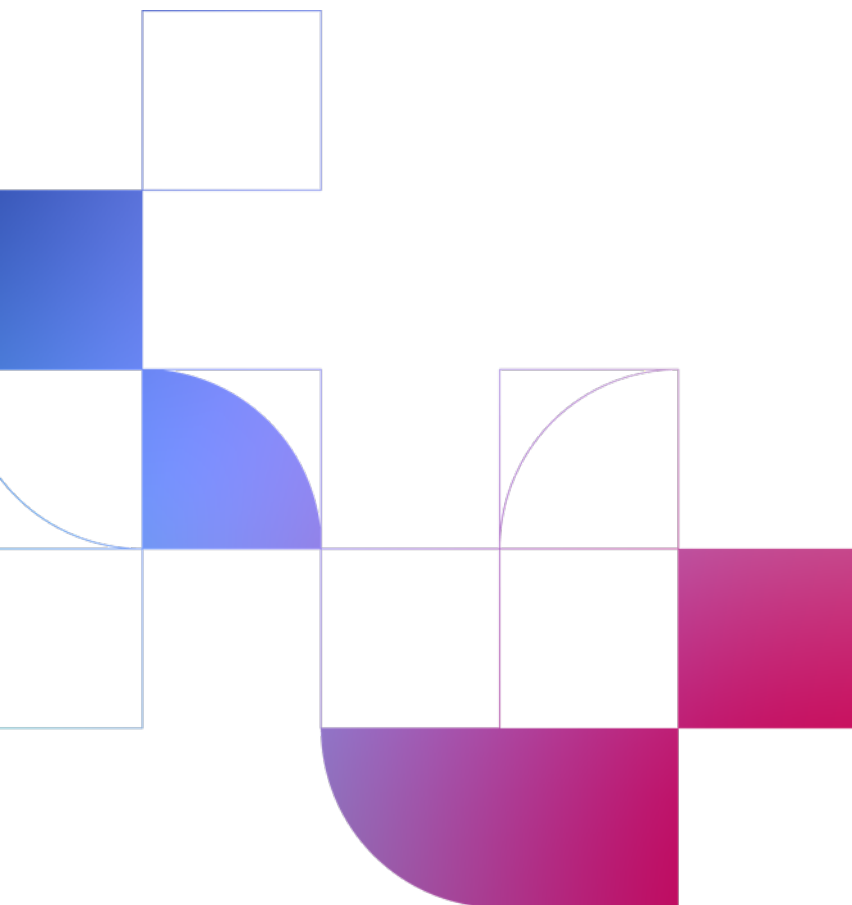


Key messages / conclusions 1/2

- Infrastructure sharing can bring **various benefits** such as cost reduction, improved efficiency, greater public acceptance of infrastructures, as well as minimisation of environmental impact of telecom infrastructures.
- **These benefits of infrastructure sharing have however to be weighed against potential technical, legal and regulatory issues** in terms of quality of service, competition and investment
- The European framework provides **regulatory tools** to support infrastructure sharing and this type of deployment are also promote by commercially driven agreement.
- The use of the regulatory tools allowing to promote infrastructure sharing are quite **disparate** in Europe and **relatively scarce** in some cases.
- There is also a **lack of data and studies** on infrastructure sharing and its role in terms of sustainability.

Key messages / conclusions 2/2

- Adding an **environmental sustainability objective** to the regulatory mandate of NRAs would be a favourable development to facilitate the inclusion of environmental aspects in NRAs decisions, including when they relate with infrastructure sharing.
- Possibility to expand the capacity of NRAs to impose or **incentivise infrastructure sharing to the benefit of the minimisation of ECN/ECS's environmental footprint** could be examined during the **next review of the EECC**.
- **Additional guidance at EU level** could support NRAs and competent authorities willing to include sustainability aspects, while taking into account national specificities.
- For future work, it would be relevant to encourage the **share of best practices and data**, notably within BEREC, and support studies evaluating the environmental benefit of infrastructure sharing.



PUBLIC CONSULTATION ON BEREC DRAFT REPORT ON
INFRASTRUCTURE SHARING AS A LEVER FOR ECN/ECS
SUSTAINABILITY:

16 December 2024 → 26 January 2025

Draft BEREC Progress Report on managing copper network switch-off

**Fixed Network Evolution Working Group
Alexander Thelen (BNetzA), François Weber (Arcep)**

BEREC projects on copper switch-off

- **2019:** BEREC internal workshop on “Migration from legacy infrastructures to fibre-based networks” (BoR (19) 236)
- **2022:** BEREC Report on a consistent approach to migration and copper switch-off (BoR (22) 69)
- **2023:** “Migration” chapter of the BEREC Opinion on the Draft Gigabit Connectivity Recommendation (BoR (23) 83)
- **2023:** BEREC internal workshop on the migration to VHCN networks and copper switch-off with a focus on the needs of the end-users
- **2024:** BEREC Progress Report on managing copper network switch-off

Copper Switch-off status

Did the SMPO already announce/inform that it plans to switch-off all or parts of its legacy copper access network e.g. close MDFs?

YES	17															
	BE	CY	DK	EE	ES	FI	FR	HU	IT	LU	MT	NO	PL	PT	SE	SI

NO	14												
	AT	BIH	BG	CZ	DE	GR	HR	IE	KO	LT	LV	ME	RS

Did the SMPO already close (phase out, no longer use) copper-based network elements (e.g. MDFs) ?

YES	18																
	BE	CY	DK	EE	ES	FI	FR	HR	HU	IT	LU	MT	NO	PL	PT	SE	SI

NO	13												
	AT	BIH	BG	CZ	DE	GR	IE	KO	LT	LV	ME	RS	RO

Did the NRA already set rules (e.g. in market analysis procedure) for the migration process and copper switch-off (e.g. closure of MDFs)?

YES	20																		
	BE	CY	CZ	DK	EE	ES	FR	GR	HR	HU	IE	IT	MT	LU	NO	PL	PT	SE	SI

NO	11										
	AT	BIH	BG	DE	FI	KO	LT	LV	ME	RO	RS

In 17 European countries, the SMP operator already plans to switch off its copper-based access network

In 18 European countries, the SMP operator already closed copper-based network elements

In 20 European countries, the NRAs already set rules for the migration process and copper switch-off

Notice period

- The notice period typically is:
 - 6 to 12 months in case ANOs do not use any SMPO's copper-based wholesale access products
 - 1,5 to 2 years in case ANOs use VULA or bitstream
 - >2 years in case ANOs use copper-based ULL

Alternative wholesale access product

Alternative wholesale access products the SMPO itself has to offer *	NRAs imposing (18 answers)
Duct Access	CY, EE, GR, IE, ES, PT
Copper SLU	GR, HU, IT
Fibre LLU	CZ, EE, HU, LU, SI
VULA	BE, CY, CZ, GR, HU, IE, IT, NO, SI, ES
VULA with regional and/or national PoH	CY, CZ, GR, SI
Bitstream with regional and/or national PoH	BE, GR, HU, IT, LU, SI, ES
Other	HU, IE, IT, PL

*Sometimes (like in France) the availability of WAP is necessary before switch-off but can be provided by another operator than the SMPO, these cases don't appear in the table

NRAs identified various specific moments in time, when the alternative wholesale access product must be available

Information by the SMPO

- Information of ANOs of critical importance
- Beyond the common switch-off plan, other examples of data expected include for example:
 - (i) replacement technology;
 - (ii) identification of lines;
 - (iii) information on/changes to coverage;
 - (iv) information on legacy and alternative WAPs;
 - (v) list of exceptions.

Most efficient actions taken

- Communication with ANOs and end-users has proven to be one of the most efficient action taken by NRAs/governments/operators to boost migrations and avoid cutting active lines on the day of copper switch-off
- Long enough notice periods are usually imposed by NRAs and have proven efficient to limit the number of service interruptions
- Ensuring VHCN alternative products are available before switch-off is also key to stimulate migrations
- Finally, data sharing between all parties, especially SMPO and ANOs, has proven in several country a powerful tool to avoid competition issues and facilitate targeted actions to boost migrations, such as discount offers which also proved efficient in several countries

White paper targets seem hard to match for many countries

- The current dynamic only enables 10 NRAs to be confident in reaching the 2030 target to have ended the copper switch-off process as suggested in the White paper
- In 14 countries, no copper switch-off plan or intention has been announced by the SMP
- Overall, it seems that a uniform target might not be the most efficient tool, and that taking into account the current disparity of situations would likely improve the results of the suggested scheme
- As explained in the lessons learnt, adequate notice periods are key to protect the end users, especially businesses, as well as availability of substitution VHCN products. Any policy aiming at boosting copper switch-off should take these 2 necessities into account

Next steps

- Launch of public consultation;
- Possibility for stakeholders to comment until 31 January 2025;
- Adoption of final report and summary report expected in June 2025.

Draft BEREC Report on the regulation of physical infrastructure access

**Market and Economic Analysis Working Group
Iulia Zaim-Grigore (ANCOM) and Jordi Canadell Boix (CNMC)**

BEREC review of PIA regulation

➤ Motivation:

- PIA *ex ante* regulation features an increased importance in Europe
- The most upstream market in the provision of ECN/ECS, with impact on all other relevant markets
- Costs of VHCNs rollout are in a significant proportion dependent on access to PI
- Strengthened legal provisions for PIA both in the EECC (Art. 72) and in the GIA
- Growing importance of non-telecoms PI for the networks' rollout

➤ **BEREC sent a comprehensive questionnaire to its members**

➤ **Data collected in July 2024**

➤ **29 NRAs have answered**

➤ **The draft Report focuses on fixed VHCNs**

➤ **Perspective of *ex ante* regulation but symmetric regulation is also tackled**

Main aspects covered

- trends in PIA provision and take-up
- mix of conducts undertaken by operators as regards PI
- NRAs' assessment of PI in the context of market reviews
- data collection on PI
- remedies (general & detailed)
 - pricing of PIA
 - transparency
 - SMP QoS offer
- interplay between symmetric & asymmetric regulation (*with a disclaimer*)
- forward-looking challenges
 - establishment of a PIA-standalone market
 - GIA application and its appropriateness to alleviate certain regulatory concerns
 - data availability and harmonization of operational process across countries

Conclusions

- 1) Many NRAs **regulate PIA** in one form or the other **through the SMP regime** => the possibility to deregulate (partially) downstream relevant markets
- 2) The asymmetric and symmetric regimes are broadly seen as **complementary**. The SMP regime is seen as highly relevant
- 3) **Pricing of PIA** features high **heterogeneity** in Europe and could be identified as further harmonization area
- 4) Concerning **reliance** solely **on GIA for the future**, there is no consensus at this stage and it is too early to have a fully-pledged analysis on the issue
- 5) **Data availability from non-telecoms PI** is seen as a challenge
- 6) NRAs identified a need to **harmonize** their **operational processes** as regards PIA treatment

Next steps

- Public consultation open until **19 February 2025**
- Deadline for adoption of the final Report: **P2 2025**
- No specific/dedicated questions, but feedback on all the sections of the draft Report will be well received
- Fact-finding draft Report, based on data as of July 2024
- If related feedback is available in form of other studies or documents developed by your organization that could feed into the ***regulatory framework review***, we would be happy to receive them as attachment to your submission

BEREC Report on the IP interconnection ecosystem

Report on the outcome of the public consultation

**Open Internet Working Group
Véronique Ney (ILR), Christoph Mertens (BNetzA)**

3rd BEREC report on IP-IC

- Desk research
- **170+** responses to questionnaire (*Sept. – Oct. 2023*)
- **12** workshops (*Sept. – Oct. 2023*)
- **130** responses to ad hoc questionnaire (*May 2024*) → ***internal annex***
- **36** contributions to public consultation from various stakeholders (*11 June – 1 Aug. 2024*)

comprehensive + evidence-based approach

Changes made to the IP-IC Report

Chapter of the IP-IC Report	Changes made since the public consultation
Data analysis/methodology	✓
Traffic developments	✓
Pricing and cost developments	✗
Market developments in IP-IC	✓
Generic structure of IP-IC issues	✓
Bargaining situation	✓
Relationship between IP-IC and the OIR	✗

✓ - Changes made / ✗ - No change

IP-IC issues

- *Generic* description of IP-IC issues broadened
 - Playbook cannot only be used when *all* routes are congested

Bargaining situation between CAPs and ISPs

- Debate mostly about large content and application providers (CAPs) vs. large internet service providers (ISPs) → small players also affected
- Opposing views on whether end-users would **switch** their ISP
→ evidence of low switching (Ofcom + FCC)
- **Number** of internet access **lines** an ISP controls = essential

*BEREC maintains its view that the IP-IC bargaining situation between market players **seems balanced***

Relationship between IP-IC and the OIR

- **ISPs:**
IP-IC falls outside the scope of the Open Internet Regulation (OIR)
- **BEREC:**
no selective reading of the OIR, but reflecting the ECJ case law
- Additional guidance beyond the scope

IP-IC markets work → no need for additional regulation

BEREC Opinion on the market and technological developments and on their impact on the application of rights of end-users in the EECC (Article 123)

**End Users Working Group
Indre Jurgelioniene (RRT), Marina Ljubić Karanović (HAKOM)**

Background and methodology



questionnaire to the MS (NRAs)



questionnaire to stakeholders (+ Stakeholder Forum)



external workshop, April 9, Brussels, hybrid



Other information to focus on (BEREC, EC, Eurostat, other)

BEREC Opinion

Every 3 years

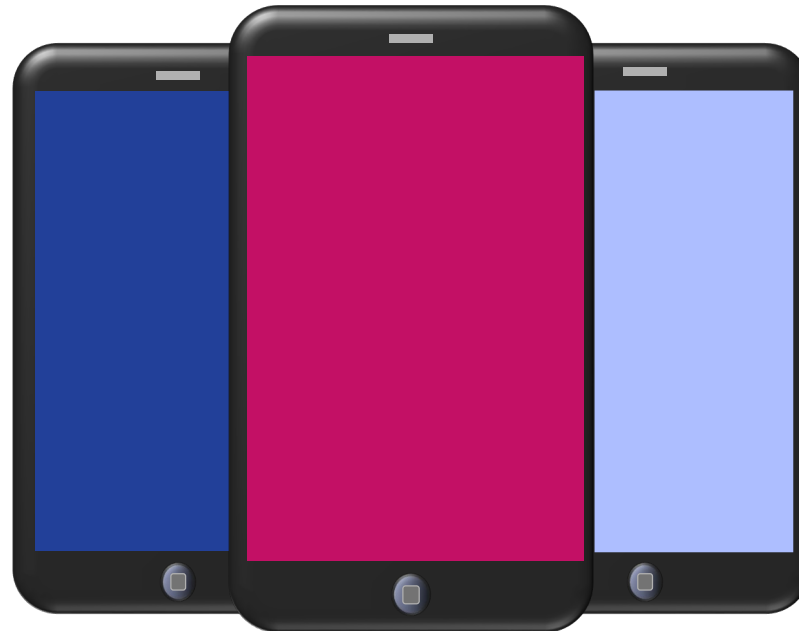
Evaluation (at least):

- Impact of trends and developments
- Ensurance of free and informed choice, easy switching process
- Any harm or distortion
- Efficiency of emergency communications

Structure – aspects addressed



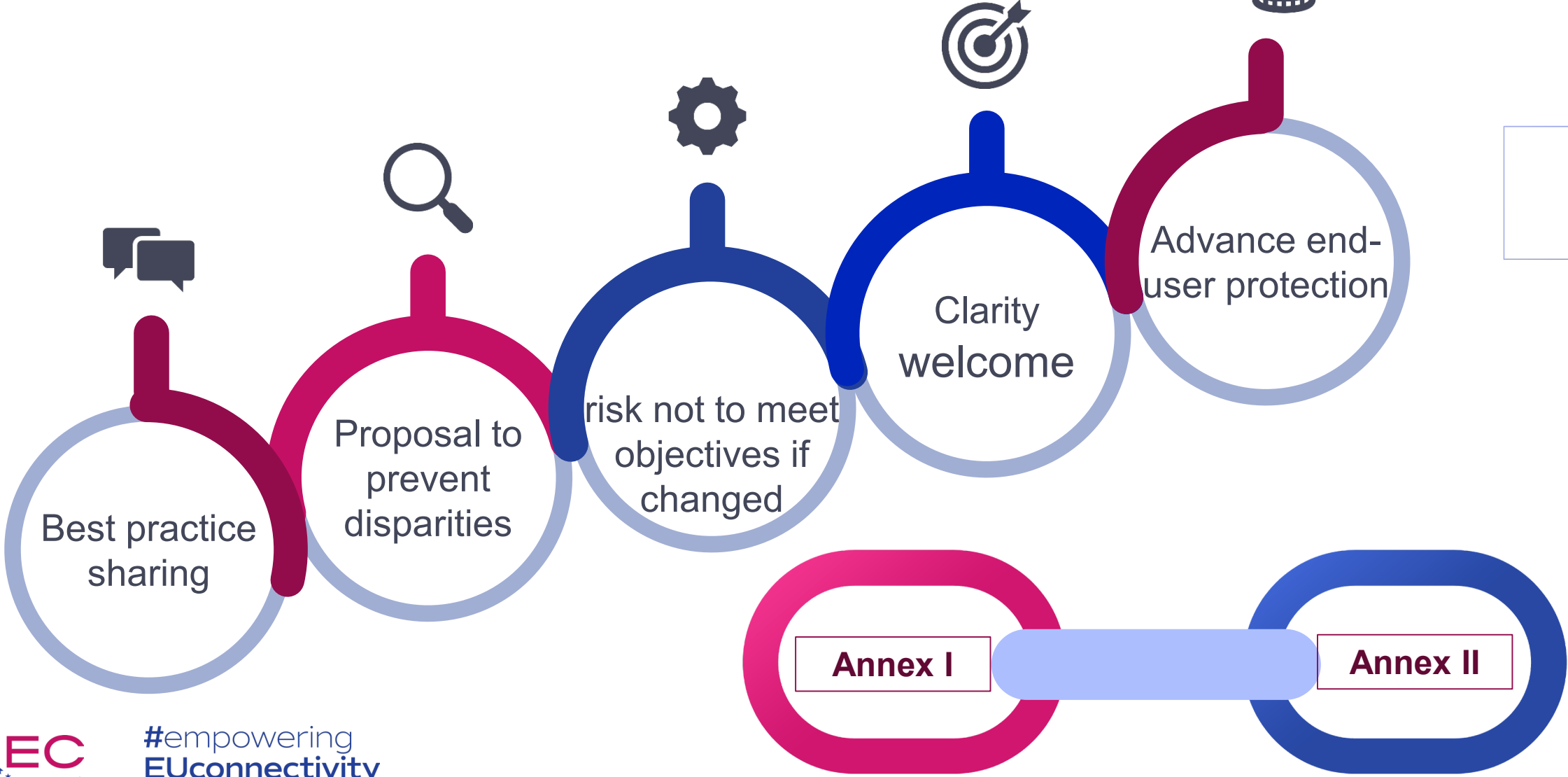
**(1) the CLARITY
of the EECC**



**(2) the actual
CHALLENGES** faced by
end users, NRAs and
the market

**(3) future considerations,
concerns and
PROPOSALS**

Results of assessment



Trends and developments - overview

Technological developments

- Development of 5G, phase-out of 2G/3G; phase-out copper

Legislative developments

- Roaming Regulation, Digital Service Act, European Accessibility Act

Market developments

1. Continued growth of data use in mobile communications;
2. Demand for connectivity and high-capacity internet connections;
3. Significant increase in fraudulent traffic and scams;
4. Growth of usage of digital platforms.

Upcoming

- Penetration of Satellites
- Focus on sustainability
- Artificial intelligence

- Blurring lines between sectors

Key findings – general observation



Key message:

Generally, BEREC considers that Title III of Part III of the EECC is future-proofed, ensuring that end-user rights are upheld despite ongoing developments in the electronic communication sector. In most cases, the framework's robust structure allows it to adapt to new challenges and technological changes.

However, there are some areas where improvements could be made to enhance its efficiency and prepare the ground for future digital challenges.

BEREC proposals

Type of services and end users benefitting from the EECC	terminology among different legislation
Informed choice	QoS parameters, a tendency towards simplification of offers, active NRAs' role to navigate through the complexity of offers
Concluding the contract	information overload, on-premises contracts, availability of the contract summary
During the contract	QoE, in-contract price increase clauses /related to termination
Termination and switching	contract duration, termination of bundled services, eSIM and switching (IoT), impact of 2G and 3G switch-off

BEREC proposals

Emergency communications	Accuracy of caller location criteria, common approach to standards used
Additional services	users benefiting from rights, mandated measures for better user protection, a common approach to preventing fraudulent activities
Accessibility	EAA is a significant improvement due to which readjustment required, standards must be flexible enough to accommodate emerging technologies, ensuring accessibility remains a priority in the evolving digital world
Redress	disputes are a valuable source of information from the market and timely indications that should be resolved
Harmonization	Existing level of harmonization gives legal certainty, however, flexibility based on national specificities is a necessity



BEREC Report on Connectivity Indicators for the Digital Decade Policy

**Remedies and Market Monitoring Working Group
Annegret Groebel (BNetzA), Marco Benacchio (AGCOM)
Begoña García Mariñoso (CNMC)**

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Background

- **Decision (EU) 2022/2481** establishing the **Digital Decade Policy Programme 2030 (DDPP)**
- Article 5(1) of the DDPP **requires the European Commission to monitor Member States' progress** towards the general objectives and the digital targets set out in the DDPP
 - European Commission is required to set out (*implementing act*) the **KPIs** for each digital target
 - March 2023: BEREC published its feedback to the EC's Draft implementing decision setting out KPIs for the DDPP. BEREC focused on connectivity KPIs and referred to the BEREC Guidelines on Geographical survey on broadband network deployments in order to **propose certain amendments** to the definitions and KPIs and suggested, among others, **more technologically neutral definitions**
 - **June 2023:** the EC published the **Implementing Decision C(2023)4288_final** setting out KPIs (among which connectivity KPIs) to measure the progress towards the digital targets established by DDPP
- The BEREC Implementation Report is looking in how the DDPP and the Implementing Decision are **implemented in practice by NRAs/OCAs** with reference to **connectivity KPIs**
 - **KPI 3** (Gigabit connectivity for fixed networks: % of households covered by fixed VHFN)
 - **KPI 4** (5G networks: % of populated areas covered by at least one 5G network)
 - results achieved and difficulties encountered

Report outline

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RAMM WG asked its members to respond to a questionnaire regarding the implementation of the KPIs


Main findings (1/3)

- The implementation of the DDPP KPIs need some **“warm-up” phase** to cope with initial and unexpected issues when actually collecting and processing the data needed for the KPIs (“learning curve”)
- Main results:
 - as already seen in BoR (24) 146 (Art. 22 GL Implementation Report), BEREC sees **progress in the comparability**.
 - many NRAs/OCAs nowadays use the **Art. 22 GS GL** for the collection and aggregation of the data.
 - the number of NRAs/OCAs **reporting data directly** (instead of operators submitting the data) to the EC Consultants has **increased**.
 - many of these authorities are now able to report the data at a **more granular level** (grid or address level instead of municipal and submunicipal level), resulting in a better level of data quality and more comparability of national results.

Main findings (2/3)

Table 1. Who provides data to the EC consultant?

The coverage data to the EC consultant are provided by:		
NRA/OCA	Partially the NRA/OCA and partially the operators	Operators
15 Countries	6 Countries	3 Countries



Among the **21 NRA/OCAs** which provide some or all of the data to the EC Consultant, mostly the NRAs are responsible for **all the activities**

- (i) collecting and processing the raw data
- (ii) aggregating the raw data to NUTS-3 level
- (iii) providing the final data to the EC Consultant

Main findings (3/3)

- Main **difficulties** aroused:
 - some of the KPIs' **definitions** (e.g. “homes passed”, “rural areas”) are missing or unclear
 - some are (overly) **complex** (e.g. 5G coverage **per different bandwidths** instead of a technological neutral way across bands)
 - **expected peak time** speeds (QoS) is a critical issue (especially for mobile and FWA)
- In these cases, NRAs/OCAs are not able to collect the data fully (at the required granularity) which leads to the provision of only partial results to the EC Consultants which reduces the comparability.

Conclusions

- It is important that KPIs are defined in a way that they measure the objectives (DDPP fixed and mobile connectivity targets), but are also
 - **proportional** to the targets (i.e. do not make distinctions that are not needed)
 - **simple** to collect in practice, otherwise the comparability of the data across MSs will suffer because of incomplete results
- The **trade-off** between full accuracy and “good enough” should be decided case by case by assessing the benefit added by an extra level of accuracy vs. the costs of getting it in practice
 - “less is sometimes more”: **adding complexity to the indicators doesn’t necessarily result in more comparability** of the outcomes
 - BEREC sees some progress, but also room for further improvement aiming simplifying NRA and OCAs practices in implementing KPIs
- The results/conclusions of this Implementation Report will flow into both
 - the update of the BEREC Art. 22 GS GL in 2025 (for data survey) - BoR(24)146
 - BEREC’s views on the EC’s Methodology on 5G Mobile and Fixed QoS Coverage Mapping

BEREC Opinion on the methodology for the mapping of QoS coverage on Connectivity Indicators for the DDPP

**Remedies and Market Monitoring Working Group
Annegret Groebel (BNetzA), Marco Benacchio (AGCOM)**

Background

- **January 2024:** Commission presented a draft *“Roadmap for a two-stage approach for the development of a methodology for the mapping of QoS coverage for mobile and fixed broadband services and establishing harmonised pre-conditions for future data processing”*
 - to develop a methodology enabling the mapping of **QoS coverage for mobile broadband (5G)**
 - the methodology will consider the **BEREC Guidelines on Geographical surveys** of network deployments in accordance with Article 22 of the EECC and the **Mapping Annex (Annex I) of the EU Guidelines on State Aid for Broadband**
- **P1/2024: Ad-hoc WP item:** BEREC **opinion** on the methodology for the mapping of QoS coverage on Connectivity Indicators for the DDPP
- 16th July 2024: the EC presented the **1st Draft “5G Mobile and Fixed QoS Coverage Mapping Methodology”**
- **PL3/2024: progress Report by RAMM WG**
 - 1st October: questions to the EC
 - 30th October and 29th November: replies by EC

New updated timeline by the EC (as of 30 October, 2024)

December 2024:
BEREC provides
feedback on the
1st draft of the 5G
QoS mapping
methodology

Steps:

- Small-scale tests
- Structured test
- Consultation with the Industry
- Revisions of the methodology
- Recurrent interactions with BEREC

September 2026:
The methodology
is planned to be
used as basis for
the gathering of
data for the Digital
Decade report for
2027

From methodology to KPI

- The new KPI should measure:

% populated areas covered by a 5G service with a defined QoS reference level in terms of download / upload speed

Where:

- The reference QoS levels are to be discussed and agreed with MS
- The proposed methodology measures QoS



Main elements of the Opinion - introduction

- The proposed draft methodology (DM) is part of an **ambitious plan by the EC**
 - adoption of a new connectivity KPI (now KPI no. 3-4) within the DDPP to improve reporting
 - for the purpose of State Aid assessment (“multi-purpose approach”)
 - a QoS indicator based on theoretical modelling
- The updated timeline emphasizes that a **fruitful cooperation BEREC-EC** is a base for the further work necessary on the methodology before its adoption
- In principle, **BEREC welcomes the ultimate goal of the DM**, to increase EU harmonisation in terms of evaluating and reporting 5G coverage – also for network expected performance - and increase comparability of reported data
- At this time, BEREC prefers to focus its first opinion on the goals of the proposal and on the likely outcomes of its full application
 - Details on technical aspects will follow as long as the draft methodology will be commented by stakeholder and preliminarily tested (*infra*)

Main elements of the Opinion – goals, instruments, cooperation

- The proposed methodology should play a role for **various purposes** (monitoring DDPP and State Aid)
- This raises **critical challenges** and could lead to the undermining of other regulatory processes due to contradictory information from other measurement methodologies
 - E.g. will it be a reliable information for end users?
- BEREC considers essential to ensure that the tools and methodologies deployed for various objectives are **tailored** to their specific purposes.
 - To avoid/reduce some inherent trade-offs in terms of objectives, instruments, flexibility, costs and timing
- BEREC will start an update of its Guidelines on Article 22 broadband mapping in late 2025 (BoR (24) 146). It is an opportunity:
 - for further alignment of the NRA approaches thus increasing comparability
 - to work in parallel with the Commission and explore synergies

Main elements of the Opinion – cost and timing

- BEREC is aware that the proposed methodology may require **substantial investments by the operators** and – most of all – **NRAs/OCAs** (costs for the simulator and mapping and resource training)
- BEREC **welcomes the planned detailed consultation** with mobile operators
 - Also to verify the assumption that mobile network operators (MNOs) already have such models and widely use it for network planning
- BEREC is convinced that the **small-scale tests will bring very important practical findings** which will lead to a better-informed discussion on the methodology (that would be fully applied only in 2027)
- BEREC therefore considers that **the currently proposed draft methodology should not be adopted without small scale testing**
- The present Opinion is to be considered as a **preliminary advice** by BEREC
 - More accurate and specific comments will be shared after the results of the trials

Main elements of the Opinion – doubts and preliminary concerns

- It's important to properly **consider existing tools and frameworks at national level**
- Theoretical models alone are insufficient to accurately inform end users
 - Complementary crowdsourcing measures?
- Trade-off between the level of accuracy (and comparability) on one side and the level of burden posed to gather data and calculate the QoS indicator
 - Definition of cell load
 - Grid raster definition and format
 - Mobile and 5G-FWA
 - Complexity of propagation models
 - Past investments by NRAs in software
 - 3D modelling needed?

Main elements of the Opinion – conclusions

- BEREC considers that the current proposal should not be adopted without prior small-scale testing **and** consultation with MNOs
 - new elements for a cost/benefit assessment
- The present Opinion aims at advising the EC focusing on its core elements while the drafting process is on going
 - At the moment, BEREC considers it necessary to look carefully into the cost and difficulties of the practical implementation
- BEREC would **welcome a simpler approach** that can better achieve the objective of increased comparability across Member States.
- NRAs have not the same size and budget
 - a common goal should be to find a way to reduce administrative and monetary costs
- The Opinion is a base for further work “in tandem” with the EC in 2025 and 2026
 - Update of Art. 22 BEREC Broadband mapping Guidelines



BEREC updates

BEREC Chair 2024
Tonko Obuljen (HAKOM)

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Other recent BEREC documents

- BEREC Report of the outcome of the public consultation on the draft BEREC Work Programme 2025
- BEREC Report on the outcome of the public consultation on the draft BEREC Report on M2M and permanent roaming
- BEREC Report on M2M and permanent roaming
- BEREC Regulatory Accounting in Practice Report 2024
- Draft BEREC Summary report on internal workshop “Telecom regulators role in the development and implementation of sustainability indicators in the ICT sector”
- BEREC Report on the outcome of the public consultation on the draft BEREC Report on the IP Interconnection ecosystem
- BEREC Report on the outcome of the public consultation on the draft BEREC Opinion on the national implementation and functioning of the general authorisation regime
- BEREC Opinion on the national implementation and functioning of the general authorisation regime

Composition of BEREC Working Groups Co-chairs



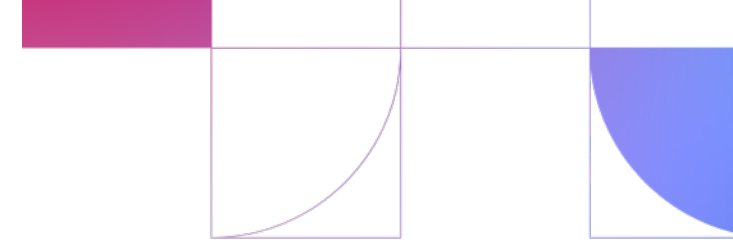
Working arrangements with ANRCETI (Moldova)



Upcoming public events

- **Q1** Workshop on digital services eco-design for greener networks and ICT (tba)
- **20 March 2025** BEREC public debriefing, online
- **1 April 2025 13th** BEREC Stakeholder Forum in Brussels (the EGG)

Public consultations



Document title	Deadline
Draft BEREC Report on infrastructure sharing as a lever for ECN/ECS environmental sustainability	26 January 2025
Draft BEREC Progress Report on managing copper network switch-off	31 January 2025
Draft BEREC Report on the regulation of physical infrastructure access	19 February 2025