

Draft BEREC Work Programme 2025

BEREC aims to foster the independent, consistent, and high-quality regulation of digital markets for the benefit of Europe and its citizens.

Contents

INTRODUCTION.....	3
BACKGROUND.....	5
BEREC WORK IN 2025.....	6
1. Strategic priority: Promoting full connectivity	6
1.1. Update of criterion 3 of the BEREC Guidelines on very high- capacity networks.....	7
1.2. Progress Report on Managing copper network switch-off.....	7
1.3. BEREC Guidelines on the coordination of civil works according to Art. 5(6) of the Gigabit Infrastructure Act.....	9
1.4. BEREC Guidelines on access to in-building physical infrastructure according to Article 11(6) of the Gigabit Infrastructure Act	10
1.5. BEREC Input to European Commission’s Guidance on Article 3 of the Gigabit Infrastructure Act	11
1.6. Report on the regulation of physical infrastructure access	12
1.7. BEREC Report on the evolution of private and public 5G networks in the Europe	13
1.8. BEREC External workshop on the technological advances as security opportunities and challenges for network resilience	14
1.9. Fact finding report on the competition indicators and regulatory highlights in different jurisdictions ...	15
1.10. Workshops on the competitive effects of strategic fibre networks deployment, including in the context of copper switch-off	16
1.11. Submarine cables connectivity in Europe	17
1.12. Follow up internal workshop on direct-to-mobile device satellite connectivity	18
1.13. BEREC Report on Virtual Worlds and Web 4.0.....	19
1.14. Update to BEREC Guidelines on Geographical surveys of network deployments	20
1.15. Follow up to BEREC Opinion on the EC’s methodology for the mapping of QoS coverage on Connectivity Indicators for the DDPP	21
1.16. BEREC Opinion on the review of European Commission’s Recommendation on relevant markets susceptible to ex-ante regulation.....	22
2. Strategic priority: Thriving sustainable and open digital markets	23
2.1. BEREC contribution to the implementation of the Data Act	23
2.2. Implementation of the Open Internet Regulation and the BEREC Open Internet Guidelines	24
2.3. Collaboration on internet access service measurement tools	25
2.4. Report on Infrastructure sharing as a lever for ECN/ECS environmental sustainability	26
2.5. BEREC external workshop on telecom regulators’ role in the development and implementation of sustainability indicators in the ICT sector	27
2.6. BEREC contribution on the impact of Artificial Intelligence on the competition dynamics, internet openness and end-users’ rights	28
2.7. Internal workshop on the consideration of 5G differentiated services and network slicing	29
2.8. BEREC external workshop on implementation of Equivalence of Inputs (EoI) by NRAs.....	30
2.9. Internal workshop on the practices of data collections from NI-ICS providers	30
2.10. BEREC contribution to the implementation of the Digital Markets Act	31
2.11. Stock taking of NRAs application of Article 52(2) for wholesale access obligations.....	32
2.12. Advancing towards environmental data collection on ECN/ECS and contributing to future code of conduct on ECN/ECS sustainability	32
2.13. BEREC external workshop on environmental footprint of satellite constellations.....	33
2.14. BEREC external study on data centres.....	34
3. Strategic priority: Empowering end-users	35
3.1. BEREC Opinion on the review of Universal Services.....	35
3.2. BEREC report on switching and termination of contracts.....	35
3.3. BEREC external workshop on practical issues preventing number misuse and possible fraudulent activities as a result of impact of new technologies.....	36

3.4.	BEREC-BEUC Joint workshop on end-user rights	37
3.5.	Internal workshop on aspects of 2G and 3G phaseout	38
3.6.	BEREC external workshop on digital services' ecodesign for greener networks and ICTs	38
3.7.	ECASEC-BEREC: Guidelines on preventing smishing	39
4.	Cooperation with EU institutions and institutional groups	40
4.1.	Implementation of BEREC's Medium-Term Strategy for relations with other institutions and international cooperation	40
5.	BEREC's other tasks	41
5.1.	BEREC Strategies 2026-2030: Mid-term strategy, International and Institutional	41
5.2.	BEREC ad hoc work	43
5.2.1.	Ad hoc input to the EU/NRAs	43
5.2.2.	Peer review process and engaging with RSPG	44
5.2.3.	Ad hoc work to support reinforcing EU's cybersecurity and resilience capabilities	45
5.3.	Other tasks under EU legislation	46
5.3.1.	BEREC Opinion about the functioning of the Roaming Regulation	46
5.3.2.	31 st International roaming benchmark data and monitoring Report	46
5.3.3.	6th Intra-EU communications Benchmark Report	47
5.3.4.	5 th Ukraine monitoring report	47
5.3.5.	Update of BEREC Guidelines on Intra-EU communications	48
5.4.	Monitoring quality, efficiency, and sustainability	48
5.4.1.	Article 32/33 Phase II process	48
5.4.2.	WACC parameters' calculation according to the EC Notice	49
5.4.3.	Report on regulatory accounting in practice	49
6.	Stakeholder engagement	50
6.1.	Stakeholder Forum	50
6.2.	BEREC Annual Reports	51
6.3.	BEREC Communications Plan 2025	51
6.4.	Developing the BEREC Work Programme 2026	52
	POTENTIAL BEREC WORK FOR 2026 AND BEYOND	52
7.	Potential work	52
7.1.	Facilitating copper network switch-off	52
7.2.	BEREC Report on connected and automated mobility	53
7.3.	Further work on 5G cybersecurity	53
7.4.	Exploration of the concept of Digital Sufficiency	53
7.5.	Workshop and Report on practices for ensuring equivalence of access and choice with respect to accessibility	54
7.6.	Call for Inputs (CFI) on interfaces to mobile networks for developers and third-party services	55

INTRODUCTION

The Body of European Regulators for Electronic Communications (BEREC) aims to foster and promote the independent, consistent, and high-quality regulation of digital markets for the benefit of Europe and its citizens. BEREC was established by Regulation (EU) 2018/1971 of the European Parliament and of the Council of 11 December 2018, amending Regulation (EU) 2015/2120 and repealing Regulation (EC) No 12 11 (the 'BEREC Regulation').

The BEREC Work Programme 2025 sets out the priorities that the Board of Regulators has identified for 2025. These areas may be complemented by other emerging topics of interest during the year.

The objectives of this Work Programme are based on the BEREC Strategy 2021-2025¹, with a close focus on three priorities: promoting full connectivity, supporting sustainable and open digital markets, and empowering end-users. It also draws on the Medium-Term Strategy for relations with other institutions².

The Work Programme 2025 aims to be aligned with the priorities of the European Commission, which will soon set out its new objectives following the conclusion of the 2020-2024 legislative cycle. This Work Programme also seeks to be consistent with the vision, targets, and roadmaps for Europe's digital transformation by 2030, set out in the Digital Compass and the Policy Programme 'Path to the Digital Decade' and the European Green Deal (2020). This Work Programme was developed during the period of consultation for the European Commission's forthcoming White Paper '*How to master Europe's digital infrastructure needs?*', which may lay the foundations for a future Digital Networks Act, or other legislative initiative, focused on three pillars: investment, regulatory framework, and security. This Work Programme is also aligned to the strategic priorities of the BEREC Action Plan for 2030³ which describes how BEREC can contribute to the regulatory environment in Europe that is fit for the digital age and the global context.

In 2025, BEREC will continue to support the further implementation of the European Electronic Communication Code (EECC) at national level and will continue to take stock and track the national implementation status throughout the European Union (EU). BEREC will also consider to what extent the electronic communications framework is enabling the achievement of the EECC's objectives and whether the framework's provisions are effective to achieving that end. The European Commission is due to publish its first review of the functioning of the EECC by the end of 2025.

Promoting full connectivity for consumers and businesses remains a key priority for BEREC in 2025. In line with the European ambition to create a Europe that is fit for the digital age,

¹<https://www.berec.europa.eu/en/document-categories/berec/berec-strategies-and-work-programmes/berec-strategy-2021-2025>

²<https://www.berec.europa.eu/en/document-categories/berec/berec-strategies-and-work-programmes/berecs-medium-term-strategy-for-relations-with-other-institutions-2022-2025>

³<https://www.berec.europa.eu/en/document-categories/berec/others/berec-action-plan-for-2030>

BEREC will contribute by facilitating the roll-out of very high-capacity networks (VHCNs) and actively support their role in closing the digital divide. Through cooperation with other competent authorities and stakeholders, BEREC will also help to ensure that future network technologies meet their connectivity targets in line with European values and societal needs such as (cyber)security, safety, and environmental challenges.

In the context of rapid technological change and growing importance of end-to-end connectivity, it is vital that the regulatory practices remain fit for purpose. To this end, BEREC will continue to analyse the technological developments and their impact on sustainable competition on the telecom markets. In 2025, the BEREC workstreams will cover a wide range of developments, from managing a copper network switch off to the evolution of private and public 5G networks across Europe.

Closing the digital divide entails more than just the roll-out of VHCNs. It also requires providing end-users with the kind of access that matches their needs. BEREC will empower end-users by exploring the issues related to switching and termination of contracts and plans to hold a joint workshop, with the European consumer organisation, BEUC⁴, on topic of end user's rights.

Open and sustainable European digital markets are a cornerstone of a Europe that is fit for the digital age. In line with both BEREC's strategic priority to support sustainable and open digital markets and BEREC's role in the European High-Level Group of Digital Regulators for the enforcement of the Digital Markets Act (DMA)⁵, BEREC will continue to monitor and analysing developments in the digital markets and the impact and effects of the practices implemented by large online platforms. During 2025, BEREC will continue to monitor the implementation of the respective enacted legal acts (the Data Act, the Digital Services Act (DSA)⁶ and Artificial Intelligence Act (AIA)⁷ and how they impact and influence the electronic communications sector. In particular and relying on BEREC's participation in the EC's Artificial Intelligence sub-group of the DMA High-Level Group, BEREC may explore how the integration of AI influences important aspects such as competition dynamics, internet openness, end-users' experiences, data protection, accessibility, security, and the digital divide..

BEREC will work intensively on several essential tasks that have been entrusted to it by the co-legislators to provide the best advice to the European Parliament, the Council, and the European Commission in the field of electronic communications. This will include a review of the Roaming Regulation and the Opinion on the review of the Universal Service regime as well as the Opinion on the review of the Roaming Regulation.

⁴ [BEUC | The European Consumer Organisation](#)

⁵ Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act)

⁶ Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/EC (Digital Services Act)

⁷ Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence (AI Act)

BEREC will continue to enhance its own working methodology and effective engagement with stakeholders, by exploring how collaboration can be strengthened with other European institutions to ensure that BEREC is equipped to address future challenges.

BEREC will reinforce its coordination on innovative networks and emerging technologies internally, to prepare for future developments and, more particularly to better understand them and identify any potential impact on regulation in the sector. This approach will be an integral part of all the projects in this Work Programme.

Furthermore, BEREC will review three strategic documents to set out its objectives for the period 2026-2030 taking account of the latest and expected relevant market, technological and regulatory developments during the next five years.

BACKGROUND

The four objectives in Article 3(2) of Directive (EU) 2018/72 of the European Parliament and the Council establishing the EECC remain the foundation for the work set out in BEREC's annual work programmes and are the guiding force for the Work Programme 2025. These four objectives are:

- promoting connectivity and access to VHCN;
- promoting competition and efficient investment;
- contributing to the development of the internal market;
- promoting the interests of the EU citizens.

The EECC, the BEREC Regulation and the mandatory tasks resulting from the relevant legislative instruments provide the basis for the BEREC Work Programme 2025.

The BEREC Strategy 2021-2025 will continue to be fundamental for steering BEREC's work in 2025, while work on the new strategy will be driven by the Planning and Future Trends (PFT Working Group). As 2025 is the last year covered by the BEREC Strategy 2021-2025, a separate working item has been created for this purpose (see Chapter 5.1 on mid-term strategy). The Work Programme 2025 seeks to address current regulatory challenges while preparing BEREC for future new challenges resulting from political, public policy, economic, social, and technological developments.

The Work Programme 2025 is multi-annual as it contains items launched in 2024 which will be completed in 2025, some ad hoc or recurring items, and new workstream proposals that have been identified and prioritised by BEREC members and stakeholders which will commence in 2025 and either conclude in 2025 or 2026. According to the BEREC Regulation, when developing its annual work programme, the BEREC Board of Regulators must seek the views and proposals of the EU institutions and other interested parties. This includes the national regulatory authorities (NRAs) participating in BEREC and BEREC's own Working

Groups, and third parties and stakeholders (Article 21(1) of the BEREC Regulation). BEREC therefore organises a forum for stakeholders (the ‘Stakeholder Forum’) to enhance transparency and gives stakeholders an opportunity to express their views on BEREC’s current and future work, in particular, for preparing the work programmes. The Outline BEREC Work Programme 2025 was adopted and published by the Board of Regulators on 26 January 2024. On 1 March, BEREC launched an early call for input as the first stage of the consultation process for the Work Programme 2025.

BEREC WORK IN 2025

The objectives of the Work Programme 2025 are aligned with the BEREC Strategy 2021-2025, and its three high-level priorities (promoting full connectivity, supporting sustainable and open digital markets, and empowering end-users), and the priorities set for institutional and international cooperation. The BEREC Strategy 2021-2025 is based on market developments and relates to the strategic objectives of the EECC. In addition to the three priorities, facilitating successful implementation and consistent application in all areas of the EECC, including spectrum, universal service, and consumer protection, are important horizontal principles that form an essential part of the high-level priorities. In this context, BEREC will continue monitoring developments in digital markets and emerging electronic communication services (ECS) to anticipate any potential regulatory needs in a fast-changing environment.

It should be noted that BEREC plans to hold a number of workshops, both internal and external, as part of its Work Programme 2025. The purpose of internal workshops is to afford BEREC members the opportunity to explore a topic in order to increase their knowledge & understanding of the issue at hand. This might include inviting external experts, which will assist BEREC members in determining if, indeed, there is an issue that might point towards future work for BEREC. External workshops are more focussed on interactively exchanging views and experiences with stakeholders on particular topics of interest. BEREC will prepare short summary reports on the topics discussed at both internal and external workshops and are, as appropriate, made available on BEREC’s [publicly available video channel](#).

A detailed description of the main projects to be carried out by BEREC in 2025 is set out in the following sections.

1. Strategic priority: Promoting full connectivity

Promoting full connectivity will remain a strategic priority in the coming years for BEREC, in line with the focus on promoting VHCNs within the European regulatory framework. This means prioritising work that improves the general conditions for the expansion and take-up of secure, competitive, and reliable high-capacity networks (both fixed and wireless) across Europe, while ensuring a smooth transition from the legacy infrastructures and access as well as end-users’ interests.

1.1. Update of criterion 3 of the BEREC Guidelines on very high-capacity networks

Article 3(2)(a) of the EECC contains amongst other things, the general objective to 'promote connectivity and access to, and take-up of very high-capacity networks. Article 82 of the EECC provides that 'BEREC shall, after consulting stakeholders and in close cooperation with the European Commission, issue guidelines on the criteria a network has to fulfil in order to be considered a VHCN, in particular in terms of down- and uplink bandwidth, resilience, error-related parameters, and latency and its variation'. BEREC approved the BEREC Guidelines on VHCN at Plenary 3 2020 (BoR (20) 165).

The BEREC Guidelines on VHCN (paragraph 18) define four criteria and any network that meets at least one of these criteria is considered to be a VHCN. Criteria 1 and 2 are directly based on the definition of the term 'very high-capacity network' in the EECC (Article 2(2)), while criteria 3 and 4 are also based on this definition but also on data collected from network operators. Criteria 3 and 4 provide that any network providing a fixed-line connection (criterion 3) or wireless connection (criterion 4) which is capable of delivering, under usual peak-time conditions, services to end-users with a certain quality of service (performance thresholds for criteria 3 or 4) is considered to be a VHCN.

According to Article 82 of the EECC, 'BEREC shall update the guidelines by 31 December 2025, and regularly thereafter'. Therefore, the objective of this project is to update criterion 3 based on data to be collected from fixed network operators. This data collection needs to start already in 2024 to complete the project in 2025. BEREC already updated criterion 4 in 2023 (BoR (23) 164) and criteria 1 and 2 do not need to be updated, as they do not depend on technological developments.

Deliverable: Update of criterion 3 of the BEREC Guidelines on very high-capacity networks

Public consultation: Yes

Adoption of the draft report for public consultation at Plenary 2, 2025

Adoption of the final report at Plenary 4, 2025, for publication

Adoption of the outcome of the consultation Summary Report at Plenary 4 2025 for publication

1.2. Progress Report on Managing copper network switch-off

The requirements concerning the capabilities of electronic communications networks are constantly increasing and the response to that demand is to bring optical fibre closer to the end-user. In the EU, the FTTP coverage increased by approximately 4% per year between 2013 and 2020 and in 2021 already reached 50% and achieved more than 75% in eight

countries.⁸ Therefore, significant market power (SMP) operators increasingly want to decommission (parts of) their legacy copper-based access network. In 2021, already in 15 EU countries the NRA set rules for the migration process and copper switch-off, and in 11 EU countries the SMP operator already closed copper-based network elements (e.g. MDFs), however, in 9 of them only less than 10% of its main distribution frames (MDFs) were decommissioned.⁹ While significant progress has been achieved in the last 3 years, the comprehensive decommissioning of the copper-based access network across the EU still lies ahead.

In Article 81, the EECC lays down rules for the migration from legacy infrastructure and the decommissioning of the copper-based access networks. According to these provisions, the SMP operators have to notify the NRA in advance and in a timely manner when they plan to decommission parts of the network. The NRA has to ensure that the decommissioning process includes a transparent timetable and conditions, including an appropriate notice period for transition, and the NRA also has to establish the availability of alternative products of at least comparable quality if necessary to safeguard competition and the rights of end-users. The NRAs also must take into utmost account the European Commission Gigabit Connectivity Recommendation, which also includes provisions for the decommissioning of the copper network.¹⁰

Managing the copper network switch-off of SMP operators is an ongoing process and particularly important to safeguard competition and the rights of end-users, even if the decommissioning of the legacy copper-based access networks is progressing to a significant extent. The objective of this project is therefore to examine the progress made in the Member States, the measures adopted by the NRAs and the lessons learned so far in order to best prepare for the copper switch-off phase, when significant or most parts of the copper access network will be switched off. The project will be based on previous examinations, the BEREC internal workshop on the migration to VHCN networks and copper switch-off with a focus on the needs of the end-users in September 2023, the BEREC Report on a consistent approach to migration and copper switch-off published in 2022 and the BEREC internal workshop on migration from legacy infrastructures to fibre-based networks in 2019.¹¹

⁸ BoR (23) 109, pp. 10-11, see <https://www.berec.europa.eu/en/document-categories/berec/annual-reports/berec-annual-report-2022>

⁹ BoR (22) 69, p. 7, see <https://www.berec.europa.eu/en/document-categories/berec/reports/berec-report-on-a-consistent-approach-to-migration-and-copper-switch-off>

¹⁰ Points 75 to 81

¹¹ BoR (23) 205, BoR (22) 69, BoR (19) 236

Deliverable: Progress Report on managing copper network switch-off

Public consultation: Yes

Adoption of the draft progress report for public consultation at Plenary 4, 2024

Adoption of the final progress report at Plenary 2, 2025, for publication

Adoption of the outcome of the consultation Summary Report at Plenary 2 2025 for publication

1.3. BEREC Guidelines on the coordination of civil works according to Art. 5(6) of the Gigabit Infrastructure Act

On 23 February 2023, the European Commission published its legislative proposal for a Gigabit Infrastructure Act (GIA), which will repeal the BCRD. The GIA aims at facilitating and stimulating the roll-out of VHCNs so that such networks can be rolled out faster and at a lower cost, in particular given a growing demand for faster, more reliable data intensive connectivity and as an important tool to achieve the 2030 EU connectivity targets on gigabit connectivity.

After publication of the Commission proposal of the GIA, BEREC performed an in-depth analysis and adopted its analysis of the GIA on 16 May 2023 and engaged subsequently with the European Parliament, the Council, and the Commission to present its analysis and to help to further improve the legislative proposal.

On 5 February 2024, the European Parliament and the European Council reached a political agreement on the GIA, which was published in the Official Journal of the EU on 8 May 2024. The Co-Legislators have agreed to task BEREC with the provision of Guidelines on key provisions of the GIA, i.e. on civil works coordination set out in Article 5 (6).

The GIA aims at facilitating and stimulating the roll-out of VHCNs so that such networks can be rolled out faster and at a lower cost. In order to achieve that, the GIA *inter alia* sets in Article 5 rules for the coordination of civil works. The objective of this project is to prepare BEREC Guidelines on the coordination of civil works according to Article 5(6) of the GIA.

These BEREC Guidelines will be prepared based on several inputs, including:

- data collected from NRAs (if the NRA is not the Dispute Settlement Body for coordination of civil works, data shall be collected from the national dispute settlement bodies for coordination of civil works),
- a call for input from stakeholders,
- the BEREC analysis of the GIA, and

- previous BEREC documents related to the BCRD^{12, 13}.

The Guidelines will be developed in close cooperation with the European Commission.

Deliverable: BEREC Guidelines on the coordination of civil works according to Art 5(6) of the Gigabit Infrastructure Act

Public consultation: Yes

Adoption of the draft guidelines for public consultation at Plenary 2, 2025

Adoption of the final progress report by 12 November 2025, for publication

Adoption of the outcome of the consultation Summary Report by 12 November 2025 for publication

1.4. BEREC Guidelines on access to in-building physical infrastructure according to Article 11(6) of the Gigabit Infrastructure Act

In a similar manner to the preceding project (item 1.3 above) the Co-Legislators have agreed to task BEREC with the provision of Guidelines on key provisions of the GIA, i.e. on access to in-building physical infrastructure set out in Article 11(6). The objective of this project is to prepare BEREC Guidelines on the terms and conditions for access to in-building physical infrastructure, including on the application of fair and reasonable terms and conditions, and criteria for the settlement of disputes by the Dispute Settlement Body (DSB) according to Article 11(6) of the GIA.

These BEREC Guidelines will be prepared based on several inputs, including:

- data collected from NRAs (if the NRA is not the Dispute Settlement Body for coordination of civil works, data shall be collected from the national dispute settlement bodies for access to in-building physical infrastructure),
- a call for input from stakeholders,
- the BEREC analysis of the GIA, and

¹² BoR (17) 245 http://bereg.europa.eu/eng/document_register/subject_matter/bereg/reports/7534-bereg-report-on-the-implementation-of-the-broadband-cost-reduction-directive

¹³ BoR (19) 23 https://bereg.europa.eu/eng/document_register/subject_matter/bereg/reports/8466-pricing-for-access-to-infrastructure-and-civil-works-according-to-the-bcrd

- previous BEREC documents related to the BCRD14, 15.

The Guidelines will be developed in close cooperation with the European Commission.

Deliverable: BEREC Guidelines on access to in-building physical infrastructure according to Article 11(6) of the Gigabit Infrastructure Act

Public consultation: Yes

Adoption of the draft guidelines for public consultation at Plenary 2, 2025

Adoption of the final progress report by 12 November 2025, for publication

Adoption of the outcome of the consultation Summary Report by 12 November 2025 for publication

1.5. BEREC Input to European Commission's Guidance on Article 3 of the Gigabit Infrastructure Act

Article 3 of the GIA contains rules for access to existing physical infrastructure, including on the scope of access, access conditions including prices and rights to refusal of access. According to Article 3(13) the Commission may, "*after consulting stakeholders, the national dispute settlement bodies and other competent Union bodies or agencies in the relevant sectors as appropriate and taking into account well-established principles and the distinct situation across Member States, in close cooperation with BEREC, provide guidance on the application of Article 3*".

The Commission recently confirmed its intention to issue such guidance, even though the timing, content, and level of involvement of BEREC are still to be defined.

BEREC is prepared to work in close cooperation with the European Commission providing expertise as required and depending on what topics the Commission will choose to focus on.

Deliverable: BEREC Input to European Commission's Guidance on Article 3 of the Gigabit Infrastructure Act

Public consultation: No

Adoption of the BEREC input to EC for publication - TBD

¹⁴ BoR (17) 245 http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/7534-berec-report-on-the-implementation-of-the-broadband-cost-reduction-directive

¹⁵ BoR (19) 23 https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/8466-pricing-for-access-to-infrastructure-and-civil-works-according-to-the-bcrd

1.6. Report on the regulation of physical infrastructure access

Together with the digital decade targets and the expectations concerning the quick and efficient deployment of Gigabit networks by the electronic communications providers, physical infrastructure is gaining increasing relevance. Although the 2020 Recommendation¹⁶ on relevant markets susceptible to *ex ante* regulation did not include a separate market for physical infrastructure access (PIA), the discussions on the various possibilities of regulating PIA are truly relevant nowadays, particularly where there is ubiquitous and suitable for alternative fibre networks deployment physical infrastructure in a Member State. At the same time, the Explanatory Note accompanying the 2020 Recommendation provides some examples where a PIA standalone market identification would be appropriate, by contrast to a PIA remedy imposed in a related wholesale market.

Moreover, both in the market notifications of the past years and in the European Commission's response letters to the market notifications, one can see a general trend of giving more weight to PIA. Several countries in Europe have already defined PIA standalone markets, such as France, Ireland, Portugal, and Latvia. At the same time, the White Paper reflecting on how to master Europe's digital infrastructure needs¹⁷ puts forward the perspectives of a close monitoring of the degree of infrastructure competition, potentially limiting *ex-ante* regulation to areas where it is still needed, one of the reasons underlying the partial deregulation of certain broadband markets being dependent on the upstream regulation of PIA. Therefore, considering the fact that this topic is gaining momentum, BEREC plans to finalize, in 2025, the in-depth review on the PIA regulation applicable in Europe.

Some of the topics that are on focus are the physical infrastructure that have been considered in the assessment of the market analysis (and in particular how the non-telecommunications infrastructure was taken into account), which were the specific remedies related to PIA imposed when SMP was found, aspects relating to pricing of PIA, details pertaining to the transparency measure applied, as well as information on the quality of the PIA regulated offer, in the context in which BEREC was made aware that the quality of these access products is sometimes low, not fulfilling entirely the purpose for which regulation was imposed in the first place. At the same time, the BEREC Report will explore the relationship between physical infrastructure access imposition in an asymmetric regime in relation/by reference to symmetric regulation. Depending on the conclusions of the exercise, BEREC may conclude with some recommendations.

The main findings of BEREC's report will already be available by the end of 2024, after which a public consultation period will follow. This will allow BEREC to incorporate the stakeholders' insights into the final version of the report.

¹⁶ European Commission Recommendation of 18 December 2020 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation [Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC | Shaping Europe's digital future \(europa.eu\)](#)

¹⁷ <https://digital-strategy.ec.europa.eu/en/library/white-paper-how-master-europes-digital-infrastructure-needs>

Deliverable: Report on the regulation of physical infrastructure access

Public consultation: Yes

Adoption of the draft report for public consultation at Plenary 4, 2024

Adoption of the final report at Plenary 2, 2025 for publication

Adoption of the outcome of the consultation Summary Report at Plenary 2, 2025 for publication

1.7. BEREC Report on the evolution of private and public 5G networks in the Europe

Newer generations of mobile technologies offer more flexibility for applying technologies to specific user groups and use cases. Services provided over some public and private 5G networks complement each other, but in some cases, network differentiation is critical to deployment, and business success. Private 5G-network use may have different or overlapping user groups and service requirements, for instance with regard to QoS, mobility, and roaming.

In the broader context also, trends such as satellite communication, small cells, infrastructure, and spectrum-sharing and neutral hosting play a role. Therefore, private and public 5G networks can have different elements for particular environments.

In addition, as public and private 5G networks may hold different requirements, there are different ways of licensing (competitive awards, such as auction for the use of spectrum for wide area public networks, and/or first-come-first-served awards suited to smaller isolated areas for private networks¹⁸).

Different regulatory practices on the implementation of public and private networks that may share the same radiofrequency spectrum can help regulators ensure maximum use of the same frequency resource while still maintaining interference-free operations for both network types. In addition, ensuring a proper functioning market, with sufficient capacity for niche services that are in need of a specialised and/or localised approach rather than a one-size-fits-all solution, such as certain mission critical and business critical use cases, also creates opportunities for innovation.

As a result, BEREC intends to report both on the drivers for, and requirements of, private networks and on the evolution of public networks towards meeting new user demands. To the extent that there are relevant 5G case studies to examine, relevant issues and interrelations between private and public 5G networks will be elaborated on by BEREC. The purpose will

¹⁸ Where the same spectrum bands may be licensed to different organisations located at different locations

be to provide a factual overview on the extent of the use of private and public 5G networks in Europe.

Deliverable: Report on the evolution of private and public 5G networks in Europe

Public consultation: Yes

Adoption of the draft report for public consultation at Plenary 3, 2024

Adoption of the final report at Plenary 1, 2025, for publication

Adoption of the outcome of the public consultation Summary Report at Plenary 1, 2025, for publication

1.8. BEREC External workshop on the technological advances as security opportunities and challenges for network resilience

BEREC will expand its view and collect relevant NRAs' experiences in network resilience in general, including challenges related to the climate change and adverse weather conditions.

In addition, BEREC is further exploring how the technological developments such as cloudification and softwarisation, 6G, quantum computing, Open RAN and use of AI-based tools could impact the security of the networks and services in Europe, and how BEREC could contribute to mitigating the risks associated with these developments.

Special emphasis is placed on examining how the above-mentioned developments impact network resilience. In this context, BEREC is examining how new security and safety solutions are being addressed by the NRAs and the operators in order to identify good practices and experiences that would be useful to share.

Therefore, during 2024, BEREC intends to hold an external workshop to discuss security challenges related to technological developments and changing climate conditions.

Deliverable: BEREC External workshop on the technological advances as security opportunities and challenges for network resilience

Public consultation: No

External workshop to be held in Q4 2024

Adoption of the workshop summary report at Plenary 1, 2025, for publication

1.9. Fact finding report on the competition indicators and regulatory highlights in different jurisdictions

The overall context of the telecommunications markets is adapting to the actual realities, with traditional electronic communications operators facing major changes in their business models, MNOs divesting their towers and sites to independent infrastructure companies, with digital players entering the sector and investing heavily in own infrastructure for end-users' services delivery and finally with more and more public funding put at work for the development of connectivity in economically non-attractive areas. Forward-looking, co-investments between telecom operators jointly deploying VHCNs, as well as the conclusion of strategic partnerships between various actors across the value chain are expected to reshape the communications ecosystem. All these developments in the markets of Europe provide a changing competitive landscape in terms of, on the one hand, the degree of concentration and competition in the different markets and investment in VHCN, and company ownership (covering the entry of investment firms as shareholders) or profits, on the other.

Therefore, coverage, penetration of services, prices and corresponding operators' returns and investments, partnerships and collaboration agreements (that could be well expanding beyond national borders) concluded between various providers, investment opportunities from financial players and so on are all aspects that BEREC could look at in its report. At the same time, from the consumers' perspective, it could include, where possible, the evolution of the coverage (also of advanced technologies) and speeds they enjoy, as well as prices, quality, and usage of the services available, both in rural and urban areas.

Overall, BEREC considers it appropriate to look at key competitive indicators in various jurisdictions in order to put together a comprehensive collection of data to depict, from a quantitative perspective, the envisaged trends. Also, depending on the circumstances and on the forecasts' availability, BEREC may include some thoughts from a forward-looking perspective. Such a report could shed light on the current state of telecom markets in the EU.

In conjunction with the above, the report would also look at the structural links between the operators in the various jurisdictions to analyse whether they are part of bigger groups and the structure of the ownership, as well as relevant mergers and acquisitions that took place recently. Such an approach could be seen as a relevant input to the debate of whether there is a clear consolidation trend going on in Europe and, if so, which is the scale.

In terms of the jurisdictions to be covered, a lot of attention has been attracted by the players in the US, as well as in Asia, and the link between the regulatory measures applicable there and the corresponding competitive situation, with a parallel drawn to the situation in Europe. While it is not BEREC's scope with this report to discuss regulatory measures and their practical effectiveness in the US or other jurisdictions outside Europe that may be tackled, relevant US data is, in principle, to be covered by the fact-finding report.

Deliverable: Fact Finding Report on the competition indicators and regulatory highlights in different jurisdictions

Public consultation: Yes

Adoption of the draft report for public consultation at Plenary 4, 2025

Adoption of the final report at Plenary 2, 2026 for publication

1.10. Workshops on the competitive effects of strategic fibre networks deployment, including in the context of copper switch-off

Fast and comprehensive fibre rollout is of utmost importance for the European economy and for reaching the 2030 Digital Decade Policy Programme targets. The current situation is uneven in Europe, with some countries already having a high FTTP coverage and others being at different stages in the rollout process¹⁹. Even within the same national territory where there is overall high fibre coverage, the rollout is not even, with areas that still need to be covered. This aspect becomes more relevant in the context where copper is to be switched off and some previously covered areas could remain underserved by fibre.

The aspects relating to the viability of deployment of multiple parallel fibre networks in an area depend on several factors such as the particular zone's characteristics (geography, density of population, type of dwelling units, industrial areas, average income of the population living there, etc.), network deployment costs, market structure, wholesale arrangements and regulatory factors. This interplay between operators investing (individually or collectively) in fibre rollout has a direct bearing on the competition dynamics, which is something that BEREC plans to investigate with this activity.

In the light of the above, some have pointed to the risk of fibre overbuilt in those areas that do not meet the conditions to allow viable deployment of multiple parallel fibre networks raising considerations regarding competitive effects and potentially regulatory actions. In particular, a potential fibre overbuild/risk of fibre overbuild may have detrimental effects on the roll-out speed and even stall investments (as capacities in the building industry and financial resources are typically scarce) and, on the other hand, it may lead to price increases for the end users because of operators' need to recover their costs. Additionally, there are standpoints that argue that incumbent operators may have strategic incentives to overbuild an alternative first-mover network operator, to deter its entrance in the market and protect its

¹⁹ See: https://digital-decade-desi.digital-strategy.ec.europa.eu/datasets/desi/charts/desi-indicators?period=desi_2024&indicator=desi_fttp&breakdown=total_pophh&unit=pc_hh_all&country=AT,BE,BG,HR,CY,CZ,DK,EE,EU,FI,FR,DE,EL,HU,IE,IT,LV,LT,LU,MT,NL,PL,PT,RO,SK,SI,ES,SE

market share. Coupled with the copper-switch off²⁰, there is indeed the issue of how the competitive dynamics will change. Finally, if no exclusionary effects are identified, overbuild may lead to benefit end-users with a wider fibre coverage and choice as well as enhanced infrastructure competition with less need for regulatory intervention in the future.

Therefore, BEREC is interested to have an external workshop with the stakeholders and to explore topics such as (i) their incentives and plans to invest in an area (what are the minimum thresholds considered relevant), (ii) which are the main elements bearing on the fibre network rollout planning, (iii) whether and how they see collaboration with other operators for the purpose of deploying networks together and (iv) if they had experience with SMP operators acting strategically to foreclose competition in the electronic communications markets, including in the context of copper switch-off.

At the same time, BEREC is planning an internal workshop where to share experiences related to the topic of “overbuild” of fibre networks, treating issues such as (i) whether “overbuild” has been observed in some countries, (ii) what exactly was the “overbuild” context and why was it considered as “overbuilt”, (iii) whether it was perceived as positive or negative from a competition point of view and for which underlying reasons, (iv) if problems were identified, what were the regulatory approaches taken.

Deliverable: Workshops on the competitive effects of strategic fibre network deployments, including in the context of copper switch-off

Public consultation: No

Adoption of the summary report of the internal workshop at Plenary 3, 2025

Adoption of the summary report of the BEREC external workshop at Plenary 4, 2025, for publication

1.11. Submarine cables connectivity in Europe

Submarine cables are key for international connectivity of Europe, as well as national connectivity for island countries and national territories outside continental Europe, such as archipelagos. They are a core upstream infrastructure for many different services, like cloud which is dependent on the need for prompt availability of a huge amount of data to be transferred worldwide in almost real time.

The European Commission’s recent Recommendation on Secure and Resilient Submarine Cable Infrastructures highlights the importance of knowing and enhancing the security, resilience, and capacity of Europe’s submarine cable networks, as these infrastructures are

²⁰ “It cannot be excluded that some operators try to switch over customers from copper to fibre via lock-in strategies that would undermine the business case of FTTH alternative operators”, European Commission’s White Paper on How to master Europe’s digital infrastructure needs?, pg. 32.

not only critical to the European economies and digital sovereignty but are also vital for ensuring seamless international connectivity and digital inclusiveness across the continent.

BEREC plans to support the European Commission in the context of this topic relying on its experience in the *ex-ante* regulation of domestic submarine cables and its participation in other relevant networks, such as REGULATEL and EMERG.

BEREC's contribution on the topic may take different forms, e.g. workshops/meetings, opinions, papers, report, as well as participation in the European Experts Group that support the implementation of the Secure and Resilient Submarine Cable Infrastructures, and it will build on BEREC Report on the general authorisation and related frameworks for international submarine connectivity (BoR (24) 85), BEREC Report on the entry of large content and application providers into the markets for electronic communications networks and services (BoR (24) 139) and the external study on data centres that will be commissioned in 2025 to better understand its relevance in the strategies of deployment of submarine cables in Europe.

Deliverable: BEREC contribution on Submarine cables connectivity in Europe (to be defined, e.g. workshops/meetings, opinions, papers, report)

Public consultation: Dependent on the deliverable

Timing: throughout 2025

1.12. Follow up internal workshop on direct-to-mobile device satellite connectivity

Direct-to-mobile device satellite connectivity is an emerging technology with increasing importance. Different spectrum options are currently being pursued (by satellite and/or mobile operators) e.g. the use of dedicated mobile satellite service bands or the use of terrestrial mobile radio spectrum based on a satellite / mobile network operator agreement. Therefore, for NRAs and BEREC it is important to better understand these options. For instance, there are potential market access issues, with potential impacts on frequency award processes.

Following the external workshops of 2023 and 2024, and in a more informal setting, this year an internal BEREC workshop will be held to explore such issues with NRAs and a number of selected peer institutions such as the RSPG and ENISA. The aim is that NRAs can reflect and brainstorm on potential international (EU level) coordination and/or specific measures that may or may not be needed. Starting points are the projects on satellite connectivity BEREC has carried out to date (BoR (22) 169, BoR (23) 112 and the workshop held in Q2/2024 - summary report pending) and other relevant reports (e.g. CEPT will publish a report on this topic by February 2025, and the Nevers report). To limit the amount of necessary BEREC and NRA resources, adequate but light preparation and reporting is envisaged.

Deliverable: Internal Workshop & Summary Report

Public consultation: No

Internal workshop to be held in Q3 (or early Q4) 2025

Adoption of the workshop summary report at Plenary 4, 2025, for publication

1.13. BEREC Report on Virtual Worlds and Web 4.0

Virtual worlds are meant to have a significant economic and social impact by transforming the way online content and applications are accessed by means of immersive experiences. Virtual worlds are part of a wider technological change: the transition towards Web 4.0. The relevance of this trends has been acknowledged by the EU institutions.

On 11 July 2023, the EC published a strategy on Web 4.0 and virtual worlds²¹ which was accompanied by a Staff Working Document regarding information, insights, and market trends on web 4.0 and virtual worlds²².

On 17 January 2024, the European Parliament adopted an IMCO own-initiative report on Virtual worlds focusing on the opportunities, risks, and policy implications for the single market²³. In this report, the Parliament makes a call for solid reports for these emerging technologies. As these technologies reach maturity, the Parliament considers that a regulatory framework should be established to ensure a level playing field that harnesses the full potential of virtual worlds and enables their economic growth. The issues under consideration in the Parliament report include the need for investment in infrastructure; the role of crucial technologies (e.g. AI, XR, 5G, edge computing, etc.); interoperability and open standards to prevent quasi-monopolies or abuses of dominant position; the need to address specific needs of people with disabilities when interacting with virtual worlds and ensure equal access to vulnerable users and those in less accessible areas and warns of new dangers (fraud and scams) in this new context.

This PRD would develop on BEREC high-level position on artificial intelligence and virtual worlds²⁴ that was provided as an input to the two calls for contributions²⁵ on competition in generative AI and Virtual Worlds opened on 9 January 2024 by the European Commission. It would consider, among other issues, the underlying technologies supporting the virtual worlds and web 4.0, the interdependences among the different technologies, investments required,

²¹ https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3718

²² <https://digital-strategy.ec.europa.eu/en/library/staff-working-document-information-insights-and-market-trends-web-40-and-virtual-worlds>

²³ [https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2022/2198\(INI\)&l=en](https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2022/2198(INI)&l=en)

²⁴ <https://www.berec.europa.eu/en/document-categories/berec/others/berec-high-level-position-on-artificial-intelligence-and-virtual-worlds>

²⁵ https://ec.europa.eu/commission/presscorner/detail/en/IP_24_85

related environmental issues, and potential competition and openness/standardization bottlenecks for their development as well as the impact on end users' rights and inclusiveness.

Deliverable: BEREC Report on Virtual Worlds and Web 4.0

Public consultation: Yes

Adoption of the draft report for public consultation at Plenary 1, 2026

Adoption of the final report at Plenary 3, 2026 for publication

Adoption of the outcome of the consultation Summary Report at Plenary 3, 2026 for publication

1.14. Update to BEREC Guidelines on Geographical surveys of network deployments

In the years 2020 and 2021, BEREC published three 'Guidelines on Geographical surveys' based on Article 22 of the EECC on the mapping of broadband network deployments. These Guidelines on Geographical surveys are:

- a. BEREC Guidelines on Geographical surveys of network deployments acc. to Article 22(1) EECC – the Core GL (GS I, BoR (20) 42 published in March 2020)²⁶;
- b. BEREC Guidelines on Geographical surveys of network deployments acc. to Article 22(2) – Article 22(4) EECC – the GL on optional policies or the Procedural GL (GS II, BoR (21) 32 publ. in March 2021)²⁷;
- c. BEREC Guidelines on Geographical surveys of network deployments – Verification of information acc. to Article 22(1) EECC – the Verification GL (GS III, BoR (21) 82 publ. in June 2021)²⁸.

These three BEREC Guidelines on Geographical surveys of network deployments are also published and compiled in one volume – the Handbook of BEREC Guidelines on Geographical surveys of network deployments (BoR (21) 104 published in June 2021)²⁹.

In Article 1.5 ('Guidelines Revision'), BEREC committed itself to prepare an Implementation Report "to examine how different Member States have transposed and enabled the Article 22

²⁶

https://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/guidelines/9027-berec-guidelines-to-assist-nras-on-the-consistent-application-of-geographical-surveys-of-network-deployments.

²⁷ [BEREC \(europa.eu\)](https://berec.europa.eu)

²⁸ [BEREC \(europa.eu\)](https://berec.europa.eu)

²⁹ [BEREC \(europa.eu\)](https://berec.europa.eu)

provisions". BEREC conducted the Implementation Report in its 2024 Work Programme and evaluated whether to revise and update the Guidelines".³⁰

Arising from the Implementation Report, BEREC considers that it is appropriate to propose certain revisions and updates of the Guidelines.

Deliverable: Update to Guidelines, depending on outcome of Implementation Report

Public consultation: Yes - TBD

Adoption of updated guidelines for publication – TBD

Adoption of the outcome of the consultation Summary Report for publication - TBD

1.15. Follow up to BEREC Opinion on the EC's methodology for the mapping of QoS coverage on Connectivity Indicators for the DDPP

Decision (EU) 2022/2481 of the European Parliament and of the Council establishes the Digital Decade Policy Programme 2030 (DDPP) that it intended to guide Europe's digital transformation. It establishes digital targets and objectives in the realms of digital skills, digital infrastructure, digitalisation of business and of public services. 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 and, to that end, the European Commission set out in the Implementing Decision (EU) 2023/1353 of 30 June 2023 the KPIs for each digital target.

BEREC focuses on the two KPIs related to connectivity, KPI 3 (Gigabit connectivity for fixed networks) and KPI 4 (5G networks). The Commission set up a subgroup on the 5G indicator as it intends to update the 5G indicator in the future.

For this purpose, the Commission presented at the beginning of 2024 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".

Within the expected update of the Digital Decade KPIs on connectivity and 5G in particular, the Commission developed a draft methodology enabling the mapping of QoS coverage for fixed and mobile broadband (and in particular 5G). According to the views of the EC services, the methodology was built on 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.

³⁰ BoR (20) 42

The Commission intends to complete the development of its methodology in 2024, with actual testing with data collected scheduled to take place in 2025. Once the results arrive, the 5G KPI may be updated in a new implementing decision.

BEREC has engaged with the Commission on the proposed methodology and will provide its opinion on this methodology in 2024. BEREC will remain available in 2025 to provide further input, as required, on this project. BEREC's input to the Commission's work from a regulatory viewpoint is set against the background of the BEREC Art. 22 Geographical Survey Guidelines, which has regard for (harmonized) data processing.

Deliverable: Depending on developments and requests arising in this project

Public consultation: No

Adoption of deliverable for publication – TBD

1.16. BEREC Opinion on the review of European Commission's Recommendation on relevant markets susceptible to ex-ante regulation

According to Article 64 of the EEC, the European Commission shall review the Recommendation on Relevant Product and Service Markets on a regular basis. The Recommendation shall identify those product and service markets within the electronic communications sector the characteristics of which may be such as to justify the imposition of regulatory obligations set out in Directive (EU) 2018/1972 establishing the European Electronic Communications Code. This shall be done without prejudice to markets that may be defined in specific cases under competition law. It is understood that the European Commission will update the current Recommendation (adopted in 2020) as per Article 64 (1). The European Commission must take into utmost account the BEREC Opinion on this Recommendation.

BEREC will prepare an Opinion based on the documents supporting the Recommendation's review and its draft text proposal to be communicated by the European Commission. BEREC is committed to participate actively in the process and, given the importance of this Recommendation for market analyses, BEREC will participate in exchanges and workshops with the European Commission, as deemed necessary in order to ensure that BEREC's questions and concerns are clarified and addressed, as well as provide the Commission with developments in NRAs' knowledge regarding the functioning of the markets.

Deliverable: BEREC Opinion on the review of EC Recommendation on relevant markets susceptible to ex-ante regulation

Public consultation: No

Publication: Yes

Documents sent by the Commission: TBD by the Commission

Opinion delivered: TBD depending on when the EC will publish the draft Recommendation

2. Strategic priority: Thriving sustainable and open digital markets

BEREC will continue to work on topics that relate to the functioning and sustainability of the digital markets. This implies focusing on issues that explore regulatory conditions and address issues for digital service providers and end-users in the digital market.

Furthermore, BEREC will continue to monitor technological innovation, such as AI, AR/VR, 6G or metaverses to identify how these technologies influence electronic communications markets and their potential impact on regulation.

Based on its experience, BEREC will continue to contribute to the implementation of the DMA within the High-Level Group which will remain a priority of the European Commission in 2024. In addition, BEREC will track the evolution of the NRAs competences in the context of the digital legislative files, such as the DSA, the Data Act, or the AI Act, and collaborate with the EU institutions on relevant digital topics.

BEREC will continue to improve its knowledge on environmental sustainability to contribute its expertise to the twin transition and EU Green Deal's targets.

The open Internet has been considered an important building block in the EU telecommunication rules. Thus, BEREC will continue monitoring this aspect in several work items.

2.1. BEREC contribution to the implementation of the Data Act

Regulation (EU) 2023/2854 of the European Parliament and of the Council on harmonised rules on fair access to and use of data and amending Regulation (EU) 2017/2394 and Directive (EU) 2020/1828 - the Data Act – was published in the Official Journal of the EU on 13 December 2023 and entered into force on 11 January 2024, and it will become applicable in September 2025.

BEREC has already been contributing to topics related to the Data Act by producing a variety of deliverables such as the High-Level Opinion on the European Commission's proposal for a Data Act³¹, a workshop on switching and interoperability of data processing services³², a workshop on IoT³³, a report on cloud services and edge computing³⁴, and an external study on the trends and policy/regulatory challenges of cloudification, virtualisation and softwarisation in telecommunications³⁵. Moreover, BEREC actively contributed to the debate and negotiations of the DMA which also includes provisions concerning data access, vertical and horizontal interoperability, and obligations targeting cloud services.

In the Data Act, independent national competent authorities with experience in electronic communications services are considered to be well-placed to ensure the application and enforcement of specific provisions. Several BEREC members may be designated as the national competent authority responsible for the application and enforcement of (some chapters of) the Data Act and BEREC's insights could also be valuable for the preparation of the implementing and delegated acts that the European Commission is required to adopt under this regulation.

BEREC's contribution would be particularly relevant, for instance, in relation to switching between data processing services (such as cloud and edge services), the monitoring of switching charges, interoperability, or complaints handling, IoT and more generally concerning the impact of such services and the Data Act obligations on the telecommunications sector. The contribution could take different forms (opinions, workshops, knowledge-building, exchange of best practices, report, etc.) and will be adapted to the legislative timing and process.

Deliverable: Contribution to the implementation of the Data Act (to be defined, e.g. opinion, workshops, knowledge-building, report, etc.)

Timing: Depending on legislative timing and process.

2.2. Implementation of the Open Internet Regulation and the BEREC Open Internet Guidelines

The Open Internet (OI) Regulation (EU) 2015/2120 prescribes, among other things, that NRAs should 'closely monitor and ensure compliance' with the Regulation and should 'publish reports on an annual basis regarding their monitoring and findings'.

³¹ <https://www.berec.europa.eu/en/document-categories/berec/others/berecs-statement-on-the-draft-data-act>

³² <https://www.berec.europa.eu/en/events/berec-events-2023/berec-workshop-on-switching-and-interoperability-of-data-processing-services>

³³ Held in Q3 2023

³⁴ Scheduled for publication Q4 2024

³⁵ [BEREC \(europa.eu\)](https://www.berec.europa.eu)

Since 2017, BEREC has annually published a Report on the implementation of the OI Regulation and the OI WG has provided an internal forum to discuss national cases and questions in order to ensure a predictable and consistent application of the OI Regulation.

In the 2025 workstream, BEREC will monitor the implementation of the OI provisions among NRAs for the period 1 May 2024 to 30 April 2025. BEREC will collect the annual national OI Reports and the answers to an internal questionnaire to prepare the annual European-level OI Report.

To support the NRAs' obligation to 'closely monitor and ensure compliance' with the Regulation, a forum will be held to discuss questions relating to the consistent application of the OI Regulation on an informal basis. The sharing of experience and exchange of important decisions in national cases is essential to foster a consistent application of the Regulation throughout Europe in light of evolving markets and technologies. In addition to discussing the national cases, the forum covers the sharing of information on relevant market deployments.

When appropriate, the workstream may also include questionnaires, surveys, workshops, etc. to collect information on topics of particular relevance to the OI and to monitor emerging trends, as the market continues to develop and contribute to the work of other Working Groups related to Internet evolution. This workstream should build on the experience from previous years.

Deliverable: Report on the implementation of the Open Internet Regulation and the BEREC Open Internet Guidelines

Public consultation: No

Adoption of final report at Plenary 3, 2025

2.3. Collaboration on internet access service measurement tools

In 2022, BEREC published an update of the BEREC Net Neutrality Regulatory Assessment Methodology (BoR (22) 72³⁶), originally released in 2017. Together with the Net Neutrality Measurement Tool Specification (BoR (17) 179³⁷), both documents lay the groundwork for BEREC to work towards a harmonised measurement framework. This goal remains important, and work has continued. The Open Internet Working Group has provided a forum for collaboration between NRAs to share information and exchange experiences and best practices on the national tool deployment.

³⁶ <https://www.berec.europa.eu/en/document-categories/berec/regulatory-best-practices/methodologies/berec-net-neutrality-regulatory-assessment-methodology-0>

³⁷ <https://www.berec.europa.eu/en/document-categories/berec/reports/net-neutrality-measurement-tool-specification>

Through this workstream, BEREC intends to continue the ongoing work with NRAs on their national measurement tool deployment so as to:

- provide a forum for NRAs to share information and exchange experiences and best practices related to the development and deployment of national measurement tools, by taking into account the support of new technologies; this workstream will also identify best collaboration practices so as to maximise the benefits of existing NRA cooperation in this area; and
- support the migration of interested NRAs towards a harmonised measurement tool by working together to improve the measurements and by sharing codes or components.

Deliverable: none

2.4. Report on Infrastructure sharing as a lever for ECN/ECS environmental sustainability

In its previous report 'Assessing BEREC's potential limiting the impact of the digital sector on the environment', BEREC stated that provisions on infrastructure-sharing as foreseen by the EECC could be used to support environmental targets to allow competent authorities to impose the co-location and sharing of fixed and mobile network elements and associated facilities for reducing the environmental footprint of ECN/ECS. Furthermore, as set out in BEREC's Common Position on mobile infrastructure sharing, BoR (19) 110, sharing might also decrease energy consumption, thereby lowering the carbon footprint of the electronic communications sector and contributing to the fight against climate change.³⁸

The objective of this workstream is to review the practices in this area in the EU Member States and the existing impact studies to identify possible development prospects. BEREC will analyse the implementation of the relevant EU provisions, especially Articles 44 and (if relevant) 61 of the EECC, in the EU Member States, regarding the co-location and sharing of infrastructures based on, or that encompass environmental considerations. The main goal is to gather the BEREC member NRAs' feedback on how to assess identified benefits of the environmental impact from network-sharing and/or take decisions that promote the protection of the environment.

A review of existing studies on the environmental impact of network sharing by competent authorities or stakeholders will be built on desk research complemented with selected bilateral exchanges and/or expert workshops. Other considerations, which may include the type of network, the type of sharing, the type of the geographical area, the technology, etc., as well as any identified limitations (either technical or operational) or practices, may help refine the

³⁸ BEREC Common position on infrastructure sharing ([BEREC \(europa.eu\)](https://www.berec.europa.eu)) please see 'Benefit 4' on page 10 therein

understanding of the environmental impact of sharing and derive insightful lessons that would be part of the review.

Finally, elements for strategic reflections could be raised concerning potential trade-offs that will arise in terms of regulatory objectives and competition, as well as regarding the future of the pooling of networks with regard to environmental targets and market developments. It would therefore be a question of considering sustainability implication and the technical developments in the context of network virtualisation as well as the potential regulatory challenges ahead.

Deliverable: Report on Infrastructure-sharing as a lever for ECN/ECS environmental sustainability

Public consultation: Yes

Adoption of the draft report at Plenary 4, 2024 for public consultation

Adoption of the final report at Plenary 2, 2025, for publication

2.5. BEREC external workshop on telecom regulators' role in the development and implementation of sustainability indicators in the ICT sector

Previous work of BEREC highlighted the need to identify the relevant indicators to monitoring the environmental footprint and performance of ECNs/ECSs and to increasing data availability and reliability in this area. Following its Report on sustainability indicators for ECN/ECS (BoR (23) 166)³⁹ published in 2023, BEREC wishes to continue contributing to the work on the implementation and collection of relevant and harmonised environmental indicators in the telecom sector. It also aims to support the European Commission with its expertise in implementing the goal of increased environmental transparency for digital infrastructures, especially ECN/ECS transparency measures set out in its digital strategy "Shaping Europe's Digital Future". A relevant work where BEREC seeks to contribute with this workstream is the European Commission elaborating a Code of Conduct on sustainability for telecommunications networks and services that should include a list of relevant environmental indicators in this frame.

Hence, in 2024 BEREC will hold a workshop with its member NRAs, the European Commission, relevant standardisation organisations and other relevant expert stakeholders, to allow NRAs that collect environmental data to share their experience, to contribute to existing initiatives by other bodies especially from the European Commission and to identify

³⁹ [BEREC Report on sustainability indicators for ECN/ECS \(europa.eu\)](https://european-council.europa.eu/media/en/press-room/default.aspx?id=14642)

levers for telecom regulators to be able to further contribute to the implementation of standardised and reliable sustainability indicators in the sector.

This workstream will allow to continue the sharing of experiences between regulators, especially with the first NRAs that are collecting environmental data on telecom and digital players. It will also complete BEREC findings on sustainability indicators regarding technical standards and definitions of the main indicators analysed in its past work and be the opportunity to elaborate on ways regulation can support furthering environmental transparency in the sector. Another focus will be to investigate to what extent a harmonised framework at European level, including a more precise mandate for NRAs to collect environmental data from telecom players and more broadly from the ICT sector could be foreseeable in the near future. BEREC will analyse how to support the sector's efforts on developing lifecycle and multicriteria assessment of the ECN/ECS environmental impact, also in relation to publishing information and open databases from industry players. BEREC will assess possible future actions on the topic, including the possibility to build a BEREC database of sustainability indicators building on the information that could be collected by the NRAs in the future.

The results of the workshop and the next steps for BEREC will be published in a summary report.

Deliverable: BEREC external workshop on telecom regulators' role in the development and implementation of sustainability indicators in the ICT sector

Workshop to be held in Q3 2024

Adoption of the workshop summary report at Plenary 1, 2025, for publication

2.6. BEREC contribution on the impact of Artificial Intelligence on the competition dynamics, internet openness and end-users' rights

In March 2024, BEREC submitted its [high-level position on Artificial Intelligence \(AI\) and virtual worlds \(VW\)](#) to the European Commission (BoR (24) 68). The high-level position provides a holistic perspective and focuses on a variety of aspects building on BEREC's broader expertise.

BEREC's AI position builds on previous work, such as the BEREC reports on the [application of AI solutions for the provision of ECN/ECS](#), on the [internet ecosystem](#) and the [ex-ante regulation of digital gatekeepers](#), as well as the BEREC Report on Cloud and Edge Computing Services (BoR (24) 136), and the BEREC external study on the trends and cloudification, virtualization, and softwarization in telecommunications (BoR (23) 208).

Relying on BEREC's participation in the EC's Artificial Intelligence sub-group in the context of the Digital Markets Act High-Level Group, the proposed work may explore how the integration

of AI influences some or all of the following; competition dynamics, internet openness, end-users' experiences, data protection, accessibility, security, and the digital divide. Moreover, BEREC's analysis could evaluate regulatory challenges and opportunities for fostering AI-technology innovation, while ensuring a robust protection of end-users and promoting digital inclusiveness.

As a result, BEREC's contribution on the topic may take different forms (e.g. workshops/meetings with relevant stakeholders, opinions, papers, report).

Deliverable: BEREC contribution on the impact of Artificial Intelligence on competition dynamics internet openness and end-users' rights (to be defined, e.g. workshops/meetings with relevant stakeholders, opinions, papers, report)

Public consultation: Depending on the deliverable

Timing: Throughout 2025

2.7. Internal workshop on the consideration of 5G differentiated services and network slicing

The objective of this internal workshop will be to discuss any Open Internet-related regulatory issues associated with "specialised services", openness of APIs and network slicing in order to answer the questions raised by market players (operators, service providers and equipment manufacturers) in the context of the roll-out of 5G Stand Alone (SA) and the increased possibility of differentiated services on mobile networks.

The workshop will provide a forum for representatives from NRAs to discuss relevant topics within the scope of the workshop and to raise questions and discuss responses with relevant invited experts.

Deliverable: Internal workshop on the consideration of 5G differentiated services and network slicing

Public consultation: No

Internal workshop to be held in Q2 2025

Adoption of the workshop summary report at Plenary 3, 2025, for publication

2.8. BEREC external workshop on implementation of Equivalence of Inputs (Eol) by NRAs

BEREC's plans to look closer at the issue of Eol implementation in the relevant markets from next year. Due to the new scope of the Gigabit Access Recommendation and the increased reliance on non-discrimination obligations imposed on SMP-operators, the issue of Equivalence of Inputs gains on relevance to ensure competition by alternative operators. In order to hear the different views BEREC will organize an external workshop with the relevant stakeholders. In the workshop BEREC will also ask for views regarding the relationship of Eol and EoO in practice.

Deliverable: BEREC external Workshop & Summary Report

Public consultation: No

External workshop to be held in Q3 2025

Adoption of the workshop summary report at Plenary 4, 2025, for publication

2.9. Internal workshop on the practices of data collections from NI-ICS providers

Number-Independent Interpersonal Communication Services (NI-ICS) are defined in the EECC and typically include messaging, videoconferencing, and e-mail services.

In its "Report on harmonised definitions for indicators regarding over-the-top services, relevant to the electronic communications markets" (BoR (21) 127) BEREC made available a series of definitions for NI-ICS indicators related to users and usage deemed central to NRAs' activities, in particular to assess the degree of competition between NI-ICS and number-based interpersonal communications services (NB-ICS) and among the different NI-ICS. Furthermore, BEREC reflected on possible revenue indicators and examined why they may be relevant to the electronic communications sector (BoR (22) 183). This report from 2022 concludes that NRAs find themselves at an early implementation stage of the EECC's provisions regarding NI-ICS and are in the process of discerning which information is needed to carry out their tasks and to start collecting data.

The BEREC workshop on the practices of data collection from NI-ICS providers is intended to allow NRAs to give an update on current and planned data collection of NRAs and associated used indicators and the utilization of gathered data (e.g. monitoring, publications, determination of financial contributions to universal service obligations funds). The workshop will focus on identifying best practices and touch upon used classifications (e.g. as NI-ICS or a specific category of NI-ICS), functionalities for business users to reach end users (e.g. for customer support or sales).

The workshop shall contribute to regulatory tasks of NRAs and the harmonisation of the indicators collected.

Deliverable: Internal Workshop & Summary Report

Public consultation: No

Internal workshop to be held in Q4 2025

Adoption of the workshop summary report at Plenary 1, 2026

2.10. BEREC contribution to the implementation of the Digital Markets Act

BEREC is a member of the DMA High-Level Group (HLG). The role of the HLG is to provide the European Commission with advice and expertise on any general matter of implementation or enforcement of the DMA and the promotion of a consistent regulatory approach across different regulatory instruments. It must provide expertise also to the European Commission on the need to amend, add or remove the DMA rules to ensure that digital markets across the Union are contestable and fair⁴⁰.

Moreover, Article 7 of the DMA includes interoperability obligations for number independent interpersonal communication services (NI-ICS) and the European Commission may consult BEREC to determine whether the technical details and the general terms and conditions published in the reference offer that the gatekeeper intends to implement or has implemented are in compliance with the interoperability obligation⁴¹.

BEREC's contribution to the implementation of the DMA may take different forms, e.g. bilateral exchanges with the European Commission, opinion on the interoperability reference offers under Article 7 of the DMA, contribution to the HLG meetings and the HLG subgroups.

Moreover, BEREC will keep monitoring and analysing developments in the digital markets and the impact and effects of the practices implemented by large online platforms. Special attention will be paid to those practices which may not be addressed by current legislation.

Deliverable: Contribution to the implementation of the Digital Markets Act (to be defined, e.g. HLG meetings, opinions, workshops, knowledge-building, etc.)

Timing: Throughout 2025

⁴⁰ Article 40 DMA

⁴¹ Recital 64 DMA

2.11. Stock taking of NRAs application of Article 52(2) for wholesale access obligations

Article 52(2) EECC enables NRAs/competent authorities to mandate pro-competitive conditions associated with spectrum assignment decisions, notably including wholesale access obligations.

The purpose of this project is to gauge the extent to which NRAs/competent authorities, if any, have utilised the provisions of Article 52(2) of the EECC. BEREC will design and issue a brief questionnaire to its members and publish the summary information received. In addition, the information gathered may contribute towards BEREC's broader input to the review of the EECC. To be clear and given the number of projects in the Work Programme, this exercise is not intended to be burdensome on the resources of BEREC or NRAs but depending on the outcome may lead to follow-up work in the next years.

Deliverable: Report on NRAs/competent authorities use of Article 52(2) EECC in spectrum assignment decisions.

Public consultation: No

NRA Survey to be issued in Q1 2025

Adoption of the report on the NRA survey at Plenary 2, 2025, for publication

2.12. Advancing towards environmental data collection on ECN/ECS and contributing to future code of conduct on ECN/ECS sustainability

Since 2020, BEREC has built a growing expertise especially regarding transparency mechanisms and sustainability indicators. Building on its 2023 Report on Sustainability indicators for ECN/ECSs, its 2024 workshop on telecom regulators' role in this regard and the European Commission's study on "identifying common indicators for measuring the environmental footprint of electronic communications networks", BEREC will continue its work on sustainability indicators in 2025 and into 2026. BEREC will especially contribute to and support the work of the European Commission on the future Code of Conduct for ECN/ECSs, expected to be delivered in 2025. It will also work to establish the ground for BEREC *ad hoc* data collection with a questionnaire on the implementation of key sustainability indicators that NRAs will be proposed to distribute to their market players. This work will allow to provide a report analysing sustainability indicators from main electronic communications operators in Europe based on the current work lead by NRAs and the recommended sustainability indicators that will be presented by the European Commission. This ad-hoc data collection will also enable NRAs to share expertise in terms of methodologies and to reach a level of harmonisation in terms of definitions of main indicators relevant for ECS/ECN sustainability.

The process will capitalize on NRAs existing initial projects or data collection from digital players.

Deliverable: Various:

- Report/Opinion to the EU Commission in Q3 2025
- Results of NRAs questionnaire Q4 2025
- Further deliverables in 2026 and into 2027

Public consultation: No

2.13. BEREC external workshop on environmental footprint of satellite constellations

In recent years, the deployment of satellite constellations has surged, offering unprecedented opportunities for global connectivity and digital inclusion. During 2022, BEREC studied SatCom solutions for providing universal service. In 2023, BEREC conducted an external workshop on secure and reliable connectivity from low Earth orbit (LEO) satellite fleets, followed by another workshop in 2024 on the usage of satellite technologies in mobile communications.

As part of its commitment to incorporating environmental sustainability into its activities, BEREC aims to hold a workshop focusing on gaining a better understanding of the environmental footprint of satellite constellations. This workshop will convene key stakeholders, including regulators, industry representatives, environmental experts, and international bodies, to explore the environmental aspects of these satellite systems. Special attention will be given to the work conducted by the ITU in this area.

Among the topics to be discussed:

- Existing studies on lifecycle environmental impact assessment of satellite constellations and related challenges (such as impact data availability, environmental damage mechanisms, etc.).
- Challenges related to space debris, luminous pollution, and planetary boundaries, including Earth and Outer Space/orbit resources.
- Advancements in sustainable satellite design.

BEREC will publish in a short paper summarising the main findings of the workshop along with a video recording of the event.

Deliverable: External workshop on environmental footprint of satellite constellations & summary report

Public consultation: No

External workshop to be held in Q3 2025 a recording of which will be published

Adoption of the workshop summary paper at Plenary 4, 2025, for publication

2.14. BEREC external study on data centres

Data Centres (DCs) are a fundamental element to provide cloud services as well as a large part of the IT services supplied to citizens and companies by different actors as platform providers and AI-based services. These DCs are connected via high speed dedicated electronic communication networks (ECN) that are regulated by NRAs. Additionally, as expressed in the European Commission’s “White Paper - How to master Europe’s digital infrastructure needs?”, the converging ecosystem, where a boundary between the “traditional” providers of digital networks and services on the one hand and the providers of e.g. cloud services on the other hand becomes increasingly blurred, highlights the need of ensuring a more holistic regulatory approach.

The objective of the proposed work is to gather a general understanding of the number, characteristics, location and actors deploying/using DCs in Europe, its key dependencies (as ECN infrastructure (either active and or passive), or energy), as well as sustainability considerations and future trends, with the aim of defining the areas where BEREC and NRAs can better support EU and national institutions and actors to ensure that Europe, its citizens and companies benefit from DCs.

This report may also feed the planned report on submarine cables⁴², as submarine cables and DCs are increasingly related (many DCs are located close to submarine cable landing stations, and part of the submarine cables are deployed to connect DCs).

The work would be supported by analysis of existing reports, input from NRAs and interviews and questionnaires with key stakeholders, including electronic communication service providers, hyperscalers and other actors involved in the deployment and use of DCs.

Deliverable: External study on data centres

Public consultation: No

Publication of external study on data centres TBD

Potential other deliverables TBD

⁴² Project 1.11 above

3. Strategic priority: Empowering end-users

Engaging end-users in the fast-changing digital ecosystem is becoming more complex. While digital innovation and competition among digital service providers have improved users' empowerment, there is still an important role for regulators to play in ensuring transparency for consumers, increasing and maintaining consumer awareness and further improving digital skills.

The promotion of full connectivity will trigger the demand for high-quality services, provided by VHCNs whose development is a key priority for creating effective interactions for end-users.

BEREC will continue its work in promoting choice of services and empowerment for end-users.

3.1. BEREC Opinion on the review of Universal Services

The European Commission must review the scope of the universal services, pursuant to Article 122 of the EECC, by 21 December 2025, and every five years thereafter, in light of social, economic, and technological developments.

The review should take into account, inter alia, the mobility and data rates of the prevailing technologies used by the majority of end-users in particular with a view to proposing to the European Parliament and to the Council whether the scope should be changed or redefined.

BEREC intends to assist the European Commission in the review process by providing all necessary information, collect relevant data from the Member States and provide an Opinion on relevant aspects of the report.

<p>Deliverable: BEREC Opinion on the review of Universal Services</p> <p>Public consultation: No</p> <p>Adoption of the final opinion: TDB</p>

3.2. BEREC report on switching and termination of contracts

This project builds on the work done by BEREC in 2018 resulting in a report that collated information from NRAs on the approaches to switching across different communications services (BoR (19) 27)⁴³. In November 2022, a joint workshop between BEREC and BEUC was organized, where, among other things, the switching process was discussed, which also means the procedure for terminating the contract with the existing operator. A transparent and secure switching process contributes to market competition and strengthening the right of end

⁴³ BoR (19) 27 | [BEREC \(europa.eu\)](https://www.berec.europa.eu)

users to choose the services that best suit their wishes and needs at a given moment. Various challenges were identified in this procedure, especially related to service interruption, compensation for delays and loss of service together with problems in switching bundled services. BEREC believes that it would be worthwhile to identify the problems that still persists among the Member States, bearing in mind the provisions of the EECC that will be in force for a longer period, as well as the best solutions implemented among Member States.

The report will focus on the national implementation of the measures provided for by Article 106 of the EECC and, among other things, will cover issues related to the details and the timing of the switching and porting processes, porting-failures and switching processes for bundles.

Deliverable: BEREC report on switching and termination of contracts

Public consultation: Yes

Adoption of the draft report for public consultation at Plenary 4, 2025

Adoption of the final report at Plenary 2, 2026 for publication

Adoption of the outcome of the consultation Summary Report at Plenary 2, 2026 for publication

3.3. BEREC external workshop on practical issues preventing number misuse and possible fraudulent activities as a result of impact of new technologies

In recent years, the fraudulent activities and misuse of numbering resources have increased significantly. It has affected end-users, and market players. A lack of trust in the authenticity of numbers can lead to broader concerns regarding privacy, security, and trustworthiness in digital interactions. Therefore, the workshop could address these challenges comprehensively, considering their implications beyond the telecommunications sector and seeking holistic solutions to ensure confidence and trust in electronic communications systems. Moreover, in the workshop, the cross-sectoral effects stemming from fraudulent activities and number misuse could be evaluated and discussed.

Article 97(2) of the EECC states that “Member States shall ensure that national regulatory or other competent authorities are able to require providers of public electronic communications networks or publicly available electronic communications services to block, on a case-by-case basis, access to numbers or services where this is justified by reasons of fraud or misuse and to require that in such cases providers of electronic communications services withhold relevant interconnection or other service revenues”.

The regulation in EECC is not new and was first introduced in the 2009 EU regulatory framework (Article 28(2) of the “Universal Service Directive”). Various activities were held

related to the evaluation of practices of implementation of this Article (BEREC Guidance paper, BOR (16) 226⁴⁴ BEREC Report on a review of the cross-border regulatory cooperation process within the scope of Article 28(2) of the Universal Service Directive, and several workshops were held afterwards (the last one was in 2019)).

As the problem is increasing and the schemes established are becoming more complex, periodical experience exchange between NRAs is extremely important. The discussions with market players could be organised during the workshop to increase the knowledge and seek the long-lasting and sustainable solutions, especially employing newly arising solutions (e.g. AI). Due to the rapidly changing innovations and applications in the field of AI and in order to keep up with these changes, BEREC needs to constantly monitor the evolution of this technology on a frequent basis and how end users are impacted in order to achieve better understanding, transparency, and safety.

Deliverable: BEREC external Workshop & Summary Report on practical issues preventing number misuse and possible fraudulent activities as a result of impact of new technologies

Public consultation: No

External workshop to be held in Q2 2025

Adoption of the workshop summary report at Plenary 3, 2025

3.4. BEREC-BEUC Joint workshop on end-user rights

EU WG - BEUC joint workshop will provide an opportunity to bring together regulatory bodies and civil society organisations, especially consumer organisations, to discuss all aspects that can potentially impact European consumers in a rapidly developing digital environment. It will cover the potential effects of consumer-relevant elements such as quality of service, coverage, information, and marketing practices. By engaging in this comprehensive discussion, the workshop seeks to identify actionable insights and policy recommendations or legislative changes, especially taking into account the BEREC opinion on Article 123 and EC views on the review of Title III of Part III on end-user rights, which can empower consumers and strengthen their position in the digital marketplace.

Deliverable: External Workshop & Summary Report

Public consultation: No

External workshop to be held in Q4 2025

Adoption of the workshop summary report at Plenary 1, 2026

⁴⁴ BoR (16) 226 | [BEREC \(europa.eu\)](https://www.berec.europa.eu)

3.5. Internal workshop on aspects of 2G and 3G phaseout

In 2023 BEREC produced a report on practices and challenges of the phasing out of 2G and 3G. BEREC decided to revisit this important subject in 2025 as in that year some European countries face the planned phaseout of all 2G and 3G networks in their country. Also new developments regarding interoperability solutions of next generation services and recent changes in eCall regulation may be taken into account.

This work item aims to organise an internal workshop at expert level to exchange views on planned phaseouts and discuss the status of identified challenges and solutions. Also, the workshop may be used to explore examples from other regions (outside Europe), potentially with regulatory peers from those regions.

Deliverable: Internal Workshop & Summary Report

Public consultation: No

Internal workshop to be held in Q2 2025

Adoption of the workshop summary report at Plenary 3, 2025

3.6. BEREC external workshop on digital services' ecodesign for greener networks and ICTs

As outlined by BEREC's 2024 Report on ICT Sustainability for End-Users: "*Digital services are often perceived as purely intangible. However, the development, maintenance, and operation of a digital service rely on infrastructures, devices, and resources.*" In response to the European Commission's White Paper "How to Master Europe's Digital Infrastructure Needs," BEREC highlighted the importance of exploring ecodesign measures for sustainable digital services. These measures include making services compatible with older devices, limiting "nudge" designs such as infinite scrolling or auto-play, and adapting video resolution to the device's size. Additionally, BEREC's position paper on AI and virtual worlds emphasized the benefits of ecodesign principles in mitigating the potential environmental impact of emerging digital services.

In this context, BEREC will organize an external workshop in 2025 to deepen its understanding of ecodesign practices and frameworks implemented in the EU. The aim will be to identify the existing tools and best practices enabling the development of digital services sustainable *by design*. This workshop will gather representatives from public authorities active in the area of digital services ecodesign, market players (e.g., CCIA Europe, ECTA, ETNO/GSMA), and environmental specialists to build a comprehensive overview of existing initiatives and stakeholder perspectives on digital services ecodesign.

The following topics will be explored:

- Existing initiatives: existing practices developed by market players and ecodesign initiatives/policies in the EU and discussing potential future developments.
- Ecodesign of digital services' impact on networks' efficiency: implementation of efficient codecs for video to reduce data transmission volume; optimization of default platform settings to minimize unsolicited or unusual data transmission, such as adapting video definition to the end-user devices size; limiting "nudge" designs like infinite scrolling or auto-play which can lead to unsolicited traffic; specific best practices for IoT services.
- Ecodesign of digital services' impact against devices obsolescence: elements to make digital services compatible with older devices; role of interoperability standard.
- Ecodesign potentialities for sustainable emerging technologies: exploring ecodesign principles implementation to AI and virtual worlds development to integrate environmental issues in innovation policies.

The workshop will be the basis for a summary report detailing initiatives and existing recommendations for integrating ecodesign principles into digital services.

Deliverable: BEREC external workshop on digital services' ecodesign for greener networks and ICTs & Summary Report

Public consultation: No

External workshop to be held in Q1 2025

Adoption of the workshop summary report at Plenary 2, 2025

3.7. ECASEC-BEREC: Guidelines on preventing smishing

The NIS Cooperation Group's Report of 21 February 2024 on the cybersecurity and resiliency of the EU communications infrastructures and networks (hereinafter: Report) shows that in recent years there has been a wave of smishing (and vishing) attacks, which are used by attackers mainly (but not solely) to target two-factor authentication codes sent via SMS.

Based on the technical recommendations of the Report, an Action Plan was drafted in collaboration with the NIS Work Stream on 5G/Telecoms Cybersecurity, European Commission, ENISA, ECASEC⁴⁵ Expert Group and BEREC. In the Action plan BEREC and ECASEC expert groups are tasked to facilitate sharing of good practices on preventing smishing and to prepare Guidelines on preventing smishing.

⁴⁵ The European Competent Authorities for Secure Electronic Communications (ECASEC) group serves as a platform for collaboration and exchange of information among the national authorities supervising telecom security in Europe

Deliverable: ECASEC-BEREC: Guidelines on preventing smishing

Public consultation: Yes

Adoption of draft guidelines for public consultation at Plenary 3, 2025

Adoption of the final guidelines at Plenary 4, 2025 for publication

Adoption of the outcome of the consultation Summary Report at Plenary 4 2025 for publication

4. Cooperation with EU institutions and institutional groups

4.1. Implementation of BEREC's Medium-Term Strategy for relations with other institutions and international cooperation

BEREC is always keen to find ways for closer collaboration and dialogue with other European institutions, by joining forces on certain topics in which synergies can be obtained with other European regulatory cooperation platforms and bodies in adjacent and different economic sectors, and with regulatory networks with similar activities in the field of electronic communications outside the EU.

The involvement of multiple institutions – early in the process – is increasingly valuable and necessary, especially in the context of regulatory issues with a horizontal impact. In addition, while continuing to monitor the sector, BEREC must keep a focus on the bigger picture and that involves expanding its knowledge to other areas.

In 2021, BEREC adopted a Medium-Term Strategy for relations with other institutions in which BEREC provides an overview of BEREC's priorities regarding institutional cooperation, with a focus on connectivity/5G and platform regulation (BoR (21) 137⁴⁶). The strategy also seeks to set out a futureproof, qualitative, and overarching approach for investigating upcoming issues and challenges.

Similarly, BEREC has developed a Medium-Term Strategy for international cooperation, taking into account both its multi-annual work programme and its international activities. This strategy encompasses BEREC's current international commitments, and sets out, in a transparent manner, the type of cooperation and engagement that could be envisaged with each of its international partners (BoR (21) 135⁴⁷).

⁴⁶ <https://www.berec.europa.eu/en/document-categories/berec/berec-strategies-and-work-programmes/berecs-medium-term-strategy-for-relations-with-other-institutions-2022-2025>

⁴⁷ <https://www.berec.europa.eu/en/document-categories/berec/berec-strategies-and-work-programmes/berecs-medium-term-strategy-for-international-cooperation-for-the-period-2022-2025>

The increasing convergence of issues arising in the field of electronic communications involving the EU and the rest of the world shows the global nature of these services and means that policies, legislation, and regulation must be seen from a more global perspective. BEREC benefits from the cooperation with NRAs and with other international regulatory networks, policymakers and institutions involved in communications matters beyond the EU.

In 2025, BEREC will continue to implement these strategies. A team has been set up to support the Chair and incoming Chair in maintaining an active relationship with external bodies. There is also a calendar of international events to proactively plan and assign the necessary resources for the year 2024 and, by the end of the year, to have an indicative calendar of events for the following year.

Deliverable: Relations with other institutions and international cooperation

As required and agreed with BEREC counterparts: organisation of joint meetings, summits or workshops

5. BEREC's other tasks

5.1. BEREC Strategies 2026-2030: Mid-term strategy, International and Institutional

BEREC adopted its first medium-term Strategy in 2012. This strategic outlook has been subject to regular reviews in 2014, 2017 and in 2020. The last strategy covers the period 2021 – 2025. These strategies are guiding BEREC's activities along these years as the core documents to organize and prioritize BEREC's work toward clearly defined objectives.

Complementing the overarching strategies, in 2021 BEREC published a BEREC Medium-Term Strategy for relations with other institutions (2022-2025) and a BEREC Medium-Term Strategy for International Cooperation (2022-2025), mentioned already in paragraph 4.1. As mandated by Article 35(3) of the BEREC Regulation, BEREC's strategies for relations with competent Union bodies, offices, agencies, and advisory groups, with competent authorities of third countries and with international organisations concerning matters for which BEREC is competent are reflected as well in BEREC's annual work programme.

In 2024, BEREC will review the three strategies to set its objectives for the period 2026-2030 in view of the latest and expected relevant market, technological and regulatory developments for the next five years. For the first time, the strategies will be merged into a single document. This approach will allow benefiting from synergies and the highest coherence in all dimensions of BEREC's work.

In addition to the medium-term strategies and in view of the fast-evolving changes taking place in the sector, BEREC recently published an Action Plan for 2030 to continue contributing to a

regulatory environment in Europe 2030. It builds on five strategic orientations: (i) fostering national and international connectivity to reach the objectives of Europe's Digital Decade by 2030; (ii) facilitating an open and sustainable Internet ecosystem and supervising the evolution of the digital landscape; (iii) providing for the security and resilience of the networks and services; (iv) contributing to the achievement of environmental sustainability goals and (v) strengthening BEREC's agility, independence, inclusiveness, and efficiency as a centre of expertise. Within these five strategic orientations, a total of 14 BEREC long term strategic actions have been identified. The review of BEREC's strategies will consider this Action Plan as building blocks to shape the regulatory activities in the coming years.

The latest update of BEREC's strategy covers a period of five instead of three years, (i.e., 2021-2025). This extended period enabled the alignment with the legislative cycle and the objectives set out by President von der Leyen for the period of 2019 -2024. The recent European elections and the establishment of a new Commission will bring new priorities for the EU, including for electronic communications and digital services as well as for the international cooperation and relations with third countries. The review of the BEREC's strategies will consider the upcoming European objectives and priorities to ensure a constructive cooperation among the EU institutions.

BEREC's international activities will continue to contribute to the EU Global Gateway⁴⁸ that sets the European Strategy to boost smart, clean, and secure links in digital, energy and transport and strengthen health, education, and research systems across the world.

The EC assessment of BEREC's performance (due to be issued by December 2023) as well as BEREC's own evaluation, which was completed under the 2023 Work Programme will be most valuable inputs to define BEREC's path and identify possible areas for improvement and adjustments to be considered in the strategies.

By December 2025, the European Commission must review the functioning of the EECC. BEREC's strategies would set in this context the main lines of the regulator's views regarding how the EU regulatory framework may evolve and be updated for the benefit of the EU citizens.

BEREC's initial plan was to publish the Strategies document for public consultation after adoption at Plenary 1 in March 2025, however, it was decided to postpone the publication to better take into account some relevant external input from the EC, namely:

- BEREC Regulation evaluation, which has not yet been published,
- The EC's consultation on the White paper, the key messages from which are currently unknown,
- The priorities of the new EC, which are expected in Q3/Q4 2024.

⁴⁸ <https://digital-strategy.ec.europa.eu/en/news/global-gateway-eu300-billion-european-unions-strategy-boost-sustainable-links-around-world>

In view of these developments, it was decided to postpone the approval of the draft Strategies for public consultation from P1/2025 to P2/2025. The revised timeframe is set out below:

Deliverable: BEREC Strategies 2026-2030: Mid-term strategy, International and Institutional

Public consultation: Yes

Adoption of draft deliverable at Plenary 2, 2025 for public consultation

Adoption of deliverable at Plenary 4, 2025 for publication

5.2. BEREC ad hoc work

5.2.1. Ad hoc input to the EU/NRAs

In line with Article 4 of the BEREC Regulation, in addition to the inputs that BEREC explicitly has to provide to the European Commission, BEREC has to assist and advise the NRAs, the European Parliament, the Council and the European Commission, and cooperate with the NRAs and the European Commission, upon request or on its own initiative, on any technical matter regarding electronic communications within its competence. BEREC has already been providing a forum for NRAs' discussion on any matter covered by the electronic communications regulatory framework and it has ensured its own input to the EU institutions with reference to key sectoral legislative initiatives.

According to Article 122 of the EECC, the European Commission must carry out by 21 December 2025, and regarding the ongoing national transposition activities, BEREC must review the status of national implementation throughout the EU. It will start by assessing to what extent the new electronic communications framework is enabling the accomplishment of the EECC's objectives, and whether (a reasoned selection of) the framework's provisions are effective to that end.

The assessment started with a workshop for NRAs in 2023, which will be followed by a public workshop with the aim of exchanging views with stakeholders about how the EECC has been working to date.

Based on the workshops and the NRAs' experiences, BEREC will compile a list of regulatory areas where the current framework functions well and will put forward topics where there could be further improvement.

BEREC has an established project team, under its Regulatory Framework Working Group that will focus on matters related to the review of the EECC, the associated review of the BEREC Regulation, which is a task for the European Commission, along with any initiatives that are related to the European Commission's consultation on its "White Paper: How to master Europe's digital infrastructure needs?". The outputs from this project team in 2025 will be

varied based on the EC's activities and will likely require numerous engagements with NRAs and EU institutions.

Deliverable: Depending on request of the EU Institutions/NRAs

Public consultation: No

Adoption of deliverable for publication – Depending on request of the EU institutions/NRAs

5.2.2. Peer review process and engaging with RSPG

BEREC and the Radio Spectrum Policy Group (RSPG) agreed on working arrangements⁴⁹ on 13 June 2019. These set out the cooperation methods for the purpose of BEREC's participation in the Peer Review Forum in accordance with the requirements of Article 35 of the EECC. The cooperation methods are as follows:

- a. using the Peer Review Forum as an instrument of peer-learning;
 - b. promoting the benefits of the Peer Review Forum since it convenes national NRAs and other competent authorities with expertise on comparative or competitive selection procedures in the regulatory framework of electronic communications;
 - c. cooperating on the implementation of the Peer Review Forum;
- appointing 'liaison officers' in both BEREC and the RSPG to strengthen the relationship between the two bodies and facilitate the implementation of this arrangement; the Wireless Network Evolution Working Group co-chairs are BEREC's "liaison officers".

BEREC's participation in the Peer Review Forum contributes to the objective of promoting full connectivity through discussions with the RSPG about the market-shaping aspects of spectrum assignment. This activity is therefore aligned with the first strategic priority set out in BEREC's Strategy 2021-2025.

The Peer Review Forum is convened by the RSPG only when required.⁵⁰

In addition to activities under Peer Review Forum, BEREC members stand ready to engage with the RSPG and European institutions on topics of mutual interest including on any policy initiatives or legislative proposals of the European Commission

Deliverable: none

⁴⁹ https://berec.europa.eu/eng/document_register/subject_matter/berec/others/8602-working-arrangement-between-berec-and-rspg

⁵⁰ https://radio-spectrum-policy-group.ec.europa.eu/index_en

5.2.3. Ad hoc work to support reinforcing EU's cybersecurity and resilience capabilities

In the past, BEREC supported the NIS Cooperation Group and the European Commission in developing and implementing the recommendation of the EU Toolbox for Cybersecurity of 5G Networks. In the Nevers Call of 9 March 2022, BEREC was addressed together with ENISA and the NIS Cooperation Group, along with the European Commission, to formulate recommendations, based on a risk assessment, to Member States and the European Commission in order to reinforce the communications networks and infrastructures' resiliency within the EU, including the implementation of the 5G toolbox.

On 21 February 2024 NIS Cooperation Group published a report called Follow-up to the Nevers Call of 9 March 2022 with a number of strategic and technical recommendations for Member States, the European Commission, ENISA and BEREC to mitigate the risks that have been identified in the assessment performed earlier, between April 2022 and December 2023, by Member States in the NIS Cooperation Group with support from the Commission and ENISA and in consultation with BEREC.

BEREC plans to continue to collaborate closely with the NIS Cooperation Group as well as with ENISA and European Commission on topics related to the resilience of communication networks as foreseen in the Follow-up to the Nevers Call in order to develop recommendations and possible other guidelines. NIS Cooperation Group, ENISA, ECASEC Expert Group and BEREC have drafted an Action Plan to implement the recommendations of the Nevers report – a living document shared among the mentioned parties.

BEREC will cooperate with ENISA and Member States on their work related to the Nevers recommendations, in particular, it will provide its support in collecting data from the market players where needed, give expert opinions and comments and support best practice sharing among the NRAs.

Deliverables: Various:

- Collection of data from the market players
- Provide opinion on technical paper on home router security
- Update the guidelines for assessing security measures in the context of net neutrality
- Provide input, if required, on the issue of the protection of submarine cables
- Provide opinion on technical guideline for SATCOM Security for NRAs

Public consultation: No

Provision of BEREC's inputs throughout 2025 (TBD)

5.3. Other tasks under EU legislation

BEREC has a large number of mandatory tasks under EU legislation. These tasks for instance stem from legislation such as the EECC, the Roaming Regulation, or the DMA. Some of these tasks include data collection for reporting purposes, for example termination rates data collection under Article 75 of the EECC. Other mandatory tasks are described below.

5.3.1. BEREC Opinion about the functioning of the Roaming Regulation

Article 21(1) of the Roaming Regulation provides for the review procedure of the Regulation. The European Commission shall, after consulting BEREC, submit, by 30 June 2025, the first assessment report on the functioning of the Roaming Regulation to the European Parliament and to the Council, followed, if appropriate, by a legislative proposal to amend this Regulation. BEREC intends to provide its opinion to the European Commission taking into account the assessment criteria required by this Article. Data that BEREC has collected until the time of the preparation of the report will be used for BEREC's analysis. BEREC will start preparing this analysis during 2024.

<p>Deliverable: BEREC Opinion about the functioning of the Roaming Regulation</p> <p>Public consultation: No</p> <p>Adoption of the final opinion: P1 2025</p>

5.3.2. 31st International roaming benchmark data and monitoring Report

According to the Roaming Regulation, BEREC has to report on technical matters within its competence. The data to be collected by BEREC are to be notified to the European Commission once a year. On the basis of the data collected, BEREC also has to report regularly on the evolution of pricing and consumption patterns in the Member States, both for domestic and roaming services, the evolution of actual wholesale roaming rates for balanced and unbalanced traffic and the relationship between retail prices, wholesale charges and wholesale costs for roaming services. BEREC will assess how closely those elements relate to each other.

The Roaming Regulation provides for the production of one BEREC report including the information that was previously reported by the two BEREC roaming benchmark data reports and the BEREC transparency and comparability report, as well as additional indicators.

The data collection for the 31st Report was launched at the end of September 2024. The data will be submitted by NRAs to the BEREC Office by mid-November. After analysing the data, the first report including the new comprehensive data collection will be drafted and will be adopted and published in Plenary 1, 2025.

The BEREC Roaming Data Report will include an Annex reporting on the evolution of roaming prices and volumes for the Western Balkan region.

Deliverable: 31st BEREC international Roaming Benchmark Data Report

Public consultation: No

Adoption of the final report at Plenary 1, 2025, for publication

5.3.3. 6th Intra-EU communications Benchmark Report

According to Article 5a(6) of the TSM Regulation as amended by the BEREC Regulation, NRAs should monitor the price developments of regulated intra-EU communications services. For this purpose, BEREC provides a template to contribute to harmonised data collection in the EU/EEA. NRAs collect data from both fixed and mobile operators on a yearly basis and submit the data to BEREC.

In 2025, BEREC is planning to publish the 6th Benchmark Report (including data from 2024) on the findings of the data collection. The data collection for this report will be launched in March with a deadline for NRAs to forward the data to the BEREC office in mid-May. After analysing the data, a report will be drafted, to be adopted and published in Plenary 3, 2025. Using the collected data, BEREC will also publish an annex to the report, with the updated BEREC benchmarking for the derogation assessments.

Deliverable: 6th Intra-EU communications Benchmark Report

Public consultation: No

Adoption of the final report at Plenary 3, 2025, for publication

5.3.4. 5th Ukraine monitoring report

Following the ongoing war against Ukraine, launched by Russia with the invasion of Ukraine on 24 February 2022, BEREC has closely followed the telecommunications sector's response to the crisis and welcomed the measures voluntarily provided by EU operators. According to the Joint Statement, signed by both EEA and UA operators⁵¹, BEREC is responsible to monitor the implementation. This will be the 5th round of the monitoring exercise.

Deliverable: 5th Ukraine Roaming Monitoring Report

Public consultation: No

Adoption of the final report at Plenary 2, 2025, for publication

⁵¹ Joint Statement was prolonged on 9 July 2024 for 12 months: [Joint Statement by EU and Ukrainian operators to help refugees from Ukraine stay connected | Shaping Europe's digital future \(europa.eu\)](https://europa.eu/european-council/en/statement/joint-statement-by-eu-and-ukrainian-operators-to-help-refugees-from-ukraine-stay-connected-shaping-europe-s-digital-future)

5.3.5. Update of BEREC Guidelines on Intra-EU communications

According to the new EU framework, from 1 January 2025, providers may on a voluntary basis comply with the obligation not to apply different retail prices for intra-EEA communications. Those providers shall be exempt from the price regulation obligations laid down in paragraph 1, subject to a fair use policy, with a view to bringing the benefits of equal retail prices for domestic and intra-EU communications to consumers earlier. To that end, the Commission shall adopt an implementing act on fair use, based on typical usage patterns, and anti-fraud measures by 31 December 2024, after consulting BEREC. BEREC Guidelines need to be revised to take into account the provisions of the delegated act once it is finalized

Deliverable: BEREC Guidelines on Intra-EU communications

Public consultation: Yes

Adoption of the Draft Guidelines for public consultation Q1 2025

Adoption of the Updated Guidelines at Plenary 3, 2025 for publication

Adoption of the outcome of the consultation Summary Report at Plenary 3, 2025

5.4. Monitoring quality, efficiency, and sustainability

5.4.1. Article 32/33 Phase II process

Since 2014, BEREC has undertaken an annual analysis of Articles 32/33 of the EECC (former Articles 7 and 7(a) Phase II cases), with the objective of gaining a better understanding of both the procedural and substantive aspects of these cases, and to inform the prospective review of the BEREC Common Positions. In 2015, a comprehensive database of Phase II cases was developed, including the main elements of the cases, in particular the reasoning put forward by the Commission, the analyses in the BEREC Opinions, and the final outcomes of the cases. On 31 March 2021, the European Commission adopted Recommendation (EU) 2021/554 (the 'Procedural Recommendation') on the form, content, time limits and level of detail to be given in notifications under the procedures set in Article 32 of the EECC. In 2022, BEREC updated the Internal Guidelines for the elaboration of BEREC Opinions in Articles 32 and 33 Phase II cases, taking into account the EECC, the Procedural Recommendation and experience learnt from conducting Phase II cases. BEREC will continue to add new Phase II cases to this database as and when they arise. The objective is for the database to be consulted by BEREC members, in particular experts of Phase II cases, both for referencing a particular case and to analyse key themes amongst the cases over time.

BEREC will analyse and monitor the Phase II cases process, and exchange information with the BEREC Office about the effectiveness of the updated Internal Guidelines. Depending on the number and significance of Phase II cases which will take place in 2025, BEREC will decide whether there is a need to conduct an internal workshop in Q4 2025.

Deliverable: Internal workshop (tentative)

Public consultation: No

Internal workshop to be held (if needed) in Q4 2025

5.4.2. WACC parameters' calculation according to the EC Notice

Following publication of the European Commission's Notice on the WACC⁵², BEREC is tasked with the calculation of various parameters of the WACC formula according to the prescribed methodology.

In 2025 (and in subsequent years), BEREC will continue to calculate the WACC parameters as started in 2020. These parameters will be calculated at the beginning of each year and published in a separate report to allow the NRAs to base their national WACC decisions on this up-to-date information. BEREC will also select the companies that are eligible for the peer group.

Deliverable: Report on WACC parameters 2025

Public consultation: No

Adoption at Plenary 2, 2025 for publication

5.4.3. Report on regulatory accounting in practice

The Regulatory Accounting (RA) in Practice Report 2025 will provide an up-to-date factual overview of the regulatory accounting frameworks used in Europe and an assessment of the level of consistency achieved by NRAs. A report is prepared annually and updates the previous versions published since 2005. In 2025, emphasis will continue to be placed on consistency in regulatory accounting with respect to key access products (e.g. fibre) and the report will be streamlined in terms of access products looked at (for instance by reviewing the relevance of indicators and parameters covered) while keeping the in-depth analysis of the methods used to identify commonalities and the reasons for differences. Given the applicability of the European Commission's WACC Notice of 2019 (see previous Work Programme item) there will be an investigation into how far the report will continue to collect data on the methodology and input parameters used to calculate the rate of return on capital employed and look into the impact of both of these on the result.

⁵² <https://digital-strategy.ec.europa.eu/en/library/commission-publishes-notice-calculation-cost-capital-legacy-infrastructure>

The 2025 RA report will be based on the EECC list of remedies but will aim for consistency over time. The report will also take into account the list of relevant markets susceptible to ex ante regulation pursuant to European Commission Recommendation (EU) 2020/2245.

The report will develop a more focused analysis that concentrates on the following key wholesale markets: Wholesale Local Access (Market 3a/2014, now Market 1/2020), Wholesale High Quality Access (Market 4/2014, now Market 2/2020) and Wholesale Central Access (Market 3b/2014, no longer in the list of relevant markets susceptible to ex ante regulation). For those markets, it will describe the regulations applied by NRAs and it will contain a comparison of the most popular combinations of cost base and cost allocation methodologies.

BEREC will evaluate how the 2025 report will provide evidence for the WACC calculation practices among NRAs, given the applicability of the WACC Notice. Depending on the result of the evaluation, the collection and analysis of data on the current calculation of the weighted average cost of capital (WACC) will be updated. It will include data on whether and how NRAs account for the higher risk of investing in VHCNs (for example, through the application of a risk premium which is added to the calculated WACC).

<p>Deliverable: Regulatory Accounting in practice Report 2025</p> <p>Public consultation: No</p> <p>Adoption of the final report at Plenary 4, 2025, for publication</p>

6. Stakeholder engagement

BEREC remains committed to continuously improving its interaction with all stakeholders to ensure that its output stays relevant. BEREC aims to ensure that its work processes remain transparent and that it reaches the relevant audience. Stakeholders will be involved both at an early stage and later when the work is more advanced. The BEREC Work Programme 2025 includes all the activities for achieving these objectives.

BEREC will reinforce its dialogue with the public and citizens to ensure that legitimate concerns are reflected in regulatory developments and apprehensions are addressed appropriately. BEREC aims to maintain a high level of public trust from citizens and position itself as a trusted third party in stakeholder dialogues and in its engagement with the EU Institutions. This is of particular importance for the work related to digital platforms and sustainability.

6.1. Stakeholder Forum

The focus of the Stakeholder Forum in March/April 2025 will be the BEREC Work Programme for the following year (2026). It will also provide a platform for stakeholders and BEREC to engage in a dialogue about BEREC's future work. The feedback received at the Stakeholder

Forum provides valuable input for BEREC's future activities and priorities that BEREC will consider for its further work.

6.2. BEREC Annual Reports

According to the BEREC Regulation, BEREC must provide its annual activity report to the European Parliament, the Council, the European Commission and the European Economic and Social Committee by 15 June of the year after the year reported on in the annual activity report. BEREC must report annually on technical matters within its competence, in particular on market developments in the electronic communications sector.

BEREC will continue to publish its annual report on its activities and an annual report on developments in the sector as part of a single document. The annual report on BEREC activities focuses on the outcome of the work of its Working Groups and ad hoc teams based on the relevant work programme, whereas the annual report on developments in the electronic communications sector summarises BEREC's view of the past year and provides an outlook on challenges in the sector.

6.3. BEREC Communications Plan 2025

The BEREC Communications Plan 2025 sets out the communication activities that are planned for this particular year. The objective of this is to strengthen the perception of BEREC as an impartial, independent, European, forward-looking expert body and to support the BEREC overall strategic objectives – including promoting full connectivity, supporting sustainable and open digital markets and empowering end-users.

The plan for communications in 2025 is to reinforce the BEREC brand through social media channels and external/internal events, launch the newly designed website, develop communication materials in collaboration with the co-chairs of Working Groups on specific topics, and to continue building collaboration with internal and external stakeholders.

Several communication deliverables will support and promote specific workstreams in the Work Programme 2025. They may include promotional and educational campaigns on social media, development of communication kits with production of audio-visual and digital content, information updates to the website, organisation of events, and promoting fruitful media relations. As part of the ongoing external communications, the deliverables are linked to regular BEREC events, such as public debriefings and the Stakeholder Forum.

The overall framework of BEREC communications is presented in the multiannual BEREC External Communications Strategy. Every annual communications plan sets out the exact activities that BEREC will perform to deliver on these objectives. In line with the objectives set out in the Communications Plan, BEREC will continue to communicate on the day-to-day activities of BEREC's work.

BEREC's Communications Plan 2025 will be finalised for internal use by December 2024 and will set out the communication activities that BEREC is committed to undertake in 2025.

6.4. Developing the BEREC Work Programme 2026

BEREC is required to adopt an outline of the subsequent year's annual work programme by 31 January each year. The outline will serve as the first input for the draft Work Programme 2026, for which a call for input will be started in the first quarter of 2025. After preparing the final draft Work Programme, a public consultation will follow. All the steps towards the Work Programme 2026 will be in accordance with the BEREC document 'Process for developing BEREC Work Programmes'.

Deliverable: Work Programme 2026

Public consultation: Yes

Adoption of the draft Work Programme 2026 for public consultation at Plenary 3, 2025

Adoption of the final Work Programme 2026 at Plenary 4, 2025, for publication

Other deliverable: Outline of the draft Work Programme 2026 to be submitted to the European Commission, the European Parliament, and the Council of the European Union by 31 January 2025.

POTENTIAL BEREC WORK FOR 2026 AND BEYOND

Given the number of workstreams selected for the Work Programme 2025 and BEREC priorities, it was not possible to include several proposals. In order not to lose track of these potential workstreams, this section includes items which BEREC may include in the Work Programme 2026 and beyond. The list of items mentioned below is therefore for information purposes only and should not be regarded as final. The input provided by stakeholders on these items during the public consultation in 2024 for the Work Programme 2025 will be considered when adopting a final list. Furthermore, BEREC may consider other new workstreams for 2026, which will be influenced by a new call for inputs from stakeholders.

7. Potential work

7.1. Facilitating copper network switch-off

BEREC will continue its work on copper switch-off. How switch-off and migration from copper to fibre networks are managed will be key for Europe to achieve the 2030 connectivity targets. Following on from the progress report on managing copper switch-off, which will go for public

consultation in December 2024 and be finalized in June 2025, BEREC will continue to stay close to this subject, to ensure competitive dynamics are maintained during the switch-off and migration processes.

7.2. BEREC Report on connected and automated mobility

Connected and automated mobility has great potential not only to gain efficiencies in users' mobility and foster the economic growth (including not only logistics but related fields such as data markets or mapping) but also enable increasing road safety and reduce the impact of a very environmental demanding industry.

Connected and automated mobility is one of the priorities of the EU. The European Commission is working on the development of 5G corridors to enable seamless automated mobility across the EU.

BEREC's report could describe the relevant technologies involved and their current development in the EU, possibly comparing such development with the other geographical areas. It could also identify any connectivity investment gap or other bottlenecks that could hinder their deployment in the EU. Finally, it could develop on possible business cases that electronic communications providers could develop regarding connected and automated mobility.

7.3. Further work on 5G cybersecurity

As set out in Project 5.2.3 above, BEREC continues to support the NIS Cooperation Group and the European Commission in developing and implementing the recommendation of the EU Toolbox for Cybersecurity of 5G Networks. In the 'Nevers Call', BEREC has been asked together with ENISA and the NIS Cooperation Group, with the European Commission, to formulate recommendations, based on a risk assessment, for the Member States and the European Commission in order to reinforce the communications networks and infrastructures' resiliency within the EU, including the implementation of the 5G toolbox.

BEREC will continue to collaborate closely with the NIS Cooperation Group as well as with ENISA and the European Commission on topics related to the resilience of communication networks as foreseen in the Nevers Call in order to draft recommendations and other guidelines, as needed.

7.4. Exploration of the concept of Digital Sufficiency

Digital technologies are energy and resource intensive with their total electricity demand (production and use) accounting for 8-10% of worldwide electricity consumption⁵³. While the

⁵³ Source: EU Commission's [Competence Centre on Foresight](#)

efficiency of ICT devices and systems is improving, the gains in efficiency are often offset by increased use. A call for digital sufficiency strategies and policies has been made in response, promoting the design of longer lasting services and the control of complexity and resource use. Such strategies aim at producing fewer devices while ensuring their lowest possible energy consumption. Digital sufficiency also addresses software to minimise data traffic and hardware use. User sufficiency is also important because it promotes a more frugal approach to using digital technology. Finally, economic sufficiency can also be part of digital sufficiency as it views digitalisation as supporting the transition to production and consumption that remain within the planetary boundaries and avoid unbound growth.

The concept of Digital Sufficiency is a topic that BEREC might explore in its future work and exploit any synergies that might emerge with planned BEREC work.

7.5. Workshop and Report on practices for ensuring equivalence of access and choice with respect to accessibility

The aim of the Accessibility Act is to harmonize accessibility requirements for products and services by eliminating and preventing barriers to the free movement of certain accessible products and services, arising from divergent accessibility requirements and different stages of preparatory activities in Member States. Although the BEREC workshop⁵⁴ on end users' rights held in April 2024 proved to be a valuable forum for sharing views and concerns related to accessibility (one session was dedicated to this topic), further BEREC focus on the matter is crucial in order to prepare for the implementation of the requirements stemming from European Accessibility Act⁵⁵ (EAA). This workshop would serve as an initial step for the report, which activities could start in 2026.

This report would build on the work done by BEREC in 2015, 2017, and most recently in 2022, resulting in the BEREC Report on measures on equivalent access and choice for disabled end-users, which collated information from NRAs to create an inventory of measures and initiatives that NRAs have in place to ensure equivalence of access.

This benchmarking report would identify the solutions in place throughout the Member States to meet the accessibility requirements established in the EECC and in the EAA, which comes into force on 28 June 2025.

In order to ensure that the report takes a strategic view of the measures taken, in addition to seeking information from NRAs, BEREC may also seek input from key stakeholders regarding any measures provided independently from those prescribed by the NRAs under other

relevant consumer legislation. The role of NRAs in ensuring the accessibility requirements in electronic communications would also be elaborated.

7.6. Call for Inputs (CFI) on interfaces to mobile networks for developers and third-party services

Observing that the GSMA introduced the Open Gateway initiative, with the goal to provide an Open standard API to (mobile) network functionalities, which can be used by app makers, this work item aims to explore the status of this initiative.

BEREC's interest includes, amongst others, which different deployments can be distinguished? What challenges are there with potential impact for markets and end users? How the interface is kept uniform for all MNOs and MVNOs (worldwide), in what respects are vendor or operator lock-ins avoided, etc. Also, the aim is to get a view on the maturity of use cases and also examine the impact of new use cases on the configuration of mobile networks including how these kinds of functionalities operate in the context of (pan-European) slicing (for instance harmonizing slicing features between operators and EU countries).

BEREC therefore issues a call for input and will publish the responses received. The information received may contribute to future work.