

Adopted documents

- BEREC Opinion for the evaluation of the application of the Open Internet Regulation (OIR)
- BEREC Regulatory Accounting in Practice Report 2022
- BEREC Report about the Study Visit to the East Coast of the United States of America
- BEREC Report on the outcome of the public consultation on the Draft BEREC Report on the internet ecosystem
- BEREC Report on the internet ecosystem
- BEREC Report on the outcomes of public consultation on the draft Report on satellite connectivity for universal service
- BEREC Report on satellite connectivity for universal service
- Procedures for the BEREC Databases of numbering ranges for value-added services and means of access to emergency services for roaming users
- BEREC Report on the outcomes of public consultation on the draft report on best practices for ensuring equivalence of access and choice for disabled end-users
- BEREC Report on best practices for ensuring equivalence of access and choice for disabled end-users
- BEREC Report on the outcomes of public consultation on the draft BEREC Guidelines on Regulation (EU) 2022/612 and Commission Implementing Regulation (EU) 2016/2286 (Retail Roaming Guidelines)
- BEREC Guidelines on Regulation (EU) 2022/612 and Commission Implementing Regulation (EU) 2016/2286 (Retail Roaming Guidelines)
- BEREC Report on the participation of NRAs in different cybersecurity fora at EU level

BEREC Opinion for the evaluation of the application of the Open Internet Regulation (OIR)

Open Internet Working Group
Véronique Ney (ILR), Klaus Nieminen (Traficom)

Background

- Contribute to the Commission's 2nd review of the OIR
- Focus on the past 4 years of applying the OIR
- Considering additional clarity provided by the ECJ
- Based on BEREC's experience with the application of the OIR and OI Guidelines → importance of NRA collaboration
- Noting stakeholders' contributions to previous public consultations

Impact of the ECJ rulings on market and end-users

- OI Guidelines updated in light of the ECJ rulings
- No zero-rating (ZR) in the market anymore in 11 countries (15.11.2022)
- ISPs either already implemented or are in the process of implementing the rulings → it is expected that ZR will be discontinued in most Member States by the end of March 2023
- While commercial ZR is banned, Article 3(3) (a) of the OIR provides adequate room for ZR in specific use-cases
- No need to update the OIR in relation to differentiated pricing practices

5G and possibility to differentiate QoS

- considerable room for the implementation of 5G technologies
- ISPs are allowed to differentiate the QoS level of IAS subscriptions
 - as long as the QoS levels are application-agnostic and
 - end-users have full control over which applications are transmitted over which QoS level
- Possibility to provide Specialised Services (SpS)
 - i.e. services with QoS requirements that cannot be met via IAS
- No ex ante permission required for QoS differentiated IAS offers or SpS

Overarching conclusions

- BEREC considers that the **OIR continues to be fit for purpose**
- BEREC sees **no merit in changing the text of the OIR**

Retail Roaming Guidelines

Roaming Working Group

Ioanna Choudalaki (EETT), Elisabeth Felber (RTR)

Retail Roaming GLs preparation

June – August

•Public consultation of retail GLs

Mid December

•Publication of final retail GLs

1 July 2022

•Regulation gets into force

10 Contributions in total (2 confidential)

Main Comments

- Timing Not accepted
- Scope VoLTE Not accepted
- Scope Transparency measures Clarification added (GL7)
- Application of RLAH Not accepted
- Fair Use Policy Not accepted, Clarification in GL 21, 64
- Application of surcharge Not accepted
- Alternative tariffs & Transfer between tariffs Not accepted
- Emergency services Clarification in Headline, GL 105&106

Main Comments

- Currencies
- Transparency Measures
- Inadvertent Roaming
- Non-terrestrial public mobile networks
- Value-added-services
- Handover between mobile networks
- M2M
- Sustainability

Not accepted

Clarification in GL 120,124,125,
129,141, 143, 157

Adapted GL 177

Not accepted

Adapted GL 185/186

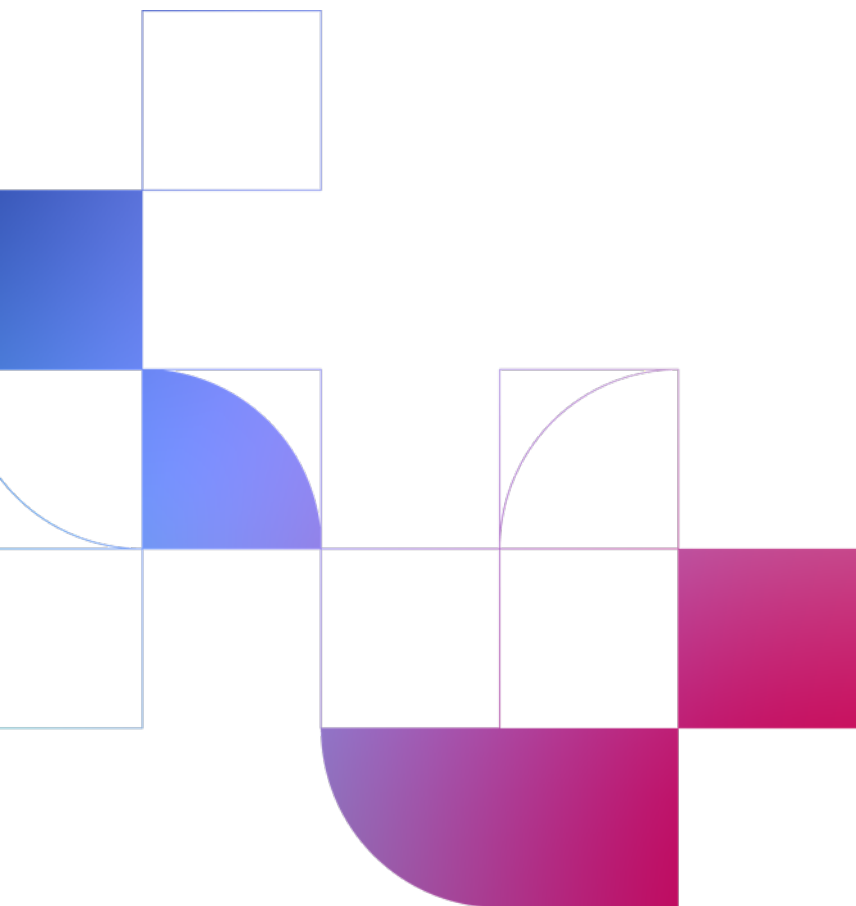
Not accepted

Not accepted

Not accepted

BEREC Report on number-independent interpersonal communications services (NI-ICS) revenues indicators

Statistics and Indicators Working Group
Begoña García-Mariñoso (CNMC), Iulia Zaim-Grigore (ANCOM)



Contents

1. Introduction
2. Revenues
3. NI-ICS providers' contacts
4. Conclusions

Background

- NI-ICS -> Focus on messaging and video/telephony apps
- BoR (21) 127 – Report on definitions regarding OTT services
- Revenue indicators tasked for 2022
- Commitment to look into how BEREC can assist NRAs with their data collection practices

Revenues relevance and BEREC proposals

- Why are NI-ICS revenues relevant for NRAs?
- Revenue typology
 - RGU
 - By the party generating the revenue (end-user/third party) and by the association to the NI-ICS/communications facility (embedded or not embedded in the interface, facilitated by the retrieval of end-users' data)
- These aspects were discussed with the stakeholders in June 2022 (BEREC virtual Workshop)
- Discussion on the relevance of different revenue typologies for the NRAs' tasks

NI-ICS providers' contacts list

- Legal analysis of the possibilities for BEREC to host a list of contact points from NI-ICS providers for the use of NRAs to fulfill their tasks according to the EECC
- Possible options:
 - (1) BEREC collects a contacts list from each NRA and keeps it updated
 - (2) BEREC requests NI-ICS providers to voluntarily share their contact details
- Option (1) is recommended.

Conclusions

- NI-ICS data collection by NRAs is in its infancy. BEREC's task is to accompany NRAs throughout these new processes and to ensure that their experience is shared among countries, so that all parties can benefit from it.
- The report reflects collectively on the need for NI-ICS revenue data for the fulfilment of NRAs missions and draws a correspondence between the relevant types of revenue and each major task.
- The decision on the data collection is left with the NRAs and more consultation with the stakeholders is advised before final decisions are made.
- On the contact list: Practical details to be developed in the future once the decision to set up the list is decided by the BoR.
- The BEREC reports have concentrated on present data needs -> extended needs for information are expected in the future.

Draft BEREC Report on the regulatory treatment of business services

Market and Economic Analysis Working Group
Jorge Infante (CNMC), Chiara Caccinelli (ARCEP)

Context

- Business services wholesale inputs: M2/2020, M1/2020, M3b/2014; symmetric regulation and physical infrastructure access
- Objective: to provide a snapshot on how these markets are treated in the context of business service
- Based on a comprehensive questionnaire responded in June 2022 by 33 NRAs (all BEREC members + 6 observers)
- Input for future BEREC work in the context of business services together with the workshop with stakeholders' associations (October 2022) and the external study on communication services for businesses in Europe

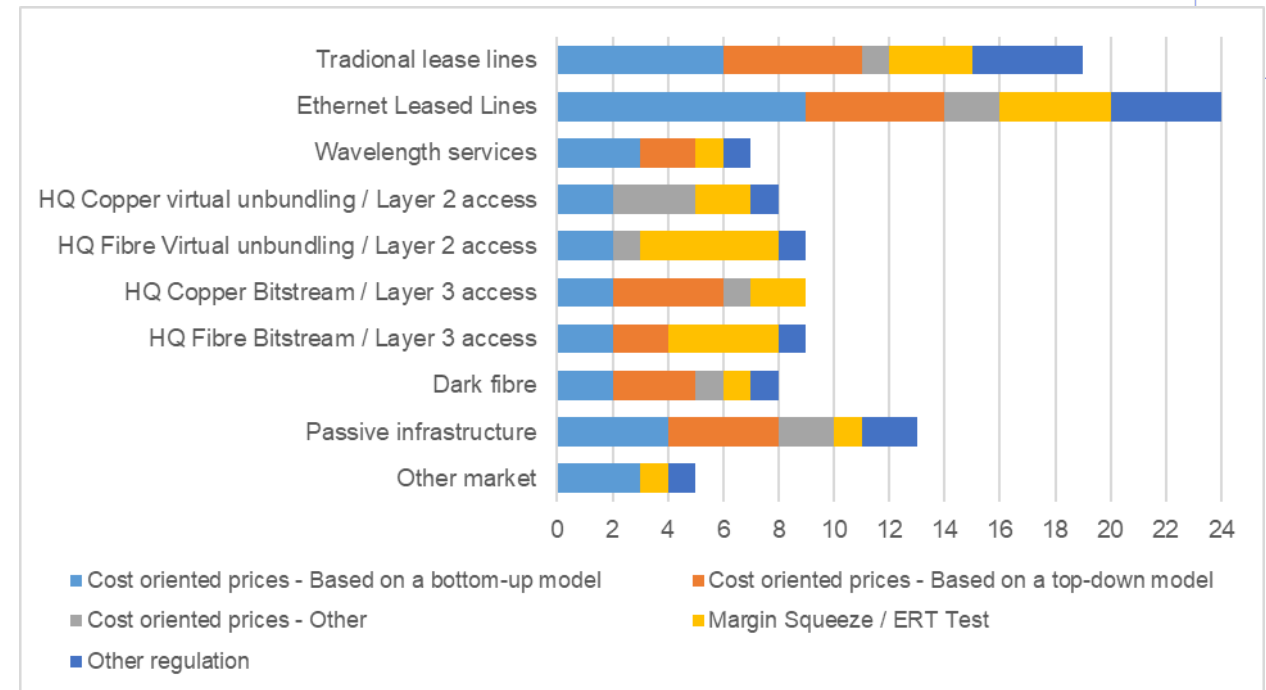
Content of the report

- Retail markets analysed in the context of business services
- Regulation of M2/2020 and, in the context of business services, M1/2020 and M3b/2014
- Special attention to differences between mass market and business market
- Detail on wholesale products and price regulation applied
- Passive infrastructure, symmetric regulation
- Data collection aspects and good practices reported by NRAs
- Ideas on future work

Main conclusions

Market	Regulated	Not regulated
M 1/2020 (M 3a/2014)	29	4
M 3b/2014	27	6
M 2/2020 (M4/2014)	21	12

- High incumbent market shares, but not increasing
- M1/2020 vs M2/2020: guaranteed symmetric bandwidth, SLA
- M1/2020 & M3b/2014: used for SMEs
- M2 typically national and not segmented on speeds
- Useful information on good practices by NRAs on complaints and guides for business users



Future work

- Continue monitoring evolution of these markets
- Evolution of competition dynamics
- Effect of increasing use of IT services
- Competition/collaboration ECS players and IT players
- Switching aspects
- Outphasing of traditional leased lines and geographical segmentation

Public consultation

- Draft report available on BEREC website
- Public consultation: 13 December 2022-3 February 2023
- Stakeholders are encouraged to provide their views and comments to improve the report

Study on Communication Services for Businesses in Europe: Status Quo and Future Trends

- External report commissioned by BEREC to Decision/Kantar
- Need to understand how the needs for business services have evolved and are evolving: Collect information from business users (including SMEs) and providers=> phone surveys (1,000 business users)+ guided interviews (18 operators) to providers in 5 large EU countries (ES, DE,FR, IT, PO).
- Aspects covered: services used by companies (ECS+IT services), bundling, contracting, switching...

BEREC Report on the Internet Ecosystem & BEREC Report on the outcome of the PC on the Draft BEREC Report on the Internet Ecosystem

**Market and Economic Analysis Working Group
Jorge Infante (CNMC), Chiara Caccinelli (ARCEP)**

Context

- Objective: describe how the Internet ecosystems is affected by some digital players and their position, role and practices in terms of competition dynamics, internet openness, users' choice and experience, etc.
- Provides the basis for a “roadmap” of issues to be studied and addressed by BEREC in the near future
- Public consultation from 14 June to 22 July 2022

Public consultation: input received

17 respondents:

- **7 stakeholders' associations:** CCIA Europe, ECTA, ETNO, European Broadcasting Union, GSMA, ICANN, MVNO Europe
- **2 operators:** Telefonica, Vodafone Group
- **5 digital platforms providers:** Google, Microsoft Corporation, Meta, Netflix, Zapaat Internet Search Engine
- **2 Organisations:** Internet Society, IP.rec
- **1 Academic:** Chris Marsden

→ Generally positive, useful insights on details to improve the report, no major changes

Input and adaptations

Input received	Treatment
A significant part of the responses focused on the “SPNP” debate	Topic out of scope here, but treated in other BEREC’s work
Details on the services provided by Big Tech companies	Integrated with adaptations
Technical details/clarifications/insights on DNS, CDNs, infrastructure deployed by Big Tech companies, devices and agreements with manufacturers, cloud services etc.	Integrated with adaptation When relevant, figures and texts were updated accordingly

Future work

- The entry/presence of Big Tech companies in ECS/ECN markets and dynamics with telecom operators
- Report IP Interconnection ecosystem
- Contribution regarding potential CAPs' contribution to network investments
- Devices, including smart speakers, virtual assistants, IoT and the increasing use of e-SIMs and its implications on terms on openness, restrictions on competition, switching, interoperability, etc.
- For a more holistic approach, environmental aspects could also be considered on top of competition and openness

Draft BEREC report on interoperability of NI-ICS

Market and Economic Analysis Working Group
Jorge Infante (CNMC), Chiara Caccinelli (ARCEP)

Context

- Interoperability obligations for NI-ICS providers under Article 61(2) EECC and Article 7 DMA: different conditions and different objectives
- DMA entered into force on 1st November 2022
- Recital (64) DMA : EC can consult BEREC to determine whether the gatekeeper's reference offer ensures compliance with Article 7 DMA
- → **Draft report open to public consultation till 3 February 2023**

Content

BEREC explores and analyses:

1. The objectives, the scope and the “triggers” of interoperability obligations under both the DMA and the EECC
2. The potential technical approaches and the implementation challenges to be considered when applying these measures
3. The interplay between EECC and DMA

→ *Focus on messaging services*

Two workshops were organised with experts on specific topics

Technical implementation

- Analysis of different technical solutions (APIs, bridges) and processes (standardisation), focusing on: functions, updating mechanisms, innovation, access-requirements, development efforts, encryption, privacy, ...

Plus:

Under the DMA

- BEREC provides first list of minimum criteria for reference offer

Under the EECC

- First reflections on conditions for applying Article 61(2)
 - When end-to-end connectivity can be considered endangered
 - When level of coverage and user uptake can be considered significant

Interplay between DMA & EECC

- EECC and DMA interoperability provisions are complementary
- Article 7 DMA very likely to be applied first
- Article 61(2) EECC may also be applied e.g. if providers do not use interoperability under the DMA but EECC conditions are met
- Similarities in governance (leading role of EC + involvement of BEREC) will help to ensure consistency

Draft BEREC Report on the impact of AI solutions in the telecommunications sector and on regulation

Planning and Future Trends Working Group
Bert Klaassens (ACM), María Ruiz Mérida (CNMC)

Impact of AI solutions in the telecommunications sector

Aims to identify artificial intelligence developments in the telco sector, assess if those may have an impact on regulation and, potentially, contribute to seizing the opportunities of artificial intelligence.

The main **outcome** is that, although it is expected that in the mid-term the implementation of AI in the telco sector will become the norm, it is still at an early stage.

Therefore, the report is descriptive and no regulatory measures are proposed.

The **deadline** for the public consultation is extended until **3 February**. All contributions and exchanges with the cochairs will be more than welcomed.

Draft BEREC Report on competition amongst multiple operators of NGA networks in the same geographical region

Fixed Network Evolution Working Group
Wilhelm Schramm (RTR), Lars-Erik Axelsson (PTS)

Objectives

- Regional operators of VHCN / NGA networks play an increasingly important role on the broadband market in many countries
- BEREC already published a Common Position on geographical aspects of market analysis in 2014 and a report on the application of this Common Position in 2018
- This report is built on these previous BEREC activities and its objectives are:
 - To examine the extent to which multiple NGA networks are present in the same geographical area and the resulting impact on retail prices and retail product characteristics
 - To analyse the impact this had on the market for wholesale local access provided at a fixed location, considering both cases where market definition and/or remedies have been geographically differentiated and where this is not the case
- The report is based on data collected from NRAs of 31 European countries in April 2022

Findings (i)

Presence of multiple NGA networks in the same geographical area

- Number of NGA networks (NGAN) present in the same geographical area
 - Differs significantly, 2 NGAN are in many/most countries present in an area of 11-50% homes passed (HP), 3 NGAN in an area of 0-25% HP and >3 NGAN in an area of 0-10% HP
- Differences in retail prices and/or retail product characteristics between geographical areas
 - Investigated by 18 countries and only three of them found differences in retail prices and one in retail product characteristics
- Main reasons for these differences
 - No clear tendency, various reasons e.g. competition between networks, the underlying technology, variation of wholesale prices
- Reasons why seven countries have not investigated these differences
 - Considered not to be relevant (e.g. retail prices differ only of one operator in a limited time, regional operators), small country, difficulties to collect data etc.

Findings (ii)

Outcome of the geographical analysis in the last market analysis of market 1/2020 resp. market 3a/2014

- Geographic differentiation of market definition and/or remedies

Geographical differentiation	Countries	Number of countries
Definition of sub-national geographical markets	DK, EE, ES, IT, FI, HU	6
Geographic differentiation of remedies in a sub-national geographic market	IT	1
Geographic differentiation of remedies in a national market	BE, CY, IS, SI, SK	5
No geographical differentiation	CZ, DE, FR, GR, HR, LT, LV, IE, MK, MT, NL, NO, PT, ² RS, SE	15
Deregulation of market 1/2020 resp. market 3a/2014 (or market 4/2007)	AT, BG, RO, XK	4

Findings (iii)

Outcome of the geographical analysis in the last market analysis of market 1/2020 resp. market 3a/2014 (contd.)

- Main reasons for the geographic differentiation
 - Differences in coverage of alternative networks (9 countries)
 - Geographical differences in retail market shares of the incumbent (7)
 - Geographical differences in wholesale market shares of the incumbent (4)
 - Population density (economies of scale) (4)
 - Geographical differences resulting from commercial wholesale offers of alternative operators (3)
- Criteria used for grouping the geographical units into homogeneous submarkets and/or areas with different remedies
 - Number of competitors (5 countries)
 - Number of competitors with an individual infrastructure coverage above a certain threshold (6)
 - Number of competitors with an individual market share above a certain threshold (3),
 - Market share of the incumbent operator below a certain threshold (6)
 - In three countries one other criterion each

Findings (iv)

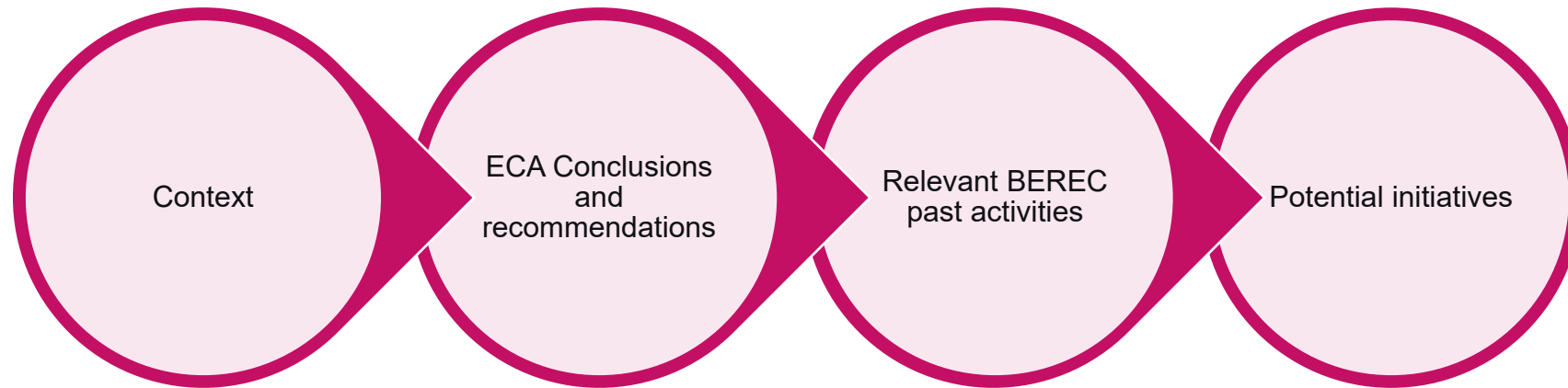
Outcome of the geographical analysis in the last market analysis of market 1/2020 resp. market 3a/2014 (contd.)

- Reasons why the 15 countries did not decide to geographically differentiate market definition and/or remedies
 - The presence of multiple NGA networks did not result in sufficiently different competition (12 countries)
 - The geographical area(s) where multiple NGA networks are available is still small and negligible (3) and
 - In four countries one other reason each
- Country case studies on particular high number of regional operators
 - Finland: 150 sub-national geographical markets but only 21 historical SMPO which is manageable
 - Denmark: 21 sub-national geographical markets and 10 SMPO (mostly regional operators)
 - Sweden: Potentially a large number of sub-national geographical markets (high administrative burden)

ECA audit recommendations for 5G cybersecurity

5G Cybersecurity Working Group
Tim Masy (BIPT), Katja Kmet Vrčko (AKOS)

The structure



Recommendation 1

Promote the even and timely deployment of 5G networks within the EU

The Commission should:

- a) together with Member States, develop a common definition of the expected quality of service of 5G networks, such as the performance requirements it should offer in terms of minimum speed and maximum latency;
- b) encourage Member States to include the 2025 and 2030 objectives for 5G deployment, and the measures that will be needed to achieve them, in the next updates of their 5G/digital strategies or broadband plans; and
- c) support Member States in addressing spectrum coordination issues with neighbouring non-EU countries, for example by advocating that the topic is on the agenda of each relevant meeting.

Recommendation 2

Foster a concerted approach to 5G security among Member States

The Commission should:

- a) provide further guidance or support actions on key elements of the EU toolbox on 5G cybersecurity, such as on criteria for assessing 5G vendors and classifying them as high-risk, and on data protection considerations.
- b) promote transparency on the Member States' approaches to 5G security, by monitoring and reporting on the implementation of the security measures of the EU toolbox on 5G cybersecurity. This should be done using a common set of key performance indicators.
- c) together with Member States, assess for which aspects of 5G networks security there is a need for specifying enforceable requirements and, where appropriate, initiate legislation.

Recommendation 3

Monitor Member States' approaches towards 5G security and assess the impact of divergences on the effective functioning of the single market

The Commission should:

- a) promote a transparent and consistent approach regarding the Member States' treatment of MNOs' costs for replacing 5G equipment purchased from high-risk vendors by regularly monitoring and reporting on this issue within the implementation of the EU toolbox on 5G cybersecurity.
- b) assess what the impact on the single market would be of a Member State building its 5G networks using equipment from a vendor considered to be high-risk in another Member State.

Past BEREC work

Relevant for Recommendation 1 (a)

develop a common definition of the expected quality of service of 5G networks

- [BoR \(20\) 33 Feasibility study on development of coverage information for 5G deployments](#)
- [BoR \(21\) 163 Summary report on BEREC Workshop on “NRA experiences with 5G”](#)

Past BEREC work

Relevant for Recommendation 2 (b)

promote transparency on the Member States' approaches to 5G security

- [BoR \(20\) 227 Internal Report concerning the EU 5G Cybersecurity Toolbox Strategic Measures 5 and 6 \(Diversification of suppliers and strengthening national resilience\)](#)
- [BoR \(20\) 228 Report of BEREC recent activities concerning the EU 5G Cybersecurity Toolbox Strategic Measures 5 and 6 \(Diversification of suppliers and strengthening national resilience\)](#)
- [Joint ENISA-BEREC Workshop on 5G cybersecurity toolbox developments and way\(s\) forward](#)
- [BoR \(22\) 89 An overview of the BEREC work on the national resilience of network operations](#)

Past BEREC work

Relevant for Recommendation 3 (a)

promote a transparent and consistent approach regarding the Member States' treatment of MNOs' costs for replacing 5G equipment

- [BoR \(20\) 227 Internal Report concerning the EU 5G Cybersecurity Toolbox Strategic Measures 5 and 6](#)
- [BoR \(20\) 228 Report of BEREC recent activities concerning the EU 5G Cybersecurity Toolbox Strategic Measures 5 and 6](#)
- [BoR \(21\) 162 BEREC Internal Report on the Open Radio Access Network \(RAN\)](#)
- [BoR \(22\) 23 An overview of the BEREC work on the Open Radio Access Network \(RAN\)](#)
- [BoR \(22\) 138 Summary Report: BEREC Open RAN workshop](#)

Potential initiatives

For Recommendation 2 (b)

promote transparency on the Member States' approaches to 5G security

BEREC could

- Identify relevant indicators related to
 - SM05 multi-vendor strategies
 - SM06 resilience at national level
 - TM05 ensuring secure 5G network management, operation and monitoring
- propose KPI's to complement NIS Cooperation Group monitoring activities

Potential initiatives

For Recommendation 2 (c)

assess if there is a need for specifying enforceable requirements

BEREC could

- help with collecting information from the NRAs
- examine the current situation or practices
- follow-up on the initiatives on security guidelines and legislation

Potential initiatives

For Recommendation 3 (a)

promote a transparent and consistent approach regarding the Member States' treatment of MNOs' costs for replacing 5G equipment

BEREC could

- Provide an understanding of the MNO's 5G deployment status, plans, vendor choice and the replacement cycle
- Use approach similar to past year activities focused on vendors diversification and deployment timeframe

Conclusion

- BEREC could support the Commission and NIS Cooperation Group
 - With recommendation 2 (b) by proposing KPIs for SM05, SM06 and TM05.
 - With recommendation 2 (c) by studying any proposal made by the Commission and where relevant collect information from NRAs and providers
 - With recommendation 3 (a) by examining how BEREC can contribute to an evaluation of the deployment of 5G equipment and replacement cycle of 5G equipment
- Starting point for BEREC WP 2023 Work item 1.9
 - Report on BEREC's activities to support initiatives for secure 5G networks

BEREC Work Programme 2023

Incoming BEREC Chair 2023
Kostas Masselos (EETT)

WP2023 preparation

- Initial call for input – 10 contributions
16 March – 15 April 2022
- Public Consultation - 18 Contributions
7 October – 7 November 2022
- Adoption of final WP 2023
8 December 2022

Main PC comments-Changes

IP-IC assessment is a broader topic

- 2 separate items (PC response and report on IP-IC)

More consultations: studies, opinions

- Propose workshops for both studies, call for input for IR tasks

Comments for WNE items, data act timing, cloud report

- Minor editing changes

Separate items for Access Rec and BCRD review

- These projects are expected to start in 2023

WP2023



Customary: 11



**New ideas:
13**



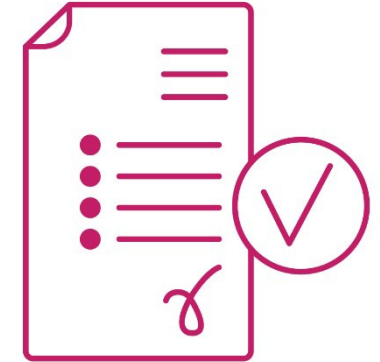
**Mandatory:
17**

2022  2023

Carry overs: 10

Working groups – new structure

Fixed Network Evolution	Wireless Network Evolution	Open Internet	Market and Economic Analysis
Roaming	Regulatory Framework	Planning and Future Trends	End-Users
Sustainability	Cybersecurity	Remedies and Market Monitoring	Digital Markets



- 24 co-chairs in total
- 8 new co-chairs
- 1 internal transfer
- 17 different NRAs
- 13 female/11 male

11th BEREC Stakeholder Forum



SAVE THE DATE:
30 March 2023,
hotel Le Plaza, Brussels

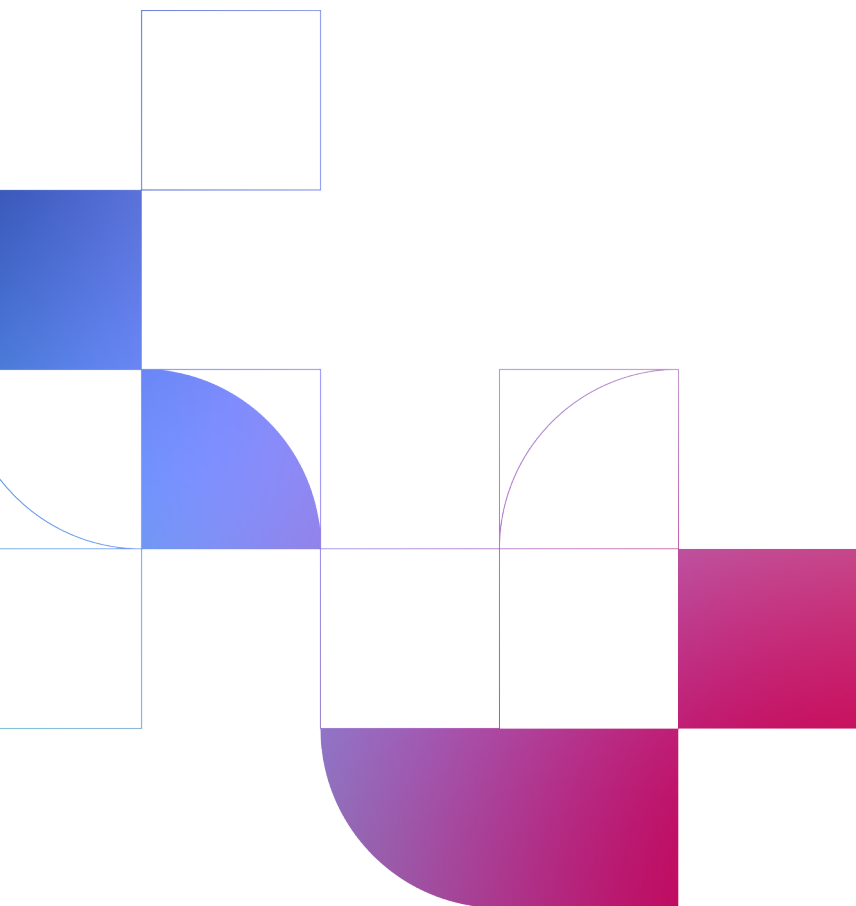
Meet&Greet
WG Co-chairs in the
morning

Conference
in the afternoon

BEREC updates

BEREC Chair 2022
Annemarie Sipkes (ACM)

Working Arrangements with the Ukrainian NRA (NCEC)



Public consultations

Document title	Deadline
Draft BEREC Report on Competition amongst multiple operators of NGA-networks in the same geographical region	27 January 2023
Draft BEREC Report on Interoperability of Number-Independent Interpersonal Communication Services (NI-ICS)	3 February 2023
Draft BEREC Report on regulatory treatment of business services	3 February 2023
Draft BEREC Report on challenges and benefits of Artificial Intelligence (AI) solutions in the telecommunications sector (including use cases)	3 February 2023

See you soon

- **Next BEREC public debriefing on 15 March 2023 – virtual**
- **11th BEREC Stakeholder Forum on 30 March 2023 in Brussels**