Quality of Service regulation in the EU

BEREC – BEUC workshop on end-user rights
15 October 2025

Laurence Nivot – Cullen International

Quality of service

What is QoS?

- All the characteristics of a telecoms service that bear on its ability to satisfy the needs of end users

Why regulate QoS?

- Key for end users to make informed choices

What QoS to regulate?

- Parameters that are objectively observable and comparable

How to regulate?

- Different approaches possible, involving NRAs, operators and end users

EU rules: QoS monitoring

EECC – Recital 271 – NRAs should be empowered to monitor the QoS and to systematically collect information about the QoS offered by providers.

EECC - Art. 104 – NRAs may require providers to publish comprehensive, comparable, user-friendly and up-to-date information on the quality of their services.

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EU rules: QoS parameters & measurements

Scope	Public ECN providers	ICS providers with control over at least some network elements or SLAs	Internet access services providers
Parameters (Annex X EECC)	• Supply time for initial connection • Fault rate per access line • Fault repair time	• Call set up time • Bill correctness complaints • Voice connection quality • Dropped call ratio • Unsuccessful call ratio • Failure probability (*) • Call signaling delays (*)	• Delay • Jitter • Packet loss
Definitions & measurement methods	ETSI EG 202 057	ETSI EG 202 057 - except (*)	ITU-T Y.2617

+ BEREC QoS guidelines – March 2024: additional parameter for IAS "Data transmission speed (upload and download)"

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QoS parameters & measurements

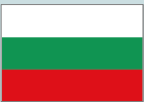| Country	Mobile telephony providers to publish parameters on:
Belgium	• Supply time for initial connection • Complaints for incomplete or incorrect provisioning • Fault rate per access line • Fault repair time • Helpdesk response time • Complaints for incomplete and incorrect solutions • Rate of bill correctness complaints • Coverage rate of mobile networks
Italy	• Complaints about charges • Billing accuracy • Service activation time • Accessibility to voice service • Likelihood of voice connection loss
Spain	• Frequency of clients' complaints • Time to solve users' complaints • Bill correctness complaint

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EU rules: QoS transparency

EECC – Art. 102 and Annex VIII – Contracts to mention any min. level of QoS offered (or a statement if no min. level of QoS offered)

TSM – Art. 4 (1d) – Contracts should indicate:
- the min., normally available, max. and advertised speed (for fixed);
- the estimated max. and advertised speeds (for mobile);
- the factors that may affect broadband speeds.

NRAs could require that the the min. speed is set in reasonable proportion of the max. speed

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QoS: Contractual information on broadband speeds

Country	Specification of speeds as percentages
Bulgaria	Normally available speed: min 80% of maximum speed
Finland	Minimum speed: min 70% of maximum speed
Croatia	Minimum speed: min 70% of maximum speed
Latvia	Minimum speed: min 20% of maximum speed
Slovenia	• Minimum speed: min 50% of maximum speed • Normally available speed: min 80% of maximum speed
Slovakia	• Minimum speed: min 40% of maximum speed • Normally available speed: min 90% of maximum speed

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EU rules: QoS as part of universal service

EECC - Art. 84 – Member States to ensure that all consumers have access, at an affordable price, to an available adequate broadband internet access service and to voice communications services at the specified quality in their territories at a fixed location.

Spain

Performance targets set for US provider
- US provider to provide voice and broadband services at a certain level of quality.
- US provider to report regularly on the audited measured values against the mandatory USO target.
- QoS measured may not be worse than 20% of the target.
- Penalties can apply

QoS in spectrum licences

- **Spectrum licences** incl. coverage obligations of a certain percentage of the population at a min. speed
- Recent **5G auctions** include obligations to cover specific infrastructure at a min. speed

Germany

5G coverage requirements:
- **Roads:** All federal highways and major federal roads by 2022, the remaining federal roads by 2024, with 100 Mbps and 10ms latency
- **Railways:** routes with >2000 passengers/day with 100 Mbps by 2022, other routes with 50 Mbps by 2024.
- **Sea ports and inland waterways:** with 50 Mbps by 2024

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NRAs practices to monitor QoE

Coverage maps

Drive tests

Crowdsourcing

Certified speed measurement tools

Comparison of offers and prices

Publications ranking providers

Consumer perception surveys

Thank you!

laurence.nivot@cullen-international.com