

#EU4Digital

EU4Digital Facility Telecom Rules

26th EaPeReg Plenary meeting

11 November 2025



Funded by
the European Union

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#	Topic
1.	5G private networks development
2.	Roaming
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4.	Electronic communications legislation in Moldova
5.	DMA and DSA in Moldova and Ukraine
6.	Monitoring & promoting broadband access

0. Telecom Rules work stream: High-level timeline



Progress up to date

1. Summary of 5G Private Networks development in EaP Countries

1. 5G private networks development

Status of the activity:



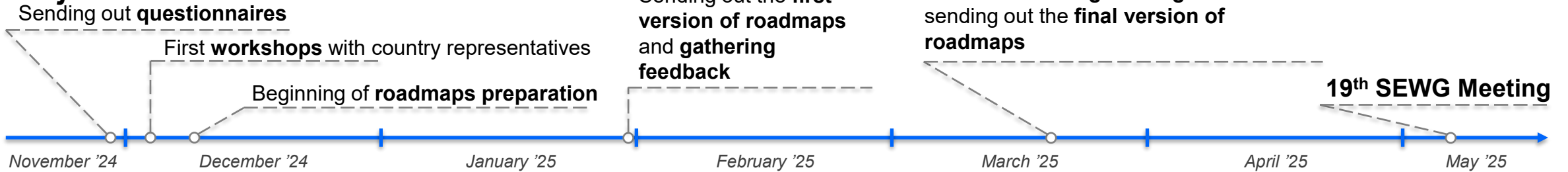
- **EU4Digital completed [country-specific 5G private networks roadmaps](#) and outlined [potential use-cases](#).** The reports are accessible via the links below:
 - [Armenia](#)
 - [Azerbaijan](#)
 - [Georgia](#)
 - [Moldova](#)
 - [Ukraine](#)
- **Regional Spectrum Agreement (RSA):**
 - To further proceed with signing the Regional Spectrum Agreement (RSA), a confirmation from Ukraine representatives is pending on a bilateral meeting with SEWG leadership to align on the next steps.

The project explored the potential of 5G Private Networks in several EaP countries, resulting in a tailored roadmap and use cases to enhance industry efficiency and drive economic growth

Summary

This activity aimed to explore the transformative **potential of 5G Private Networks in several EaP Countries**: Armenia, Azerbaijan, Georgia, Moldova and Ukraine. At the beginning, **questionnaires** were sent to these countries' representatives regarding the current development of 5G Private Networks in their respective countries. Moreover, **workshops** were held to clarify the details with these representatives.

Project timeline



Based on the meetings and each countries' economy analysis, innovative **applications of 5G Private Networks across key industries** were proposed, highlighting their potential to enhance efficiency and drive growth. Additionally, **allocation schemes for Private Networks** tailored to each countries' unique landscape was presented.

As part of the work of the EU4Digital team, two documents were created:

Country specific roadmap



- ▶ Industries mapped and ways of applying 5G Private Networks proposed
- ▶ Insights into the future of 5G connectivity

5G Private Networks use cases with examples



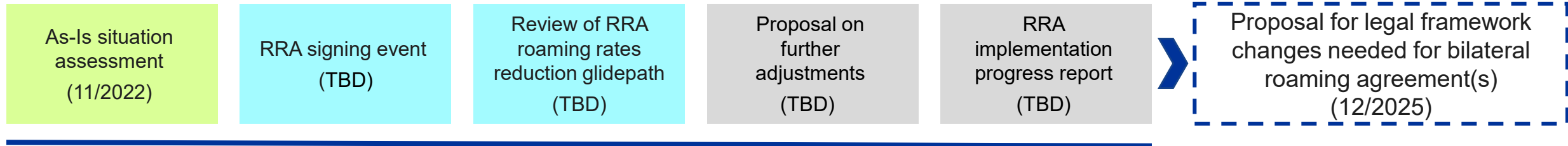
- ▶ Supplementary document, outlining an extensive list of use cases for 5G Private Networks
- ▶ Showcasing real-life examples from various countries that illustrate the successful implementation and benefits of this technology

2. Roaming

2. Roaming (1/2)

Regional Roaming Agreement

Status of the activity:



- **Regional Roaming Agreement (RRA):**

- The updates on the RRA signing and national alignments were discussed during the 16th REWG meeting on 14 October. There is confirmation on signing of the RRA by all participants present, final confirmation from UA side is necessary to launch official national consultations.
- For the current reporting period there are no updates.

2. Roaming (2/2)

Wholesale voice call termination market analysis

Status of the activity:



- **Voice call termination market analysis:**

- EU4Digital prepared a Regional voice call termination market analysis report to provide the state-of-play assessment in each EaP country regarding the regulatory framework, market structure, and implementation of EU best practices for the voice call termination market.
- The reports included findings on markets of *Armenia, Azerbaijan and Georgia* which were drafted by EU4Digital in cooperation with respective NRAs; and for *Ukraine and Moldova*, the report includes information on wholesale voice call termination regulatory framework that is currently available.

Voice-call termination market analysis: Introduction

- The role of NRA in the regulation of the electronic communication sector is crucial for ensuring fair competition, protecting end-user interests, and fostering the development of efficient and innovative electronic communication services.
- Voice call termination market analysis is a systematic approach employed by NRA to define specific service markets, conduct an analysis of the defined markets to assess competition, identify electronic communications operators with a significant market power, as well as to impose, maintain, modify, or withdraw specific obligations on operators whose impact in the specific market is recognised as significant.
- EU4Digital prepared a Voice call termination market analysis report template, which aims to provide sufficient basis for Eastern Partner countries to perform a round of wholesale call termination market analysis on fixed or mobile networks.
 - The templates were aligned with the NRAs in Georgia, Armenia, Azerbaijan, Moldova.
 - Data collection was organised, and reports for Georgia, Azerbaijan, and Armenia were drafted by EU4Digital.

Voice-call termination market analysis structure

1. Introduction

2. Legislation

3. Review of regulatory measures

4. Relevant market definition

5. Wholesale voice termination market analysis

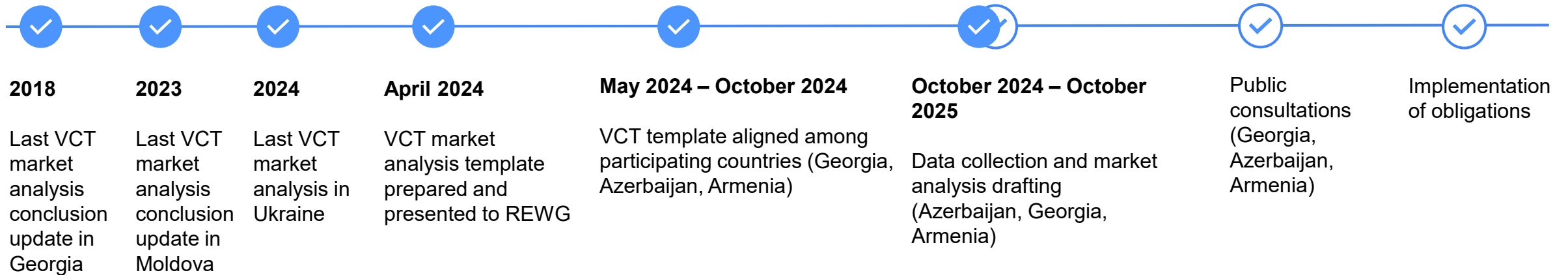
6. Regulatory obligations

7. Public consultation procedure

Voice-call termination market analysis: Activity overview

Participation of EaP countries

- **Azerbaijan:** full participation in the activity (jointly with EU4Digital to performed market analysis)
- **Georgia:** full participation in the activity (jointly with EU4Digital to performed market analysis)
- **Moldova:** on-boarding of ANRCETI completed market analysis
- **Armenia:** full participation in the activity (jointly with EU4Digital to performed market analysis)
- **Ukraine:** Did not participate, on-boarding of NCEC completed market analysis



Note: According the EU legislation governing the market analysis process, the review of established conclusions shall take place at least every 5 years. The review shall set a baseline and shall determine whether the existing obligations, if any shall be maintained, amended or repealed.

Regulatory obligations

Potential competition problems

Refusal of access - operators could refuse access to their own network or provide access to their own network with unreasonable conditions

Excessively high rates – operators could charge excessively high rates to increase termination revenues or distort competition market by forcing end-users to switch operators to reach the end-users they want.

Discrimination - an operator could charge itself, its subsidiary or a third-party better condition, including a lower termination rate, than that applicable to other network operators.

Lack of transparency -a lack of tariffs and access conditions transparency could result in terminating operator extracting greater revenue from originating operator and facilitating certain forms of exclusionary pricing, like price discrimination against new market entrants or smaller operators.

Description of obligations imposed by NRA

Obligations of access – requires operators to grant access to specific network elements and facilities under fair terms where refusal or unreasonable conditions would harm retail competition or end-user interests.

Price control and cost accounting obligations - price control and cost-accounting obligations to prevent excessive pricing or price squeezes, ensure fair cost recovery, promote efficient network investment, and protect end-user interests, with operators bearing the burden of proving cost-based pricing.

Obligations of non-discrimination - requires an operator to provide equivalent conditions, quality, and access to all service providers, including its own subsidiaries or partners, ensuring fair and equal treatment

Obligation of transparency – requires operators to make public specific information, such as accounting information, prices, technical specifications, network characteristics, expected developments, terms and conditions for supply and use, reference offer (for non-discrimination obligation).

Obligation of accounting separation - requires vertically integrated operators to transparently report wholesale and internal transfer prices, enabling regulators to ensure non-discrimination, prevent cross-subsidization, and verify compliance through access to detailed accounting records.

Decision on regulatory intervention

For fixed network operators having SMP and exceeding 50% market share

Obligations of access, price control, non-discrimination, transparency, accounting separation.

For fixed network operators having SMP and not exceeding 50% market share

Obligations of access, price control, transparency.

For mobile network operators designated as having SMP

Obligations of access, price control, non-discrimination, transparency, accounting separation.

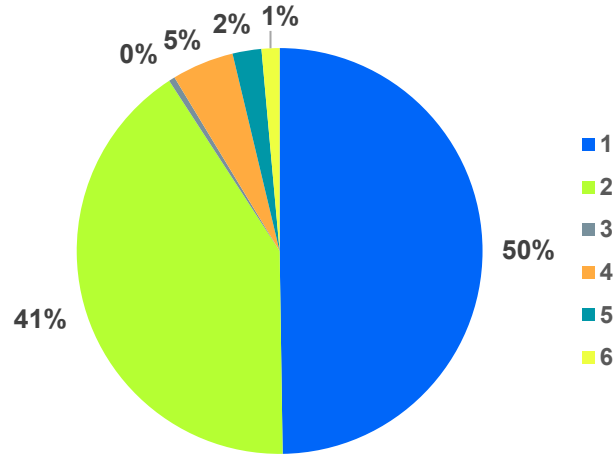
Proposed obligations: Armenia

For operator 1 obligations of:

- interconnection & access,
- transparency (reference offer),
- price control,
- non-discrimination, cost accounting,
- accounting separation.

are to be imposed.

Fixed network



For operators 2, 3, 4, 5, 6, 7, 8 obligations of:

- interconnection & access,
- transparency (published prices),
- price control

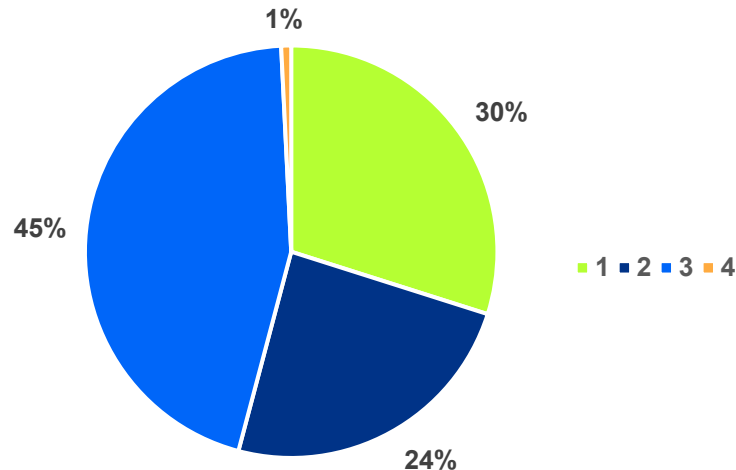
are to be imposed.

For operator 1 obligations of:

- interconnection & access,
- transparency (published prices),
- price control

are to be imposed.

Mobile network



For operators 2, 3 obligations of:

- interconnection & access,
- transparency (reference offer),
- price control,
- non-discrimination,
- cost accounting,
- accounting separation

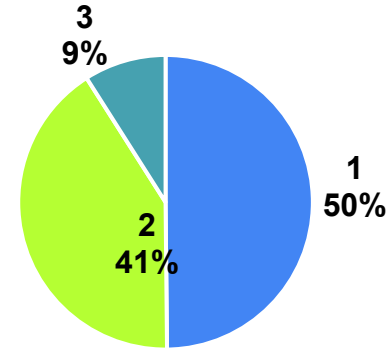
are to be imposed.

Proposed obligations: Azerbaijan

Fixed network

For operator 1 and operator 2, obligations of:

- interconnection and access,
 - transparency,
 - price control,
 - non-discrimination,
 - cost accounting obligation,
 - accounting separation obligation,
- are to be imposed.



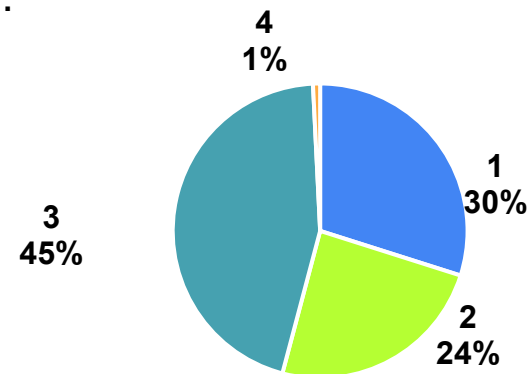
For operators 3, 4, 5, 6, obligations of:

- interconnection and access,
 - transparency,
 - price control,
- are to be imposed.

Mobile network

For operator 1, operator 2, and operator 3, obligations of:

- interconnection and access,
 - transparency,
 - price control,
 - non-discrimination,
 - cost accounting obligation,
 - accounting separation obligation,
- are to be imposed.



For operator 4, obligations of:

- interconnection and access,
 - transparency,
 - price control,
- are to be imposed.



Proposed obligations: Georgia

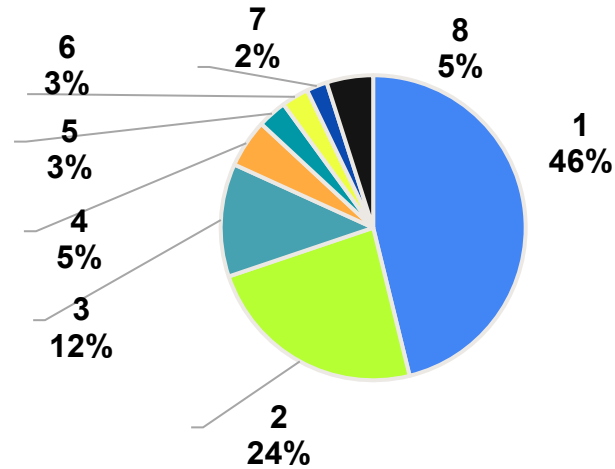
For operator 2 obligations of:

- interconnection and access,
 - transparency,
 - price control,
 - non-discrimination,
 - cost accounting obligation,
 - accounting separation obligation,
- are to be imposed.

For operator 1, operator 2, operator 3 obligations of:

- interconnection and access,
 - transparency,
 - price control,
 - non-discrimination,
 - cost accounting obligation,
 - accounting separation obligation,
- are to be imposed.

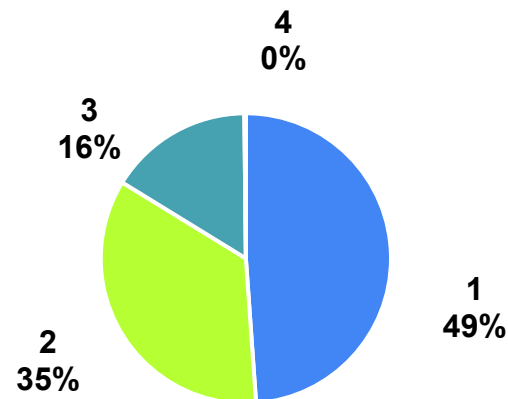
Fixed network



For operators 1, 5, 6, 7, 8, 9, 10, <... >, 56, 57, 58, obligations of:

- interconnection and access,
 - transparency,
 - price control,
- are to be imposed.

Mobile network



For operators 4, 5, obligations of:

- interconnection and access,
 - transparency,
 - price control,
- are to be imposed.

Next steps

1

Launch national consultations with relevant stakeholders

2

Review and assess feedback from market participants

3

Revise proposed measures where justified

4

Finalize and adopt regulatory decisions

5

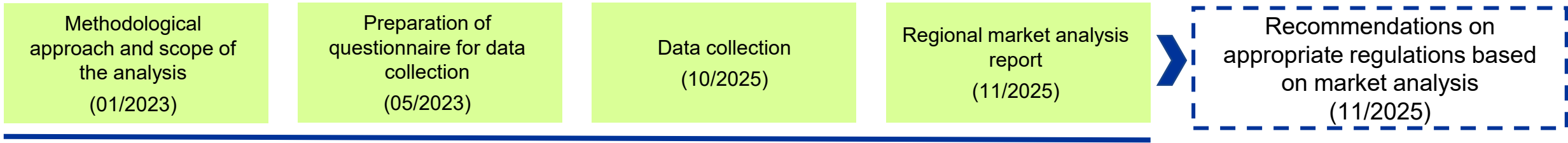
Implement the approved remedies



3. Broadband market analysis

3. Broadband market analysis

Status of the activity:



- **Process for market analysis:**

- EU4Digital conducted AZ broadband market analysis based on the previously-aligned data and prepared country-specific market analysis report. The report was presented during the IRB EWG meeting on 14 October.
- It should be noted that the broadband market analysis was not conducted for Armenia; not covered; while several rounds of data collection were undertaken, it was not sufficient to conduct an in-depth market analysis.

- **Regional market analysis report:**

- EU4Digital drafted a regional report based on the country-specific broadband market analysis reports.
- Regional broadband market analysis report is shared for IRB EWG members review and is planned to be published once alignment is finalised.

Broadband market analysis in Eastern Partnership



Objective

- The objective of analysing wholesale broadband access markets is to **evaluate the competitive conditions in the associated retail broadband market** and, if deemed non-competitive, to **identify the entity with Significant Market Power (SMP)** in the corresponding wholesale market.
- **Obligations would then be imposed on the SMP entity to prevent it from exercising its market power to the detriment of end-users.** In the absence of effective competition, an operator with SMP would be incentivised to deny access to wholesale services necessary for providing retail services in a related downstream market, thereby reducing competition and end-user welfare.



Participation of countries

- **Azerbaijan:** full participation in the activity (jointly with EU4Digital performed market assessment and included results into regional comparison) (*for more detailed findings please see Annex*)
- **Armenia:** not covered; while several rounds of data collection were undertaken, it was not sufficient to conduct an in-depth market analysis.
- **Georgia:** included most recent (2024) market assessment into regional comparison report
- **Moldova:** included most recent (2023) market assessment into regional comparison report
- **Ukraine:** included most recent (2021) market assessment into regional comparison report



Involved counterparties: Relevant Ministries and the NRAs of Armenia, Azerbaijan, Georgia, Moldova, Ukraine

Market Structure & Competition



The broadband markets across the region exhibit markedly different structures and levels of competition, ranging from highly concentrated incumbents to highly fragmented ecosystems with no dominant player.



1. Azerbaijan

- The broadband markets in the region show diverse structures:
- Azerbaijan remains concentrated, **dominated by Operators 1 and 2** with non-overlapping territories and strong state presence, **limiting effective competition** despite private entrepreneurs.



2. Georgia

- Georgia applies **SMP regulation** to Operator 1 in both mobile wholesale and fixed broadband markets, with **obligations on access, non-discrimination, tariffs, transparency and accounting separation to strengthen competition.**



3. Moldova

- Moldova faces the highest concentration, with Operator 1 holding 58.5% in urban areas and 91% in rural wholesale local access, requiring extensive **ex ante regulation due to high entry barriers and infrastructure control.**



4. Ukraine

- Ukraine stands in contrast, with a highly fragmented market of 2,719 operators, where **no player holds SMP**, fiber dominates, and competition is intense especially in urban areas, though rural coverage gaps persist.

Technology Coverage & Network Architecture

Country	Dominant Technologies / Networks	Key Operators / Coverage	Geographic segmentation
Azerbaijan	xDSL, FWA, non-public Wi-Fi; fixed + wireless	Operators 1 & 2 (strong infrastructure control)	Baku: competition exists; Rest of Azerbaijan, except Baku: lower coverage, strong incumbents
Georgia	FTTx/FTTH (>90%), FWA, Satellite (since 2023); Mobile: 3G/4G/5G (>75% population coverage)	Operator 1 (SMP in mobile wholesale & fixed wholesale local/central)	Urban: higher concentration; Rural: limited access
Moldova	Copper + fiber (FTTB/FTTH); xDSL	Operator 1 (SMP in wholesale local access)	Urban: competitive; Rural: limited competition
Ukraine	Fiber (FTTB/FTTH >70%), xDSL, DOCSIS, Ethernet LAN, FWA, non-public Wi-Fi	Operator 1 (incumbent, losing market share), Operator 2 (FTTB/FTTH & FWA)	Urban: many operators, higher market concentration; Rural: fewer operators, lower coverage

SMP Conclusions and Regulatory Obligations

Country	SMP Findings	Regulatory Measures / Obligations
Azerbaijan	<p>Baku: Market is competitive, no SMP identified</p> <p>Rest of Azerbaijan, except Baku: Operator 1 holds SMP due to control of infrastructure, financial and technological advantages</p>	Ex-ante regulation only outside Baku may be justified to address infrastructure-based dominance
Georgia	Operator 1 holds SMP in mobile wholesale access and fixed wholesale local/central access	Obligations imposed on access, non-discrimination, tariffs, transparency and accounting separation
Moldova	Operator 1 holds SMP in wholesale local access	Ex-ante regulation maintained to ensure fair access, prevent discrimination, and promote competition
Ukraine	No SMP identified according to Retail market analysis in 2021	No ex-ante regulation required; competition considered effective

Country-specific reports on Broadband market analysis

Country-specific Reports provide the state-of-play assessment in each EaP country regarding the regulatory framework, market structure, and implementation of EU best practices for the broadband markets. Moreover, the reports focuses on evaluating market competitiveness and identifying where ex-ante obligations are necessary to ensure fair, transparent, and non-discriminatory termination conditions.

1. Azerbaijan

Market assessment conducted by EU4Digital in cooperation with ICTA (*Information Communication Technologies Agency*);
For more detailed findings or additional information, please see Annex 2, or contact EU4Digital.

2. Georgia

Market assessment conducted by ComCom (Georgian National Communications Commission) (2024).
For more detailed findings or additional information, please contact the NRA.

3. Moldova

[Market assessment conducted by ANRCETI \(National Regulatory Agency for Electronic Communications and Information Technology\) \(2023\)](#)

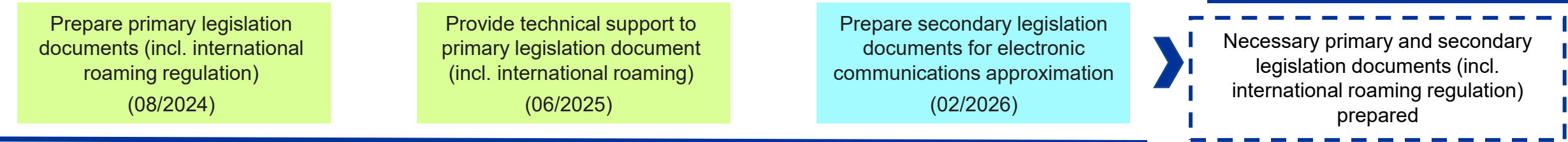
4. Ukraine

Market assessment conducted by NCCIR, (National Commission for the State Regulation of Communications and Informatization) (2020); The findings presented in this report are based on information made available to EU4Digital in confidence by NCCIR.
For more detailed findings or additional information, please contact the NRA.

4. Electronic communications legislation in Moldova

4. Electronic communications legislation in Moldova

Status of the activity:

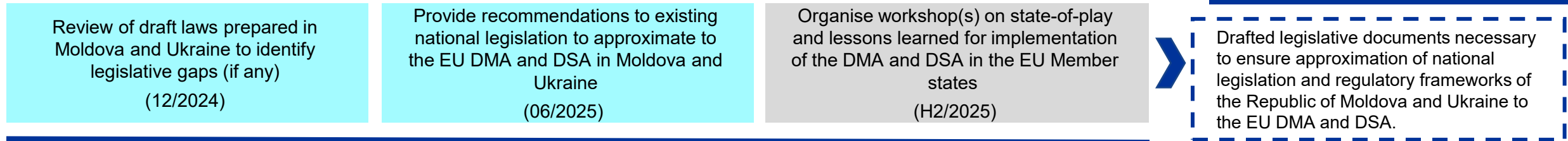


- **Support to Moldova on secondary legislation drafting to approximate with EU's electronic communications framework**
 - EU4Digital finalised alignment with ANCRETI and MDED on delegations' analysis list of relevant secondary legislation for approximating Moldova's electronic communications regulatory framework with the European Electronic Communications Code (EECC).
 - Upon alignment, EU4Digital initiated drafting of the secondary legislation which is planned to be finalised by end of Q1 2026.

5. DMA and DSA in Moldova and Ukraine

5. DMA and DSA in Moldova and Ukraine

Status of the activity:



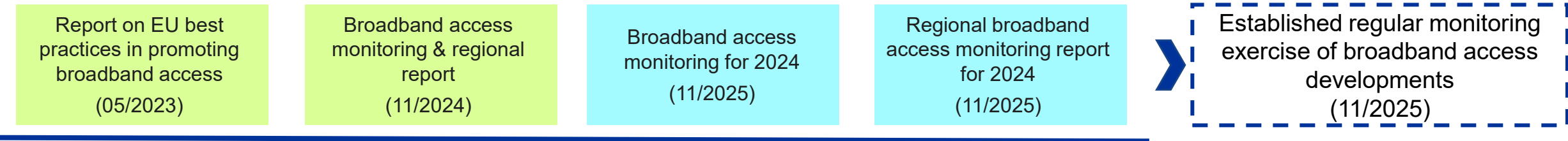
- **Support in the transposition of EU Digital Services Act (DSA) and Digital Markets Act (DMA) into national legislation of the Republic of Moldova as well as of Ukraine:**
 - In November, EU4Digital will deliver a revised draft law for digital services in Moldova to the Moldovan representatives for consultations and review.
 - EU4Digital is also continuing to provide operational support for mapping of digital service providers in Ukraine and will explore options to support Moldova with operational capacity in DSA supervision.

6. Broadband access monitoring

6. Monitoring & promoting broadband access

Broadband monitoring reports

Status of the activity:



- **Digital Decade Policy Programme:**

- **Workshop on EU legislative framework developments and Digital Decade applicability to the EaP context** will take place adjacent to the 26th EaPeReg Plenary meeting, with the participation of the representatives from the European Commission and EU Member States' NRAs.
- The workshop will focus on two main areas:
 1. EU Digital Decade policy and monitoring framework and aligning digital infrastructures and broadband data collection methodologies;
 2. Upcoming EU regulatory framework changes.

- **Regional broadband access monitoring report for 2024:**

- **EU4Digital prepared a regional report**, reflecting 2024 overview of the state-of-play of broadband internet access in Armenia, Azerbaijan, Georgia and Moldova as well as relevant market and regulatory developments and presented it during the IRB EWG meeting on 14 October.
- **Final alignment with AM and MD representatives are ongoing, once revised, the report will be published in EU4Digital website.**

Questions

Thank you