Terms of reference (ToR) for the procurement of services below the EU threshold

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

INTERNAL

Development of a Digitalization Roadmap for EPSO	**Project number/ cost centre: G-012316-001** **Tender number 10033614**

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0. List of abbreviations

AG	Commissioning party
AN	Contractor
AVB	General Terms and Conditions of Contract for supplying services and work
EPSO	Electricity Power System Operator
FK	Expert
FKT	Expert days
KZFK	Short-term expert
ToRs	Terms of reference
GoA	Government of Armenia
ICT	Information and Communication Technology
MTAI	Ministry of Territorial Administration and Infrastructure
MoENV	Ministry of Environment
RES	Renewable Energy Sources
R2E2	Renewable Resources and Energy Efficiency Fund
SRIE	Scientific Research Institute of Energy
UNDP	United Nations Development Programme
FK	Expert
FKT	Expert days
KZFK	Short-term expert
ToRs	Terms of reference

1. Context

The project “Sustainable Energy for climate resilient municipality development in Armenia (SE4Resilience)”, implemented by GIZ and financed by the “Federal Ministry of Economic Cooperation and Development (BMZ)” with co-financing by the “European Union (EU)” is aiming to leverage the potentials of renewable energy and energy efficiency in rural municipalities of Armenia. As part of this support, GIZ cooperates with the Ministry of Territorial Administration and Infrastructure (MTAI), the Public Services Regulatory Commission (PSRC), the Electricity Power System Operator CJSC (EPSO), and other key stakeholders in the Armenian electricity sector.

Armenia is undergoing a rapid transformation of its electricity sector driven by the expansion of renewable energy generation, particularly solar photovoltaic (PV) systems. As of October 2025, Armenia has already exceeded 1,000 MW of installed solar generation capacity, achieving the national target established under the Energy Sector Development Strategic Program to 2040 five years ahead of schedule. While the growth of renewable energy contributes to the decarbonization and diversification of the energy sector, it also creates new operational challenges related to power system balancing, forecasting, system visibility, congestion management, and overall grid stability. These challenges require system operators to increasingly rely on digital technologies, advanced data management systems, forecasting tools, and modern analytical platforms.

The EPSO is responsible for short-term planning and dispatching of the power system, operational management of the electricity system, planning of transmission network development, and coordination of the parallel operation of the Armenian power system with neighboring systems. To effectively fulfil these responsibilities in a rapidly changing operating environment, EPSO requires a clear strategy for digital transformation and modernization of its operational, analytical, and management processes. Recognizing these challenges and opportunities, GIZ intends to procure consultancy services for the development of a Digitalization Roadmap and Priority Investment Plan for EPSO. The assignment shall identify priority digitalization measures, assess investment needs, establish implementation priorities, and provide recommendations for the phased digital transformation of EPSO over the short, medium, and long term.

2. Tasks to be performed by the contractor

GIZ is procuring consultancy services to support EPSO in assessing its current level of digitalization and developing a practical roadmap for its future digital transformation. The assignment shall be implemented through four interrelated tasks.

Task 1: Assessment of Existing Situation and Digital Maturity

The Contractor shall conduct a comprehensive assessment of the current state of digitalization within EPSO.

The assessment shall review the existing operational, planning, analytical, and reporting processes of EPSO and evaluate the extent to which these processes are supported by digital tools and systems. The review shall include, but not be limited to, activities related to system operation and dispatching, transmission network development planning, renewable energy integration, system stability assessment, data management, reporting, and cooperation with sector institutions.

The Contractor shall also assess the existing information technology infrastructure, software solutions, communication systems, databases, cybersecurity arrangements, and organizational capacities currently available within EPSO.

Attention shall be given to identifying operational challenges arising from the increasing penetration of renewable energy sources and assessing how these challenges may be addressed through digital solutions.

Based on the findings, the Contractor shall assess the overall digital maturity of EPSO and identify key gaps, needs, and opportunities for future digitalization.

NOTE: Attention shall be given to the assessment of data flows, information exchange mechanisms, and digital interfaces between EPSO and other key electricity sector stakeholders, including the Settlement Centre CJSC (Market Operator), High Voltage Electric Networks CJSC, Electric Networks of Armenia, electricity generators, and other relevant entities. The assessment shall identify existing challenges related to data availability, interoperability, timeliness, and quality, as well as opportunities for improving digital coordination between sector institutions.

Task 2: Identification and Assessment of Digitalization Measures

Based on the findings of Task 1, the Contractor shall identify digital solutions and systems that could support EPSO in improving operational efficiency, system reliability, renewable energy integration, and data-driven decision-making.

The Contractor shall review relevant international practices and experiences of transmission system operators and electricity system operators that have implemented digital transformation initiatives in comparable environments. The review shall also consider relevant European Union legislation and regulatory frameworks, as well as applicable international standards (e.g. ISO standards related to information security, asset management, data management, and business continuity) that may be relevant for the future digital transformation of EPSO.

The assessment may cover areas such as:

- power system operation and dispatching
- renewable energy forecasting and monitoring
- grid stability assessment
- transmission network planning;
- enterprise data management
- document management
- business intelligence and reporting
- asset management
- cybersecurity
- digital collaboration and workflow management.

For each proposed digitalization measure, the Contractor shall describe its purpose, expected benefits, implementation requirements, implementation complexity, and relevance for EPSO. If the contractor has knowledge of other relevant areas for digitalization, it is welcomed that these areas are added to the review.

Based on the assessment, the Contractor shall develop a prioritized portfolio of digitalization measures and group them into **short-term**, **medium-term**, and **long-term** implementation priorities.

NOTE: The Contractor shall assess whether the proposed digitalization measures require improvements in data exchange, interoperability, or coordination with external organizations. Where relevant, recommendations should be provided regarding enhancements to digital

interfaces and data-sharing arrangements between EPSO and other stakeholders in the sector, particularly the Settlement Centre CJSC (Market Operator).

For the Task 1 and Task 2, the Contractor shall:

- Prepare a Current State, Digitalization Needs and Measures Assessment Report in English and Armenian.
- Present the findings during a stakeholder consultation workshop in Yerevan.

Task 3: Assessment of Investment Needs and Economic Justification of Priority Digitalization Measures

The Contractor shall assess the investment needs associated with the implementation of the proposed digitalization measures.

The assessment shall support future investment planning by EPSO and provide information that can be used in discussions with regulatory authorities, financing institutions, and development partners.

*NOTE: For digitalization measures identified as **short-term priorities**, the Contractor shall prepare an economic justification that includes:*

- *indicative capital investment requirements;*
- *indicative operation and maintenance costs;*
- *implementation timeline;*
- *expected operational and organizational benefits;*
- *expected contribution to improved system operation, reliability, renewable energy integration, and decision-making;*
- *risks associated with non-implementation.*

Where feasible, the Contractor shall quantify expected benefits using available information and reasonable assumptions. However, detailed investment-grade business cases and detailed financial modelling are not expected under this assignment.

For medium-term and long-term measures, the Contractor shall provide indicative investment cost estimates together with a qualitative assessment of their expected benefits and strategic relevance.

Based on the results, the Contractor shall prepare a Priority Investment Plan identifying the most important digitalization investments for implementation during the next three to five years.

For this task, the Contractor shall prepare:

- Investment Needs Assessment and Economic Justification;

Task 4: Development of the Digitalization Roadmap

Based on the results of the previous tasks, the Contractor shall develop a Digitalization Roadmap for EPSO **covering the period up to 2035.**

The roadmap shall define a long-term vision for digital transformation and establish strategic objectives supporting the modernization of EPSO and the reliable operation of the Armenian power system.

The roadmap should provide a phased implementation plan for the identified digitalization measures and clearly distinguish between short-term, medium-term, and long-term priorities.

The roadmap shall include recommendations related to:

- implementation sequencing and interdependencies between the suggested measures;
- institutional responsibilities;
- organizational development;
- capacity building and training needs;
- change management;
- potential financing opportunities.

The roadmap shall identify measures required to improve interoperability, data exchange, and digital cooperation between EPSO and key sector institutions. The recommendations should focus on supporting EPSO's mandate and operational responsibilities and should not constitute a separate digitalization strategy for other entities.

The roadmap shall be prepared as a practical planning document that can support future investment planning, discussions with regulatory authorities, and mobilization of financing from national and international sources.

For this task, the Contractor shall:

- Prepare the Investment Needs Assessment and Economic Justification Report, including Digitalization Roadmap in Armenian and English;
- Develop a presentation summarizing the findings and recommendations;
- Present the final Roadmap during a stakeholder workshop in Yerevan.

Milestones/partial works	**Estimated expert days for orientation**	**Deadline/place/person responsible**	**Criteria for acceptance**
M1: Inception Report The Contractor will present the proposed approach, methodology, stakeholder engagement plan and implementation schedule during a kick-off meeting to be held in Yerevan. During the meeting, the roles and responsibilities of all involved parties, particularly EPSO, will be agreed upon. In addition, a data-sharing arrangement with EPSO will be established, and the relevant procedures	TL – 3 days KE 1 – 1 days KE 2 – 1 days ST pool – 2 days **Total – 7 person-days**	Within **one month** from the effective date of this consulting contract.	The report is submitted and deemed complete by GIZ, and the kick-off meeting has been conducted.

and processes required for the implementation of the assignment will be agreed.			
M2: Current State, Digitalization Needs and Measures Assessment Report The Contractor shall assess the existing situation within EPSO, identify digitalization needs and gaps, and assess potential digitalization measures and solutions. *The Contractor is also requested to present the results in a workshop format involving relevant partners and stakeholders.*	TL – 5 days KE 1 – 7 days KE 2 – 8 days ST pool – 8 days **Total – 28 person- days**	Within **four months** from the effective date of this consulting contract.	The reports are submitted and deemed complete by GIZ, and the workshop has been conducted.
M3: Draft Final Report *(Investment Needs Assessment and Economic Justification Report, including Digitalization Roadmap)* The Contractor shall present the proposed priority investments and draft roadmap during a stakeholder consultation workshop involving EPSO, MTAI, PSRC and other relevant stakeholders.	TL – 5 days KE 1 – 4 days KE 2 – 5 days ST pool – 3 days **Total – 17 person- days**	Within **six months** from the effective date of this consulting contract.	The draft package is submitted and deemed complete by GIZ, and the workshop has been conducted.
M4: Final Report *(Investment Needs Assessment and Economic Justification Report, including Digitalization Roadmap)* The Contractor shall submit the final package incorporating comments and recommendations received from GIZ, EPSO and relevant stakeholders.	TL – 2 days KE 1 – 1 days KE 2 – 2 days ST pool – 1 days **Total – 6 person-days**	Within **eight months** from the effective date of this consulting contract.	The final package is submitted and approved by GIZ; comments and recommendations have been incorporated.

Period of assignment: from November 2026 until 30.08.2027.

3. Concept

In the tender, the tenderer is required to show *how* the objectives defined in Chapter 2 (Tasks to be performed) are to be achieved, if applicable under consideration of further

method-related requirements (technical-methodological concept). In addition, the tenderer must describe the project management system for service provision.

Note: The numbers in parentheses correspond to the lines of the technical assessment grid.

Technical-methodological concept

Strategy (1.1): The tenderer is required to consider the tasks to be performed with reference to the objectives of the services put out to tender (see Chapter 1 Context) (1.1.1). Following this, the tenderer presents and justifies the explicit strategy with which it intends to provide the services for which it is responsible (see Chapter 2 Tasks to be performed) (1.1.2).

The tenderer is required to present the actors relevant for the services for which it is responsible and describe the **cooperation (1.2)** with them.

The tenderer is required to describe the key **processes** for the services for which it is responsible and create an **operational plan** or schedule (1.4.1) that describes how the services according to Chapter 2 (Tasks to be performed by the contractor) are to be provided. In particular, the tenderer is required to describe the necessary work steps and, if applicable, take account of the milestones and **contributions** of other actors (partner contributions) in accordance with Chapter 2 (Tasks to be performed) (1.4.2).

4. Personnel concept

The tenderer is required to provide personnel who are suited to filling the positions described, on the basis of their CVs (see Chapter 7), the range of tasks involved and the required qualifications.

The below specified qualifications represent the requirements to reach the maximum number of points in the technical assessment.

Team leader/ Senior Power Sector Digitalization Expert

Tasks of the team leader

- Overall coordination and quality assurance of all activities under the assignment.
- Lead the assessment of the current state of digitalization within EPSO and identify key digitalization needs and opportunities.
- Coordinate the development of the Digitalization Roadmap and Priority Investment Plan.
- Ensure consistency and integration of technical, economic, organizational and institutional aspects of the assignment.
- Coordinate technical work with national stakeholders and sector entities.
- Lead stakeholder consultations, workshops and presentations.
- Coordinate cooperation with EPSO, MTAI, PSRC, Settlement Centre CJSC and other relevant stakeholders.
- Oversee preparation and finalization of all key deliverables.

Qualifications of the team leader

- Education/training (2.1.1): Master's degree (or equivalent) in Electrical Engineering, Energy Systems, Power Systems Engineering, Information Systems, Digital Transformation, or a related field
- Language (2.1.2): C1-level language proficiency in English
- General professional experience (2.1.3): 7 years in the energy sector, power systems, utility modernization, or digital transformation

- Specific professional experience (2.1.4): 5 years of experience in digitalization of utilities, transmission system operators, electricity sector institutions, or development of digital transformation strategies and roadmaps
- Leadership/management experience (2.1.5): 3 years of experience in managing multi-disciplinary international teams
- Regional experience (2.1.6): 5 years of regional experience in Eastern Europe or post-Soviet countries or countries with EU approximation agenda
- Development cooperation (DC) experience (2.1.7): 5 years of experience in international DC projects
- Other (2.1.8): N/A

Key expert 1– Power System Operation and Renewable Energy Integration Expert

Tasks of key expert 1

- Assess existing operational processes and practices related to power system operation and dispatching.
- Assess challenges associated with renewable energy integration, system balancing, forecasting, grid stability and system reliability.
- Identify digital solutions supporting power system operation, forecasting, monitoring, planning and system security.
- Contribute to the assessment of future operational requirements resulting from increasing penetration of renewable energy sources.
- Support development of the Priority Investment Plan and Digitalization Roadmap.
- Provide technical input during stakeholder consultations and workshops.

Qualifications of key expert 1

- Education/training (2.2.1): Diploma/Master's degree (or equivalent) in Electrical Engineering, Power Systems Engineering, Energy Systems, or a related field
- Language (2.2.2): C1 -level language proficiency in English
- General professional experience (2.2.3): 7 years of professional experience in the electricity sector
- Specific professional experience (2.2.4): 5 years of experience in power system operation, transmission system operation, renewable energy integration, grid stability assessment, system planning, or related fields
- Leadership/management experience (2.2.5): N/A
- Regional experience (2.2.6): 3 years of experience in Eastern Europe, post-Soviet countries, or countries with EU approximation agendas.
- Development Cooperation (DC) experience (2.2.7): 3 years of experience in international energy projects
- Other (2.2.8): N/A

Key expert 2 - Digital Transformation and ICT Expert

Tasks of key expert 2

- Assess existing digital systems, ICT infrastructure, databases, communication systems, and cybersecurity arrangements.
- Identify opportunities for digitalization, automation and modernization of operational and business processes.
- Assess interoperability, digital interfaces and data exchange arrangements between EPSO and key sector stakeholders.

- Identify digital solutions supporting operational efficiency, data management, reporting, workflow management, analytics and decision-making.
- Contribute to the development of the Digitalization Roadmap and Priority Investment Plan.
- Support assessment of implementation requirements and indicative investment costs.

Qualifications of key expert 2

- Education/training (2.3.1): Diploma/Master's degree in Information Technology, Information Systems, Computer Science, Digital Transformation, Data Science, or a related field
- Language (2.3.2): C1 -level language proficiency in English
- General professional experience (2.3.3): 7 years of professional experience in ICT, digitalization, information systems, or digital transformation.
- Specific professional experience (2.3.4): 5 years of experience in digital transformation projects, enterprise architecture, utility digitalization, ICT modernization, data management systems, or related fields.
- Leadership/Management experience (2.3.5): N/A
- Regional experience (2.3.6): N/A
- Development Cooperation (DC) experience (2.3.7): 3 years of experience in international development projects
- Other (2.3.8): N/A

Soft skills of team members

In addition to their specialist qualifications, the following qualifications are required of team members:

- Team skills
- Initiative
- Communication skills
- Socio-cultural skills
- Efficient, partner- and client-focused working methods
- Interdisciplinary thinking

Short-term expert pool with minimum 2, maximum 4 members

For the technical assessment, an average of the qualifications of all specified members of the expert pool is calculated. Please send a CV for each pool member (see below Chapter 7 Requirements on the format of the bid) for the assessment.

Tasks of the short-term expert pool

- Provide specialized expertise related to cybersecurity, enterprise data management, business intelligence systems, asset management systems, electricity market systems, renewable energy forecasting, interoperability solutions, and digital platforms.
- Support assessment of digital interfaces and data exchange arrangements between EPSO and key electricity sector stakeholders.
- Contribute to the assessment of investment needs and economic justification of priority digitalization measures.
- Support stakeholder consultations, workshops, and technical reviews.
- Provide peer review of selected reports, analyses and recommendations.
- Translation of documents (English/Armenian).

Qualifications of the short-term expert pool

- Education/training (2.6.1): Diploma/master's degree in electrical engineering, Information Technology, Information Systems, Energy Economics, Cybersecurity, Data Science, Business Analytics, or related fields
- Language (2.6.2): B2 -level language proficiency in English (5 points), C1 -level in Armenian (5 points)
- General professional experience (2.6.3): 5 years of professional experience in the energy sector, ICT sector, digital transformation, or related fields
- Specific professional experience (2.6.4): 3 years of professional experience in utility digitalization, information systems, cybersecurity, data management, electricity market operation, interoperability solutions, renewable energy forecasting, or related areas
- Regional experience (2.6.5): 3 years of professional experience in Armenia
- Development cooperation (DC) experience (2.6.6): N/A
- Other (2.6.7): N/A

The tenderer must provide a clear overview of all proposed short-term experts and their individual qualifications.

5. Costing requirements

The price offer may contain only the cost items and quantities recorded in the present chapter.

Assignment of personnel and travel expenses

Per diem allowances are reimbursed as a lump sum up to the maximum amounts permissible under tax law for each country as set out in the country table in the circular from the German Federal Ministry of Finance on travel expense remuneration (downloadable from the German Federal Ministry of Finance – tax treatment of travel expenses and allowances for international business travel as of 1 January 2026 (GERMAN ONLY)).

Accommodation allowances are reimbursed as detailed in the specification of inputs below.

With special justification, additional Accommodation costs up to a reasonable amount can be reimbursed against evidence.

All business travel must be agreed in advance by the officer responsible for the project

Sustainability aspects for travel

GIZ has undertaken an obligation to reduce greenhouse gas emissions (CO_2 emissions) caused by travel. When preparing your tender, please incorporate options for reducing emissions, such as selecting the lowest-emission booking class (economy) and using means of transport, airlines and flight routes with a higher CO_2 efficiency. For short distances, travel by train (second class) or e-mobility should be the preferred option.

CO_2 emissions caused by air travel must be offset. GIZ specifies a budget for this, through which the carbon offsets can be settled against evidence.

There are many different providers in the market for emissions certificates, and they have different climate impact ambitions. The Development and Climate Alliance (German only) has published a list of standards (German only). GIZ recommends using the standards specified there.

Specification of inputs

Fee days	**Number of experts**	**Number of days per expert**	**Total**	**Comments**
Designation of TL	1	15	15	
Key Expert 1	1	13	13	
Key Expert 2	1	16	16	
Short-term expert pool	2-4		14	
Travel expenses	**Quantity**		**Total (Euro)**	**Comments**
Fixed travel budget	**1**		**7.260, 00**	A budget is earmarked for travel to the following countries: Armenia. A fixed budget of EUR **7260** is earmarked for settling travel expenses against evidence. The travel budget contains o Flights costs (6 international round trip flights to Armenia) o per-diem allowances and overnight allowances in the countries of assignment o travels within the country of assignment, transfer to/from airport etc. You can find further information on the travel expense budget in the 'Price schedule' document. Please use the 'Explanations' column in the price schedule to break down the individual items. Settlement is possible only until the budget is depleted.
Transport	**Quantity**	**Number**	**Total (EUR)**	**Comments**
CO_2 compensation for air travel Reimbursement against evidence.	1		600,00	A fixed budget of EUR **600** is earmarked for settling carbon offsets against evidence.

Other costs	Number		Total (EUR)	Comments
Flexible remuneration			**5.000,00**	A budget of EUR 5000 is foreseen for flexible remuneration. Please incorporate this budget into the price schedule. Use of the flexible remuneration item requires prior written approval from GIZ.
Workshops	3	EUR 860.00	EUR 2.580.00	Contractor is responsible for covering **all costs** related to the upcoming **local workshops**. Cost items include, but are not limited to: *- Venue rental and technical equipment (e.g. projector, sound system)* *- Simultaneous translation services (if any)* *- Refreshments and catering* *- Printing of materials and handouts.*

Workshops, events and trainings

Organization and facilitation of an experience exchange and learning workshop, aimed at sharing key findings, lessons learned, and practical insights from the assignment among relevant stakeholders.

This task shall include:

- Organize in-person workshops (kick-off meeting and two workshops) **in Yerevan** for **20 - 30 participants** to share insights, challenges, and solutions encountered during project development.

Ensure participation from all interested relevant state institutions and stakeholders (i.e. MTAI, MoENV, Settlement Center and others), and involve international and local and international partners such as UNDP, World Bank, ADB, R2E2, SRIE to strengthen institutional learning, policy alignment, and cooperation. Facilitate exchange of experience, lessons learned, and best practices

6. Inputs of GIZ or other actors

N/A

7. Requirements on the format of the tender

The structure of the tender must correspond to the structure of the ToR. In particular, the detailed structure of the concept (Chapter 3) should be organized in accordance with the positively weighted criteria in the assessment grid (not with zero). The tender must be legible (font size 11 or larger) and clearly formulated. It must be drawn up in English (language).

The complete tender must not exceed **10 pages (excluding CVs).** If one of the maximum page lengths is exceeded, the content appearing after the cut-off point will not be included in the assessment. External content (e.g. links to websites) will also not be considered.

The CVs of the personnel proposed in accordance with Chapter 4 of the ToRs must be submitted using the format specified in the terms and conditions for application. The CVs shall not exceed 4 pages each. They must clearly show the position and job the proposed person held in the reference project and for how long.

Please calculate your financial tender based exactly on the parameters specified in Chapter 5 Quantitative requirements, otherwise it is an inadmissible secondary offer that must be excluded from the procedure.. The contractor is not contractually entitled to use up the days, trips, workshops or budgets in full. The number of days, trips and workshops and the budgets will be contractually agreed as maximum limits. The specifications for pricing are defined in the price schedule.