



**Technical Assistance for the preparation of a National ITS Strategy for the  
Republic of Moldova**

**PS/SUP/PIU/004/2024**

**TECHNICAL SPECIFICATIONS**



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## 1. Introduction

This document outlines all requirements that bidders must consider in preparing their tender (Technical Proposal and Financial Proposal) for the services to be provided under the resulting Contract.

The Contracting Authority is the Transport Community through the Permanent Secretariat of the Transport Community ("TCT").

**Address:** Beogradjanka building, Masarikova 5/8, 11000, Belgrade, Serbia

**Contact:** [procurement@transport-community.org](mailto:procurement@transport-community.org)

**Website:** <https://www.transport-community.org/>

## 2. Background

### 2.1. Information about the Contracting Authority

The Transport Community is an international organisation in the field of mobility and transport consisting of thirty-three participants – the European Union Member States represented by the European Commission and the South East European Parties (the Republic of Albania, Bosnia and Herzegovina, Kosovo\*, Montenegro, the Republic of North Macedonia, and the Republic of Serbia) and three observing participants (Georgia, the Republic of Moldova and Ukraine).

The organisation was founded by the Treaty<sup>1</sup> establishing the Transport Community signed on 9<sup>th</sup> of October 2017 by all partners (Council Decision (EU) 2019/392).

The core obligation the parties have committed to under the Treaty is the creating of a Transport Community in the field of road, rail, inland waterway, and maritime transport, based on the progressive implementation by the regional partners of the relevant EU acquis.

Transport Community is working on integrating Western Balkans' transport markets into the EU by assisting the regional partners in adopting and implementing the EU legislation in the transport field and supporting projects connecting the region and with the EU with a specific focus on the indicative extension of the TEN-T network.

### 2.2. Information about the context which has made necessary the procurement of the services

On 15 November 2022 the Ministerial Council endorsed a joint statement advocating for the systematic involvement of Georgia, the Republic of Moldova and Ukraine in the work of the Transport Community as observing participants. This invitation has marked a significant stride toward the possible full membership of the observing participants in the TCT, holding substantial importance in the context of their ongoing efforts to align with EU standards and regulations.

TCT engagement with the observing participants commenced promptly and developed gradually throughout 2023. During that period, the attendance of Georgia, Moldova and Ukraine representatives

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\* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence

<sup>1</sup> <https://www.transport-community.org/wp-content/uploads/2022/10/treaty-en.pdf>

to TCT meetings and events was funded through dedicated EU funding (grant contract no. NDICI-GEO-NEAR/2022/441-320 of 23.12.2022).

On 23 December 2023, a new grant agreement was concluded (ref. no. NDICI-GEO-NEAR/2023/452-688 – “the Grant Contract”) for ensuring the participation of Georgia, the Republic of Moldova and Ukraine in the Transport Community during 2024 and 2025. The objectives of the new grant extend significantly beyond funding the observing participants’ attendance to TCT meetings and events, including also significant technical assistance and capacity building components.

The main scope of the technical assistance component of the Grant Contract is to support observing participants’ advances in key areas of the Transport Community, through regulatory, policy and institutional reforms.

During the consultations with the observing participants aimed at identifying the technical assistance needs to be covered through the Grant Contract, Moldovan stakeholders expressed a strong interest for developing a strategic policy and regulatory framework to support deployment of Intelligent Transportation Systems (ITS) in line with the relevant EU acquis. This topic aligns also with TCT priorities and the specific provisions of the Grant Contract, making it the focus of the current procedure and the subsequent contract to be awarded.

### **2.3. Objectives (information about the expected benefits)**

The expected benefits of the project include enhanced alignment of the Republic of Moldova with the EU transport legislation, standards, and practices, leading to a more integrated, effective and efficient transportation system. Specifically, the development of a robust policy, regulatory, and institutional framework for ITS will facilitate improved traffic management, increased road safety, and better public transport services. Additionally, the deployment of ITS will enhance data accuracy and transparency, streamline transport operations, reduce congestion, travel time and environmental impact, and ultimately contribute to the overall economic development and better connectivity of Moldova with the European Union.

### **2.4. Other programs associated with this procurement of services**

The services referred at under these Technical Specifications will be delivered solely through the contract to be subsequently awarded, no direct interference with other related programs/initiatives being anticipated during the implementation of the services.

### **2.5. Stakeholders**

The end recipient of the assistance to be delivered under the contract is the Republic of Moldova, represented by its relevant stakeholders in the ITS area. The most significant roles are played by the Ministry of Infrastructure and Regional Development (MIRD), the National Road Transport Agency (NRTA), the State Road Administration (SRA), the Naval Agency, the State Enterprise “Moldovan Railways” the State Chancellery and the Civil Aviation Authority, hereinafter referred as “key stakeholders”.

MIRD plays a key role in overseeing and guiding Moldova’s infrastructure and regional development. It is responsible for planning, implementing, and maintaining infrastructure projects, including roads, bridges, and public transportation systems, to ensure sustainable and balanced regional growth. MIRD

also regulates the energy sector, coordinates urban planning efforts, and promotes environmental sustainability. Furthermore, it implements national policies related to infrastructure and regional development, promotes investment, and collaborates with other governmental and non-governmental organizations to enhance the country's economic growth and development.

The National Road Transport Agency of Moldova is responsible for regulating and overseeing the road transport sector to ensure compliance with national and international standards. Its role includes issuing licenses and permits for road transport operators, conducting vehicle inspections, and ensuring roadworthiness. The NRTA also implements safety standards, monitors compliance, and manages geo-referenced transport data through its GIS subsystem. Additionally, the agency is involved in the electronic issuance of transport authorizations and real-time GPS monitoring of transport activities.

The State Roads Administration (SRA) in Moldova is responsible for the planning, construction, maintenance, and management of the national road network. It ensures the development and modernization of road infrastructure, oversees the quality and safety standards of roads, and manages the allocation of funds for road projects. The SRA coordinates with local and international stakeholders, implements policies related to road transport, and monitors compliance with legal and regulatory frameworks to ensure efficient and sustainable road transportation.

Implementation of this contract will require meetings and close engagement with all relevant stakeholders in the Republic of Moldova, without being necessarily limited to the key stakeholders listed above. Among others, this assignment will also require approaching private and civil society sector stakeholders as well. As part of its Activity no. 2, the Contractor will undertake a detailed stakeholder mapping and analysis and prepare a comprehensive stakeholder engagement plan. It should also be noted that, while this assignment will focus primarily on the road sector, **the scope of the ITS strategy extends to all transport modes covering also an urban transport component and the stakeholder engagement plan should be drafted accordingly.**

The Contracting Authority will facilitate initial communication and contact between the Contractor and the key stakeholders. Further communication and engagement will fall under the responsibility of the Contractor. Contact with other key stakeholders will be facilitated by MIDR, as needed. The Contractor should be well aware that, while the Contracting Authority will be its sole interlocutor on all matters pertaining to the management of the Contract, all deliverables should be prepared to the full satisfaction of the end recipients (MIDR and other key stakeholders), who will be using the results for the policy and legislative reform process.

### **3. Description of the services**

#### **3.1. Description of the present situation**

MIRD and other relevant stakeholders are actively working on transforming and digitizing the transport sector in the Republic of Moldova through various initiatives. Key developments in the road sector include the introduction of several subsystems within NRTA's Integrated Information System, such as the Public Portal for accessing information and services, the *Autotest* system for roadworthiness inspections, the *e-Autorizatie* platform for electronic transport authorizations, and the GIS subsystem (*GEO ANTA*) for managing geo-referenced transport data. Furthermore, Moldova is developing new components like e-ticketing (*e-Bilet*) for public transport, GPS monitoring for real-time tracking of

transport activities, and advanced analytics and reporting tools. An electronic booking system for international haulers has also been launched to streamline customs and border-crossing processes. Progress on other transport modes is scarce. Deployment of ERTMS is not currently a high priority for the severely under-financed and strained Moldovan railway sector. In the waterborne transport sector, the Naval Agency is currently carrying out a Feasibility Study for VTMS and NMSW implementation, while RIS deployment is also planned. The main municipalities in Moldova have developed Sustainable Urban Mobility Development Plans (currently available for the cities of Chisinau, Cahul, Edinet and Balti). However, ITS deployment in the Republic of Moldova remains patchy, being achieved on a project basis only, rather than by pursuing a systematic and coordinated approach. Regulatory compliance with the relevant acquis is not achieved, and the related institutional framework has not been yet established.

Additional challenges, including limited internal capacity and a nascent internal market for ITS solutions have made Moldova to seek assistance for setting-out a national strategic framework for ITS deployment, ensuring seamless and coordinated implementation and full alignment with relevant developments at EU level.

### **3.2. General/overall objective to which the services shall contribute**

The **general/overall objective** of the services is to support the alignment of the Republic of Moldova's legislation, standards, and practices with those of the European Union. This objective will not be attained solely by the implementation of the services. However, the services are expected to contribute towards its realisation.

### **3.3. Specific objective to which the services shall contribute**

The **specific objective** of this Technical Assistance is the preparation of an ITS Strategy aimed at developing the policy, regulatory and institutional framework in line with the EU requirements for the deployment of ITS in the Republic of Moldova, as well as a high-level ITS architecture and standard technical specifications.

### **3.4. Services and activities to be performed**

For achieving the above-mentioned objectives, the Contractor is requested to perform the following activities and tasks:

#### **Activity 1: Inception Phase**

During the inception phase, the Contractor will perform preparatory activities, laying the groundwork for the subsequent stages of the project. This includes mobilisation of the team of experts and initial contacts (kick-off meeting and key stakeholders' engagement). In parallel, a comprehensive desk review of the Technical Specifications and related documentation will be undertaken. Based on the additional knowledge gained from initial contacts and documentary review, the Contractor will further develop its tender work plan and refine the risk analysis and mitigation strategy.

#### **Activity 2: Assessment of the current legal, institutional and technological context of ITS deployment in Moldova**

The main goal of this activity is to provide a review of the existing status of ITS in the Republic of Moldova identifying gaps and areas for improvement that should support successful introduction of ITS in the country. The Contractor will assess current status of ITS deployment in all transport modes as per the relevant EU regulations and ITS best practices/benchmarks. The gap analysis will address legal, technological, market, and institutional context taking into account the EU legal framework and ITS best practices as reference.

The findings and recommendations from this activity will serve as key input for the development of the national ITS strategy.

This activity consists in the following tasks:

**a) Regulatory framework review**

Under this task the Contractor will review the relevant EU legislation and the currently in force normative framework in the Republic of Moldova in order to identify gaps to be further addressed in subsequent project's stages. The relevant EU acquis consists notably in Directive 2010/40/EU (as further amended), setting up the framework for ITS deployment coordination and harmonization (with all relevant subsequent modifications and updates) and the related primary, secondary and tertiary legislation. Other legal acts with specific relevance for individual transport modes shall be also assessed, including but not limited to EU acquis related to ERTMS (Commission Implementing Regulation (EU) 2023/1695), VTMS (Directive 2002/59/EC) RIS (Directive 2005/44/EC), Maritime Single Window (Regulation (EU) 2019/1239), etc.

In performing this task, the Contractor will perform the following sub-activities:

- Analysing existing strategies, plans, policy frameworks, primary and secondary legislation, and other relevant documents (technical norms, standards, etc.).
- Reviewing the relevant EU legislation for all transport modes.
- Conducting a compliance assessment of the current legislation of Republic of Moldova with the EU legal framework.
- Identifying necessary additions and amendments of the existing regulations/technical standards and specifications, to be further implemented under Activity 5.

**b) Institutional framework review**

The scope of this task is two-pronged:

- To assess the compliance gap with the requirements set-forth by the relevant EU acquis.
- To identify and map institutional capacity and governance challenges potentially hindering further progresses of ITS implementation.

Based on an assessment of organizational structure, staffing, operational procedures, performance metrics, and funding constraints, the stakeholder mapping and analysis should provide understanding of current and expected involvement, and training needs and include a narrative part describing the roles of all relevant stakeholders, capabilities, and resources.

The Contractor is required to conduct the following sub-activities:

- Public and private stakeholders' identification and mapping.

- Preparing and implementing a stakeholder engagement plan.
- Assessing stakeholder's capacity and identifying functional constraints and gaps regarding their current roles in the relevant institutional framework.
- Conducting a gap assessment with regard to the institutional framework requirements imposed by the relevant EU acquis, by:
  - ✓ Evaluating current institutional capacities and roles in ITS deployment.
  - ✓ Identifying institutional gaps and capacity-building needs to meet EU requirements.

### **c) Technological context and deployment status review**

Under this task, the Contractor will review the status of deployment and the technological context of ITS in Moldova, identifying constraints and opportunities for sustainable deployment. Recommendations for the gradual implementation of ITS technologies and services, aligned with best EU practices and current capabilities, will be also included.

This task includes the following sub-activities:

- Undertaking a situational analysis of ITS implementation to date, reviewing existing ITS infrastructure, technologies, services and systems deployed in Moldova.
- Identifying constraints and opportunities deriving from the current status quo.
- Provide recommendations aligned with best practices in the area for the adoption of EU compliant ITS architecture.

### **d) ITS sector funding review**

The objective of this analysis is to evaluate the current funding models for ITS deployment and operation across various transport modes. This includes assessing the sustainability of financing arrangements at different levels (national, per individual transport sectors, at municipalities level) and examining the scale and structure of user charges (where applicable), public sector funding sources, levels of public support, and local capacity for cost-sharing.

The Contractor will perform the following activities:

- Evaluate current funding models for ITS deployment and operation across road, rail, inland waterways, and air transport as well as at the level of the main municipalities (where applicable).
- Analyse sustainability of funding arrangements for short, medium and long-term at national and municipalities levels.
- Assess user charge structures and public sector funding sources.
- Evaluate levels of public support and local cost-sharing capacity.
- Draft conclusions and recommendations to be further pursued in subsequent project stages.

### **Activity 3: Preparation of a National ITS Strategy and Action Plan**

Building on the findings of Activity 2 and the outcomes of a SWOT analysis, the Contractor will be further establishing an overall vision and strategic objectives for ITS development in Moldova. This includes:



- Developing a detailed ITS strategy that integrates these strategic goals, ensuring alignment with regulatory requirements and operational efficiency.
- A comprehensive action plan will also be formulated, encompassing short, mid, and long-term measures to achieve the defined objectives. Actions shall be grouped under key priority areas (legal, institutional, technical) and aligned with EU standards and best practices.
- Additionally, a high-level national ITS architecture for the road sector will be designed to serve as a unified framework for the conception, design, and implementation of diverse ITS services, ensuring interoperability and scalability across systems.

This activity consists in the following tasks:

**a) Setting up the vision, objectives and key performance indicators (KPIs)**

The Mobility Strategy 2030 of Moldova sets an ambitious vision for the development of the future transport network. The vision is defined through criteria the future national transport system shall comply with, notably safety, digitalisation, environmental and social sustainability (see chapter 3 of the Mobility Strategy 2030).

Within the scope of General Objective 1 (Improvement of the management of road assets, rehabilitation and modernization of the road network, and support of safe and sustainable road transport), the strategy defines Priority direction 1.7: ITS access and high-level digitalization of road transport system.

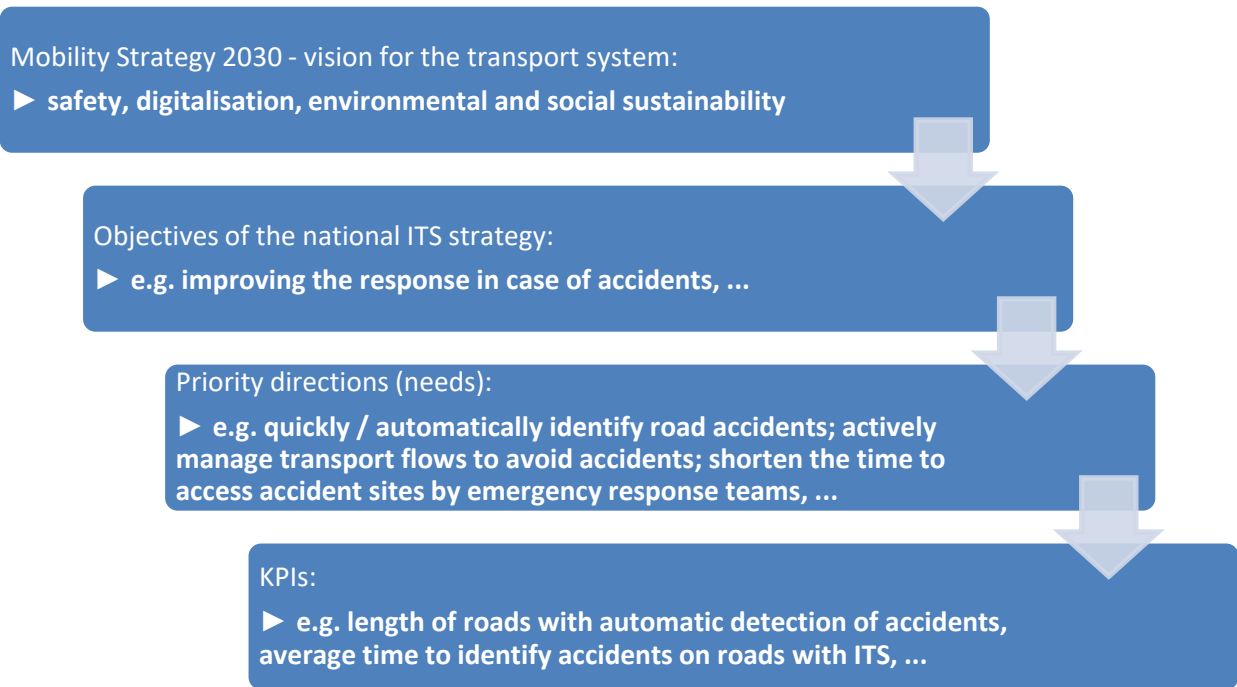
The National ITS Strategy shall be developed within the framework of the vision from the Mobility Strategy 2030.

The overall vision and objectives for ITS deployment in Moldova shall have dual purpose: to translate the high-level objectives of the Mobility Strategy to objectives within the realm of ITS, while allowing for definition of specific, actionable goals for each transport subsector. In the road sector, for example, such objectives can be: improving the response in case of accidents, optimization of road planning and maintenance, improving travel comfort and driver awareness, etc.

Based on the objectives of ITS in the country, the consultant shall identify needs (i.e. priority directions). For example, to improve the response in case of accidents, ITS need to be able:

- to quickly / automatically identify road accidents;
- to actively manage (slow down, stop, reroute) transport flows to avoid accidents;
- to shorten the time to access accident sites by emergency response teams.

KPIs shall be defined to measure the progress of implementation of the strategy with realistic target values and measurement methodology.



The Contractor will perform the following activities:

- SWOT analysis of the current ITS deployment status in Moldova, based on the findings of Activity 2. Detailed analysis of the current situation summarized in the SWOT framework will be used as a basis for further developing the objectives and priority directions. SWOT analysis shall also provide basis for proposing clear organizational structure for ITS implementation and governance.
- Definition of objectives and priority directions in close cooperation with and based on feedback from the key stakeholders.
- Definition of related KPIs, as well as monitoring and evaluation framework (base and target values, measurement methodology).
- Carry out a workshop for results validation.

#### **b) Preparation of a National ITS Strategy**

The strategy is meant to serve as a comprehensive blueprint for ITS development and implementation in the Republic of Moldova. It shall encompass all previously conducted analyses, including assessments of the current status, and build upon the agreed vision and objectives. The strategy should outline objectives and priority directions for each transport mode at both national and urban levels, providing a persuasive narrative on how the proposed measures will achieve the defined vision and strategic objectives for the transport system. A clear delineation between the roles of local/regional and national decision-makers and stakeholders should be also included, ensuring effective coordination and avoiding potential conflicts at both local/regional and national levels. Regarding urban transport, the Contractor shall focus specifically on issues such as ticketing and booking systems, shared mobility services, and MaaS.

The strategy will have to observe the content and formal requirements imposed by the regulation approved through GD no. 386/2020.

Based on the work done so far, the Contractor shall:

- Draft the strategy in accordance with the legislation and requirements of the stakeholders, incorporating the outcomes of all previous activities;
- As part of this process, develop and substantiate the intervention logic, demonstrating how the implementation of the objectives will contribute to the achievement of strategic objectives and vision.

**c) Preparation of an implementation program (Action Plan for the National ITS Strategy)**

Under this task, the Consultant will complement the strategy with a dedicated implementation program as per the provisions of GD no. 386/2020, consisting in a descriptive part and a detailed action plan. The implementation program will follow the structure prescribed by GD no. 386/202 and will include short, mid and long-term measures for achieving the defined specific objectives.

The action plan will have a clear list of prioritized measures with estimated costs and duration, responsible entity(ies) and recommended monitoring mechanism(s). Namely, for each measure, the following information shall be included: (i) description of the measure, (ii) responsible entity, (iii) costs, (iv) funding source (v) status of the financial arrangements, (v) implementation period (starting and ending date) (vi) monitoring indicators, (vii) risks and mitigation measures and (viii) priority ranking. For each measure, the potential need for technical assistance shall be highlighted, all future support activities being packed into potential specific projects.

The following specific sub-activities will be performed under this task:

- Define a detailed implementation Action Plan.
- Carry out a workshop for the national ITS strategy and action plan presentation and validation.

**d) Drafting of a high-level National ITS Architecture compatible with EU standards and best practices**

The high-level national ITS architecture will provide a unified framework supporting the efficient and integrated deployment of ITS services across Moldova and all transport modes, focusing on the road sector. It will enhance the coordination and functionality of various transport systems, improve user experience, and facilitate sustainable transportation development in line with international standards.

The high-level ITS architecture will ensure compliance with the EU standards, considering key aspects such as interoperability, scalability and flexibility. The Contractor will assess the use of FRAME-NEXT framework for describing the system functionality. The decision to be taken in this regard shall consider (among other) issues such as full interoperability with neighbouring countries, potential EU funding for further ITS deployment and any legal obligations arising from the relevant acquis.

In delivering the services corresponding to this task, the Contractor will perform the following activities:

- Create a high-level conceptual model outlining the key components and their interactions within the ITS ecosystem.
- Based on the objectives and priority directions, define the functions and services that the ITS architecture will support, such as traffic management, public transportation, toll collection, and emergency response.
- Specify the hardware and communication infrastructure required, including sensors, communication networks, data centres, and user interfaces.

- Develop a data management framework that outlines data collection, storage, processing, and sharing protocols to ensure consistent and accurate information flow.
- Deliver dedicated training session on the European ITS High-Level Architecture.

#### **Activity 4: Prepare Standard Technical Specifications for ITS for the road sector**

ITS standard technical specifications provide the detailed technical requirements and standards needed to implement and ensure the proper functioning of ITS components. Alongside with the high-level architecture, standard technical specifications are essential for the successful deployment of ITS, ensuring that individual components are interoperable and compliant with regulatory requirements and industry standards.

Under this activity, the Contractor will develop standard technical specifications to ensure the compatibility, interoperability and continuity for the deployment and operational use of ITS for the priority actions, in line with the specifications and requirements of the relevant acquis and best practices at EU level.

This activity consists in the following tasks:

##### **a) Hardware specifications definition**

This task includes specifying the technical requirements for ITS components such as sensors, cameras, communication devices, traffic signal controllers, and other critical hardware. Performance criteria such as accuracy, response time, environmental resilience, and compatibility with existing systems must be clearly defined. The hardware specifications should also outline interoperability features to ensure seamless integration with other ITS components and systems, both current and future.

The Contractor will perform the following sub-activities:

- Develop technical specifications for ITS hardware components, such as sensors, cameras, communication devices, and traffic signal controllers.
- Specify performance criteria, durability, environmental requirements, and interoperability features.

##### **b) Outlining Software Standards**

This involves defining system architecture requirements, user interfaces, data management protocols, cybersecurity and maintenance measures. The software standards must ensure that applications are interoperable, scalable, and secure, with clear guidelines for updates and maintenance.

The following specific sub-activities will be performed under this task:

- Establish standards for ITS software, including system architecture, user interfaces, data management, and cybersecurity and maintenance measures.
- Define requirements for software interoperability, scalability, and update mechanisms.

##### **c) Setting Communication Protocols**

This task involves defining the technical standards for wireless communication, data encryption, and network resilience. Protocols must ensure that data is transmitted efficiently and securely across different systems, facilitating real-time information sharing and coordination. By establishing

standardized communication protocols, the ITS architecture will support seamless integration and interoperability, enhancing the overall effectiveness of the transport system.

In delivering the services corresponding to this sub-task, the Contractor will perform the following sub-activities:

- Define communication protocols for data exchange between ITS components, ensuring reliable and secure communication.
- Specify standards for wireless communication, data encryption, and network resilience.

#### **d) Draft Technical Specifications Documents**

The Contractor shall comprehensively draft the specifications for hardware, software, communication protocols, and data referred at above in standard ITS Technical Specifications. They shall be written in a clear and accessible manner, providing precise instructions and requirements that stakeholders and implementing entities can easily follow. This documentation will serve as a reference guide, ensuring that all aspects of the ITS deployment are consistent with the defined standards.

The document shall be composed of two parts:

- Part A – Standard ITS technical specification, containing typical provisions, as defined under a) – d), and
- Part B – Provisions for particular application – a document which shall serve as a template for defining requirements for particular ITS applications.

The contents of these documents are outlined in Appendix 1.

The Contractor will perform the following sub-activities:

- Prepare detailed technical documents outlining the specifications for hardware, software and communication protocols.
- Carry out a training session for stakeholders, ensuring that all relevant parties are familiar with the standards and their application.

#### **Activity 5: Draft primary legislation and bylaws ensuring full compliance with the provisions of the relevant EU acquis**

Building on the conclusions of Activities 2 and 3, the Contractor will be setting up the necessary regulatory framework for ensuring full compliance with the EU acquis in the ITS sector and supporting ITS deployment and operation in Moldova. The indicative list of EU acquis to be addressed under this task consists mainly in Directive 2010/40/EU (as amended) and its delegated acts, indicatively listed in Appendix 2 (for information purposes). This task includes developing draft new laws or amendments to existing legislation to align with EU directives and regulations, facilitating seamless integration and interoperability of ITS systems across the region. The process entails comprehensive legal research, stakeholder consultations, and thorough reviews to ensure the drafted legislation addresses all necessary aspects, such as data protection, system interoperability, and technical standards. Additionally, dedicated bylaws will be formulated to operationalize the primary legislation, providing specific guidelines and requirements for the institutional, technical and operational aspects of ITS deployment.

The Contractor will ensure that the proposed legal package will ensure full compliance with the EU acquis (once/if adopted by the national authorities without any substantial modifications). Implementation will nevertheless be gradual with certain provisions coming into force in later stages. The timeline to be established in this regard will be aligned with the Action Plan to be prepared under Activity 3.

In the performance of this activity, the Contractor will observe in full the provisions of Law no. 100/2017 regarding legal acts. For each individual EU legal act to be transposed under this activity, the Contractor will also prepare:

- Explanatory notes explaining the purpose of the harmonization and how the act conforms to EU requirements.
- An impact analysis assessment carried out in accordance with the methodology approved by Government Decision no. 23/2019 (where necessary).
- A dedicated table of concordance, demonstrating how the proposed legislative/regulatory measures ensure compliance with the relevant acquis.

### 3.5. Expected results/outcomes following the performance of the services

The deliveries to be achieved under the Contract include technical reports and workshops/training sessions corresponding to the activities and tasks outlined above.

#### 3.5.1 Technical Reports

No.	Report	Description
1.	Inception Report	Presentation of the outcomes of Activity 1, including detailed implementation plan and updated risk mitigation strategy
2.	Diagnosis Report	Outcome of Activity no. 2
3.	ITS Vision and Strategic Objectives	Outcome of Task a) under Activity no. 3
4.	ITS National Strategy and Action Plan	Outcome of Tasks a), b) and c) under Activity no. 3
5.	High-level National ITS Architecture	Outcome of Task d) under Activity no. 3. Will include also concept and timeline for the dedicated training session
6.	Standard Technical Specifications for ITS (road sector)	Outcome of Activity 4. Will include also concept and timeline for the dedicated training session
7.	ITS legislative package	Outcome of Activity 5. Besides the draft laws, bylaws and corresponding tables of concordance (to be annexed), the report will include a short narrative description on how the proposed package will ensure full approximation of the relevant EU acquis

8.	Final Report	Brief summary of all tasks carried under the Contract and the related outcomes.
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All reports shall be prepared in English and Romanian language.

All deliverables to be produced under the Contract must comply with the latest Communication and Visibility Requirements for EU-funded external actions, as published by the European Commission.

Draft version of the deliverables shall be handed over in electronic editable format. The approved version of the deliverables shall be also delivered in two hard copies.

### 3.5.2 Workshops and trainings

No.	Deliverable	Description
1.	Workshop for presenting and discussing the ITS vision and strategic objectives	Presentation, feedback collection and validation of the proposed vision and strategic objectives
2.	Workshop for presenting and discussing the National ITS Strategy and Action Plan	Presentation, feedback collection and validation of the National ITS strategy and Action Plan
3	Training in European ITS Framework Architecture	A detailed presentation on the European ITS Framework Architecture including best practices and guidelines to ensure specific and practical knowledge for relevant stakeholders in Moldova.
4.	Training on the ITS standard Technical Specifications	Detailed presentation of the ITS standard Technical Specifications to ensure specific and practical knowledge for relevant stakeholders in Moldova.

### 3.6. Main duties and responsibilities of the parties

The Contractor shall be fully responsible for:

- Planning its resources in line with the activities to be carried out and the deliverables to be produced under the Contract and the estimated schedule for the performance.
- Fulfilling its obligations, in accordance with industry best practices, the relevant legal and contractual provisions, and a comprehensive understanding of the Contract requirements, to ensure the achievement of the established objectives and adherence to required quality standards.
- Securing all necessary authorizations and certifications required for service delivery (if applicable).

- Maintaining flexibility in the delivery of services to adapt to the Contracting Authority and key stakeholders' needs of the Contracting Authority which may involve adjusting service schedules as necessary to address on-the-ground challenges.
- Collaborating with designated personnel from the Contracting Authority and key stakeholders.
- Arranging all logistics for workshops and training sessions conducted under the contract.

The Contracting Authority shall be responsible for:

- Facilitating contacts with key stakeholders in the Republic of Moldova;
- Taking over the deliverables and paying the Contract price at the time and in the manner prescribed in the Contract.

#### 4. Assumptions and risks

The Contracting Authority will facilitate the initial contact with the key stakeholders. The Contractor will be responsible for maintaining the consultation process with all stakeholders throughout the Contract execution to ensure that all necessary information is collected and to disseminate the project's results. The Contractor should anticipate potential risks related to low responsiveness and cooperation from some stakeholders and implement appropriate mitigation measures.

Within 7 days from the date of commencement, the Contracting Authority will deliver the following documents to facilitate the documentary review:

Document to be delivered	Language
Moldova's National Mobility Strategy 2030	Romanian and English
Rail Transport Code	Romanian
Road Transport Code	Romanian
Technical Concept on Integrated Management System in the field of road transport	Romanian
Commercial Maritime Navigation Code of the Republic of Moldova	Romanian
Road law	Romanian

It will be the Contractor's responsibility to identify any additional documents potentially relevant for this assignment during the stakeholder consultation stage. As a matter of principle, while some relevant documents might also be available in English, it should be assumed that most will be available in Romanian only.

#### 5. Approach and methodology

The Contractor will employ a systematic and comprehensive approach grounded in industry best practices in carrying out the services under the Contract.



The methodology will emphasize a phased approach, with clear definition and management of the critical path. Tasks and activities that are not dependent on each other will be undertaken in parallel to minimise delay risks.

The Contractor will incorporate feedback from stakeholders and subject matter experts throughout the process to ensure high quality of the deliverables and full ownership from key stakeholders. Regular monitoring and evaluation will facilitate adjustments and improvements, ensuring that the final deliverables meet the evolving needs of Moldova’s transport sector while adhering to the highest standards of efficiency, sustainability, and regulatory compliance.

Quality assurance measures will be implemented at each stage, as per the QA plan to be included in the tender.

Overall, the Contractor will adopt a collaborative and iterative approach, leveraging international expertise and benchmarks to tailor solutions that align with Moldova’s specific socio-economic context and strategic objectives.

## 6. Timeline of activities/services

The project’s main milestones are presented in table form below. Deadlines for workshops and training sessions will be proposed by the Contractor, in due observance of the indicated time margin.

No.	Activity	Deadline
1.	Kick-Off Meeting	Commencement + 2 weeks
2.	Inception Report	Commencement + 2 months
3.	Diagnosis Report	Commencement + 4 months
4.	ITS Vision and Strategic Objectives	Commencement + 6 months
5.	Workshop no. 1 (ITS vision and strategic objectives)	<i>Within the margin of Task a) under Activity no. 3</i>
6.	ITS National Strategy and Action Plan	Commencement + 8 months
7.	Workshop no. 2 (ITS National Strategy and Action Plan)	<i>Within the margin of Task b) under Activity no. 3</i>
8.	High-level National ITS Architecture	Commencement + 8 months
9.	Training in European ITS Framework Architecture	<i>Within the margin of Task d) of Activity no. 3</i>
10.	Standard Technical Specifications for ITS	Commencement + 10 months
11.	Training (ITS Technical Specifications)	<i>Within the margin of Activity no. 4</i>
12.	ITS legislative package	Commencement + 11 months

13.	Final Report	Commencement + 12 months
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## 7. Approval of services

### 7.1 Approval of technical reports

Contracting Authority’s feedback shall be submitted within 35 days upon receipt of the draft version of a deliverable and may take one of the following forms:

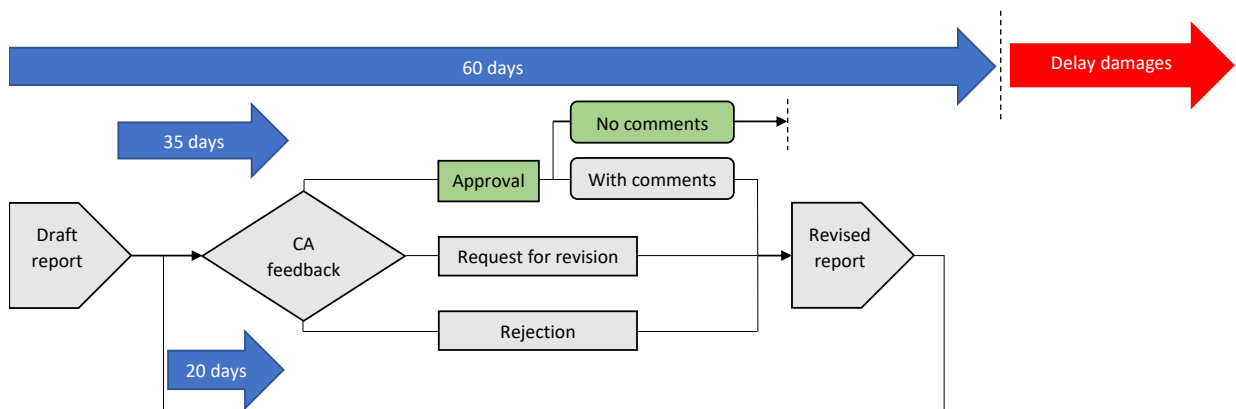
- a. Unconditioned approval;
- b. Approval with comments;
- c. Request for revision (in case the deliverable needs quality and/or content improvement);
- d. Rejection (in case the minimum contractual requirements on the deliverable’s content and quality are not met).

In cases listed at points b, c and d above Contracting Authority’s decision shall be accompanied by a list of comments that the Contractor will have to consider when preparing a revised version of the deliverable. The Contractor shall submit the revised deliverable as soon as practically possible, accompanied by explanations on how Contracting Authority’s comments were addressed. The Contracting Authority shall provide its feedback within 20 days from such submission. The Contracting Authority’s feedback on revised deliverables will focus solely on how the initial comments were addressed.

Notwithstanding the Contracting Authority’s entitlement to reject or request a revision of a deliverable until its feedback is properly addressed, failure of the Contractor to have its reports approved within 60 days from the initial submission would trigger delay damages applicable, starting from the first day following such deadline.

Contracting Authority’s failure to send feedback within the time limits set under this article would result in the reports being deemed approved starting from the day following the date such feedback was due.

The typical sequence of report approval events is presented graphically below:



## 7.2 Workshops and trainings

Upon the delivery of the workshops and trainings, the Contractor will send the Contracting Authority short summaries, including workshops minutes and conclusions, prepared materials, agenda and signed attendance lists.

The Contracting Authority will approve the workshops and training summaries within 20 days from submission, providing that information therein included is factually correct.

## 8. Place and duration of activities/services

### 8.1. Place of activities/services

Contracting Authority's headquarters are located in Belgrade, Republic of Serbia. While the Contractor's staff may occasionally need to be physically present in Belgrade, priority will always be given to the online option for regular coordination and review meetings. Most of the activities under the Contract can be conducted remotely. However, **extensive presence of the Contractor's team will be required in Chisinau, Republic of Moldova**, for stakeholder engagement, dedicated meetings, documentary review, workshops, and trainings. The Contractor must ensure adequate planning of activities and resources to guarantee the presence of its key staff in Chisinau whenever necessary.

### 8.2. Period of Performance of the Contract

The Period of Performance of the Contract is **12 months**. Subject to the procurement procedure being concluded as scheduled, the **indicative** month for contract commencement is November 2024. However, the Contracting Authority assumes no liability for any extensions of the procurement procedure beyond the indicative timeframe mentioned above, nor for the consequences of any other event or circumstance occurring prior to the signing of the Contract.

## 9. Staff

The team should include experts with sufficient qualifications and capacity to perform all obligations of the Contractor as described in these Technical Specifications in a timely manner throughout the term of the Contract.

Experts who have a crucial role in implementing the contract are referred to as key experts. The profiles of the key experts for this contract including minimum requirements regarding qualification and skills, specific professional and project related experience are provided below:

No.	Key Expert	Qualifications and Skills	Professional Experience	Specific/project-related experience**
1	Team Leader and ITS policy expert	University and/or advanced degree in a field of expertise relevant for this assignment (for example transport engineering, transport economics, legal, information technology, electronics, telecommunications, or another relevant field*)  Proficient English user. Proficient knowledge of Romanian language constitutes an advantage	General professional experience of 15 years  At least 10 years of experience in ITS  Proven record in working with government entities and private organization in preparing ITS strategies and policies	Working experience in a similar position*** in 2 projects in ITS field.
2	ITS Planning and Design Expert	University and/or advanced degree in transport engineering, transport economics, information technology, electronics, telecommunications or another relevant field*  Proficient English user. Proficient knowledge of Romanian language constitutes an advantage	At least 10 years in planning and designing ITS solutions.	Working experience in 2 projects of similar scope**** in which the expert performed similar activities such as planning and design of ITS deployments.
3	Legal and regulatory expert	University and/or advanced degree in law or another relevant field*  Proficient English and Romanian user.	At least 8 years of experience in legal practice related to transport sector.	Proven experience in working with EU acquis drafting, transposition/ approximation.  Proven experience in drafting legislation and regulatory frameworks

\* A field of expertise (other than those specifically identified) will be considered relevant for this assignment if providing the graduate with specific knowledge in information technology, transport or public policies.

\*\*For project-related experience to be considered fulfilled, it should refer to a project that was completed within the last five years from the time-limit for submitting bids under the current project.

\*\*\* "Similar position" means Team Leader, Project Manager or equivalent, providing that the activities undertaken included full and direct responsibility for the project delivery and coordinating of the entire project team.

\*\*\*\* for a project to be considered as having a similar scope, it should refer to either a) preparation/revision/update of ITS-related strategies, policy frameworks, architecture or standard technical specifications or ITS specific solutions deployment.

The Contractor is responsible to select, hire and/or use any other experts whose inputs might prove necessary for the proper delivery of services without seeking Contracting Authority's prior approval in this regard. Such staff include (without being limited to) ITS experts per individual transport modes, transport economists, or local experts.

The costs for other experts, backstopping and support staff as needed, are considered to be included in the Contractor's financial offer.

While no timesheets will be produced and verified under the Contract, the Contractor shall ensure that its key staff are personally and effectively involved in the delivery of services, notwithstanding

contributions from other experts and backstopping personnel. The Contractor guarantees that key experts will be available at any time during the implementation of the Contract for ad-hoc meetings, provided reasonable prior notice is given.

The key experts must demonstrate their knowledge and direct involvement in their respective areas of responsibility for the performance of the services. A lack of personal involvement by key experts during the performance of the Contract will be considered a serious breach of the Contractor's obligations.

#### **10. Meetings and phone conferences**

The Contractor is expected to participate in the following meetings/phone conferences:

- Kick-off meeting, at the latest 15 days following the commencement of the contract (online).
- In-person and online meetings with relevant stakeholders in Chisinau, Republic of Moldova, for collecting information/data and disseminating projects' results.
- Ad-hoc and/or regular progress review meetings with the Contracting Authority's personnel for ensuring proper management and monitoring of the services delivery (in person or online).

The Contractor shall provide minutes for each meeting or conference call. The minutes should be drafted by the Contractor within 3 days following the meeting or call and need to be agreed upon by all present parties.

## **Appendix 1 – Contents of the Standard ITS Technical Specification**

### **Part A – Standard ITS Technical Specification**

#### **1 Introduction**

Outline purpose and scope of the document;

#### **2 National ITS Architecture**

Based on the ITS strategy present:

- (1) overview of the existing systems and the interfaces between them;
- (2) high-level discussion on how future components are going to fit together;
- (3) statement of the objectives and needs of ITS in the country;
- (4) detailed enumeration of the functionalities of ITS, stemming from the needs;
- (5) overview of the physical architecture of ITS to deliver the functionalities listed in (4) – components of ITS, different systems and subsystems, interfaces with external systems and entities, etc.

#### **3 General Provisions**

Specify in detail:

- (1) main applicable national and international standards;
- (2) general requirements for power supply;
- (3) general requirements to the communication environment – communication system types, principles for deciding their applicability, etc.;
- (4) installation of equipment – general requirements to fencing and cases, foundations and structures, pipelines for power and communication cables, construction of shafts, general requirements to cables, etc.;
- (5) general requirements for testing and commissioning – specification of all types of tests before, at and after completion;
- (6) certification of equipment and materials;
- (7) compatibility of components of the system;
- (8) software and other licenses, costs for acquiring and maintaining the licenses;
- (9) handing-over and storage of codes, keys and passwords;
- (10) capacity of the systems;
- (11) temporary traffic management;

- (12) health and safety;
- (13) system languages, etc.

#### **4 Operation and Maintenance**

- (1) general requirements;
- (2) operation and maintenance manuals – duty of the contractor to deliver the manuals;
- (3) training of employer’s personnel – enumeration of the types of employer’s personnel, together with types and typical scope of trainings the contractor shall deliver;
- (4) maintenance – types of maintenance (corrective, preventive, software, in case of emergencies, etc.) and scope of contractor’s duties;
- (5) defects liability – definitions of defects liability and notification periods for the system, defects notification and rectification procedures;
- (6) insurance – contractor’s duty to insure the systems.

#### **5 Communication Network**

- (1) general requirements;
- (2) elements of optical networks;
- (3) specific technical requirements to optical networks;
- (4) operation and maintenance requirements;
- (5) operation of the communication network during construction.

#### **6 Data Collection Equipment**

- (1) general provisions – types of roadside stations covered by the document, e.g. fixed cameras, PTZ cameras, laser detectors, inductive loops, weigh-in-motion sensors, meteorological stations, etc.;
- (2) for each type of station, a statement of its
  - (i) purpose,
  - (ii) description of the physical and software components of the station,
  - (iii) functional requirements to the station and its components,
  - (iv) technical requirements to the station and its components,
  - (v) construction requirements,
  - (vi) requirements for placing the stations – distances from other equipment and infrastructure,
  - (vii) specific operation and maintenance requirements.

#### **7 Traffic Management Equipment**

- (1) general provisions – types of VMS;
- (2) for each type of VMS, a statement of its
  - (i) purpose,
  - (ii) description of the physical and software components,

- (iii) functional requirements to the module and its components,
- (iv) technical requirements to the module and its components,
- (v) construction requirements,
- (vi) requirements for placing the modules – distances from other equipment and infrastructure,
- (vii) specific operation and maintenance requirements.

## **8 Software Applications**

- (1) overview of what software applications are to be delivered as part of ITS;
- (2) detailed specification of the functionality the applications are to provide, in order to achieve 2. (4);
- (3) implementation requirements,
- (4) requirements to user interfaces; (5) technical requirements.

## **9 Control Centres**

- (1) purpose;
- (2) functional requirements;
- (3) hardware components;
- (4) implementation requirements (including standard layout);
- (5) placement principles;
- (6) technical requirements;
- (7) operation and maintenance requirements.

## **10 Level of Service**

Definition of the functionality and systems to be provided for different types of roads (in terms of type and placement of the equipment).

## **Part B – Requirements for particular application**

The technical specification shall be accompanied by a document, which shall serve as a template for defining requirements for particular ITS applications. The document shall form a part of the contracts for implementation of ITS, together with the standard ITS technical specification. The document shall provide details, such as:

- Geographical scope of the project.
- Aimed level of service (as per chapter 10).
- List of roadside stations with their km positions (i.e. placement of the types of stations from chapters 6 and 7).
- Specification of a control centre (if any), or arrangements to connect the systems to an existing one (as per chapter 9).
- Software applications to be provided (as per chapter 8).
- Any other specific provisions, modifying the standard technical specification, e.g. extending the duration of defects liability period, specific insurance value, etc.



## Appendix 2 - Indicative list of EU acquis to be approximated under this assignment

<p>Directive 2010/40/EU of the European Parliament and of the Council of 7 July 2010 on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport (OJ L 207, 6.8.2010, p. 1) – as modified through Directive (EU) 2023/2661 of the European Parliament and of the Council of 22 November 2023 amending Directive 2010/40/EU on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport</p>
<p>Commission Implementing Decision 2011/453/EU of 13 July 2011 adopting guidelines for reporting by the Member States under Directive 2010/40/EU of the European Parliament and of the Council (OJ L 193, 23.7.2011, p. 48).</p>
<p>Commission Implementing Decision (EU) 2016/209 of 12 February 2016 on a standardisation request to the European standardisation organisations as regards Intelligent Transport Systems (ITS) in urban areas in support of Directive 2010/40/EU of the European Parliament and of the Council on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport (OJ L 39, 16.2.2016, p. 48).</p>
<p>Commission Delegated Regulation (EU) No 305/2013 of 26 November 2012 supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to the harmonised provision for an interoperable EU-wide eCall (OJ L 91, 3.4.2013, p. 1).</p>
<p>Commission Delegated Regulation (EU) No 885/2013 of 15 May 2013 supplementing ITS Directive 2010/40/EU of the European Parliament and of the Council with regard to the provision of information services for safe and secure parking places for trucks and commercial vehicles (OJ L 247, 18.9.2013, p. 1).</p>
<p>Commission Delegated Regulation (EU) No 886/2013 of 15 May 2013 supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to data and procedures for the provision, where possible, of road safety-related minimum universal traffic information free of charge to users (OJ L 247, 18.9.2013, p. 6).</p>
<p>Commission Delegated Regulation (EU) 2015/962 of 18 December 2014 supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to the provision of EU-wide real-time traffic information services (OJ L 157, 23.6.2015, p. 21).</p> <p>Commission Delegated Regulation (EU) 2022/670 of 2 February 2022 supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to the provision of EU-wide real-time traffic information services (OJ L 122, 25.4.2022, p. 1).</p>
<p>Decision No 585/2014/EU of the European Parliament and of the Council of 15 May 2014 on the deployment of the interoperable EU-wide eCall service (OJ L 164, 3.6.2014, p. 6).</p>