

**REQUEST FOR EXPRESSIONS OF INTEREST
CONSULTING SERVICES – FIRMS SELECTION**

Republic of Serbia

The Serbia Railway Sector Modernization Project (SRSM)

Project ID No. P170868

Assignment Title:

**Technical Assistance for Preparation of Weather Resilience and Climate Change
Adaptation Strategy**

Reference No. SER-SRSM-QCBS-CS-23-54

The Republic of Serbia has received a Loan from the International Bank for Reconstruction and Development (IBRD) in the amount of EURO 51 million and from the Agence Francaise de Développement (AFD) in the amount of EURO 51 million, toward the cost of the Serbia Railway Sector Modernization Project, Phase 1 of the Multiphase Programmatic Approach (MPA) and intends to apply part of the proceeds to payments for consulting services for Technical Assistance for Preparation of Weather Resilience and Climate Change Adaptation Strategy.

The consulting services (“the Services”) include are divided into two activities:

- **Activity 1: Inception period**
- **Activity 2: Weather Resilience and Climate Change Adaptation Strategy with Action Plan and Guidelines**

The preparation of the WRCCA Strategy with Action Plan should include, but not limited to, execution of the following tasks under two sub-activities that are as follows:

- Sub-Activity 2.1: Assess current weather conditions and future climate risks to the railway infrastructure network and map out specific vulnerabilities across the country
- Sub-Activity 2.2: Develop a high-level investment and policy framework for adapting transport networks to climate change
- Sub-Activity 2.3: Develop the Guidelines for Rail Network Vulnerability Assessment and Investment Planning

The detailed Terms of Reference for the above referenced consulting services is posted on the website of the Ministry of Construction, Transport and Infrastructure (MoCTI):

<https://mgsi.gov.rs/lat/dokumenti/serbia-railway-sector-modernization-project-srsm-resilience-railway-infrastructure>

The Central Fiduciary Unit (CFU) of the Ministry of Finance now invites eligible Consulting firms (“Consultants”) to indicate their interest in providing the Services. Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services.

The Consultant firm will be selected in accordance with QCBS (Quality-and Cost-Based Selection) method set out in the World Bank’s Procurement Regulations for IPF Borrowers (July 2016, revised November 2017, August 2018 and November 2020). The Client, intends to shortlist up to eight eligible

firms to whom a subsequent Request for Proposals (RFP), both technical and financial, shall be sent. Consultants may associate with other firms to enhance their qualifications, but should indicate clearly whether the association is in the form of a joint venture and/or a sub-consultancy. In the case of a joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected.

To be shortlisted, a Firm or joint venture submitting the EoI must meet the following requirements:

- i) The Consultant firm must be a legal entity with substantial experience providing technical assistance services in the **transport sector**. This should include expertise in some of the following topics - preparing master plans and feasibility studies for infrastructure projects with cost-benefit analysis, developing strategies or investment plans, and preparing financial and economic impact reports for transport companies.

The Consultant Firm or joint venture must provide up to **10 relevant references** as proof of their experience.

Requirement maximum value: 20 points

Evaluation criteria:

- Number of applicable reference contracts (10 maximum)
- Contract value
- Contract scope
- Role in the contracts

- ii) The Consultant firm or joint venture should have specific experience in the **transport sector**, with a successful track record **of at least one (1) completed technical assistance contract in the past five (5) years** related to the preparation of **weather resilience and climate change assessments and investment plans** for transport networks covering a length not less than 500 km. Project references in the European area will be considered advantageous.

The Firm or joint venture must provide up to **5 relevant references** as proof of their experience.

Requirement maximum value: 40 points

Evaluation criteria:

- Number of applicable reference contracts (5 maximum)
- Contract value
- Contract scope
- Role in the project
- Project references in the European area shall be considered advantageous

- iii) The Consultant firm or joint venture must have **qualified experts** within the company or joint venture who meet the requirements specified in section 5.1. of the Terms of Reference provided within this document.

As evidence of the availability of qualified experts, the Consultant shall prepare an organization chart and a list of key experts conforming to the requested conditions for the assignment.

Requirement maximum value: 40 points

Evaluation criteria:

- Availability of experts

Qualification notes:

As proof of **experience**, the Consultant shall prepare **reference forms** for each stated requirement, clearly stating the following:

- Reference #
- Start date and completion date (mm/yy)
- Brief description of technical assistance (10 sentences each maximum)
- Country of assignment with the client's name and address and client reference contact
- Contract value
- Role in the project

Submitted expressions of interest should be no larger than 30 pages of text, including reference forms.

Key Experts' CV are not required and will not be evaluated at the shortlisting stage.

The attention of interested Consultants is drawn to paragraphs 3.14, 3.16 and 3.17 of the World Bank's Procurement Regulations for IPF Borrowers – Procurement in Investment Project Financing Goods, Works, Non-Consulting and Consulting Services (July 2016, revised November 2017, August 2018 and November 2020) (“the Regulations”) setting forth the World Bank's policy on conflict of interest.

Further information can be obtained at the address below during office hours 09:00 to 15:00 hours.

Expressions of interest in English language must be delivered in a written form to the email below, by **December 15, 2023, 12:00 hours, noon, local time.**

Contact:	E-mail:	Address:
To:	zorica.petrovic@mfin.gov.rs Ms. Zorica Petrovic Procurement Specialist	Ministry of Finance Central Fiduciary Unit 3-5 Sremska St 11000 Belgrade, Serbia Tel/Fax: (+381 11) 765 2587
Cc:	ljljana.dzuver@mfin.gov.rs larisa.puzovic@mgsi.gov.rs	

**The Serbia Railway Sector Modernization (SRSM) Project
Phase 1 of the Multi-Phase Programmatic Approach**

TERMS OF REFERENCE

**Technical Assistance for Preparation of Weather Resilience and Climate
Change Adaptation Strategy**

November, 2023

Abbreviation	Meaning
AFD	Agence Francaise de Développement
GIS	Geographic Information Systems
IBRD	International Bank for Reconstruction and Development
IZS	Serbian Railway Infrastructure
MoCTI	Ministry of Construction, Transport, and Infrastructure
MoM	Minutes of Meetings
MPA	Multiphase Programmatic Approach
PIU	Project Implementation Unit
RI-AMS	Rail Infrastructure Asset Management System
SRSM	Serbia Railway Sector Modernization Project
WRCCA	Weather Resilience and Climate Change Adaptation Strategy

1. Background information

1.1 Beneficiary country: Republic of Serbia

Client: Ministry of Construction, Transport, and Infrastructure of Republic of Serbia (MoCTI).

1.2 Project Information

The World Bank launched the Multiphase Programmatic Approach (MPA) to support the Government of Serbia in the continuation of institutional, physical and operational modernisation of the railway sector in an integrated manner by providing financial support to Serbia Railway Sector Modernization Project as part of the MPA to be implemented in three overlapping phases over the ten-year period.

For the purpose of financing Serbia Railway Sector Modernization Project, Phase 1 of the MPA (the Project), the International Bank for Reconstruction and Development (IBRD), as part of the World Bank Group, and the Agence Francaise de Développement (AFD), jointly, granted to the Republic of Serbia EUR 102 million loan to support enhancing the efficiency and safety of existing railway assets and improving governance and institutional capacity of the railway sector. The Project includes the following Components:

- Component 1: Infrastructure Investments and Asset Management. This component focuses on improving the quality and safety of railway infrastructure and enhancing rail asset management practices.
- Component 2: Institutional Strengthening and Project Management. This component strengthens rail policies and institutions to deepen and sustain recent reforms.
- Component 3: Railway Modernization Enablers. This component will finance measures to protect the vulnerable and poor and strengthen sectoral enablers for sustainable business growth and job creation. **This assignment belongs to Sub-Component 3.1 Intelligent Transport Systems and Safety Management Systems.**

The Client manages the Project through the Project Implementation Unit (PIU) supplemented by the Project Implementation Teams (PITs) in Railway Directorate (RD) and railway companies, respectively IZS, SV and SC. PITs act as subordinate implementing agencies and provide technical support for specific Project subcomponents or activities of the MPA that pertain to their area of expertise. The Central Fiduciary Unit (CFU) in the Ministry of Finance provides procurement and financial services for the project. Primary responsibility for Project execution lies on PIU, which will ensure the Project development objectives are met.

1.3 General Railways Sector Information

The position of Serbia in the European railway network is such that it forms part of the shortest traffic line between West and South-East Europe and, as such, is often referred to as a gateway of Europe. The length of the railway lines in the Republic of Serbia is 3,438 km, of which 3,059 km are single-track and 288 km of double-track railway lines. The total length of electrified railways is 1273 km. Railway lines on the territory of the Republic of Serbia are more than one century old, and over half of all railway lines were built in the 19th century. This network consists of railway lines which are part of the Pan-European corridors, lines of international importance connecting Serbia with neighbouring countries, and regional-local lines. The railway network is presented in Figure 1.

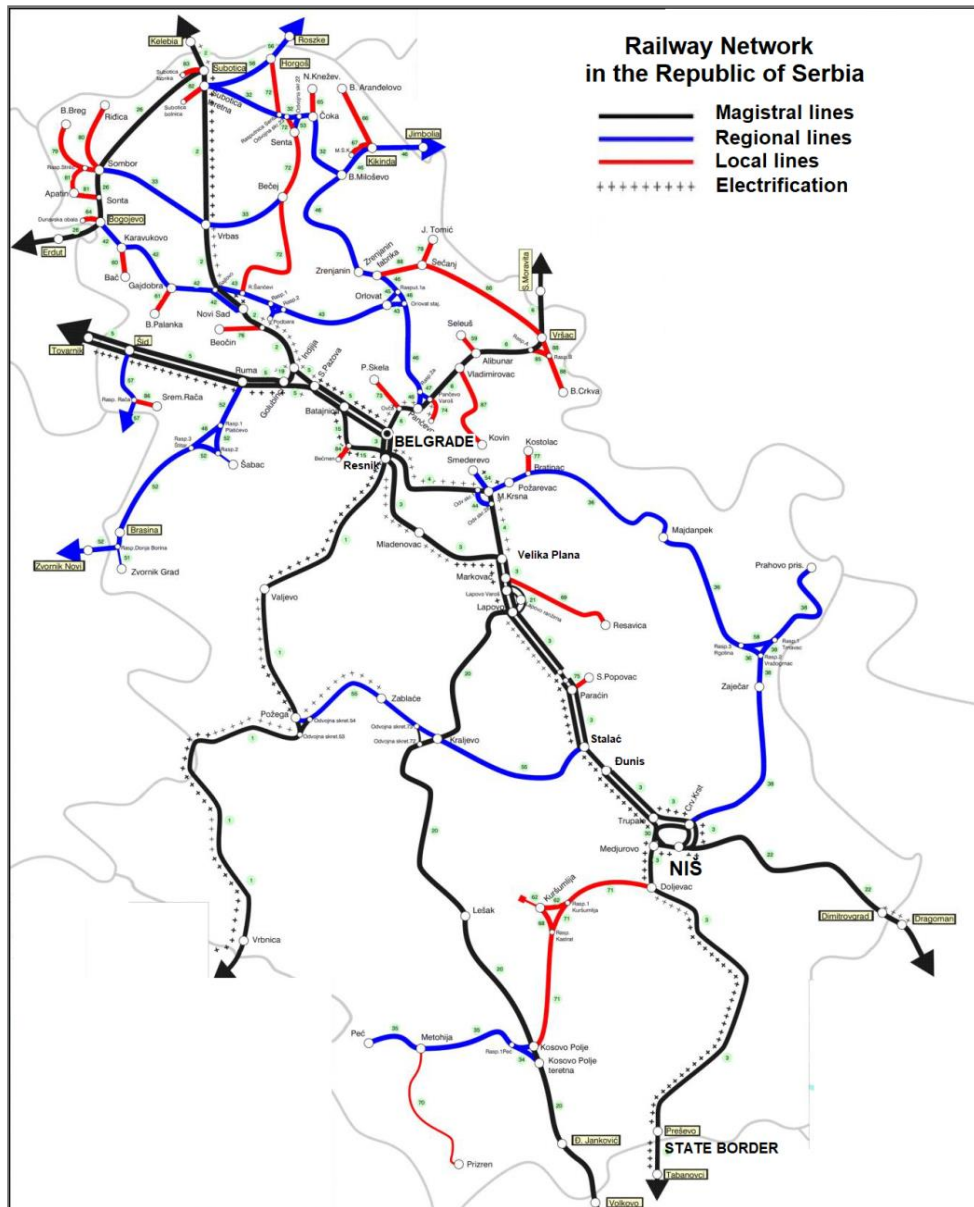


Figure 1. Serbian Railway Network

Decades of low investments, outdated management structures and practices, and neglect of maintenance have led to severe deterioration of the rail network infrastructure, obsolescence of the rolling stock, and low service quality. The significant difference between the designed speeds on the railways and the maximum permitted speeds at which trains can operate affects the reduction of commercial speed, extended train journeys and increased train delays on all main and regional railways, which is why the railway is not in a position to compete with road transport on the same routes.

Railway infrastructure and rail assets should enable safe and punctual railway traffic to effectively ensure transport service demand, even in adverse and extreme weather conditions. Bearing in mind the growing effects of climate change in all areas of life, including on railway transport, it is necessary to ensure the resilience of the railway system. The resilience of the railway system is defined as the ability to provide efficient services under normal conditions and to withstand, absorb and quickly recover from climatic disturbances or disasters.

From an infrastructure point of view, resilience is a system's ability to react and recover from undesired events with minimal effects on structural stability and preserve functionality. Modern infrastructure systems are complex systems represented by different elements with functional interdependencies between infrastructures of the same type or different sectors. In addition, recent events have pointed towards geographical, cyber interdependencies, new threats and risks as dominating areas for operations

Namely, storms and heavy rainfall events can lead to flooding and landslides, high winds can cause damage to elements of overhead lines, and high-temperature cause deformation of rails and track systems which leads either to disruptive railway traffic or to his cancellation.

Such weather effects have been increasingly evident in recent years in Serbia. The most common is a long dry period with very high temperatures and extremely high rainfalls that accelerate the deterioration of earthworks and put pressure on drainage systems and other rail infrastructure assets.

Considering these weather conditions' effects and long-term climate change, this Project is seeking technical assistance and support to prepare the ***Weather Resilience and Climate Change Adaptation (WRCCA) Strategy***. The WRCCA Strategy should include an assessment of climate change risks and vulnerabilities of railway infrastructure in Serbia to improve IZS's understanding of the current and future climate's impact on their assets and embed weather resilience and climate change adaptation considerations into decision-making. Also, within the WRCCA Strategy, a high-level investment framework should be developed to identify appropriate investment projects and/or measures that could be considered for integration into SRSM Project investments to reduce vulnerability and strengthen rail infrastructure resilience.

2. Objective, purpose and expected results

2.1 Definitions

The “**WRCCA Strategy**” is a Weather Resilience and Climate Change Adaptation Strategy to be developed under this assignment.

The “**Consultant**” is a firm contracted to prepare a WRCCA Strategy.

The “**Services**” are described in Section 3.

2.2 Objectives of the Services

The main objectives of the technical assistance are:

1. Assess current weather conditions and future climate risks to the railway infrastructure network and map out specific vulnerabilities across the country;
2. Assess the criticality of observed vulnerabilities taking into account the social and economic cost of infrastructure failure, asset loss and service interruption;
3. Develop a cost-effective investment framework for adapting the railway infrastructure network to weather conditions and climate change at the country level and define the process through which the vulnerability and criticality assessment could be regularly updated and included in the RI-AMS.
4. Develop a WRCCA mid and long-term Strategy incorporating previous tasks into the strategic document.

5. Raise awareness about the impact of climate change on the railway infrastructure vulnerability and investment needs.

3. Scope of the work

3.1 Activity 1: Inception period

The Consultant shall propose the outline of the Inception Report. The Inception Report shall be the specific output of the Inception Period and present an overall approach and detailed program work plan and completion schedule for the services. It should discuss constraints and challenges identified by the Consultant and how to address them to timely and effectively deliver the assignment.

5.2 Activity 2: Weather Resilience and Climate Change Adaptation Strategy with Action Plan and Guidelines

The preparation of the WRCCA Strategy with Action Plan should include, but not limited to, execution of the following tasks under two sub-activities that are as follows:

3.2.1 Sub-Activity 2.1: Assess current weather conditions and future climate risks to the railway infrastructure network and map out specific vulnerabilities across the country

Within this activity, the Consultant shall examine and analyse the current state of the railway infrastructure in Serbia and assess the overall resilience of the railway infrastructure and other assets to observed weather events and projected climatic conditions. To achieve this, the Consultant will, but not limited to:

- Describe the climatic conditions and risks that may impact the railway network throughout Serbia, covering the current climate variability and future climate change based on existing climate models and available information, including country-specific reports and publications. The Consultant shall conduct consultations with the appropriate Serbia state authorities where necessary.
- Identify hotspots where location-specific climate risks such as temperature extremes, flooding (coastal, riverine or precipitation-based), landslides or erosion may threaten high-priority railway infrastructure;
- Develop the maps overlaying the most relevant climate projections and location-specific climate risks (indicatively, heat stress, landslide potential and flood risk) for the railway network to identify highly vulnerable sections, key interconnections and interdependencies.
- Examine the meteorological and hydrological thresholds above or below which significant impacts are likely to occur in identified areas/regions of the railway network that are particularly vulnerable to climatic variability;
- In response to the above risk identification actions and identified vulnerable sections, the Consultant shall prioritise these based on their criticality. That is, the Consultant should identify the potential for alternate transport routes in the event of traffic closure, develop an understanding of the economic impact of alternate routes on travel time and transport costs for freight and passengers and develop an economic costs methodology for closing railway routes due to climate events in the absence of alternative routes.
- Identify various climate change adaptation measures for reconstruction and modernisation projects of the railway infrastructure and analyse railway sector design standards in Serbia and climate change factors used to identify gaps.

- Identify various ICT technologies that could be employed to observe the most critical sections and enable timely rail network management decisions.

Within this activity, the Consultant should use, to the extent possible, readily available relevant maps, like flood maps, climate change maps, landslide maps, etc.

3.2.2 Sub-Activity 2.2: Develop a high-level investment and policy framework for adapting transport networks to climate change

Within this activity, the Consultant shall prepare an investment framework for raising resilience by mitigating identified risks. To achieve this, the Consultant will, but not limited to

- According to the identified critical railway sections at risk, identify potential investment opportunities to mitigate the risks to the railway network, including cost implications for the priority programme and exposition of the benefits of the measures proposed;
- Recommendation of changes to rail design standards to better address climate change effects during the planning and design phase;
- Definition of priority interventions at the country level with the recommendation of optimal implementation strategies, including financing mechanisms, cost implications for the priority programme and exposition of the benefits of the measures proposed.
- Propose approach that would allow for regular update of the vulnerability and criticality assessment and its inclusion in RI-AMS process.
- Propose ICT solutions that could be introduced at the most critical location to facilitate regular monitoring of the observed vulnerability and enable timely rail network management

3.2.3 Sub-Activity 2.3: Develop the Guidelines for Rail Network Vulnerability Assessment and Investment Planning

Based on the previous two activities, the Consultant should develop easy-to-understand and concise guidelines for the rail infrastructure manager on how to regularly assess the network resilience to climate change, including but not being limited to a clear step-by-step description of the methodology for vulnerability and criticality assessment and investment planning. Consultant should ensure that the guidelines are taking into account availability of Rail Infrastructure Asset Management System (RI-AMS) in the future and include recommendations on how often and what data should be regularly updated

- Within this activity, the Consultant shall organize a workshop presenting the results of the activity and an introduction on using the guidelines.

4. Location and timing

4.1 Location

The operational base and main office of the Consultant will be in Belgrade.

4.2 Commencement date and period of implementation

The intended commencement date is **March 2024**, but the actual commencement date will be defined with the signature of the Contract. The contract implementation period will be , **eleven (11) months** from the commencement date.

The Consultant will carry out the services in line with a detailed schedule to be submitted as part of his proposal, which could be changed during the negotiations to reflect the parties' comments and/or requirements.

5. Consultant requirements

The Consultant firm will be selected in accordance with QCBS (Quality-and Cost-Based Selection) method set out in the World Bank's Procurement Regulations for IPF Borrowers (July 2016, revised November 2017, August 2018 and November 2020). The Client, intends to shortlist up to eight eligible firms to whom a subsequent Request for Proposals (RFP), both technical and financial, shall be sent. Consultants may associate with other firms to enhance their qualifications, but should indicate clearly whether the association is in the form of a joint venture and/or a sub-consultancy. In the case of a joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected.

5.1. Personnel

The Consultant shall establish his Team following the needs and requirements of this ToR. The Team shall consist of a core team of key experts with the qualifications and skills defined in **Error! Reference source not found.**, below and non-key experts, as needed.

The Consultant is obliged to ensure adequate staff in terms of expertise and time allocation, as well as needed equipment, to complete the activities required under the scope of work and to achieve the objectives of this Contract in terms of time, costs, and quality. The Consultant is expected to be flexible in terms of travelling.

Note that staff of the public administration of the beneficiary country (Republic of Serbia) cannot be proposed as experts.

The Project language is English. All the team members assigned by the Consultant must be able to communicate effectively in English. A sufficient number of the Consultant's team should be fluent in Serbian, especially the staff assigned to be on site.

The Consultant shall provide adequate administrative staff (secretary, translators, drivers, accountant) needed to support the expert team.

5.1.1 Key experts

The Consultant shall ensure that he and his assigned team can perform the envisaged services according to the national legal framework and policies of the World Bank.

Any non-compliance with those requirements shall be considered a breach of the contract conditions. The team should include key experts with the qualifications and experience listed below and non-key experts, if necessary. As a minimum, the Consultant shall provide the following experts:

Table 1. Key experts for the assignment

Title	Qualifications/Experience	Skills
Team Leader – Disaster Risk Management Expert	<u>Education:</u> Have as a minimum MSc Degree in Civil engineering, Geology, or another relevant field;	Excellent command of the English language. Computer literacy.

	<p><u>Relevant professional experience:</u> At least fifteen (15) years of general experience; At least seven (7) years of relevant experience in the transport infrastructure sector related to disaster (floods, landslides, erosion etc) risk management and mitigation; Experience as a team leader/project manager in the successful implementation of at least one (1) contract for the preparation of a resilience strategy for transport network not smaller than 500km;</p>	<p>Knowledge of the Serbian language will be an advantage</p>
<p>Railway Infrastructure Expert</p>	<p><u>Education:</u> Have as a minimum MSc Degree in Transportation/Civil engineering or another relevant field;</p> <p><u>Relevant professional experience:</u> At least ten (10) years of general professional experience; At least seven (7) years of relevant experience in planning, designing or executing works supervision on railway infrastructure; Experience as a key expert in at least two (2) projects in the last seven (7) years for planning, designing or executing works supervision on railway infrastructure.</p>	<p>Excellent command of the English language. Computer literacy. Knowledge of the Serbian language will be an advantage</p>
<p>Transport Economist Expert</p>	<p><u>Education:</u> Have as a minimum MSc Degree in Economics/Finance/ or in Transport Engineering, Business Administration or another relevant field.</p> <p><u>Relevant professional experience:</u> At least ten (10) years of general professional experience; At least seven (7) years of relevant experience in transport sector; Experience as a key-expert in at least two (2) projects in the last seven (7) years that included preparation of cost-benefit analysis, analysis of financial and economic impacts, advisory services on loss assessment and financial risk management in the transport sector.</p>	<p>Excellent command of the English language. Computer literacy. Knowledge of the Serbian language will be an advantage</p>
<p>Geographic Information Systems (GIS) Expert</p>	<p><u>Education:</u> Have as a minimum MSc Degree in Civil/Geography/ Environmental or another relevant field</p> <p><u>Relevant professional experience:</u> At least ten (10) years of general professional experience; At least seven (7) years of relevant experience in spatial analysis and GIS application for developing plans, environmental zoning, climate change adaptation, erosion/flood and other natural disaster prevention Experience in at least one (1) project that included the production of GIS-based maps for climate change adaptation, erosion/flood and other natural disaster prevention;</p>	<p>Excellent command of the English language. Computer literacy. Knowledge of the Serbian language will be an advantage</p>

5.1.2 Non-key experts

The Consultant is expected to select and hire other experts as required according to the profiles identified in the Organization & Methodology, including but not limited to a civil engineer, railway specialist, geology specialist, environmental specialist, risk analyst specialist etc. They must indicate clearly which profile they have so it is clear which fee rate in the budget breakdown will apply. All experts must be independent and free from conflicts of interest in their responsibilities.

The pool of non-key experts is expected to support/complement all the activities of the key experts. Possession of a relevant Serbian license for design/construction would be required, as applicable.

The Consultant is expected to include other positions they consider necessary for the assignment in their proposals. CVs for non-key experts should be submitted in the proposal. However, they would not be the subject of evaluation.

5.2 Office accommodation

Office accommodation for each expert working on the Contract is to be provided by the Consultant.

The Consultant shall ensure that experts are adequately supported and equipped. In particular, it shall ensure sufficient administrative, secretarial and interpreting provisions to enable experts to concentrate on their primary responsibilities.

No equipment is to be purchased on behalf of neither Client or PIU as part of this service contract or transferred to the Client or beneficiaries at the end of this Contract.

6. Outputs

6.1 Outputs requirements

The Consultant shall prepare, as a minimum, the below-listed reports during the period of execution of the Contract.

Table 3. Assignment deliverables

Deliverables	Description	Due date	Format
Inception Report	Describe the initial findings, progress in collecting data, any difficulties encountered or expected, and the proposed approach, considering the situation at the starting date of the assignment. It will also set out a detailed work plan to complete the activities (up to 30 pages) Subject to the approval of the Client.	No later than one (1) month after the commencement date	Digital in English and Serbian language and 2 hard copies in English
Report on vulnerability and criticality assessment of the rail network	Develop a report summarizing the tasks under Sub-Activity 2.1 and Sub-Activity 2.2: Assess current weather conditions and future climate risks to the railway infrastructure network and map out specific vulnerabilities across the country and develop a high-level investment framework for adapting transport networks to climate change. Subject to the approval of the Client.	No later than eight (8) months after the commencement date	Digital in English and Serbian language and 2 hard copies in English

Deliverables	Description	Due date	Format
Weather Resilience and Climate Change Adaptation Strategy	Develop a strategy document based on previous assessments and findings with an Action Plan that will summarise all necessary recommendations and actions to be executed to raise railway infrastructure resilience. Provide Workshop for presenting a strategy framework Subject to the approval of the Client.	No later than eleven (10) months after the commencement date	Digital in English and Serbian language and 6 hard copies in English and Serbian
Guidelines for rail network vulnerability assessment and investment planning	Develop the guidelines with the methodology for vulnerability assessment and investment planning that the infrastructure company could regularly use and organise a workshop to disseminate the results Subject to the approval of the Client.	No later than eleven (11) months after the commencement date	Digital in English and Serbian language and 6 hard copies in English and Serbian

6.2 Submission and approval of outputs

All reports and other outputs, if any, must be written in English and translated into Serbian. The draft version of the reports (electronic copy) shall be submitted to PIU for distribution to the Client. The commenting period for the outputs is 2 weeks. In case of no reaction to the submitted outputs, such status will be interpreted as “no objection” and shall be deemed approved.

The Consultant shall prepare the Minutes of Meetings (MoM) for the site meetings and monthly progress meetings. All Meetings must be ensured to lead to clear decisions, persons in charge and deadlines. The Consultant will distribute minutes of Meetings. Participants must comment on the MoM of the site meetings within seven calendar days. MoM for the monthly progress meetings will always be on the agenda of the next meeting to be approved and followed up.

All deliverables will be sent as electronic copies to PIU.

Hard copies will be sent to the following addresses:

- PIU, 3, Uzun Mirkova street 3, 11000 Stari Grad, Republic of Serbia.