

**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:**

**It Audit and Preparation of Technical Specifications for the Business Support System for Serbia Cargo**

**Reference No. SER-SRSM-CQ-CS-23-48**

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 It Audit and Preparation of Technical Specifications for the Business Support System For Serbia Cargo.

The consulting services (“the Services”) include provision of audit of available hardware and software information technologies presently used and in operation within SC. IT audit must be performed fully in compliance with GDPR provisions. Following the IT audit, the Consultant shall develop detailed specifications for implementing a business support system that will correspond to and fulfil SC’s needs..

The Consultant is expected to perform the following activities within its contract, which are grouped into three activities:

- Activity 1: Inception;
- Activity 2: Market Research and Business support system technical specifications;
- Activity 3: IT Audit.

The period of implementation of the contract will be 8 months starting from the commencement date.

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://www.mgsi.gov.rs/cir/dokumenti/serbia-railway-sector-modernization-project-srsm-ta-it-audit-and-business-support-srbija>

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 will be selected in accordance with Consultant Qualification Selection (CQS) method set out in the World Bank’s Procurement Regulations for IPF Borrowers (July 2016, revised November 2017, August 2018 and November 2020). The Consultant that obtains the highest score during evaluation of expressions of interest will be invited to submit technical and financial proposals.

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.

The following criteria will be applied to all consulting firms that have submitted EoI:

The Consulting firm must be a legal entity. Evaluation of EoIs will be based on the following criteria:

**i) The Firm must be a legal entity and possess general experience with IT audit and development of business support systems:**

*As proof, the Firm shall submit up to 7 relevant references, which must be within the scope of this assignment covering the drafting of technical specifications and/or development of IT business support systems and an audit of existing IT infrastructure for public companies, PLC, state authorities or similar large scale business entities.*

**Allocation of points: 30 points**

Evaluation criteria:

- Number of applicable reference contracts (up to 7)
- Contract value
- Contract scope
- Role in the contracts

**ii) The Firm must have specific experience in a minimum of two (2) contracts related to the drafting of technical specifications and/or the development of IT business support systems for transport/logistic companies in the last ten (10) years:**

*As proof, the Firm shall submit up to 7 relevant contract references, which must cover the drafting of technical specifications and/or the development of IT business support systems for transport/logistic companies.*

**Allocation of points: 50 points**

Evaluation criteria:

- Number of applicable reference contracts (up to 7 references)
- Contract value
- Contract scope
- Role in the project

*\*Note:*

- *Experience in drafting of technical specifications and/or the development of IT business support systems for railway freight companies shall be advantageous;*
- *Contract references in the Western Balkans and EEA shall be considered advantageous;*

**iii) Availability of qualified experts within the company/joint venture per section 6.1. of the Terms of Reference supplied within this document**

*As proof of the availability of qualified experts, the bidder shall prepare an **organisation chart and list of qualified key experts** conforming to requested conditions within the company who are relevant to the assignment.*

**Allocation of points: 20 points**

Evaluation criteria:

- Availability of experts

Qualification notes:

- The technical assistance contracts must have been completed at any moment during the period of the past ten (10) years from the date of submission of EoI.

- As proof of **experience**, the bidder shall prepare reference forms, naming ten (10) references maximum for each stated requirement, clearly stating the following:
  - Reference #
  - A start date and completion date (mm/yy)
  - Brief description of technical assistance (10 sentences each maximum)
  - Country of assignment with client 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.

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 **July 20, 2023, 12:00 hours, noon, local time.**

Contact:	E-mail:	Address:
To:	<a href="mailto:zorica.petrovic@mfin.gov.rs">zorica.petrovic@mfin.gov.rs</a> 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:	<a href="mailto:ljliljana.dzuver@mfin.gov.rs">ljliljana.dzuver@mfin.gov.rs</a> <a href="mailto:larisa.puzovic@mgsi.gov.rs">larisa.puzovic@mgsi.gov.rs</a>	

# **TERMS OF REFERENCES**

**for**

**It Audit and Preparation of Technical Specifications for the Business Support  
System For Serbia Cargo**

**June 2023**

## **1. Background information**

### **1.1 Beneficiary country: Republic of Serbia**

**Client:** Ministry of Construction, Transport, and Infrastructure of the Republic of Serbia (MCTI) and Srbija Kargo a.d. (JSC Serbia Cargo - SC).

### **1.2 Background information**

The International Bank for Reconstruction and Development (IBRD) 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 Multiphase Programmatic Approach to be implemented in three overlapping phases over the ten year period.

For financing Serbia Railway Sector Modernization Project, Phase 1 of the MPA (the Project), IBRD and the Agence Francaise de Développement (AFD) jointly, granted to the Republic of Serbia EUR 102 million loans to support enhancing the efficiency and safety of existing railway assets and improving governance and institutional capacity of the railway sector.

The Project is managed by the Ministry of Construction, Transport and Infrastructure (MoCTI) through the Project Implementation Unit (PIU) supplemented by the Project Implementation Teams (PITs) in Railway Directorate (RD) and railway companies, respectively, Serbian Railway Infrastructure (IZS), Serbia Voz (SV) and Serbia Cargo (SC). Primary responsibility for Project execution lies on PIU, which ensures that the Project development objectives are met.

### **1.3 General 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. 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.

In 2021, SC transported 8,9 million tonnes of goods, with 2,4 billion net tonne-km hauled.

Currently, SC is utilising several self-developed IT solutions for partial data gathering and processing for each separate activity in the business process, while there is no unified system.

Reduced executive staff and outdated IT and telecommunication technologies have greatly impacted the internal working processes, prolonging the occupation of infrastructural capacities and transport times, resulting in low service quality offered and provided to the end users.

Considering the current situation, as the modernisation of railways is in progress, it is of utmost importance to improve the quality of provided services and reliability, safety and profitability

through the efficiency of railway operations by implementing modern IT solutions and business support systems.

## **2. Objective of the Services**

The objective of the Services is to engage a highly qualified consultant firm to audit available hardware and software information technologies presently used and in operation within SC. IT audit must be performed fully in compliance with GDPR provisions. Following the IT audit, the Consultant shall develop detailed specifications for implementing a business support system that will correspond to and fulfil SC's needs.

## **3. Scope of work**

The Consultant is expected to perform the following activities as a part of the Services:

### **3.1 Activity 1: Inception**

Activity 1 includes the following tasks:

- Kick-off meeting, coordination, and agreement on the assignment with the key stakeholders, including, but not limited to, PIU, MoCTI and SC.
- Organization of the assignment's inception (logistics, content, etc.) so that subsequent activities run smoothly.
- Preparation of the detailed work plan and expert mobilization according to the technical proposal.

All activities and conclusions shall be delivered in the Inception report, representing the main deliverable of activity 1. Contents of the inception report are presented in section 4.2 of this ToR.

### **3.2 Activity 2: Market Research and Business support system technical specifications**

As part of Activity 2, the Consultant should conduct meetings and consultations with Serbia Cargo to discuss the functional requirements for the business support software outlined in the **Annex 1 to this ToR**.

On the basis of agreed functional requirements described in Annex 1, the Consultant must conduct market research on availability analysis of "Off the Shelf" software that can meet all or the majority of the functional requirements and propose a procurement approach

If consultant analysis shows that it might be better to acquire the required business support system as one or more separate software, it should be indicated so, and market analysis and technical specifications for each should be prepared. As part of the market analysis, the Consultant should identify the hardware requirements necessary to implement the software and provide a cost estimate and a tentative implementation schedule.

On the basis of the results of the market analysis, the Consultant should agree with Serbia Cargo on the final functional requirements for the software and prepare the technical portion of the

bidding document for the purchase of the software, which will be submitted in the standard format provided by the Client.

### **3.3 Activity 3: IT Audit**

Under Activity 2, the Consultant shall complete an audit of the existing IT software and hardware system in use within Serbia Cargo, as well as an audit of the internal business processes of SC. This activity needs to be conducted in parallel with Activity 2, Market Research and Business support system technical specifications. Analysis and evaluation of a Serbia Cargo's current information systems (whether manual or computerized) must detect and rectify blockages, duplication, and information leakage. The objectives of this audit are to improve the accuracy, relevance, security, and timeliness of the recorded information.

The Consultant will prepare an IT audit report which shall include, but not be limited to:

- Authorization of IT functions (ie. developers, system administrators etc...)
- Analysis of IT system security policy, operative and system record management and data backup management
- Analysis of existing networking and communication systems;
- Analysis of existing software in use for the management of services offered and provided;
- Analysis of existing hardware;
- Analysis of IT solutions relating to the automatisisation of cargo monitoring & reporting processes;
- Analysis of procedures relating to the preparation of commercial offers, detailing methods for request submission, data input, offer preparation, outputs and other client communication;
- Analysis of existing processes for tracking of services provided;
- Analysis of other existing IT support systems and or processes deemed relevant.
- Review the current cyber security and GDPR practices and identification of gaps;
- Options for improvement of analyzed systems and proposed changes in operation, procedures and controls;
- Assessment of benefits following the system improvement.

All activities and conclusions of the IT audit shall be delivered in the IT audit report, representing the main deliverable of activity 2. The report shall include costed options for improving analyzed systems and processes and assessing benefits obtained by implementing proposed system options to serve as the basis for developing technical specifications in Activity 2.

## **4. Timeline and deliverables**

### **4.1 Timeline**

The Services are expected to start in July 2023. The commencement date will be seven (7) days from the contract award date. The inception period shall be up to two (2) weeks, and the final

deadline for delivery of specified services shall be eight (8) months after the day of commencement.

The Consultant will carry out the Services in line with a detailed schedule to be submitted as part of his proposal.

## 4.2 Deliverables

The Consultant shall prepare, at minimum, the below-listed deliverables and reports during the period of execution of the Contract. All deliverables (draft and final versions) shall be prepared in English and Serbian. The Consultant shall be paid for the services provided after the Client approves each deliverable as a percentage of the Lump Sum amount.

The deliverables should be delivered in accordance with the following timetable.

Deliverables	Description	Due date
Inception Report	Describe the initial findings, progress in collecting data, any difficulties encountered or expected, and the proposed approach to the project, considering the situation at the starting date of the assignment. It will also set out a detailed work plan to complete the activities. If there are any proposed modifications to the original Terms of Reference due to changed circumstances after arrival on site, these are to be discussed and agreed upon in principle with the Client and SC before the submission of the Report (up to 20 pages)	2 weeks after commencement
Market Research Report	Market Research Report should contain an analysis of potential suppliers of "Of the Shelf" software solutions that can meet all or most functional requirements in Annex 1 to this ToR. This report should include a description of hardware requirements, functionalities of the analysed software, cost estimation and indicative timeline.	2 months after inception report
Technical Specifications for the business support system	Technical Specifications should be developed within the bidding document provided by the Client. Technical Specification should be based on final software functionalities agreed upon within the market research process.	4 months after inception report
IT Audit report	The IT audit report shall include, but not be limited to, tasks described within Activity 2.	7,5 months after inception report

## 5. Client organization, Services input and Contract Monitoring

### 5.1 Client organization

- a) Serbia Cargo is the final beneficiary of this technical assistance, and it will nominate competent and dedicated employees i.e. staff with the necessary qualifications to provide full support to the Consultant;



- b) In addition, PIU/MoCTI and SC shall be involved in the decision-making processes regarding the Contract implementation and shall be kept informed in all stages related to the contract(s) monitoring and implementation. The cooperation with the final beneficiary will be sustained and managed by the PIU;

## **5.2 Contract monitoring**

All reports and other outputs, if any must be written in English and translated into Serbian language. 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 as approved.

All reports are subject to approval by the Client.

Consultant shall prepare the Minutes of Meetings (MoM) for the monthly progress meetings, meetings with Client and other parties in relation with the assignment. All Meetings must be ensured to lead to clear decisions, persons in charge and deadlines. The Consultant will distribute MoM. MoM must be commented on within 7 calendar days by participants. MoM for the monthly progress meetings will always be on the agenda of the next monthly meeting to be approved and followed up.

All deliverables will be sent as electronic copies to PIU. Hard copies of the deliverables will be sent to the address of PIU of the SRSM project, presently 3, Uzun Mirkova 3, First floor, 11000 Stari grad, Republic of Serbia.

## **6. Consultant Requirements**

### **6.1 Personnel**

The firm shall establish its 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 Table 3 below and non-key experts, as needed.

The firm 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.

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

### 6.2.1 Key experts

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:

Title	Qualifications/Experience	Other Skills
Team leader - Railway Freight Operation Expert	<p><u>Education:</u></p> <ul style="list-style-type: none"> <li>• Minimum an M.Sc. degree in railway engineering or any other related field</li> </ul> <p><u>Relevant professional experience:</u></p> <ul style="list-style-type: none"> <li>• Minimum 10 years of general experience, at least 7 years in the domain of railway freight transport, operational procedures, traffic and scheduling management and commercial activities.</li> <li>• Experience as a team leader/project manager in least one (1) similar railway project.</li> </ul>	<p>Excellent command of the English language. Computer literacy. Knowledge of the Serbian language will be an advantage</p>
Railway Expert	<p><u>Education:</u></p> <ul style="list-style-type: none"> <li>• Minimum an M.Sc. degree in transport engineering or another related field</li> </ul> <p><u>Relevant professional experience:</u></p> <ul style="list-style-type: none"> <li>• Minimum 7 years of relevant experience in railway engineering, focusing on implementing a telematic application for rail passengers and freight services (TAP&amp;TAF) and various IT tools for railway operators.</li> </ul>	<p>Excellent command of the English language. Computer literacy. Knowledge of the Serbian language will be an advantage</p>
Information Systems expert	<p><u>Education:</u></p> <ul style="list-style-type: none"> <li>• Minimum an M.Sc. degree in one of the fields of computer engineering, electrical and/or electronics engineering, industrial engineering, computer sciences, information technologies</li> </ul> <p><u>Relevant professional experience:</u></p> <ul style="list-style-type: none"> <li>• Minimum ten (10) years of working experience as a system analyst and/or IT expert on information systems development projects for nationwide</li> </ul>	<p>Excellent command of the English language. Computer literacy. Knowledge of the Serbian language will be an advantage</p>

Title	Qualifications/Experience	Other Skills
	<p>organisations, covering many end-users.</p> <ul style="list-style-type: none"> <li>At least two (2) IT projects which included upgrading existing IT systems and/or evaluating existing IT infrastructure, policies and operations for state-owned companies, PLC and/or state authorities, or similar large-scale entities.</li> </ul>	

### 6.2.2 Non - Key experts

Consultants may include other positions they consider necessary for the assignment in their proposals. If so, the CVs for non-key experts should be submitted in the proposal. However, they will not be subject to evaluation. Non-key experts may include railway operation engineers, IT experts, Procurement experts, Market analyst experts, and Administrative and support staff.

## 7. Location and travel

The operational base for the Contract will be Belgrade. Internal travel within the RoS might be required. The Consultant is expected to be flexible in terms of travelling.

## 8. Office accommodation

The Consultant will provide office accommodation for each expert working on the Contract.

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

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

## 9. Terms of Payment

The Consultant should note that the proposed contract for this assignment will be Lump Sum payments with milestones against the submission of deliverables.

## 10. Conflict of Interest

The engaged Consultant firm must not be involved in any other related activity to this Project

## Annex 1

### Scope of functional requirements

The scope of technical specifications for the SC business support system should include, but not be limited to, the following functionalities:

1. *Electronic requests for commercial offers*

The system should include the automatic generation of input parameters and other relevant information with forming of the output offered through the software application. The client should access the electronic request through a web link. Based on data entered by the client, the SC employee receives all relevant input data for forming the final offer (data on service points, goods, routes, tariffs, pricing, costs, restrictions, rolling stock, etc.) with any special notes or remarks that should be added to the offer.

Electronic requests software should implement the following functions as a minimum, but not be limited to:

- Searchable offer database;
- Overview of rolling stock handover contracts;
- Fast database search per multiple criteria;
- Overview of the status of the commercial contracts;
- Detailed interactive maps, including service point schematics, technical and other data;
- Statistics based on a unified database with template reports and graphs;
- Client ranking based on previously realized contracts;

2. *Electronic rail car orders*

The function should allow clients to order rail cars for loading purposes electronically/remotely.

3. *Electronic manifest*

The function would allow clients to fill in the manifest electronically and remotely.

4. *Electronic Bill of Lading*

The function should allow connection of the data in the Bill of lading with other applications such as the electronic manifest and others.

5. *Technical equipment of station workers for rolling stock data input*

The device should allow input and control of rolling stock technical and exploitation data, including data on eventual irregularities, and allow the upload of data on spotted irregularities (photos, description, etc.)

6. *Technical equipment of locomotives – surveillance and tracking*

All locomotives should be equipped with mobile devices (touchscreen tablets, mobile phones etc.) and accompanying application/software and GPS for surveillance and tracking of the locomotive and its staff. At the same time, the operations department

should be equipped with adequate support systems for tracking and analysing data supplied by the rolling stock in real-time.

7. *Transport expense calculation*

The function should allow the calculation of expenses per data obtained from the electronic manifest and defined commercial conditions with automatic invoice creation.

8. *Rail car rental expenses*

The function would allow rail car rental expenses to be calculated and tracked from cost occurrence through cost increase tracking to rail car handover.

9. *Data recording and analysis of rolling stock maintenance*

The function would allow for real-time data collection, tracking and analysis of all relevant rolling stock maintenance, defects and repair data, with electronic work orders and delivery of necessary data to the maintenance dispatchers. Also, Manual entering of data on rolling stock not owned by SC should be allowed.

10. *Status information module*

The function should allow clients to obtain information on the shipment status, expected dispatch and delivery times, eventual irregularities in transport and other relevant information. The supplied information should be bilingual in Serbian and English.

11. *Network & app security architecture*

The technical specification shall include the necessary development of network and application security architecture for preventing unauthorised access to any and all business-critical data, monitoring and isolating any potential threats and managing individual user privileges.

12. *IT support to the executive staff*

The function enables the executive staff at the station to check the fulfillment of the conditions for the conclusion of the contract on transport with the consignee, i.e. for receipt of the consignment for transport, based on the entered data from the transport documents and other documents, as well as other work support (e.g. whether there is a special contract concluded with the payer of the transport costs for the transport in question and which costs the payer takes over, the contact information of the consignor, consignee and payer, whether there is an announcement and review of the announcement, whether there is a contract on the handover/takeover with successive carriers, whether there is consent for 1 consignment note and review of the consent, whether there is an approval for the transport of the extraordinary consignment and review of the approval, transport and other restrictions, traffic conditions including the permitted load and max parameters of the train, dispatcher's order, etc.).

The stated functions of the business support system are descriptive. The Consultant's assignment is to define the full scope and exact technical specification of the system and relevant business processes to be developed and implemented to improve the quality of SC's services.