romatsa
administrația română a serviciilor de trafic aerian

REQUEST FOR INFORMATION

FOR

RAMANS - ROMATSA Arrival Manager System

Bucharest

June, 2020

Contents

1. Introduction

Romanian Air Traffic Services Administration (ROMATSA) is a self-financing public enterprise under the coordination of Ministry of Transportation of Romania, being the national certified Air Navigation Services Provider (ANSP) responsible for provision of Air Traffic Services (ATS), consisting of Air Traffic Control Service (ATC Service), Flight Information Service (FIS) and Alerting Service (ALRS), provision of Communications, Navigation and Surveillance (CNS) services, Meteorological Service for International Air Navigation and part of Aeronautical Information Services (AIS), and part of Search and Rescue.

The air navigation services provided by ROMATSA are:

- **En-route** air traffic control and information in the BUCUREŞTI FIR. These services are provided by a single Regional Control Centre – BUCUREŞTI ACC ATS Unit.
- **Terminal** (approach and aerodrome) air traffic control and information from 3 APP ATS Units, as follows:
  - BUCUREŞTI APP - responsible for air traffic control in two terminal areas: BUCUREŞTI TMA and NAPOC TMA,
  - ARAD APP responsible for air traffic control in ARAD TMA
  - CONSTANŢA APP responsible for air traffic control in CONSTANŢA TMA

  and 16 TWR ATS Units.

In addition to its basic activities, ROMATSA also has the right to perform consulting activities and to provide services in its field of activity, as well as research and development activities, including the manufacturing and trading of products specific to the air traffic management field, by its own forces or in partnership with the internal or external economic entities.

ROMATSA is also part of the Danube FAB together with BULATSA.

At present, ROMATSA is in the process of launching the development of RAMANS (ROMATSA Arrival Manager System) with the objective of implementing an Arrival Manager System and associated procedures, fully compliant with:

- the specific Family detailed in SESAR Deployment Programme,
- the specific objective detailed in the implementation level of the ATM Master Plan, and related European Commission Regulations[1].

The project is called throughout this document “RAMANS”.

Before launching any formal procedure, ROMATSA seeks for a preliminary feedback from economic operators interested in the project. ROMATSA therefore decided to initiate

- [1] Commission Implementing Regulation (EU) 2019/123 of 24 January 2019laying down detailed rules for the implementation of air traffic management (ATM) network functions and repealing Commission Regulation (EU) No 677/2011
- Regulation (EU) No 716/2014 on the establishment of the pilot Common Project

information exchanges with ATM software developers / providers through the present Request for Information (RFI) which guarantees equal access to information and transparency.

ROMATSA invites suppliers to submit an information package which will cover the technical, operational and safety aspects, containing their currently available technology, products and solution for the implementation of RAMANS. The information provided in the initial technical information will be used in finalizing a tender for the procurement of RAMANS with an aim for contract signing within the fiscal year of 2020.

2. Request for Information's objectives

This RFI aims at identifying the suppliers interested by the RAMANS project and its related contract and get their opinion and advice about it. Moreover, its purpose is also to identify the technologies and products available or announced on the market which may be beneficial to the project.

This RFI **is not a Call for Tender** (CFT) under Romanian public procurement rules, so neither ROMATSA, nor any economic operator will be committed by any information exchanged under this RFI's umbrella.

Replies and potential subsequent discussions will only be used to further refine and focus the project strategy and the procurement specifications towards the formal steps to come at a later stage when the formal **Call for Tender** (CFT) would begin. ROMATSA will not perform any kind of candidates' pre-selection through this RFI.

Any interested provider is invited to react on the present RFI and to **present in-depth information** about their AMAN solutions (also system components' requirements/ specification will be welcome).

The following chapters provide more information about the RAMANS project, including questions on issues of specific interest to this project. Opinions and advise are particularly expected on:

- Efficient risk management to make timescale credible: the basic version of the RAMANS must be delivered on time to comply with European ATM Master Plan Implementation View (level 3) - Plan 2019, which indicates the target date for Full Operational Capability (FOC) as 31st of December 2021.
- Work sharing principles between ROMATSA and the future supplier.

3. Project scope

The scope of the project covers all the activities related to the definition, development / customization, implementation, calibration and testing of RAMANS with the objective to reach full compliance by January 2022 with the specific implementation objective detailed in the European ATM Master Plan Implementation View (level 3) - Plan 2019 and with the specific project family detailed in SESAR Deployment Programme, according to objective *ATC07.1*

AMAN Tools and Procedures, ATC 15.1 - Information exchange with En-route in support of AMAN and *ATC 15.2 Arrival Management Extended to En-route Airspace*.

RAMANS will be implemented in the following distinct system partitions:

- Operational (OPS) partition
- Simulator (SIM/TRG) –SIM/TRG partition
- Testing and development system(TDS) –TDS partition

All system partitions are hardware independent, having similar architecture with OPS partition, hardware redundant and fault tolerant, H24 available.

All system hardware and software modules are integrated for the monitoring and control purposes into the CMS/LMC system (Local Monitoring and Control). The RAMANS will also allow dedicated technical remote management, preferable physical rack console management.

The required RAMANS operational configuration will be supported through specific import and export tools/scripts integration into existing CDPF (Centralized Data Preparation Facility) system to allow a seamless configuration update at planned AIRAC or specific maintenance dates.

4. The main responsibilities of the supplier

The future supplier will be responsible for:

- Arrival Manager system deployment
- Hardware provision and installation
- Software configuration, calibration and testing
- Relevant data capture / conversion
- Specific training of all involved parties (ATCOs, experts, technical personnel)
- Assistance during the testing, monitoring and calibration processes before and after implementation
- Software maintenance and repair services
- Helpdesk and support services

5. Project Roadmap

The RAMANS shall be operational in December 2021, with the following steps:

Phase 1 – to be accomplished by the end March 2021

- RAMANS Server and Workstations' delivery and setup
- System installation and basic functionalities training for project core team
- The definition of the interfaces between RAMANS and the relevant data sources (FDPS/ MET/OLDI)
- The integration with available local systems (according to the above defined interfaces)
- Testing of the initial configuration parameters and necessary improvements identification
- Description and approval of needed enhancements

Phase 2 - to be accomplished by the end of 2021

- Implementation and testing of the needed enhancements identified at the end of Phase1
- Identification of the new available relevant local systems and the definition of the appropriate interfaces
- Integration with new available local systems (where the standard interfaces are available)
- Final calibration and fine tuning
- Training and hands on the system

6. Project Presentation

The final goal of the project is to integrate an arrival manager system (AMAN) into ROMATSA ATM system to sequence, separate, monitor, support coordination and tactical control task in terms of optimised Bucharest TMA arrival flow to LROP and LRBS airports.

6.1 Project key-objectives:

- To improve safety in ATC by integrating AMAN into ROMATSA ATM system
- To optimize ATCO workload predictability by efficient use of P-RNAV routes in Bucharest TMA
- To increase the efficiency of integrating departing traffic into arrival sequence
- To enhance productivity through reducing tactical complexity execution and task distribution optimization
- To minimise delays to arrival flights using common criteria for arrival sequence separation
- To reduce the environmental footprint through apportioning delay absorption into upstream ACC sectors

6.2 Operational Concept

RAMANS will be able to receive the actual system trajectories from FDPS to sequence and meter at defined control points, resulting native sub-optimal correlated arrival sequence.

RAMANS will be able to apply global and particular defined optimization criteria to the native sequence and build an optimized arrival sequence in the current system configuration.

RAMANS will issue Notification or Advice messages to the ATCO in order to obtain and maintain the optimized sequence.

A Notification may result into ATCO action to implement control commands into FDPS system using existing CWP HMI to update the trajectory. The RAMANS will receive the updated trajectory and monitor the results.

An Advice will be selected to be accepted or rejected using a RAMANS dedicated HMI. Upon Advice acceptance, RAMANS will generate a specific message (eq. AMA or ICD specific) to the FDPS to trigger the ATM2015+ HMI resulting action display.

In support of the operational decision making process, RAMANS will allow the creation of "what-if scenarios" for best configuration option identification and to check the effect of configuration changes and 4D trajectory modifications (DCTs, heading, holding, etc) applied to specific flights or arrival traffic flows.

6.3 Operational Requirements

Key target high level operational requirements to be met are listed below.

- Level 1 – Basic AMAN is anticipated to meet all current available data and ROMATSA ATM system functionality
- Level 2 – Enhanced AMAN is anticipated to be fully integrated into ROMATSA ATM System, via dedicated ICDs supporting advanced functionality level and requiring modification to interfaced systems

6.3.1 Geographical scope

Full airspace of LRBBCTA (By December 2021)

6.3.2 Implementation levels

Level 1 – Basic AMAN according to the available current and available relevant data

- Specific Optimization criteria- runway acceptance rate, separation criteria time, distance or flow rate based on aircraft WTC or special flight handling
- Notification of TTL/TTG for static defined Metering points using apportionment criteria
- Operational advice available for APP Bucharest
- "What-if" on selectable alternate ATCO action
- Departure traffic as basic flight info into dedicated HMI

Level 2: **Enhanced AMAN**:

- Proactive automated decision support for improved local traffic management – Global Optimization criteria
- Operational advice available for ACC sectors-AMAN extension to en-route
- Automatized dynamic airspace optimization support-anticipated changes to runway availability
- Traffic flow management – departure flights integrated into arrival sequence
- What-if scenarios provision and analysis
- AMAN data available to External partners
- AMAN for multiple TMA aerodromes

7. Timescale

Based on this RFI's replies and internal analysis, ROMATSA will launch a Call for Tender (CFT) to be concluded with a contract award. The foreseen timescale to set the contract into place is as follows:

- RFI: from the 2nd of June 2020 to the 23rd of June 2020
- CFT: from August 2020
- Contract award: by 15th of December 2020

Furthermore, ROMATSA is looking to build with the future provider a win-win partnership for the commercialization of the tool resulted from the development and implementation of RAMANS system.

8. Guidelines for RFI's replies

8.1 ROMATSA commitments

At this stage, neither ROMATSA is committed to launch a call for tender at a later stage for the accomplishment of the project, nor any statements from the providers which will answer at this RFI are binding.

The technical and scheduling description of RAMANS provided in this document does not constitute a reference specification. ROMATSA reserve the right to modify its requirements, both in terms of technology and implementation timeframe, independently or not of its analysis of the replies to this RFI.

Providers cannot claim for any payment from ROMATSA as a consequence of the work performed to answer the RFI.

ROMATSA will analyse the replies with the objective to consolidate the call for tender specification. ROMATSA is committed to guarantee the confidentiality of the information provided by the participants through their replies according to the RFI confidentiality policy described in chapter 8.5 below.

8.2 Communication plan:

This RFI is published on ROMATSA web site from Tuesday, the **2nd of June 2020**.

8.2.1 Before replies reception

Interested providers may send written requests for further details or a list of questions regarding the contents of this document to the below mentioned contacts. ROMATSA will seek to provide written answers within two weeks.

8.2.2 *Replies reception*

Replies to this RFI must be provided in English and must be received before Tuesday the 23rd of June 2020, 16:00 LT. They must be sent to ROMATSA's contacts specified in section 8.4 below.

The following must appear on the envelope: **"Reply to RFI for RAMANS - ROMATSA Arrival Manager System".**

Each supplier providing a reply is invited to appoint a person who will be its contact point with ROMATSA.

8.2.3 *After replies reception*

Following receipt of the replies, ROMATSA may require oral presentations, site visits or additional information in order to complete or clarify the replies.

ROMATSA cannot commit to provide dedicated feedback on every RFI reply. It will however attempt to do so.

8.3 Layout and contents

RFI is an invitation to providers to demonstrate their strengths, experience, capabilities and interest in undertaking a project.

Beyond the company's presentation, RFI can be structured as shown below:

Chap. I – Executive Summary of the information provided and recommended solution(s) (summary of chapters II to VII)

Chap. II - Relevant information on the operational aspect

Chap. III - Relevant information on the technical aspect, for example, but not limited to:

- AMAN system architecture
- link between AMAN and FDPS (FMTP/TCPIPv4/UDP, uni/bi-directional, throughput)
- trajectory updates ICD (OLDI/ATS messages, standard/nonstandard messages)
- deviated tracks treatment
- notification/advisory ICD standard/nonstandard messages

Chap. IV - Relevant information on the management of the project, focusing mainly on the following aspects:

- Risk analysis
- Scheduling and financial aspects
- Induced role–sharing between the supplier and Customer.

Chap. V - Other information considered relevant by the economic operator

Chap. VI - Confidential information (see chapter 8.5 below for detailed information)

Chap. VII - Financial and scheduling information requested may be detailed as follows:

- Financial references: budgets and brief descriptions of equivalent operations completed by the economic operator;
- Budget assessment: principal elements and items (development, manufacturing and support), relative or absolute costs, fixed costs, induced costs (licenses, third party equipment...), financial flows throughout the operation and associated assumptions;
- Simplified schedule: description of macro tasks and associated time-frame links between macro tasks, related risks analysis.

ROMATSA is aware that some providers may not be able or willing to address all the issues listed above. However, they are encouraged to provide information on issues for which they have specific expertise to value.

Replies can be also performed by a consortium of several suppliers.

The suppliers are free to propose any variant on any element of the project. They can also address issues not raised by ROMATSA in the present document.

The reply will be in the form of A4 documents. It will also be provided on digital support (CD–ROM or DVD). The reply should not exceed 100 pages for sections I to VI.

8.4 ROMATSA points of contact

Mr. Radu BELDIE and Mr. Eduard ACUJBOAEI are the contact persons for this RFI. Any questions or replies related this RFI have to be sent to both contact persons.

Mr. Radu BELDIE APP Bucharest Unit Supervisor 10 Ion Ionescu de la Brad Blvd. 013813, Bucharest, Romania Phone: +40 21 2083 173 Email: radu.beldie@romatsa.ro	**Mr. Eduard ACUJBOAEI** ATM Expert, ATM Systems, Operations Division 10 Ion Ionescu de la Brad Blvd. 013813, Bucharest, Romania Phone: +40 21 2083 424 Email: eduard.acujboaei@romatsa.ro

8.5 Confidentiality policy

By submitting their contribution in response to the present RFI, contributors expressly accept that ROMATSA reserves the right to use information received to the purpose of:

- defining the strategy and procurement procedure for the RAMANS – "**RAMANS - ROMATSA Arrival Manager System**".
- defining the potential technical, financial, operational and legal requirement specifications for the procurement of the RAMANS or component operations;
- and generally defining the follow–up to the project.

Any information of any nature, be it technical, operational, financial or otherwise, submitted in response to the RFI, the contributor wishes to keep confidential, shall be identified as such by means of ad hoc statement. ROMATSA will ensure compliance with and protection of the trade secret of any information quoted as confidential through such a statement.

In lack of such statement, ROMATSA shall assume that information provided by the contributors shall not be subject to any usage and/or release restriction towards any third party.

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