

## **APPEL D'OFFRES-i - VIA « I-SOURCING »**

### **No. 17-220082-A**

#### **Data mining, modelling, big data / machine learning and analysis in support of PJ02 concepts**

The first objective of this contract is to conduct specific data analysis for modelling and/or big data / machine learning analysis on wake separations, weather, aircraft behaviour, arrival procedures, surveillance and ROT. The results of the analysis shall:

- Support the development of the PJ02 concepts
- Provide supporting evidences that the proposed concepts are safe

The second objective is to incorporate the results of the above mentioned studies in derived functionalities and guidelines for the optimised controller decision support tool. These functionalities shall help the tool to safely, predictably and efficiently manage the runway throughput.

The third objective is to conduct impact assessments for the wake solutions, enhanced arrival procedures, ROT and MRS concepts developed in the PJ02.

The fourth objective is to be involved together with one or more European wake vortex expert(s) in the EUROCONTROL team active in the RECAT-2 ICAO working group and support EUROCONTROL in the activities with PJ02 related stakeholders.

The fifth objective is to carry specialised analyses and provide expertise to the EUROCONTROL project team when requested to support other S2020 projects/solutions in the runway throughput domain.

The sixth objective is to undertake the development, review process management and delivery of the OSED, SPR, Interop, VALP, TS/IRS and VALR SESAR Deliverables, to support validation of the all PJ02 concepts.

The seventh objective is the production of scientific papers on the concepts and to ensure that the relevant know-how is properly transmitted at the end of the contract.

#### **Who should tender:**

The Contractor Personnel shall demonstrate:

For the Data Mining, modelling, big data/ machine learning analysis :

- confirmed experience in:
  - o In-depth understanding of existing wake vortex concepts of operations including SESAR runway throughput solutions and their application in the airport domain;
  - o In-depth understanding of aircraft performance on final approach and/or departures area;
  - o In-depth understanding of wake physics
  - o Big data / Machine Learning techniques
  - o MATLAB package and software development;
  - o EUROCONTROL safety assessment and safety methodology;
  - o MET knowledge and expertise in the context of airport operations;

European  
Organisation for the  
Safety of  
Air Navigation

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- confirmed expertise in:
  - o statistics and processing of very large datasets (including, but not limited to, LIDAR, Radar Traffic, Weather) with different techniques;
  - o preparation and analysis of Real Time Simulation validation activities;
  - o Runway throughput impact assessment
- high level of ability to create professional documents and presentations in English.

For the Task 9, Support to Concepts Validation:

- confirmed experience in:
  - o SESAR Operational Concepts, SPR, TS/IRS, development
  - o Validation Preparation, Execution and Reporting
  - o use of SESAR processes, documentation templates, reviewing and delivering.
- some experience in:
  - o safety and technical requirements capture.
- high level of ability to create professional documents and presentations in English

**Closing date: 20/04/2017, 15:00 Local Brussels time**

### **Point of Contact:**

If you wish to receive the call for tender please see the “important notice” below and if you have any other related questions, please contact:

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DR/ABE

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### **IMPORTANT NOTICE**

The full i-call for tenders documentation is in electronic format (.pdf).

If you wish to obtain the i-call for tenders documentation please read and follow carefully the instructions below:

1. **If you are already registered in the EUROCONTROL Supplier Portal, please send an e-mail to the Point of Contact mentioned above to get access to the documentation.**
2. **If you are not yet a EUROCONTROL supplier, please follow the 4-step process described on the following link:**

**<http://www.eurocontrol.int/articles/supplier-portal-registration-procedure>**

3. EUROCONTROL accepts no responsibility whatsoever for the completeness, accuracy and/or timeliness of the transmission of the electronic documents (nor for the electronic documents themselves).
4. Submission of tenders shall **be made electronically** and shall be exclusively

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made in strict accordance with the instructions given in the "NOTICE CONCERNING THE PRESENTATION OF TENDERS".

5. You may:
  - a) print out the documents;
  - b) forward the documents further on a strictly need to know basis (always fully acknowledging the source, i.e. EUROCONTROL), and
  - c) use print-outs of the electronic i-call for tenders documents for the submission of tenders (especially Form i-AF32CFT).
6. You may not:
  - a) modify, edit and/or change the electronic documents;
  - b) transmit such documents to any third person who has no need to know them;
  - c) post such documents on any private or public website;
  - d) alter the originating source (EUROCONTROL) and or copyright signs etc., and
  - e) transmit the documents without indication of the source.
7. EUROCONTROL reserves the right not to send you the tender documentation, if your company is considered as incapable of submitting an offer to the i-call for tenders (size of the project, complexity etc.).

**An environmental notice:**

With a view to reduce the exponential growth of paper consumption, we would invite you only to print out electronic documents received and/or request paper copies of the price enquiry documentation if you are actually considering to submit a tender.