

i- CALL FOR TENDERS

Call for Tenders No.: 21-220388-A

Title: PJ02-W2 14.7 Dynamic Pairwise Wake Separation – Advanced Vortex Signal Processing with 3D Wake Visualisation

General: EUROCONTROL* is an intergovernmental organisation with 41 Member and 2 Comprehensive Agreement States. We are committed to building, together with our partners, a Single European Sky that will deliver the air traffic management (ATM) performance required for the twenty-first century and beyond.

Technical subject matter:

The role of the contractor for the development of an advanced automated vortex signal processing methodology / software will be to:

- Improve the calculation of the wake vortex gamma value.
- Improve the hit rate of the M aircraft ICAO category e.g. E180, ...
- Innovate in the computation of the 'medium wind'
- Verify the efficiency of the multi-track mechanism
- Provide supporting documentation describing the advanced automated vortex signal processing methodology developed

The role of the contractor relating to data management (i.e. development of a database and software to collate, manage & synchronise data from different data sources) will be to:

- Receive / obtain the ADS-B data from an external server,
- Stream / manage the aircraft data into the database,
- Identify the aircraft which will land on the monitored runway (27R for CDG, Paris),
- Identify the timestamps of the Lidar scan plan and touchdown,
- Synchronise and extract the data/ tracks for the 3D visualization,

* EUROCONTROL – European Organisation for the Safety of Air Navigation

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Member States: Albania, Armenia, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Moldova, Monaco, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom.



NETWORK
MANAGER



- Synchronise and extract the data/ tracks for other tasks (e.g. machine learning algorithm, archiving etc.),
- Built a database which manages the live data (wake vortex, aircraft and meteorological) from various data sources (e.g. Lidar, ADS-B, METAR),
- Confirm the efficiency of the computation time with live data,
- Provide the data output (i.e. synchronised wake, aircraft, meteorological) for the 3D visualization tool,
- Provide the data output for other tasks e.g. machine learning algorithm (Not yet defined),
- Archive the old data.
- Provide supporting documentation clearly defining the data fields in the database

The role of the contractor in the development of the real time 3D wake visualization will be to:

- Built a 3D wake visualization module / graphical user interface to display wake tracks with aircraft and meteorological data in real / quasi-real time using live data;
- Merge data (wake vortex, aircraft and meteorological) from various sources (e.g. Lidar, ADS-B, radar, METAR);
- Include a replay function so that specific scenarios / sections of scenarios can be replayed for investigative purposes.
- Provide a user guide manual for the 3D visualisation tool

Main selection, assessment and award criteria:

Technical assessment criteria

Criteria	Mandatory/ Desirable	<u>Minimum Threshold Score</u>	Points Available	<u>Proof required</u>
1 Demonstrable experience in developing software for signal processing proven by previous activities within the 5 years	M	21 points	30 points	to be demonstrated by CVs and or projects

2	Demonstrable experience in research programs proven by previous activities within the 5 years	M	14 points	20 points	to be demonstrated by CVs and or projects
3	Demonstrable experience in database aggregating complex data proven by previous activities within the 5 years	M	14 points	20 points	to be demonstrated by CVs and or projects
4	Demonstrable experience in 3D visualisation proven by previous activities within the 5 years	M	17.5 points	25 points	to be demonstrated by CVs and or projects
5	Ability to write technical documentation in English B2 EU level	M	3.5 points	5 points	to be demonstrated by CVs and or projects
			TOTAL: [70] points	[100]	
	Minimum total compliant threshold : [70 (+ X for all D criteria)]				

The economically most advantageous offer will be established in accordance with the following:

For the Technical tender, a weighting of 60% is applied, for the Financial tender, a weighting of 40%.

Tender closing date: 01-10-2021 at 15:00 CET

Point of Contact: If you wish to receive the Call for Tenders please see the “Important Notice” below and if you have any other related questions, please contact:

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**If this Call for Tenders should interest you, please read
the important information below:**

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 registered as a EUROCONTROL supplier, please follow the 3-step process described on the following link: <https://www.eurocontrol.int/portal/supplier-portal>
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 made in strict accordance with the instructions given in the tendering documentation.
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 the Price Offer Form ref: I-TSF-E).
6. You may not:
 - a) modify, edit and/or change the electronic documents other than to submit the required info and to sign/stamp where required;
 - 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.

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.