

**Annex II to the Invitation to Tender
Frontex/OP/659/2018/JL**

Terms of Reference

Maritime Surveillance Aerostat Trial

Done at Warsaw
11/05/2018

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Table of Contents

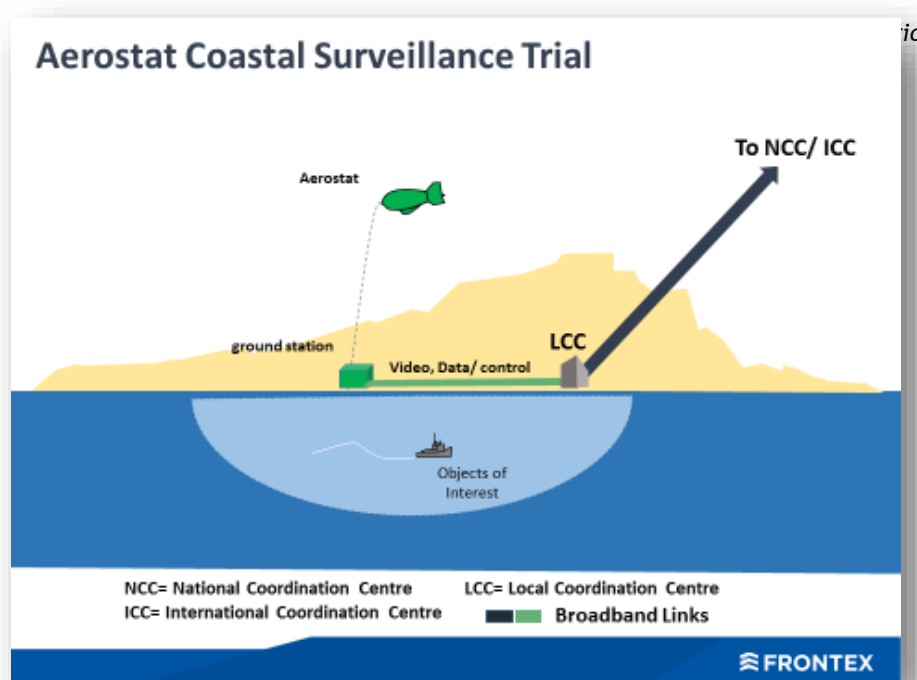
1. Background and context	3
1.1. Introduction	3
1.2. The Problem	4
2. Description of the tender	4
2.1. Participation in the tender procedure	4
2.2. General Description	4
2.3. Budget	5
2.4. Assignment	5
2.5. Deliverables	6
2.6. Venue	6
2.7. Working environment and conditions	6
2.8. Experts description	6
2.9. Reporting and Meetings	7

1. Background and context

The European Border and Coast Guard Agency, Frontex, new Regulation¹, establishes that the Agency may acquire or lease technical equipment for external border control to be deployed during joint operations, pilot projects, rapid interventions, joint return operations or technical assistance projects, and in accordance with the financial rules applicable to the Agency.

The global objective of this tender is to lease one surveillance aerostat to carry out a pilot project, supported by a host Member State: Greece, aiming to assess the capacity and cost efficiency of aerostat performing maritime surveillance in an operational environment. The scope of the tender, aligned with the cited Regulation, is then to establish a service contract to deploy, operate and assess for a period of minimum of three weeks one surveillance aerostat, including in the contract the provision of the equipment and experts to conduct the trial.

For the purpose of this procurement a surveillance aerostat shall be understood as a lighter than air unpowered craft, statically fixed by a cable, capable to lift a downward-looking surveillance payload (sensors in the payload shall include one EO/IR gimbal, maritime radar and AIS) and of sharing the data captured by its sensors with users on the ground via a broadband connection.



The scenario depicted in the figure above shows the trial set-up intended by Frontex to be put in place under this contract. The image presents the aerostat system deployed in the coast of a host Member State. The sensors in the aerostat capture and pass maritime surveillance data to the Local Coordination Centre (LCC) designated by Frontex. From the LCC the aerostat payload is controlled and the LCC transfers the information acquired by the aerostat to the International Coordination Centre in Athens via a broadband link.

1.1. Introduction

Surveillance of EU external borders aims to create situational awareness by detecting and identifying irregular migration and other border related crime activities. EU Member States deploy in the EU external border set of sensors, communication systems, and command and control systems to create a cost-efficient situational picture facilitating their timely reaction capability.

¹ REGULATION (EU) 2016/1624 of 14 September 2016 on the European Border and Coast Guard

One of the key objectives of Frontex is to keep Member States informed about new technological developments in the field of border control. In this regard, among other activities, Frontex, with the support of Member States, organizes live demonstrations of surveillance technologies under the format of 'pilot projects'.

1.2. The Problem

Two important concerns of border surveillance practitioners are affordability and persistence. In this concept aerostats may play an important role by providing cost-effective and persistent maritime border surveillance platforms. To evaluate how aerostats works in practice in a maritime surveillance role, Frontex in cooperation with the Hellenic Coast Guard is organizing this trial, during which up to date solution on aerostats will be deployed and assessed.

2. Description of the tender

The procurement defined in this document consists in the delivery by one Contractor of one maritime surveillance aerostat, payload control, data transmission and the necessary expertise to deploy and manage it. The system will be used for the execution of a pilot project to test and evaluate the maritime surveillance aerostat performance. The deployment, test and evaluation will be carried out in one fixed point of the coast of one EU Member State, Greece, over a specified timeline defined below.

2.1. Participation in the tender procedure

This procurement procedure is open to any natural or legal person wishing to bid for the assignment and established in at least one of the EU, EEA and SAC countries. Exceptionally in this procedure, bids from the economic operators generally not having access to the procurement procedures initiated by decentralised agencies of the European Union (i.e. bids from third countries) will be also accepted.

2.2. General Description

During the pilot project, the selected Contractor will deploy its aerostat and will transfer, 24/7, the data captured by the aerostat. Payload sensor shall be fused, compiled, and presented to the LCC in a Mission Map of the maritime area under surveillance, including sensor footprints, AIS tracks, radar tracks and metadata. At the LCC, staff from the host border authorities, properly trained and supported by the Contractor, will manage the payload and will be able to further distribute the compiled picture.

Platform

Type: Tethered balloon

Length: minimum 17 m

Flight endurance/persistence: minimum 7 days

Max Payload Weight: more than 90 kg

Indicative altitude range: minimum 300 to maximum 3000 feet

Payload: LONG-RANGE ELECTRO-OPTICAL SYSTEM, Maritime Radar, AIS, communications

LONG-RANGE ELECTRO-OPTICAL SYSTEM allowing integration with other sensors and applications (radar, AIS, mission management)

Fully stabilized (at least 3 axes), minimum 15'' gimbal

EO/IR system with weight more than 20 kg and including CCD Daylight Camera, Thermal Imaging Camera (Infra-Red), Eye-Safe Laser Range Finder

Thermal (Infra-Red) Imaging Camera

Resolution: minimum 680 x 512

Type: Continuous optical zoom

Indicative detection distances

Small Boat Detection Range, Night Time: ~15 km

Person Detection Range, Night Time: ~8 km

Color CCD camera

Resolution: at least 720p x 1080p HD

Type: continuous zoom

Maritime Radar allowing integration with other sensors and applications (EO/IR, AIS, mission management,)

Equipped with radar data processor & tracker capable automatically to detect and track targets at:

Indicative detection distances

Small Boat Detection Range ~ 20 km

Patrol Vessel ~ 40 km

2.3. Budget

The maximum budget earmarked for the contract is **500,000 Euro**. Payment schedule:

- a) Set-up phase: 40% advance payment
- b) Trial phase: 50% payable after its completion and acceptance
- c) Assessment phase: 10% payable after its completion and acceptance

2.4. Assignment

The contract implementation consists of one single lot to be executed following the phases described below. The service consists of the provision of one surveillance aerostat with mandatory provision of IR/EO multiband camera, maritime radar, communications and AIS receiver.

2.4.1. Kick - Off Meeting.

At the kick off meeting, the contractor, Frontex and the host Member State will jointly decide on specific deployment site and deployment dates, training plan and details related to the local logistic support to the deployment.

2.4.2. Set-up Phase

This phase consists of the preparation by the contractor, together with Frontex and the host Member State, of the necessary tasks to implement the deployment of the aerostat, ground station, connectivity to LCC and training of host Member State staff.

2.4.3. Trial Phase

This phase tasks consist of the actual provision of surveillance data from the system deployed, operating for a period of minimum three weeks, 24/7 (except the necessary maintenance windows). Contractor should assure the proper operability of their system and provision of support to the host Member State managing it at the LCC, 24/7.

2.4.4. Assessment Phase

This phase tasks consist of the joint evaluation of the results obtained by host Member State, Frontex and the Contractor. This evaluation shall include the appraisal of the sensors used, systems reliability and cost efficiency of the results obtained.

2.4.5. Activity Timeline estimation

The pilot project initiation and setup shall be started in the last quarter of 2018 followed by operational trials and assessment.

- Kick-off: second week of January 2019
- Set-up Phase: mid-February 2019
- Trial Phase: April/May 2019
- Assessment Phase: May 2019 - June 2019

2.5. Deliverables

2.5.1. Set-up Phase

- a. Project plan including a time schedule and work breakdown structure
- b. Equipment deployment, installation and testing plan
- c. Information connectivity and data transfer testing plan
- d. Local staff training plan

2.5.2. Trial Phase

- a. Surveillance data and information capture by the aerostat payload
- b. Technical support provided by contractor's personnel to maintain the system operability during the trial phase.
- c. Technical support provided by contractor's personnel to the host Member State staff managing the system

2.5.3. Assessment Phase

- a. Contribution to the joint evaluation report

2.6. Venue

Services contracted under this tender procedure should be performed by the Contractor in one fixed site in the north coast of the Greek island of Lesvos provided by the host Member State. The meetings: the kick-off and the final project meeting will be held in the premises of Frontex in Warsaw, Poland.

2.7. Working environment and conditions

The deployment of the aerostat will take place in a restricted area under control of the Greek authorities. The site is secure, has electric power, but does not have infrastructure to accommodate the ground station.

The Contractor is responsible for the logistics including but not limited to: addressing custom and potential import issues, getting of the necessary clearances and of Air Traffic Control management, as well as of procuring the necessary maps of the Operational Area.

Frontex will put the Contractor in contact with a designated Greek Point of Contact (PoC) responsible of the activity at the Local Coordination Centre; this PoC will facilitate the access to local support.

2.8. Experts description

Each expert from the team of experts proposed to be assigned to this contract by the Contractor should have demonstrable 3 years of expertise (via CVs, publications, reports, etc.) in one or more of the following areas:

- Surveillance technologies

- Communications and IT technologies
- Aerostat's technology

Their curricula vitae must contain information regarding the relevant experience in these fields and his/her role in any project or activity described must be clearly stated. The expert shall also be in a position to fulfil the tasks described in these Terms of Reference without incurring in a conflict of interest with current or past employers, disclosing classified information, compromising or creating harm to third parties.

The experts taking part in the trial will be required to sign a Declaration of Confidentiality.

2.9. Reporting and Meetings

The working language of this assignment is English and all the deliverables (see under Point 2.5) produced by the Contractor shall be produced in English. All documents shall be delivered in editable electronic form in MS Word (please note that all the accompanying drawings, tables, graphics and supporting data shall be provided in an editable source format agreed with Frontex).

At least the following foreseen meetings are to be observed in the offer:

- Kick Off meeting to finalize and agree on the detailed necessary tasks to implement the deployment (to be held at Frontex premises in Warsaw)
- Daily meeting at the Local Coordination Centre participating in the trial with the person designated by the Host Member State as Point of Contact responsible for the activity
- Final project meeting (to be held at Frontex premises in Warsaw.)

Cost of participation in all foreseen meetings will not be reimbursed separately and it should be incorporated in the fixed net price of the system deployment.