

TENDER ENCLOSURE I- TECHNICAL SPECIFICATIONS

ATTACHED TO THE INVITATION TO TENDER

Invitation to tender no. EMSA/OP/22/2016

Contracts for Demonstrating state-of-the-art Remotely Piloted Aircraft Systems (RPAS)
services in support of the execution of Coast Guard functions

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1 Introduction and background

1.1.1.1 The three European Agencies: the European Maritime Safety Agency (EMSA)¹, The European Border and Coast Guard Agency (FRONTEX)² and the European Fisheries Control Agency (EFCA)³, each within their mandate, shall support national authorities carrying out coast guard functions at national and Union level, and where appropriate, at international level⁴ by:

- sharing, fusing and analysing information available in ship reporting systems and other information systems hosted by or accessible to those agencies, in accordance with their respective legal bases and without prejudice to the ownership of data by Member States;
- providing surveillance and communication services based on state-of-the-art technology, including space-based and ground infrastructure and sensors mounted on any kind of platform;
- building capacity by drawing up guidelines and recommendations and by establishing best practices as well as by providing training and exchange of staff;
- enhancing the exchange of information and cooperation on coast guard functions including by analysing operational challenges and emerging risks in the maritime domain;
- sharing capacity by planning and implementing multipurpose operations and by sharing assets and other capabilities, to the extent that these activities are coordinated by those agencies and are agreed to by the competent authorities of the Member States concerned.

¹ 2015/0313 (COD) Regulation of the European Parliament and of the Council amending Regulation (EC) No 1406/2002 establishing a European Maritime Safety Agency

² Regulation (EU) 2016/... of the European Parliament and of the Council of ... on the European Border and Coast Guard and amending Regulation (EU) 2016/399 of the European Parliament and of the Council and repealing Regulation (EC) No 863/2007 of the European Parliament and of the Council, Council Regulation (EC) No 2007/2004 and Council Decision 2005/267/EC (OJ L ...).

³ Council Regulation (EC) No 768/2005 of 26 April 2005 establishing a Community Fisheries Control Agency and amending Regulation (EEC) No 2847/93 establishing a control system applicable to the common fisheries policy (OJ L 128, 21.5.2005, p. 1).

⁴ Article 1 of 2015/0313 (COD) Regulation of the European Parliament and of the Council amending Regulation (EC) No 1406/2002 establishing a European Maritime Safety Agency

- 1.1.1.2 Under the European Coastguard Pilot Project⁵ initiated by the European Parliament, focus will be on creating operational and technical synergies between different coastguard functions at EU level. Identified Union bodies which have the required technical competences and administrative powers to reach the objectives of this pilot project are EFCA, EMSA and FRONTEX. The three Agencies will strengthen their cooperation and improve synergies, to increase maritime situational awareness to support coherent, efficient, and cost-effective action.
- 1.1.1.3 The three agencies will continue to develop cross-sectoral cooperation and coordination to be able to provide effective multipurpose services to national authorities carrying out coastguard functions.
- 1.1.1.4 The provision of an Remotely Piloted Aircraft Systems (RPAS) service for maritime surveillance will therefore be supporting this task by increasing the maritime situational awareness for the three Agencies and Member States by enhancing the maritime picture with additional sources of data. This will facilitate Member States's coastguard tasks.
- 1.1.1.5 This procurement is part of the pilot project and its aim is to demonstrate, within a limited time window, the state-of-the-art and innovative RPAS service capabilities with regard to aircraft, sensors, and operations for maritime surveillance in order assist in developing future RPAS based multipurpose maritime surveillance services.
- 1.1.1.6 Throughout this document the term "the Bidder" means that the tenderer shall address the requirements in its proposal as requested in the procurement documents. Reference to "the Contractor" means that the tenderer shall perform or implement such requirements during the execution of the contract.
- 1.1.1.7 Remotely Piloted Aircraft Systems (RPAS) can support operational maritime surveillance, particularly in the context of pollution monitoring, emissions monitoring, detection of illegal fishing, anti-drug trafficking, illegal immigration, and search and rescue operations.
- 1.1.1.8 Also throughout this document the term "contracting authority" refers to EMSA who is responsible for the Framework Contract for this service. However the requirements for the demonstration will be decided in cooperation between the three Agencies: EMSA, FRONTEX and EFCA.

⁵ Commission Implementing Decision C (2016)3541 on the adoption of the work programme for 2016 for the pilot project "Creation of a European coastguard function"

2 Type of Procedure

- 2.1.1.1 Economic operators are invited to submit an offer in this open procedure in accordance with the rules set out in the Invitation to Tender and its associated enclosures.
- 2.1.1.2 Within this open procedure, any interested service provider may submit a bid in response to the contract notice and procurement documents and is evaluated based on exclusion, selection and award criteria.

3 Type of Demonstration

3.1 Objectives of the service

- 3.1.1.1 This call for tender is to contract several companies which can provide RPAS demonstrations for a period of approximately one week each to be able to demonstrate a state-of-the-art European Remotely Piloted Aircraft System (RPAS) service in the civil maritime surveillance domain in support of executing Coast Guard functions.
- 3.1.1.2 The RPAS demonstration will test the concept of operations for multipurpose state-of-the-art RPAS missions. The objective of the demonstrations is to show that Remotely Piloted Aircraft Systems (RPAS) can support operational maritime surveillance. This is to support the objectives and tasks of the three EU Agencies EFCA, FRONTEX and EMSA where an operational scenario shall be implemented in the form of a coastguard multipurpose operation. Through the operational demonstration it will also show the technical capabilities of the selected RPAS solutions.
- 3.1.1.3 The objectives of the demonstration are to:
- test the concept of operations for multipurpose missions addressing the tasks of the three Agencies but focussing on cooperation in the Central Mediterranean Sea;
 - prepare flight scenarios and real time testing with different state-of-the-art platforms from different contractors, measuring their effectiveness for typical maritime surveillance operations;
 - demonstrate the technical capabilities of the RPAS, together with the related sensor and communication equipment to address these kinds of multipurpose missions;
 - demonstrate the in real time decision making process in maritime surveillance missions based on dissemination and exploitation of data collected and provided by RPAS;
 - test the process of obtaining the permits to fly;
 - give a debrief on the demonstration results and findings and related presentations.
- 3.1.1.4 Several companies will be contracted to provide simultaneous RPAS deployments for the demonstration.

3.2 General description of the service

3.2.1.1 The scenario depicted in Figure 1 illustrates a typical type of surveillance service that the contracting authority may develop in the future and therefore the demonstrations should be based on this model. The figure reflects the foreseen demonstration where the RPAS surveys an Area of Interest (AoI). This demonstration includes the taxi flight from the base airport to the AoI, the specific activity for the service requested and finally passing all surveillance information and payload data to the users. For this transfer, the RPAS uses a direct link when flying within Radio Line of Sight (RLOS) and changes seamlessly to a satellite link when flying Beyond Radio Line of Sight (BRLOS).

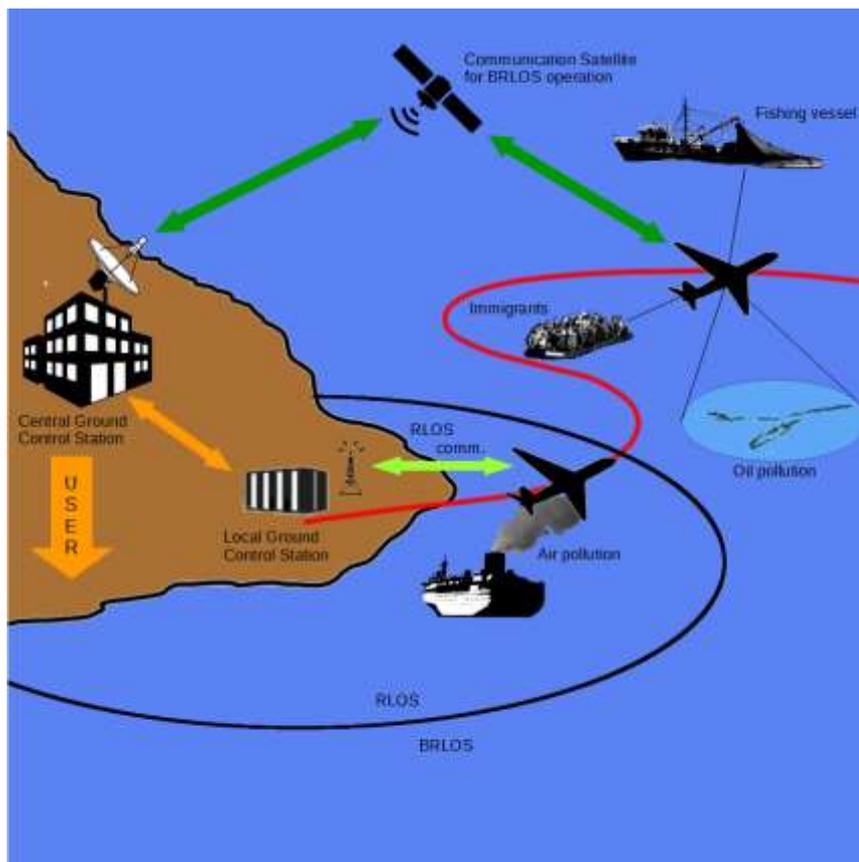


Figure 1: Typical RPAS operation in the maritime domain⁶

3.2.1.2 A variety of types of RPAS shall be used in the demonstration period by different contractors for the demonstration to address the different operational domains. Some examples could be the following: Medium size RPAS services with "long endurance and large operational range", larger size RPAS services with "extended endurance and range" and with a comprehensive set of sensor

⁶ Air pollution measurements are not in the scope of this procurement

capabilities, and/or Vertical Take Off and Landing (VTOL) RPAS but also with long endurance.

3.2.1.3 The aircraft and the sensors shall be designed to respond to the CONOPS in section 27. Companies should therefore propose different RPAS and operations which could fulfil the various missions and propose what operations can be made with their specific RPAS solution during the demonstration.

3.2.1.4 The following minimum activities are expected from the contractor (s):

- RPAS fitted with payload, communications and deployment support for the demonstration;
- The deployment of the RPAS to the site of operations;
- Support in providing relevant documentation to obtain the permit-to-fly for the duration of the demonstration;
- Minimum of 12 demonstration surveillance flight hours, addressing typical maritime surveillance scenarios as defined by the CONOPS described in section 27. The CONOPS shall be detailed by the contractors in order to demonstrate the best use of their RPAS for the particular purpose. Flights will take place during day and night and during varying weather conditions within the operational limit of the RPAS;
- Demonstration reports and documentation as described in Section 10.
- Provision of the data, preferably in a standardised manner as defined at the Kick-Off meeting.

3.2.1.5 Industry is invited to present their state-of-the-art technology and new developments in operation in order to improve maritime surveillance and the efficiency of these services.

3.2.1.6 The proposed solutions (the offered RPAS and the described operations addressing the CONOPS as specified in section 27) by the Bidder fulfilling the requirements given in this document will be subject to evaluation.

4 Requested demonstration services

4.1 RPAS types and operations

4.1.1.1 Bidders are invited to offer an RPAS to participate in seven consecutive days of demonstration in May 2017. Flights are not expected to take place every day but presence at site during the period is necessary in order to mitigate weather conditions which may not allow flying.

4.1.1.2 Bidders are invited to offer state-of-the-art and innovative solutions based on RPAS technology with regard to the aircraft and to the sensors which best fulfill one or more the technical needs described in the CONOPS (Section 27 - Annex D).

4.1.1.3 Based on their technical offer and their RPAS, the bidders are requested to describe in detail the operations proposed to address the CONOPS (Section 27 - Annex D). This should include i.e. a flight pattern, the use of the payload, the

proposed timing/duration of the mission in order to respond to the needs, any additional means for the operation needed, etc.

- 4.1.1.4 A minimum of 12 FH will be flown by each contractor up to the maximum budget.
- 4.1.1.5 The demonstration will probably take place in in the Iberian Peninsula.
- 4.1.1.6 The dates for a two week window in May 2017 and location/airstrip for the demonstration will be confirmed at the latest by signature of the associated contract.

4.2 How the Contract will work

4.2.1 The Framework Contract in Cascade

- 4.2.1.1 By establishing multiple framework contracts (FWC) in cascade the contracting authority wants to demonstrate state-of-the-art, innovative and cost efficient RPAS solutions for maritime surveillance operations.
- 4.2.1.2 As multiple solutions shall be demonstrated the framework contracts will be in cascade, which means that the contracting authority will rank the tenderers in descending order with a view to establishing a list of contractors. The sequence in which the companies are offered services will correspond to the ranking in the evaluation.
- 4.2.1.3 The companies will be ranked according to their scores in terms of the RPAS type and operations offered and their fulfilment of the operational requirements and the best price-quality ratio as indicated according to the scoring scheme in section 20.
- 4.2.1.4 Framework contracts will be concluded with a maximum of 3 bidders being contracted subject to budget availability.
- 4.2.1.5 The total budget for this contract is expected to be divided between up to 3 contractors.
- 4.2.1.6 The framework contracts (FWC) awarded will be valid for maximum of 6 months.
- 4.2.1.7 The contracting authority is requesting a certain set of minimum capabilities (section 5 and 6) to be offered by the Bidder. These capabilities must be offered by the Bidder to be awarded a contract.**
- 4.2.1.8 Further advanced capabilities are requested which are not mandatory, but will allow a better score during evaluation. These are considered as advantageous.
- 4.2.1.9 If the budget available is not fully consumed by the set-up, mobilisation, on-site activities, any associated logistical costs on site and mandatory 12 flight hours for all contractors together, the remaining budget may be used to finance

additional flight hours. However the budget for additional flight hours is expected to be low.

4.2.1.10 Additional flight hours may be distributed between the contractors subject to available budget and according to operational needs.

4.2.2 The Specific Contracts (SC)

4.2.2.1 The Framework contracts will be implemented by a Specific Contract with each contractor covering the set-up, mobilisation, on-site activities and 12 minimum flight hours during the demonstration. Additional flight hours will only be paid if requested by the Agency and flown by the contractor(s) concerned.

5 Contract timings and associated cost elements

5.1 General Considerations

5.1.1.1 In order to run the demonstrations, the following activities described in the next few sections have to be undertaken by the contractor.

5.1.1.2 The demonstration will involve a range of costs including i.a.

- administrative fees to obtain the permit to fly,
- possible airport fees including take-off and landing,
- launch and recovery sites,
- hosting facilities (secured working space and shelter) and
- local infrastructure including access to the internet.

The contractor will be reimbursed by the Agency for the actual and proven costs listed above up to a maximum amount. See Section 12.1.1.4 and 18.1.1.1 for further details.

5.2 Initial set-up phase and mobilisation

5.2.1.1 The first phase, from when the specific contract is signed, will be the set-up and mobilisation phase.

5.2.1.2 The contracting authority assumes that the RPASs are already available for flight operations and do not require dedicated development to be fit for purpose. However, if necessary, this phase will cover any refitting of the aircraft and any preparations and adjustments needed to be ready for the demonstration.

5.2.1.3 The set-up and mobilisation shall cover the:

- assembling a stand-alone mobile unit for flight monitoring and data visualisation which could be used during the demonstration;
- any preparation for a deployment/flight operations;
- assisting activities to secure the permit to fly and providing the necessary documentation to support the approval of the permit to fly, including, if needed, meeting relevant national authorities;
- the transport of the RPAS, the ground station, other relevant equipment and the staff to the relevant location;
- the on-site preparation including a possible visit to the demonstration premises to check facilities such as the runway;
- set up of the data provision and visualisation enabling the users and the Agencies to have access to the real time data/video streams would be an advantage.

5.2.1.4 At least one operational briefing will be held at the site of the demonstration.

5.3 On-site activities

5.3.1.1 The demonstrations will not last longer than a continuous 7 day period within a two week window depending on the weather.

5.3.1.2 The on-site activities cover:

- the operation and maintenance of the RPAS on site
- the staff needed on site (mission/deployment control, pilot(s), payload operators, maintenance, etc.)
- the third party liability insurance
- accommodation expenses for the staff needed on site

5.4 Flight operations

5.4.1.1 Flight hours are calculated from take-off until landing of the RPAS from the airport. The specific airport will be identified at a later date.

5.4.1.2 The costs of flights should cover:

- The fuel used in the operation
- All communication costs regardless if RLOS or BRLOS (i.e. payload transmission and command and control)
- any other flight related expense

5.4.1.3 The flights will be tasked for the demonstration based on the proposed operations or CONOPS to be demonstrated. These will be confirmed for each demonstration by EMSA.

5.4.1.4 At least a third of the flight hours (4 of the 12 FH) should be done at night⁷ if feasible according to the permit to fly.

5.4.1.5 At least one flight (day or night) should be longer than 6 hours.

5.4.1.6 The Bidder has to state its maximum flight capabilities over 24 hours.

5.5 Unavailability of service during the demonstration

5.5.1.1 In case of extreme weather conditions exceeding the declared operational performance and limitations (See 6.1.2.2) of the RPAS or in case of force majeure (not including unscheduled maintenance), the contractor is entitled to cancel a specific flight. The Bidder has to provide the weather limitations (wind in beaufort or knots and rain in mm/h) for the RPA in the bid. The non-performed flight hours will be rescheduled. If the contractually foreseen flight hours cannot be undertaken during the demonstration period for any of the reasons above, the contractor will be compensated with a payment for 12 flight hours.

5.5.1.2 In case the contractor is not able to meet the contracted amount of flight hours due to its own fault (i.e. unscheduled maintenance, failure of RPAS, other issue) the payments will be reduced proportionally to the flights hours provided. e.g. the contract foresees 12 flight hours, but the contractor only flies for 6 hours due to its own fault the payments will only be 50% of the "Fixed fee to cover minimum 12 flight hours of demonstration" (see section 18.3).

5.6 Debriefing following the demonstration

5.6.1.1 A debriefing will take place either at the site of the operations or at EMSA's premises to present the results and findings of the demonstration. Presentations will be given by the Contractors.

6 Service Requirements

6.1 General Considerations

6.1.1 General Requirements

6.1.1.1 The contracting authority would like to build upon RPAS solutions that are already flying with sensors able to meet the missions indicated in section 3.3.

⁷ Night is defined as the period between the end of evening civil twilight and the beginning of morning civil twilight, or such other period between sunset and sunrise as may be prescribed by the appropriate authority, as defined by the Member State.

6.1.1.2 The areas of operation will be the Iberian coast/southern coastline of Spain. Note that for tender evaluation purposes only (See section 20.3) a specific airport has been nominated. The actual airport will be confirmed at a later date.

6.1.2 The Remotely Piloted Aircraft System (RPAS) (platform and sensors)

6.1.2.1 The RPAS should include relevant aircraft (RPA), ground control system, launch and recovery equipment (if needed) and communication systems and any other relevant parts required to provide the demonstration.

6.1.2.2 The Bidder should describe in detail the technical capabilities of the RPAS and sensors.

6.1.2.3 Sensors should at least include an Electro-Optical and Thermal Infrared camera as well as an AIS receiver.

6.1.2.4 Additional sensors for example a maritime radar and/or SAR will be seen as a strong advantage, but also mobile communication device detection (terrestrial and/or satellite network), hyper spectral sensors, etc. strongly improve maritime surveillance capabilities and will be evaluated as an advantage.

6.1.2.5 The Bidder shall provide general performance and operational conditions (the "operational envelope") of the proposed RPAS including payload, including but not limited to:

- for general performance conditions: Maximum Take-Off Mass (MTOM), operating empty weight (without payload), recommended payload mass, maximum payload mass, dimensions, range, and endurance.
- for operational conditions and limitations: temperature range, humidity, precipitation (in mm), wind tolerance (in Beaufort or m/s) including ability for the payload to provide usable data), low visibility, ceiling altitude, take-off altitude flight radius, and ability to fly in icing conditions.

6.1.3 Experts and operational personnel

6.1.3.1 The Bidder shall list the experts foreseen for the execution of this contract. (see point 19.5.2). The following are the minimum requirements:

6.1.3.2 Remote pilot(s):

- should be authorised to pilot the RPAS vehicles/platforms;
- should be authorised to deliver the surveillance flights during day/night;
- should be trained/experienced to fly according to ATC procedures.

6.1.3.3 Sensor/payload operators:

- crew with a proven record on sensor operation and data analysis;

6.1.3.4 Ground crew:

- staff to ensure the demonstration (technician(s) - for maintenance, payload management, communications, etc.) as well as any relevant maintenance needed to ensure reliability of the platform or the payload or communications during the demonstration.

6.1.4 Communications

- 6.1.4.1 The bidder should include a clear description in his proposal on the communication channels for payloads data and command and control data. This should include communication from the RPA to the ground segment and from there to the users.
- 6.1.4.2 Note that the authorities will provide (potentially with a cost associated) an internet connection and power at the Local Ground Control Station (LGCS) as depicted in Figure 1 (i.e. for distributing the payload data). The Bidder shall specify the minimum bandwidth needs.
- 6.1.4.3 The RPAS and the ground segment should be both able to transmit and receive command and control as well as payload data under **RLOS** conditions.
- 6.1.4.4 The RPAS and the ground segment must be able to transmit and receive command and control as well as payload data, via low bandwidth i.e. less than 500 kbps, under BRLOS conditions.
- 6.1.4.5 If the RPAS and the ground segment can transmit and receive command and control as well as payload data, via high bandwidth i.e. ≥ 500 kbps, under **BRLOS** conditions this will be considered as advantageous.
- 6.1.4.6 A back up Command and Control Link is advantageous, preferably using a set of frequencies different to the primary datalink.
- 6.1.4.7 In particular the Bidder shall describe in detail which communication technology for RLOS and BRLOS is used to transmit in real time all data to the contractor ground system, including as appropriate e.g. satellite network, network mode, frequency, guaranteed bandwidth, area of coverage, latency time or power.
- 6.1.4.8 The Bidder shall describe which communication contracts are already in place and/or foreseen. If the frequency bands are not in the aeronautical band and/or the equipment do not have an aviation certification, there is a need to obtain an approval to emit in the frequency band.
- 6.1.4.9 The contractor is expected to prepare the request for obtaining the related authorisations for the usage of the frequency spectrum in the relevant country.

6.1.5 ATC Communications

6.1.5.1 An ATC communication link with the Air Traffic Controller in charge of the sector the RPAS is operated in must be provided. A back up ATC communication link will be agreed with ATC.

6.1.6 Data provision

6.1.6.1 The contractor shall be able in real time to present all data captured by all the sensors in the aircraft payload.

6.1.6.2 It will be advantageous to present such data via a geospatial information system and video viewer (video/GIS) and being available to the users and to the contracting authority.

6.1.6.3 The bidder should, as a key point for evaluation, include a clear description of which data will be shown and in what layout. This proposal should cover, where applicable, the following aspects:

- a) Live video stream and recorded video access of the image sensors on the RPA.
- b) The data to be provided to build the maritime picture e.g. aircraft position, executed flight path, moving deployment map, sensor footprint, sensor images, identified objects in the sensor images/video streams, AIS information and track (position, MMSI, ...) of the vessels, georeferenced objects and incidents of interest in any of the sensor data.

6.1.6.4 All data will be recorded and made accessible to the contracting authority. It should be delivered, at the latest, as part of the final Demonstration Report.

6.1.7 Logistics

6.1.7.1 The relevant national administration, in cooperation with the contracting authority and the contractor, will provide the base airport facilities, taking into account the operational suitability, working hours and the existence of adequate logistical services. Any costs associated with the airport and its facilities will be addressed as described in Section 5.1.1.2.

6.1.7.2 The contractor shall manage logistical issues including:

- Insurances for people and equipment;
- Ground support for the RPAS including the mobile unit (LGCS) at the location of operation;
- Deployment support to staff (transport, accommodation, etc.);
- Support to ATC authorisations;
- Set up the local communication links to operate the RPA as needed and described above;
- Diplomatic clearance (when required).

6.1.7.3 The contractor must ensure that restrictions or constraints

- from customs
- due to export licenses
- International Traffic on Arms Regulation – ITAR
do not hinder operations in the relevant country.

6.1.8 Other considerations

- 6.1.8.1 The contractor must have appropriate third party liability insurance. This should cover business activities and have a sufficient ceiling to cover any third party damage or injury as well as covering the RPAS and any relevant company staff.
- 6.1.8.2 With regards to the liability for any loss or damage caused by the contractor during or as a consequence of the implementation of the FWC, Article II.6 of the FWC applies.

6.1.9 Permit to Fly

- 6.1.9.1 The contractor is obliged to provide all documentation necessary in a timely manner and to support the process of receiving flight approval including adapting available documentation and procedures to the needs of the national aviation authorities.
- 6.1.9.2 It will be the decision of the relevant national ATM authority to approve or suggest acceptable solutions related to the flight modalities, e.g. flying within the non-segregated or segregated airspace, the flight levels, the restrictions and/or if the segregated airspace is dynamically allocated for the aircraft operations.
- 6.1.9.3 If the permit to fly is not obtained by the company, the company will not be paid the minimum 12 flight hour fee.
- 6.1.9.4 In order to assess the capacity of the bidder to obtain a permit to fly for the purpose of this demonstration, the following information shall be included:
- a) previous authorisation(s) for the RPAS (aircraft and sensors) operated
 - b) the flight hours carried out so far with this RPAS. Evidence of similar operations with incident rates and consequences is expected to simplify the approval process.
 - c) Submission of documentation produced to obtain the permit to fly for other operations (operations manual, maintenance manual, Pilot licenses, Risk assessment etc.) is advantageous. Please note that such documentation will be treated as commercial confidential by the Agency. It will not be shared with any other outside party.

6.1.9.5 It would be considered an advantage if the RPAS has "detect and avoid"⁹ technologies, even if international standards are not yet available. This will also enable to gather in-service experience to mature the technologies.

7 Demonstration Reports and Invoicing

7.1 Flight and Observation Report

7.1.1.1 Following the end of each flight, the contractor will send to EMSA immediately a "flight and observation" report.

7.1.1.2 The contents of this report will be discussed and elaborated at the Kick-off meeting.

7.2 Demonstration Report

7.2.1.1 The contractor has to produce a demonstration report indicating what happened during the demonstration, and including the following information:

- Description of the deployment
- Flight hours performed
- Flight hours performed outside what was tasked (over or under)
- Flight path
- staff having worked on the deployment
- objects or events of interest which were identified or tracked
- Main problems or issues to resolve for future deployments
- Main findings and observations during the deployment (the occurrence of events grouped per category)

7.2.1.2 In case the contractor was not able to perform the service, a non-flight report should be issued, indicating

- Description of the planned missions
- Reason for cancelling the flight or for reduced flight hours compared to the agreed flight plan.

7.2.1.3 The Contracting Authority will provide a template for the report at the latest 2 weeks before the demonstration event.

⁹ In this document, the terms 'detect and avoid', 'sense and avoid' or 'collision avoidance' system are used loosely. The intent of such a system is to detect aircraft and/or obstacles within the vicinity of the RPA, and support the RPA pilot or automatically execute manoeuvres to restore a safe situation if needed.

7.2.1.4 The contractor will provide a mature draft report within 3 working days of the demonstration event. EMSA will have the opportunity to provide feedback.

7.2.1.5 The final agreed version of the report must be delivered no later than 3 working days after completion of EMSA feedback. Note that payment of invoice(s) is dependent on the Demonstration Report being accepted by EMSA.

7.3 Invoicing

7.3.1.1 The contractor shall request the payment of the services delivered and agreed by the parties as defined in the framework contract (tender enclosure II) and/or specific contracts. The above mentioned reports, as accepted by EMSA, in chapter 7 will be used as supporting evidence for the invoices.

8 Contact point

8.1.1.1 The contractor shall provide a contact person for the contracting authority to be able to address any enquiry. Enquiries shall be resolved in a timely manner.

8.1.1.2 A contact person for planning of deployment shall also be provided by the contractor. This will be the focal point for any planning issue with regards to the demonstration.

9 Contract management responsible body

9.1.1.1 The European Maritime Safety Agency, - Department C - Operations will be responsible for managing the contract. The address of the contracting authority is the following: European Maritime Safety Agency, Praça Europa 4, 1249-206 Lisbon, Portugal.

10 Project management, operational, and emergency/contingency plans

10.1 General

10.1.1.1 All documentation shall be written in the English language.

10.1.1.2 The contractor shall be available for an additional teleconference to prepare the demonstrations.

10.2 Project Management Plan

10.2.1.1 The Bidder shall provide a Project Management Plan to prepare the demonstration. This plan should contain the following elements:

- Proposed team structure and the involvement and interaction of each team member;

- Curriculum vitae of the key technical and management persons who will be delivering the demonstration.
- A general Project Plan detailing the activities and timelines for the set-up period and also timings and tasks for the mobilisation and demonstration. This should include tasks to be done, schedule and milestones including who will work on the tasks.

10.3 Operational Plan or Procedures

10.3.1.1 This document should cover how the RPA system will be operated during the demonstration. This should include command and control procedures and communication with pilots, ATM authorities, etc. and may be based on an internal company procedure.

10.3.1.2 The bidder should indicate to what quality management standards they are certified (i.e. ISO certification or other).

10.4 Emergency /Contingency Plan

10.4.1.1 A plan should be provided which includes any emergency and contingency plans/measures should a flight not go according to expectations. This should be provided to the contracting authority during the set-up phase.

11 Timetable

11.1.1.1 The estimated date for signature of the framework contract is expected to be early 2017 with the Demonstration planned for May 2017.

11.1.1.2 All services will be procured through the signature of one specific contract per Framework Contract and per company.

11.1.1.3 The Bidder shall comply with the due date for all milestones, deliverables and meetings identified in the Table below.

	Event / Delivery	Date, Location	Comment	Event	Delivery	Milestone
		From T0				
T0	Kick-off meeting (KOM) Signature of specific contract for set-up ¹⁰	KOM at EMSA also with EFCA/FRONTEX participation		x		x

¹⁰ Framework contract(s) shall be already in place prior to kick-off meeting

	Event / Delivery	Date, Location	Comment	Event	Delivery	Milestone
		From T0				
T1	Delivery of Updated documents indicated in section 10	+ 1 week	To be approved by the contracting authority		x	x
T2	Preparations for demo: Obtain permit to fly from appropriate authority	Contractor				x
T3	Demonstration	May 2017	Deadline driven by the external framework of demo project	x	x	x
T4	Final Report	May 2017	Deadline driven by the external framework of demo project			

Table 1 timetable/milestones

11.1.1.4 The table above represents the indicative plan of the implementation of the FWC, which is not binding on the contracting authority and may be adapted during the contractual period.

11.1.1.5 If the contractor has to deviate from the given timeframe justification for the deviation(s) must be given. The contracting authority reserves the right to disagree with the deviations and the proposed timetable.

11.1.1.6 The kick-off meeting will be held at the contracting authority following the signature of the framework contract unless otherwise agreed. Its purpose shall be to enable the contracting parties to discuss the project to be fulfilled by the contractor, as well as to settle all the details of the work to be undertaken to prepare the demonstration. Further meetings may be needed to prepare the demonstration as well as a possible site visit to check relevant logistics such as the runway.

11.1.1.7 The contractor's project manager, responsible for the work to be undertaken and some of the contractor's key technical staff shall be present at the kick-off meeting.

12 Estimated Value of the Contract

12.1 General

12.1.1.1 The estimated maximum budget available for the contracts is EUR 310,000 excluding VAT. This value does not indicate that this amount will be fully spent by the contracting authority.

12.1.1.2 The budget must cover all costs of the contract (e.g. costs for setting up the service, mobilisation, and deployment/flight hours, meetings, and travelling) for the duration of the contract.

12.1.1.3 As these are Framework Contracts in Cascade, the contracting authority expects to contract more than one RPA allowing for a comparison of technical and operational capabilities. As several contractors are expected, the total budget will be divided between the contractors.

12.1.1.4 As per Section 5.1.1.2 and Section 18.1.1.1, part of the above-mentioned budget will be reserved to cover reimbursement of the items listed under point 5.1.1.2. The maximum amount available is EUR 10,000 per contractor.

13 Terms of payment

13.1.1.1 Payments shall be issued in accordance with the provisions of the framework contract and specific contract(s) (Tender Enclosure II).

14 Terms of contract

14.1.1.1 When drawing up a bid, the Bidder should bear in mind the terms of the draft framework contract contained in Tender Enclosure II.

14.1.1.2 The contracting authority may, before the contract is signed, either abandon the procurement or cancel the award procedure without the Bidder being entitled to claim any compensation.

14.1.1.3 The implementation of the contracts follows the rules/requirements as already described in sections 4 to 5.6.

14.1.1.4 The ownership of the derived data shall be fully and irrevocably acquired by the contracting authority as stipulated in the draft framework contract (Tender Enclosure II).

15 Subcontracting

15.1.1.1 If the tenderer intends to either subcontract part of the work or realise the work in co-operation with other partners, it shall indicate in its offer which part will be subcontracted, as well as the name and qualifications of the sub-contractor(s) or partner(s). It should be noted that the overall responsibility for the performance of the contract remains with the tenderer.

15.1.1.2 The tenderer must provide required evidence for the exclusion and selection criteria on its own behalf and, when applicable, on behalf of its sub-contractors. The evidence for the selection criteria on behalf of sub-contractors must be provided where the tenderer relies on the capacities of sub-contractors to fulfil selection criteria¹¹. The exclusion criteria will be assessed in relation to each economic operator individually. Concerning the selection criteria, the evidence provided will be checked to ensure that the tenderer and its sub-contractors as a whole fulfil the criteria.

16 Joint Offer

16.1.1.1 Groups of economic operators, irrespective of their legal form, may submit bids. Tenderers may, after forming a grouping, submit a joint bid on condition that it complies with the rules of competition. Such groupings (or consortia) must specify the company or person heading the project and must also submit a copy of the document authorising this company or person to submit a bid.

16.1.1.2 Each member of the consortium must provide the required evidence for the exclusion and selection criteria. The exclusion criteria will be assessed in relation to each economic operator individually. Concerning the selection criteria the evidence provided by each member of the consortium will be checked to ensure that the consortium as a whole fulfils the criteria.

16.1.1.3 If awarded, the contract will be signed by the person authorised by all members of the consortium. Tenders from consortiums of firms or groups of service providers, contractors or suppliers must specify the role, qualifications and experience of each member or group.

17 Requirements as to the tender

17.1.1.1 Bids can be submitted in any of the official languages of the EU. However, since the main working language of the contracting authority is English, bids should preferably be submitted in English and should, in particular, include an English version of the documents requested under point 19.5 and 20 of these tender specifications.

17.1.1.2 The tenderer must comply with the minimum requirements provided for in these tender specifications. This includes compliance with applicable obligations under environmental, social and labour law established by Union law, national law and collective agreements or by the international environmental, social and labour

¹¹ To rely on the capacities of a sub-contractor means that the sub-contractor will perform the works or services for which these capacities are required.

law provisions listed in Annex X to Directive 2014/24/EU of the European Parliament and of the Council¹².

17.1.1.3 The tenderer shall complete the Tenderer's Checklist.

17.1.1.4 Bids shall be submitted in paper (one original and one copy) AND electronic versions on CD, DVD, or USB key or similar added to the paper bid.

17.1.1.5 If the tenderer intends to either subcontract part of the work or realise the work in co-operation with other partners ("joint offers") he shall indicate it in his offer by completing the form "Statement of subcontracting/Joint offer", available on the Procurement Section of EMSA's website (www.emsa.europa.eu).

17.1.1.6 The tender must be presented as follows and must include:

- a) **A signed letter** indicating the name and position of the person authorised to sign the contract and the bank account to which payments are to be made.
- b) **The Financial Form** completed, signed and stamped. This document is available on the Procurement Section (Financial Form) of EMSA's website (www.emsa.europa.eu).
- c) **The Legal Entity Form** completed, signed and stamped along with the requested accompanying documentation. This document is available on the Procurement Section (Legal Entity Form) of EMSA's website (www.emsa.europa.eu).

17.1.1.7 Tenderers are exempt from submitting the Legal Entity Form and Financial Form requested if such a form has already previously been completed and sent either to EMSA or any EU Institution. In this case the tenderer should simply indicate on the cover letter the bank account number to be used for any payment in case of award.

17.2 Part A:

17.2.1.1 All the information and documents required by the contracting authority for the appraisal of tenders on the basis of the points 19.1, 19.2 and 19.3 of these specifications (part of the exclusion criteria).

¹² Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC (OJ L 94, 28.3.2014, p. 65).

17.3 Part B:

17.3.1.1 All the information and documents required by the contracting authority for the appraisal of tenders on the basis of the **Economic and Financial capacity** (part of the Selection Criteria) set out under point 19.4 of these tender specifications.

17.4 Part C:

17.4.1.1 All the information and documents required by the contracting authority for the appraisal of tenders on the basis of the **Technical and professional capacity** (part of the Selection Criteria) set out under sections 19.5 of these tender specifications.

17.5 Part D:

17.5.1.1 All the information and documents required by the contracting authority for the appraisal of tenders on the basis of the **Award Criteria** set out under section 20 (to be read in connection with sections 3 to 7) of these specifications. It would be appreciated if the bid could follow a structure which is similar to the tender specifications.

17.5.1.2 In order to compare the bids thoroughly the bidders are requested to respond according to the following guidelines:

- The description of the whole RPAS solution (see 4.1.1.2) should not exceed 15 pages (minimum font equivalent to MS Word Arial Font 10). The Agency expects to receive detailed information on the capabilities of RPAS offered with reference to the characteristics of the CONOPS supported. Given the demonstration aspect of the event and for associated practical considerations, only one configuration must be proposed.
- The bidder is requested to list the essential conditions for operation, e.g. runway length, free space, other characteristics for flight operations, etc.
- The bidder is requested to include its operational limitations, e.g. maximum crosswind for take-off, temperature, rain etc.
- The description of the detailed operations (see 4.1.1.3) should not exceed more than 4 pages per CONOP. Accordingly, a minimum of 3 descriptions are expected with up to a maximum of 5.
- The bidder is requested to list and describe previous operations and to include relevant documentation (see Section 6.1.9.4).

17.6 Part E:

17.6.1.1 Setting out prices in accordance with section 18 of these specifications.

17.6.1.2 The Bidder is requested to fill in all the prices in the Excel template, which is available from the EMSA website (Tender Enclosure III) and to provide the worksheet in digital format as well as a scanned copy of the price sheet shall be duly signed by the Bidder and submitted in digital format to the contracting authority.

18 Price

18.1 Specific Considerations

18.1.1.1 Regarding those costs, as referred to in Section 5.1.1.2, to be reimbursed by the Agency, note that:

- The maximum reimbursable (ceiling) amount will be EUR 10,000 per contractor.
- The amount that will actually be reimbursed will have to be justified through paid invoices whilst respecting the above mentioned ceiling.

18.2 General considerations

18.2.1.1 Prices must be quoted in euro.

18.2.1.2 Prices must be fixed amounts, non-revisable and remain valid for the duration of the contract.

18.2.1.3 Prices must include all costs (including travel expenses and daily subsistence allowance) except for those identified in 18.1.1.1.

18.2.1.4 Under Article 3 and 4 of the Protocol on the privileges and immunities of the European Union, EMSA is exempt from all duties, taxes and other charges, including VAT. This applies to EMSA pursuant to the Regulation (EC) No 1406/2002. These duties, taxes and other charges can therefore not enter into the calculation included in the bid. **The amount of VAT must be shown separately.**

18.2.1.5 The Bidder is requested to present a price breakdown as specified in this chapter. The Bidder is requested to provide the worksheet Tender Enclosure III filled in, in digital format together with the bid. Deviations or modifications to the tables are not allowed.

18.2.1.6 All optional "advantages" indicated/mentioned in these technical specifications in sections 4 to 7 will be considered positively during the evaluation with respect to the quality of the offer as part of the overall fixed bid prices indicated below. Should these "advantages" have an additional price attached then they will not be considered.

18.3 Pricing schema

18.3.1.1 The following price grid shall be filled in by each of the bidders. To note that the flight hourly rate in the first fixed fee (for the 12 FH) may not be the same as the additional flight hour rate due to the fact the fixed fee also includes the set-up, mobilisation, etc.

	Price in Euro	Conditions / further details description
Initial Set-Up Phase, mobilisation, on-site activities, flight operations		
Fixed fee to cover minimum 12 flight hours of demonstration.		<u>Costs include:</u> -set-up phase -mobilisation -running the demonstration -staff costs -flight operations (including communications, fuel, etc.) <u>Operational assumptions:</u> - One week of flights over a two week period (dependent on weather) - At least a third of the flight hours at night (4 hours) if feasible according to the permit to fly. At least one flight should be longer than 6 hours Note: As per 5.1.1.2 certain costs should not to be included in the calculation.
Additional Flight hours		
Fee for One Additional flight hour		- including all fees, fuel, satellite communication (if applicable) and operations

Table 2 Price grid template

19 Information concerning the personal situation of the service provider and information and formalities necessary for the evaluation of the minimum economic, financial and technical capacity required

19.1 Legal position – means of proof required

19.1.1.1 When submitting their bid, tenderers are requested to complete and enclose the **Legal Entity Form** and requested accompanying documentation, available in the Procurement Section (Legal Entity Form) of EMSA's website (www.emsa.europa.eu).

19.2 Grounds for exclusion - Exclusion Criteria

19.2.1.1 To be eligible to participate in this contract award procedure, a tenderer must not be in any of the following exclusion situations:

- a) it is bankrupt, subject to insolvency or winding up procedures, its assets are being administered by a liquidator or by a court, it is in an arrangement with creditors its business activities are suspended or it is in any analogous situation arising from a similar procedure provided for under national legislation or regulations;
- b) it is subject to a final judgement or a final administrative decision establishing that it is in breach of its obligations relating to the payment of taxes or social security contributions in accordance with the law of the country in which it is established, with those of the country in which the contracting authority is located or those of the country of the performance of the contract;
- c) it is subject to a final judgement or a final administrative decision establishing that it is guilty of grave professional misconduct by having violated applicable laws or regulations or ethical standards of the profession to which the person belongs, or by having engaged in any wrongful conduct which has an impact on its professional credibility where such conduct denotes wrongful intent or gross negligence, including, in particular, any of the following:
 - fraudulently or negligently misrepresenting information required for the verification of the absence of grounds for exclusion or the fulfilment of selection criteria or in the performance of a contract;
 - entering into agreement with other persons with the aim of distorting competition;
 - violating intellectual property rights;
 - attempting to influence the decision-making process of the contracting authority during the award procedure;
 - attempting to obtain confidential information that may confer upon it undue advantages in the award procedure ;
- d) it is subject to a final judgement establishing that the person is guilty of any of the following:
 - fraud
 - corruption
 - participation in a criminal organisation
 - money laundering or terrorist financing
 - terrorist-related offences or offences linked to terrorist activities
 - child labour or other forms of trafficking in human beings as defined in Article 2 of Directive 2011/36/EU of the European Parliament and of the Council
- e) the person has shown significant deficiencies in complying with the main obligations in the performance of a contract financed by the Union's budget,

which has led to its early termination or to the application of liquidated damages or other contractual penalties, or which has been discovered following checks, audits or investigations by an Authorising Officer, OLAF or the Court of Auditors;

- f) it is subject to a final judgement or a final administrative decision establishing that the person has committed an irregularity within the meaning of Article 1(2) of Council Regulation (EC, Euratom) No 2988/95;
- g) for the situations of grave professional misconduct, fraud, corruption, other criminal offences, significant deficiencies in the performance of the contract or irregularity, the applicant is subject to:
 - facts established in the context of audits or investigations carried out by the Court of Auditors, OLAF or internal audit, or any other check, audit or control performed under the responsibility of an authorising officer of an EU institution, of a European office or of an EU agency or body;
 - non-final administrative decisions which may include disciplinary measures taken by the competent supervisory body responsible for the verification of the application of standards of professional ethics;
 - decisions of the ECB, the EIB, the European Investment Fund or international organisations;
 - decisions of the Commission relating to the infringement of the Union's competition rules or of a national competent authority relating to the infringement of Union or national competition law; or
 - decisions of exclusion by an authorising officer of an EU institution, of a European office or of an EU agency or body.

19.3 Legal and regulatory capacity – Selection Criteria

19.3.1.1 Requirements: The tenderer must have the legal and regulatory capacity to pursue the professional activity needed for performing the contract.

19.3.1.2 The tenderer must hold a particular authorisation proving that it is authorized to perform the contract in its country of establishment.

19.4 Economic and financial capacity – Selection Criteria

19.4.1.1 Requirements: The Bidder must be in a stable financial position and must have the economic and financial capacity to perform the contract.

19.4.1.2 Evidence:

The Bidder has to provide the following evidence:

- a) Financial statements or their extracts for the last three years for which accounts have been closed.
- b) Statement of the overall turnover and, where appropriate, turnover relating to the relevant services for the last three financial years available.
- c) Tenderers are exempt from submitting the documentary evidence if such evidence has already been completed and sent to the contracting authority for the purpose of another procurement procedure and still complies with

the requirements. In this case the tenderer should simply indicate on the cover letter the procurement procedure where the evidence has been provided.

- d) If, for some exceptional reason which the contracting authority considers justified, a tenderer is unable to provide one or other of the above documents, he may prove its economic and financial capacity by any other document which the contracting authority considers appropriate. In any case, the contracting authority must at least be notified of the exceptional reason and its justification in the tender. the contracting authority reserves the right to request at any moment during the procedure any other document enabling it to verify the tenderer's economic and financial capacity.

19.5 Technical and professional capacity – Selection Criteria

19.5.1.1 The Bidder shall show the experiences as detailed in the following sections.

19.5.2 Professional capacity by staff

19.5.2.1 Requirements:

- Staff should have experience in obtaining permits to fly. This should be demonstrated through previous projects/deployments.
- Pilots should have appropriate certification for the preparation and piloting of RPAS. This should be demonstrated through previous projects/deployments.

19.5.2.2 Evidence:

19.5.2.3 The Bidder shall provide a detailed curriculum vitae in the European format (<http://europass.cedefop.europa.eu/en/documents/curriculum-vitae>) for each key staff member (coordinating positions, pilots, and any other relevant staff) and a filled in summary table as in "ANNEX B: Experience of staff to be working on this contract".

19.5.3 Operational experience

19.5.3.1 Requirements:

19.5.3.2 The company must show at least a significant number of proven flight hours with its Remotely Piloted Aircraft being offered for the contract. This should include the flight hours already performed (target is a minimum of 200 flight hours) and/or the number of acceptance tests which have already been conducted in relation to existing projects/contracts.

19.5.3.3 Evidence:

19.5.3.4 Evidence of this will be given through letters or description of projects or deployments where the Bidder and the key staff have been involved.

19.5.3.5 The Bidder shall provide a filled in summary table as in "ANNEX C: Operational Experience related to this contract".

19.5.3.6 Testimonials by previous contractors, where available, should be included.

19.6 Evidence to be provided by the tenderers

19.6.1.1 For this purpose, **the Declaration of Honour** available in the Procurement Section on the EMSA Website (www.emsa.europa.eu) shall be completed and signed.

19.6.1.2 Please note that **upon request** and within the time limit set by the contracting authority the bidder shall provide information on the persons that are members of the administrative, management or supervisory body, as well as the following evidence concerning the tenderer or the natural or legal persons which assume unlimited liability for the debt of the tenderer.

19.6.1.3 It is expected that the supporting documentation will be requested shortly after the deadline for submission of offers. Tenderers cooperation in providing the requested documentation in a timely manner will expedite the overall evaluation.

19.6.1.4 For exclusion situations described in (a), (c), (d) or (f) of point 19.2 above, a recent extract from the judicial record is required or, failing that, an equivalent document recently issued by a judicial or administrative authority in the country of establishment of the tenderer showing that those requirements are satisfied.

19.6.1.5 For the exclusion situation described in (a) or (b) of point 19.2 above, production of recent certificates issued by the competent authorities of the State concerned is required. These documents must provide evidence covering all taxes and social security contributions for which the tenderer is liable, including for example, VAT, income tax (natural persons only), company tax (legal persons only) and social security contributions. Where any document described above is not issued in the country concerned, it may be replaced by a sworn statement made before a judicial authority or notary or, failing that, a solemn statement made before an administrative authority or a qualified professional body in its country of establishment.

19.6.1.6 If the tenderer already submitted such evidence for the purpose of another procedure, its issuing date does not exceed one year and it is still valid, the person shall declare on its honour that the documentary evidence has already been provided and confirm that no changes have occurred in its situation.

19.6.1.7 If the tenderer is a legal person, information on the natural persons with power of representation, decision making or control over the legal person shall be provided only upon request by the contracting authority.

19.6.1.8 When the tenderer to be awarded the contract has already submitted relevant evidence to the contracting authority, it remains valid for 1 year from its date of submission. In such a case, the reference of the relevant project(s) should be

mentioned and the tenderer is required to submit a statement confirming that its situation has not changed.

20 Award Criteria

20.1 General

20.1.1.1 The contract will be awarded to the tenderer who submits the most economically advantageous bid (the one with highest score) based on the following quality criteria and their associated weightings:

20.1.1.2 Evaluators will give marks between 0-10 (half points are possible) for each quality criterion Q_i .

20.1.1.3 Each quality and price criterion will be weighted in order to contribute to the overall score S . Only a bid that has reached the listed minimum value for each quality criterion Q_i will be taken into consideration when calculating the score for quality SQ , the score for price SP and the score S .

20.1.1.4 The quality and price criteria are given in the following table:

Criterion	Title	Weighting	Minimum	Section
Q_1	Fulfilment of technical requirements	$W_{1} = 50\%$	50%	20.2.2
P_1	Price scenario	$W_{P_1} = 50\%$	n/a	20.3.1.2

Table 3 Quality and Price criteria

20.1.1.5 The score is calculated as

$$S = SQ + SP$$

where:

- The average quality for quality criterion i is

$$Q_i = \frac{1}{\text{number of evaluators}} * \sum_{\text{evaluator}} \text{mark of the evaluator for quality criterion } i$$

- The overall weighted quality is

$$Q = \sum_i Q_i * W_i$$

- The score for quality is

$$SQ = \frac{Q}{Q \text{ of the bid with highest } Q} * 100 * \sum_i W_i$$

- The score for price is

$$SP = \sum_i \frac{\text{lowest Price}_i \text{ of all bids}}{\text{Price}_i} * 100 * W_{\text{Price}_i}$$

20.1.1.6 Only a bid that has reached a minimum of 60% for the score S will be taken into consideration for awarding the contract.

20.2 Technical award criteria (50%)

20.2.1 General Considerations

20.2.1.1 The requirements as outlined in these tender specifications will be used by the contracting authority to assess the technical aspects proposed in the bid.

20.2.1.2 A series of technical award criteria will be used to evaluate the technical aspects of the RPAS proposed by the company/consortia for the demonstration. These criteria are listed below, together with a short explanation and what relevant supporting documentation is required. The criteria used to evaluate the appropriateness of the proposed technical solution are described below.

20.2.1.3 All optional "advantages" indicated/mentioned in these technical specifications in sections 3 to 7 will be considered positively during the evaluation however these should be offered as part of the overall bid prices indicated below. Should these have an additional price attached then they will not be considered as favourable.

20.2.2 Fulfilment of technical requirements (50%)

20.2.2.1 The contracting authority will evaluate the level of fulfilment of the requirements described in Sections 3 to 7 and the criteria indicated in Table 4 below.

20.2.2.2 The capabilities and capacities of the RPAS and of the operations proposed will be evaluated against the CONOPS (Section 27 - Annex D).

20.2.2.3 Note offers must provide solutions for a minimum of 3 CONOPS. Robust solutions for additional CONOPS (at no additional cost) will be considered as advantageous.

Element	Criteria	Points
Q _A	<ul style="list-style-type: none"> - Previous experience in particular with execution of permits to fly - Suitability of the provided documentation for getting the permission to fly 	10
Q _B	<p>Proposed RPAS capabilities and capacity in order to meet the missions objectives (see 4.1.1.2 & Annex D)</p> <ul style="list-style-type: none"> - Aircraft capabilities - Payload capacity - Communication Capability (RLOS and BRLOS) - Data Exploitation Capability (Quality and completeness of 	20

Element	Criteria	Points
	the flight monitoring and data visualisation based on description and screenshots or demo site- video/GIS system)	
Q _C	Operations (flight plan approach) proposals to address a minimum of 3 CONOPS described in Section 27 <ul style="list-style-type: none"> - Relevance of the proposed operations for maritime surveillance - Efficiency of the operation 	10
Q _D	Project Management: Robust scheduling to meet delivery expectations	10
Q ₁ = Q _A + Q _B + Q _C + Q _D	TOTAL	50

Table 4 Grid award criteria (Fulfilment of technical requirements)

20.3 Price award criteria (50%)

20.3.1.1 The evaluators will consider all price elements as award criteria for the evaluation of the bid. i.e. See Table 5 below where $P_a + P_b = P_1$

20.3.1.2 A scenario is defined which specifies a certain price for the scenario. According to the prices given by the Bidder in the table described in section 18.3, the scenario below will then be used to enable the price points to be awarded for each bid.

20.3.1.3 **The price evaluation will be done based upon the following operational scenario**, which describes the 12 minimum flight hours for each company conducting the demonstration plus a possible additional 4 flight hours.

20.3.1.4 It is important to note that this is a scenario for evaluation purposes only and the exact additional flight hours will depend on available budget according to the prices proposed per the Bidder.

20.3.1.5 In addition the airport is indicative and could be different during the actual contract.

Element	Weighting	Scenario	Comments
P _a	Fixed fee to cover the minimum 12 flight hours of demonstration in assuming the location to be Rota Naval Base, Spain.	Once per framework contract	<u>Operational assumptions:</u> - One week of flights over a two week period (dependent on weather) Four (4) flight hours at night At least one (1) flight longer than eight (6) hours

Element	Weighting	Scenario	Comments
			-includes mobilisation and on-site costs
P _b	Additional flight hour including all fees, fuel, staff, satellite communication and operations	4 additional flight hours	Estimated additional four (4) flight hours
P ₁ = P _a + P _b			

Table 5 Evaluation Scenario

21 Rejection from the procedure

21.1.1.1 Contracts will not be awarded to tenderers who, during the procurement procedure, are in one of the following situations:

- a) are in an exclusion situation;
- b) have misrepresented the information required as a condition for participating in the procedure or have failed to supply that information;
- c) were previously involved in the preparation of procurement documents where this entails a distortion of competition that cannot be remedied otherwise.

22 Intellectual Property Rights (IPR)

22.1.1.1 Please consult the draft contract for IPR related clauses.

22.1.1.2 If the results are not fully created for the purpose of the contract this should be clearly pointed out by the tenderer in the tender. Information should be provided about the scope of pre-existing materials, their source and when and how the rights to these materials have been or will be acquired.

22.1.1.3 In the tender all quotations or information originating from other sources and to which third parties may claim rights have to be clearly marked (source publication including date and place, creator, number, full title etc.) in a way allowing easy identification.

23 Information resources

23.1.1.1 The tenderer is advised to consult the EMSA (<http://www.emsa.europa.eu>) website for links to reference documents and further information.

24 ANNEX A: Abbreviations

24.1.1.1 The terms in the table below, appearing either in a complete or in an abbreviated form, when used in this document and its annexes, relating to the Technical Proposal, Financial Proposal and Draft Contract, shall be understood to have the following meaning:

Term	Abbreviation	Meaning
Area of Interest	AoI	The geographical area where information that will satisfy an information requirement can be collected. Areas of Interest are inside the Service Deployment Area.
Base Airport		Is the airport, provided by the Host country of the operation, where the deployment will be done.
Beyond Line of Communication	BLOC	Equivalent to BRLOS, please see there.
Beyond Line of Sight	BLOS	A related term used to describe that the object is too distant or obscured by terrain to be visually detectable.
Beyond Radio Line of Sight	BRLOS	A related term used to describe radio communications capabilities that link personnel or systems to objects, which are too distant or fully obscured by terrain for Line of Sight communication (LOC or RLOS).
Broadband Link		A high-capacity transmission technique using a wide range of frequencies, which enables a large number of messages to be communicated simultaneously using a single telecommunication link.
Central Ground Control Station	CGCS	A fixed station, served by the service provider to operate the RPA, to monitor the payload, to process the data and to disseminate the information to the users and the Agencies.
Data Link		A telecommunication link over which data is transmitted.
Deployment		A deployment is composed of the mobilisation, the on-site activities and a number of flights called missions, each of these missions is carried out in a specific Areas of Interest, defined within the Service Deployment Area.
Emission Control Area	ECA	Sea areas in which stricter controls are established to reduce or minimise emissions from ships.
EU, EEA and EFTA		European Union, European Economic Area and European Free Trade Association.
Ground Segment		The segment which receives the payload data from the RPAS via satellite communication or via the Local Ground Control Station (LGCS) processes the payload data and make them available to the users and the Agencies. Could be the LGCS itself or dislocated at the Contractor premises (CGCS).
High Intensity Radiated Fields	HIRF	Standard test specified in Eurocae ED14/RTCA DO160 section 20 or equivalent standard test
Hazardous and Noxious Substances	HNS	
Host Country	HC	The country of the requesting user, where the

Term	Abbreviation	Meaning
		Coordination Centre and the base airport are situated.
Infrared wavelength	IR	
Line of Communication	LOC	Equivalent to RLOS, please see there.
Line of Sight	LOS	A related term used to describe that the object is visually detectable without any sort of obstacle between the observer and the object.
Local Ground Control Station	LGCS	A deployed station, served by the service provider crew, capable operate the RPA including take-off and landing. Can also act as CGCS, depending on the set-up of the RPAS.
Long Wavelength Infrared	LWIR	8 - 15 micron spectral band
Mean Take Off Mass	MTOM	
Mid Wavelength Infrared	MWIR	3 - 5(8) micron spectral band
Deployment		An assignment, within by a specific contract, for a certain number of weeks in which RPAS operations will take place.
Near Infrared	NIR	0.75–1.4 micron spectral band
Operation		The operation of the RPAS during a mission
Payload		The load carried by the asset, consisting of sensors, necessary to the purpose of the flight: i.e. Electro-Optical, Infrared, Radar, GPS and AIS Receiver.
Radio Line of Sight	RLOS	Type of communication that can transmit and receive data only when transmit and receive stations are in view of each other without any sort of obstacle between them.
Satellite Communications	SATCOM	When a signal is transferred between the sender and receiver with the help of satellite. In this process, the signal which is basically a beam of modulated microwaves is sent towards the satellite. Then the satellite amplifies the signal and sent it back to the receiver's antenna present on the earth's surface.
Search and Rescue	S&R	
Sulphur Emission Control Area	SECA	Sea areas in which stricter controls are established to reduce or minimise SOx emissions from ships.
Service		It is the subject of a specific contract.
Sulphur oxides	SOx	
Synthetic Aperture Radar	SAR	
Short Wavelength Infrared	SWIR	1.4 - 3 micron spectral band
Thermal Infrared	TIR	Covering the range of MWIR and LWIR, please see there.
Vertical-Take-Off-and-Landing	VTOL	

25 ANNEX B: Experience of staff to be working on this contract

The Contractor is requested to fill the table below (Tender enclosure IV) for all staff being involved in the execution of the contract. All information has to be backed up by the CV's provided with the bid.

Company						
Signature					Date:	
Name	Years of experience in flight management	Years of flight experience as pilot (separated in years on manned aircraft and RPA)	Certification for aircraft piloting (separated in years on manned aircraft and RPA)	Years of experience of aircraft maintenance	Certification for aircraft maintenance	Comments

26 ANNEX C: Operational Experience related to this contract

The Contractor is requested to fill the table below (Tender enclosure V) summarising operational experience relevant for this contract.

Company					
Signature					Date:
Project Name	Aircraft type (size, weight, endurance)	Sensors operated	Acceptance procedures undertaken	Flight hours undertaken for the project	Description of project

27 ANNEX D: Concept of Operations for the Demonstration

These are the CONOPS to be used for the demonstration. Operations should be proposed by each Bidder to meet one or several of the CONOPS.

CONOPS A

<p>Objective</p>	<p>Maritime patrol and general surveillance</p> <ul style="list-style-type: none"> - Pre-planned monitoring flight with standard patrolling patterns - LOS and BLOS capabilities - Long endurance operations - Day- and night-time operation - Vessel detection and tracking - Detection of oil spills
<p>CONOPS</p>	<p>EMSA requests a standard monitoring flight for a specific area. This is a pre-planned operation.</p> <p>A flight pattern shall be followed, demonstrating the full endurance of the RPAS. If the available flight area is not sufficient, the pattern will be repeated. LOS and BLOS communications shall be demonstrated during the operation.</p> <p>One sub-CONOPS will apply. At a certain moment, the RPAS will detect a potential spill or suspect vessel, which will automatically activate the relevant other CONOPS B to E.</p> <p>After the detailed observation of the spill and/or of the suspect vessel the RPAS will resume to sub-CONOPS A.1.</p> <p>A.1) Normal patrolling operation: The RPAS uses its sensors to detect suspect vessels, vessels in distress, and potential spills.</p> <p>The vessels are matched with the AIS information received by the RPAS. The vessel information will always be forwarded to EMSA (small dataset). Suspect vessels will be identified by the data analysis chain and immediately forwarded to EMSA/user. Potential oil spill will be detected via manual analysis or better via automated algorithms on board of the RPAS.</p>

CONOPS B

<p>Objective</p>	<p>Marine pollution (monitoring and response support)</p> <ul style="list-style-type: none"> - Fast response - LOS and BLOS capabilities - Day- and night-time operation - Automatic observation pattern navigation - Target tracking - oil spill characterisation - RPAS maintains target within sensor sight - Navigation: Automatic target following (fly-by camera) - Detection of oil colour change - Coordination and communication with other oil spill response means
<p>CONOPS</p>	<p>EMSA requests a flight from the operator based on external information received:</p> <p>B.1)</p> <ul style="list-style-type: none"> o Activation time in emergency situations: under 2 hours. o The RPAS is sent to the location. The RPA follows a corridor towards the area. o During the transfer flight, CONOPS A.1 will be performed. <p>B.2) Once the RPAS is in the area, the following will occur to characterize the oil spill :</p> <ul style="list-style-type: none"> o RPA approaches the potential spill and uses its sensors for positive confirmation: Assessment of the oil spill characteristics (size, thickness, subparts...) o The RPAS will analyse the vessels in vicinity in order to identify the potential polluters (the track of the vessels and oil transport model can improve the reliability of the identification). <p>B.3) To support response operations, the RPAS engages in a flight mode coordinated with the dispersant-spraying aircraft to assess the effectiveness of the applied dispersant in real time. The aim is to monitor the dynamic evolution of the thickness, extent of the spill, and effectiveness of the dispersant application. (will most likely not be done in this demonstration)</p> <p>Communication with all the oil spill response means (aircraft and ships) will be established and maintained during the operation.</p>

CONOPS C

Objective	Vessel identification and tracking <ul style="list-style-type: none">- LOS and BLOS capabilities- Day- and night-time operation- Target tracking- RPAS maintain target within sensor sight- Target classification- Monitoring flight
CONOPS	<p>This CONOPS, identification and classification of vessels, can be combined with any other CONOPS.</p> <p>Vessel identification can be requested by end-users during any mission. All sensors will be activated and full data transmission to EMSA is activated and maintained continuously.</p> <p>Generally, the RPAS shall demonstrate that, once the target is in sensor range, it can be locked (using FLIR optical, infrared or synthetic aperture radar). This requires complex flight manoeuvres.</p> <p>There are multiple sub-CONOPS.</p> <p>For vessel identification:</p> <p>C.1) Shape, characteristics of the vessel (dimension/size/etc.): and, if possible, analysing people on board</p> <p>C.2) Name of the vessel: the RPAS will head to the location of the vessel, lock the sensors on the vessel, and change altitude to a lower level. It will attempt to identify the vessel by reading its name. At night an IR beam illuminator will be used to allow the sensors on board the RPA to read the name of the ship.</p> <p>C.3) The activities of the vessel will be analysed, if possible.</p>

CONOPS D

<p>Objective</p>	<p>Search and Rescue</p> <ul style="list-style-type: none"> - LOS and BLOS capabilities - Day- and night-time operation - Detection of vessels, life-raft and boats - Search pattern navigation - Navigation: Automatic target following (fly-by camera) - Navigation: Automatic flight path adjustment to maintain target on sensor sight - Emergency flight
<p>CONOPS</p>	<p>EMSA requests an emergency flight from the operator based on information received from a Search and Rescue centre in a Member State.</p> <p>D.1)</p> <ul style="list-style-type: none"> o Activation time: under 1 hour. o The RPAS is immediately steered to the emergency location. o During the transfer flight, sub-CONOPS A.1 will be performed. <p>Two sub-CONOPS will then apply: sub-CONOPS D.2 is for finding the vessel or person in distress. Sub-CONOPS D.3 describes the operation after the vessel or person in distress is found.</p> <p>D.2) Search: the RPA performs S&R flight localization patterns and uses all sensors available to find the vessel and/or element in distress along the area of interest.</p> <p>D.3) Monitoring and evaluation: the RPAS lowers flight altitude in order to achieve best resolution. All sensors are switched on. The sensors are locked to a target in distress in order to monitor and evaluate the situation. RPAS flies a Search and Rescue observation pattern as presently performed by Member States (primarily helicopters).</p> <p>Coordination and communication with any other Search and Rescue means will be established and maintained during the operation.</p> <p>It could be interesting to experiment, if a liferaft or any lifesaving device could be dropped with the RPAS.</p>

CONOPS E

Objective	Monitoring Illegal Fishing or anti-drug trafficking <ul style="list-style-type: none">- LOS and BLOS capabilities- Day- and night-time operation- Automatic observation pattern navigation- Target tracking
CONOPS	<p>EMSA requests a flight from the operator based on information received from end users, patrol vessels, or satellite monitoring.</p> <p>The RPAS is directed to the vessel and the vessel is monitored to see its position and also monitor fishing activity and vessel behaviour (i.e. near another vessel for transshipment).</p> <p>The RPA speed and altitude allows to clearly monitor and identify the behaviour onboard the vessel but keeping the RPA undetectable for the crew of the vessel.</p> <p>The RPA will be locked on the target as long as its endurance allows it and will follow the target towards its port of destination.</p>