

Appendix 2 – Technical Tender Template

Enclosed to Invitation to tender for procurement procedure No. EMSA/OP/2/2018 concerning *Contract for provision of SATCOM services for RPAS*

Lot Number**In case of Individual submission**Name of the company**In case of Joint offer**Name of grouping (if applicable)Names of the partners

-
-
-

Contact person

Name:

Address:

E-mail:

Fax:

Date & Signature

Done at , on 2018

Signature of the authorised representative

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The submission of the bid must be done via the e-Submission application as explained in §16 of the Tender Specifications and in *Appendix 6 – E-Submission Guidelines*.

This template refers to point g) of §16 of the Tender Specifications and gives guidance on the information to be provided pertaining to the Technical Award Criteria as defined in §16.1 of the Tender Specifications.

The bidder is not required to use this document and available styles. He may choose to use a company template as long as the structure/guidance is followed.

PART G

Technical Award Criteria

Q₁. Fulfilment of technical requirements

Q₂ Quality assurance of service provision

ANNEXES *(include annexes as needed)*

PART G

Technical Award Criteria

(Documentation linked to Annex 1 to the Invitation to Tender and Tender Specifications point 16.1)

Q₁ Fulfilment of technical requirements

(Include your description here or attach relevant documents)

Q_{1.1} Adequacy of the implementation proposal to the requirements

The Bidder shall analyse the service needs and requirements and include a comprehensive description of the high level performance requirements.

The SATCOM and satellite internet performance requirements shall be analysed in terms of Quality of Service (QoS), service continuity, integrity and availability. The Bidder shall describe to which extent the proposed solutions could fulfil the user needs and requirements.

Q_{1.2} Technical proposal

Q_{1.2.1} Solution description

For Lot 1,2:

For the SATCOM solution proposed: description of the system architecture including the Ground and the Space Segment, which encompasses: the SATCOM terminal, the teleport, the satellite and any other central control unit, and the communication channels in place between between all the parts.

Specific for Lot 3:

For the satellite internet solution proposed: description of the system architecture including the Ground and the Space Segment, which encompasses: the VSAT, the teleport, the satellite and any other central control unit, and the communication channels in place between between all the parts.

For all Lots:

List of components: all elements (hardware/software and services) required to implement the solution and the source of procurement for the different elements (e.g. purchase of commercial products, equipment leasing, ad-hoc developments performed in the contract and the associated economic value).

State of Certification: describe the status of the certification and/or the qualification of all the different systems and different subsystems along with the standards employed.

Note: attach all the documental evidence supporting the information above.

ITAR components: provide the list, if any, of the components (hardware and software) that are subject to the International Traffic on Arms Regulation (ITAR) or any other export restriction.

Note: attach all the documental evidence supporting the information above.

Data security concept: the Bidder is invited to define its mechanisms, procedures and systems to ensure resilient SATCOM transmission and reception.

Satellite coverage map: the Bidder must provide the satellite coverage over all the Areas of Interest (AoI):

“Satellite coverage areas must be all sea areas surrounding the European Union with an EU or EFTA country”.

“Satellite coverage map must include the satellite footprint in dBW values”.

Frequencies: in case the communication channels can be adjusted to operate in a range of frequencies, these frequencies must be listed.

Contention ratio and access mode: the Bidder shall describe the contention ratio, network access mode and the medium control access protocols of the chosen solution.

Q1.2.2 Compliance with service requirements

(Insert your description here)

For Lots 1,2:

Refer to section 2.1, 2.2, 2.3 and 2.4 of Appendix 1 Technical Specifications.

For the SATCOM solution proposed: provide the description of all the communication links between the RPAS, the satellite, the teleport and the LGCS; including all the primary and secondary links for BRLOS communications. This description shall specify at least the central frequency, the bandwidth, modulation, FEC, the coverage area, the range, the data rate, the power, the latency, the protocols, encryption, etc.

Link budget: The Bidder shall provide the detailed link budget (forward and return) for all the primary and secondary payload and Command and Control links, including all the below listed parameters:

- frequency
- bandwidth
- EIRP, G/T, C/N0, SNR, Eb/N0 level at ground station
- EIRP, G/T, C/N0, SNR, Eb/N0 at SATCOM terminal
- EIRP, G/T, C/N0, SNR, Eb/N0 at satellite
- Modulation
- FEC
- BER
- Bitrate

The link budget must be calculated for at least 5 representative locations where the RPAS operations could take place (e.g. Atlantic Ocean, North Sea, Mediterranean Sea, Baltic Sea, Arctic, etc.)

All the assumptions considered for the link budget calculation must be clearly described: atmospheric attenuation, tropospheric scintillation, adjacent satellite interference, availability, etc.

The link budget calculation shall be done for all the terminals within the list of compatible terminals, enabling the comparison of the performance when using different terminals.

Specific for Lot 3:

Refer to section 2.5 of Appendix 1 Technical Specifications.

For the satellite internet solution proposed: provide the description of all the communication links between the VSAT, the satellite, the teleport and the LGCS; including all the primary and secondary links. This description shall specify at least the central frequency, the bandwidth, the coverage area, the effective data rate (throughput), the power, the latency, the protocols, encryption, etc.

Q1.3 SATCOM terminal and VSAT and communication equipment**Q1.3.1 SATCOM terminal****For Lots 1,2:**

List of compatible SATCOM terminals: both for medium and large size RPAS.

Leasing prices and conditions for the SATCOM terminals: if the Bidder intends to put at the disposal of the Agency's RPAS Services Providers leasing contracts for the SATCOM terminal the prices and the conditions must be specified: minimum duration of the leasing contract, certification state, ITAR, warranty, etc.

Note: attach all the documental evidence supporting the information above.

Q1.3.2 VSAT and communication equipment**Specific for Lot 3:**

Leasing prices and conditions for the SATCOM terminal: duration of the leasing contract, certification state, ITAR, warranty, etc.

Note: attach all the documental evidence supporting the information above.

Q2: Quality assurance of service provision**Q2.1. Project management plan**

The Bidder shall describe in the bid the project management plan as defined in section 3 of Appendix 1 Technical Specifications. It could be an annex to the bid.

Q2.2. Quality assurance plan

The Bidder shall describe in the bid the quality management plan as required in section 4 of Appendix 1 Technical Specifications.

The Bidder shall also indicate any relevant quality certification hold by the company.

The Bidder shall provide a draft test plan for the initial on-ground compliance test: including the configuration, the description of the foreseen test procedures, the performance evaluation criteria, etc.