

**CONTENT OF THE FULL PROPOSAL  
FOR SATCOM APPLICATIONS**

CONTENT OF THE FULL PROPOSAL FOR SATCOM APPLICATIONS .....	3
1. COVER LETTER .....	4
2. EXECUTIVE SUMMARY .....	4
3. BUSINESS PLAN (BP) .....	5
4. TECHNICAL PROPOSAL .....	6
4.1 Pilot System Architecture (PSA) .....	6
4.2 System Validation Document (SVD) .....	7
4.3 Pilot Utilisation Plan (PilUP) .....	8
5. CONTENTS OF THE FINANCIAL, MANAGEMENT AND ADMINISTRATIVE PROPOSAL .....	10
5.1 Description and Background Experience of the Company(Ies) .....	10
5.2 Organisation and Management of the Activity .....	10
5.3 Facilities .....	10
5.4 Key Personnel .....	10
5.5 List of Items to be Produced, to be Delivered .....	11
5.6 Work Breakdown Structure .....	11
5.7 Planning .....	12
5.8 Cost Price Data .....	12
5.9 Statement of Profit .....	15
5.10 Conversion Rates .....	15
5.11 Type of Price .....	15
5.12 Milestone Payments Plan .....	15
5.13 Travel and Subsistence Plan .....	15
5.14 Acceptance of Contract Conditions .....	16
5.15 Acceptance of Management Requirements .....	16
5.16 Use of ESA Technical Assets .....	16

## CONTENT OF THE FULL PROPOSAL FOR SATCOM APPLICATIONS

The Full Proposal is for the development and verification of a product ready for exploitation. The activity may address completely new products, be an upgrading or improvement of an existing product or a continuation of an activity funded in a different ESA, national or own programme. Activities shall be related to development and demonstration of satellite communications applications.

Please find below for your quick reference a summary of the documents of which the Full Proposal shall consist. Further details on the content of each document are provided thereafter. Please note that in case you wish to claim prior work, additional/more mature documents may need to be included in your proposal (see 5.8.2 below).

A Full Proposal may be divided in phases to be released upon achievement of a well defined milestone. In this case each phase shall be addressed in easily identifiable chapters. The schedule and cost information shall be provided separately for each phase.

<b><u>1.</u></b>	<b><u>COVER LETTER</u></b> .....
<b><u>2.</u></b>	<b><u>EXECUTIVE SUMMARY</u></b> .....
<b><u>3.</u></b>	<b><u>BUSINESS PLAN (BP)</u></b> .....
<b><u>4.</u></b>	<b><u>TECHNICAL PROPOSAL</u></b> .....
4.1	<u>Pilot System Architecture (PSA)</u> .....
4.2	<u>System Validation Document (SVD)</u> .....
4.3	<u>Pilot Utilisation Plan (PiUP)</u> .....
<b><u>5.</u></b>	<b><u>CONTENTS OF THE FINANCIAL, MANAGEMENT AND</u></b>
	<b><u>ADMINISTRATIVE PROPOSAL</u></b> .....
5.1	<u>Description and Background Experience of the Company(Ies)</u> .....
5.2	<u>Organisation and Management of the Activity</u> .....
5.3	<u>Facilities</u> .....
5.4	<u>Key Personnel</u> .....
5.5	<u>List of Items to be Produced, to be Delivered</u> .....
5.6	<u>Work Breakdown Structure</u> .....
5.7	<u>Planning</u> .....
5.8	<u>Cost Price Data</u> .....
5.9	<u>Statement of Profit</u> .....
5.10	<u>Conversion Rates</u> .....
5.11	<u>Type of Price</u> .....
5.12	<u>Milestone Payments Plan</u> .....

## 1. COVER LETTER

The cover letter shall contain the following:

- A general paragraph introducing the proposed project with a clear indication that the proposal addresses Satcom Applications.
- An overview of the proposed team structure (Prime Contractor and Subcontractor(s) where applicable) and the respective geographical distribution.
- The full address (registered office and mailing address) and the ESA Bidder Code of the Prime and each proposed Subcontractor. The Member States of ESA have made it mandatory for the Agency to register economic entities wishing to do business with ESA. Economic entities wishing to do business with ESA that are not yet registered as potential tenderer, are requested to complete the online questionnaire on the ESA EMITS website (<http://emits.esa.int/>) under “Entity registration”. Further information on the registration process can be found at the INDUSTRY OUTLOOK pages available via: <http://www.esa.int/home-ind/>. As of the completion of the questionnaire in INDUSTRY OUTLOOK registered economic entities will have to update the questionnaire on an annual basis. Failure to do so will result in EMITS access being blocked.
- a statement that the proposal will be valid for 4 months from the date of submission
- a statement of total cost and price (equivalent up to 50% of cost) for the proposed activity.
- the name(s) and contact details (address, telephone, fax and e-mail) of the person(s) to whom all communications relating to the proposal should be addressed.
- the names of the persons who will be responsible for the technical and contractual management of any resulting contract.
- the signature of the cover letter by an authorised representative.

The relevant authorisation by the National Delegation(s) shall be attached to this Cover Letter.

## 2. EXECUTIVE SUMMARY

The Bidder shall present an Executive Summary (about 3 pages) containing in a concise and self-contained manner the major elements of the proposed project in terms of:

- overview of the opportunity and commercial strategy
- presentation of the intended development and its associated operational environment
- intended approach for the organization and execution of the development activity
- critical issues affecting the development

### 3. BUSINESS PLAN (BP)

The Business Plan (BP) shall analyse the strategic context of the project and demonstrate through the pilot utilisation that the Bidder's initiative can lead to an operational exploitation within the context of Satcom Applications.

Consequently the Business Plan shall include:

- a) Identification of the services that the system will offer;
- b) Market analysis identifying the potential commercial opportunities for each service in the target area;
- c) Overview of the service value chain, including interactions and profitability assessment of the different segments;
- d) Assessment of the market positioning through a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis;
- e) Assumptions taken to define cost structure, price policy and other elements used in the financial statement;
- f) Identification of the capital costs and operational costs incurred by the Bidder in setting-up and operating of the operational service platform;
- g) Formulation of a pricing strategy for the identified services and for the associated elements of the system;
- h) Elaboration of a market strategy, clearly identifying objectives and role of the parties forming the contractual team, and which concrete activities will be carried out during the market development phase;
- i) Identification of the financial planning through financial statements (e.g. profit and loss account, cash flow) and indicators (e.g. Internal Rate of Return, Net Present Value) with associated sensitivity and/or what-if analysis where applicable. The financial planning shall ultimately prove that the proposed system can be rendered self-sustaining through the ESA contribution. Potential changes in the financing baseline affecting the commercial follow-on (such as different availability and pricing conditions for the space segment) shall be taken into account;
- j) Identification of (preliminary) business agreements with private partners or investors;
- k) An operational services rollout plan, which shall explicitly detail how the specific opportunity described in the Pilot System Architecture and the Pilot Utilisation Plan will be pursued in preparation of the commercial exploitation of the initiative.

The BP shall provide justification for the assumptions. The Bidder shall present at least a paragraph for each element of the value chain, clearly documenting the scope of activities planned to establish that element. The business rationale for the opportunity shall be kept up to date during the project execution.

As part of the BP the Bidder shall identify a set of elements of the business model (e.g. costing structure, pricing policy, business agreements, positioning in the value chain, marketing approach) that will be validated during the pilot operations. The approach and metrics to be used in this validation shall be described in the PilUP.

## 4. TECHNICAL PROPOSAL

The Bidder shall provide a detailed technical description of the work to be undertaken. The Technical Proposal provides the rationale for the proposed development activities and forms the contractual reference document describing the proposed scope of work. Furthermore, the Bidder shall confirm that the work proposed does not overlap with any currently running ESA contract awarded to any entity in the proposal consortium.

The Bidder shall provide the documents as detailed below.

### 4.1 Pilot System Architecture (PSA)

The Pilot System Architecture (PSA) is dedicated to defining and specifying the overall pilot system starting from the high level architecture down to its building blocks.

The PSA shall define the specific area in terms of type of applications, targeted user group, extent of development and/or integration of hardware, software and content elements and choice of the most appropriate satcom system to be used in the project.

The PSA shall also include the complete set of requirements applicable to the different elements of the proposed pilot system. To allow formal traceability of the different requirements contained in these documents, the Bidder shall associate to each requirement a unique identifier using a suitable methodology. Such methodology shall use a suitable set of acronyms (e.g. UR for User Requirements, SR for Software Requirements, PR for Performance Requirements, TS for Technical Specifications) to facilitate traceability.

The PSA, even if mainly tailored to describe the system architecture that will be adopted in the pilot utilisation, shall clearly define also the system characteristics required to support the proposed Satcom Applications in their full commercial deployment. In this respect, the PSA shall also describe the migration process to move from the pilot version of the system towards the full commercial version.

The PSA shall include the following sections:

- **User Needs and Requirements:** this section shall include a comprehensive description of the user needs, a formal presentation of the high level interaction between systems and the different actors involved (e.g. use case) and the presentation of the User Requirements. The Bidder shall describe to which extent currently existing solutions do not fulfill the user needs and requirements.
- **Overall System Architecture:** this section shall provide a high level description of the overall system architecture, and it shall clearly point out the strategic role of the satellite communications component in the proposed system compared to potential alternatives. The proposed pilot service should preferably be targeted to user communities belonging to the ESA Member

States<sup>1</sup>. The PSA shall provide a provisional list of the sites where the system will be installed for the pilot utilisation. For each pilot site participating in the utilisation, the Bidder shall provide a description of the setup and a list of the elements (hardware, software and services) to be made available. Within the PSA, the Bidder shall clearly indicate the source of procurement for the different elements (e.g. purchase of commercial products, loan from partners or sponsors, developments performed in the contract) and the associated economic value.

- **System and Subsystem Requirements:** for the hardware items to be developed, this section shall provide the relevant Performance Requirements and Technical Specifications taking into account the compliance with relevant international standards (e.g. ETSI, ITU). For the development of software items, Software Requirements shall be provided.
- **Design and Development Plan:** Proposals addressing development of hardware and/or software shall include as part of the PSA a design and development plan to illustrate in a concise and conceptual manner the logical execution of the proposed activities from contract award to final review. It shall define and include decision points on which the course of the development will depend. This shall include a description of the risks attached to the development. A plan shall be presented for managing the risks and the actions shall be defined to mitigate the risk.

As part of the first version of the PSA to be delivered within the Bidder's proposal, a clear partitioning of the pilot system architecture shall be provided, identifying:

- which elements are pre-existing, like facilities or items developed/procured in previous activities, specifying the required adaptations or modifications whenever applicable
- which elements have to be developed in the frame of the proposed project
- which elements have to be procured as Commercial Off The Shelf (COTS), indicating the proposed procedure for the procurement

## 4.2 System Validation Document (SVD)

The System Validation Document (SVD) will be dedicated to the preparation, planning, execution and reporting of all activities necessary to demonstrate the readiness of the system before entering into the pilot utilisation phase. The SVD shall demonstrate the compliance of the different elements of the system with the requirements identified in the PSA.

The SVD shall include the following sections:

- **Test Plan:** this chapter shall define the approach, the methodology, the test sequence and the test conditions to validate the different elements of the system. Each test shall be assigned a unique identifier. The Test Plan shall include a Test Matrix that will create traceability between each test and the requirements identified in the PSA together with the milestone review (i.e.

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1 Including Canada as Associated ESA Member State

Pilot Qualification Review and/or System Deployment Acceptance) at which the test will be executed. A paragraph that describes the test facilities shall also be included.

- **Test Procedures:** this chapter will describe the measurement equipment, test set-up and test methods that will be used for executing the tests defined in the test plan. The Test Procedure shall contain for each test a test form where test identifier, test sequence and associated results, pass/fail status, remarks, date and signatures will be recorded during the test execution.

The SVD version contained in the proposal shall provide as a minimum a high level outline of the Test Plan and Test Procedures.

### 4.3 Pilot Utilisation Plan (PilUP)

This document is dedicated to defining the activities to be carried out during the pilot utilisation of the system and to provide the related evaluation framework.

The PilUP shall consist of, but not be limited to, the following sections:

- **Users and User Groups** identifying the actors in terms of organisations and user groups that will be involved in the pilot operations and describing their roles.
- **Operations and Utilisation Baseline** describing the proposed operations, including a baseline of utilisation of the system (e.g. number of utilisation sessions, volume of data exchanged, duration of interactive sessions) and the associated planning. This section of the document shall also specify the content elements that have to be developed or procured in the course of the project as a prerequisite to start the pilot operations.
- **Terms and Conditions for the Pilot Operations** stipulating the mutual obligations between the Bidder and the User Groups to be fulfilled during the Pilot Operations. This section shall describe the conditions for utilising the system (e.g. rights and constraints of the user groups, access to the helpdesk, commitment by the user groups to fulfil the utilisation plan and to contribute to the evaluation, security policy) and the associated administrative provisions (e.g. insurances, responsibilities, liabilities). The copy of the above Terms and Conditions signed for acceptance by the representatives of the User Groups (one each per specific group) and the Project team shall be provided at the SDA.
- **Performance Assessment of the Pilot System**, shall describe methods, tools and procedures to demonstrate the ability of the system to comply, throughout the full duration of the pilot service phase, with the set of the technical and operational requirements set in the PSA. Particular attention shall be paid to identifying elements of deviations or non-compliance with respect to the agreed baseline, to assessing their criticality and to establishing relevant recovery actions.

- **Operational Assessment of the Satcom Applications**, shall describe methods, tools and procedures to evaluate the added value brought to the target User Groups by the Satcom Applications developed in the project. The assessment shall be based on a combination of quantitative and qualitative data gathered via forms and/or questionnaires from the User Groups directly involved in the pilot service phase.

## **5. CONTENTS OF THE FINANCIAL, MANAGEMENT AND ADMINISTRATIVE PROPOSAL**

### **5.1 Description and Background Experience of the Company(ies)**

The Bidder shall present the company(ies) and their organisational structure. It also shall describe the background of the companies and the relevant experience of the Bidder and any proposed Subcontractor for the performance of the work.

In case the bidding team has been involved in relevant ESA contracts, the Bidder shall provide a summary description of the direct and indirect results achieved through such activities and lessons learned. The Contract Outcome Data form (provided as Appendix 2 to the Draft Contract) can be used for this purpose.

### **5.2 Organisation and Management of the Activity**

5.2.1 The Bidder shall present the project team and the structure of the project organisation, and where it is proposed to subcontract part of the work, the structure of the industrial group. Lines of communication and reporting, and means for settling disagreements shall be described.

5.2.2 The Bidder shall present his management plans, policies and procedures for this activity including a description of the management control organisation, the procedures that will be used to exercise control over the project and the proposed subcontracting control (if any).

### **5.3 Facilities**

The Bidder shall submit a brief description of all facilities which are proposed to be used for the work offered, including those facilities which are still to be developed/built and/or purchased, (with a statement whether the costs of developing/building/purchasing the facility are to be directly or indirectly charged to the Contract). Modifications to existing facilities are also to be described. For this purpose facilities may include, as applicable, hardware, computer software, manufacturing, test equipment, production and integration lines, service centres and infrastructures hosting the user communities.

The Bidder shall also describe what means of access to information resources he has, if these are required for the work proposed.

### **5.4 Key Personnel**

Key personnel are defined as persons who, because of their individual qualifications and positions are proposed for the work, and indicated as such in the Bidder's organigramme. Key personnel should be proposed to one level below the study/project manager, both for the Bidder and any Subcontractors. The provisions of Article 5 of the Draft Contract (Appendix 2 to the Call for Proposals) shall apply to all

key personnel. As a minimum, all Work Package Managers of Level 1 (see Section 5.6 below) shall be proposed as Key Personnel.

For each key person identified, the Bidder shall:

- 5.4.1 provide a curriculum vitae, giving in particular the work experience of the person concerned, and a brief description of the person's present job and responsibilities;
- 5.4.2 indicate the person's position in the Bidder's organisation;
- 5.4.3 define the proportion of the person's working time that is devoted to the work offered.

## **5.5 List of Items to be produced, to be delivered**

### **5.5.1 HARDWARE**

The proposal shall contain a complete list of all items that are to be produced under a resulting contract. Also to be shown in this list is each item to be procured under the contract if its cost exceeds 15% of the activity cost or 100 KEuro whichever the lower.

Ownership in respect of any assets (i.e. hardware) other than Intellectual Property Rights will be left to the Contractor whenever the parties agree when completing the contract that there is a further useful utilisation of such assets by the Contractor for purposes connected with the objectives of the contract.

### **5.5.2 SOFTWARE**

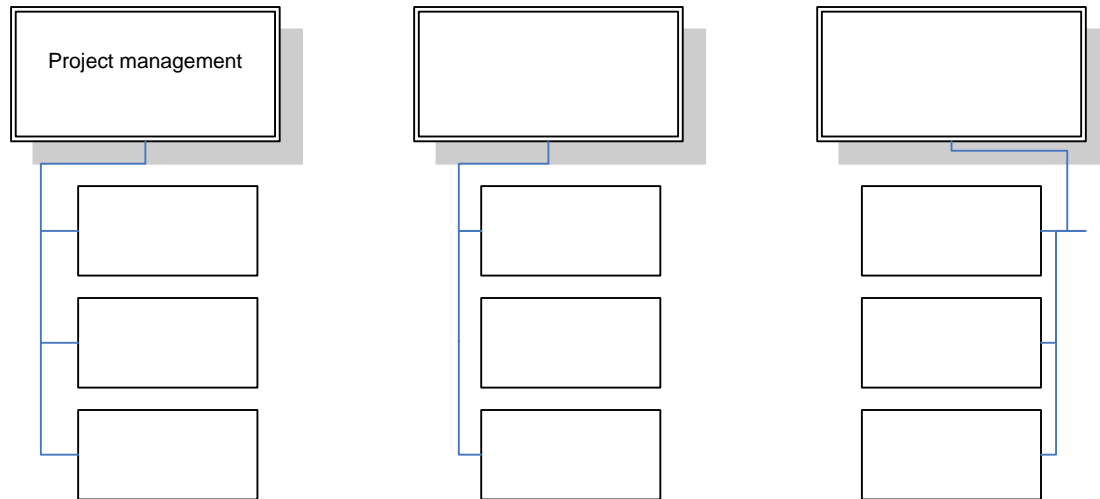
With respect to software the clauses of the draft contract (Appendix 2 to this Call for Proposals) shall apply.

### **5.5.3 DOCUMENTATION**

The Bidder shall provide a list of all documents to be produced and delivered under the contract.

## **5.6 Work Breakdown Structure**

The Bidder shall submit a Work Breakdown Structure on at least two levels. Depending on the size and complexity of the proposed activity, a breakdown to the third level may be necessary. A possible Work Breakdown Structure is shown below, but the Bidder is free to propose an alternative.



Work Package Descriptions shall be provided for each Work Package identified in the Work Breakdown Structure which shall cover the total programme of work being proposed.

The Agency reserves the right to have the work broken down into phases subsequent to tender submission. The Bidder may propose a phased approach in case high risks are evident in the proposed activity.

## 5.7 Planning

The Bidder shall submit his planning in the form of a Project detailed Bar Chart (PBC).

In establishing his planning, the Bidder shall take account of the need of the Agency to review and/or approve intermediate deliverables and shall include sufficient time for the Agency to do this.

The expected total duration of a contract is between 6 and 24 months, but the Bidder may deviate from this timeframe in his planning if duly justified.

## 5.8 Cost Price Data

### 5.8.1 PSS FORMS

The following PSS forms [latest version available on EMITS (<http://emits.esa.int/>) under “Reference Documentation” → “Administrative Documents”] included in the General Conditions of Tender as Annex 5(3) shall be completed for the Prime Contractor and for each Subcontractor proposed, showing per company the total cost of the proposed work, i.e. including the Bidder’s share:

PSS-A1, issue no. 2

Company Cost Element Data Sheet (unless already supplied - see Annex 5/3 of General Conditions)

PSS-A2, issue no. 4

Company Price Breakdown Form (including reduction for company contribution). The inclusion of Exhibit A to PSS-A2 (breakdown of external cost elements) is mandatory in all cases involving external cost elements.

PSS-A8, issue no. 4

Manpower and Price Summary at Work Package Level

#### NOTES

- (a) The Bidder shall submit a summary table showing the cost and the price (= ESA funding) in EURO per company and for the total.
- (b) Any manpower made available by the pilot end user community in relation to the proposed project shall not be part of the contractual cost.
- (c) Costs related to marketing activities (PR material, participation in conferences, etc.) are not allowable.
- (d) The procurement of hardware or software as such is not an objective of this programme. It may form an integral part of an ARTES Element 3-4 activity to the extent required for its execution, provided the procurement cost are not disproportionate in size.
- (e) The management effort shall not exceed about 10% of the overall effort depending on the complexity of the activity.

#### 5.8.2 “PRIOR WORK”:

Expenditures incurred prior to proposal submission are acceptable provided all of the eight conditions below are met:

- 1) they were incurred for work of direct relevance for the implementation of the contract;
- 2) they were incurred within a maximum of 12 months prior to submission of an acceptable proposal and the work performed did not go beyond BDR/PDR;
- 3) they amount to a maximum of 10% of the cost of the activity;
- 4) they have not been covered by any public funding;
- 5) the proposal includes mature Specifications of the product to be developed;
- 6) the proposal includes a mature Verification Plan and Test Plan for the product to be developed;
- 7) the proposal includes a mature Design Description and Justification;

- 8) the “Prior Work” is presented separately in the proposal with its own work packages, cost sheets, description of the work performed and of the complete outputs.

### 5.8.3 “IN KIND CONTRIBUTION” (IKC):

IKC is defined as hardware including any software, assembly, integration and test needed to make it a functional unit. IKC made available to the activity is acceptable as a cost element provided all of the six conditions below are met:

- 1) the expenditure has actually been incurred and separately recorded as being company funded research and development or procurement on a commercial project;
- 2) confirmation that the IKC has not been capitalised and depreciation has not been recovered through overhead or other cost elements;
- 3) the IKC has not been paid by any public funds;
- 4) payments related to IKC will only take place upon use of the IKC and otherwise be forfeited;
- 5) the IKC cost quoted for the proposed activity is for at least 2/3 directly attributable to hardware elements. The remainder, at the maximum 1/3, may be for the software, assembly, integration and test to make the hardware a functional unit;
- 6) the IKC cost quoted for the proposed activity amounts to 20% of the total cost at the maximum;

### Ownership and possession of the IKC

- Option 1:

The IKC cost quoted for the proposed activity is the IKC value at the start of the usage of the IKC. In this case the IKC is a deliverable to ESA at the end of the activity and delivery will not be waived.

- Option 2:

The IKC cost quoted for the proposed activity is the difference between the value of the IKC at the start of the usage of the IKC and the residual value at the end of the usage of the IKC; and the residual value at the end of the usage of the IKC is at least 20% of the value at the start of the usage. In this case the IKC is not deliverable to ESA at the end of the activity.

### 5.8.4 SOURCE OF COMPANY CONTRIBUTION

The source of the company contribution shall be explicitly stated in the Bidder’s proposal. In this context, the “company contribution” shall be deemed to include Third Party sources, if any. The company contribution can be treated as a loss against the contract or may be contributed by a Third Party private source. Accordingly, the contribution shall not be allowed from third party public funds. The Bidder is not allowed to include his contribution in overheads included in rates charged to the Agency for the contract or any other contract with the Agency, or sub-contract award under an Agency contract.



The Bidder should take into account in his planning that the Negotiation/Kick-off Meeting should be attended by the Bidder and as far as possible by all Subcontractors. The Kick-Off Meeting and the Final Presentation will normally be held at ESTEC.

#### **5.14 Acceptance of Contract Conditions**

The Bidder shall confirm that the conditions of the draft contract (Appendix 2 to this Call for Proposals) are read, understood and accepted and that any sales conditions of the Bidder do not apply.

#### **5.15 Acceptance of Management Requirements**

The Bidder shall confirm his acceptance of the Management Requirements in Appendix 2 to the draft contract (Appendix 2 to this Call for Proposals).

#### **5.16 Use of ESA Technical Assets**

For the purpose of supporting contractual activities, ESA can provide, on a best effort basis and free of charge, access to a pool of Technical Assets that can be used by projects originated by the present tender action.

More information about such ESA Technical Assets and the associated conditions of access and utilisation can be found under the Telecom User Support Office at: <http://telecom.esa.int/uso/technicalassets>

Whenever the use of such ESA Technical Assets is compatible with the technical, operational and strategic objectives of the proposal (clear evidence of which has to be provided in the proposal) the Bidder is invited to consider the utilisation of the ESA Technical Assets as an alternative to the procurement of corresponding external services. In this case, an outline utilisation plan of the ESA Technical Assets shall be provided in the proposal.

Bidders who plan to use the ESA Technical Assets are requested to perform a preliminary verification of their availability before including the option within the proposal. In this respect, the Bidder is invited to contact the ESA Telecom User Support Office to verify if the proposed utilisation of the ESA Technical Assets is compatible with their global utilisation plan. Coordinates for accessing the User Support Office can be found at: <http://telecom.esa.int/uso>

As the provision of the ESA Technical Assets cannot be guaranteed by the Agency, the Bidder shall include in his proposal an option for the commercial procurement of such Technical Assets and associated cost.

Decisions whether to grant access to the ESA Technical Assets will be notified to the Bidder at the time of the Negotiation Meeting.