

ARTES ScyLight Full Proposal

Requirements for the Content of the Management Proposal

Part 5C *Meetings, Reviews and Deliverable Items*

Statement of Applicability and Proposal Submission Requirements

Applicable Segment(s)	
Space	Ground
Yes	Yes

Applicable Development Phase(s)			
Definition	Technology	ScyLight Demonstration	Product
Yes	Yes	Yes ¹	Yes

1. Requirements specific to the ScyLight Demonstration Phase are stated in section 5.

Notes on the Content of this Document

- i* *This style is used for explanatory notes and guidance to help you to develop the Full Proposal content.*
- 1** **This numbered style in bold font identifies the main sections to be completed in this Part of the Proposal.**
- 1.2 This numbered style identifies requirements for the Full Proposal content for each of the main sections of this Part of the Proposal.

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Requirements for the Management Proposal: Meetings, Reviews and Deliverable Items	
1	Review Meeting Plan
<i>Meeting Plan Prior to Contract Award</i>	
1.1	The Tenderer shall take into account in its planning the need to participate in a Negotiation Meeting prior to contract award.
<i>i</i>	<i>The purpose of the Negotiation Meeting is to clarify any outstanding issues identified by the Agency in the Tenderer's Proposal, to agree on the project planning and to negotiate the contract.</i>
<i>i</i>	<i>One objective of the Negotiation Meeting is to assess the suitability of the proposed contractual milestones and review meetings for effective management of the proposed project. This assessment could lead to the expansion or reduction of the number of milestones.</i>
1.2	The Negotiation Meeting shall be attended by the Tenderer and, as far as possible, by all Subcontractors.
<i>i</i>	<i>The Negotiation Meeting will normally be held at the Agency's premises (ESTEC or ECSAT).</i>
1.3	The documentation applicable to this meeting shall be the latest version of the Tenderer's Proposal and any clarifications and/or supplementary information subsequently provided to the Agency by the Tenderer.
<i>Meeting Plan After Contract Award</i>	
1.4	The Tenderer shall define a set of milestone review meetings that each represent key moments in the project (e.g. key decision points) with a set of associated deliverables (documentation, hardware and software) to the Agency.
<i>i</i>	<i>The number and nature of the milestone review meetings shall be in accordance with proposed development plan (as set out in Part 3B and Part 3C of the Requirements for the Content of the Technical Proposal).</i>
<i>i</i>	<i>The Tenderer should take into account the requirements with regard to the milestone payment plan, detailed in Part 6 of the Requirements for the Content of the Financial Proposal, Article 3 of the Draft Contract and with the following provisions:</i>
	<ul style="list-style-type: none"> - <i>All claims for payment shall be linked to the achievement of defined schedule milestones.</i> - <i>Milestones are to be in the form of significant events in the programme, to be selected on the basis of providing a check point for progress of the work performed.</i>
<i>i</i>	<i>For the ScyLight Demonstration Phase, the review meeting plan should, to the extent practicable, be aligned to that of the flight programme such that the Agency's milestone reviews are held in common with the flight programme reviews.</i>
1.5	The review meeting plan shall include a kick-off meeting at the start of each Development Phase.
<i>i</i>	<i>Note: the kick-off meeting may be combined with the last milestone review meeting of the previous Development Phase.</i>
1.6	The review meeting plan shall include a Phase Completion Review at the end of each Development Phase, unless the Development Phase is the last Development Phase in the contract, in which case the Phase Completion Review is not required and is replaced by the Final Review.
<i>i</i>	<i>Note: The Phase Completion Review may be combined with the last milestone review meeting of the Development Phase.</i>

Requirements for the Management Proposal: <i>Meetings, Reviews and Deliverable Items</i>	
1.7	<p>The review meeting plan shall include a Final Review with the Agency, to be held upon completion of all activities defined in the contract. This shall include an overview of the work performed in all Development Phases.</p> <p><i>z This review can be combined with the Phase Completion Review for the last Development Phase to be completed.</i></p> <p><i>z The objectives of the Final Review meeting are defined in Appendix 1.</i></p>
1.8	<p>The review meeting plan shall include the mandatory design review meetings specified in Table 1 of Appendix 1 below.</p>
1.9	<p>Each of these review meetings shall be attended by representatives of the project team and by the Agency's representative(s).</p> <p><i>z For the ScyLight Demonstration Phase, review meetings should be held with the Agency, flight programme representatives and the Contractor whenever possible.</i></p>
1.10	<p>In addition to the review meetings, the meeting plan shall include progress meetings to allow the Agency to monitor the progress of the work and shall be held with no more than eight (8) weeks between consecutive meetings.</p> <p><i>z The Progress Meetings may be by teleconference, or may be held at the Contractor's premises.</i></p>
2 Review Meeting Scope and Objectives	
2.1	<p>The objectives of each review meeting shall be clearly stated, including the decisions to be made at the review.</p>
2.2	<p>For each mandatory review the objectives shall include the objectives for that review as defined in Appendix 1 below.</p>
2.3	<p>The Phase Completion Review shall confirm that all outputs, deliverables and work have been successfully completed/delivered as defined in the contract for an individual Development Phase.</p>
2.4	<p>At the Phase Completion Review a summary of the outcome of the development, including conclusions and recommendations shall be presented.</p>
2.5	<p>The objective of a progress review shall be to present a summary of the current status of the activity and a report on any problems or schedule slippages.</p>
3 Deliverable Hardware and Software	
3.1	<p>The Tenderer shall provide a list of hardware and software items that shall be produced and delivered to the Agency under a resulting contract, indicating how many copies or units will be delivered of each item and at which milestone review meeting.</p> <p><i>z Hardware and software items developed in the proposed activity shall be deliverable to the Agency at the end of the contract.</i></p> <p><i>z Ownership in respect of any hardware assets may be left to the Contractor whenever the parties agree when completing the contract that there is a further useful utilisation by the Contractor for purposes connected with the objectives of the contract.</i></p> <p><i>z Ownership of hardware assets with a single or a batch cost below 10,000 Euro shall remain with the Contractor.</i></p> <p><i>z The general rule is that any software developed in the proposed activity shall be deliverable to the Agency at the end of the contract.</i></p>

Requirements for the Management Proposal: <i>Meetings, Reviews and Deliverable Items</i>	
3.2	<p>The Tenderer shall indicate:</p> <ul style="list-style-type: none"> - In which format(s) (e.g. source code, executable, etc.) the software , if applicable, will be delivered to the Agency. - If applicable, which software licenses/third party licenses will be delivered to the Agency in accordance with Article 3.1.3 of the Draft Contract.
4 Documentation Delivery Plan	
4.1	The Tenderer shall present a documentation delivery plan identifying all documents that shall be deliverable to the Agency under a contract resulting from the Full Proposal.
4.2	<p>The Tenderer shall include in the documentation delivery plan all the documents identified as mandatory deliverables for the relevant Segment (Space or Ground– see Appendix 1 below).</p> <p><i>It is recommended that the Tenderer includes the documents identified as “recommended” for the appropriate reviews in the documentation delivery plan.</i></p> <p><i>The Tenderer may include documents other than those identified in Appendix 1 below.</i></p>
4.3	The documentation delivery plan shall identify which documents will be delivered at each review meeting.
4.4	<p>The Tenderer shall demonstrate that the proposed list of deliverables associated with each review meeting will allow the corresponding objectives of the review to be met.</p> <p><i>Suggested lists of deliverables for typical reviews are identified in Appendix 1 below.</i></p>
4.5	In the documentation delivery plan the Tenderer shall identify the work package(s) that will generate the content of each of the deliverable documents.
4.6	<p>The documentation delivery plan shall identify, for each review meeting, any proprietary document that will be made available for review at the Contractor’s premises only.</p> <p><i>The Agency expects all documents listed in the documentation delivery plan to be delivered to the Agency unless explicitly stated otherwise.</i></p>
4.7	<p>The Final Data Package, taking into account the Agency’s comments, shall be delivered to the Agency no later than 10 working days from the date of the Final Review.</p> <p><i>Delivery requirements for the Final Data Package are set out in Article 2 Section 2.1.1 of the Draft Contract.</i></p>
4.8	In the event that it is no longer proposed to continue with the development at the end of the Definition or Technology Phase, the Contractor shall deliver a Justification Letter to the Agency.
4.9	<p>The Justification Letter shall set out the reasons for not continuing the development.</p> <p><i>The justification may be based on technical issues, such as not being able to meet key technical requirements. The justification could also be based on business issues such as a non-competitive cost of the eventual product, the projected non-recurring engineering effort required or changes in the market/competitive conditions.</i></p>
5 Specific Requirements for the ScyLight Demonstration Phase	
<i>Requirements Applicable to Reviews.</i>	
5.1	The review meeting plan for the ScyLight Demonstration Phase shall, to the extent practicable, be aligned to that of the flight programme such that Agency’s milestone reviews are held in common with flight programme reviews for the flight hardware.

Requirements for the Management Proposal: <i>Meetings, Reviews and Deliverable Items</i>	
5.2	The success of the ScyLight Demonstration Review shall also be conditional on the acceptance of the flight hardware by the entity who will assume ownership of the flight item in orbit.
<i>Deliverable Hardware and Software</i>	
5.3	The Tenderer shall identify which hardware developed, as part of the ScyLight Demonstration Phase, will be launched into orbit, and which hardware will remain on the ground.
<i>Deliverable Documents</i>	
5.4	The End-Item Data Package shall be identical to that provided to the spacecraft manufacturer.
5.5	If activities undertaken by the spacecraft manufacturer are proposed, the documentation delivery plan for the ScyLight Demonstration Phase shall include reports detailing the work performed.
5.6	Requests for waivers (RFW) or requests for deviation (RFD) raised during the activity shall be delivered to the Agency.

Appendix 1: Requirements for Reviews, Review Objectives and Deliverable Documentation

Mandatory Reviews

Table 1 indicates the mandatory reviews for each Segment and Development Phase.

Table 1 Mandatory Reviews

Development Phase	Space Segment	Ground Segment
All	Kick-off Meeting, Phase Completion Review or Final Review	Kick-off Meeting, Phase Completion Review or Final Review
Definition	Mid Term Review (MTR)	MTR
Technology	Preliminary Design Review (PDR)	PDR
ScyLight Demonstration	Critical Design Review (CDR) Test Readiness Review (TRR) Flight Hardware Shipment Review (FHSR) ¹ Spacecraft level TRR ¹ Spacecraft level TRB ¹ Demonstrator Acceptance Review (DAR) Commissioning Results Review (CRR) ScyLight Demonstration Results Review (SDRR)	CDR, Factory Acceptance Test (FAT) On-Site Acceptance Test (SAT)
Product	CDR, Test Readiness Review (TRR), Test Review Board (TRB)	CDR, TRR, Factory Acceptance Test (FAT)

¹ These reviews are not nominally required for a dedicated cubesat demonstrator.

Electronic Attachments

Further requirements and recommendations relating to reviews, their objectives and deliverables are contained in two (2) electronic attachments to this PDF file, one per Segment (Space, Ground). The two (2) attachments are in Excel® file format.

The relevant Excel® file(s) shall be selected in line with the Segment(s) being targeted by the Proposal.

Each Excel® file attachment contains two worksheets, entitled “Objectives” and “Deliverables”.

Requirements for Reviews and Review Objectives

The “Objectives” worksheet of each electronic attachment defines a number of reviews and the following information for each review:

- The review name and acronym. Wherever possible, the acronym is that commonly used for the review, but may be defined differently.
- The objectives of the review.
- The applicability of the review to the different objectives of the Development Phases (Definition, Technology, ScyLight Demonstration and Product).

The applicability of the review to each Development Phase objective is defined in the corresponding column as mandatory (M), optional (O) or excluded/not applicable (blank). This shall be interpreted as follows:

- Mandatory (“M”) means that the associated Development Phase shall cover the objective of the corresponding review.
- Optional (“O”) means that the Development Phase may cover the objective of the corresponding review.
- Blank cells mean that the objective of the corresponding review shall not be covered in that Development Phase.

Any review for which at least one objective is marked as mandatory for a given Development Phase shall be held during that Development Phase (in line with Table 1 above).

Any review for which at least one objective is marked as optional and none is marked as mandatory for a given Development Phase may be held during that Development Phase. These objectives are provided as recommendations.

Any review for which no objective is marked as either mandatory or optional for a given Development Phase shall not be held during that Development Phase.

The Tenderer is invited to select the appropriate recommendations “O” embodied in the “Objectives” worksheet for reviews and review objectives.

Requirements for Deliverable Documentation

The “Deliverables” worksheet of each electronic attachment defines a number of deliverable documents and the following information for each deliverable document:

- Its name and a document reference and/or acronym.
- Its applicability to the different Development Phases (Definition, Technology, ScyLight Demonstration and Product).
- Whether or not it should be included in the data package of each review defined in the “Objectives” worksheet, or other delivery requirements.
- A reference to the requirements for its content.
- Any additional comments.

The applicability of the deliverable document to each Development Phase and to each review is defined in the corresponding columns as mandatory (M), recommended (R) or blank cell. The applicability of the document content requirements is also defined in this way.

The applicability of the deliverable document to each Development Phase shall be interpreted as follows:

- Mandatory (“M”) means that the documentation delivery plan for that Development Phase shall include the document.
- Recommended (“R”) means that it is recommended that the document is included in the documentation delivery plan for that Development Phase.
- Blank cell means that the document may be included in the documentation delivery plan for that Development Phase.

The applicability of the deliverable document to each review data package shall be interpreted as follows:

- Mandatory (“M”) means that the document shall be delivered for the corresponding review.
- Recommended (“R”) means that it is recommended that the document is delivered for the corresponding review.
- Blank cell means that the document may be delivered for the corresponding review.

Deliverable document content requirements and guidelines are defined as a reference to a document content definition contained in Appendix 2 of this document, to a template available on the ARTES website, or to an annex of a relevant ECSS standard. The applicability of the document content definition shall be interpreted as follows:

- Mandatory (“M”) means that the reference shall be applicable to the corresponding document content.
- Recommended (“R”) means that the reference may be used as a guideline for the content of the document and the document content may be tailored as appropriate to achieve the objectives of the development.

The Tenderer is invited to use as appropriate the recommendations (“R”) embodied in the “Deliverables” worksheet for the deliverable documentation.

Identifying Deliverable Documentation Requirement.

By filtering the “Deliverables” worksheet content in Excel®, for the selected Development Phase and Segment, the documents to be delivered can be identified:

- For a given Development Phase, by selecting all cells marked with “M” for that Development Phase in the “Phase applicability” column.
- For a given review in a given Development Phase, by selecting all cells marked with “M” for that Development Phase in the “Phase applicability” column and selecting all cells marked with “M” for that review in the “Review Data Package” column.

Appendix 2: Deliverable Document Content Requirements

This Appendix defines the required content of deliverable documents that are identified in Appendix 1 above.

Deliverable Document Content Requirements	Acronym/ Reference
The <i>Business Potential</i> shall follow section 2 of the corresponding Outline Proposal Template.	BP
<p>The <i>Monthly Progress Report</i> shall contain the following elements:</p> <ul style="list-style-type: none"> - A summary of the activities performed in the reporting period. - A description of the problems encountered in the development and details of the corrective action taken. - A summary of the activities to be performed in the next reporting period. - A list of the contractually agreed milestones, indicating for each milestone the contractual completion date, the actual completion date for completion milestones and the forecasted completion date for milestones yet to be completed. - A list of the action items, traceable from all reviews and progress meetings, with unique identifiers, indicating their current status and anticipated closure dates. <p>A template for a monthly progress report can be found at https://artes.esa.int/documents.</p>	MPR
The <i>In-Orbit Test and One Year In-Orbit Operation Test Plans</i> shall define the parameters and information, related to the innovative product, that shall be included in their respective test reports.	S.TE9
<p><i>In-Orbit Test Plan</i></p> <p>The In-Orbit Test Plan defines the intended testing activities of the product during its commissioning after launch of the satellite. Annex A of ECSS-E-ST-10C (Assembly, Integration and Test Plan) may be used as a guide to the structure and content of the In-Orbit Test Plan.</p> <p><i>Note that only the test elements of this document description are relevant for the In-Orbit Test Plan. Elements of the document description addressing assembly and integration aspects should be omitted from the In-Orbit Test Plan.</i></p>	S.TE7
The <i>Satellite AIT, IOT and One Year In Orbit Operation Reports</i> shall present the AIT test results, the IOT test results and the operational data for the product, including a comparison with pre-flight data, data trending and details of any anomalies observed from the start of AIT through to the end of one year of in-orbit operation of the product.	S.TE6 S.TE8 S.TE10
As <i>Designed, As Built Configuration Lists</i> shall be prepared in accordance with ECSS-M-ST-40C, Annex D, or an equivalent standard. The Tenderer shall state the standard to be applied.	ABCL

<p>The <i>End Item Data Package</i> shall include the following as applicable:</p> <ul style="list-style-type: none"> • Product handling, storage and transportation procedures and constraints; • Configuration Item Data List; • As designed, as built configuration list; • Product Specification; • Verification Control Document; • Assembly Drawings; • Interface Control Document; • User Manual; • Acceptance Test Specification, Procedure(s) and Report; • Declared Lists (Components, Materials, Mechanical Parts, Processes); • Failure Mode Effects and Criticality Analysis; • Request for Deviation / Waiver; • Major Non-Conformance Reports; • List of Open Work Items; • Product Inventory. 	<p>EIDP</p>
<p><i>Software Licence Files</i> for third party software shall characterise the deliverable software in terms of its constituent elements and the associated licensing schemes (in particular for any commercial off-the-shelf or open source software). Software licence files shall provide the following information for each item of third party software:</p> <ul style="list-style-type: none"> • software item name/identifier; • key features/function of the software item; • developer name; • version number; • license type; • licensing conditions; • exportability constraints, if any; • software dependencies, if any. 	<p>SLF</p>
<p>The <i>Software Reuse File</i> shall contain an analysis of existing software intended to be reused. The SRF shall be composed of the following two sections:</p> <p>Section 1, dedicated to present the analysis carried out to decide about the reuse (or not) of existing software taking into account the technical, operational and commercial requirements of the project. Furthermore the analysis shall cover the way the reused software will be embedded and/or integrated with the software to be developed in the project. The reused software shall be described in accordance with the information listed below (SRF List).</p> <p>Section 2, to characterise the deliverable software in terms of its constituent elements and the associated licensing schemes. The deliverable software (i.e. including developed and existing reused software) shall be described in accordance with the information listed below (SRF List):</p> <ul style="list-style-type: none"> • software item name and main features; • developer name; • considered version and list of components; • licensing conditions; e.g. industrial property and exportability constraints, if any; • implementation language; • development and execution environment (e.g. platform, operating system); • applicable dispositions for warranty, maintenance, installation and training; • commercial software necessary for software execution, if any; 	<p>SRF</p>

<ul style="list-style-type: none"> • size of the software (e.g. number of source code lines, and size of the executable code). 	
<p>The <i>Final Report</i> shall be written in a concise form and shall describe the major technical, operational and commercial accomplishments of the contract.</p> <p>The Final Report is intended for general publication.</p> <p>The Final Report shall not contain any confidential/proprietary information or confidentiality/copyright statement other than that specified in Article 5 Clause 14 of the Draft Contract.</p> <p>The front cover of the Final Report shall contain the following text within a delineated box of at least 10 cm x 4 cm, preferably located in the top or bottom left end of the cover:</p> <p>“EUROPEAN SPACE AGENCY CONTRACT REPORT “The work described in this report was done under ESA contract. Responsibility for the contents resides in the author or organisation that prepared it.”</p>	FR
<p>The <i>Final Data Package</i> shall:</p> <ul style="list-style-type: none"> • Comprise a compilation of the most recent versions of all deliverable documents. • Include an index document with links to the different document files contained therein. 	FDP
<p>A <i>Product Data Sheet</i> shall be issued:</p> <ul style="list-style-type: none"> • For each hardware unit which has been developed and tested within the contract, providing the functional performances, budgets (for space: mass, power, volume) and environmental specifications. • For each software item which has been developed and tested within the contract, listing the main functions and the demonstrated performance parameters. 	S.PA27 G.PA27
<p><i>High-Resolution (>2 MB) Photographs</i> shall be releasable to the public and shall be delivered in a format that can easily be processed electronically (e.g. not in PDF).</p>	S.MG15 G.MG15
<p>The <i>Activity Summary Description</i> shall be a short text (1/2 page maximum) summarising the achievements of the activity. It shall be releasable to the public and delivered in a format that can easily be processed electronically (e.g. not in PDF).</p>	ASD
<p>The <i>Socio-Economic Impact Questionnaire</i> is a list of questions to be answered at the end of the ScyLight Demonstration and Product Phases. An example of the generic (uncustomised) questionnaire can be found at https://artes.esa.int/documents.</p> <ul style="list-style-type: none"> ❖ <i>Note: The Agency gathers statistics on completed ARTES activities that quantify the socio-economic impact of the ARTES programme (jobs created/maintained, increased revenues, etc.). This information is important to the funding authorities as a means to judge the return on investment of public funds. The information contained in completed questionnaires contributes anonymously to a statistical database and helps ensure that the value of the ARTES programme is realistically assessed and fully recognised.</i> ❖ <i>The Agency will share the information received with the National Delegation who supported the activity.</i> ❖ <i>The socio-economic impact questionnaire, customised to this specific activity, will be sent by the Agency to the Contractor before the date of the Final Review.</i> 	SIQ