

ARTES ScyLight Full Proposal

Requirements for the Content of the Business Potential

Part 2

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	yes

Proposal Submission Requirements
<ol style="list-style-type: none"> 1. A single Part 2 (Business Potential) shall be included covering all Development Phases for which support is being requested under the ARTES ScyLight Call for Proposals. 2. The information in this Part 2 of the Full Proposal should be based on that provided in your Outline Proposal, updated as appropriate to include the most recent information. 3. Depending upon the maturity of the proposed activity, in particular the proposed Development Phase(s), only some of the content of this Part is mandatory. Guidance on the mandatory content is provided in each of the following sections. You are nevertheless encouraged to provide the best possible information on the business potential of your proposed development by completing all sections of this Part to the best of your ability. 4. When provision of a completed Financial Forecast Workbook (Excel® spreadsheet) is mandatory it shall be attached as an annex to Part 2 of the Full Proposal.

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 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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1	Customers
	<i>Target Customers/Users</i>
i	<i>Requirements 1.1 to 1.3 inclusive are mandatory for all proposed Development Phases.</i>
1.1	The Tenderer shall identify each key customer, customer segment, user or user group targeted by the product(s) to be developed.
1.2	The Tenderer shall describe the main problems and needs of each of the key customers/customer segments/users/user groups that could potentially be addressed by the product(s) to be developed.
1.3	If only a few important customers are targeted, the Tenderer shall clearly identify each customer.
	<i>Customer/User Relationships</i>
i	<i>Requirements 1.4 to 1.6 inclusive are mandatory if the proposed development starts with a Technology Phase, a ScyLight Demonstration Phase or a Product Phase.</i>
1.4	The Tenderer shall identify the status of the relationships it has with each of the target customers . i <i>For example, already existing, must be created, or has to be improved.</i>
1.5	To the extent practicable, the Tenderer shall provide evidence to substantiate its relationship with each of its target customers. i <i>For example, press releases quantifying sales of the products to the customer.</i>
1.6	If the product targets only one specific customer, a letter of interest from this customer shall be attached as an annex to Part 2 of the Tenderer’s Proposal, confirming the adequacy of the value proposition. i <i>If there is more than one customer, such letters may also be provided as evidence of the Business Potential.</i>
	<i>Sales Channels</i>
i	<i>Requirements 1.7 to 1.10 inclusive are mandatory if the proposed development starts with a Product Phase.</i>
1.7	The Tenderer shall identify and describe the sales channels to be exploited to reach the customers in the commercial exploitation stage.
1.8	The Tenderer shall indicate the status of each of these sales channels. i <i>For example, the sales channel is already established, is new, or requires further development.</i>
1.9	For any new sales channels, the Tenderer shall give an explanation of how they will be created.
1.10	For new customers, the Tenderer shall give an explanation of the approach to be followed to reach these customers. i <i>New customers are potential customers to whom the Tenderer has not sold products in the past.</i>
2	Value Proposition
i	<i>Requirements 2.1 to 2.3 inclusive are mandatory for all proposed Development Phases.</i>
2.1	The Tenderer shall identify the characteristics of the product(s) that address each specific customer problem/need. i <i>The product characteristics could be, for example, improved performance, reduced cost or new features.</i>

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2.2	<p>If the adoption of the product is expected to change the way the customers are traditionally running their business, the Tenderer shall state this, along with an explanation of how the product is expected to affect their business.</p> <p><i>For instance, the product could bring a disruptive innovation.</i></p>
2.3	<p>If applicable, the Tenderer shall explain a strategic element to the proposed development.</p> <p><i>For example, how the proposed development fits into Tenderer's overall product development strategy to meet the needs of the customers in the longer term.</i></p>
3 Market Assessment	
<i>Position of the Product in the Market</i>	
<i>i</i>	<i>Requirement 3.1 is mandatory for all proposed Development Phases.</i>
3.1	<p>The Tenderer shall describe the positioning of the final product indicating:</p> <ul style="list-style-type: none"> - the maturity of the final product (existing, new or incremental) and - the maturity of the market (existing, new or incremental). <p><i>An existing product is one that requires no modification (i.e. it can be used "as is"). An incremental product is an upgrade to an existing product.</i></p> <p><i>An "incremental" market is a new segment of an existing market.</i></p> <p><i>If you have more than one product, or if your product addresses more than one market, please indicate the positioning of each product in each of its target markets (by providing separate information for each product/market combination).</i></p>
<i>Competitive Landscape</i>	
<i>i</i>	<i>Requirements 3.2 to 3.4 inclusive are mandatory if the proposed development starts with a Technology Phase, a ScyLight Demonstration Phase or a Product Phase.</i>
3.2	<p>The Tenderer shall identify key competitors who are active in the targeted market sectors, indicating in each case the nature of the competition, supported by facts to the extent practicable.</p> <p><i>The nature of the competition could be, for example, an existing or potential supplier of the same type of product, an established supplier of similar products, a new entrant to the market, an entity known or suspected to have plans to develop the same type of product, or a market incumbent.</i></p> <p><i>The nature of the competition could be quantified by, for example, providing estimates of their market share, estimates in their competitiveness in terms of pricing, etc., supported by web links, references to market analyses, data sheets, etc.</i></p>
3.3	<p>The Tenderer shall describe the market sectors the product is addressing and the key characteristics of those sectors (e.g. geographical reach, trends, sales model).</p>
3.4	<p>As far as possible, the Tenderer shall provide supporting evidence to substantiate the market assumptions (e.g. historical data, market forecasts, market trend analyses).</p>

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	<p><i>Competitive Position</i></p> <p>ⓘ <i>Requirement 3.5 is mandatory if the proposed development starts with a Product Phase and the proposed development targets a new product.</i></p>
3.5	<p>The Tenderer shall present its key competitive differentiators with respect to the identified competition in the form of a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis, adding supplementary material as necessary to fully describe the competitive environment.</p> <p>ⓘ <i>Strengths are characteristics that give you an advantage over your competitors. Weaknesses are characteristics that place you at a disadvantage with respect to the competition. Opportunities are (usually external) elements that you could exploit to improve your business prospects. Threats are elements (e.g. external influences) that could threaten your business prospects.</i></p>
4	<p>Risks</p> <p>ⓘ <i>Requirements 4.1 to 4.2 inclusive are mandatory if the proposed development starts with a Technology Phase, a ScyLight Demonstration Phase or a Product Phase. Requirement 4.3 is mandatory if the proposed activity includes a Technology Phase. Requirements 4.4 to 4.5 inclusive are mandatory if the proposed activity includes a ScyLight Demonstration Phase.</i></p> <p>ⓘ <i>Please note the specific requirements outlined below for the Technology Phase and for the ScyLight Demonstration Phase in relation to risks and risk mitigation.</i></p> <p>Technology Phase:</p> <p><i>The Technology Phase covers activities to mitigate the technical risks of the development up to and including the manufacturing and test of a representative model of the product. If a Technology Phase is proposed, please ensure that you</i></p> <ul style="list-style-type: none"> - <i>clearly identify the technical risks that are being addressed in the proposed Technology Phase and</i> - <i>explain why you consider these risks high enough to justify a Technology Phase development as a mandatory step to de-risk a subsequent ScyLight Demonstration Phase or Product Phase development.</i> <p>ScyLight Demonstration Phase:</p> <p><i>The ScyLight Demonstration Phase covers activities to mitigate technical and/or commercial risks in the operational environment prior to embarking on a product development (Product Phase). It has two different maximum co-funding levels (50% or 75%) for industrial entities (please refer to Section 5 of the Call for Proposals Cover Letter for more information). The applicable maximum co-funding level depends upon an agreed assessment of the level of risk being mitigated in the ScyLight Demonstration Phase (“low” or “high” respectively).</i></p> <p><i>ScyLight Demonstration Phase activities may be funded up to 75% if the activity is for in orbit demonstration of quantum cryptography technologies. In all other cases ScyLight Demonstration Phase activities will be considered as “low risk” (funded up to 50%) unless it is clearly demonstrated that:</i></p> <ul style="list-style-type: none"> - <i>critical technical performance parameters cannot be validated outside of the intended operational environment, and/or</i> - <i>barriers to market acceptance cannot be overcome without early deployment of the technology in the intended operational environment, in particular, significant new capabilities have not yet been exploited commercially by the industry of ESA Member States and Canada.</i> <p><i>If a “high risk” ScyLight Demonstration Phase is proposed (funding up to 75%), please be sure to include a justification for this categorisation of the risks.</i></p>

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4.1	<p>Technological, commercial and programmatic risks associated with the development and jeopardising the business prospects shall be:</p> <ul style="list-style-type: none"> - Uniquely identified. - Categorised by type (technological, commercial, programmatic). - Analysed in terms of their severity (potential impact) and probability of occurrence. <p><i>i</i> <i>The risk analysis may be a stand-alone document, which is referenced in the Product Development Plan and is attached to the Proposal.</i></p>
4.2	<p>Specific risk mitigation actions shall be identified and described for each of the identified risks, indicating the Development Phase(s) in which the mitigation action will be performed.</p>
4.3	<p>If the proposed activity includes a Technology Phase, the Tenderer shall:</p> <ul style="list-style-type: none"> - Identify which of the risks to be mitigated in the Technology Phase are considered high enough to justify a Technology Phase development as a mandatory step to de-risk a subsequent ScyLight Demonstration Phase or Product Phase development. - State the reasons for this assessment.
4.4	<p>If the proposed activity includes a ScyLight Demonstration Phase the Tenderer shall explicitly state whether or not this is for in-orbit demonstration of quantum cryptography technologies.</p>
4.5	<p>If the proposed activity includes a ScyLight Demonstration Phase:</p> <ul style="list-style-type: none"> - that does not target in-orbit demonstration of quantum cryptography technologies and - for which co-funding of up to 75% for industrial entities is requested (i.e. the ScyLight Demonstration Phase is considered to be “high risk”) <p>the Tenderer shall:</p> <ul style="list-style-type: none"> - Identify which of the risks to be mitigated in the ScyLight Demonstration Phase are considered high enough to justify the higher level of funding for the proposed ScyLight Demonstration Phase. - State the reasons for this assessment.
5	Resources
<i>i</i>	<i>Requirements 5.1 to 5.4 inclusive are mandatory for all proposed Development Phases.</i>
5.1	<p>Key partners who will help the Tenderer to realise the proposed development and/or assist in the exploitation of the outcome shall be identified in terms of:</p> <ul style="list-style-type: none"> - the type of partner (e.g. satellite prime, operator, service provider, key supplier, customer, product user); - entity name, its country and a link to its web site; - involvement in the project (e.g. none, subcontractor, supplier, integrator, advisor, pilot user, alpha customer); - the type of agreement envisaged with the partner (e.g. non-disclosure agreement, partnership agreement, contract).
5.2	<p>The Tenderer shall identify all key resources needed to successfully complete each of the proposed Development Phases.</p> <p><i>i</i> <i>Resources could include, for example, assets, entity competences, key suppliers, consultancy services, and manufacturing, test or other facilities.</i></p>

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5.3	<p>For each key resource, the Tenderer shall give an indication of:</p> <ul style="list-style-type: none"> - whether or not the resource is already in place, or is expected to be in place at the time of need; - any potential issues associated with the resource. <p><i>ⓘ Potential issues could be, for example, long lead items, software licensing, patent constraints, procurement policies and national/international restrictions (e.g. export restrictions).</i></p>
5.4	<p>If there is a risk that any key resource will not be in place at the time of need, the Tenderer shall give an explanation of the actions to be taken to secure the availability of that resource when needed.</p>
6	<p>Return on Investment</p> <p><i>ⓘ Requirements 6.1 to 6.9 inclusive are mandatory if the proposed development starts with a Product Phase.</i></p> <p><i>ⓘ A Financial Forecast Workbook template (Excel® document) is provided for the purpose of performing a financial return on investment calculation for the proposed product. If a return on investment calculation is provided the completed Financial Forecast Workbook template should be provided as an annex to this Part 2 of your Full Proposal.</i></p>
6.1	<p>The Tenderer shall produce a financial forecast using the Financial Forecast Workbook.</p>
6.2	<p>The Tenderer shall identify the Development Phases required to prepare the product for commercial exploitation and, for each Development Phase, provide the anticipated start and end dates and the estimated cost and ESA co-funding profiles (incurred or expected).</p> <p><i>ⓘ Table 1 and Table 2 of the Financial Forecast Workbook are provided for this purpose. These tables should be completed as follows:</i></p> <ul style="list-style-type: none"> - <i>Table 1 “Planning and Costing Summary”: identify the Development Phases and provide the outline schedule for each Development Phase.</i> - <i>Table 2 “Development Costs”: provide an estimate of the development costs and ESA co-funding over time for each Development Phase in accordance with the schedule information defined in Table 1.</i> <p><i>Your attention is drawn to the detailed guidelines for completing Table 1 that are provided in the Financial Forecast Workbook.</i></p> <p><i>Once both tables have been completed Table 1 provides an overview of the development costs and the planning for the proposed activity. Please ensure that the content of Table 1 is consistent with the information presented in Part 1 of your Full Proposal.</i></p>
6.3	<p>The Tenderer shall identify and describe potential product sales scenarios and, in each case, provide estimates of unit sales volumes and unit sales price evolutions over time.</p> <p><i>ⓘ This information should be provided by populating the revenue elements of Table 3 “Product Sales Assumptions for the Commercial Exploitation Phase” of the Financial Forecast Workbook.</i></p>
6.4	<p>The Tenderer shall detail all assumptions made when preparing the sales revenue projections quantified in the Financial Forecast Workbook.</p>
6.5	<p>The Tenderer shall provide, for each of the identified potential sales scenarios, an estimate of the cost per unit sold over time.</p> <p><i>ⓘ This information should be provided by populating the cost elements of Table 3 “Product Sales Assumptions for the Commercial Exploitation Phase” of the Financial Forecast Workbook.</i></p>
6.6	<p>The Tenderer shall detail all assumptions made when preparing the sales cost projections quantified in the Financial Forecast Workbook.</p>

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6.7	<p>The Tenderer shall state the assumption made for the cost of capital in the return on investment calculation.</p> <p><i>ⓘ This information should be provided in Table 4 “Cost of Capital Assumed in the Return on Investment Calculations” of the Financial Forecast Workbook.</i></p>
6.8	<p>The Tenderer shall present projected cash flows for two cases, one assuming that financial support is provided by the Agency and one assuming that such financial support is not available.</p> <p><i>ⓘ Based on the information provided in Tables 1 to 4 of the Financial Forecast Workbook inclusive, a financial analysis will be automatically calculated in Table 5 of the Workbook and the results of the financial analysis will be summarised in Table 6 of the Workbook.</i></p>
6.9	<p>The Tenderer shall provide the following financial indicators for the project:</p> <ul style="list-style-type: none"> - the Internal Rate of Return (IRR), - the Net Present Value (NPV), - the break-even point. <p><i>ⓘ Make reference to Table 6 of the Financial Forecast Workbook.</i></p>