**OUTLINE PROPOSAL TEMPLATE**

**SPACE and 5G Convergence:**

**transport AND logistics**

REF. ESA-TIAA-PR-2020-2067 ver.2.0

AO 1-10428/20/UK/ND

|  |
| --- |
| The present Outline Proposal template for the “Space and 5G convergence: Transport & Logistics” call intends to collect in a standardised way information on various aspects of your proposition in the following respect:1. The Team: what is the level of expertise / know-how of your team;
2. The Idea: what you propose, to address which needs, for whom, and the associated level of maturity;
3. The Business Case: What is the market, competition, value proposition, potential customers, fit with current portfolio, pricing, market entry/commercial exploitation and sustainability prospects, and the economic benefits;
4. The Service: which activities you intend to perform, including the pilot utilisation of your solution, the associated costing and pricing, and the perspective to scale up and reach a sustainable target;
5. The Ground Segment Product and Technology Development (if required): What products and technologies (network, user equipment, etc) need to be developed for the proposed service;

By providing this Outline Proposal, you allow ESA to quickly take informed decisions on next steps. Your Outline Proposal will be evaluated by ESA and DCMS, in consultation with the relevant National Delegations, and therefore the submitted Outline Proposal will be available to the DCMS representatives involved in the evaluation. You are also required to provide the Outline Proposal to the National Delegations[[1]](#footnote-1) of the countries of your consortium. Please, keep your answers to a **maximum limit of 12 pages** (excluding this page), maintaining font size and structure. If Section 5 related to the technology/product/network development applies, 2 more pages can be utilized.Please note the following important points before you decide to prepare your submission:1. This initiative is proposed by the European Space Agency, in collaboration with the UK Department of Digital, Culture, Media and Sport (DCMS). As such the proposed activity shall involve the integration of satellite communications with 5G terrestrial network infrastructure.
2. The proposed activity shall address the Transport and Logistic domain with innovative user-driven solutions showcasing the convergence of 5G SatCom and terrestrial networks to the benefits of UK user communities. The project shall include as a minimum one pilot in the UK with the participation of UK users.
3. Should technology/product/network developments be required to implement the proposed solution, Sect. 5 of this Outline Proposal shall be filled in.
4. In case a company participates in more than one proposal, applicants shall demonstrate that they are not duplicating commitment of their resources and should have the capacity to deliver in the event of multiple successful applications.
5. In case the Outline Proposal is selected, the applicant will be contacted by ESA about the pre- selection outcome and will be informed on how to prepare the Second Step. The evaluation feedback will be provided to the applicant within 15 working days from the Outline Proposal submission to ESA.
6. The evaluation of the Full Proposal will be executed following the submission in the ESA system. The Full Proposal will require a “Letter(s) of Authorisation of Funding” (AOF) from the relevant National Delegation(s) of the entities involved in the proposed activity.
7. The selected activities can be funded up to 80% for SMEs, and up to 50% for non SMEs, depending on the funding level authorised by the related National Delegation(s) (for funding related to technology/product/network development activities, see Annex D of the Letter of Invitation).
 |

**OUTLINE PROPOSAL SPACE and 5G convergence**
PLEASE MAKE SURE YOU USE THE LATEST TEMPLATE, WHICH IS AVAILABLE [HERE](https://business.esa.int/space-and-5g-convergence/)
This document use elements (content controls) that may have issues of compatibility on a Mac computer

|  |  |
| --- | --- |
| **Activity Title:** | [Insert Activity Title Here] |
| **Company Name:** | [Insert the Company Name Here] |
| **Scope of the proposed activity***(Service/application or service/application with technology development)* | [Select the Scope of the Activity] |
| Please confirm that this Outline Proposal has been sent to the relevant National Delegation(s): State whether the OP was sent to the ND(s) prior to ESA Submission |

**Section 1: The Team**

|  |  |
| --- | --- |
| **1.1 Company proposing:***(address, country, website, contact point name, telephone and e-mail)* | [Main Country][Company Address][Point of Contact][Company Phone][Company E-mail] |
| **1.2 Company background:***Notes on background:* | Year of creation: [Year of Creation (Numerical Format Only)]Number of full time employees in 2019: [Number of Employees (Numerical Format Only)]Turnover in 2019 kEURO: [Turnover in 2019 (Numerical Format Only)]SME status: [SME Status] |
|  |
| **1.4 Are you familiar with ESA?** *(Yes/No)* | [Familiar with ESA?] |
| **1.5 Are you applying as a consortium?** **Who are the other entities?** *(name, country, website)* | [Applying as a Consortium?] |
|  |
| **1.6 Does your team (company / consortium) have experience in providing turn-key solutions to the relevant users?**  *Notes:* | [Turn-Key Solution Provision Experience?] |
|  |
| **1.7 Have you already identified a relevant user community to involve in a possible utilisation stage?** *(Yes/No/Partial. If Yes, provide relevant information on the right)* | [User Community Identified?] |
|  |
| **1.8 Have you already established any relationships with the Transport and Logistics sector in the UK that will allow to validate the solution you propose?** *(Yes/No/Partial. If Yes, provide relevant information on the right)* | [Relationship with Stakeholders Established?] |
|  |

**Section 2: The Idea**

|  |
| --- |
| **2.1 What is the final solution that you want to offer?**  |
| [Service Proposed] |
| **2.2 Who will be the users and customers of the solution?****Include a description of how they will use the solution operationally**  |
|  |
| **2.3 What are the users’ pains (e.g. problems they have now) and gains (e.g. benefits they will get from the solutions you propose)?**  |
|  |
| **2.4 How do you plan to demonstrate the convergence of 5G SatCom and terrestrial networks? What is the expected added value of this integration in the proposed service? What are the main innovative elements?***Provide information on the 5G asset(s) / technologies and/or foreseen features / capabilities required to develop and demonstrate the proposed service(s)).* |
|  |
| **2.5 Do you need to develop new 5G products/technologies which are necessary to enable the target service?** *Should the proposal include development of new product(s) and technology/s for the proposed service, describe the technical objective(s) of such development. Provide the motivation for the targeted product(s) and technology/s development, as well as the background logic behind the proposed development approach.* |
|  |
| **2.6 Which other space technologies / space assets (in addition to SatCom) do you intend to use and why? How are existing technologies/data used in a new and novel way?** |
|  |
| **2.7 Are there regulatory barriers? Are you compliant with the relevant regulatory framework? How will the deployment and commercial sustainability of the hybrid terrestrial/satellite networks required for the service provision be provided?** |
|  |
| **2.8 With regards to the service, what is the technical and operational maturity that you intend to reach by the end of the proposed activity?**  |
|  |

**Section 3: The Business Case**

|  |
| --- |
| * 1. **What is the market and its size in the initially targeted primary market and which market position/share do you expect to achieve in this market?** *(e.g. target segments addressed, key quantitative figures, market position after 5 years. NB: do not confuse the potential service market with the general market, e.g. the total size of railway operations is not representative for an information service related to track maintenance)*
 |
|  |
| * 1. **Who are the key competitors in the market that you are aiming to challenge with your proposed service/product? What is the nature of the competition they pose?** *(E.g.an existing or potential supplier of the same type of product / service, an established supplier of similar product / service, a new entrant to the market, an entity known or suspected to have plans to develop the same type of product / service, a market incumbent)*
 |
|  |
| **3.3 What is innovative in what you propose? What is unique with respect to what is available in the market? Does the service involve the creation of a novel business proposition and service value chain?** |
|  |
| * 1. **Have you already identified potential individual customers?**

*(Yes/No + comments; if YES, indicate who they are and what is your engagement with them)*  |
|  |
| * 1. **Who are the key actors/partners involved in the project? What is the status (e.g. existing, in progress, to be established) of the relationship with them? Which are the users/customers that will support the project and the pilot?**

*(Please include in your answer actor/partner name, background/experience, involvement in the project and/or commercial exploitation e.g. pilot user, customer, supplier, integrator and what type of agreement e.g. NDA, partnership, contract)* |
|  |
| * 1. **How does the proposed product/service fit within your current business activities and your mid-/long-term strategy?**
 |
|  |
| * 1. **Have you already considered how much you would charge for your product/service?***(Yes/No/Partial + comments. If Yes, please provide the planned selling price for the product/service e.g. Euro/month or per unit and how many customers you plan to have one year after the end of the ESA project)*
 |
|  |
| * 1. **When do you plan to enter the market with the proposed product / service? How do you plan to bring the activity results to commercial exploitation?**
 |
|  |
| * 1. **What economic benefits is the product / service expected to deliver to those inside the consortium and over what timescale?**

*(Describe the expected benefits for you and your consortium partners if applicable, e.g. jobs created, revenues generated, scale up plans)* |
|  |

**Section 4: The Project Activities**

***This section refers to activities with the exception of the optional technology/product development activities to be described in Section 5. For the costing, the costing of the entire project shall be considered, although details for the optional technology/development activities shall be described in more detail in Sect 5.***

|  |
| --- |
| **4.1 What is the starting point before you start the activity you propose?***(e.g., idea, prototype, existing product, existing service, results from other activities, discussions with potential users)* |
|  |
| **4.2 What are the key activities you propose to execute?***(e.g. technical aspects: proof of technical feasibility, proof of concept, design, development, integration, verification, validation with pilot users). Please include a pilot (involving a representative number of users) with relevant user communities of the UK Transport and Logistics sector* |
|  |
| **4.3 What is the overall duration and costing (total project cost and ESA price) of the intended activity?** *(up to 80% for SMEs, and up to 50% for non SMEs of the Cost can be funded by ESA, depending on approval of National Delegations; specific funding levels apply for product/technology developments)* | Duration in months:[Duration of the Activity in Months (Numerical Format Only)]Start of the Activity: [Expected Start Date of the Activity (Approx.)]Total Cost of the Project (**kEUR**): [Cost (Numerical Format Only]Price to ESA (**kEUR**): [Price (Numerical Format Only)] |
| N.B. Please note that the activity will be subject to co-funding, |
| **4.4 How will you scale up the solution in case of successful pilot? What is the prospect that the solution can become sustainable?***(e.g. by offering the solution to identified institutions, consideration about their Willingness To Pay)* |
|  |
| **4.5 What are the most important risks (technical / adoption / sustainability) to your activity? What are your mitigation plans?** |
|  |

**Section 5: The Product and Technology (if required)**

***Please note that the product(s) or/and technology(-ies) to be developed shall be essential part of the infrastructure required to offer the targeted service and consideration shall be provided for their commercialization in the context of the proposed service.***

|  |
| --- |
| **5.1 Scope, Planning and Costing** *(Please indicate in the table below one or more development phase(s) for which financial support is being requested for the optional technology/product development activities in the present proposal.* *Place an “X” in the relevant table cell(s) and remove the table rows / columns as appropriate.**Provide an estimation of the cost and requested funding for all development phases, and explain if and how such expenditures are planned to be spent outside Member States)* |
| This proposal addresses the development phase(s) and segment as marked in the table below. Also the following table presents the cost and requested ESA funding for each product and technology development phase included in this proposal.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Intended Start Date** | **Intended Duration**  | **Cost kEUR\*\*** | **Price kEUR**  | **Funding level requested (%)** |
| **Development Phase** |
| Definition Phase | QX/20YY | .. | .. | .. | .. |
| Technology Phase | QX/20YY | .. | .. | .. | .. |
| Product Phase | QX/20YY | .. | .. | .. | .. |
| Technology Demonstration Phase | QX/20YY | .. | .. | .. | .. |

\* Including ground network (satellite network and terrestrial 5G network) development and integration, user equipment/user terminal development and system integration.\*\* (ESA funding as % of Costs) |
| **5.2 What are the main activities and/or product elements per development Phase and their TRL that need to be developed for the proposed service?** *(List all of the main product elements and activities that are to be performed in each of the proposed development phases (those which are considered critical to the success of that development phase). These could include, for example, evaluating a new technology, developing a new subsystem, interface adaptations, manufacturing process development, materials development, software/firmware development, qualification activities, test (verification) activities, validation activities. Also, a product element could be, for example, a module, sub-system, component, technique or process. Provide text supplementary to the table description as necessary to fully explain the development activities and approach.)* |
| To develop the required product/technology delivering the required value proposition to the targeted service, we need to perform the main activities, or/and develop the product elements as identified in the table below for each of the proposed development phases.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Development Phase** | **Activity/Product Element** | **Description** | **Target TRL** | **Estimated current TRL** |
| ……… | ……… | ……… | ……… | ……… |
| ……… | ……… | ……… | ……… | ……… |
| ……… | ……… | ……… | ……… | ……… |

 |
| **5.3 Product/Technology description, development and verification.** *(Describe briefly the approach you will take to elaborate and develop the targeted product and technology within this proposal, including the following information:** *Describe the product/technology key features/performance/attributes, functionalities, how the product operates in its host environment, and provide a block diagram showing key building blocks and major interfaces.*
* *List all key requirements that are essential to the success of the proposed development, and elaborate on the main design drivers.*
* *Provide information about heritage and your starting point concerning the technical work to be performed, with supporting evidence wherever possible*
* *Provide a chart illustrating the overall development plan time line, the main product development activities and their interdependencies.*
* *Provide an overview of the verification activities for each requirement/functionality per development phase, a top level risk assessment table with mitigation actions)*
 |
|  |
| **5.4 What are the main deliverable items?** |
| A list of all main deliverable items from the proposed product and technology development is given in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Type** | **Deliverable Item** | **Phase(s)** | **Notes** |
| hardware/ software/document | ……… | Technology | ……… |
| hardware/ software/document | ……… | Product | ……… |

 |

When completed, the Outline Proposal **Word** file has to be saved with name: "AO10428 - 5G Logistics - [Your Project Name].docx" in Word document format (**not** as PDF). It should then be submitted by email (as attachment) to **5G@esa.int** with the email title "AO10428 - 5G Logistics - [Your Project Name]"

1. Contact details of the National Delegations can be found under:

<https://business.esa.int/national-delegations>. [↑](#footnote-ref-1)