

ARTES 4.0 Generic Programme Line Business Applications - Space Solutions

“Space For The Sports Car Sector – Efficiency, Safety And Sustainability”

THEMATIC CALL FOR PROPOSALS

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Table of Acronyms

AoF	Authorisation of Funding
APQ	Activity Pitch Questionnaire
ARTES	Advanced Research in Telecommunications Systems
BASS	Business Applications and Space Solutions
CET	Central European Time
ESA	European Space Agency
EU	European Union
FP	Full Proposal
GNSS	Global Navigation Satellite System
OP	Outline Proposal
OSIP	Open Space Innovation Platform

1. OVERVIEW

This document presents an overview of “Space For The Sports Car Sector – Efficiency, Safety And Sustainability” thematic call for proposals issued under the ARTES BASS, 5G and 4S programme lines. The call offers the opportunity to companies to bring forward their business propositions, which leverage space and advanced digital technologies for delivering sustainable solutions.

2. BACKGROUND AND RATIONALE

The automotive sector is currently undergoing a rapid evolution marked by a concerted effort on decarbonisation, sustainability, and digitalisation. Drastically reducing the carbon footprint of the automotive industry not only through electrification of vehicles, but throughout the full value chain is one of the great challenges of the next years.

The luxury sports car market is mirroring the transformation of the overall automotive sector as technological advancement, changing customer preferences and ongoing regulatory changes push car makers to seek innovative solutions to stay ahead.

Apart from working on cutting emissions during the use phase of the vehicles and domestically, addressing scope three emissions is also a challenge, to ensure the full value chain is held accountable and innovative technologies are enlisted to help monitor and reduce emissions.

The efficiency of the overall automotive supply chain is also under scrutiny, as Original Equipment Manufacturers (OEMs) aim to improve delivery methods of complex supply chains, to optimise routes, deliveries, and the tracking of goods for improved efficiency and transparency.

Furthermore, the luxury sports car market is seeing an increased demand for innovative services to improve customer satisfaction, experience, and safety. This trend is fuelled by advancements in technology, particularly in connectivity and vehicle tracking systems, which serve as enablers. As consumers increasingly seek personalised and seamless experiences, automotive companies are aiming to leverage technology to deliver bespoke solutions, from real-time vehicle performance monitoring to route optimisation and enhanced security.

3. OBJECTIVES OF THE CALL

This Call for Proposals invites proposals for feasibility studies and demonstration projects to develop sustainable space-based services and applications that address challenges related to the sports car sector.

This call includes the following topics and the specific use cases detailed in the annex. Bidders can propose additional services, not listed below, that contribute to the increased efficiency, safety and sustainability of the sports car sector.

Sustainability: Ensuring sustainable practices throughout the supply chain is crucial for organisations committed to environmental responsibility and social accountability. Innovative ways of auditing supplier sustainability practices to mitigate environmental impacts and promote ethical sourcing is a key challenge facing OEMs around the world.

Route Optimisation: Route optimisation is essential for enhancing the driving experience by ensuring efficient and safe journeys. It plays a crucial role in maximising convenience for drivers, whether in selecting smoother routes to maintain vehicle comfort or navigating through adverse weather conditions.

Logistics: Innovation in logistics plays a crucial role in optimising supply chain operations. By integrating advanced digital solutions, the aim is to increase efficiency, reduce delays, and optimise resource utilisation, contributing to smoother and more cost-effective supply chain operations.

Safety

Safety is crucial in various domains, from workplace safety enhanced by wearable technology to combating car theft through innovative tracking solutions and ensuring the safety of drivers through reliable communication in low-connectivity areas.

4. SPACE ASSETS

A few of the possible uses of various space assets are outlined below.

- **Satellite Positioning and Timing:** Global Navigation Satellite Systems (GNSS) can enable innovative applications for the tracking and tracing of vehicles and goods through precise positioning, navigation, and timing. It can be used to provide coarse to high accuracy positioning information based on the specific use cases. For instance, GNSS can enable various route optimisation solutions by providing real-time location data as well as flow monitoring. It can be used to track and monitor valuable assets in transit, ensuring their timely delivery.
- **Satellite Communications:** Satellite connectivity can play a crucial role for the signalling of critical situations such as SOS alerts, breakdowns, accidents, break-ins, or car theft in remote or low connectivity areas. Enabling prompt and reliable communication can improve the safety of drivers and vehicles by ensuring a quick response and assistance.

- **Satellite Earth Observation (SatEO):** SatEO data can be used to audit supplier operations, including factors like land use, deforestation, and environmental impact. By combining insights from space-based sources such as satellite imagery and remote sensing with data collected from on-the-ground sensors, organisations can enhance the precision and reliability of emissions assessment. SatEO can also play a key role in innovative solutions to retrieve stolen vehicles.

5. SCOPE OF THE CALL

The proposals submitted under this Call for Proposals shall address the Sports Car domain with innovative user-driven downstream services which rely on advanced technologies and space data.

The Bidder shall either address the use cases included in the Annexes ([available on the website](#)) and/or address other use cases and requirements related to the sports car sector provided by other customers / users directly involved by the Bidder. In the latter case, support of those potential customers shall be evidenced in letters of interest to be attached to the Outline Proposal. Proposals under both options will be considered equally.

The service provider shall be identified and be part of the bidding team to ensure the commercial operational roll-out of the proposed service following completion of a demonstration project.

This Call for Proposals covers two types of activities:

1. **Feasibility Studies**, which provide the preparatory framework to identify, analyse and define new potentially sustainable services. The applications and/or services covered by the proposed Feasibility Studies must:
 - Be customer/user driven and present a strong sustainability potential.
 - Propose a service demonstrating the benefits of the utilisation of integrated space assets.
 - Include a viability analysis.
 - Aim to evolve the targeted applications and services to marketability and operational roll-out, potentially through a Demonstration Project after successful completion of the feasibility study.
2. **Demonstration Projects**, dedicated to the implementation and demonstration of pre-operational services. The applications and/or services covered by the proposed Demonstration Projects must:
 - Be customer/user driven (including user involvement and active participation in the project).
 - Propose a service demonstrating the benefits from the utilisation of space assets with clear potential to become sustainable.
 - Provide a measurable socio-economic impact.
 - The Bidder shall involve in the project representatives from user communities, which shall take part in the pilot.

6. PROCUREMENT APPROACH

The proposals submitted in reply to the call shall be implemented in the context of ESA BASS, 5G and 4S programme lines of ARTES in coordination with National Delegations.

The Bidder shall submit first an Activity Pitch Questionnaire, and following evaluation, may be invited to submit the Outline and Full Proposal. The Activity Pitch Questionnaire (APQ) template provided by ESA shall be used. This is considered the entry point for companies to submit their idea, providing a simplified and single point of access to the ESA ARTES framework.

The price of activities carried out in a given State are charged against the contribution of that State in the programme. A letter of Authorisation of Funding (AoF) from the relevant National Delegation is therefore required as part of the Full Proposal. The Bidder is however advised to inform the relevant National Delegation(s) when submitting the Pitch. The contact information of the National Delegates can be found here: <https://artes.esa.int/national-delegations>.

The Agency will admit for evaluation only (Outline and Full) proposals from a bidding team composed of a company and/or organisation - be it as Prime or Subcontractor - residing in any of those states that subscribe to the Programme under which you wish to submit your proposal and which support this thematic call for proposals:

- I. **for the ARTES 4.0 BASS Generic Programme Line - Component A:** Business Applications. To date, Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Lithuania, Luxembourg, Norway, Poland, Portugal, Romania, Slovenia, Sweden, Switzerland and the United Kingdom have subscribed.
- II. **for the ARTES 4.0 5G Strategic Programme Line:** Austria, Belgium, Finland, Germany, Greece, Hungary, Ireland, Italy, Luxemburg, Norway, Portugal, Romania, Spain, Sweden, Switzerland, the United Kingdom and Canada have subscribed.
- III. **for the ARTES 4.0 4S Strategic Programme Line:** Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxemburg, Norway, Poland, Portugal, Romania, Spain, Switzerland, the United Kingdom and Canada have subscribed.

7. PROCESS AND SCHEDULE

It is planned for the call for proposals to be opened on 28th June 2024 until the 27th September 2024, 13:00 CET.

7.1. Timeline and Procedure

Bidders can respond to this thematic call by submission of a short Activity Pitch Questionnaire (APQ) within the above timeframe.

The Call is planned to be implemented according to the following stepwise approach:

In **Step 1**, the interested Bidders are requested to submit their proposal(s) based on a short Activity Pitch Questionnaire (APQ) template made available by ESA that can be downloaded from the Thematic Call website. The pitch should provide the initial idea of what the Bidder would like to propose, elaborated on the basis of the thematic areas and either the use cases proposed by ESA's partners or others selected by the Bidder. If the Bidder has the relevant information available to them, they may consider completing the supplementary questions (AP5) in the APQ template as part of the APQ+, which may allow to skip Step 3 below, at ESA's discretion.

Should the bidder wish to cooperate with any of the listed partners in the annexes, they shall give to the Agency the authorisation to distribute the activity pitch questionnaire to these stakeholders by explicitly stating it in the Activity Pitch Questionnaire. Subject to such authorisation, the Agency will follow up distributing the APQ to the bidder's authorised stakeholder(s) and liaise with them to facilitate interactions with the Bidder.

The Bidder shall not contact any of the stakeholders listed in annexes on the webpage.

The Bidder shall NOT involve any of the stakeholders mentioned in the annexes in the bidding consortium neither as subcontractor nor as external service (including consultancy).

The completed Activity Pitch Questionnaire (APQ) shall be uploaded using the online web submitter, ESA's open space innovation platform (OSIP) in the channel named ["APQ for ARTES Downstream Business Applications"](#)

Multiple Pitches with different ideas can be submitted.

It is strongly recommended that the interested Bidder liaises from the beginning with the relevant ESA Member States Delegates.

In **Step 2**, following an assessment of the pitch by ESA, ESA will provide feedback to the company, aiming to provide a reply within 10 working days following the deadline for submission of the pitch.

It is recognised that some interactions with the Bidder may be required and ESA may therefore consult with the Bidder and may offer support in providing further clarifications, aimed at better shaping the Outline Proposal(s). Dialogue sessions may be organised individually with potential partners prior to Step 3.

ESA might also consult when necessary, with the relevant National Delegation(s) for orientation and will provide key information (e.g. title, cost, price, subcontractor) to the relevant National Delegation(s).

Subject to a positive evaluation of the pitch and the Bidder having informed the National Delegation(s), the Bidder will be notified by ESA and invited to submit an Outline Proposal. Note that the APQ+ can act as a substitute for the Outline Proposal, thus if having



adequately answered the additional questions included in the APQ+, the Bidder may be able to skip Step 3.

In **Step 3**, the Bidder will submit the Outline Proposal, based on a template provided by ESA, with letter(s) of interest from users/stakeholders. The Outline Proposal expands upon the pitch with a more extensive level of details. The Bidder will be allowed 2 months from the APQ submission deadline to submission of their Outline Proposal. The outline proposal shall be submitted on the OSIP platform under the channel [“Outline Proposal for ARTES Downstream Business Applications – Feasibility Studies/Demonstration Projects”](#).

In **Step 4**, subject to a positive assessment from ESA and in-principle support from the National Delegations, the Bidder will be invited to submit a Full Proposal on ESA-STAR in accordance with BASS programme line. The Bidder will be allowed 3 months from submission of their Outline Proposal to submit their Full Proposal on ESA-STAR.

In **Step 5**, the Bidder will submit a Full Proposal with the Authorisation of Funding (AoF) from the relevant National Delegation(s). Following a positive assessment by ESA the proposed activity will be approved for implementation.

7.2. Evaluation Criteria

The evaluation process is non-competitive, as each proposal will be assessed individually on its own merits, according to the evaluation criteria applicable for [CALL FOR PROPOSALS FOR DOWNSTREAM APPLICATIONS IN ARTES 4.0](#) (esa star ref.: 1-10494).

More information for the assessment of the APQ and outline proposal stages can be found on the OSIP page [“APQ for ARTES Downstream Business Applications”](#).

More information on the evaluation criteria for the final proposals can be found within the document “Appendix 1 to AO/1-10494/20/NL/CLP (Issue 2.2)” which can be found on ESA-STAR and the [activity webpage](#).

8. GENERAL CONDITIONS

The submissions and all correspondence relating to it shall be in English.

The tender shall not contain any Classified Information, whether in the pitch, Outline Proposal or in the Full Proposal. To avoid any confusion with Classified security markings, the unclassified protective marking used by the Tenderer in the proposal shall not contain the terms: "Restricted", "Confidential", or "Secret".

However, should the Tenderer consider necessary to include Classified Information in the tender, the Tenderer shall inform beforehand the ESA Security Officer.

The Tenderers are informed that Classified Information can be shared with ESA only in



compliance with the Project Security Instruction (PSI) duly established by the Agency beforehand and subject to the approval by the ESA Member States.

The Agency will treat commercially sensitive or proprietary information confidentially and solely for the purpose of the assessment of the response.

Expenses incurred in the preparation and dispatch of the response to the announcement will not be reimbursed. This includes any expenses connected with a potential dialogue phase.

The announcement does not bind the Agency in any way to place a contract. The Agency reserves the right to issue amendments to the announcement.