

Announcement of Opportunity / Call for Tender



St3TART-FO
FRM for Sentinel-3 Land Altimetry

Open Call for the provision of Fiducial Reference Measurements (FRMs) over Sea Ice and Land Ice surfaces within the framework of the St3TART-FO project

1. Overview

Issue Date: 17/06/2025

Closing Date for Applications: 15/11/2025

Reference: AO_1464_St3TART-FO_001

The **ESA St3TART-FO** (Sentinel-3 Topography mission Assessment through Reference Techniques Follow On) project invites the submission of proposals for **collaborative field campaigns focused on the provision of Fiducial Reference Measurements (FRMs) over Land Ice and Sea Ice surfaces**, with emphasis on key regions including **Svalbard** and the **Beaufort Gyre**. This open call is issued within the framework of the St3TART-FO activities (<https://sentinel3-st3tart.noveltis.fr/>), which aims to support the **Copernicus Sentinel-3** mission through the provision of high-quality in situ reference data.

St3TART-FO is designed to establish and maintain an operational framework for FRM provision to validate and enhance the exploitation of ESA's Sentinel-3 Synthetic Aperture Radar L2 altimeter Hydro-Cryo Thematic data products, covering inland waters, sea ice, and land ice.

These FRM activities are critical to the Sentinel-3 Surface Topography Mission (STM) validation efforts conducted by the Sentinel-3 Mission Performance Centre (S3 MPC), in collaboration with the Sentinel-3 Validation Team (S3VT).

Ultimately, St3TART-FO aims to define future directions for the provision of FRMs tailored to hydro-cryo thematic satellite altimetry, supporting not only the current Sentinel-3 STM but also upcoming missions such as **CRISTAL**, **Sentinel-3 Next Generation Topography**, and the **Copernicus CIMR expansion mission**. These efforts are expected to foster synergies across missions and ensure continuity and enhancement of altimeter validation capabilities over the cryosphere and hydrological domains.

2. Objectives

The activities carried out under this Announcement of Opportunity (AO) are intended to complement the core objectives of the St3TART-FO project by expanding the geographical and temporal scope of Fiducial Reference Measurements (FRMs) over polar regions, particularly in Svalbard and the Beaufort Gyre.

Selected proposals are expected to contribute directly to the generation of new FRMs over Land Ice and Sea Ice surfaces that meet the standards defined by St3TART-FO in terms of quality, format, documentation, and uncertainty traceability (see details in §3), thereby supporting the validation of Sentinel-3 STM Hydro-Cryo Thematic products.

FRM acquisition may be conducted through airborne campaigns, drone-based observations, ground-based measurement systems (e.g., fixed stations, buoys, moorings), kinematic GNSS campaigns, and other relevant

methods. Proposals addressing both land ice and sea ice surfaces, as well as those integrating multiple measurement techniques simultaneously, are strongly encouraged.

3. Scope of Work

3.1. Tasks:

Applicants are expected to carry out the following tasks (not limited to), in line with the objectives of this AO. Particular attention shall be paid to the provision of Fiducial Reference Measurements over sea ice and/or land ice surfaces that are fully compliant with St3TART-FO standards, as described in the FRM Product Description Document (TD-03), available at: <https://sentinel3-st3tart.noveltis.fr/FRM-product-description/>.

Activities should primarily focus on the regions of Svalbard and/or the Beaufort Gyre, although additional sites may be considered if they contribute meaningfully to the project's objectives.

- **Task 1. Design and planning of measurement sites**

Develop a comprehensive plan detailing the location(s) of the proposed site(s) (with justification of relevance to St3TART-FO), their type (e.g., permanent sites, campaigns), the platforms to be used (e.g., airborne surveys, UAVs, ground stations), the instruments involved, and the proposed schedule.

The selected sites shall be compatible with Sentinel-3 overpasses and acquisition timing. Sites that can also support future missions such as CRISTAL or CIMR are particularly welcome.

- **Task 2. Implementation of the measurements**

Carry out the measurements at the selected sites, ensuring robust implementation and quality assurance. Scientific validation of the measurements must be conducted.

The implementation shall be compatible with the operational context and technical expectations for the provision of FRMs as defined by St3TART-FO.

At least two of the following measurands must be included as part of the activity:

- For sea ice: total thickness (snow and ice), ice thickness, freeboard plus snow depth, and sea ice draft.
- For land ice: snow surface elevation.

These measurements must be acquired using appropriate, validated techniques and meet the St3TART-FO standards for quality, documentation and uncertainty traceability (see above-mentioned link).

- **Task 3. FRM data processing and interfacing with the St3TART-FO FRM datahub**

Process the acquired data into validated FRM datasets, including required metadata (attributes, uncertainties, maturity matrix...) and associated documentation.

All delivered data must conform to the TD-03 requirements, and be directly usable for the validation of Sentinel-3 STM Hydro-Cryo Thematic products.

Successful applicants shall also ensure the interfacing of the FRM dataset delivery with the St3TART-FO FRM Data Hub, in coordination with the St3TART-FO team.

- **Task 4. Reporting, communication, and support to data exploitation**

Successful applicants are expected to keep the St3TART-FO team regularly informed of progress throughout the project, and shall provide a report detailing the campaign execution and outputs to be submitted no later than one month after the campaign completion date. The report shall be in a portable format and contain at least the following information:

- Campaign log,
- Sensor performance analysis,
- Data acquisition and processing report,
- Data quality assessment and evaluation through maturity matrix,
- Anomaly analysis,
- Uncertainty assessment,

- Data dissemination report.

In addition, successful applicants shall provide communication material, including photographs of field sites, videos of campaign activities, and any other relevant visual content.

They may also be requested to support St3TART-FO team for the exploitation of the provided FRMs in the framework of the validation of Sentinel-3 STM Hydro-Cryo products.

3.2. Deliverables:

Deliverables shall include, at a minimum:

- o **Fully processed FRM datasets as well associated documentation and metadata**, compliant with the St3TART-FO FRM Product Description Document (TD-03) and directly integrable into the [St3TART-FO FRM Data Hub](#). For permanent sites, continuous delivery of FRM data shall be automated to the FRM Data Hub.
- o A **campaign report** as specified under Task 4.

3.3. Schedule and Milestones

The applicant shall propose a schedule aligned with the overall St3TART-FO project timeline.

Please note that the operational phase for the provision of FRM data via the St3TART-FO FRM Data Hub extends until June 2028.

The selected applicant shall also propose regular progress meetings, to be held at least every six months.

3.4. Requirements for Management

Successful applicants are expected to:

- o Assign a project manager for the activities to be conducted.
- o Ensure timely and effective execution of the work, as well as the quality, compliance, and punctual delivery of all project deliverables.
- o Participate in all necessary meetings to report on progress and present achieved results.

4. Eligibility Requirements

The applicants shall comply with the following eligibility requirements:

- **Funding restrictions:** This procurement is funded under the EU Multi-annual Financial Framework (MFF) 2021-2027. Therefore, any economic operator which is not established in an EU Member State or a State participating in the Copernicus component of the European Union Space Programme will not be eligible to receive funds under the Contract.
- **Participating countries:** At the date of issuing the AO, the EU Member States and the Countries that have confirmed their participation in the Copernicus component of the European Union Space Programme are: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom.
- **EU Restrictive Measures Compliance:** The Applicants shall also confirm if any individual or any of their subcontractors falls under the scope of EU Restrictive Measures and thus is a Restricted Person. Restricted Person means any entity, individual or group of individuals designated by the EU as subject to the EU Restrictive Measures in the lists provided at www.sanctionsmap.eu.

Technical capacity: Applicants must demonstrate the necessary technical skills, relevant expertise, and prior experience with similar activities or projects. Additional specific requirements may apply

depending on the nature of the proposed activities and shall be detailed in the relevant sections of the proposal.

5. Proposal Requirements

Applicants are required to submit a comprehensive proposal addressing the following elements:

Proposal Content:

1. **Executive Summary** – Brief overview of the proposal.
2. **Technical Proposal** – Description of the proposed technical approach to reach the AO objectives, including the tasks to be undertaken, the expected results, and a discussion of potential risks along with associated mitigation actions.
3. **Implementation Proposal** – Description of the proposed Work Breakdown Structure (if needed), the proposed Team, including relevant experience and qualifications, the proposed facilities and resources, the proposed Planning, and the Deliverable Items.
4. **Financial Proposal** – Price quotation accompanied by a detailed cost breakdown per task and per involved entity, along with the proposed milestone payment plan.
5. **Contractual Proposal** – Confirmation of acceptance of the draft contract terms and conditions.
6. **Expected impact for St3tART-FO** – Expected outcomes and how they align with the St3TART-FO objectives.
7. **References** – Relevant past projects or publications related to the proposal.

Proposal Length, Language and Format:

The proposal should be written in English, with a maximum length of 30 pages, and submitted in PDF format.

6. Evaluation Criteria

The following criteria will be used to evaluate the submitted proposals.

Evaluation Criteria		Weighting Factors in %
1	Executive Summary – Clarity and relevance of the overview provided in relation to the objectives.	5
2	Technical Proposal – Quality and feasibility of the technical approach, including task descriptions, expected results, and risk mitigation strategies.	25
3	Implementation Proposal – Adequacy of the Work Breakdown Structure, team composition and qualifications, facilities, resources, planning, and deliverables.	20
4	Financial Proposal – Transparency and reasonableness of the cost breakdown, milestone payment plan, and alignment with project scope.	20
5	Contractual Proposal – Degree of compliance with draft contract terms and conditions.	5
6	Expected Impact for St3tART-FO – Alignment with objectives and potential outcomes relevant to the project goals.	20
7	References – Relevance and quality of past projects or publications demonstrating expertise in the field.	5

7. Budget

The maximum total budget allocated for this Open Call is 300,000 EURO (three hundred thousand euros).

One or more proposals may be selected, depending on their relevance and provided that the overall budget is not exceeded.

8. Submission Process

The following submission guidelines apply:

- Proposals shall be submitted via the dedicated Announcement of Opportunity page on the St3TART-FO website: <https://sentinel3-st3tart.noveltis.fr/tender-list/>
- All documents must be submitted in PDF format. Each file must not exceed 10 MB.
- Any requests for clarification regarding this Open Call may be addressed to the following email address: st3tart@noveltis.fr
- The validity of the offers shall be three (3) months.
- Applicants must provide the contact details of the main point of contact for the proposal.

9. Key Dates

- **Issue Date:** 17/06/2025
- **Deadline for Questions:** Open until closing date
- **Closing Date:** 15/11/2025
- **Selection Announcement:** Proposals will be reviewed and selected on a regular basis every six (6) months, starting with the first selection round to be performed by end of 2025. Additional selection rounds will be conducted throughout the project's duration as needed.

10. Contact Information

For any inquiries, please contact the St3TART-FO team at the following email address: st3tart@noveltis.fr

For more information about the St3TART-FO project, please visit the following website: <https://sentinel3-st3tart.noveltis.fr/>

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