

Access to NovaSAR-1 as ESA's Third Party Mission

Terms of Applicability

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1 General

Within the Third Party Mission scheme, ESA provides to Earth Observation users data from non-ESA missions, so-called Third Party Missions, to complement the data from ESA EO missions and to support and build up the scientific user community for those data in Europe.

A Third Party Mission (TPM) is a mission

- that is operated by any legal body, governmental or non-governmental entity other than ESA, or
- for which ESA assumes some formal responsibility towards the mission operator or to which ESA contributes financially, usually through sharing of Ground Segment facilities or operations cost, or
- for which ESA assumes a data distribution responsibility, usually towards European Users, but sometimes towards a worldwide user community for a subset of the geographic coverage of this mission.

The implementation of a new Third Party Mission follows a Selection Procedure approved by the Program Board on Earth Observation in 2004. This procedure evaluates a yearly list of Third Party Candidate Missions according to a set of criteria (e.g. European User benefits and excellence, accessibility etc.). In order to gain access to the TPM data, ESA establishes co-operation schemes with the owners/operators of the Third Party Missions. In these co-operation schemes, one option foresees to provide ground segment support to the TPM owner/operator in exchange for access to the TPM data (e.g. share acquisition or archiving facilities or support respective operations).

Under the Third Party Missions Programme, NovaSAR-1, developed collaboratively by SSTL (Survey Satellite Technology Ltd.) and Airbus Defence & Space Ltd, data are available to users via a dedicated Announcement of Opportunity opened in December 2023.

Within the ESA CAT-1 TPM Scheme, ESA offers to the CAT-1 user community the following services provided by Airbus DS:

- Delivery to Category-1 worldwide users of new acquisition products for category-1 use (see also Section 3)
- Standard tasking option for new acquisition orders
- Standard delivery option: product delivery within a maximum of 5 working days after the data acquisition for new tasking orders



2 Data Accessibility Conditions

The new tasking data available as part of the ESA TPM offer are as follows:

Mode	Polarisation	Resolution (m)	Swath Width (km)
Stripmap	Single	6	13 – 20
ScanSAR	Single	20 – 30	50 – 150

Data will be provided as a Level 2 (ARD) product as standard, but the accompanying level 1 data may also be provided if required.

Level 1 – delivered as reconstructed, unprocessed instrument data at full resolution.

Level 2 (ARD) – delivered as a processed product with applied radiometric and geometric corrections i.e. orthorectification and spatial registration:

- Geocoded Ellipsoid Corrected (GEC) – Maritime and ocean applications
- Geocoded Terrain Corrected (GTC) – Land applications and change detection

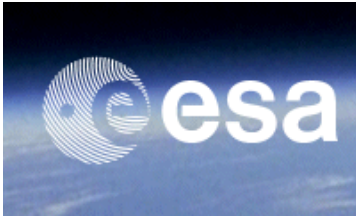
Associated automatic identification system (AIS) data may be requested alongside the NovaSAR-1 data products, however the availability of this is not guaranteed.

Data ordering is managed via the Airbus order desk.

For new acquisitions ordering, the feasibility analysis is delegated to Airbus DS. New acquisition requests shall be submitted enough in advance (5 days) of the sensing time to allow the Airbus Operations Team to perform the feasibility study, finalise the order and plan the acquisition.

Tasking of NovaSAR-1 is based on a capacity share model with India, Australia, Philippines, and the UK all holding a percentage of the capacity share and the priority for tasking over their territories. Therefore, requests for tasking over these geographical areas may prove challenging.

The ESA TPM offer applies only to NovaSAR-1 new acquisitions. Users requiring access to NovaSAR-1 archive data may directly contact the Airbus service desk at ukintelligence-imagerysupport@airbus.com.



3 Data users

- Access to data is considered for worldwide users, but it may be subject to restriction or limitation by Airbus DS, in its sole discretion, in terms of supplying products relating to a specific geographical area or specific customers. Evaluation is done on a case-by-case basis.



4 Assignment and usage of quota

Assignment of quota

A user requesting access to NovaSAR-1 products in the frame of the Announcement of Opportunity shall submit a project proposal to ESA. During the project submission, the user shall specify their needs as:

- Number of km²
- Area of interest (as kmz or shape file)
- Time of interest
- Imaging mode (Stripmap or ScanSAR)
- Polarisation (HH or VV)
- Geometric level for product generation (Geocoded Ellipsoid Corrected, Geocoded Terrain Corrected)

ESA, then evaluates the scientific content of a submitted project proposal against the data requirements of the PI and a respective quota will be assigned to the project. ESA tries to support as many high-quality and innovative projects as possible within the quota limit available, therefore only a limited amount of products can be made available to each project.

The assigned quota is valid for one year after reception of the final acceptance email. This validity period can be superseded if clearly specified to the user.

Usage of quota

The PI (and Co-PIs if any) is allowed to order the products from Airbus DS within the limit of the quota assigned by ESA.

The PI (and Co-PIs if any) is not strictly constrained to order exactly the products corresponding to the quota assigned to their project. The ordered products can change with respect to the original proposal provided that the new request is within the original assigned quota. PIs (and Co-PIs if any) willing to order something different than the quota (but within the list of available products above) are invited to contact Airbus DS prior to submitting the order to evaluate the impact on the quota.

PIs (and Co-PIs if any) are responsible for consuming the credits assigned to the project within the validity period of 1 year. After the validity period of 1 year, ESA reserves the right to re-absorb them.

Data Ordering

The ordering is done directly through Airbus DS by following the procedure received by eohelp@esa.int after final acceptance of the project.

Ordering is performed by submitting via email, the request to the Airbus order desk (at least 5 days before the planned acquisition date). In order to allow Airbus to perform the feasibility study, to accept the order, and to proceed with the acquisition and processing, the email has to contain:

- Area of interest (in KMZ or SHP format)
- The period of interest
- The number of coverages required
- Imaging mode (Stripmap or ScanSAR)
- Polarisation (HH or VV)
- Geometric level for product generation (Geocoded Ellipsoid Corrected, Geocoded Terrain Corrected)

A feasibility assessment is performed by Airbus Operations Team in order to confirm the acquisition is achievable; in case of issues, an interaction with the PI will try to identify how to best increase the likelihood of a successful imaging campaign.

Data delivery

- Products are delivered via ftp pickup
- Products are delivered free of charge in the limit of the quota approved by ESA
- Products are delivered within 5 normal working days of the acquisition.
- Once the deliveries are ready, the Airbus Operation Team notifies the PI about the data availability
- The retention time for data download is 30 days.



5 Reporting

All selected PI's will be required to provide a short progress report to eohelp@esa.int describing the status of the project and highlighting any issues which may interfere with the running of the project.

At the end of the project period, a final report shall be submitted summarising the major findings of the project and its achievements versus the original objectives.

The report will be shared with AIRBUS. PIs may be invited to present their results at symposia or specialised workshops to be organised by ESA.

The template for reporting can be downloaded from the NovaSAR-1 new tasking collection description page, in the RESOURCES section.