

# Access to COSMO-SkyMed 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.

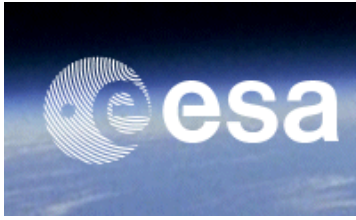
The implementation of a new Third Party Mission follows a Selection Procedure approved by the Program Board on Earth Observation in 2004. This procedure evaluates a yearly list of Third Party Candidate Missions according to a set of criteria (e.g. European User benefits and excellence, accessibility 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).

COSMO-Skymed constellation, owned and operated by ASI (Agenzia Spaziale Italiana), is part of the Third Party Program.

Within the ESA CAT-1 TPM Scheme, e-GEOS offers the ESA CAT-1 community:

- Delivery to Category-1 Users located in the territory of ESA Member States (including Canada), in the European Commission Member States, in Africa and in China as part of the Dragon cooperation programme of on-demand COSMO-Skymed and COSMO-Skymed Second Generation products (archiving and/or new tasking products) for category-1 use
- Tasking option for submission of new acquisition order
- Access to e-GEOS catalogue for data discovery
- Data delivery via FTP pickup

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.



## 2 Data Accessibility Conditions

The data available as part of the ESA TPM are the following, distributed by scene:

From COSMO-SkyMed (CSK)

Acquisition Mode	Single look Resolution [Az. X. Rg, SCS] (m)	Scene size [Az. X. Rg] (km)	Polarization	Scene duration (sec)
Stripmap HiImage	2.6 x 3	40 x 40	Single (HH, HV, VH, VV)	7
Stripmap PingPong	9.7 x 11	30 x 30	Alternate (HH/VV, HH/HV, VV/VH)	6
ScanSAR Wide	23 x 13.5	100 x 100	Single (HH, HV, VH, VV)	15
ScanSAR Huge	38 x 13.5	200 x 200	Single (HH, HV, VH, VV)	30

From COSMO-SkyMed Second Generation (CSG)

Acquisition Mode	Single look Resolution [Az. X. Rg, SCS] (m)	Scene size [Az. X. Rg] (km)	Polarization	Scene duration (sec)
Stripmap	3 x 3	40 x 40	Single (HH, VV, HV, VH) or Dual (HH+HV, VV+VH)	7
Stripmap PingPong	12 x 5	30 x 30	Alternate (HH/VV, HH/HV+VV/VH)	6
QuadPol	3 x 3	40 x 15	Quad (HH+HV+VV+VH)	n/a
ScanSAR 1	20 x 4	100 x 100	Single (HH, VV, HV, VH) or Dual (HH+HV, VV+VH)	15
ScanSAR 2	40 x 6	200 x 200	Single (HH, VV, HV, VH) or Dual (HH+HV, VV+VH)	30

Available processing levels:

- Single-look Complex Slant (SCS) - Level 1A
- Detected Ground Multi-look (DGM) - Level 1B
- Geocoded Ellipsoid Corrected (GEC) - Level 1C
- Geocoded Terrain Corrected (GTC) - Level 1D

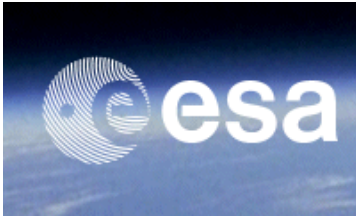
### Archive and tasking products

- Products are considered “archive data” if the image is already in the archive (data availability from 15 September 2008). “Tasking products” are products whose acquisition has to be planned
- ESA Cat-1 users have the possibility to search COSMO-SkyMed (CSK) archive data by using the CLEOS catalogue accessible at <https://www.cleos.earth/>: user registration is required to navigate the catalogue
- Order request for “tasking products” has to be finalized at least 2 working days (before 12:00 UTC) in advance with respect to the sensing
- Standard delivery of products is completed in 3 working days from the date of order submission for archived data, from the sensing for tasking data,



### 3 Data users

- Access to data is restricted to ESA and/or ESA approved science and application development users (PIs, and Co-PIs if any) located in the territory of ESA Member States (including Canada), in the European Commission Member States, in Africa and in China as part of the Dragon cooperation programme
- Access to COSMO-SkyMed data is subject to further e-GEOS control for compliancy to Italian governmental restrictions which might introduce limitations or even the rejection of the order
- No geographical restriction are applied



## 4 Assignment and usage of quota

### **Project Proposal submission and evaluation**

A user requesting access to COSMO-SkyMed products in the frame of the TPM shall submit a project proposal to ESA. During the project submission, the user shall specify his need as:

- Mode
  - COSMO-SkyMed / ScanSAR Wide or Huge
  - COSMO-SkyMed / Stripmap Himage or PingPong
  - COSMO-SkyMed Second Generation / ScanSAR 1 or 2
  - COSMO-SkyMed Second Generation / Stripmap or Stripmap PingPong
  - COSMO-SkyMed Second Generation / QuadPol
- Number of products (split in archive and tasking)

The provision of Time of Interest and Area of Interest is not mandatory but encouraged to allow a preliminary feasibility analysis of the order.

In case of archive data, the user is invited to verify the data availability by checking the CLEOS catalogue at <https://www.cleos.earth/>: user registration is mandatory

During the evaluation process, the scientific content of a submitted project proposal is evaluated by ESA and e-GEOS against the data requirements of the PI and a respective quota is granted to the PI allowing getting a defined number of scenes.

### **Order submission and data delivery**

Upon acceptance of the project proposal by ESA, the PI is entitled to submit via email to [esaops@e-geos.it](mailto:esaops@e-geos.it) the order request and supply the Order Form duly filled in with PI (and Co-PIs, if any) contact information, ESA project identification code and details about Area of Interest, Time of interest (TOI) and the associated order parameters.

The PI is not strictly constrained to order exactly the products requested into the proposal. The ordered products can change in mode, AOI or TOI with respect to the original proposal provided that the new request is within the original assigned credits (e.g. if a Project has a quota per specific data type, the Project can exchange such quota for other data types if the total quota is not exceeded).

The order is validated by e-GEOS. In case of new tasking request, the user is asked to provide the Order Form 5 working days before the sensing time. A feasibility study is provided back to the PI that has to accept it at least 2 working days (before 8 a.m. UTC) prior to the sensing time in order to allow the scheduling of the acquisition event.

Products are delivered via SFTP pickup within 3 working days from the order submission for archived data, and from the sensing for tasking data. As soon as the requested products are ready, the PI is notified by email about the data availability on SFTP server. The retention time for data download is 30 days.

The quota shall be consumed within a year from assignment. After the validity period of 1 year, ESA reserves the right to remove the credits or to extend the end date.