

living planet symposium | BONN 23-27 May 2022

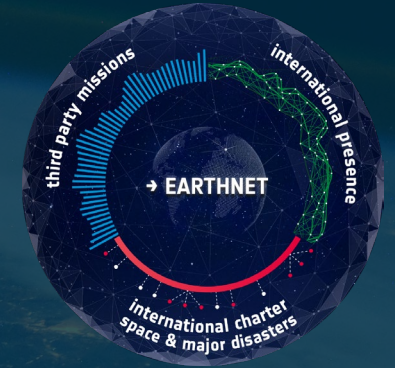
TAKING THE PULSE
OF OUR PLANET
FROM SPACE

B6.02 Third Party Missions (VHR)

24 May 2022

ESA chairs: Peggy Fischer and Roberto Biasutti

Welcome to this session!



This session give the floor to commercial VHR SAR/Optical data providers forming part of ESA's Third Party Missions programme (ESA Earthnet)

- ✓ to illustrate the data offer, imaging capabilities, future evolution
- ✓ to showcase scientific applications using the data

- ✓ 6 presentations/speakers
- ✓ 15 minutes presentation each
- ✓ 10 minutes Q&A session at the end of the session
- ✓ Chairs will notify speakers when 3 minutes are left

ESA' Earthnet Programme – Key objectives

1. Third Party Missions (TPMs):



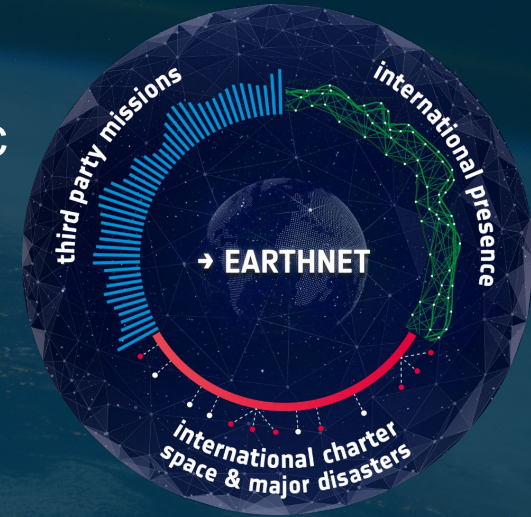
✓ Ensure *free access* to Third Party Missions (TPM) data for scientific users/institutions in ESA Member States



✓ **Quality benchmark** data from commercial & NewSpace missions



✓ **Enable** as first buyer or anchor customer, *NewSpace EO data to be opened to broader European scientific community* for research & pre-operational applications development.



2. Charter: **Support & safeguard** the International Charter of Space and Major Disasters, through which satellite data are made freely available for disaster management activities worldwide.



3. International presence: **Guarantee** *coordination and leadership within international bodies* to support the growing demand for collaboration & specific international projects

Central element – Earthnet TPMs

More than 10,000 research projects used TPM data since 2008, almost 1000 new registered science users in 2021.

About THIRD PARTY MISSIONS PROGRAMME

What are TPMs?

Third Party Missions are earth observation missions that are not owned or operated by ESA. The agency has an agreement with these third parties to distribute data products from their missions to scientific users

History?

ESA's TPM arrangement has been operating for over

45 YEARS

providing EO data to users in **Europe** and **worldwide** for research and pre-operational applications development

How many?

TPMs currently include over 60 instruments on more than 50 missions

<60 INSTRUMENTS
50+ MISSIONS

- Atmospheric
- Optical
- Reflected Global Navigation Satellite System (GNSS-R)
- Gravity Field
- SAR



How?

TPM datasets are distributed under specific agreements with the owners or operators of the mission – some sets are available under the free dataset policy, requiring only a fast registration, others are part of a restrained data set and require the submission of a project proposal or service request

Benefits?

TPMs data combined with the data from ESA and Copernicus Sentinel missions, can exploit the synergy between all sources of data to meet the needs of user communities, from different sectors, for a growing range of applications

Innovation?

IN 2018 ESA changed the agreements with the commercial TPM data providers in order to also include start-ups and entrepreneurs in incubators, to access the data. This greatly supports ESA's Technology Transfer Programme Office (TTPO)

Data Access?

<https://earth.esa.int/eogateway/missions/third-party-missions>

Third Party Missions - VHR Optical & SAR Missions

- COSMO-SkyMed & COSMO-SkyMed SG
- GeoEye-1
- GEOSAT-2 (Deimos-2)
- ICEYE
- IKONOS-2
- KOMPSAT-2
- PAZ
- PlanetScope
- Pleiades + Pleiades Neo
- QuickBird-2
- RADARSAT-2
- SkySat
- SPOT 6-7
- TerraSAR-X & TanDEM-X
- Vision-1
- WorldView 1-4

Very High-resolution Radar & Optical Data Assessment workshop

7 - 10 November 2022 | ESA-ESRIN, Frascati, Italy

3rd edition: Open forum (new space, commercial and institutional) on status and developments related to the **calibration and validation** of space borne **very high-resolution SAR and optical sensors** and data products, focusing the attention on the commercial entities in Cal/Val activities, synergies between optical and SAR communities, presentation of standards and best practices for data quality.

Workshop topics (for VHR data):

- Calibration Techniques (requirements, definitions, database, methodologies)
- Calibration Sites (cross-cal/val, intercalibration, field campaigns)
- Fiducial Reference Measurements
- Analysis Ready Data, Digital Elevation Models
- Quality Control, Best Practice, Product Validation
- Processing and Algorithms (incl. Artificial Intelligence for Cal/Val)
- Cal/Val and Data quality for Constellations and Big Data
- Calibration of Future Missions (Innovative instrument concepts)

B6.02 Third Party Missions (VHR)

10:40 am - Enabling ESA Third Party Mission programme users with the ICEYE New Space SAR satellite data for persistent monitoring

[Corinne Green | ICEYE](#)

10:55 am - The COSMO-SkyMed Second Generation mission: improved VHR modes and quality

[Axel Oddone | e-GEOS | Italy](#)

11:10 am - Supporting the European Green Deal - Mapping Methane Emissions with WorldView-3 Satellite Imagery

[Silvester Fischer | European Space Imaging | Germany](#)

11:25 am - Delivering European 30cm resolution

[Patryk Jaskula | Airbus DS Intelligence | France](#)

11:40 am - GEOSAT contribution to EarthNet Programme: from ad-hoc requests to wall-to-wall coverages

[Dr. Monica Diez Garcia | GEOSAT | Spain](#)

11:55 am - Introducing Vision-1 to the ESA Third Party Missions Programme

[Lisa Haskell | Airbus | United Kingdom](#)