

ESA EO programmes and Quarterly Status Reports (QSR)

Future EO

Future EO is the basis of ESA's EO research and development activities. It's focus is Earth science and research, but Future EO also entails the development of operational satellite missions (dedicated to delivering systematic data for services that improve daily life). Future EO fosters innovation and offers a long-term perspective.

All Earth Explorer missions fall under this programme: Earth Explorers are research/demonstration missions designed to advance our understanding of Earth. These missions lay the foundations for the Copernicus Sentinel, Copernicus Sentinel Expansions missions and the meteorological missions.

Within the Future EO programme, there are the following QSRs:

- [EO Science for Society](#)
This part of the Future EO programme stimulates Earth Observation research and downstream use. To achieve this, ESA opens Invitations To Tender (ITT's) on various topics, such as research projects, exploitation platforms, facilitating workshops, etc. In this QSR the status of the ITT's, research highlights and other new developments are presented.
- [Future missions](#)
This QSR reports on the status of development of all new missions (Earth Explorers, Scouts, Missions of Opportunity, Sentinels, ..) in the ESA's EO program, from phase 0-A. It also reports on Technology development, new mission concepts and campaigns
- [Mission Management](#)
In this QSR the status of the operational ESA Earth Explorer fleet is reported. The missions in this QSR are in Phase E-F of their life cycle. Current missions in this QSR are: SMOS, CryoSat-2, Swarm and Aeolus.

The Earth Explorer missions that are in development phase B-D have their own QSR. In these QSRs the development, progress and issues of the missions are reported.

- [EarthCARE](#)
- [Biomass](#)
- [FORUM](#)
- [Harmony](#)
- [Scout missions](#)
Scout missions are quick, small missions (<30 million , development within 3 years). Currently, there are two Scout missions under development: CubeMAP and HydroGNSS.

Meteorological programmes

The meteorological programmes are a cooperation between ESA and EUMETSAT. At the moment, ESA and EUMETSAT work together in the development of the future METEOSAT third generation and the 'Meteorological operation satellite – second generation' (MetOP-SG) in two QSRs:

- [METEOSAT Third Generation \(MTG\)](#)
This QSR is about the developments of the next generation geostationary satellites of the MTG system of EUMETSAT, to ensure the geostationary meteorological observations from space. MTG will comprise six satellites.

- **MetOp SG**
MetOp satellites are polar-orbiting meteorological satellites. The Second Generation will comprise six new satellites.

European Earth Watch Programme

This programme focusses on future operational EO missions, the 'Earth Watch' missions. These are missions that will serve specific Earth-observation applications. To this programme the following QSR's belong:

- **Climate Change Initiative (CCI) / Climate Space**
Program to develop and record Essential Climate Variables (ECVs).
- **Proba-V**
A small Belgian satellite with as goal to measure the effects of climate change on vegetation.
- **Altius**
A Belgian-led mission to monitor ozone in the atmosphere.
- **InCubed**
Incubed (Investing in Industrial Innovation) is a public private co-funding programme that focusses on innovative and commercial products that use satellite data. The scope of this programme is very wide, and it can be used for co-funding anything from building satellite to data services.
- **GDA**
Global Development Assistance focusses on the use of EO information in global development activities.
- **TRUTHS**
An UK-led mission to measure the sunlight that is absorbed and reflected by the earth, setting a radiation reference for climate measurements
- **Arctic Weather Satellite (AWS)**
the Arctic Weather Satellite mission provides measurements of atmospheric humidity and temperature, it will provide frequent coverage of Earth for improved nowcasting and numerical weather prediction

Copernicus Space Component

Copernicus is the EU Earth Observation programme. ESA manages the space component of this program. It's fleet consists of the Sentinels and contribution missions. The Sentinel next generation missions (Sentinel-NG) and Sentinel expansion missions are under development.

- **Copernicus Space Component QSR**

Earthnet and Heritage Space programmes

The Heritage Space programme ensures long-term data archiving and preservation, data improvement and enables the alignment of heritage with current data. Earthnet is the cornerstone on international cooperation, for example by enabling access to data from non-ESA missions.

- **Earthnet and Heritage Space QSR**