



Copernicus Space Component: current status and evolution

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The EU-led Copernicus programme is the most ambitious Earth observation programme to date which monitors Earth more accurate than ever before, and aims to give decision-makers across Europe useful information to act on, both at EU level and on a regional basis.

The Copernicus space component, coordinated by ESA, is mainly composed of six families of dedicated satellites (the Sentinels) which will work together to feed-back huge amounts of data on everything from land movement to ocean patterns, pollution to ice coverage, etc.

With six high-performance Sentinel satellites already in orbit, 9 other spacecraft still to be launched plus 5 instruments hosted on-board EUMETSAT satellites and more than 110.000 registered Sentinel data users on the ESA/EC Copernicus data portal, as well as numerous sophisticated operational services, the system has evolved at a breath-taking pace.

Access to data from these satellites and from other existing or planned missions is ensured through an integrated Ground Segment. All these data, along with measurements taken from Earth are used to fuel six thematic information services in the main environmental domains: marine, atmosphere, land, emergency, climate change and civil security.

The future evolution of the space component has already started with a large set of concrete needs and requirements gathered over the last 2 years. User and observation requirements have been identified, structured and prioritized in a continuous reflection process led by the EC, and with the main support of ESA and other partners.

Two sets of requirements have emerged from different EC consultations and workshops, leading to the main elements of the future Space Component architecture:

- Expansion missions: enlargement of the present measurements through the introduction of new missions to answer emerging and urgent user requirements. These new observations would include, among others, CO₂ measurements to estimate anthropogenic emissions, high-resolution thermal observations, monitoring of sea ice and ice sheets in the polar region, hyper-spectral measurements and SAR L-band observations
- Next Generation missions: improvement of the current measurement capabilities, mostly by means of new generation of similar instrumentation compared to the ones currently deployed. They will ensure stability and continuity, while increasing the quantity and quality of products and services

This presentation will therefore give an overview of the current status and future perspectives of the Copernicus space component.