PROGRAMME OF THE EUROPEAN UNION

Copernicus
Europe's eyes on Earth

#EUSpace

COPERNICUS **HISTORY OVERVIEW**

In **May of 1998**, a vision for a European environment monitoring programme was agreed upon in Baveno, Italy. Ever since, this vision has grown beyond expectations, giving rise to Copernicus, the most ambitious and successful Earth Observation programme in the world.

The **eight Copernicus Sentinel satellites** in orbit, complemented by **contributing missions, in situ sensors** and **numerical models,** deliver **TERABYTES OF FULL, FREE** and **OPEN DATA** daily to hundreds of tho sands of users. Copernicus also supports tens of thousands of **jobs** and generates billions of Euros in economic benefits.

1998

On 19 May, a group of experts signs the Baveno Manifesto, a document proposing the creation of a European environment monitoring programme. It is a call for Europe to play a major role in handling worldwide environmental and climate issues.

1999

The programme is initially introduced as "Global Monitoring for Environmental Security - GMES", but it evolves to serve the security of both the environment and the people of Europe, adopting "Global Monitoring for Environment and Security" as a name.

2002

"Security" in the frame of GMES is defined as including humanitarian aid, peacekeeping tasks, border surveillance and response to crises.

2004

A space-based observation component is proposed. The European Commission (EC) signs an agreement with the European Space Agency (ESA), setting the stage for a GMES Space Component: the Sentinel family of satellites.

2005

GMES establishes its role as a major Earth monitoring system worldwide by becoming Europe's main contribution to the Global Earth Observation System of Systems (GEOSS).

2011

The GMES Initial Operations phase begins.

2012

GMES is renamed Copernicus, paying homage to the European astronomer who revolutionised our understanding of the Earth's dynamics. The Land Monitoring and Emergency Management Services start operating.

2013

The EU adopts a Regulation introducing a hallmark of the Copernicus programme: the full, free and open data policy.

2014

On 3 April 2014 the deployment of the Copernicus Space Component begins with the launch of the Sentinel-1A radar satellite while the Copernicus Regulation is adopted by the EU the same year.

2015

On 23 June Sentinel-2A, carrying multispectral high-resolution observation technology, reaches orbit, bringing "colour vision" to Copernicus. The Copernicus Marine Environment Monitoring Service and the Copernicus Atmosphere Monitoring Service are launched.

2016

Sentinel-3A is launched on 16 February. It is a "workhorse mission" for Service are launched. Copernicus, carrying multiple ocean and land monitoring instruments. On 25 April, Sentinel-1B joins its twin in orbit, completing the first Copernicus Sentinel constellation. Additionally, the Copernicus Security Service becomes operational.

2017

Sentinel-2B is launched on 7 March and Sentinel-5P is launched on 13 October. Sentinel-5P, "for the air we breathe", is dedicated to global Air Quality monitoring.

2018

Sentinel-3B is launched on 25 April, enabling the provision of multispectral optical data global coverage with a two-day revisit. The Copernicus Climate Change Service, the sixth of the services, is operational at the end of the year.

2020

Sentinel-6 Michael Freilich is launched on 21 November 2020 to enable the provision of high-precision and timely observations of the topography of the global ocean.

Present Day and Beyond

Looking ahead, Copernicus will have millions of users with access to all of its data through the **Data and Information Access Services**. It will continue supporting scientists, the EU, national, regional and local government users, industry, emergency managers, NGOs and citizens in the development of new space-based applications, products, services and climate change monitoring.

SENTINEL FAMILY

— As part of the Space Component of Copernicus, state-of-the-art satellites known as the Sentinel family have been developed, produced and launched by the European Space Agency and its partners on behalf of the European Union, which is the owner of the satellites.

— The free, full and open access to the data provided by the Sentinel satellites enables users worldwide to create ground-breaking applications.

FREE, FULL AND OPEN ACCESS TO THE DATA

SIX THEMATIC SERVICES

— The Copernicus component of the EU Space Programme also includes six thematic services that allow public and private users to use Copernicus data to tackle a wide range of societal challenges.

SENTINEL-1

Sentinel-1 provides all-weather, day and night radar imagery for land, emergency management and ocean applications.

SENTINEL-2

Sentinel-2 provides high-resolution optical imagery for land services.

SENTINEL-3

Sentinel-3 delivers high-accuracy optical, radar and altimetry data for marine and land monitoring services.

SENTINEL-4

From 2023 onwards, Sentinel-4 will provide data for atmospheric composition monitoring.

SENTINEL-5

Sentinel-5 will also be dedicated to atmospheric composition monitoring.

SENTINEL-5P

Sentinel-5 Precursor is a gap-filler mission aiming to provide Air Quality data continuity until the launch of Sentinel-5.

SENTINEL-6

Sentinel-6 provides high accuracy altimetry for measuring global sea surface height, primarily for sea-level rise monitoring, operational oceanography and climate studies.

COPERNICUS ATMOSPHERE MONITORING SERVICE (CAMS)

The Copernicus Atmosphere Monitoring Service provides continuous data; forecasts and information on atmospheric composition, Air Quality and solar radiation.

COPERNICUS CLIMATE CHANGE SERVICE (C3S)

The Copernicus Climate Change Service provides high quality data and graphics to assist policy, science and business sectors in understanding climate change, mitigating and adapting to its effects.

COPERNICUS MARINE ENVIRONMENT MONITORING SERVICE (CMEMS)

The Copernicus Marine Environment Monitoring Service offers unprecedented capabilities to observe, understand and anticipate the dynamics of the marine environment.

COPERNICUS EMERGENCY MANAGEMENT SERVICE (CEMS)

The Emergency Management Service supports actors in the field of crisis management, humanitarian aid and Disaster Risk Reduction by addressing natural and man-made disasters.

COPERNICUS LAND MONITORING SERVICE (CLMS)

The Copernicus Land Monitoring Service provides access to up-to-date information on land use and land cover products and on related variables.

COPERNICUS SERVICE FOR SECURITY APPLICATIONS

The Security Service aims to support EU policies by providing information in response to Europe's security challenges.

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