

INTRODUCTION TO THE SENTINEL2 SYSTEM

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What is the Sentinel *N*?

- The projekt of the EU and ESA
- Provide free remote sensing data
- Sentinel 1: SAR
- **Sentinel 2: optical remote sensing**
- Sentinel 3: sea-surface topography
- Sentinel 4: atmospheric monitoring
- Sentinel 5: atmospheric monitoring
- Sentinel 6: oceanography and climate studies

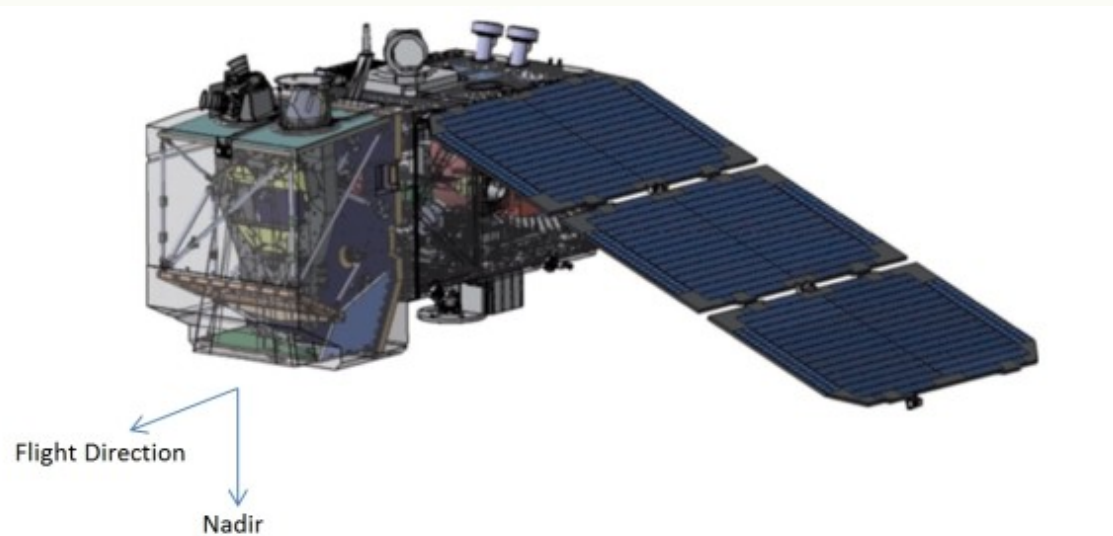


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The Sentinel 2

- Two satellite (Sentinel 2A and Sentinel 2B): the revisit time reduced to the half (10 day to 5 day)
- 13 spectral bands (10, 20, 60 meters resolution)
- Optical remote sensing





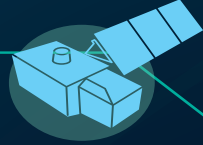
European Union



About Copernicus Sentinel-2...

WHAT?

A constellation of **two identical satellites in the same orbit**, Copernicus Sentinel-2 images land and coastal areas at high spatial resolution in the optical domain



WHERE?

Designed and built by a group of around **60 companies** led by **Airbus Defence** and Space for the space segment and **Thales Alenia Space** for the ground segment



WHICH?

Main applications include agriculture; land ecosystems monitoring; forests management; inland and coastal water quality monitoring; disasters mapping and civil security



WHO?

Services include **CLMS** (Copernicus Land Monitoring Service); **CMEMS** (Copernicus Marine Environment Monitoring Service); **CEMS** (Copernicus Emergency Management Service) and Copernicus Security Service; among others



WHEN?

Sentinel-2A was launched on 23 June 2015; Sentinel-2B on 7 March 2017, both on a Vega rocket from Kourou, French Guiana



DATA AND USERS

As of July 2020, about **20 million products** have been generated and made available for download, culminating a total of 10 Petabytes



DATA ACCESS

<https://scihub.copernicus.eu>

WHATS NEXT?

Continuity over the coming years will be ensured by the **launch of additional satellites** (Sentinel-2C and Sentinel-2D). Furthermore, a new generation of Sentinel-2 satellites is being prepared, to take up the relay from the first generation



Download Sentinel 2 data

The screenshot shows the Copernicus Open Access Hub website in a browser. The address bar displays `https://scihub.copernicus.eu/dhus/#/home`. The page header includes the ESA and Copernicus logos, the title "Copernicus Open Access Hub", and navigation icons. A search bar with the placeholder "Insert search criteria..." is visible. The main content is a map of Europe and the Mediterranean region, showing various countries and cities. The map is centered on the Iberian Peninsula. The bottom left corner of the map displays the coordinates "Lat Lon: 57.23, 24.79" and a "DD" toggle switch. The bottom right corner of the map shows the "Open Street Map" logo and copyright information.



The downloaded file contains

- From <https://scihub.copernicus.eu/dhus/>
- Download zip archives with many files:
 - Spectral bands
 - Other raster data (for eg. TCI)
 - Description (metadata) in XML files



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Processing tools

- SNAP (Sentinel toolbox)
- Other open source software
- Other software



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