

## COPERNICUS: THE SENTINEL-2 MISSION

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### **Abstract**

The Copernicus programme is a European initiative for the implementation of information services dealing with environment and security, based on observation data received from Earth Observation (EO) satellites and ground based information. Within this context, ESA is responsible in particular, for the implementation of the Copernicus Space Component (CSC), consisting of Contributing Missions on the one hand and of dedicated Sentinel missions on the other hand, feeding the Copernicus services with operational EO data. The Sentinel-2 optical high-resolution imaging mission will be devoted to the operational monitoring of land and coastal areas.

To maximize the products suitability and readiness to downstream usage, the Sentinel-2 ground segment will systematically generate, archive and distribute Level-1C products, which will provide Top-of-Atmosphere (TOA) reflectance images (orthorectified using a global Digital Elevation Model (DEM) and projected on Universal Transverse Mercator (UTM)). A Level-1B product will also be available for expert users, providing radiance images in sensor geometry together with an appended geometric model. Furthermore a Level-2A processor currently under development will allow to generate atmospherically corrected products.

The generation and access to the Sentinel-2 products will be guaranteed, within the overall CSC Coordinated Data Access system operated for Copernicus, by the Sentinel-2 Payload Data Ground Segment (PDGS). Within the Sentinel-2 Ground Segment, the PDGS is the system devoted to receiving the raw measurement data from the Sentinel-2 satellites, and transforming it into the final high-level products down to their archiving and availability for download by the users. The PDGS is also in charge of planning the observations for the Sentinel-2 constellation via the Sentinel-2 Flight Operation Segment (FOS) and to monitor the payload and overall mission and products performance along time. Data from the Sentinel-2 mission, as any other Copernicus Sentinel EO data, will become available on a free and open basis to any user worldwide.

The presentation will provide a mission description, provide an update on the status of the mission, address the Copernicus user typologies and their Data access principles, as well as the high level operations plan and the ramp-up phase for Sentinel-2.