

***Mission Status Report 155***

***Reference Period: 16-31 Mar. 2024***

***Mission Status***

Overall

* The mission, in Phase E2 (Operations Phase) since 24th April 2018, has reached routine operations capacity at the beginning of March 2019.

Operational Products availability and access

* Level 1B Radiance/Irradiance, Level 2 Methane, Tropospheric Ozone (Offline); Aerosol Absorbing Index, Aerosol Layer Height, Carbon Monoxide, Cloud, Formaldehyde, Nitrogen Dioxide, Ozone Profile, Sulphur Dioxide, and Total Ozone products (Offline and Near Real Time) are available to the public via the Copernicus Data Space Ecosystem - <https://dataspace.copernicus.eu/>.

Platform

* All platform subsystems performed nominally.

TROPOMI Payload

* The TROPOMI instrument continues measuring in nominal operations baseline with a 360 orbit repeat cycle and since 6th August 2019 with a spatial resolution of about 5.5 km along-track and 3.5 km across-track.

Ground Segment

* The status of both Flight Operations Segment (FOS) and Payload Data Ground Segment (PDGS) has been nominal. Routine scheduling, acquisition, processing, and dissemination tasks were performed without major anomalies.
* An unexpected power outage occurred on Friday March 22nd afternoon at the Svalbard ground station affecting the nominal data reception capabilities for all Sentinel satellites. The following Sentinel-5P orbits were affected (from March 22nd to March 25th):
  + Orbits 33377 – 33382 are missing
  + Orbits 33391 – 33396 were missing only for the Near Real Time service
  + Orbits 33405 and 33406 are partially missing
* On March 28th, due to acquisition problems, a large part of orbit 33450 was missing for the Near Real Time service.

Level 1B / Level 2 processors

* During 2024 the Sentinel-5P PDGS processors will undergo two major updates:

1. The Sulphur Dioxide product will be upgraded/improved by the Covariance-Based Retrieval Algorithm (COBRA) algorithm implementation allowing for better Sulphur Dioxide detection of anthropogenic emissions.
2. The currently implemented new cloud filter in the Methane retrieval algorithm will be ported from Python to C++ to improve memory utilisation and runtime efficiency.

Cal/Val Activities

* The routine validation activities continued nominally for all products.

PAL Activities

* Six pre-operational products (Aerosol Optical Thickness, Bromine Monoxide, Glyoxal, Sun-Induced Fluorescence, Water Vapour, and a Sulphur Dioxide product using the new Covariance-Based Retrieval Algorithm (COBRA)) are being provided to the public via <https://data-portal.s5p-pal.com>.

***Outlook***

* The next PDGS upgrade, version 2.17.0, is scheduled for release in June 2024.

*Report prepared by the ESA Sentinel-5 Precursor Team*