

***Mission Status Report 132***

***Reference Period: 01-15 Apr. 2023***

***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); Carbon Monoxide, Formaldehyde, Nitrogen Dioxide, Sulphur Dioxide, Total Ozone, Ozone Profile, Aerosol Absorbing Index, Aerosol Layer Height and Cloud products (Offline and Near Real Time) are available to the public via the Copernicus Sentinel-5 Precursor Data Hub – <https://s5phub.copernicus.eu>.

Platform

* Out-of-plain Orbit Control Manoeuvre (OCM) activities were executed on 14th April between 09:29 – 12:24, causing a temperature increase of the SWIR detector, SWIR grating and UVN detector.

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.
* The full mission reprocessing of the Level 1B and all Level 2 data sets has been completed. The Tropospheric Ozone reprocessing was repeated (in less than one day) to solve some problems that were observed in the first reprocessed dataset.
* As a consequence of the manoeuvre execution, some data show quality degradation:
	+ The HCHO product shows stripes in orbits 28503-28504.
	+ The CH4 and CO products do not contain valid data in the orbit range 28503-28507.

Level 1B / Level 2 processors

* The SO2 processor is being upgraded by DLR to include the SO2 Layer Height information into the product.

Cal/Val Activities

* The routine validation activities continued nominally for all products, including the reprocessed 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 reprocessed datasets of the Level 1B, the Level 2 Absorbing Aerosol Index, Carbon Monoxide, Cloud, Total Ozone, Aerosol Layer Height, Methane, and Nitrogen Dioxide products were published between December 2022 and March 2023. The public release of the reprocessed Sulphur Dioxide, Formaldehyde, Ozone Profile and Tropospheric Ozone products will be concluded by 25th April.

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