

EGU25-17031, updated on 13 Apr 2026
<https://doi.org/10.5194/egusphere-egu25-17031>
EGU General Assembly 2025
© Author(s) 2026. This work is distributed under the Creative Commons Attribution 4.0 License.



The Path to Sentinel-4/UVN Operations: Products, Calibration and Validation, Monitoring, and Data Processing Systems

Rasmus Lindstrot¹, Sebastian Gimeno Garcia¹, Frank R  thrich¹, Vinod Kumar², Myojeong Gu², Malcolm Taberner², Alexandre Caseiro², Catherine Hayer², Nan Hao¹, Philipp K  hler¹, **Christopher Diekmann**¹, Marcel Dobber¹, Jochen Grandell¹, and Bojan Bojkov¹

¹EUMETSAT, Darmstadt, Germany (rasmus.lindstrot@eumetsat.int)

²HAMTEC Consulting GmbH, Leverkusen, Germany

EUMETSAT will operate the Copernicus Sentinel-4/UVN imaging spectrometer, which is hosted on the Meteosat Third Generation - Sounder (MTG-S) satellite. The first satellite in this series is scheduled to launch in the second half of 2025.

Developed by Airbus Defence and Space under an ESA contract, Sentinel-4/UVN is designed to monitor atmospheric trace gases - such as ozone, nitrogen dioxide, sulfur dioxide, formaldehyde and glyoxal - as well as aerosol and cloud properties from hyperspectral measurements in the UV, Visible and Near-Infrared (UVN). It provides high spatial resolution and hourly coverage over Europe and northern Africa, which is vital for tracking atmospheric composition and serves as a key input to the Copernicus Atmosphere Monitoring Service (CAMS). This innovative instrument will solidify the European contribution to a constellation of geostationary instruments, including the existing GEMS and TEMPO over Asia and North America, respectively. This Geo-Ring will be complemented by the fleet of Low Earth Orbit air quality missions operating in similar spectral ranges, such as GOME-2, OMI, TROPOMI, OMPS and the new Sentinel-5/UVNS mission, providing global daily coverage.

This presentation will provide an overview of the Sentinel-4/UVN instrument and its products, along with the latest updates on the status of the ground segment developments. Some insight into the analysis of the instrument's calibration key data will be part of the presentation.

We will also present the progress of EUMETSAT's data processing and monitoring facility, which is being prepared for commissioning and routine operations. This includes activities for the preparation of the calibration and validation (Cal/Val) of operational atmospheric chemistry products, performed centrally at EUMETSAT as well as with support from the scientific community.