

EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Sensors and Technology (3)

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TROPOMI ON TRACK

Abstract

TROPOMI (Tropospheric Monitoring Instrument) is the UVNS backscatter trace gas instrument that will bridge the data-gap between SCIAMACHY (on ENVISAT), OMI (on NASA's EOS-AURA satellite) and ESA's future Sentinel 5 instrument to fly from 2020 on MetOp-SG (MetOp Second Generation).

TROPOMI will show an order of magnitude improvement as compared to the earlier instruments in terms of spatial resolution (it has 7 x 7 km²) and sensitivity (it is suitable for the darkest scenes). TROPOMI passed the instrument Preliminary Design Review in 2011. The instrument Critical Design Review is planned for end of 2012, early 2013. Launch is planned for 2015. The lower level PDR's have been successfully completed. The platform on which TROPOMI will fly as the single payload is being built by Astrium UK. It is the standard AS250 platform Astrium is developing for a variety of missions. The mission name is: Sentinel 5 Precursor mission. Instrument requirements have been re-assessed and interfaces with the platform have been defined in detail. To date the Sentinel 5 Precursor mission has proven to be feasible and the instrument design confirms that the anticipated Instrument performance is in line with the specifications. Breadboard tests for critical and new items such as the telescope free-form optics and gratings provide further assurance of the intended instruments performance. The major Contract with the Netherlands Space Office (NSO) was signed end-of-2011; the parallel contract with ESA for the ESA funded instrument subsystems had been agreed before. All subcontracts have been negotiated and agreed, notably the subcontract with TNO who provides the optical design of the instrument (telescope and UVN spectrometers) and the subcontract with SSTL who provides the SWIR spectrometer, detector and electronics). The TNO designers have been fully integrated in the project prime team for maximum efficiency. The NSO/ESA Joint Programme Team is in place to provide a single Customer interface to Dutch Space as TROPOMI Prime Contractor, despite the two distinguished contractual arrangements. The double agency set-up with their different funding principles and budget limitations has resulted in a unique programmatic arrangement which is gradually proving its efficacy. The project team now looks forward to the upcoming TROPOMI hardware phases. The paper will assess the project status and particularly analyse the organizational set-up.