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Sentinel-5 Precursor: First Copernicus Atmospheric Chemistry Mission ready for Launch

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Sentinel-5 Precursor (S-5P) will be the first of a series of atmospheric chemistry missions to be launched within the European Commission's Copernicus (former GMES) Programme. With the current launch window of June 2017 and a nominal lifetime of 7 years, S-5P is expected to provide continuity in the availability of global atmospheric data products between its predecessor missions SCIAMACHY (Envisat) and OMI (AURA) and the future Sentinel-4 and -5 series.
S-5P will deliver unique data regarding the sources and sinks of trace gases with a focus on the lower Troposphere including the planet boundary layer due to its enhanced spatial, temporal and spectral sampling capabilities as compared to its predecessors.
The S-5P satellite will carry a single payload, TROPOMI (TROPOspheric Monitoring Instrument) which is jointly developed by The Netherlands and ESA. Covering spectral channels in the UV, visible, near- and short-wave infrared, it will measure various key species including tropospheric/stratospheric ozone, NO_2, SO_2, CO, CH4, CH_2O as well as cloud and aerosol parameters.
The S-5P Project successfully passed the Ground Segment Acceptance Review (GS-AR) and the satellite-level Qualification Acceptance Review (QAR) in March and April 2016, respectively. Remaining pre-launch tasks focus on the detailed planning of Phase E1 activities and the training of the operations teams.
The paper includes descriptions of the S-5p spacecraft, the TROPOMI instrument, data products and applications, Level-1b and Level-2 processing, Ground Segment, launch preparation, launch and in-orbit commissioning and in-flight calibration and validation.