



## **The ESA FRM4DOAS project: Towards a quality-controlled MAXDOAS Centralized Processing System**

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The Fiducial Reference Measurements for Ground-Based DOAS Air-Quality Observations (FRM4DOAS) is a two-year project funded by the European Space Agency (ESA). Started in July 2016, FRM4DOAS aims at further harmonizing MAXDOAS measurements and data sets, through (1) the specification of best practices for instrument operation, (2) the selection of state-of-the-art retrieval algorithms, procedures, and settings, (3) the demonstration of a centralised rapid-delivery (6-24h latency) processing system for MAXDOAS instruments to be operated within the international Network for the Detection of Atmospheric Composition Change (NDACC). The project also links with the Pandonia initiative. In a first phase, the system concentrates on the development of 3 key products: NO<sub>2</sub> vertical profiles, total O<sub>3</sub> and tropospheric HCHO profiles, which will be retrieved at 11 MAXDOAS pilot stations. The system will also be tested and validated on data from the CINDI-2 campaign, and designed to allow further extension after commissioning. These activities will help and guarantee that homogenous, fully traceable, and quality-controlled datasets are generated from reference ground-based UV-vis instruments, which will play a crucial role in the validation of future ESA/Copernicus Sentinel satellite missions S-5P, S-4, and S-5.