

# Sentinel-5p Validation Data Analysis Facility (VDAF): The Precursor Operational Validation System for the Atmospheric Composition Sentinels

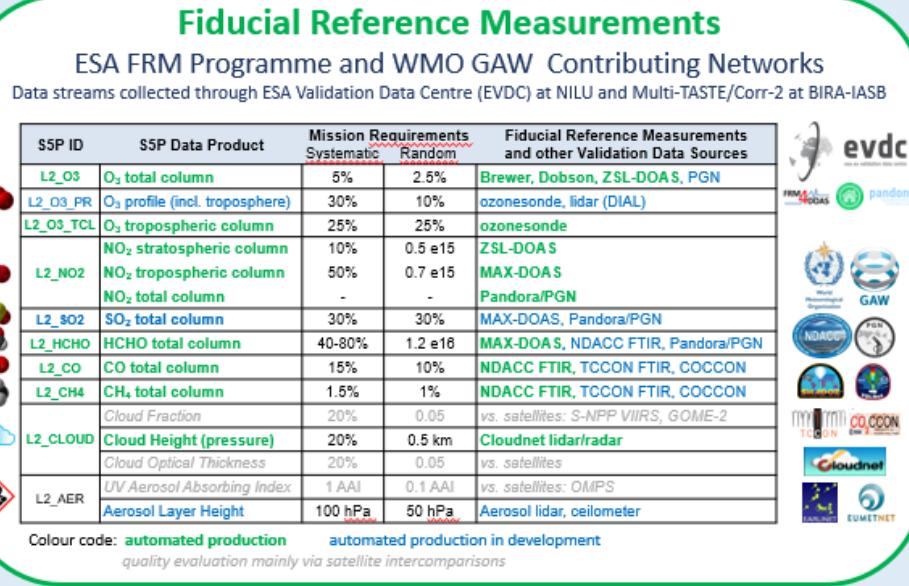
Jean-Christopher Lambert, S. Compernolle, B. Langerock, S. Niemeijer, A.M. Fjæraa, Y. Geunes, J. Granville, D. Hubert, A. Keppens, T. Verhoelst, K.-U. Eichmann, K. Garane, G. Pinardi, O. Rasson, A. Redondas, M.K. Sha, D. Stein Zweers, P. Veefkind, C. Vigouroux, T. Wagner, A. Dehn, L. Saavedra de Miguel, and C. Zehner

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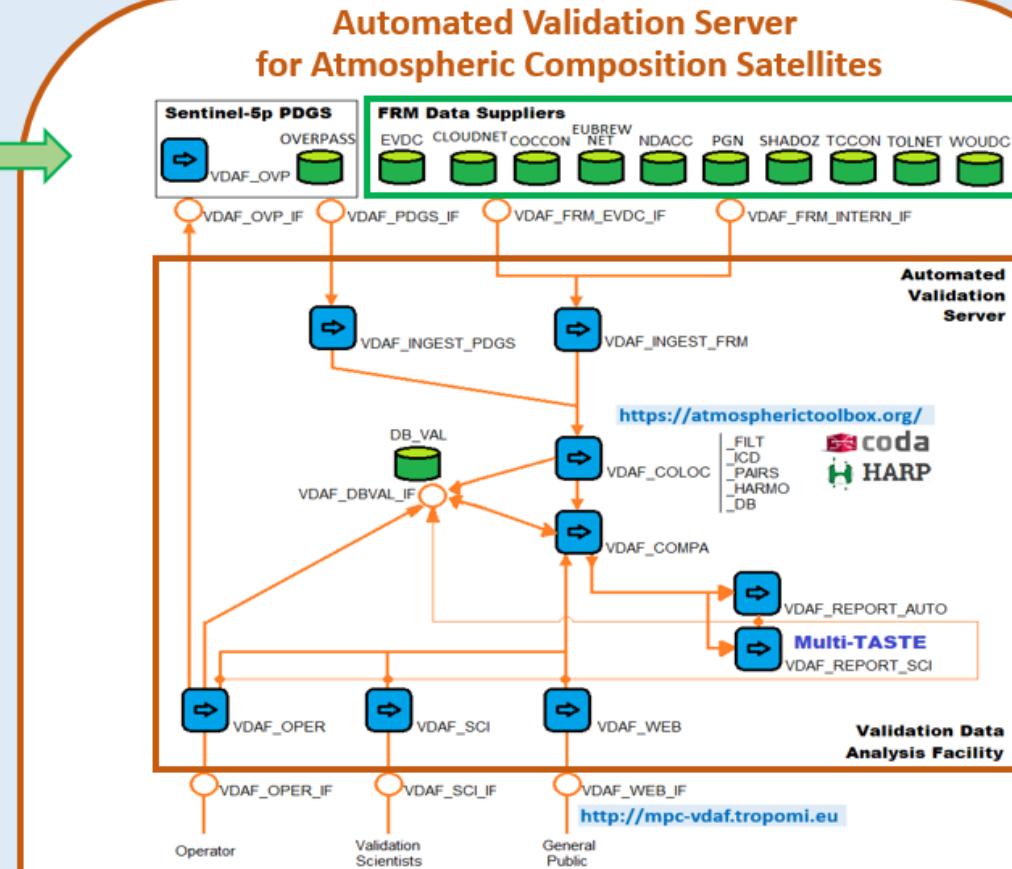
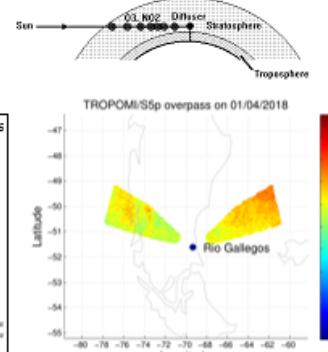
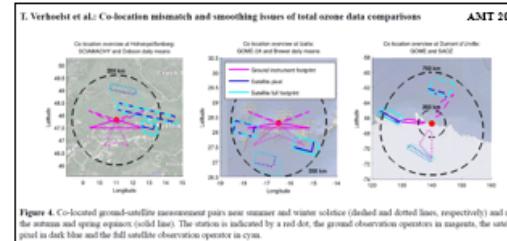
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# Sentinel-5p Validation Data Analysis Facility (VDAF)



## Co-location of Sentinel-5p TROPOMI and Validation Data

- Overpass data extractor running in SSP PDGS
- Based on 2D/3D Observation Operators
- Spatial averaging where needed (e.g., HCHO)
- Correction for NO<sub>2</sub> diurnal cycle

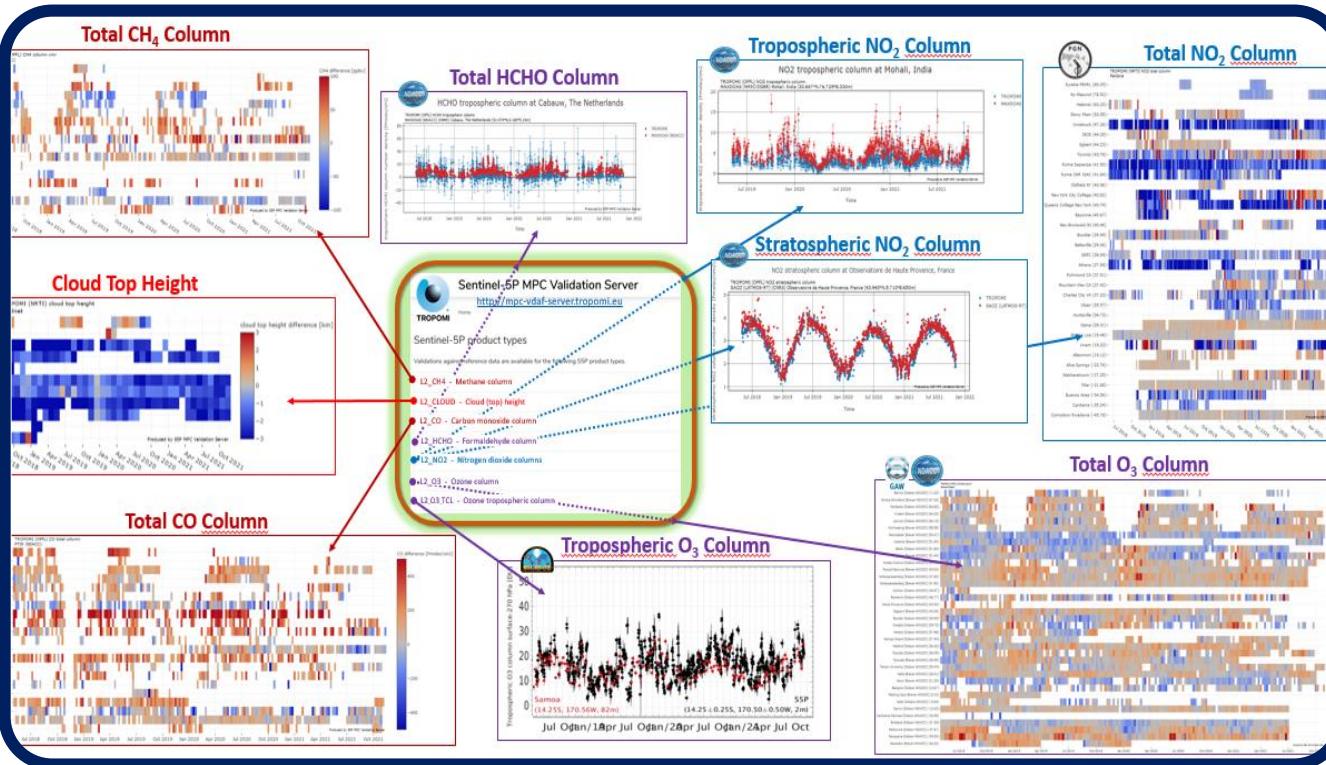


- Precursor validation systems and methods: Multi-TASTE (Envisat, Aura, GOME-2, IASI...), H2020 GAIA-CLIM, Ozone\_cci, CAMS-84/27, C3S\_312\_ozone
- Prototype: FP7 QA4ECV (for OMI/GOME-2A NO<sub>2</sub> and HCHO) (<https://qa4ecv-dev.stcorp.nl>)
- Continuous development: [state-of-the-art co-locators](#), new stations, additional networks, validation of uncertainties, compliance tests...
- Generic validation chain, common terminology and validation metrics, error propagation → applicable to all atmospheric Sentinels



# A Pathfinder for the Operational Validation of the Atmospheric Sentinels

## Automated Data Comparisons



## Feedback to Validation Data Providers



## Feedback to Data Producers and Consolidation of Quality Information

**SSP MPC**

**LEVEL-1 Team    LEVEL-2 Team**

## Dissemination of Consolidated Quality Information