# CCVS

# Aerial Campaigns for Cal/Val purposes in the Context of Copernicus Survey Results of the H2020 Project "Copernicus Cal/Val Solution (CCVS)"

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## Scope of the CCVS project

❖ Objective of the H2020 Copernicus Cal/Val Solution project:

To define a holistic solution for all Copernicus Sentinel missions (either operational or planned) to overcome current limitations of Calibration and Validation (Cal/Val) activities.

❖ Work plan / Deliverables:

1. Updated specifications of Cal/Val requirements
2. Overview of existing Cal/Val sources and means
3. Gap analysis identifying missing elements
4. Provision of Copernicus Cal/Val solution
5. Roadmap for implementation

❖ Project duration: Dec. 2020 to Nov. 2022

❖ 14 partners

❖ Website: https://ccvs.eu

❖ Contact: contact@ccvs.eu

## Survey

Compilation of existing campaigns considering

❖ Different domains

- Optical missions (27 campaigns)
- Altimetry missions (3)
- Radar and microwave missions (12)
- Atmospheric composition missions (29)

❖ Different mission phases
pre-launch, commissioning, operational

❖ Different Cal/Val data
e.g. BOA reflectance, soil moisture, trace gas columns

❖ Different platforms
aircraft, balloon, drone, vessel, ground



KuROS antennae on-bord the SAFIRE ATR42: especially designed to validate the CFOSAT instruments
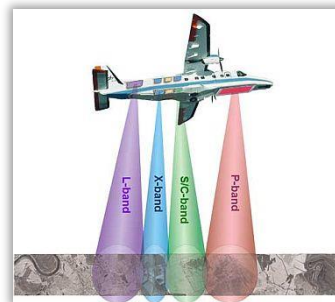


F-SAR system: SAR image data in five different frequency bands and fully polarimetric measurement modes in all of these bands
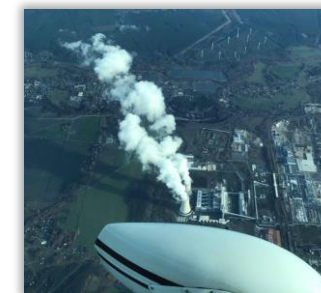


S5PVAL: Emphasize on strongly polluted urban/industrial areas

## Conclusions

❖ Pre-launch campaigns

- to define spaceborne sensor requirements
- to prepare satellite product validation strategies
- to test new measurement processes
- to prepare data products

❖ Campaigns during commissioning phase

- to validate system calibration

❖ Campaigns during operational phase

- to validate requirements of the product, e.g. in terms of systematic and random uncertainty
- to assess the impact of different geophysical parameters on the product retrievals