

SCAROn Team

SCAROn project, implemented by a diverse consortium of 10 organisations from 6 EU Member States, including scientific institutes and SMEs, is led by Airbus Defence and Space, Toulouse (France).

Spain

ICGC
Institut Cartografic i Geologic de Catalunya

France

AIRBUS

Germany

DLR Institute of Atmospheric Physics

Netherlands

ABSOLUT SYSTEM
INNOVATIVE ORTHORECTIFICATION

Czech republic

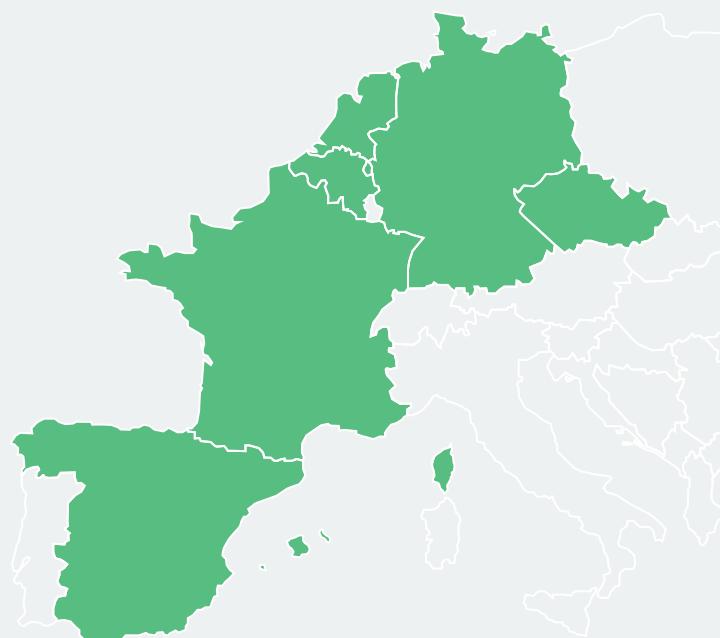
GRANT GARANT

AIRBUS

cnrs
ONERA
THE FRENCH AEROSPACE LAB

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SCAROn
SPACE CARBON OBSERVATORY *next step*

Space-Based Monitoring of CO₂ and CH₄ with High Accuracy and Twice-Daily Revisits



About SCAROn

- SCAROn (2024-2027) is an innovation project funded under the EU Horizon Europe programme and coordinated by Airbus Defence and Space SAS
- A 100% European collaborative initiative developing a satellite system of greenhouse gas (GHG) emissions monitoring
- A successor to the EU Horizon 2020-funded SCARBO project, which laid foundations of the innovative technology: constellation of small satellites carrying NanoCarb and SPEXone instruments

SCAROn Goal: Road to Maturity Increase

- Technical and industrial definition of NanoCarb instrument.
- End-to-end Concept validation of GHG point sources monitoring by science data retrieval chain simulation, from raw instrument measurements up to fluxes estimation.
- Upgraded NanoCarb Prototype demonstration by airborne campaign.
- Optimisation of the constellation Concept by adding autonomy and configurability to the mission, addressing short-term industrial implementation, as well as end-to-end system performances optimisation carrying the GHG monitoring instrument.

SCAROn Technology

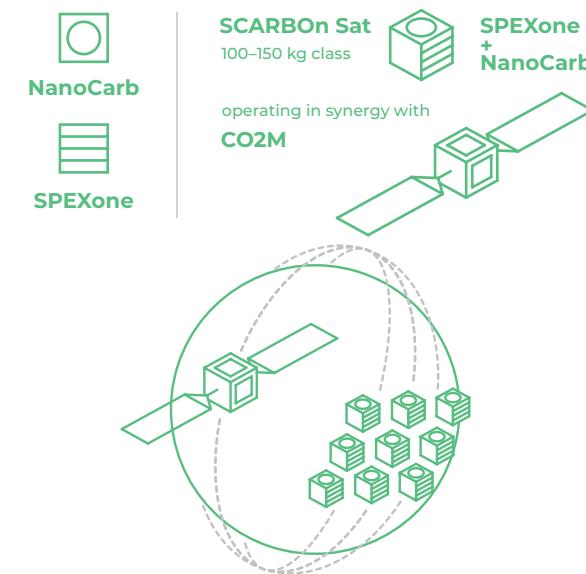
SCAROn develops a conceptual formation of small satellites, aiming for an embark in 2030, that will provide twice-daily accurate measurement of GHG concentrations (namely CO_2 and CH_4) in the Earth atmosphere. Measurements are enabled by two small-sized instruments:

NanoCarb

A miniaturized static spectrometer designed to detect CO_2 and CH_4 with unprecedented accuracy.

SPEXone

An already developed compact aerosol sensor that helps to correct atmospheric scattering effects, enhancing the precision of GHG measurements.



Complementary to the Copernicus Sentinel Mission (CO2M), dedicated to CO_2 measurement, the SCAROn constellation of small satellites can revisit sites twice a day and obtain reliable data of both CO_2 and CH_4 emissions.

SCAROn Impact

Supporting European Climate Change Mitigation Efforts. SCAROn's technology aims to provide crucial data for evidence based policies.

Fostering Development of Value-Added Services. The mission's data would facilitate the emergence of new services, such as advanced analytics for carbon management and environmental compliance.

Boosting European competitiveness in space observation capacity. Together with the European Space Agency's CO2M mission, Europe's strategic autonomy in space-based environmental monitoring technologies will be ensured.



Find out more about SCAROn at
www.scarbon-project.eu