

## SCARBOn Team

SCARBOn 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



### Netherlands

AIRBUS

### France

AIRBUS

ABSOLUT SYSTEM  
INDUSTRIE OXYGENEE SOLUTIONS



ONERA  
THE FRENCH AIRSPACE LAB

UGA  
Université Grenoble Alpes

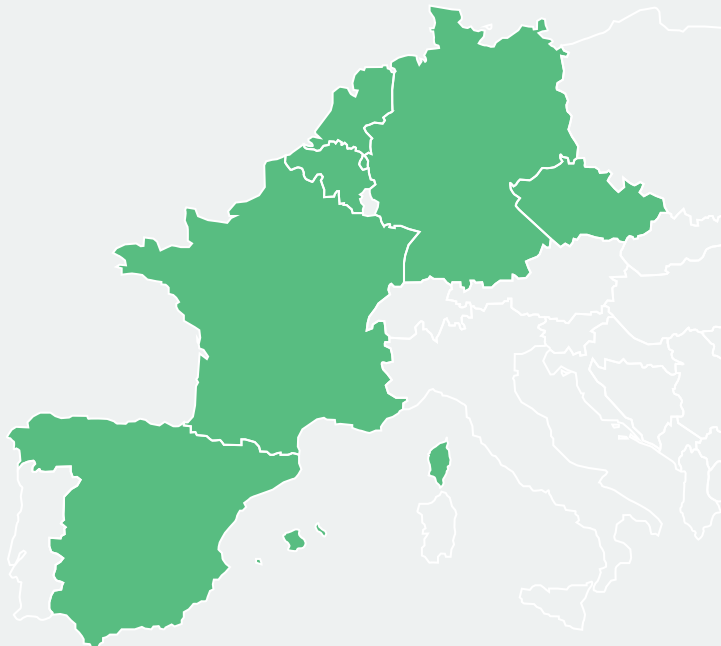
### Germany



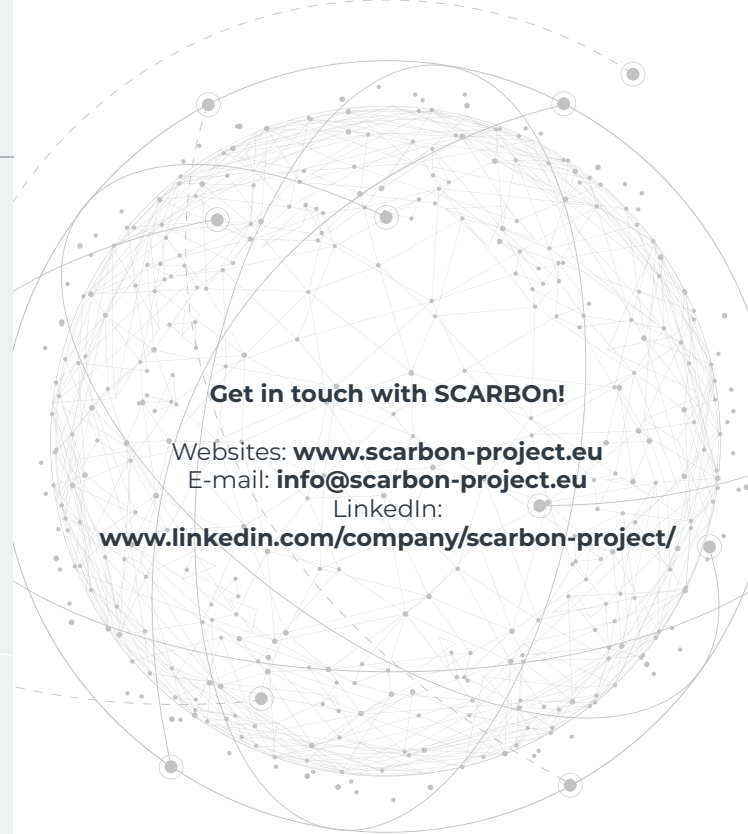
### Czech republic

GRANT GARANT

### Belgium



## Innovation project funded under the EU Horizon Europe Programme



Get in touch with SCARBOn!

Websites: [www.scarbon-project.eu](http://www.scarbon-project.eu)

E-mail: [info@scarbon-project.eu](mailto:info@scarbon-project.eu)

LinkedIn:

[www.linkedin.com/company/scarbon-project/](https://www.linkedin.com/company/scarbon-project/)



Co-funded by the European Union

Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Health and Digital Executive Agency (HADEA). Neither the European Union nor the granting authority can be held responsible for them.

# SCARBOn

SPACE CARBON OBSERVATORY **next step**



**Space-Based Monitoring of CO<sub>2</sub> and CH<sub>4</sub> with High Accuracy and Twice-Daily Revisits**

## About SCARBO

- SCARBO (2024-2026) 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

## SCARBO Goal: Road to Maturity Increase

- 1 Technical and industrial definition of NanoCarb instrument.
- 2 End-to-end Concept validation of GHG point sources monitoring by science data retrieval chain simulation, from raw instrument measurements up to fluxes estimation.
- 3 Upgraded NanoCarb Prototype demonstration by airborne campaign.
- 4 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.

## SCARBO Technology

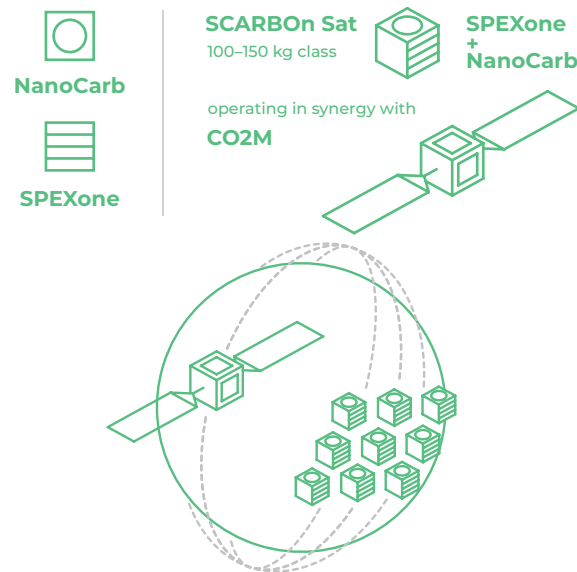
SCARBO develops a conceptual formation of small satellites, aiming for an embark in 2030, that will provide twice-daily accurate measurement of GHG concentrations (namely CO<sub>2</sub> and CH<sub>4</sub>) in the Earth atmosphere. Measurements are enabled by two small-sized instruments:

### NanoCarb

A miniaturized static spectrometer designed to detect CO<sub>2</sub> and CH<sub>4</sub> 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 (CO<sub>2</sub>M), dedicated to CO<sub>2</sub> measurement, the SCARBO constellation of small satellites can revisit sites twice a day and obtain reliable data of both CO<sub>2</sub> and CH<sub>4</sub> emissions.**

## SCARBO Impact

**Supporting European Climate Change Mitigation Efforts.** SCARBO'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 CO<sub>2</sub>M mission, Europe's strategic autonomy in space-based environmental monitoring technologies will be ensured.



Find out more about SCARBO at [www.scarbon-project.eu](http://www.scarbon-project.eu)