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Press Release

Pioneering Multi-Sensor Synergies for Advanced Weather, Climate, and Environmental Services

The launch of PANORAMA, a groundbreaking Horizon Europe project, marks a significant milestone in the development of next-generation weather, climate, and environmental services to support Europe's green transition. Officially starting on **February 1, 2025**, PANORAMA aims to redefine Earth Observation capabilities through innovative multi-sensor synergies.

Coordinated by **CNRS** and funded under the **European Union's Horizon Europe Program**, PANORAMA leverages cutting-edge EO technologies to provide high-quality, accurate data that supports data-driven decision-making in **three GEO priority areas** (climate action, disaster risk reduction, sustainable development) and **seven European Green Deal policy areas** (climate, energy, environment and oceans, agriculture, transport, research and innovation, and the New European Bauhaus).

The project capitalizes on observations from the **Copernicus Sentinels** and the **EUMETSAT MTG and EPS-SG satellite constellations**, enabling advanced atmospheric monitoring. By harnessing multi-sensor synergies, PANORAMA aims to:

- Develop state-of-the-art products such as motion estimation for aerosols and clouds, rapid radiative transfer calculations, and AI-driven emission estimations.
- Enhance Numerical Weather Prediction (NWP) through improved data assimilation and novel physical parameterizations.

Transformative Applications and Pilot Demonstrators

PANORAMA's innovations will be tested through **six pilot demonstrators**, evaluating their impact on forecasting extreme weather, managing floods, optimizing energy resources, and mitigating air pollution.

In its final phase, the project will deliver **three pre-operational integrated applications** hosted on the **Copernicus DIAS** platform. These applications will enable seamless climate-weather-environmental services and provide tools for a wide range of stakeholders, including:

- Integrated fire-smoke and volcanic ash dispersion applications for **CAMS and EMS**.

Funded by the European Union

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- Solar energy nowcasting for the **NextSense EuroGEO service**.

Contributions to the **C3S/CMEMS Copernicus services** and the **Destination Earth initiative** are also planned.
The main **objectives** of the PANORAMA project are to:

1. **Develop and validate novel satellite products** from the synergy of EUMETSAT MTG/EPS-SG and Copernicus Sentinels.
2. **Demonstrate the potential of advanced EO products** in improving Earth System predictions.
3. **Create pre-operational integrated applications** to enhance European climate-weather-environmental services.
4. **Leverage European cloud systems**, including Copernicus DIAS and the European Weather Cloud, to optimize data accessibility and usability.
5. **Promote widespread adoption** of PANORAMA's innovations across public and private sectors.

A Strong European Collaboration
PANORAMA brings together a consortium of **seven partners (CNRS, ULille, GRASP SAS, NOA, EDGE, INOE, UPEC, PMOD/WRC)** from **four European countries**, combining expertise to ensure the project's success and maximize its societal and economic impact.
With its ambitious goals, PANORAMA is poised to be a game-changer in Earth Observation, delivering critical tools and applications to empower Europe's green transition and strengthen its resilience to climate challenges.

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