



<http://geocradle.eu>

GEO-CRADLE: Coordinating and integrating state-of-the-art Earth Observation Activities in the regions of North Africa, Middle East, and Balkans and Developing Links with GEO related initiatives towards GEOSS



CARESSE

Centre for Atmospheric REmote Sensing and Space Earth observation

<http://environment.inoe.ro/category/63/caresse>



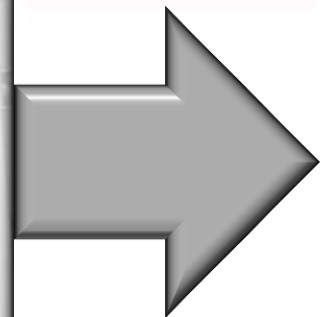
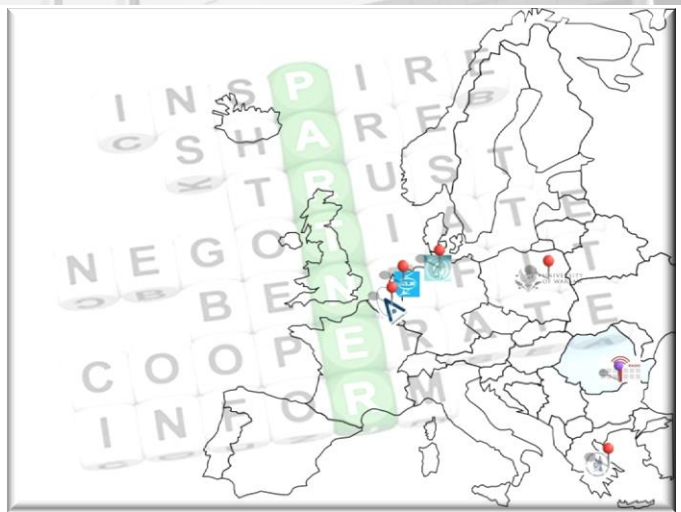


INFRASTRUCTURE & HUMAN RESOURCE & PARTNERSHIPS



11 scientists

(engineering, physics, mathematics, ecology)



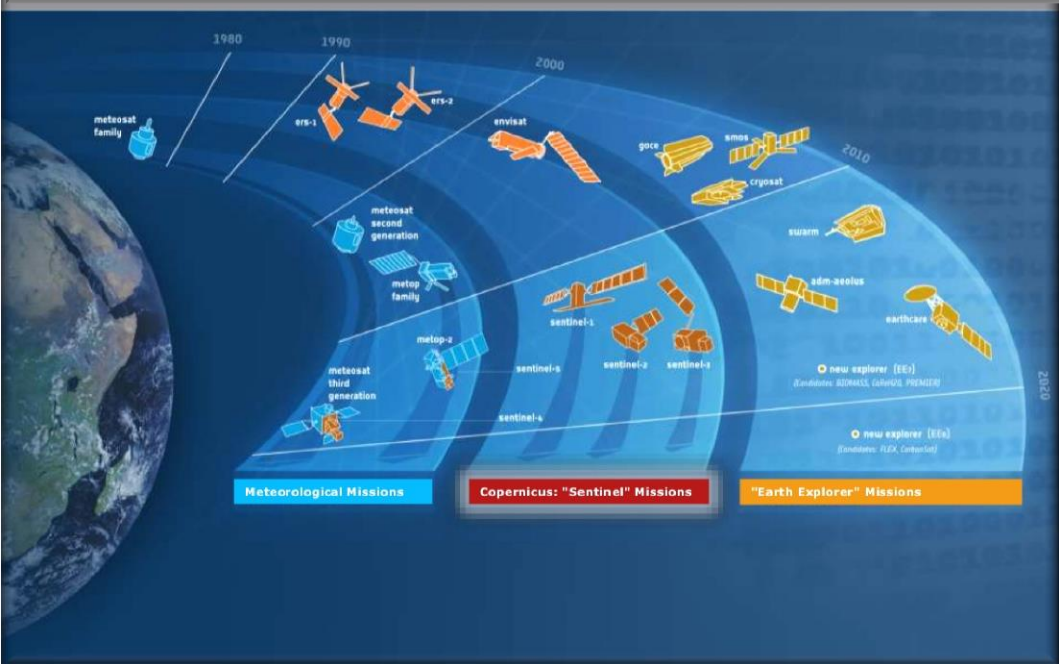
CARESSE's OBJECTIVES

- ✓ **create** a sustainable high-quality research and training nucleus for atmospheric remote sensing in view of future EO missions;
- ✓ **develop, organize and harmonize** the existing scientific and technological capacities for space-related applications of atmospheric remote sensing;
- ✓ **prepare** to fulfill the specific requirements of ESA, and **strengthen** international collaboration.



RESEARCH NICHES for ESA's FUTURE MISSIONS

Ground-base remote sensing – Sentinels/Earth Explorers
Cal/Val activities, applications, new observation technologies

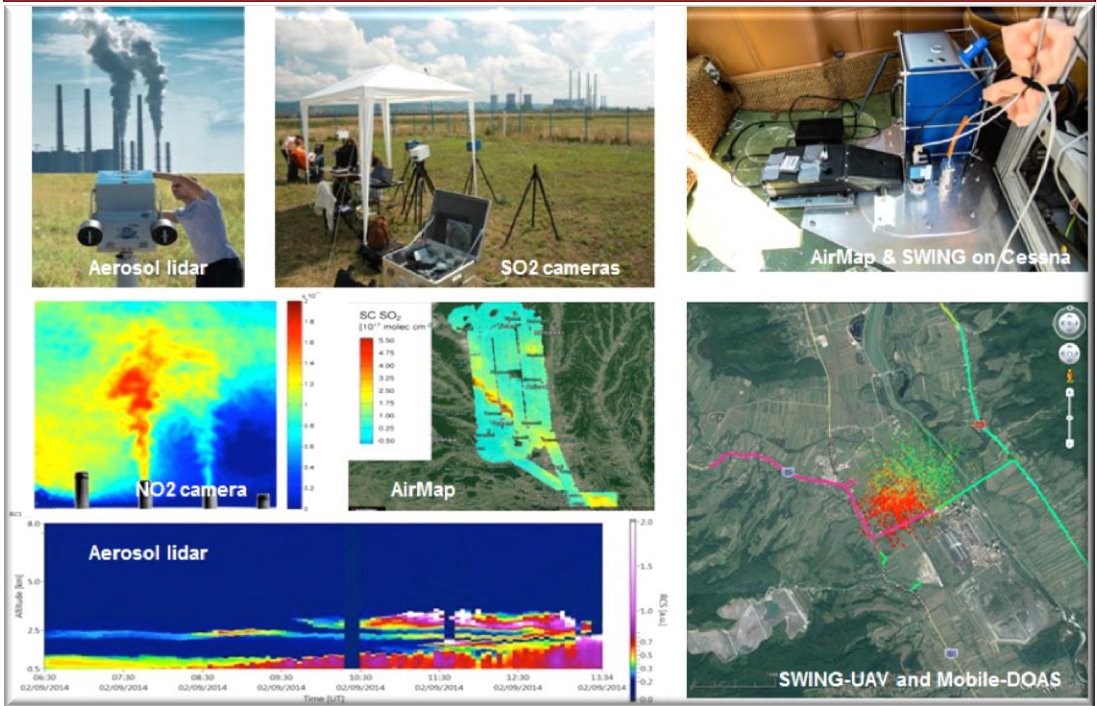


CONTRACTS & PROJECTS

- Cal/Val campaigns: AROMAT 1
Airborne Romanian Measurements of Aerosols and Trace Gases
- development of algorithms and software:
NATALI - Neural network Aerosol Typing Algorithm
- development of a novel multi-wavelength HSRL system for airborne operation: MULTIPLY



ESA CAL / VAL Campaign: AROMAT 2



Aerosol lidar SO2 cameras AirMap & SWING on Cesana NO2 camera AirMap Aerosol lidar SWING-UAV and Mobile-DOAS

HORIZON2020 PROJECTS

ACTRIS -(RI, ESFRI, RO)
Aerosol, Clouds, and Trace gases InfraStructure

ECARS
East European Centre for Atmospheric Remote Sensing

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INFRASTRUCTURE & HUMAN RESOURCE



RO-CEO

Romanian Cluster for Earth Observation

16 scientists

(engineering, physics, mathematics, ecology, IT,
electronics, meteorology)

ESA / H2020 PROJECTS

SAMIRA - Satellite based Monitoring Initiative for Regional Air quality

RAMOS - Technical Assistance For A Romanian Atmospheric Observation System

APEL - Assessment of atmospheric optical Properties during biomass burning Events and Long-range transport of desert dust

ACTRIS PREPARATORY PHASE

RINGO - Readiness of ICOS for Necessities of integrated Global Observations



New Agenda

Observation capacities

- Automatic collection of data
- Retrieval algorithms
- Specialized personnel

Cal/Val campaigns

- S-5P trace gases
- S-5P aerosols
- ADM-Aeolus aerosols

Fiducial Reference Measurement System

- Aerosol lidar: calibration, SoPs
- Cloud radar: evaluation
- Pandora-2S: testing & optimization
- FTIR: testing & optimization

ESA EO program

- New proposals
- Requirements for a future lidar mission
- ESA events and expert groups



Magurele center for Atmosphere and Radiation Studies



Preparing and sustaining the operation of MARS



Participation to international Cal/Val activities



PRE-TECT campaign: A GEO-CRADLE experiment to evaluate dust forecasting service developed for ACC pilot



Cotributing to the implementation of Fiducial Reference System

A fiducial reference system for aerosols, clouds and trace gases at continental scale, can be used for long-term Cal/Val of related satellite products (with focus on Sentinels, ADM-Aeolus, EarthCARE), as well as for quantitatively assessing processes involving clouds and their interaction with aerosols and radiation, in particular those close to the Earth surface which is difficult to assess from space.

ACTRIS, AERONET, PANDONIA are proposed as FRSys.

Increasing the collaboration with ESA

On going projects ...

new projects starting in 2017: DIVA, FRM4RADAR

Proposals submitted / under evaluation



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YOUR **FUTURE** IS CREATED BY WHAT
YOU **DO TODAY**
~~NOT~~ TOMORROW

Thank you for your attention!

