

# EU Copernicus programme: an opportunity for greenhouse gas research community

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# Through EU Copernicus programme

- €7 Billion, 15-20 year programme.
- Global environmental monitoring and security programme.
- Backbone are a fleet of satellites.
- All data are free to access.
- Unprecedented spatial and temporal resolution.
- Truly operational – Pairs of satellites, with replacements.

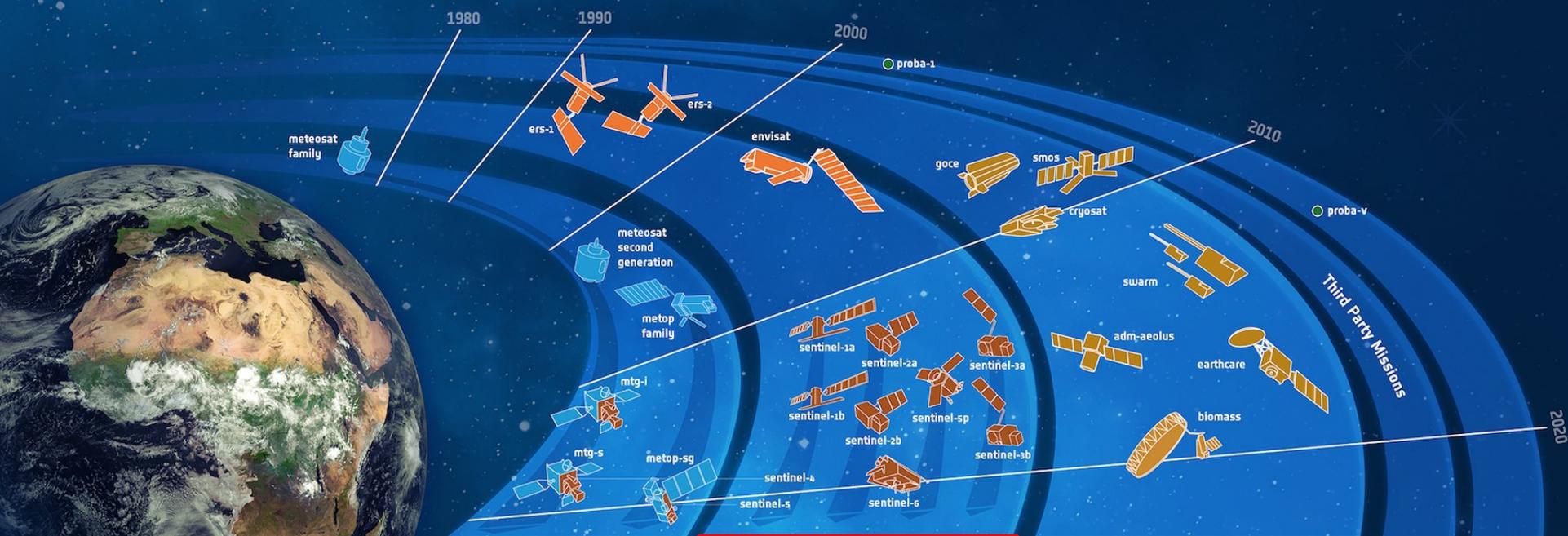
and the new generation of Geostationary Meteorological satellites (MSG & MTG satellites).

board Met missions MTG and EPS-SG respectively).

# Three Pillars of ESA Earth Observation



## THE ESA EARTH OBSERVATION PROGRAMME



### Meteorological Missions

driven mainly by Weather forecasting and Climate monitoring needs. These missions developed in partnership with EUMETSAT include the Meteorological Operational satellite programme (MetOp), forming the space segment of EUMETSAT's Polar System (EPS), and the new generation of Geostationary Meteosat satellites (MSG & MTG satellites).

### Sentinel Missions

driven by user needs to contribute to European Copernicus initiative. These satellite missions developed in partnership with the EU include C-band imaging radar (Sentinel-1), high-resolution optical (Sentinel-2), optical and infrared radiometer (Sentinel-3) and atmospheric composition monitoring capability (Sentinel-4 & Sentinel-5 on board Met missions MTG and EPS-SG respectively).

### Earth Explorer Missions

driven by Scientific needs to advance our understanding of how the ocean, atmosphere, hydrosphere, cryosphere and Earth's interior operate and interact as part of an interconnected system. These Research missions, exploiting Europe's excellence in technological innovation, pave the way towards new development of future EO applications.

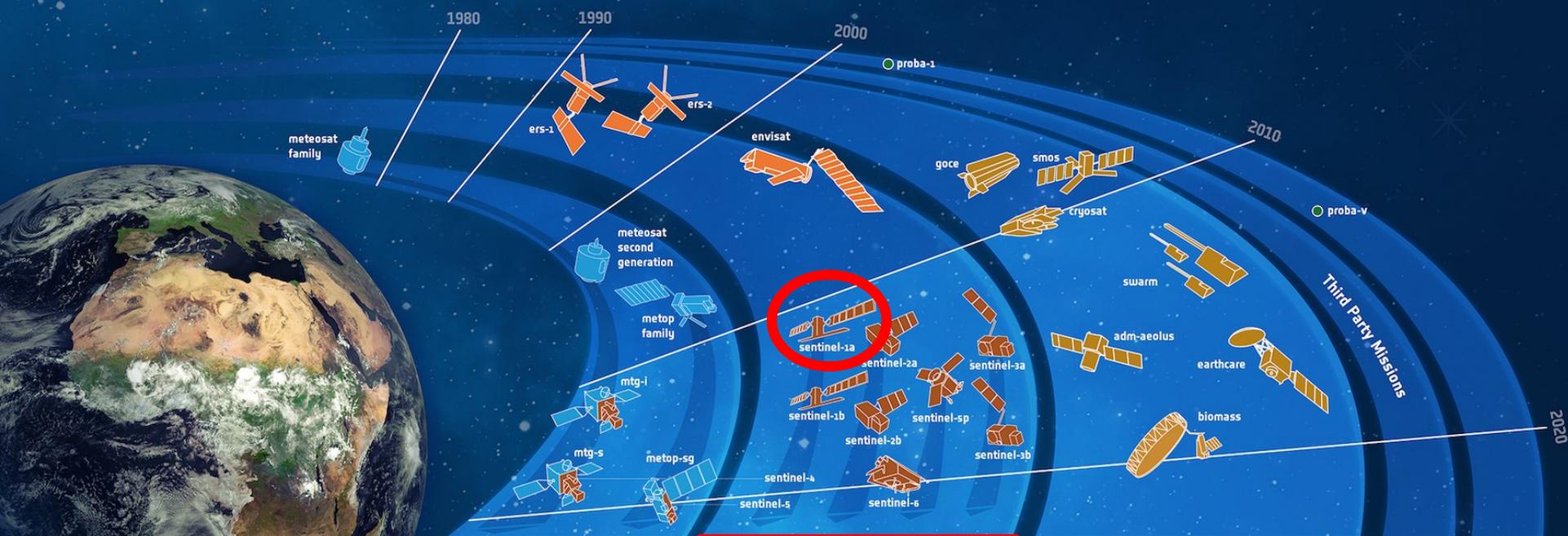
Data from non-ESA Missions

EOP Operated Missions

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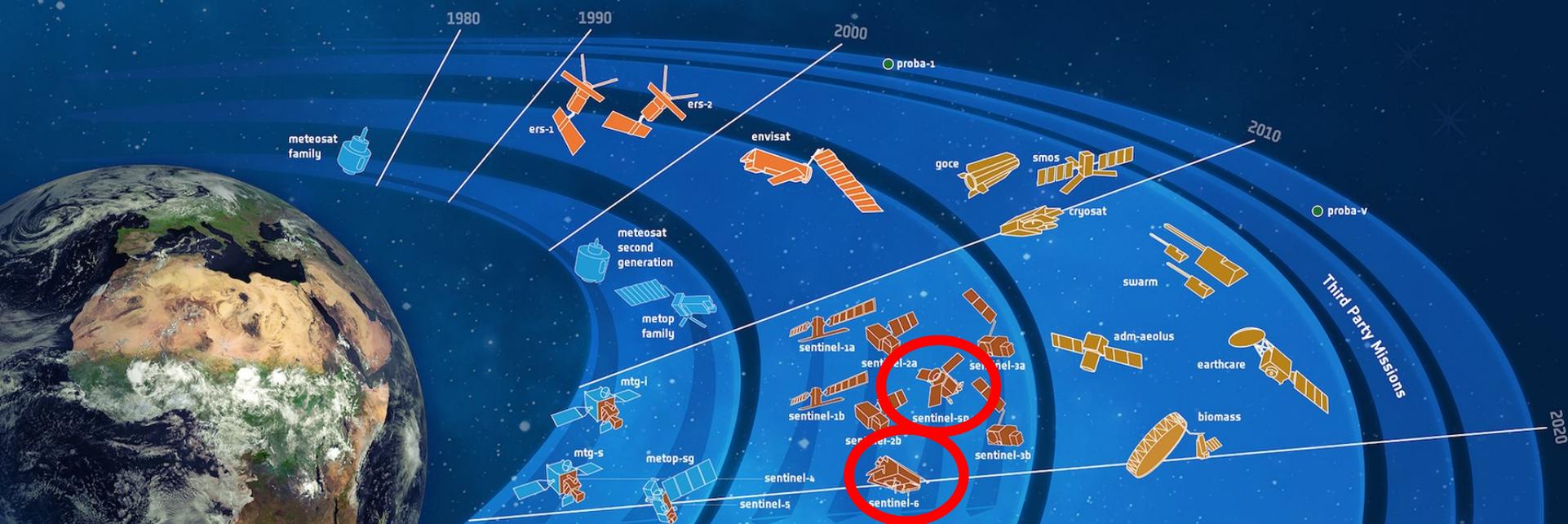
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**Data from non-ESA Missions** and **EOP Operated Missions**

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## THE ESA EARTH OBSERVATION PROGRAMME



EU Copernicus programme

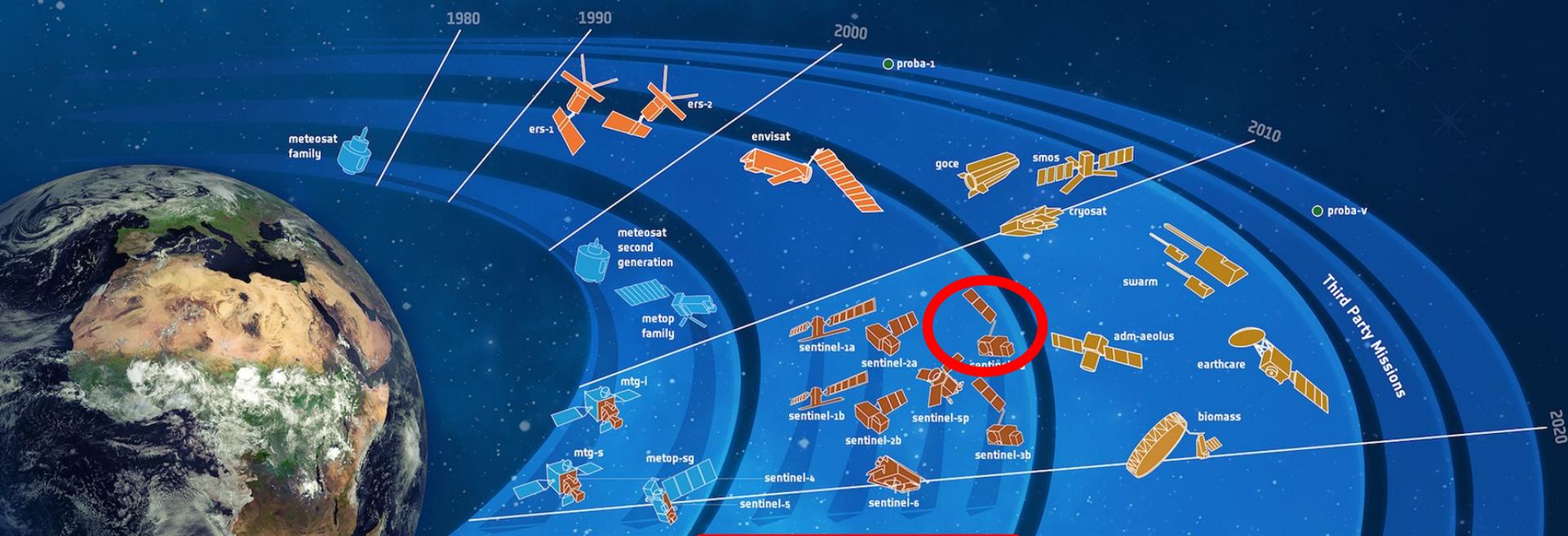
Sentinel 5 and 5P

Atmospheric gases (N<sub>2</sub>O, CH<sub>4</sub>, CO<sub>2</sub> + others)

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# Through EU Copernicus programme

## THE E Sentinel 3

- Waves, wind, land and ocean biology, fire and burn scar detection, aerosols and air pollution, precipitation, water vapour, ocean circulation, vegetation indices, land and water temperature etc.
- 1-2 day global coverage.

RETWEETS 36 FAVORITES 36



7:14 AM - 4 Dec 2014



# Sentinel-1 land applications

