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## What is a COST Action?

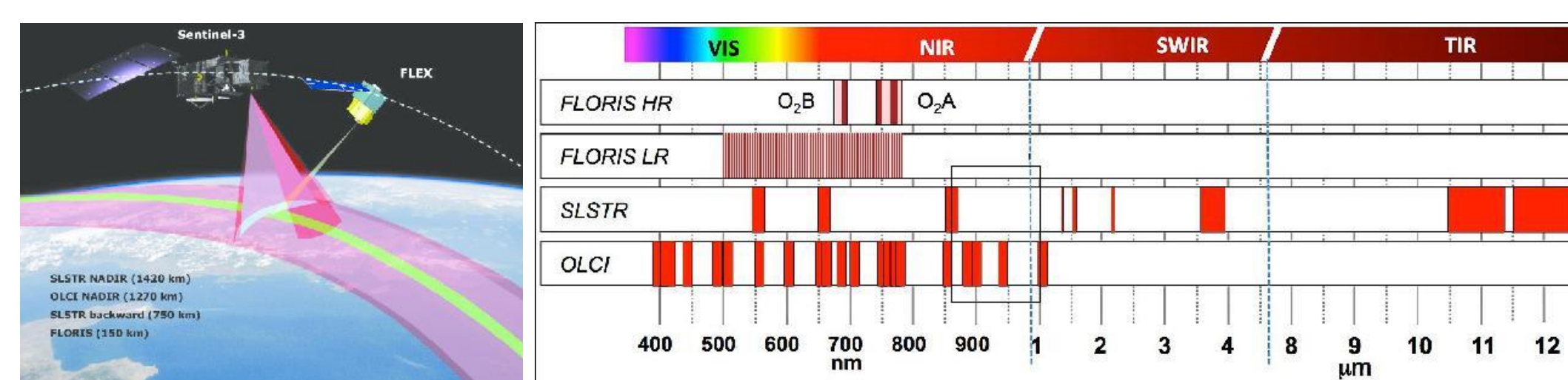
- Founded in 1971, COST is an **intergovernmental framework** for European Cooperation in Science and Technology, allowing the coordination of nationally-funded research on a EU level.
- COST does not fund research itself but provides a platform for European scientists to cooperate on a particular project and exchange expertise. These projects are called "**Actions**".
- COST Actions are **4 year international projects** with partners from multiple **EU countries** (but some Non-EU countries are also allowed). Typical budget: c.100-150k€/year.
- COST Actions are **open projects (to ideas and partners)**: any researcher (from universities, public and private research institutions), as well as NGOs, industry and SMEs can apply to enter the project.

COST Actions fund meetings, training schools, short-term scientific missions - STSMs, publications and conferences grants for PhD students and ECIs from ITC.

## Motivation behind the SENSECO COST Action

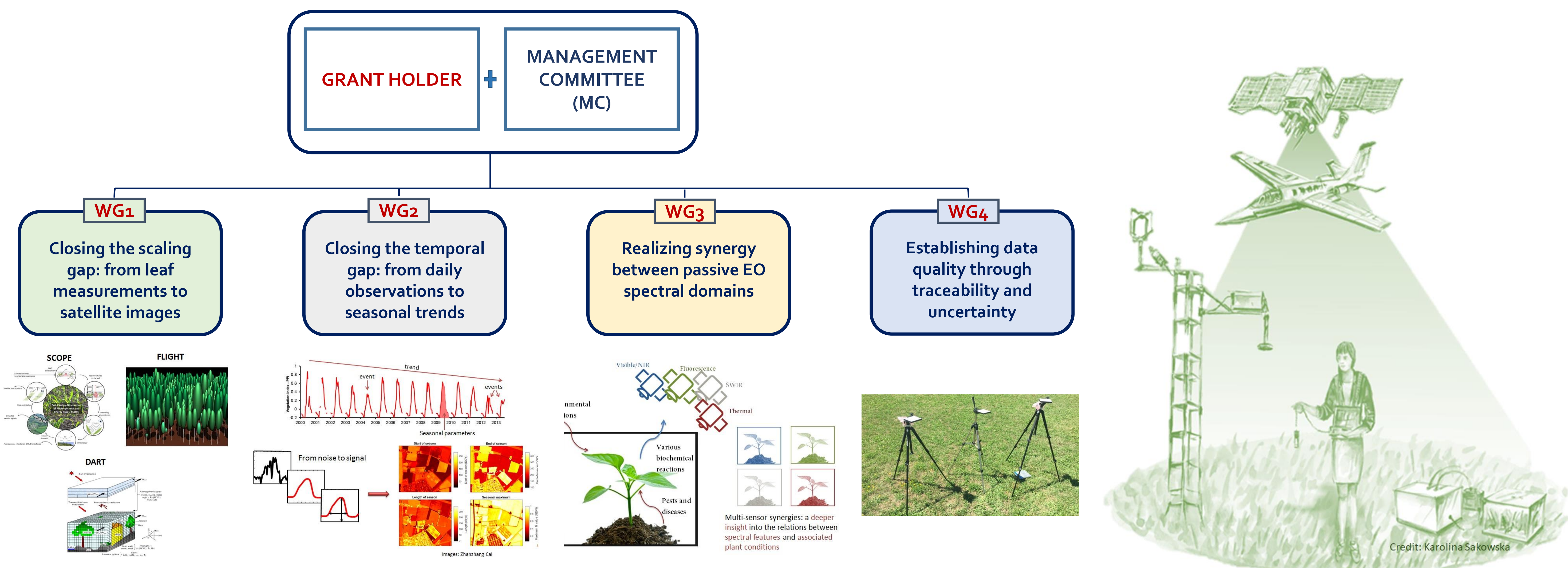
### Optical synergies for spatiotemporal sensing of scalable ecophysiological traits

Vegetated ecosystems largely mediate terrestrial gas and energy exchange at the atmosphere-biosphere-pedosphere interface. The spatial and temporal acquisition of information on vegetation status and **photosynthetic functioning is fundamental** to model the dynamic response of vegetation to changing environmental conditions, and therefore necessary for **climate change and food security studies**. Satellite or airborne Earth Observation (EO) provide the opportunity to collect spatially continuous information of vegetation reflectance at global and ecologically relevant scales. Optical EO is now advancing towards measuring **sun-induced chlorophyll fluorescence (F)**, one of the three pathways used to utilize/dissipate the absorbed radiation by plants. By flying in tandem with **Sentinel-3 (S3)**, ESA's forthcoming **Fluorescence Explorer (FLEX)** mission will observe *F*, which can, in combination with reflectance, provide an indicator of actual photosynthetic activity of vegetation. The FLEX-S3 **multi-sensor concept** exemplifies the synergistic use of multi-source data to **capture scalable ecophysiological traits**, and can be extended to other **Copernicus missions**. However, to exploit this information, **critical and still open spatiotemporal scaling questions** need to be solved, via **combination of these datasets with proximal and drone-borne spectral data**, as well as **eddy covariance (EC) observations**.



<https://directory.eoportal.org/web/eoportal/satellite-missions/f/flex>

## SENSECO COST Action in brief



### Main objectives:

- [WG1] To tackle the scaling gap between leaf and satellite measurements in order to link driving mechanisms at the leaf scale to the photosynthesis at the global scale.
- [WG2] To improve the time-series processing of satellite sensor data for modelling vegetation processes related to seasonal productivity.
- [WG3] To improve synergies between passive optical EO domains.
- [WG4] To ensure measurements comparability across different scales, space and time.



**Join us!**

- Start of Action: **24 October 2018**
- End of Action: **23 October 2022**

▪ To join SENSECO follow the simple instructions provided at our website:  
<https://www.senseco.eu/join-us/how-to-join/>.

▪ In case of any questions contact:



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