

**Welcome**



**19 – 21 October 2022**

**2nd Workshop on International Cooperation  
in Spaceborne Imaging Spectroscopy**



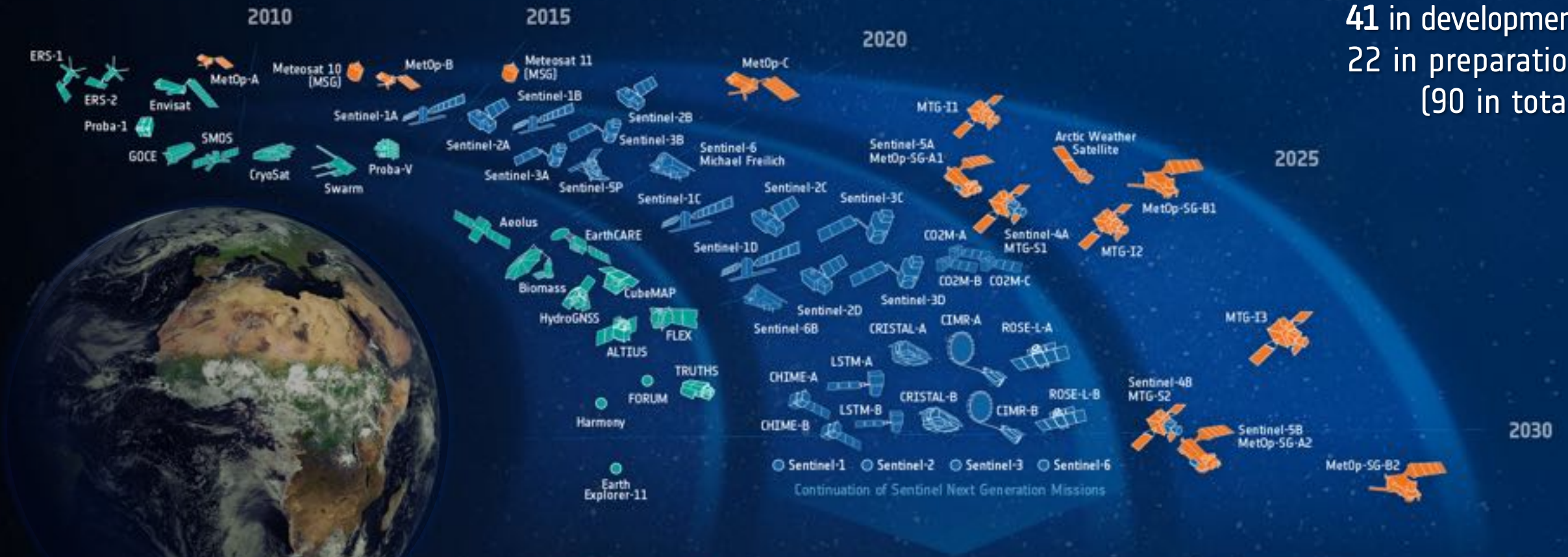


# ESA's Earth Observation

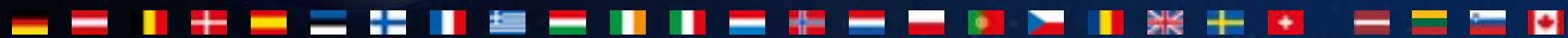


Develop world-class EO systems with European and global partners, to address scientific & societal challenges

**Satellites**  
 12 heritage  
 15 in operation  
 41 in development  
 22 in preparation  
 (90 in total)



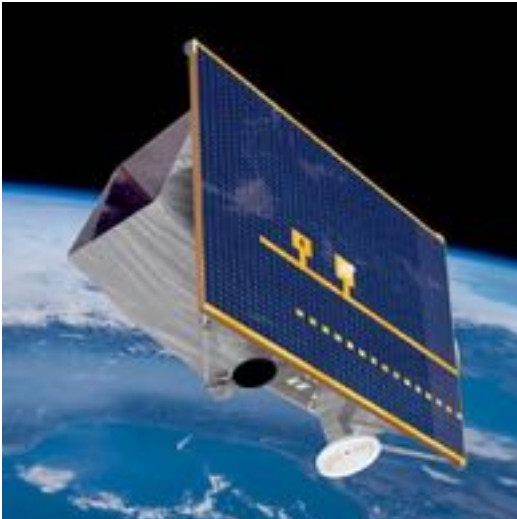
Science Copernicus Meteorology



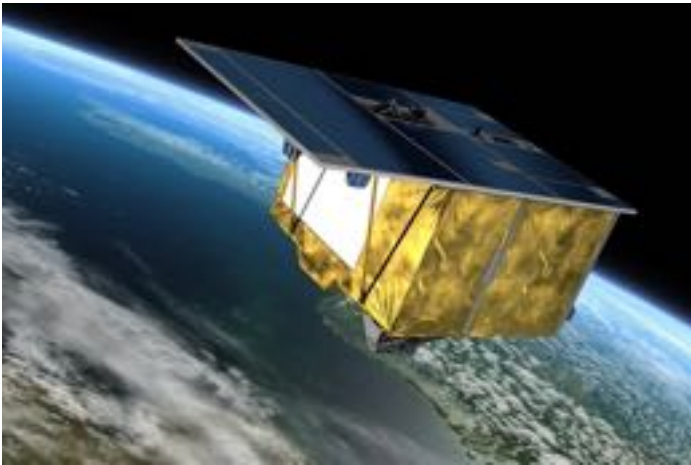
# Effective cooperation for the benefit of society



**PRISMA, ASI**



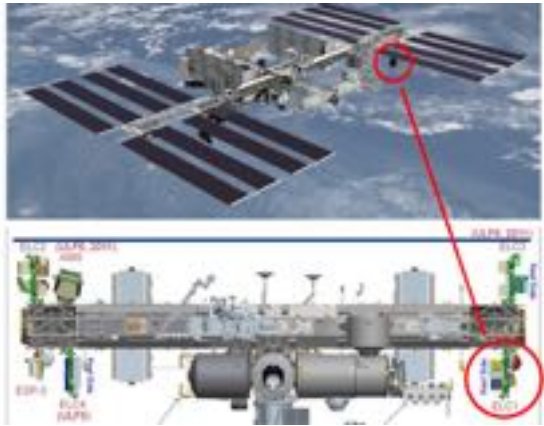
**EnMAP, DLR**



**DESI, DLR**



**EMIT, NASA**



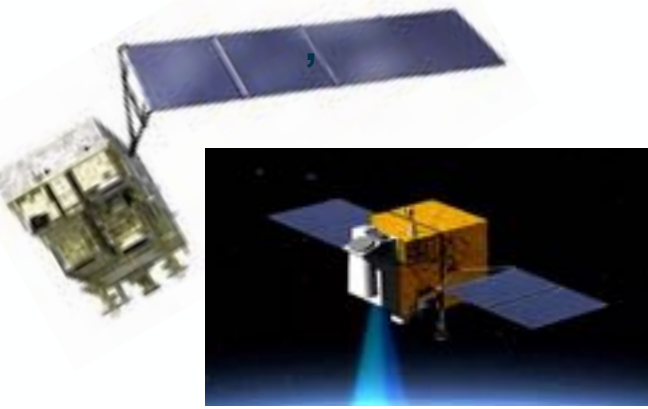
**HISUI, JAXA**



**CHIME, ESA**



**Gaofen 5 and Ziyuan 02D/E**



**SBG, NASA**





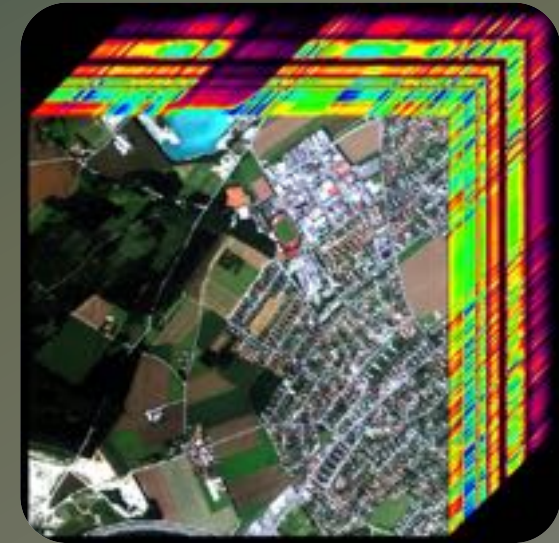
# Copernicus Hyperspectral Imaging Mission (CHIME)



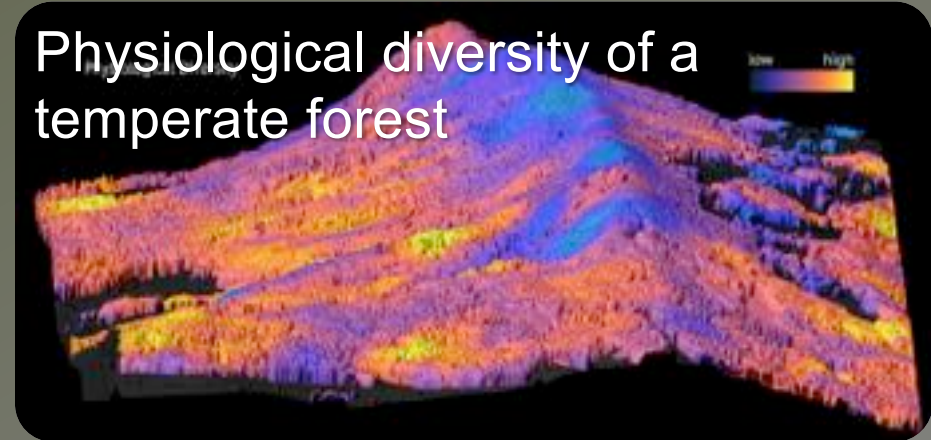
Provide hyperspectral measurements in support of EU- and related policies for the management of natural resources & assets

- Applications for biodiversity and ecosystem sustainability, forestry management, environmental degradation, lake/coastal ecosystems and water quality, snow grain size/albedo, snow impurities)
- Support food security, agriculture and raw materials, soil properties

Hyperspectral data cube (courtesy DLR)



Physiological diversity of a temperate forest



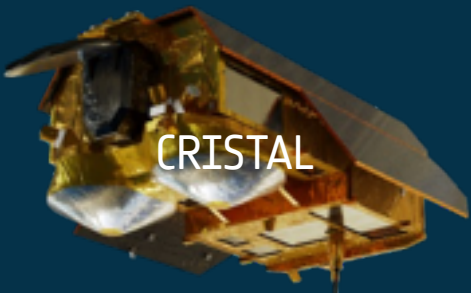
(Airborne imaging spectroscopy APEX data - Schaepman, Jehle et al. 2015)



# Sentinel User Preparation (SUP) ESA EOP Initiative



Activity in collaborative synergy with the EC



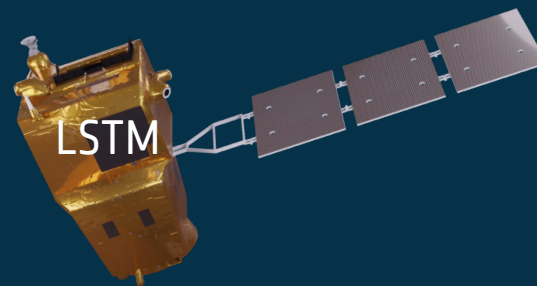
CRISTAL

## WHAT

SUP is a preparatory program for the use of Copernicus Expansion/NG data. Strong support by MS and EARSC

## WHY

Supporting the integration of new Copernicus Expansion/NG datasets into operational working practices and so promote European leadership for space systems where competitors are already active and boost digital commercialisation (ref. EARSC workshop 2021 with D-EOP)



LSTM



ROSE-L

## HOW

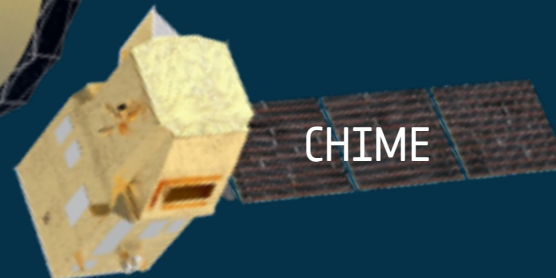
- Build the necessary expertise in the various science and application domains and sectors (academia, value adding companies) to prepare future downstream services
- Ensure readiness for rapid uptake by users and stakeholders of derived information products



CO2M



CIMR



CHIME

## EFFECTS

- Prepare new science and downstream analytics to address societal/environmental challenges
- Act as a 'de-risking' factor and as an incentive for growth to maximise the rapid and effective return-on-investment





# Concrete recommendations and follow-up actions Towards a sustainable future.

