

Agenda



- EO overview
- Earth Explorer
- Copernicus + Meteorological
- Small and Nano Sats
- Technology vision
- CMIN-22

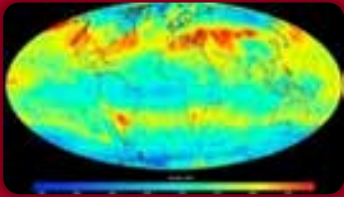


Copernicus – Sentinel expansion



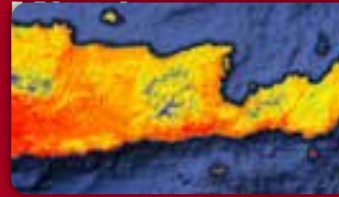
HPCM : High Priority Candidate Missions

CO2M - Anthropogenic CO₂ Monitoring



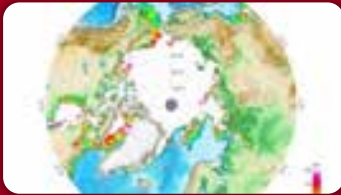
Causes of Climate Change
Imaging spectrometer

LSTM – Land Surface Temperature Mission



Agriculture & Water Productivity
TIR multispectral imager

CIMR – Passive Microwave Radiometer



Sea Surface Temp.& Ice Concentration
**Imaging (L to Ka-band)
Radiometer**

CHIME – Hyperspectral Imaging Mission



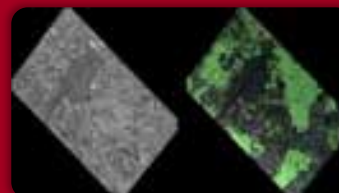
Food Sec, Soil, Minerals, Biodiversity
**Hyperspectral VNIR-SWIR
imaging spectrometer**

CRISTAL – Polar Ice & Snow Topography



Effects of Climate Change
Altimeter

ROSE-L – L-band SAR Mission



Vegetation & Ground Motion & Moisture
L-band SAR

ESA UNCLASSIFIED – For Official Use



European Space Agency

Copernicus Expansion - HPCM

MISSION	Ph.B2/C/D/E1		
	KO		
		Mission Prime	Instrument Lead
CHIME (Hyperspectral)	13-Nov-2020	Thales	OHB
LSTM	13-Nov-2020	Airbus	Airbus
CO2M	31 July, 2020	OHB	Thales
CRISTAL	28-Sep-2020	Airbus	Thales
CIMR	13-Nov-2020	Thales	OHB
ROSE-L	Dec-2020	Thales	Airbus

- Phased B2/C/D/E1 contract **SIGNED** (end 2020)
- Recurring Satellites and launch funded by EC

Q2-2021 : Planned signature of FFPA with EC

- FFPA: Framework Partnership Agreement
- Funding shortage, but extra funding from the UK + CH + NO

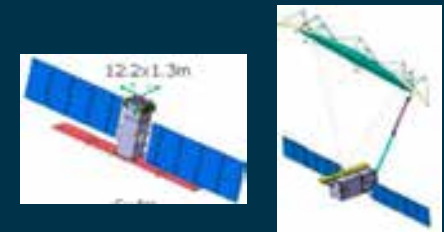
Sep.2021: Decisions at ESA PB-EO (PB=Program Board)



Sentinel Evolution / Next Generation (NG)



Data continuity as a driver, but with better performance + new products



S1-NG trade-offs
(planar array vs reflector)

Procurement to start end 2020 / 1st half 2021

- Phase A/B1:

- S1-1 NG (C-band SAR+ S6 Continuity Ph.A) ITT 16 Dec. till 09-Feb
 - Airbus-UK involved in Ph.0 in Airbus-DE led consortium
- S3-NG Topographic Ph. A/B1+ S6 Continuity Ph.A ITT expected Q2-2021 – (IPC approved it in Feb. 2021)
 - CDF studies in the past months

- Phase 0 :

- S2-NG Optical Instrument - with MSI-NG In Evaluation
- S3-NG Optical - i.e. with OLCI-NG & SLSTR-NG - In Evaluation
(complex to explain – some bands double resolution)



- Aeolus data assimilated in ECMWF operational environment (< 1.5 yr after launch)
- Following EUMETSAT Council interest in Aeolus Follow-on
 - Lessons Learnt from Aeolus established end of 2019
 - ESA roadmap for most critical items – all on-going

Item	Activity	Tender type	Budget (13.8 M€)
1	Detector for Wind lidar (EM)	DN with Teledyne e2v (UK)	2.8
2	Transmitter Laser Assembly –(EM)	DN with Fraunhofer ILT DE) and Leonardo (IT)	5 + 5
3	Instrument consolidation study	DN with Airbus Defence and Space (FR)	1