EnMAP

Our Earth in more than just colour.

Mission Status

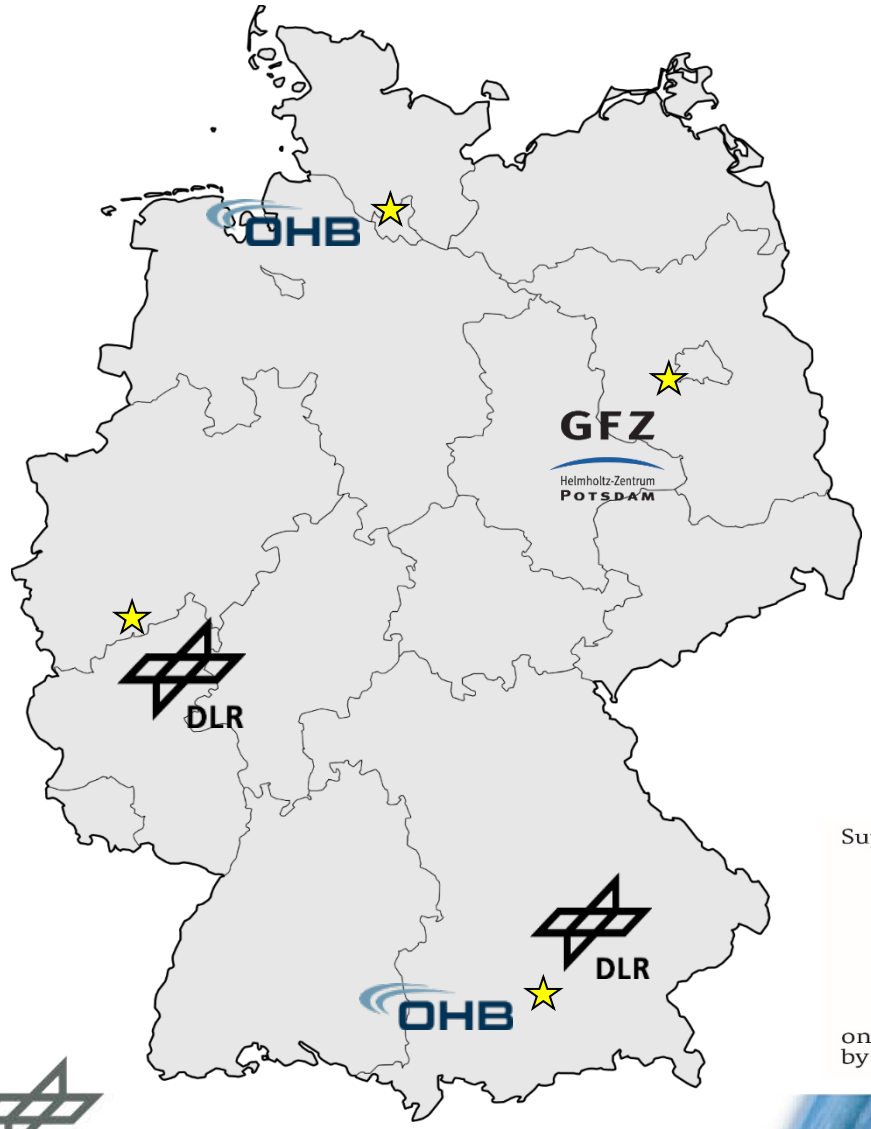
Living Planet Symposium 2022

Sebastian Fischer
on behalf of the Mission project teams

DLR

Supported by:
Federal Ministry
for Economic Affairs
and Climate Action
on the basis of a decision
by the German Bundestag

EnMAP Mission Consortium



DLR — Project Management
DLR Space Administration

GFZ — Scientific Principal Investigator
GFZ Potsdam

EnMAP Science Team

OHB — Space Segment
Sensor | Platform

DLR — Ground Segment
Operations *DLR-GSOC* | Payload *DLR-DFD* | Processing *DLR-IMF*

- DLR Space Administration in Bonn is responsible for the overall project management
- Core funding comes from the German Federal Ministry of Economic Affairs and Climate Actions

- In addition: Extensive Scientific Exploitation preparation program

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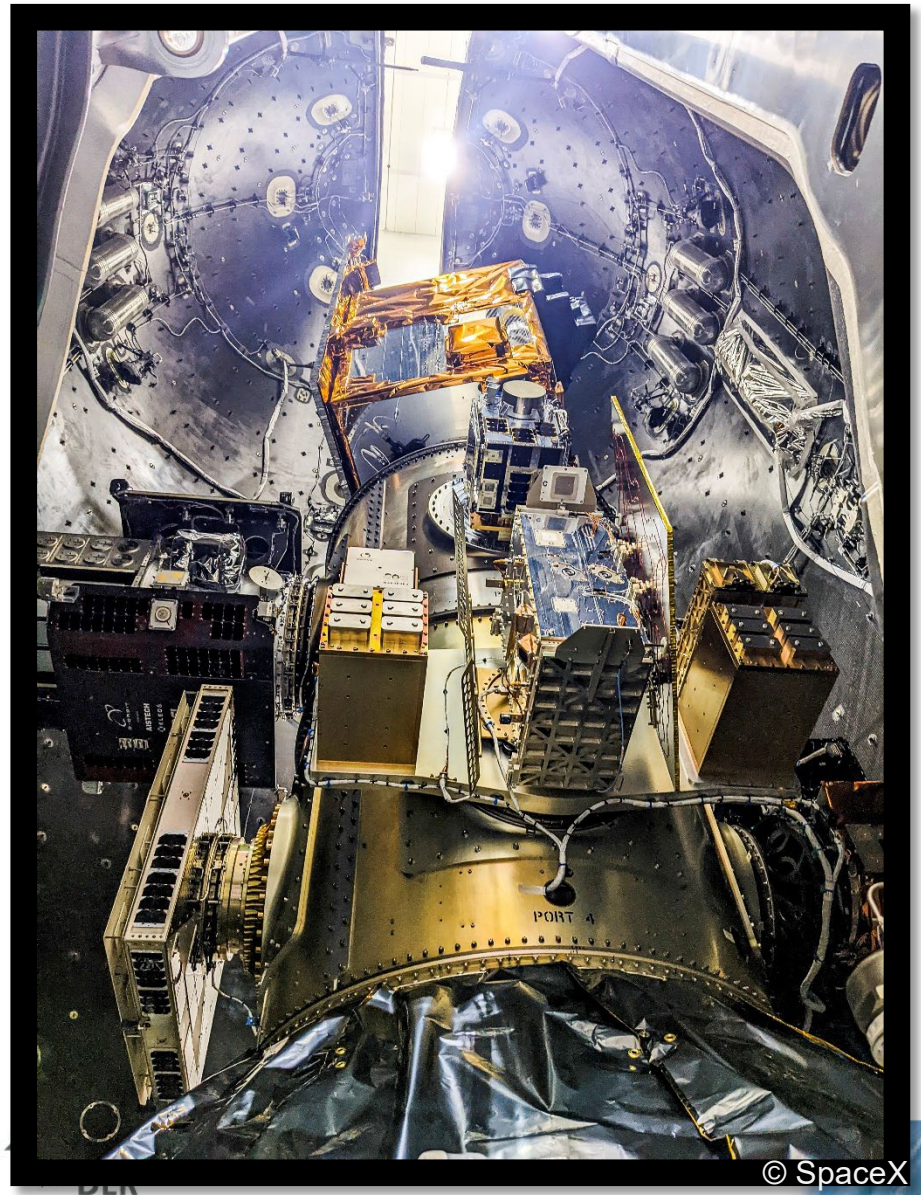
Mission key facts
(unchanged since years)

Orbit characteristics		
Orbit / Inclination	sun-synchronus / 97.96°	
Target revisit time	27 days (VZA ≤ 5°) 4 days (VZA ≤ 30°)	
Equator crossing time	11:00 ± 18 min (local time)	
Instrument characterstics	**VNIR**	**SWIR**
Spectral range	420 – 1000 nm	900 -2450 nm
Number of spectral channels	89	155
Spectral sampling interval	6.5 nm	10 nm
Spectral bandwith (FWHM)	8.1 nm	12.5 nm
Signal to Noise ratio (SNR)	> 500 : 1	> 150 : 1
Spectral calibration accuracy	0.5 nm	1 nm
Ground sampling distance	30 m (at nadir; sea level)	
Swath width	30 km (field-of-view” 2.63° across track)	
Swath length	1000 km / orbit; 5000 km / day	

What a year for EnMAP!



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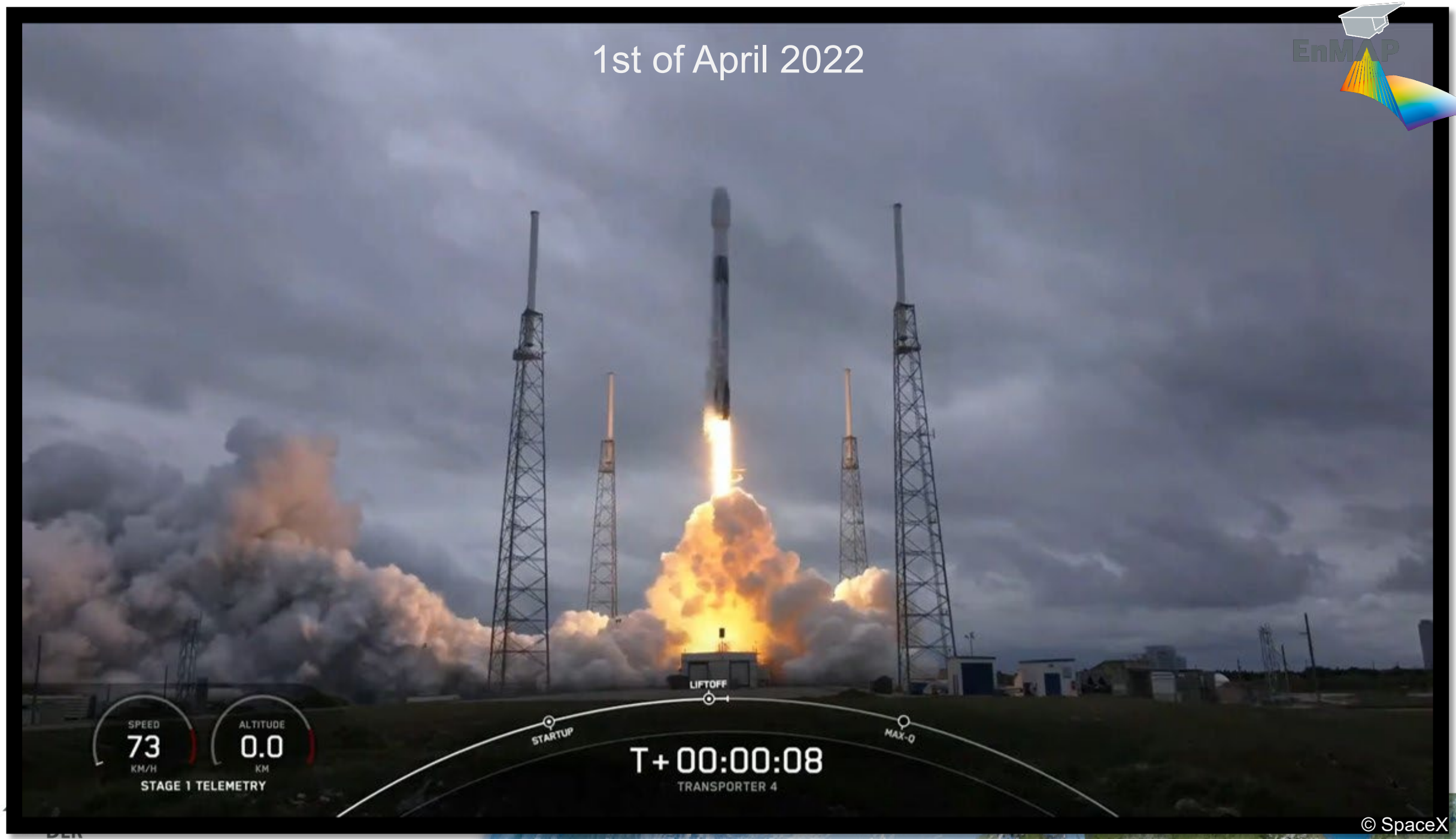
- Instrument and platform were finalized in **early 2021**
- In the course of the following **12 months**,
  - satellite assembly,
  - functional testing
  - Finalization of ground segment preparation
  - End-to-end tests between space- and groundsegment
  - Satellite environmental testcampaign
  - Shipment/acceptance reviews of the satellite
  - Operational readiness review of the ground segment
  - LEOP simulations
  - Launch preparation

  were conducted.

- Enormous, combined effort of teams at **OHB**, **DLR ground segment and DLR agency**

1st of April 2022



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Launch and Early Orbit Phase

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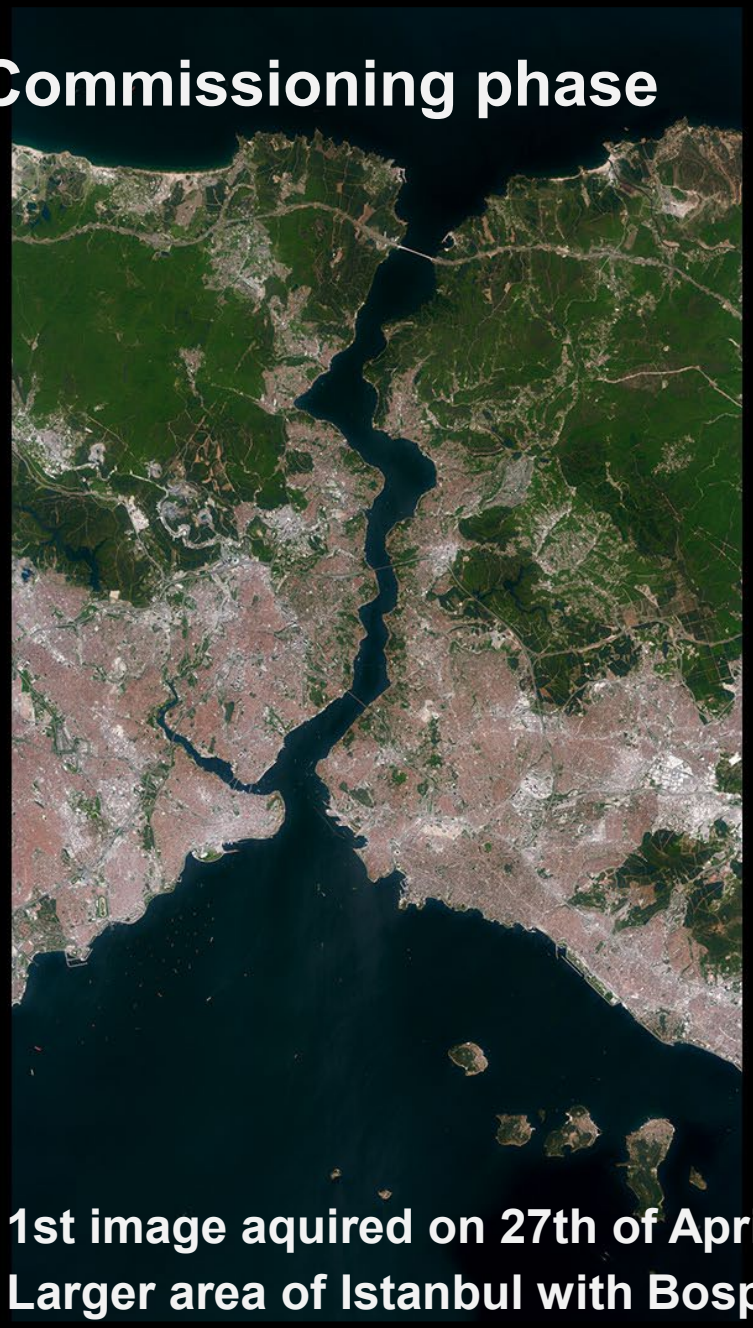
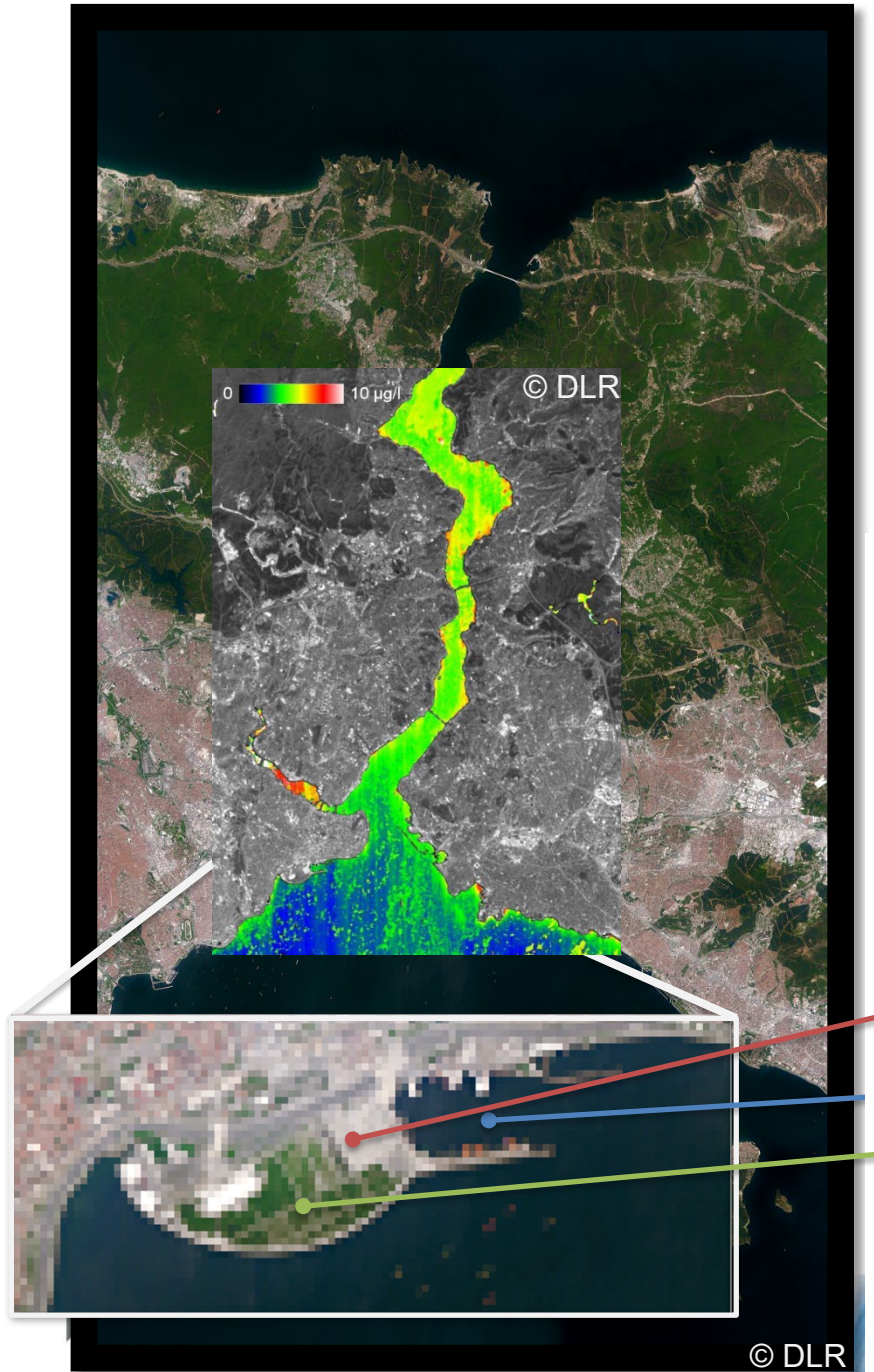
- Satellite subsystems have been taken into operations
- Launch locks released
- Target orbit reached:
  - Good injection accuracy + good AOCS performance + optimized orbit maneuvers → only 2.3 kg Hydrazine were used
  - This more than doubles the potential mission lifetime!
- LEOP was successfully completed on 04-14-2022

Commissioning phase

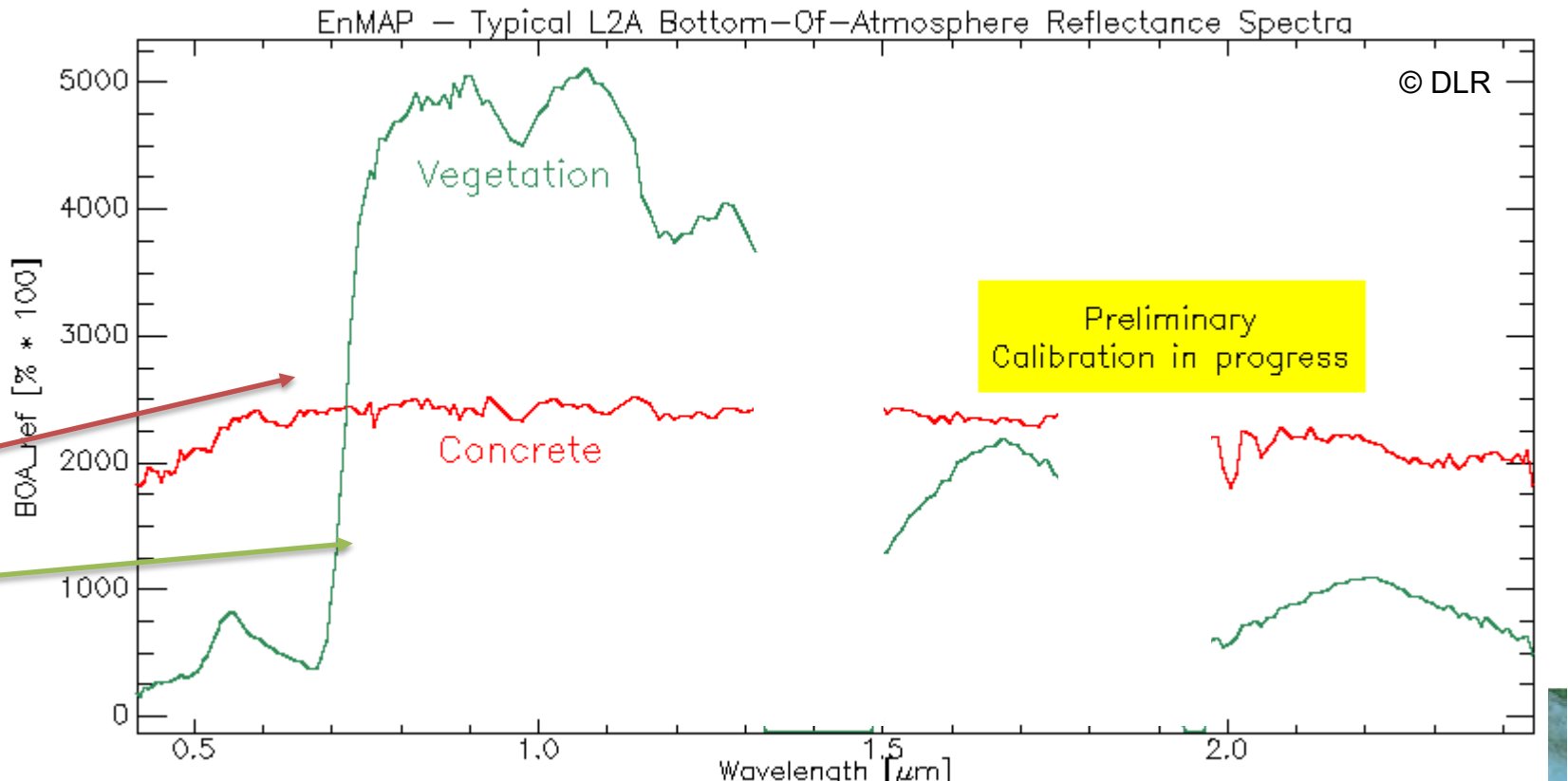


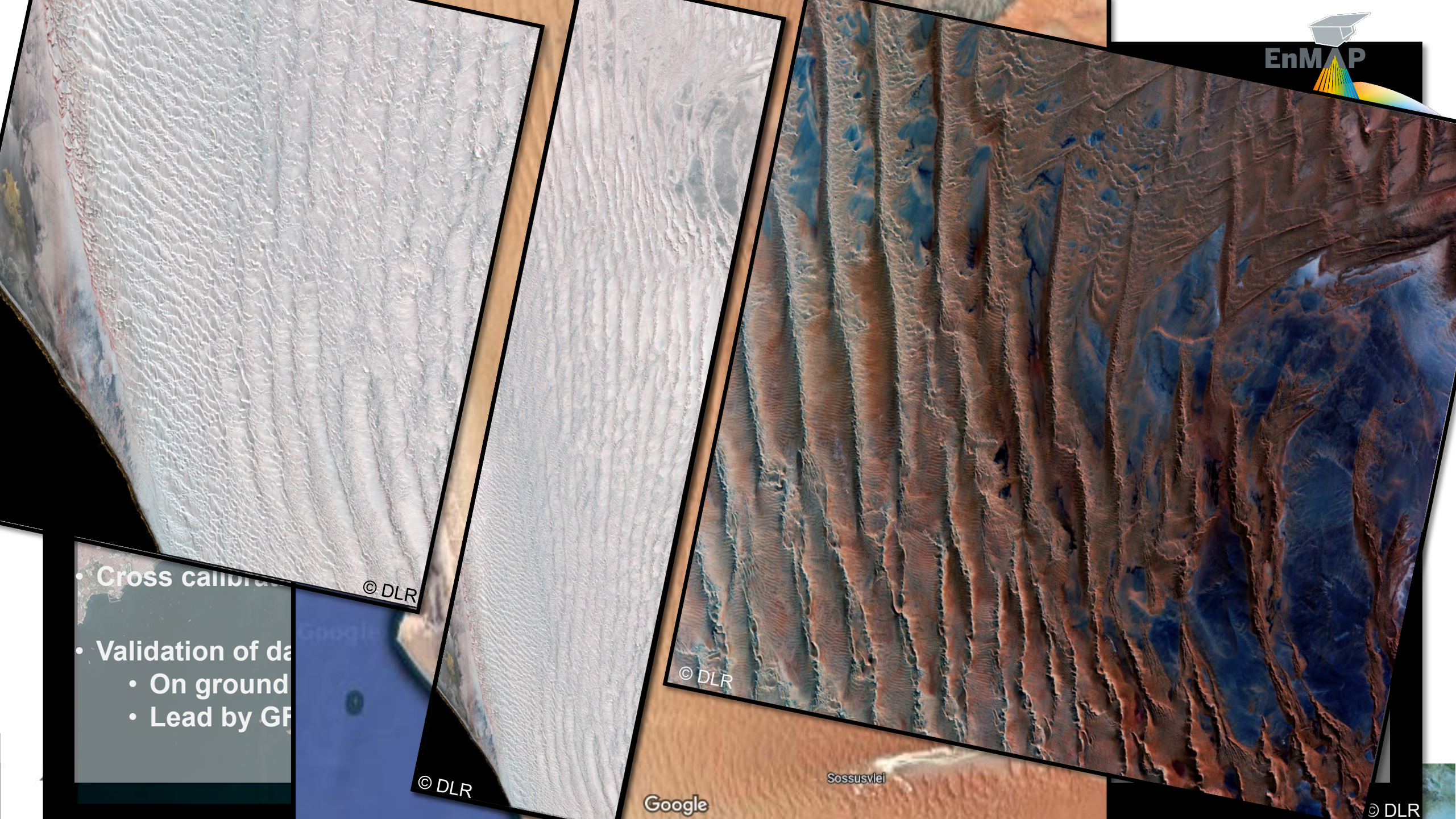
1st image aquired on 27th of April:
Larger area of Istanbul with Bosporus at the centre

EnMAP First light



- Data processed already on 29th of April
- On ground calibration tables used for L1B
- Data quality in very good agreement with predictions
- first exemplary derivated product: Chlorophyll content in Bosporus

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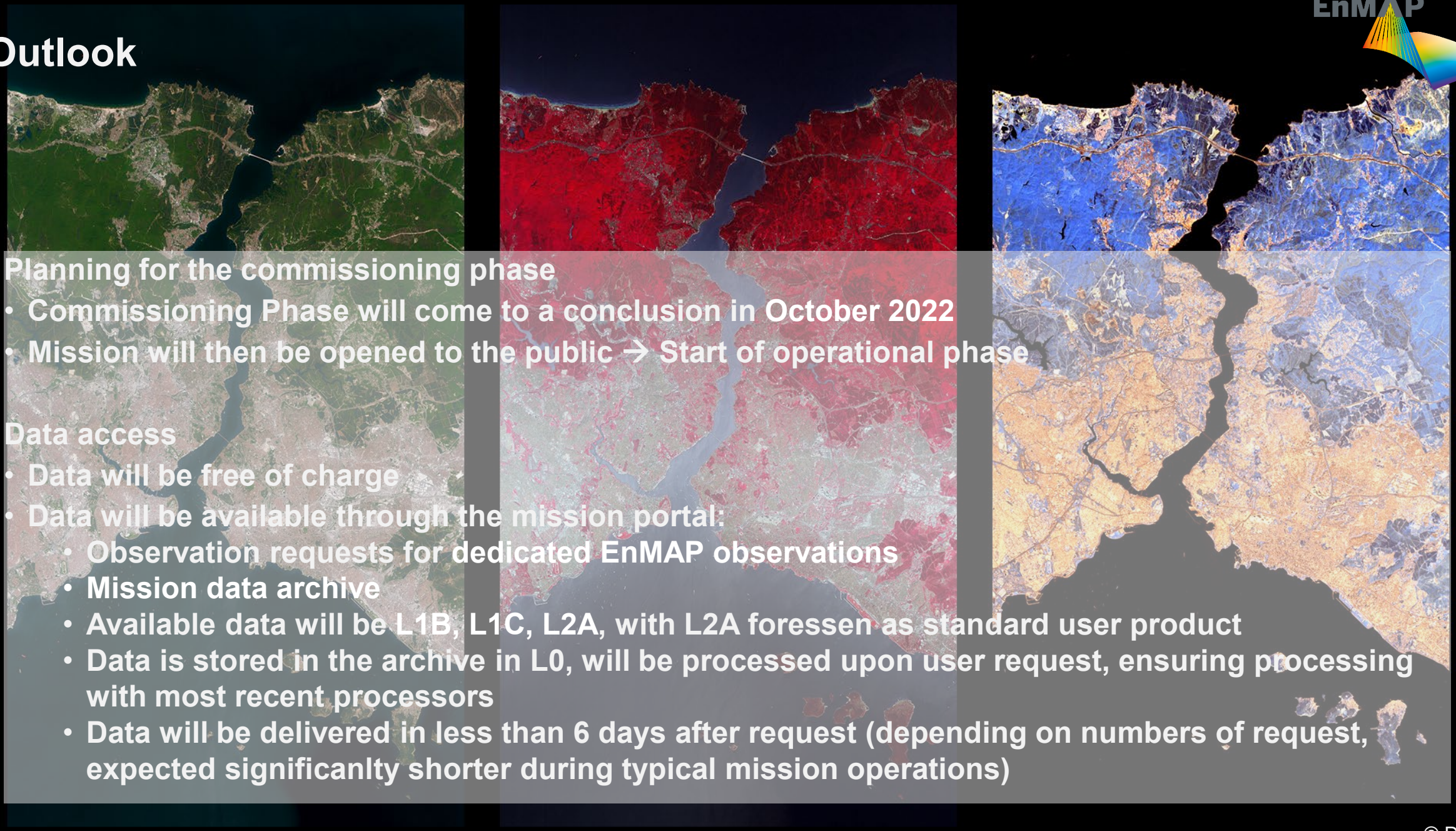
• Cross calibra
• Validation of da
• On ground
• Lead by GF

Outlook



Planning for the commissioning phase

- Commissioning Phase will come to a conclusion in October 2022
- Mission will then be opened to the public → Start of operational phase

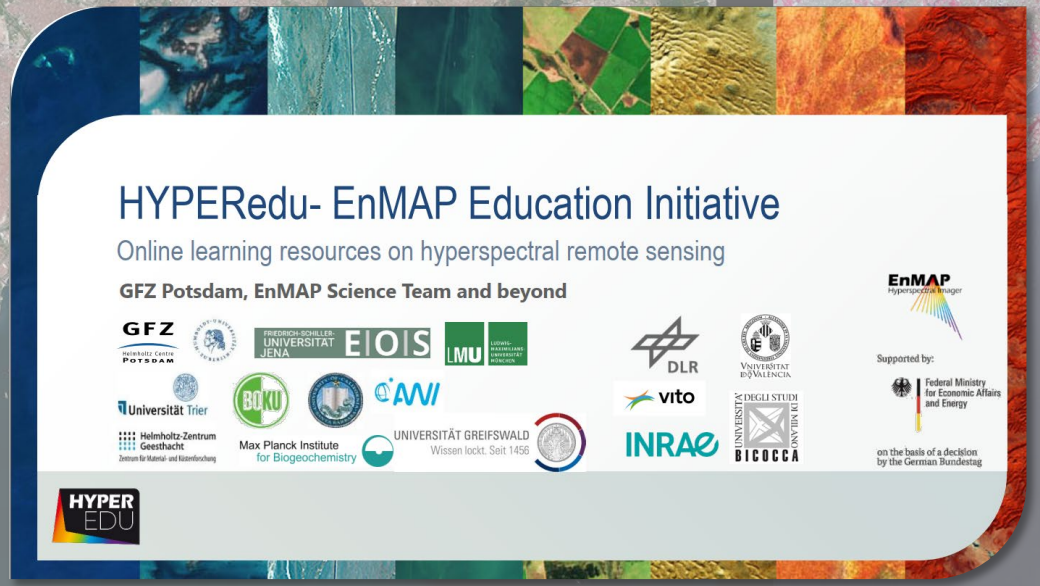
Data access

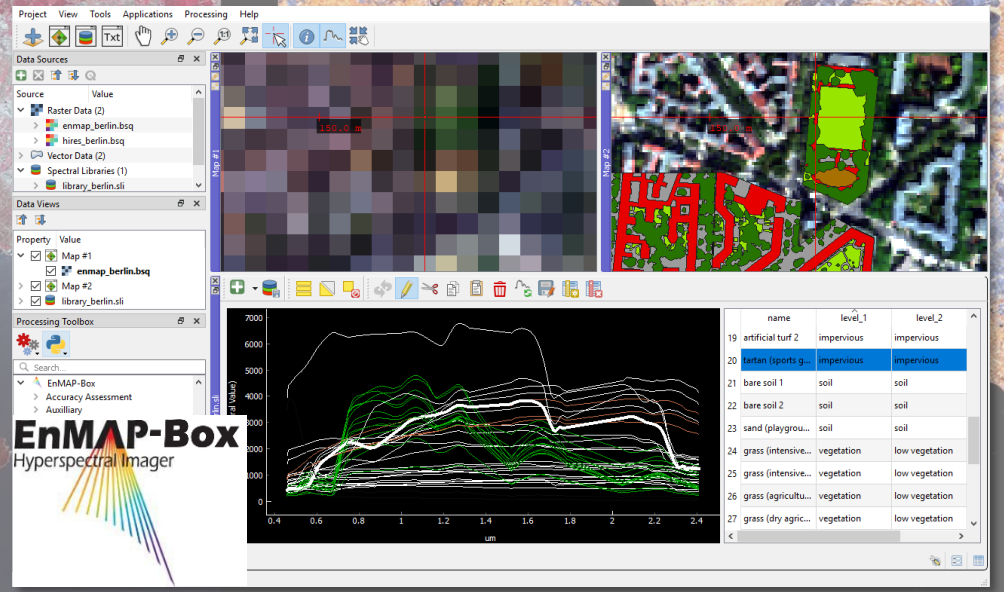
- Data will be free of charge
- Data will be available through the mission portal:
  - Observation requests for dedicated EnMAP observations
  - Mission data archive
  - Available data will be L1B, L1C, L2A, with L2A foressen as standard user product
  - Data is stored in the archive in L0, will be processed upon user request, ensuring processing with most recent processors
  - Data will be delivered in less than 6 days after request (depending on numbers of request, expected significanlty shorter during typical mission operations)

Thank you!

For more information visit

www.dlr.de/enmap www.enmap.org





MISSION **EnMAP**

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