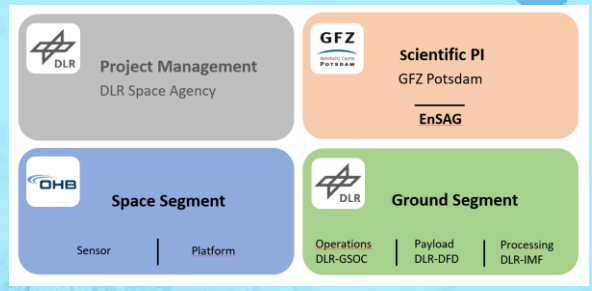
Supported by:
Federal Ministry
for Economic Affairs
and Climate Action
on the basis of a decision
by the German Bundestag

ENMAP MISSION STATUS

Dr. Laura La Porta, Mission Manager

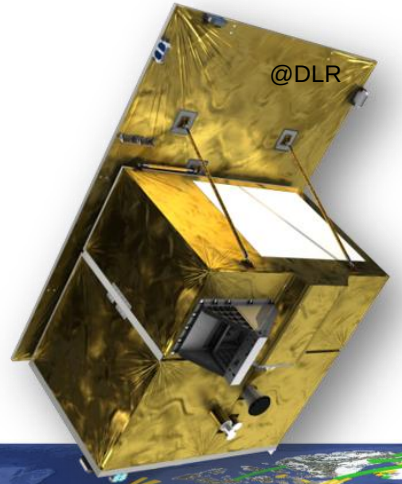
on behalf of the EnMAP Consortium

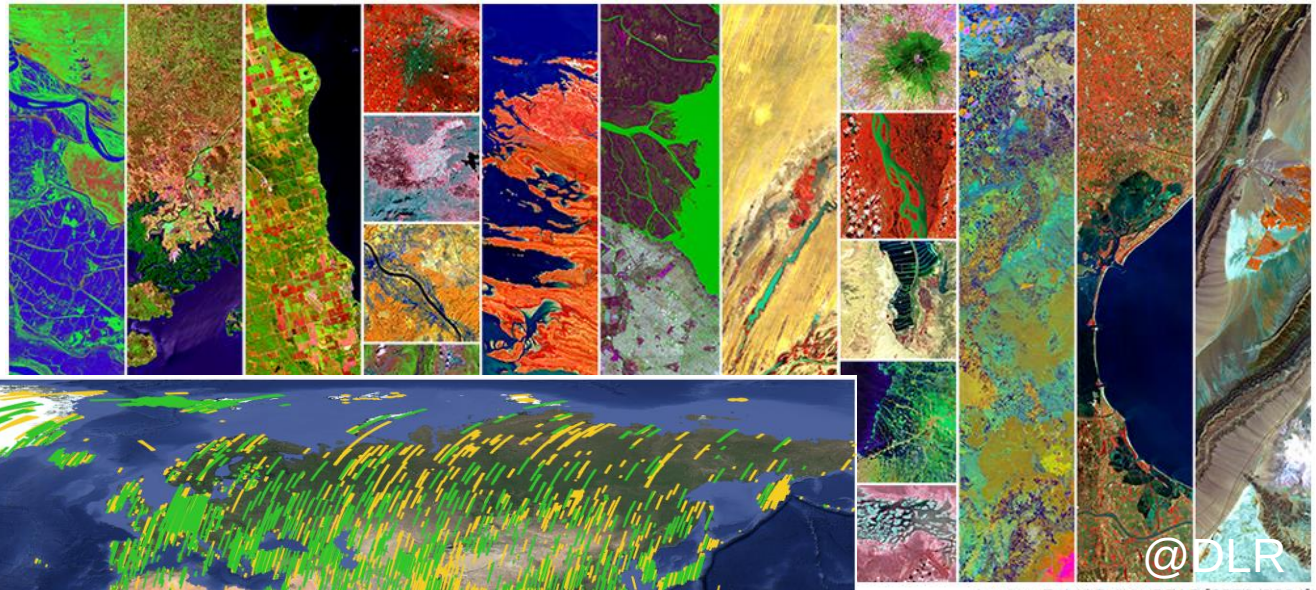
D. Reintsema, V. Krieger, R. Wernitz, K. Bagschik, M. Bock, S. Fischer
E. Carmona, K. Wirth, D. Schulze, N. Pinnel, S. Baumann, M. Pato, S. Hartung,
M. Habermeyer, S. Engelbrecht, …
S. Chabrillat, M. Brell, K. Segl, A. Okujeni, …
R. Feckl, M. Betz, S. Baur, …



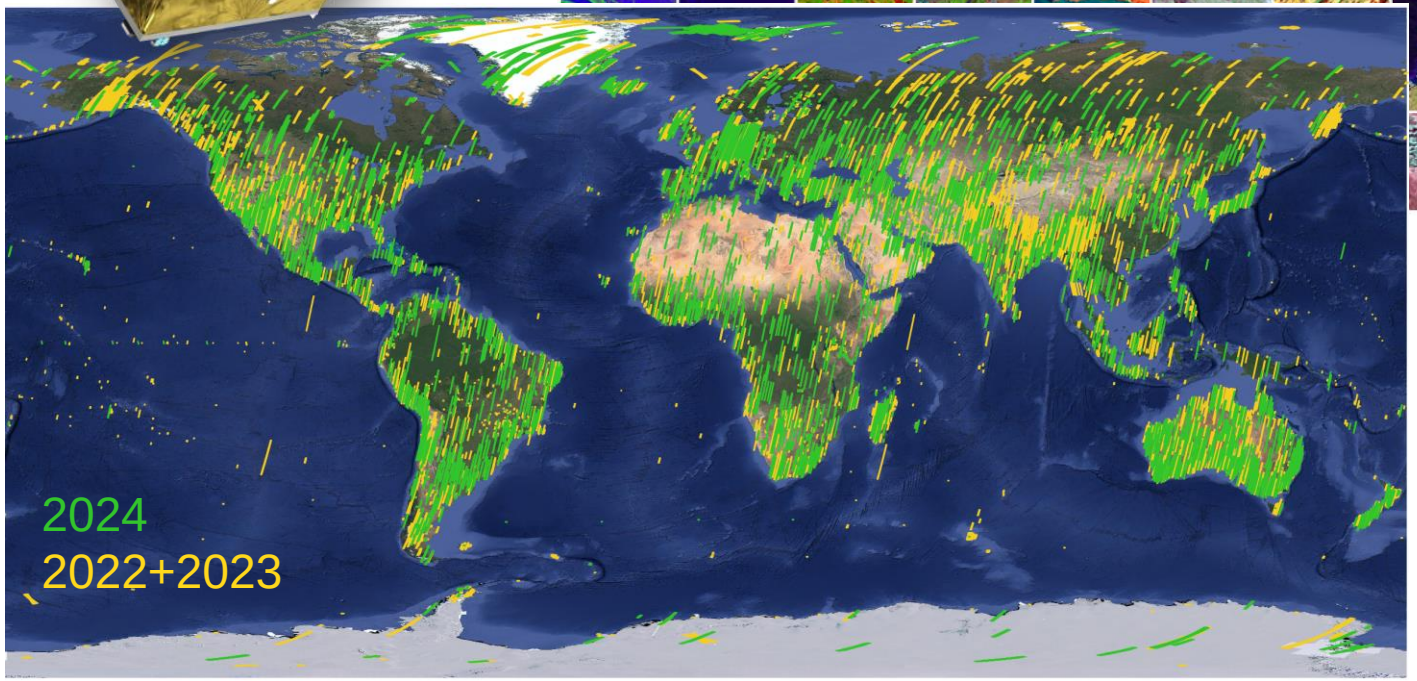
3rd ESA WICSIS, ESTEC, Holland, 13.11.2024

EnMAP – 2nd year of operations





Images: EnMAP data ©DLR [2023/2024]



Courtesy of E. Carmona

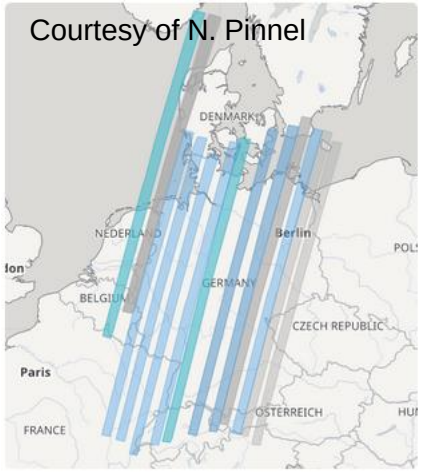
Operations ran almost uninterrupted

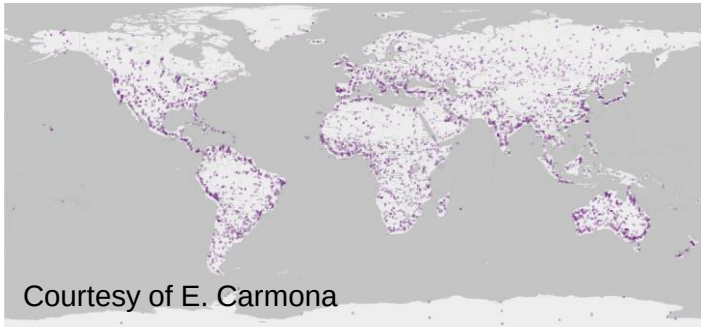
> 50% of the collected data acquired in 2024

A very good year for EnMAP!

Highlights

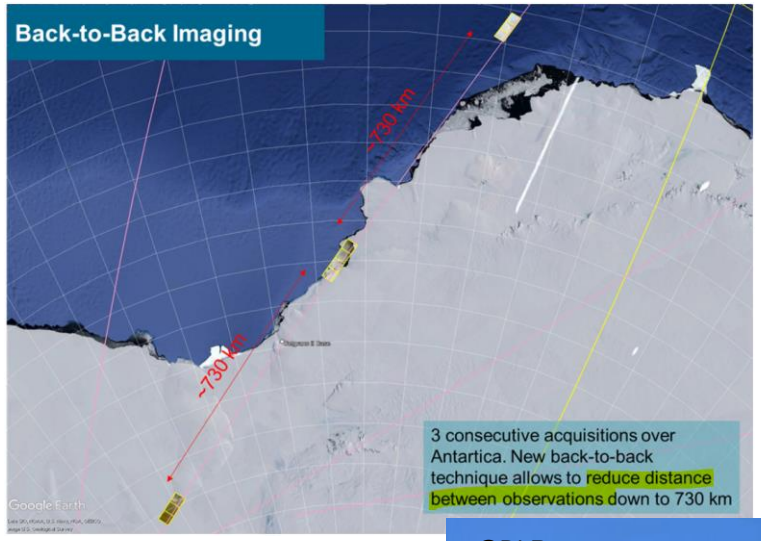
- **Extensive Foreground and Background Mission**





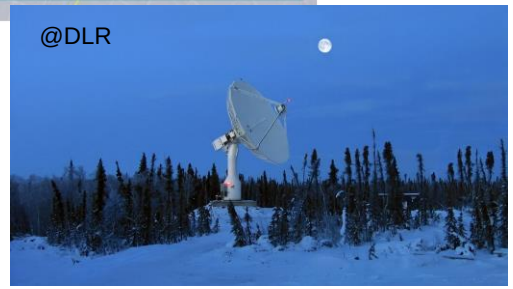
- Changes in IPS and proposal/quota handling

- B2B-imaging (No. DT/day +20%)



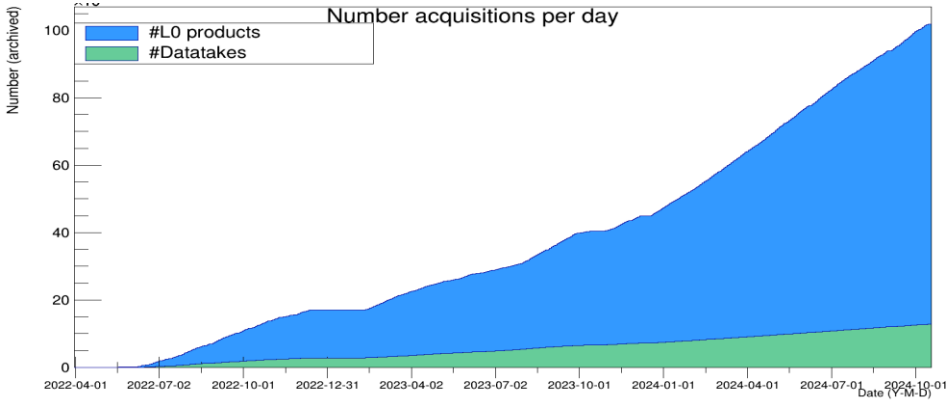
Courtesy of E. Carmona

- Inuvik (X-band D/L)



Improved exploitation of EnMAP S/C capabilities

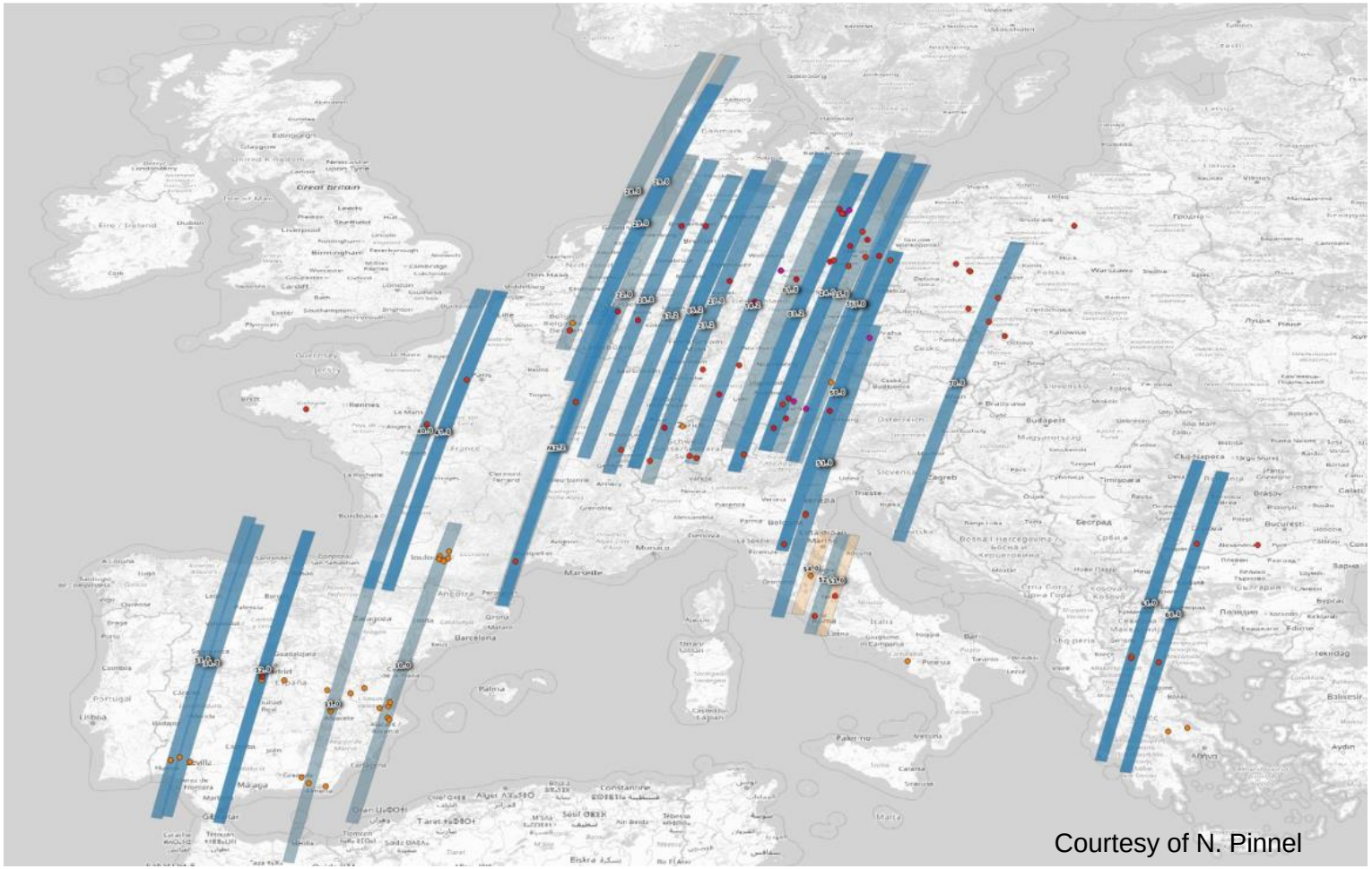
- < DT/day > ~188 in Q3-2024
- In total ~ **13.000** Earth DT
  ~ **102.000** L0 products



Courtesy of E. Carmona

Foreground Mission

Goals 2024
- optimizing acquisition rate
- generating time series covering EU, in particular Germany



- Started 03/2024
- Stripes ~1000 km long
- Defined with users (workshops)
- Assigned max. priority
- Flexible (campaigns, weather)

- Acquired 57 stripes since 07/2024
- Parallel to 14 on ground campaigns:
  - Methane Experiment (USGS)
  - Greenland (GFZ)
  - Artic (AWI)
  - Soil Sites/Demmin (GFZ)
  - Oil detection (Mexico) (NASA)
  - Aquatic/Agriculture (Uni Valencia)
  - Sardegna, Largo di Garda (CNR)
  - Jolanda di Savoia (ITC, CNR)
  - …
- 50% stripes has cloud coverage < 20%

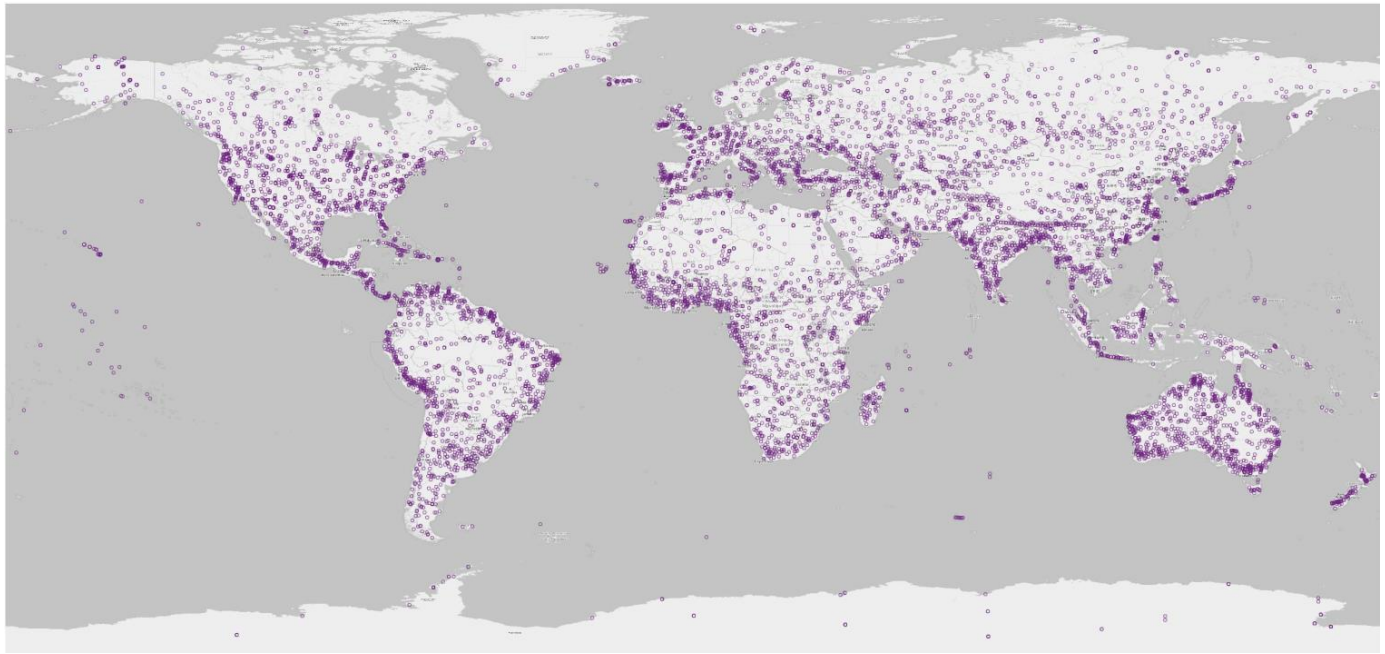
See poster by N. Pinnel „The EnMAP mission and campaigns activities.“

Background Mission

Goals
- focus on time-series, but
- areal coverage in progress

Extended in 2024
  - from 300 to ~650 sites,
  - sites more globally distributed,
  - focus outside EU

Schedule
- updated quartely

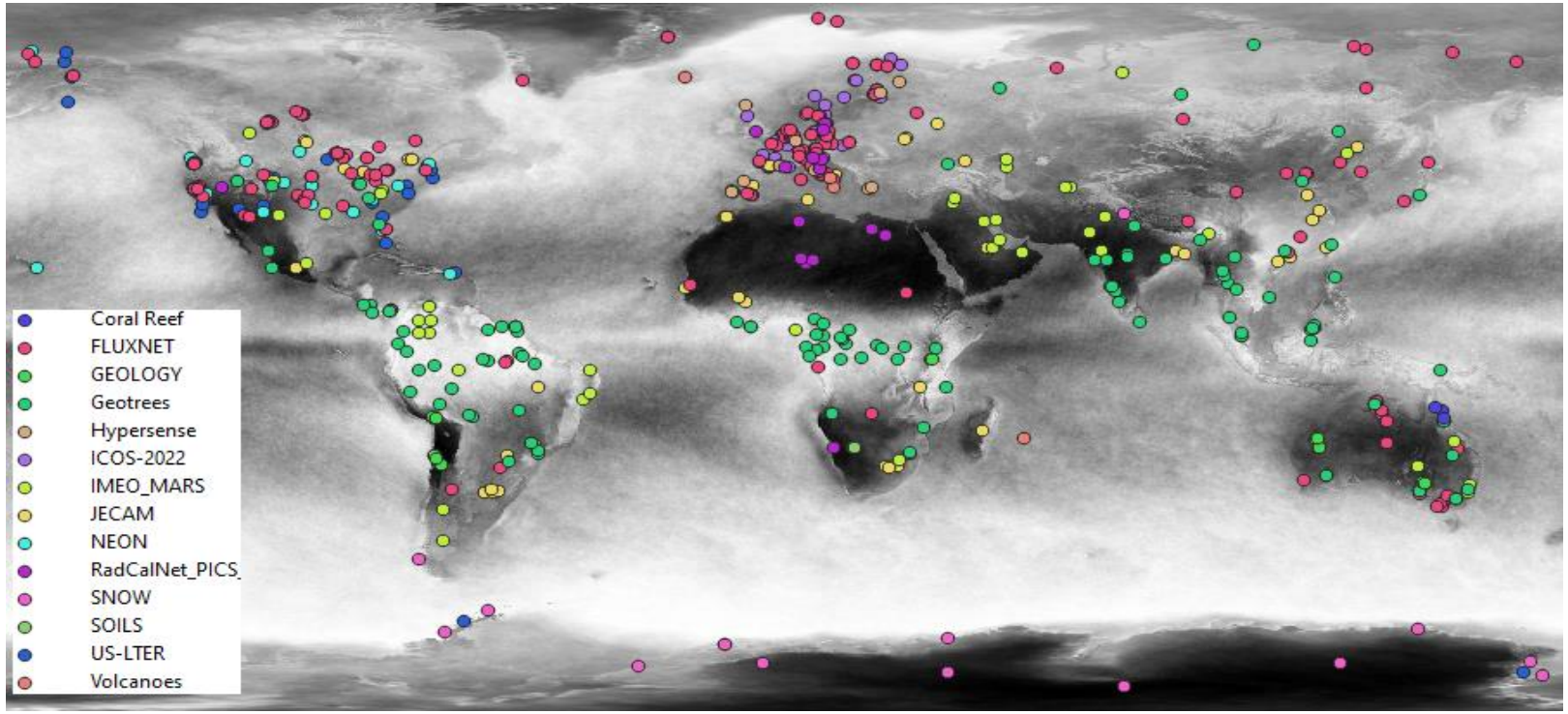


Courtesy of E. Carmona

Background Mission

Target list:
network sites (since 2023)

- CEOS LPV supersites
- RadCalNet/PICS/HyperNet
- CHIME HyperSense sites
- NEON list 2023
- JECAM
- ICOS (down selection)
- Top list priority volcanoes



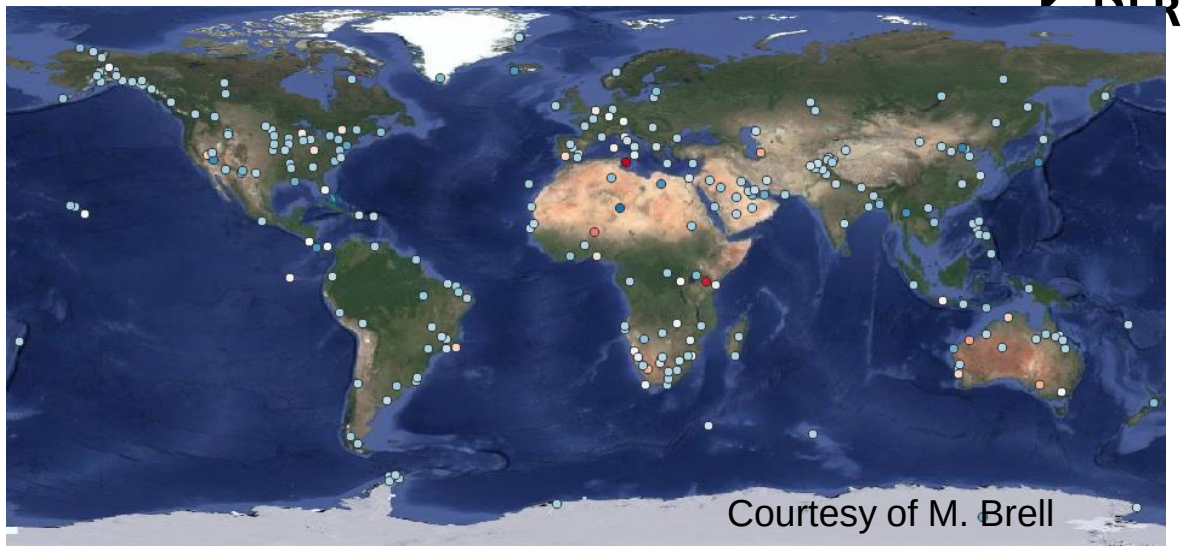
Courtesy of M. Brell

Extension of the target list (2024)

- specific targets linked to thematic applications (snow, soil, geology, volcanoes, coral reef, methan observations)
- More network sites: US-LTER, Fluxnet, Geotrees (tropical areas)

EnMAP & PRISMA match-ups

- 140 common acquisitions globally distributed (also over science or network sites in the frame of cal/val or thematic campaigns)
- Goals: development of L1/L2 transfer functions (for multi-sensor time-series analyses), and/or cross-calibrations
- started with 10-20 sites outside Europe
- Regular meeting to identify possible match-ups
- Schedule renewed on monthly basis

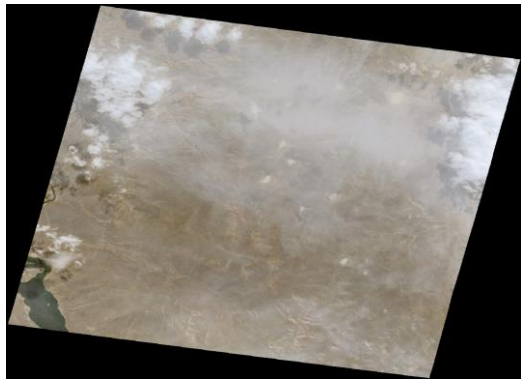


Courtesy of M. Brell

Courtesy of E. Carmona

- 44 attempts 06-10/2024
- 25 successfull
- 10 without clouds < 20%

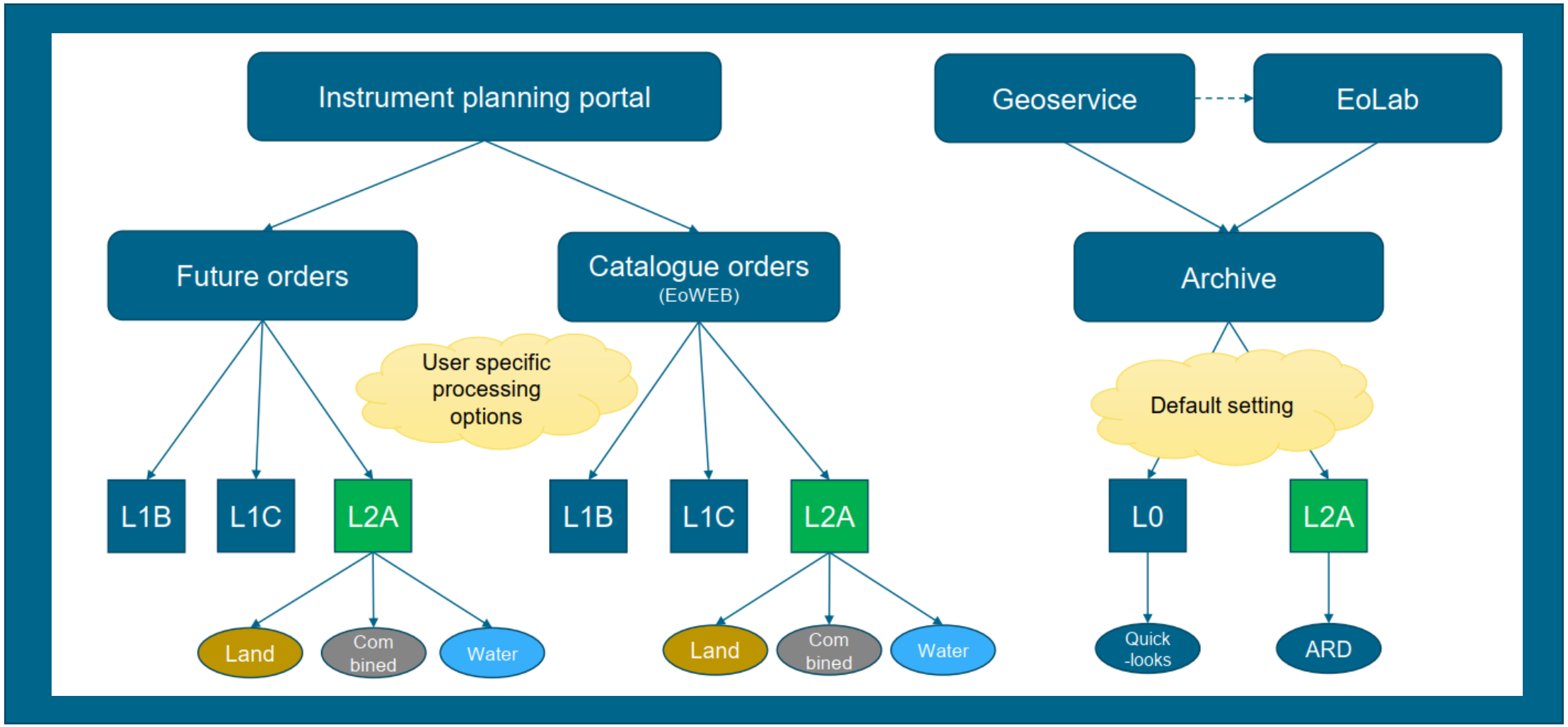
Workflow well established
→ ongoing work!



Courtesy of E. Carmona

Contact us if you are interested in collaborating!

Data Access



Courtesy of S. Baumann

Outlook

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

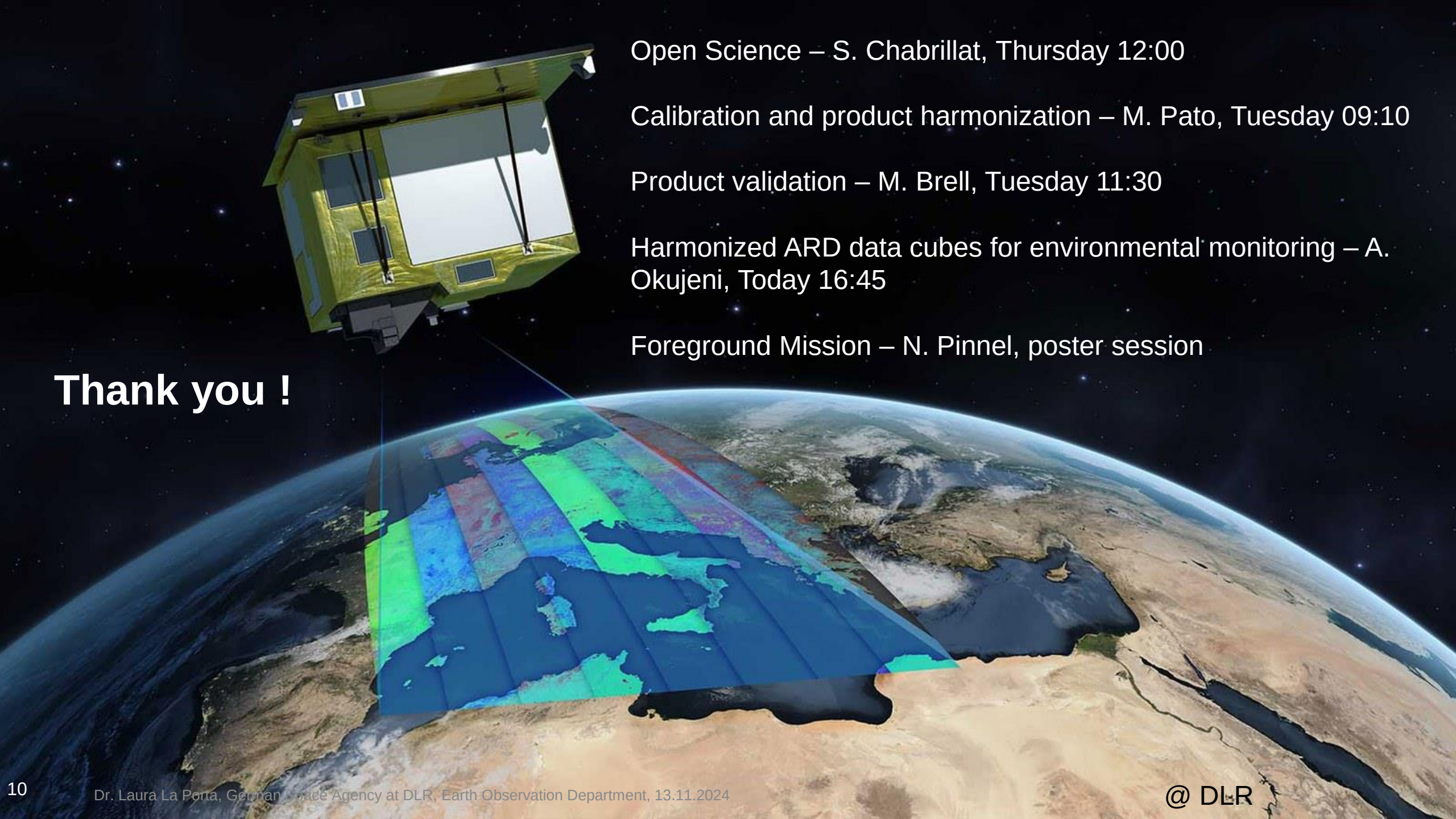
Plans for Foreground Mission 2025
- Moving away from North EU during winter (bad weather)
- Workshops with water community
- Identify best strategy (time series or global coverage?)
- Coordination with on-ground campaigns

User Support and Data dissemination
- Mirrors of the EnMAP archive
- More conferences and workshops!

EnMAP Workshop
'From Hyperspectral Data to Environmental Understanding'
Schloss Nymphenburg, Munich
2-4 April 2025

Commercial users
- in 2025 selected commercial users can task EnMAP

Synergies & Cooperation with other hyperspectral sensors:
- Acquisition and analysis of parallel PRISMA/EnMAP acquisitions
- Further attendance of dedicated conferences: sensors cross-calibrations
- Cooperation with EMIT, DESIS, PACE ... CHIME/SBG core sites



Open Science – S. Chabrillat, Thursday 12:00

Calibration and product harmonization – M. Pato, Tuesday 09:10

Product validation – M. Brell, Tuesday 11:30

Harmonized ARD data cubes for environmental monitoring – A. Okujeni, Today 16:45

Foreground Mission – N. Pinnel, poster session

Thank you !

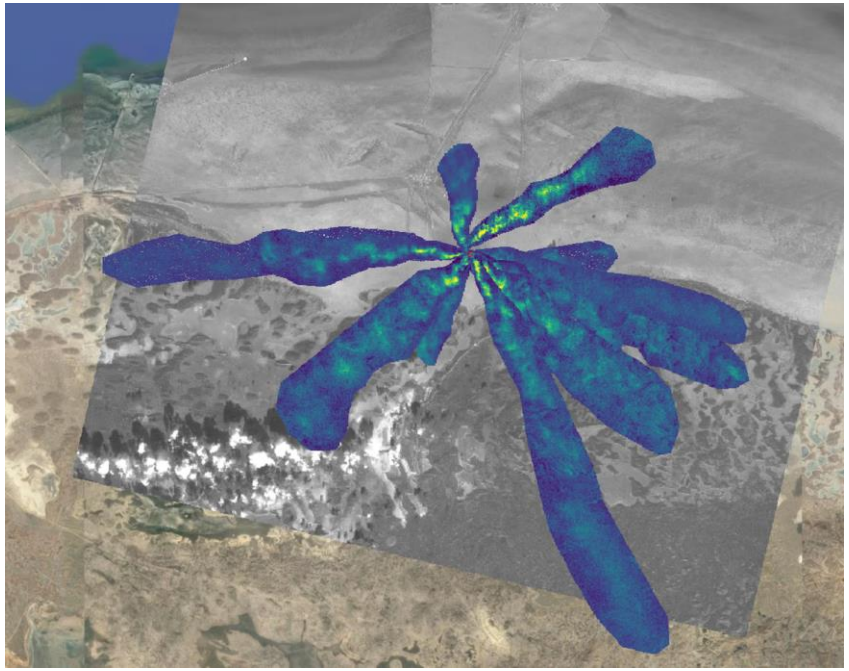
NEWS

“The authorities in Kazakhstan have imposed a fine of $780,000 on an oil company responsible for one of the worst methane leaks ever recorded following a prolonged fire at one of its fields last year.

[…]The fire lasted from 9 June to 25 December and caused one of the largest emissions of methane in history, with concentrations exceeding permissible levels by 480 times […]”

Source:

https://www.independent.co.uk/climate-change/news/kazakhstan-oil-firm-methane-leak-b2498997.html



„Modified satellite image shows the extent of leak in Kazakhstan (Kayrros SAS analysis/contains modified EnMAP and EMIT data, DLR (2024) and NASA (2024))“