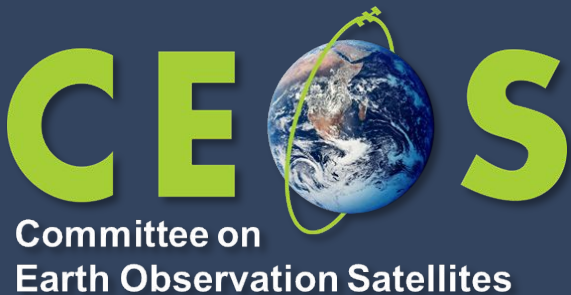


Future of CEOS-ARD

*Focus discussion on 'Data
Quality'*



Medhavy Thankappan, GA

Agenda Item 2.9

WGCV-55

Hyderabad, India

8-10 July, 2025

How to ensure we keep moving CEOS-ARD forward?

- Changing technology
- Changing sector
- Evolving user landscape and expectations
- Imperative to deliver
 - Big challenges, e.g. resilience, where this data matters
 - Need evidence that demonstrates impact

Can we be more ambitious?

- Where?
- How can the 2026 CEOS Chair help?

2025 is an info gathering year – taking the pulse of the community, building participation, taking stock of resources/agency interest

LSI-VC-17 and SIT-40

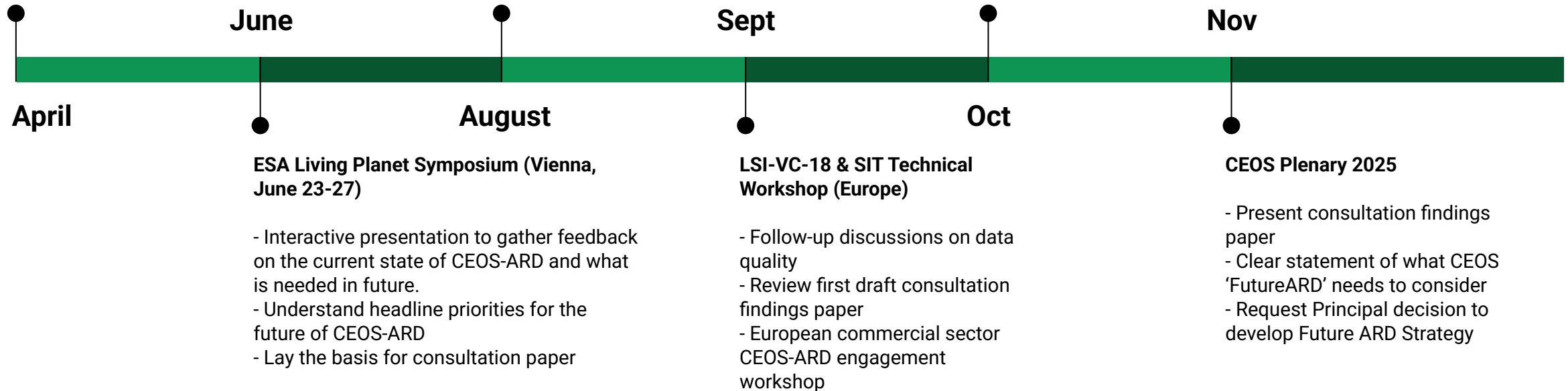
- Initial discussions with LSI-VC / CEOS-ARD team
- WGCV expert perspectives
- First engagement with CSDA/EDAP teams
- WGISS AI/ML inputs
- Agency discussions
- Plan and **roles**

IGARSS 2025 (Brisbane, August 3-8)

- Additional opportunity to consult with the Science/User community.
- Re-run LPS interactive session

IAC 2025

- Industry and space agency head engagement.



CEOS Plenary 2025 is a key milestone:

- ❖ **Present a ‘Future of CEOS-ARD’ concept note / consultation findings paper**
- ❖ Clear statement of what CEOS ‘FutureARD’ needs to consider
- ❖ Request Principal decision to develop Future ARD Strategy (CEOS-ARD Strategy 2026)
- ❖ SIT Tech Workshop an additional opportunity for discussion with CEOS

CEOS-ARD ×WGCV-55

Help shape
the future of
CEOS Analysis
Ready Data



Improved data 'quality' will be a central part of Future CEOS-ARD.

Clear data quality examples from recent self-assessments (see [here](#))

- ❖ If just assessing metadata, products can meet CEOS-ARD compliance however mask values can be incorrectly identified in the metadata and/or omitted from the metadata as it was not required for Threshold level assessment under the PFS.
- ❖ Whilst products can meet CEOS-ARD metadata compliance, the quality of the physical product can still be suspect, e.g., mask datasets (mis)identify cloud and cloud shadow pixels.

Risk: brand damage; CEOS's brand is valuable; loss of confidence

Risk: not relevant to 'analysis' technologies/approaches (that is, bad quality data is NOT analysis-ready)

- ❖ Do we need to introduce **requirements** for **data quality**?
 - ❖ Should there be a minimum quality 'floor' to protect "the brand"?
 - ❖ Should we adopt quality 'bands' (like energy ratings)? What dimensions?
- ❖ Can we better support users to find products **fit for purpose**?
 - ❖ E.g. 'suitable for visual interpretation', 'suitable for time series climate analysis'
 - ❖ E.g. should we streamline - e.g. collapse goal and threshold?
- ❖ Do we need a framework for **ongoing monitoring** of these (L2/L3) qualities?
 - ❖ Should it be possible for a provider/datasets to 'lose' the brand?
- ❖ Do we need to be **stricter** in certain areas to drive *practical* interoperability?
 - ❖ E.g. In defining **measurement equivalence**

- ❖ WGCV is the authority on Data Quality
- ❖ Huge collection of expertise, capabilities, tools, software
- ❖ WGCV input will be critical to understand this future direction for CEOS-ARD to:
 - Lower barriers to EO uptake
 - Enable new users
 - Increase interoperability
 - Increase user confidence
 - Showcase institutional leadership and encourage better community practices

What actions could WGCV support
for a more impactful Future
CEOS-ARD initiative?

How could the next iteration of CEOS-ARD better support:

1. Users of CEOS-ARD products

To make better informed choices about the fitness for purpose of particular Product Families and products

2. Providers of CEOS-ARD products

To improve the definition, generation, characterisation (initial and ongoing) and description of their products (better practices, for example)

3. Developers of CEOS-ARD specifications (i.e., the VCs)

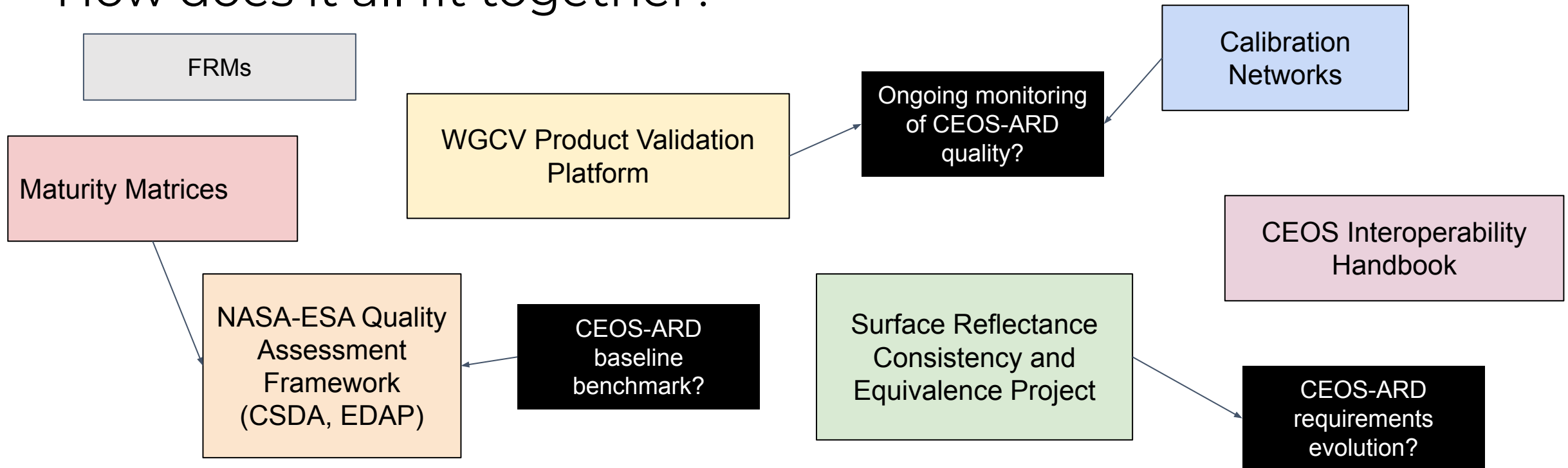
To accurately and clearly define fitness-for-purpose for particular Product Families.

Connecting the dots...



And what existing WGCV (and CEOS) capabilities and activities can we benefit from?

How does it all fit together?



- ❖ **Help write a clear, unambiguous definition of improved 'data quality' in the context of CEOS-ARD - as input to a consultation paper for TW / Plenary**
- ❖ Seeking volunteers / nominations to support writing of the concept paper

Continuing the dialogue



S Committee on
Earth Observation
Satellites



Future of CEOS-ARD Questionnaire