Interoperability Demonstrator

WGClimate-24 & GHG-TT-6

9 - 12 February, 2026
ESA ECSAT, Harwell, UK

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**The Joint CEOS-CGMS
Working Group on Climate**

Nitant Dube, ISRO,
Agenda Item #3.5

CEOS Interoperability Handbook V 2.0

❖ **Objective**

▪ CEOS Interoperability Handbook Version 2.0 provides <u>guidance to the organizations</u> for development of **Interoperable Data** and **Services** and help them in measuring their **maturity level**

Completed and Endorsed during CEOS Plenary 2025
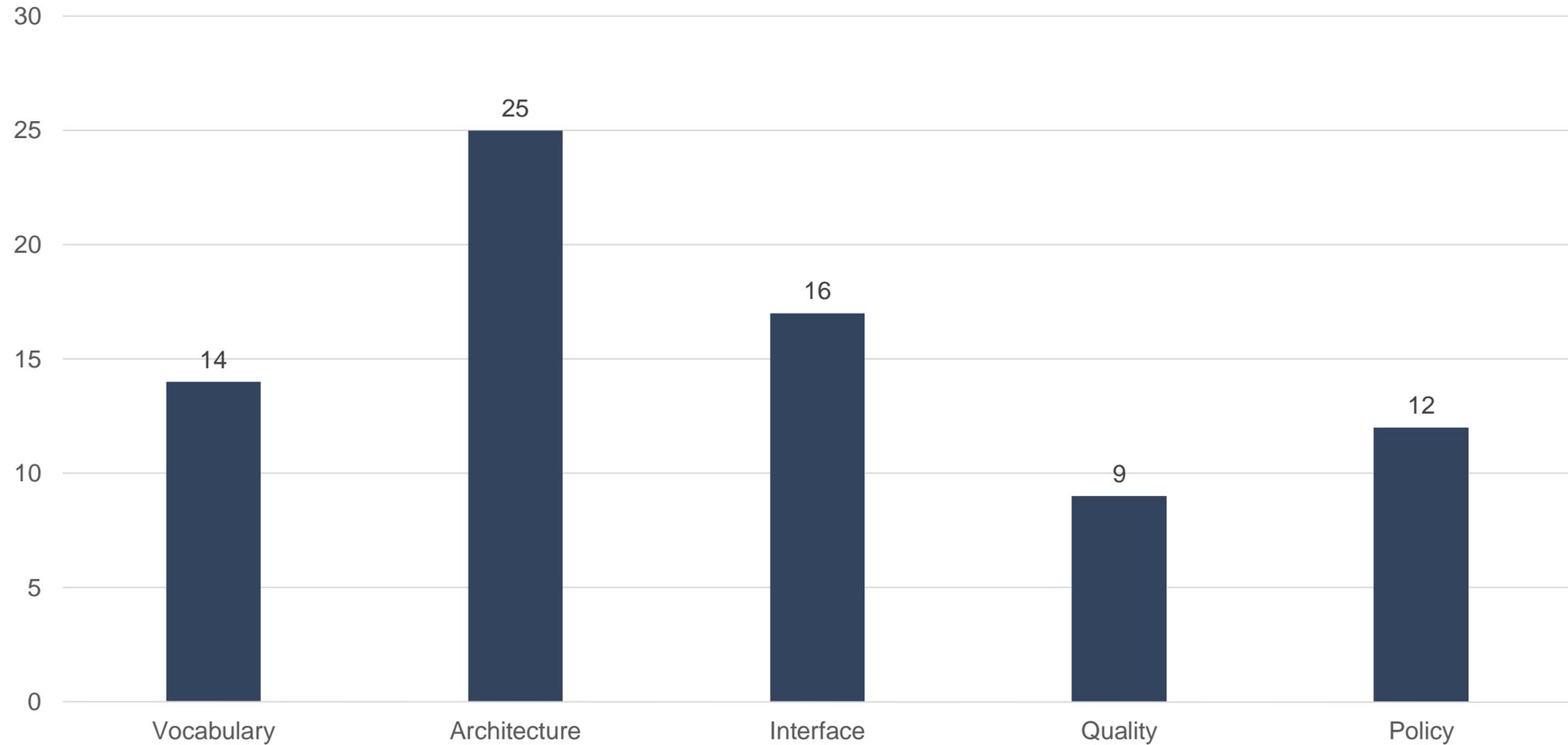
On-Going as part of WGISS Work Plan for 2026

Will be taken up as part of WGISS Work Plan for 2026 and 2027

Interoperability Handbook V2.0

Maturity Matrix

Interoperability Demonstrators

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Recommendations

Why Interoperability Demonstrators

❖ Demonstrate impact of Interoperability Recommendations by converting concepts to practices

❖ Learn and refine Recommendations or add new recommendations

❖ Provide Interoperable Reference code/software for implementation

Target Users/Collaborators

❖ Target Users

- ▪ Data and Service providers (including New Space Startups)

- ▪ End users (Researchers, operational users)

❖ Target Collaborators

- ❖ CEOS Working Groups, Virtual constellations

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Success Indicators

❖ For Data and Service providers, the maturity matrix will be the success indicator

❖ For End user, their ability to access data and services from multiple data providers and generate homogeneous analysis (May be difficult to quantify)

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Deliverables

❖ Jupyter Notebook

❖ Software

❖ Best Practices

❖ Notes/Documents/Vocabulary

(Deliverables will be made available on github)

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Joint work with WGClimate

❖ **Based on Initial Discussions with WGClimate (15-Jan-2026) 4 Interoperability Demonstrators are worked out**

- Develop the CDR Vocabulary and submit it to the CEOS EO Glossary

- Increase discoverability of CDR by attaching suitable tags at collection level metadata

- Use Jupyter Notebooks to provide consolidated access to datasets from different agencies

- Assess the compliance of the CDR inventory datasets with the Interoperability Handbook's recommendations, once the Maturity Matrix is ready

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Proposal#1

❖ **Develop the CDR Vocabulary and submit it to the CEOS EO Glossary** (https://github.com/ceos-org/eo-glossary).

- Linked to Vocabulary Recommendations of the Interoperability Handbook

- As Domain Experts WGClimate to lead for Developing Vocabulary, LSI-VC and WGISS to support for integration in CEOS EO-Glossary

- Outcome: Enrichment of CEOS-EO Glossary

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Proposal#2

❖ **Increase discoverability of CDR by attaching suitable tags at collection level metadata**

- ▪ Linked to <u>Interface Recommendations</u> of the Interoperability Handbook
- ▪ WGISS-DAIG team to lead, WGClimate to provide support for collection of the metadata
- ▪ Outcome: Better Discoverability of CDRs

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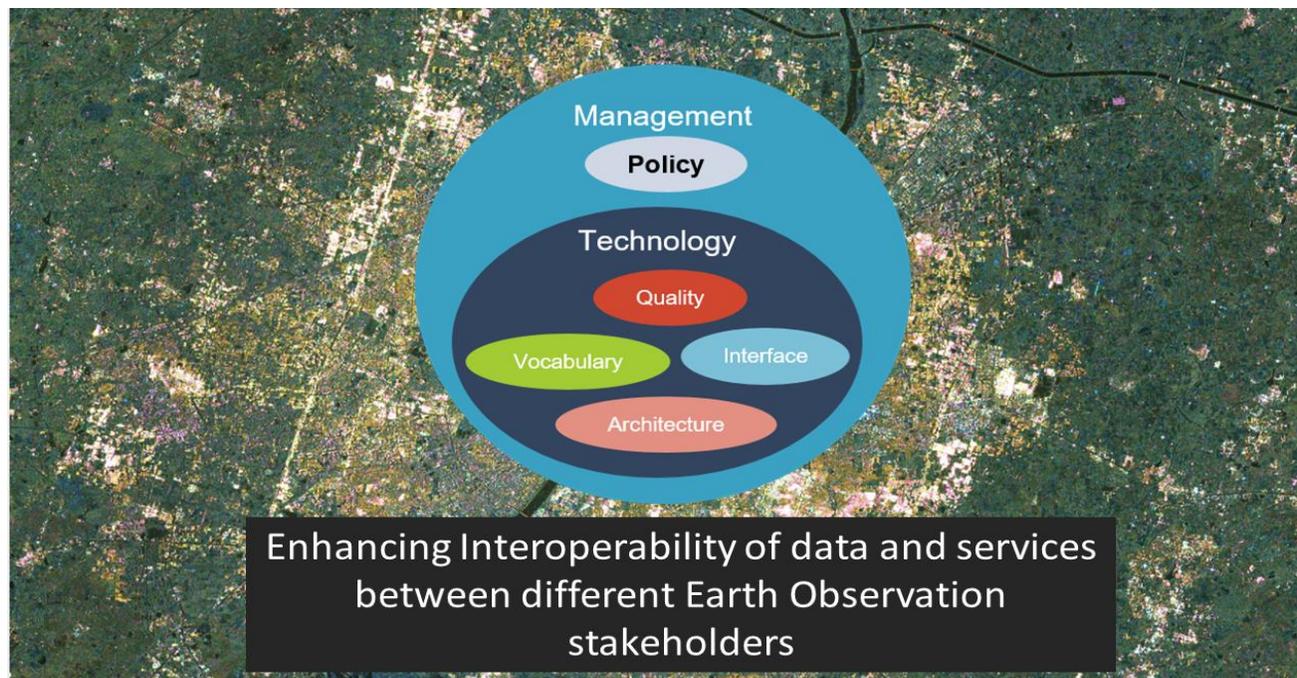
Proposal#3

❖ **Use Jupyter Notebooks to provide consolidated access to datasets from different agencies.**

- Linked to [Architecture Recommendations](#) of the Interoperability Handbook

- This work is linked to Proposal#2

- WGISS & SEO team to lead, WGClimate to provide domain support

- Outcome: Jupyter Notebook on Github, ready reference for users

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Propsal#4

❖ **Assess the compliance of the CDR inventory datasets with the Interoperability Handbook's recommendations, once the Maturity Matrix is ready**.

- Linked to Maturity Matrix work currently under progress with WGISS.

- We can take-up this as a test case once the Maturity Matrix is ready.

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Enhancing Interoperability of data and services between different Earth Observation stakeholders

Thanks

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WGISS