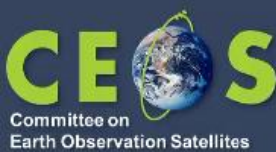


CEOS Interoperability Framework Status

(June 2023)



Tom Sohre, USGS

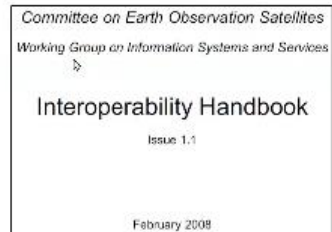
Interoperability Framework Initiative



❖ ACTION from 2022 CEOS Plenary

- Goal to consider **Data and Service** Interoperability
- Development of a CEOS Interoperability **Framework and Roadmap**

❖ Reference Interoperability Definition(s):



Interoperability is the
“ability of two or more systems or components to **exchange** information
and to **use** the information that has been exchanged.”

ISO 25964 Thesauri and Interoperability with other Vocabularies (ISO 25964-2:2013)

F.A.I.R. Interoperability: Data is interoperable when it can be **integrated** with other data and systems to leverage **open standards and specifications**.

The FAIR Guiding Principles for scientific data management and stewardship | Scientific Data (nature.com)

Framework Development Team

- ❖ WGISS invited contributors from other CEOS entities and organized the framework development team.
 - Lead: Makoto Natsuisaka (WGISS)
 - Contributors
 - **WGISS**: Tom Sohre
 - **WGCV**: Philippe Gory, Paolo Castracane
 - **LSI-VC**: Steve Labahn, Peter Strobl, Ake Rosenqvist
 - **CEOS-ARD OG**: Ferran Gascon
 - **SEO**: Dave Borges

WGISS

Slide 3

Discussions

Meeting	Date	Topics
Kick off meeting	Feb. 15, 2023	Discussed vision, teams, topics, membership and annual process. WGISS, LSI-VC, CEOS ARD OG, WGCV, SEO
#2 meeting	Mar. 1, 2023	Discussed the components and the topics.
#3 meeting	Mar. 17, 2023	Draft roadmap was proposed. Discussed the components and the topics based on the roadmap. Further discussions in each VC/WG were requested.
SIT-38 side meeting	Mar. 28, 2023	Discussion on draft roadmap Defined "Factors" critical for Interoperability
WGISS-55	Apr. 20, 2023	Reviewed SIT-38 recommendations Discussed history of WGISS Interoperability Handbook (2008) Recommended addition of Data Preservation Factor
#4 meeting	May 10, 2023	Reviewed current Framework concept (7 factors) Assigned action to WG Leads to identify Factor Champions Set up recurring Interoperability IG meeting (2 nd Wed. of month)

WGISS

Slide 4

Proposed CEOS Interoperability Framework



Semantic (WGCV)	Semantic interoperability is the ability of computer systems to exchange data with unambiguous, shared meaning. It is required to enable machine computable logic, inferencing, knowledge discovery, and data federation between information systems.
Syntactic (WGISS)	Syntactic interoperability refers to interoperation of the format as well as the data structure used in any stored exchanged information or service between heterogeneous IoT system entities.
Data Architecture (CEOS-ARD OG)	Data architecture describes the structure of the logical and physical data assets and data management resources. It comprises the models, policies, rules, and standards that govern the collection, storage, arrangement, integration, and use of data.
Data Accessibility (WGISS)	Interoperability requires increasingly sophisticated data exchange architectures protocols, and application interfaces and standards. These provide the data tools necessary to access and share information.
Data Quality (WGCV)	References are data and schemes that are used as benchmarks for (observational) data comparison or analysis. This could include instances such as geographic locations, product numbers, or official (authoritative) data and statistics)
Data Preservation (WGISS)	Long-term preservation implies that data will be curated in a fashion that adheres to established standards where possible, such as metadata and ontologies, which will facilitate interoperability..
Data Policy (SEO)	Ensuring that organizations operating under different legal frameworks, policies and strategies are able to work together and with their user communities under a common and transparent set of rules.

Framework Collaboration



Interoperability Interest Group (IG):
Standing Meeting: 2nd Wed, 11:00 UTC



Next Steps



- ❖ Identifying Champions within the Framework – May 31
- ❖ Champion to lead draft Factor Overview – July 31
- ❖ Develop multi-year Roadmap – Aug. 31
 - Milestone: Present Interoperability Roadmap at CEOS SIT-TW (Oct. 2023)

- ❖ Identify Use Cases
- ❖ Update Interoperability Handbook
- ❖ Consider development of Interoperability Maturity Matrix

Factor “Champions”



- ❖ **Action: Working Group Chairs to identify “Champion” for each Factor assigned to their WG (due: May 31)**

- ❖ Semantic (Lead WG: WGCV - Philippe Gory)
- ❖ Syntactic (Lead WG: WGISS – Makoto Natsuisaka)
- ❖ Data Architecture (Lead WG: CEOS-ARD OG - Ferran Gascon)
- ❖ Data Accessibility (Lead WG: WGISS – Makoto Natsuisaka)
- ❖ Data Quality (Lead WG: WGCV - Philippe Gory)
- ❖ Data Preservation (Lead WG: WGISS – Makoto Natsuisaka)
- ❖ Data Policy (Lead WG: SEO - Dave Borges)
- ❖ Overall Coordination (Lead WG: WGISS ... assigned to Interoperability IG Lead)

Action: Factor Champions to draft Factor Overview (Due July 31)

- ❖ Factor name:
- ❖ Coordinator (Lead):
- ❖ Collaborator(s):
- ❖ Description: ~2 paragraphs (note: Why this factor is important for EO Interoperability)
- ❖ Scope included:
- ❖ Scope excluded: (if possible, identify where assumed to be included)
- ❖ Potential Activities relevant to Factor and complete
- ❖ Potential Activities to support Factor that could be accomplished 2023-2025
- ❖ Challenges...

- ❖ *Note: Starting with Info captured in Shared Google Doc from SIT-38...*