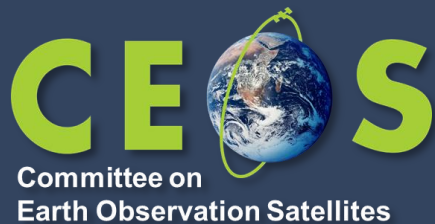


Review of Policy Factor

(Interoperability Handbook 2.0)



Nitant Dube, ISRO
Agenda Item 11.5
WGISS-60
13-17 October, 2025
Oberpfaffenhofen, Germany

Policy Recommendations

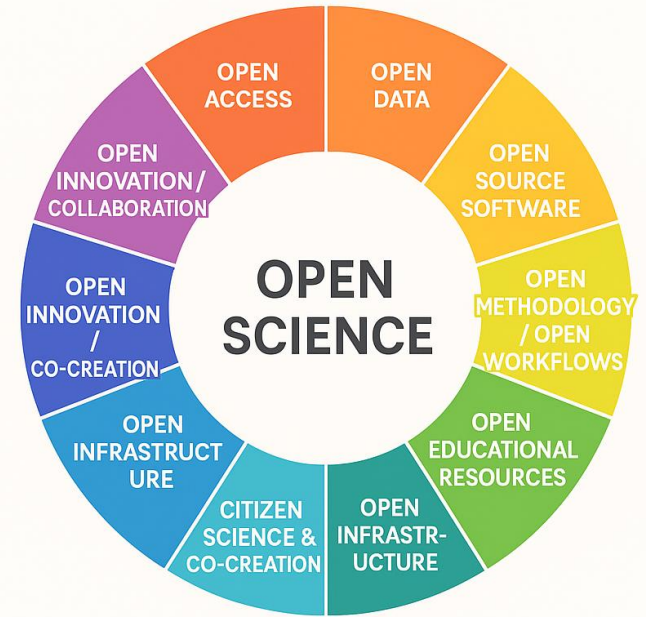


POL#1	Data providers should participate and engage in relevant community groups/events , such as CEOS, GEO and CGMS, and their respective working groups. Interoperability requires collaboration and coordination between all actors within the sector.
POL#2	Identify policies in your organization/country related to data and services and conduct periodic check/audit for compliance to these policies. Identify policies which may be barriers to interoperability of data and services and flag them for resolution. Ensure the policies are clearly communicated to stakeholders.
POL#3	EO Capabilities: Publish and periodically update information about present and planned Earth observation Satellites in online databases, preferably the CEOS MIM Database . This will help in planning and overall coordination among different EO stakeholders.
POL#4	Open Standards and Specifications: Ensure your organizations implement open standards and specifications such as those published by the Open Geospatial Consortium (OGC) for data and services. Drafting of new specifications for data formats, metadata formats and service APIs should be preferably done along with standards organisations, or developed by the open source community.
POL#5	Open Data: Organizations should ensure that Earth observation data is discoverable, accessible and proactively made freely available for use, reuse and redistribution to users in human and machine readable form.
POL#6	Open Source Software: Where possible, share software applications as open source software, enabling others to use the same tools as are used internally to process or transform data products or to demonstrate the use of standards to access your data and services. An example of a preferred license is Apache 2.0.
POL#7	Open Science: Promote the concept of open science for collaborative development. Open science ensures availability of the state-of-the-art algorithms and software providing consistent products from different data providers and supporting reproducibility.
POL#8	Data Licensing: Organizations sharing open and unrestricted data should license the data using an open source license, consistent with their organisation's policy. A Custom license can restrict access for users. The GEO data licensing Guidance can be referenced for examples, including Creative Commons Zero 1.0 Universal Public Domain Dedication (CCo), Open Data Commons Public Domain Dedication and License (PDDL) v1.0, or Creative Commons Attribution 4.0 International (CC BY 4.0). CC BY 4.0 is preferred.
POL#9	Data Procurement from third party: Organizations planning to procure/outsource Earth Observation data, to possible extent should ensure that the data complies with CEOS recommendations, including those outlined in this handbook.
POL#10	Data preservation: Organizations should ensure that Earth observation data is archived and preserved according to CEOS best practices .

POL#5	Open Data: Organizations should ensure that Earth observation data is discoverable, accessible and proactively made freely available for use, reuse and redistribution to users in human and machine readable form.
POL#5	Open Data: Organizations should ensure that the earth observation data is discoverable, accessible and proactively made available for use, reuse and redistribution to users in human and machine readable form following the principles of Open Data, where full data cannot be provided as Open Data, sample/subset of data should be provided for demonstration as Open Data.

- ❖ **Open Science** is the practice of making scientific research, data, software, and educational resources available to all, enabling collaboration, verification, and reuse of results.
— **UNESCO Recommendation on Open Science (2021)**

COMPONENTS OF OPEN SCIENCE



- ❖ [UNESCO: Open Science Recommendations](#)
- ❖ [NASA SPD-41a: Scientific Information Policy for the Science Mission Directorate](#)
- ❖ [European Commission Open Science Policy](#)
- ❖ [CERN Open Science Policies](#)
- ❖ [Open Science Nederland](#)
- ❖ [Open Science Portugal](#)
- ❖ [Open Science Finland](#)
- ❖ [India Science, Technology and Innovation Policy](#)

Data, Software and Infrastructure

Component	Description	Interoperability handbook
1. Open Data	Sharing research data publicly for reuse, validation, and collaboration.	Yes
2. Open Source Software	Developing and sharing research software, tools, and code under open licenses.	Yes
3. Open Methodology / Open Workflows	Transparency in how research is conducted — from data collection to analysis.	No
4. Open Infrastructure	Shared digital platforms, repositories, and networks enabling open science.	No

Publications and their Access

Component	Description	Interoperability handbook
5. Open Access (OA)	Making research publications freely available to everyone	No
6. Open Peer Review	Making peer review transparent and participatory (reviews visible and credited).	No
7. Open Educational Resources (OER)	Freely accessible learning materials that promote knowledge sharing and capacity building.	No

Collaborative Research & Review and Community Participation

Component	Description	Interoperability handbook
8. Citizen Science & Co-creation	Public participation in scientific research, from data collection to analysis.	No
9. Open Innovation / Collaboration	Engaging academia, government, industry, and citizens in solving problems together.	No
10. Open Policy & Governance	Policies promoting open access, data sharing, and ethical use of science.	Yes

POL#7	Open Science: Promote the concept of open science for collaborative development. Open science ensures availability of the state-of-the-art algorithms and software providing consistent products from different data providers and supporting reproducibility.
POL#7	Open Science: Organisations should promote Open Science Policy to make data, software and research publications available to all, enabling public participation in collaboration, peer-review, verification, reuse of results and reproducibility.

Thanks

nitant@sac.isro.gov.in