

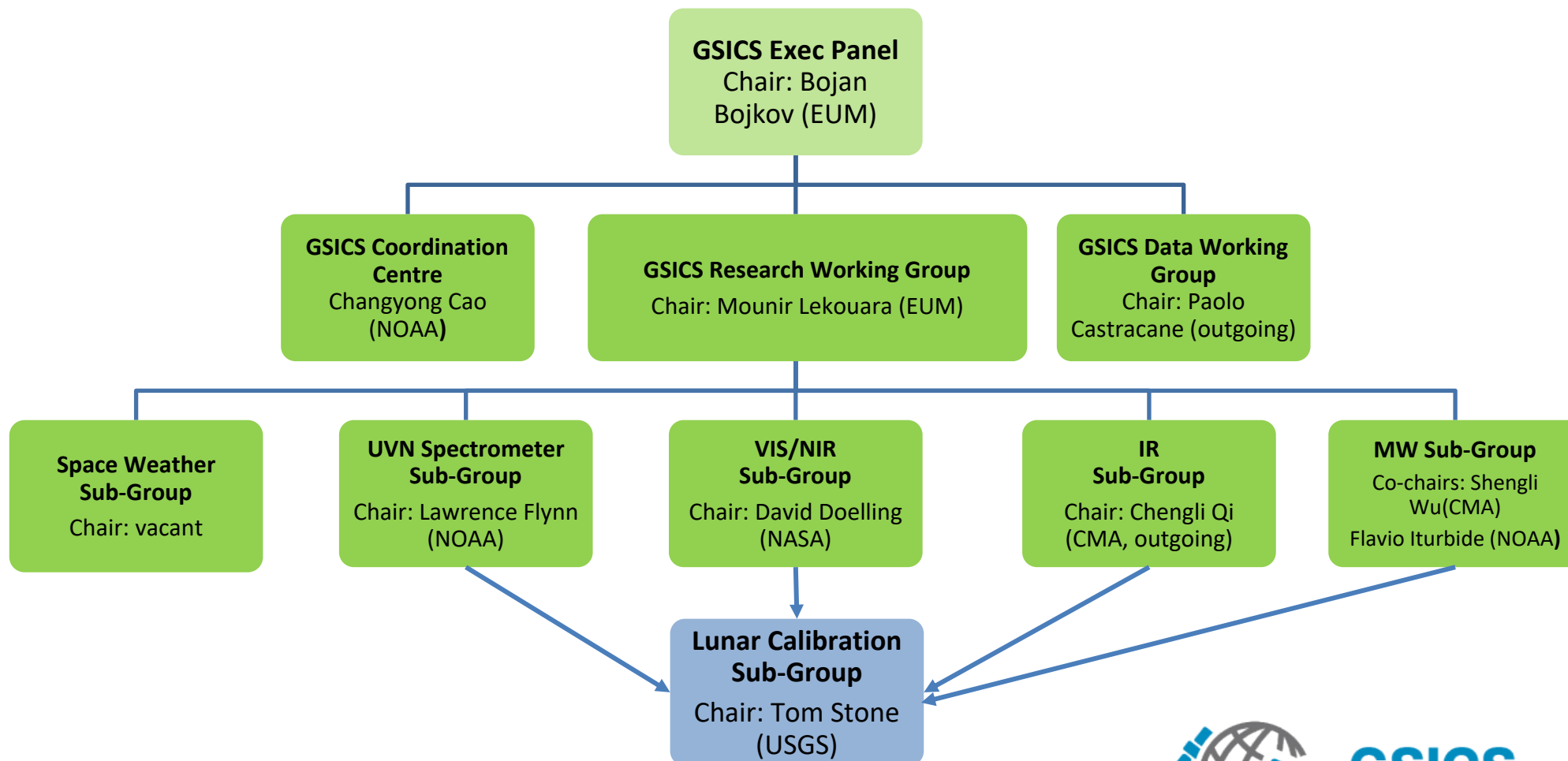
GSICS Executive Panel report to CGMS plenary

Presented to CGMS-54 Plenary, agenda item CGMS-54-GSICS-WP-02-p

GSICS Scope

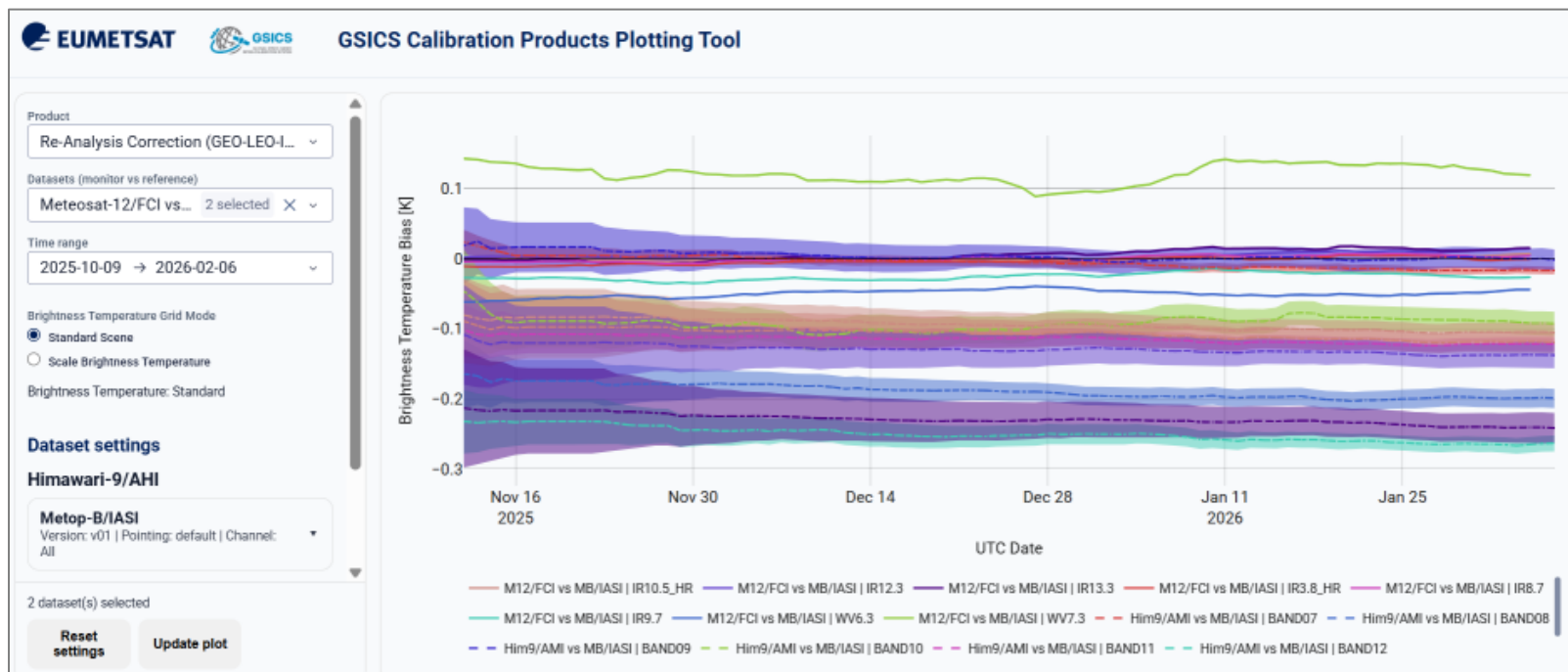
The Global Space-based Inter-Calibration System (GSICS) is an international collaborative effort initiated in 2005 by the World Meteorological Organization (WMO) and the Coordination Group for Meteorological Satellites (CGMS) to 1-monitor, 2-improve and 3-harmonize the quality of observations from operational weather and environmental satellites of the Global Observing System (GOS).

GSICS Research Working Groups – current status (6/2026)



GSICS 2026 annual meeting in Ottawa (Canada) – Monitoring tool progress

- As per endorsement in 2025, the primary focus of GSICS is the development of methodologies and tools for the operational monitoring and improvement of the radiometric calibration performances by the member agencies.
- The group is progressing on common approaches for the monitoring of the calibration performances.
- A new public monitoring Dashboard is in development to present the monitoring from various agencies in a common format. **Please see <https://gsicsweb.eumetsat.int/gsics-plotter/>**



GSICS 2026 annual meeting in Ottawa (Canada) – Lunar calibration progress

- The lunar calibration activities are a very good example of GSICS inter-agencies collaborative development.
- The stability of the moon combined with accurate lunar models adjusting for the different observation geometries allow very precise trending and inter-sensor comparisons.
- Improvement of lunar calibration systems was achieved ingesting improved lunar measurements (e.g. air-LUSI, SCIAMACHY, GOME-2). **Some models have reached 2-3% absolute accuracy in the VIS-NIR.** The objective is to find a consensus lunar model serving as lunar calibration reference for periodic inter-comparisons.
- LSICS: a new framework for operating lunar irradiance models is being co-developed by NOAA-USGS-EUMETSAT. Many state-of-the-art models have been integrated by their agencies. Their utilization and detailed comparison are facilitated by the LSICS framework.
- On-going developments on lunar radiance models, as well as IR and MW models.

GSICS 2026 annual meeting in Ottawa (Canada) – Lunar calibration progress (ii)

- Data sharing is essential to improve the lunar calibration models (e.g. HAOC, Arctstone etc.)
- NASA-EUMETSAT-JMA have agreed on a plan to document VIS-NIR vicarious and inter-calibration ATBDs.
- The uncertainty estimation methods need refinements in all the sub-groups.
- The inter-calibration methods for PMW and UVNS sensors still require further scientific consolidation.
- The 5th CGMS GSICS / CEOS WGCV lunar calibration workshop will take place on 16-20 November 2026 in EUMETSAT – **please see <https://www.eventsforce.net/lunarcalibrationworkshop2026>**

To be considered by CGMS:

The agencies are encouraged to share lunar measurement data and to contribute to the GSICS collaborative efforts.

GSICS 2026 annual meeting in Ottawa (Canada) – Reaching out towards commercial providers

- GSICS have reached out to a number of commercial data providers to identify their needs in the area of in-orbit calibration and inter-calibration.
- Several companies have participated to the 2026 annual meeting, for radio occultation, microwave sounders, and imagers.
- The ambition is to ensure that their calibration and validation techniques follow the GSICS best practices and methodologies.
- Active participation by commercial providers in future GSICS meetings is encouraged.

Thank you for your attention!