

CEOS Strategic Guidance on Engagement with the Commercial Earth Observation Sector

*Document prepared by 2024 and 2025 CEOS Chair Teams, SEO. Reviewed by CEOS Secretariat.
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The evolution of the global commercial Earth observation (EO) sector and the value of commercial and institutional data integration is an emerging strategic topic for CEOS. The European Space Agency (ESA), as the 2022-2023 CEOS SIT Chair, established the New Space Task Team (NSTT) in December 2022 with the intent to submit recommendations regarding the potential role of CEOS and levels of collaboration with the commercial EO sector. A [White Paper](#) and [summary memo](#) were produced and endorsed at the 2023 CEOS Plenary, and the work of the NSTT concluded. The Geo-Informatics and Space Technology Development Agency (GISTDA), as the 2023 CEOS Chair, moved CEOS forward through a Chair Priority: “Supporting Exploration of New Geometries for Space Agencies and CEOS with New Space”. The Canadian Space Agency (CSA), as the 2024 CEOS Chair, encouraged the reporting of commercial engagement across CEOS priorities at leadership meetings, and the development of this guidance document.

The CEOS community has benefited from sharing experiences and exchanging information about initiatives across EO since its inception in 1984. This collaborative attitude creates an environment where CEOS Agencies can discuss new trends and it is necessary given recent trends that “New Space”, more accurately described now as the “commercial EO sector”, remains a subject of discussion across the CEOS community.

The CEOS NSTT allowed a structured, internally focused approach to sharing experiences across Agencies, Working Groups, Virtual Constellations, etc., in engaging upstream and downstream commercial sector actors. CEOS Members and Associates are national and regional civil organizations representing a diverse membership with varying industrial or industry engagement policies.

This translates into a practical impossibility for CEOS to consider an invitation to the global, commercial EO sector for detailed discussions while respecting the rules of engagement in each country. However, before giving up on the idea of more organized collaboration and noting existing commercial engagement across the CEOS Work Plan, further context must be defined.

The commercial EO sector differs from institutional space agencies. The driver for the former largely resides in economics while the latter seeks to serve the public good. This is not to say that commercial sector actors do not consider the public good nor that institutional space agencies ignore economic considerations. But the primary driver for each translates, generally, into a different approach to data requirements. The commercial sector may seek to deliver data fit for purpose or “good enough” for clients and very often needs to show rapid progress to satisfy investors and other stakeholders. Institutional space agencies may drive technology development as an economic and prosperity advantage or seek to advance science by developing always more capable and exquisite observing systems with continuity being a key consideration.

These distinctions between the commercial EO sector and institutional space agencies (CEOS) can nonetheless be leveraged in a synergistic manner to strengthen the collective response to global challenges. It is understood that one does not replace the other and that they complement each other. Institutional missions are used as reference and calibration by commercial missions, and commercial missions are well positioned to augment operational data and services to the public with the potential of fusing datasets to generate higher-level information products and work across multiple sectors with end users.

CEOS has a complementary role to play in developing common methodologies and good practices for data harmonization. CEOS can play an advisory role in matters relevant to the development of systems and services that supply EO data (such as calibration and validation).

As mentioned previously, CEOS conducted an initial review of existing and potential interactions with the commercial EO sector and explored the different roles CEOS could play. The NSTT delivered the following recommendations:

R1) In view of augmenting the scientific and operational potential of long-term, institutional programmes, CEOS Members and Associates should act collectively in using the CEOS mechanisms to identify and support potential complementary capabilities enabled by New Space and other commercial actors.

R2) CEOS Members and Associates should strive to continue to share information on relevant events and activities related to New Space, including commercial data evaluation results when possible. CEOS Agencies should also investigate ways to work together on cooperation agreements with New Space actors, possibly including common lines to take on end-user license agreements (EULA) and IPR issues.

R3) Cooperation and collaboration opportunities should be sought to facilitate interoperability between private and public sector data, and future CEOS SIT Chairs are encouraged to routinely provide the opportunity for CEOS Members and Associates to report on developments in the standards domain, be they from public or private sources, at future SIT Technical Workshops.

The first two recommendations focus on CEOS Member and Associate interactions and collective strategic thinking. The third, however, would see CEOS take actions towards civil and commercial data interoperability for societal benefit.

The diversity of national regulations, of CEOS Agency respective governance structures, and industrial ecosystems precludes efficient and impartial engagement of the commercial EO sector through any kind of new CEOS membership category (e.g., GEO Associate Membership). However, interactions and coordination can and must still occur to maintain CEOS relevance. CEOS can respond to inquiries from various commercial EO sector organizations (international or national groups based on activities) and we can share our CEOS collective perspective on relevant topics, while also listening and seeking to understand commercial EO sector perspectives and challenges.

The CEOS structure consists of Working Groups, Virtual Constellations, a Systems Engineering Office, and several additional ad hoc Teams. Each of these entities can and should, when appropriate, seek to include points of view from the commercial EO sector through publications, inclusion in working-level meetings, and active outreach.

As codified in the CEOS Working Group Process Paper, “Working Groups, however, have the flexibility to invite individuals from other organizations that are not CEOS Agencies to participate in the Working Groups”. As codified in the CEOS Virtual Constellation Process Paper, “Membership and Leadership: Identification of the agencies involved, the proposed or current lead agencies and individuals, and relevant partners outside CEOS”. CEOS should reiterate both internally and externally that commercial sector entities can, and are encouraged to, engage with CEOS entities at the working level. Across some Working Groups and Virtual Constellations, this is already a common practice.

While integrating commercial EO sector perspectives, CEOS must be mindful and remain impartial of the private sector’s diversity and other conditions in the different countries.

Therefore, the following externally focused language has been added to the CEOS [website](#):

“CEOS Collaboration with the Commercial Earth Observation Sector

Established in 1984 under the aegis of the G7 Economic Summit, the mission of the Committee on Earth Observation Satellites (CEOS) is to: “Ensure international coordination of civil space-based Earth observation programs and promote the exchange of data to optimize societal benefit and inform decision making for securing a prosperous and sustainable future for humankind.”

CEOS initially focused only on interoperability, common data formats, the intercalibration of instruments, and common validation and intercomparison of products. CEOS evolved over time, becoming more complex and expanding the number and scope of its activities. In some cases, CEOS focuses on validated requirements levied by external organizations (e.g., the United Nations System), works closely with other satellite coordinating bodies (e.g., the Coordination Group for Meteorological Satellites, CGMS), and continues its role as the primary scientific and technical forum for international coordination of civil space-based Earth observations.

Increasingly, CEOS Members, Associates, and priority stakeholders are integrating both civil and commercial Earth observation (EO) data to optimize societal benefit and inform decision making. To this end, the strategic priorities of CEOS affirm that it must remain a forward-thinking and adaptive participant in the Earth observing community. As the world increasingly seeks to use and integrate high-quality civil and commercial space data at multiple spatial, spectral, and temporal scales, CEOS seeks commercial space sector engagement that is mutually beneficial and capable of expanding global impact.

CEOS welcomes collaboration with the commercial Earth observation sector through its thematically and technically oriented Working Groups (WG), Virtual Constellations (VC), and Task Teams.

Leadership meetings, including annual CEOS Plenaries and SIT meetings, are reserved for CEOS Members and Associates as defined in the CEOS Terms of Reference.

Please explore the [“Our Groups”](#) section of this website to learn more about the broad range of CEOS entities and activities. Leadership contact information is provided. Interested parties should contact those leading each of these activities directly.”

Engagement Guidance for CEOS Groups

Outreach and engagement requests from commercial sector actors can and should be evaluated by WG and VC leads on an individual basis. In some instances, WG and VC leadership may want to inquire how a commercial EO sector entity intends to contribute to the activities and deliverables of the relevant WG or VC. Requests to engage with CEOS groups should be based on activity- or project-driven cooperation and not individual marketing. CEOS groups are encouraged to highlight commercial engagement and/or new membership and contributions to Group objectives during CEOS SIT, SIT Technical, and Plenary meetings as appropriate.

There is no doubt that the future will see increasing interactions between national and regional civil space agencies and the commercial EO sector. These shifts are already reflected in varying degrees within some individual CEOS Member Agencies. As we enter a new era of public-private hybrid space solutions, it is essential to open communication channels and address topics critical to long-term collaboration and cooperation. CEOS can and must be adaptive now through increased engagement with the commercial EO sector. In tackling the global challenges of climate change, disaster risk reduction, and sustainable development we should all welcome new and complementary capabilities as it will take everyone working together to optimize the societal benefit of space-based Earth observations.

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