**The European Commission’s Proposed 2018 CEOS Chair Initiatives**

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As the 2018 CEOS Chair, the European Commission looks forward to providing leadership on a number of initiatives in support of CEOS objectives. To ensure continuity and coherence of CEOS activities, the European Commission will first aim to ensure that the priorities and themes identified by the 2017 Chair, USGS, are supported and further developed. To this end, we will work closely with the 2018-2019 SIT Chair, NOAA, to have an understanding of CEOS common priorities and objectives.

Whilst it has been a CEOS Member since 1994, this is the first opportunity for the European Commission to serve a term as Chair. The Commission’s input to and proximity with the policy definition and implementation context for the European Union offers a remarkable opportunity to further advance CEOS priorities, while representing the entire CEOS organization to deepen awareness of and support for its Earth observation missions, data, and activities, their global relevance and benefits.

This short paper aims to communicate the European Commission proposals to the CEOS community for its activities and priorities as the 2018 CEOS Chair, serving as a focus for discussion leading to the 31st CEOS Plenary. The European Commission aims to establish support and consensus among CEOS Agencies for these proposals and to obtain feedback to best shape and direct the plans for 2018.

**Context**

In 2017, CEOS successfully advanced a number of initiatives and themes with the leadership of USGS and ESA (2016-2017 SIT Chair), including:

1. Continuation of the study of future data access and analysis architectures;
2. Continuation of the Moderate Resolution Sensor Interoperability initiative;
3. Consideration of future partnerships and priorities for CEOS, notably with GEO, the UN System, development banks, and the "big data" companies; and
4. Expediting existing CEOS thematic acquisition strategies – in relation to forests, agriculture, disasters, climate, carbon, and water.

As 2018 CEOS Chair, the European Commission will work with USGS, ESA, the 2018-2019 SIT Chair, NOAA, and the relevant stakeholders to ensure substantive and timely continuity of these activities.

Additionally, in 2017, foundational efforts were made to define a common approach to more closely tie CEOS Earth observation contributions to the UN 2030 Agenda for Sustainable Development, through the establishment of the CEOS *ad hoc* team on Sustainable Development Goals (SDGs). The first report of this team’s activities will be presented at the 31st CEOS Plenary. The 2018 chairmanship will continue to support this team’s activities, which include increased engagement with national statistics agencies and analyzing the mainstreaming of these efforts into policies.

At the September 2017 SIT Technical Workshop, CEOS members will discuss how to rationalize many of the ongoing CEOS activities in the areas of land surface imaging and its applications, i.e., LSI-VC activities including those on Analysis Ready Data (ARD); the 2017 CEOS Chair priority initiative on moderate resolution interoperability; the CEOS Open Data Cube activities; the Future Data Architectures (FDA) Pilots; the CEOS support to the Global Forest Observations Initiative (GFOI); and the Space Data Coordination Group for GFOI (SDCG for GFOI); and the Group on Earth Observations Global Agricultural Monitoring Initiative (GEOGLAM). Based on the outcome of the September 2017 discussion, the European Commission proposes to promote continued focus and discussion throughout its term as Chair, including the *ad hoc* teams and standing CEOS entities involved (e.g., LSI-VC and WGISS) to come to some resolution on rationalization by the 32nd CEOS Plenary in 2018.

On a related topic, the European Commission would address, together with NOAA as incoming SIT Chair, aspects of CEOS internal operating processes. In 2014, CEOS endorsed a full complement of guiding documents following the two-year CEOS Self-Study (2012-2013), including a *New Initiatives Process Paper*, which identifies the process and criteria with which CEOS decides to take on new activities. These guiding documents additionally state why and when *ad hoc* teams can be established. The European Commission proposes that CEOS continue the practice of periodically examining its existing groups, including some that could, potentially be integrated into existing CEOS entities, such as the Working Groups and Virtual Constellations. We propose that CEOS start to address such potential integration and responsibility from the outset of the 2018 chairmanship. The European Commission and NOAA will confer with CEOS Agencies and entities affected on how to best accomplish this objective.

Importantly, none of the initiatives mentioned above, nor the dedicated Chair priorities highlighted below, are starting from the beginning. All build upon CEOS collective efforts over a number of years and attempt to evidence the specific added value the European Commission can bring in its year as CEOS Chair.

In consideration of these past efforts, and without prejudging the outcome of these processes, the European Commission proposes to pursue two additional priority initiatives during its chairmanship:

1. Lay the foundation for an international GHG monitoring system; and
2. Bring the benefits of Future Data Architectures to the present - identify new targets

**Specific Chair Initiative #1: Lay the foundation for an international effort on a CO2 and GHG monitoring system**

This initiative will include efforts to ensure that space agencies are well positioned to make a fundamental contribution to monitoring GHGs globally, responsive to observational needs for both composition and fluxes, natural and anthropogenic. It will take advantage of the broad framework provided within CEOS by the *CEOS Strategy for Carbon Observations from Space*, as well as specific targeted activities started in 2017, i.e., the AC-VC whitepaper on the key characteristics of a global architecture for CO2 and CH4 measurements from space, and ongoing discussions on mutual interests between CEOS and CGMS on these issues. Three specific activities are foreseen in advancing these efforts in 2018:

1. Facilitate the completion of the AC-VC whitepaper for systematic observations of CO2 and GHGs, including the joint competences of CEOS and CGMS, and in the general framework of the continued implementation of the CEOS Carbon Strategy.
2. Place the space segment in the broader context of a fully sustained system for global GHG monitoring. Individual CEOS Agencies have counterparts in their individual countries/regions who have responsibility for Inventories, the required modelling and in-situ infrastructure and additional ground segment elements. The European Commission proposes to organise a dedicated discussion (workshop) bringing together these multiple stakeholders to define best practices, synergies and possibilities for common approaches to some of the system development. This would also require the strong engagement of CGMS as well as CEOS Associate members such as the WMO.
3. Advance the CEOS-CGMS relationship on these matters, as a longer-term strategy that the CEOS community may ultimately determine calls for an operationally implemented and sustained observation capability. Consider establishing a formal working relationship between CEOS and CGMS, similar to the successful ongoing relationship on Systematic Observations of ECVs in support of UNFCCC.

**Chair Initiative #2: Bring the benefits of Future Data Architectures to the present - identify new targets**

This initiative will focus on efforts to ensure that space agencies make a fundamental contribution to (i) continue supporting the architectural work and (ii) produce and provide access to selected sets of Analysis Ready Data (ARD) data globally. It will take advantage of the ongoing work within CEOS, in particular the Future Data Architectures *ad hoc* team (FDA-AHT), the pilot projects and the various ARD related initiatives. Two specific families of activities are foreseen to advance this effort in 2018:

1. Architectural work - This in turn will focus on two main components:
* Consolidate the initial design considerations for FDA and ARD and take stock of the lessons learned during the pilot projects to date. On this basis, outline a target architecture and interoperability framework that can serve as reference for operational implementation in the 2020 timeframe. This will include the new access (and processing) service for Copernicus data and information;
* Continuation of the work on the Open Data Cube initiative. Expansion of this work to consider complementary elements from similar regional implementations, such as Earth System Data Cube, Digital Earth Australia and USGS LCMAP; Develop a shared inventory of global user profiles and requirements and, on this basis, initiate work towards a next generation FDA (e.g. 2025 Horizon), including Principal-level discussion on CEOS leadership, contributions and resources needed to support it.
1. Implementation preparation work - This will build on the consolidation of the initial design phase and focus on ARD products related to land, land use and forestry, expanded by elements to support the CEOS Strategy for Carbon Observations from Space, as appropriate. The inclusion of marine and ocean products will be considered in close cooperation with the incoming SIT Chair. On this basis, this work stream will propose a priority road map for the production of appropriate ARD products for consideration and implementation by CEOS Agencies. Already existing products and their geographical coverage will be considered in this work (e.g., Copernicus service information). This line of activities is also expected to provide the opportunity to create or enrich a CEOS service directory.