



# CEOS EXTERNAL REQUEST PROCESS PAPER

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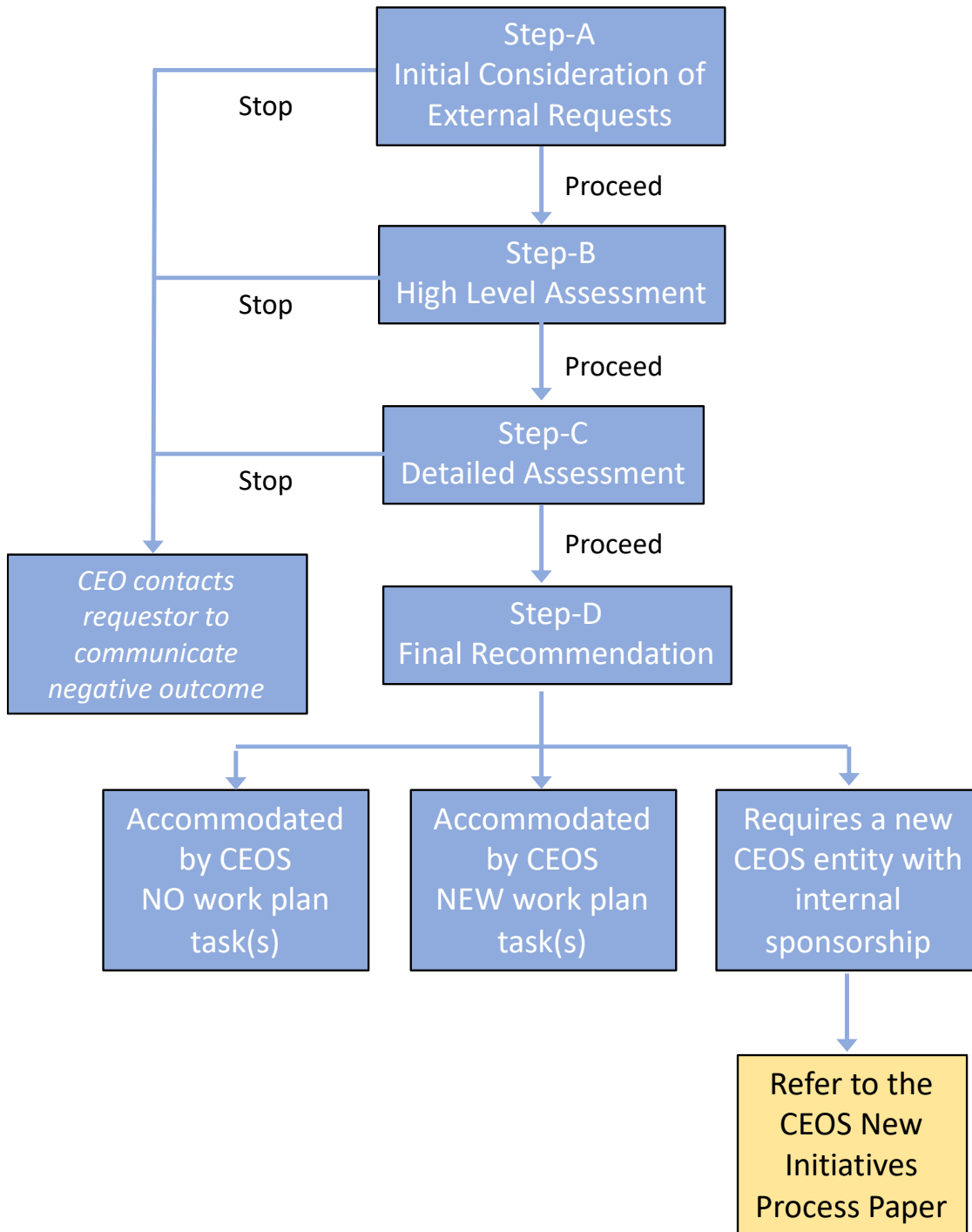
## 1 INTRODUCTION

This paper describes the process for consideration, assessment and approval of external requests presented to the Committee on Earth Observation Satellites (CEOS). Sustaining a balance of existing work, while considering the addition of new work, is essential to the relevance, sustainability, and success of the CEOS organization. CEOS must carefully consider new external requests and their potential to lead to new CEOS Work Plan deliverables or new initiatives that may result in new CEOS entities. In all cases, CEOS must examine these external requests in relation to the organization's ability to meet existing commitments and its capacity to accept new commitments. This paper will discuss a systematic approach for review and decisions regarding such external requests.

It should be noted that the previous CEOS New Initiatives Process Paper (March 2014) did not contain sufficient information to guide the assessment and decisions regarding external requests as it was focused on requests with existing CEOS "internal" sponsorship. This External Request Process Paper is meant to supplement the CEOS New Initiatives Process Paper and provide a detailed process to address requests that originate outside of the CEOS organization and do not currently have CEOS sponsorship. In addition, a broader spectrum of users are bringing increasing numbers of requests to CEOS for data and information products to address their specific project needs. These developments for CEOS represent positive growth and new opportunities. The growing awareness, interest, and requests for CEOS Agency Earth observation data also pose interesting challenges for CEOS to the extent that the organization will need to prioritize and act upon when, where, and how to effectively address these requests.

## 2 DECISION TREE

The following decision tree summarizes the process for (a) Consideration of external requests, (b) High-level assessment of external requests, (c) Detailed assessment of external requests, and (d) Final recommendations. A more detailed description of each step is found in the following sections.



### **3 INITIAL CONSIDERATION OF EXTERNAL REQUESTS (STEP-A)**

New external requests will be managed by the CEOS Executive Officer (CEO). Discussions with the CEOS Chair and/or the SIT Chair may be needed to determine whether such requests are acceptable for further consideration and a high-level assessment (Step-B). The CEO shall manage all communications with the external requesting entity including schedules and decision outcomes (positive or negative). Following review by the CEO, CEOS Chair and SIT Chair, a decision shall be made to proceed to Step-B (high-level assessment).

The following requirements shall be considered during this initial consideration step:

- Does the request originate from a relevant external entity?
- Is the request sufficiently clear on its objectives and needs?
- Does the request align with the CEOS strategic goals and objectives as defined in the CEOS governing documents?
- Is the request appropriate for CEOS, rather than for another existing coordination group or private sector organization/association?
- Do the CEO, CEOS Chair and SIT Chair believe this request should continue to the high-level assessment step?

If the answer to all of the questions above are "yes", then the CEO will recommend continuation to Step-B in order to conduct a "High-Level Assessment". In addition, the CEO will contact the external requestor to communicate the outcome of Step-A. The expected duration for Step-A is less than one month from the time of the receipt of the external request.

### **4 HIGH-LEVEL ASSESSMENT OF EXTERNAL REQUESTS (STEP-B)**

The high-level assessment of external requests will be managed by the SIT Chair, supported by technical advice of the CEOS Systems Engineering Office (SEO) and guidance and support of the CEO. These requests shall be shared with the CEOS Secretariat (at a minimum) and all CEOS Agency Principals (if desired) to gain feedback and to participate in the high-level assessment. The following requirements shall be considered during this high-level assessment step:

- Is there sufficient clarity in the request to perform a high-level assessment and, in particular, does it contain well-formulated requests to CEOS Agencies?
- Does the request relate to the Group on Earth Observations (GEO) Work Programme or a global policy framework (e.g., UN-SDG, UNFCCC, SBSTA, GCOS, Sendai)?
- Is there a benefit to internal and/or external stakeholders? This value should be societal benefit, but may also be monetary.
- Is Earth observation data relevant to the needs of this request?
- Assess the feasibility of a potential contribution from CEOS Agencies (e.g. is the type of observations, resolution and frequency of observations) compatible with the resources and assets from CEOS Agencies?

Following a decision to proceed to the detailed assessment phase (Step-C), the CEO shall manage all communications with the external requesting entity including schedules and decision outcomes (positive or negative). In addition, the SIT Chair shall report on the outcomes of this assessment at

a SEC telecon and/or at a CEOS SIT or Plenary meeting. The expected duration of Step-B is one to two months due to the need to engage the CEOS Secretariat and CEOS Agency Principals.

If CEOS desires to continue to Step-C (detailed assessment), the following requirements shall be met before proceeding:

- CEOS shall identify the Members, Associates, and CEOS entities (e.g. SEO, WG, VC, AHT) as well as potential external experts that will be involved in the detailed assessment process (Step-C). This detailed assessment process may require significant resources and time to adequately assess the details of the request and the related Earth observation resources.

## 5 DETAILED ASSESSMENT OF EXTERNAL REQUESTS (STEP-C)

The detailed assessment of external requests will be managed by the SIT Chair, supported by technical advice of the SEO and guidance and support of the CEO. This assessment shall be supported by identified CEOS Members, Associates and CEOS entities as defined at the conclusion of Step-B.

Many of the external requests made to CEOS will involve data preparation and delivery as well as expert technical support to enhance the use of that data for end users. This data preparation and support may require significant funding and personnel. In order to justify this investment, CEOS Agencies need to clarify requirements and intended outputs through dialogue before committing to support. Therefore, it is critical that CEOS engage with the appropriate users in the **value chain** to maximize the potential use and impact of the satellite data (see Appendix A). This engagement should occur through existing CEOS entities or may require a new ad hoc CEOS team.

The following criteria shall be considered during this detailed assessment step:

- Which specific Agencies and CEOS entities would be involved in addressing this request?
- Is the proposed activity well-aligned with existing activities of CEOS, e.g. Virtual Constellations, Working Groups, or other initiatives? If so, identify those activities and entities.
- What data/information products would CEOS generate in support of this initiative/task and when would those products be needed?
- Assess the detailed feasibility and affordability of the external request and its intended outcomes. CEOS Agencies must possess the necessary personnel and fiscal resources to support a new initiative so it can fulfill its intended outcomes.
- Are there additional CEOS Agency policy considerations that would encourage or discourage their involvement – e.g., overarching data policies or prevailing public/private partnerships?
- Assess CEOS current priorities and commitments. Can CEOS Agencies and entities support the intended outcomes of this external request considering existing priorities and commitments?

In order to assess the preparedness of the user community to engage with CEOS and to improve the effectiveness of CEOS to respond to new user community requests, a set of questions should be addressed by CEOS in the detailed assessment process. This "User Community Checklist" can be found in Appendix B.

At the conclusion of the detailed assessment phase, a report shall be presented by the SIT Chair to the CEOS SEC and to the whole of CEOS at a CEOS Plenary or CEOS SIT meeting. The CEO shall manage all communications with the external requesting entity including decision outcomes (positive or negative) from the assessment. The expected duration of Step-C is less than 6 months, as the outcomes of the detailed assessment will be presented at a major semi-annual CEOS meeting for Agency review.

## 6 FINAL RECOMMENDATION (STEP-D)

External requests that reach this final recommendation phase have been carefully reviewed within the CEOS organization and have received positive results. At this stage, CEOS must consider how the external request will be accommodated within the existing CEOS framework. The following list of recommendations will be considered:

- a) The external request will be accommodated by one or more CEOS Agencies or CEOS groups (may involve a non-CEOS partner) but WILL NOT require new tasks in the CEOS Work Plan. It is expected that the work associated with the external request will be completed by CEOS in less than one year.
- b) The external request will be accommodated by one or more CEOS Agencies or CEOS groups (may involve a non-CEOS partner) and WILL require one or more new tasks in the CEOS Work Plan. It is expected that the work associated with the external request will be completed by CEOS in more than one year.
- c) The external request will require a new CEOS entity (e.g. Ad Hoc Team, Virtual Constellation, Working Group) and sponsorship by an existing CEOS entity or Agency. All future activities related to the external request shall use the guidance defined in the CEOS New Initiatives Process Paper.

## APPENDIX A: VALUE CHAIN CHECKLIST

The figure below attempts to position the various CEOS entities on the “Data Value Chain” from data acquisition to data use. The intention is to make visible the fact that the different CEOS entities do not necessarily have the same function but can be clustered into three broad groups (red, blue and green) which address different parts of the Data Value Chain. The CEOS entities in red are focused on coordination of the sensors and satellites and preparation of the primary data products, primarily the Virtual Constellations (VC). The CEOS entities in blue provide agency “core-business” functions that ensure data acquired from similar satellites operated by different agencies are intercomparable (Working Group on Calibration and Validation, WGCV) and discoverable (Working Group on Information Systems and Services, WGISS). Capacity building (Working Group on Capacity Building and Data Democracy, WGCapD) is also included in this category. Further downstream, the CEOS entities in green, including Working Groups (WG) and Ad-Hoc teams (AHT), are focused on interaction with the user community. However, it must be noted that some of the VCs act all along the value chain (e.g. Sea Surface Temperature, SST-VC). It is believed the connections to various parts of the chain come through these VCs, WGs and AHTs. Communication between these entities will support feedback across the value chain to improve how CEOS provides data and maximizes its impact. In addition, there is a "feedback loop" between all of the value chain components (in yellow) that allows for adjustment for any single element. For example, changes in the end user goals may require changes in CEOS data collection and processing, or changes in technologies may change how user communities connect to data or how CEOS collects and processes the data.

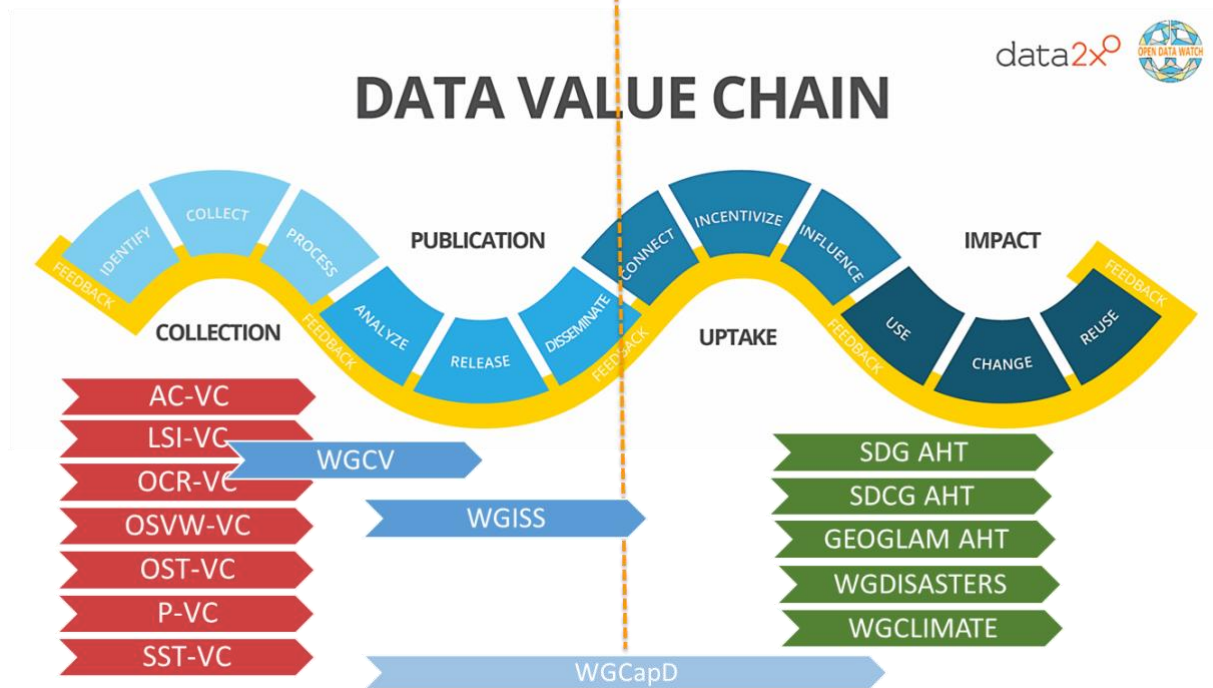
To date, several existing CEOS entities (e.g. Joint CEOS-CGMS Working Group on Climate, Working Group on Disasters) and recently transitioned CEOS entities (e.g., Ad Hoc Space Data Coordination Group for GFOI, Ad Hoc Group for GEOGLAM) have been successful in working with external stakeholders, assessing requirements for satellite datasets, tools and services and making connections to intermediate or end users to validate that these CEOS outputs address the needs of both ends of the value chain ... global policy and users. CEOS has been most effective in addressing needs of the end-to-end value chain when it has established positive working relationships with intermediate/expert user communities of the primary satellite products who can further translate these into tailored products and services for the end user communities.

Virtual Constellations &  
"Core business" Working Groups

"Thematic" Working Groups &  
Ad-hoc teams

Observations/measurements

Actionable Information



## APPENDIX B: USER COMMUNITY CHECKLIST

There are varying degrees of maturity and/or preparedness of the user communities behind specific new requests. CEOS should have a means of assessing this at an early stage of engagement with a new user community. It should be clear that we are not suggesting that CEOS should only engage with communities that are mature or have a high level of preparedness, but it is obvious that this has implications for the type and quantity of resources that CEOS Agencies will have to make available and therefore should be ascertained at an early stage.

In order to assess the preparedness of the user community to engage with CEOS and EO data and products and to improve the effectiveness of CEOS to respond to new requests from user communities, the following questions should be considered in the detailed assessment process:

- Is the User Community (UC) making the request of CEOS already making active use of EO data?
- Has the UC expressed needs or is it able to express quantitative requirement for the spatial and temporal resolution of products?
- Does the UC have specific requirements for the latency of the products that are received, and is it capable of estimating what impact different latency of delivery will have on its application?
- Does the UC have specific quantitative requirements on the accuracy of delivered data and products, and is it able to make use of uncertainty information, in its application, if this is provided?
- Does the UC have a complete overview of the value chain of which it is at one end, and CEOS is at the other? Does it have existing working relations with necessary intermediaries (e.g. modeling community, application developers in its field)?
- Does the UC have necessary access to complementary data from other sources (in-situ, socio-economic etc.) and understand how it would integrate this with a EO data in addressing its application?
- What are the IT skills within the specific UC; is it comfortable in dealing with large raster datasets?
- Does the UC have an understanding of its needs for information systems, portal, tools, interfaces to make best use of the data? Is it able to sustain this infrastructure itself in the long run?
- Does the UC understand the broader needs of its constituents for Capacity Building and training? Is it able to sustain that training itself in the future?
- Is the UC capable in assessing the outcome of CEOS' support, through demonstrable long-term impact on its application or policy area?