

The Strategic Value of Earth Observation

On 5 February 2024, the European Space Policy Institute (ESPI) and the International Society for Photogrammetry and Remote Sensing (ISPRS) hosted an evening debate *The Strategic Value of Earth Observation: maximising benefits for Governments and the International Community*, as an official side event to the 61st session of Scientific and Technical Subcommittee (STSC) of the United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS). The event took place at ESPI's new premises in Vienna, and brought together a diverse audience, both from inside and outside the space community.

Based on the discussions and interventions, the following Key Takeaways were identified by the organizers:

1. *Scaling solutions at the service of policy priorities...*

As a huge amount of data is collected by Earth Observation (EO) systems today, the technical and societal demand to transform hundreds of terabits into useful information remains a profound challenge. EO solutions should be developed and implemented to best address policy priorities while leveraging science and technological advancements.



Fostering a purpose- and demand-driven development of technologies and data exploitation is a prerequisite for a stronger "policy impact" of EO on other policy domains, such as climate action, green and digital transition, health.

2. *...with a focus on climate change and security applications*

EO is a crucial tool for fighting climate change (and its effects) and advancing the implementation of the 17 UN Sustainable Development Goals, with disaster management and food security as the most pressing use cases demonstrating the policy impact of EO and its value in addressing societal challenges.



Maximising the value of EO in these fields implies refocusing its overarching goal from primarily monitoring functions to support impactful actions, including reliable long-term forecasts of climate change effects and the provision of swift information for security applications. In this context, a joint effort to increase the recognition and value of space in high-level meetings such as the UNFCCC's Conference of the Parties (COP) should be pursued.

3. *Public-Private complementarity towards effective value-added solutions*

Public stakeholders have the mandate to address the prevailing challenges, yet their capacity to implement effective actions alone is limited. In the current "Golden Era" of EO, private companies, today sharing a one-third of the market, are bringing significant added value. While the public sector already stimulates and supports private stakeholders in developing solutions, there is untapped potential for broader public-private partnership opportunities, including with non-space sectors and industry champions active therein.



The free and open data policy, as a key feature of major public EO programmes, remains key, especially if coupled with enhanced data quality and immediate availability. This should be complemented by commercial EO data, including for security-related applications. The data and service dissemination policy requires adaptation to foster the development of value-added services, particularly where commercial solutions have reached a sufficient degree of maturity.

4. *International cooperation is at the foundation of maximising the value of EO*

Broad multilateral cooperation in the field of EO, including in organisations such as the Group on Earth Observations (GEO), is key to maximise the value of EO for society as a whole, in all geographical regions.



There is a need to develop sovereign capabilities, also in view of security applications, but the sharing of data, information and good practices remains key to address global issues and optimise investments. Importantly, inequalities in data access have to be addressed as part of this effort (see for instance GDA and NICFI initiatives).

5. *Reaching beyond the space bubble*

While the existence of available and highly valuable open data significantly benefits the community, it is essential to recognise that it always comes with costs. Additional resources are also needed to increase the value of EO-derived information and simplify access and use for the multitude of unreached end-users.



Should the link with policy priorities be clearly established, additional funding should be expected from non-space sectors and stakeholders directly involved in activities geared towards those objectives. In this context, non-governmental organisations (e.g. Philanthropic foundations) may also provide funds for the common good, even though doubts could arise concerning the sustainability of their contributions.

In this context, there is a need to improve communication and outreach to step from praising space-based capabilities to highlighting real issues faced by society and concretely addressed by EO solutions.