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NOTE

From:	General Secretariat of the Council
On:	2 May 2025
To:	Delegations

Subject:	<i>Preparation of the Council (Competitiveness (Internal Market, Industry, Research and Space)) on 22-23 May 2025</i> Space-based data for enhancing resilience, security and crisis management in the EU- <i>Exchange of views</i>
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Delegations will find attached a Presidency note on " **Space-based data for enhancing resilience, security and crisis management in the EU**" with a view to the exchange of views at the Competitiveness Council on 23 May 2025.

Space-based data for enhancing resilience, security and crisis management in the EU

Satellite data for crisis resilience

Recent advancements in space technology, particularly Earth observation constellations, offer significant opportunities to improve crisis management and resilience. Satellite data, especially from the EU's Copernicus programme, plays a vital role in strengthening civil protection, enhancing security, and safeguarding citizens and infrastructure from both natural and human-made disasters. The EU has recognised the importance of satellite data in improving situational awareness, early warning systems, and real-time monitoring of crises. However, effective coordination and integration of these capabilities are crucial to ensure meaningful outcomes in disaster response and resilience-building.

The increasing frequency of crises has prompted discussions about the challenges and benefits of using satellite data in crisis management, with a focus on security, resilience measures, AI applications in data processing, and space-derived information from Earth observation and satellite navigation constellations and satellite communication systems.

Benefits of satellite data for crisis management

Satellite constellations for Earth observation, such as Copernicus and national assets, as well as satellite navigation constellations like Galileo, provide valuable data, including multispectral images, thermal data, high-resolution monitoring and emergency warning services, critical in times of crisis.

Satellite data offers several advantages in crisis management:

- **Enhanced early warning and monitoring:** Near-real-time monitoring of disasters like wildfires, floods, and pandemics enables quick response and resource deployment. The Copernicus programme plays a key role in providing early detection, risk assessment, and mitigation strategies, but the additional complementary role of national and commercial constellations is also crucial. And through the Galileo programme it will be able to warn the population of an impending disaster while at the same time providing the instructions to be followed in the same message.
- **Strengthened crisis management systems:** Integrating satellite data into national and EU-level systems improves coordination, helping to map disaster areas, track environmental hazards, and assess critical infrastructure impacts.
- **Climate and risk preparedness:** Earth observation satellites monitor environmental changes, such as resource degradation, irregular migration flows, and public health threats, supporting proactive measures to mitigate risks.
- **AI integration:** AI enhances satellite data analysis by automating tasks like anomaly detection and risk prediction, improving decision-making during crises.
- **Critical infrastructure resilience:** Satellite data supports the monitoring of energy grids, transport networks, and communication systems, enabling swift responses to vulnerabilities, enhancing resilience against disasters.

The role of the space economy in resilience

The European space economy is contributing to job creation, technological innovation, and economic growth. The space sector, valued at over €14 billion annually¹, is a key enabler to strengthening crisis management and fostering a competitive industry.

¹ The estimate likely reflects projections for future growth, considering factors like increased investment, new projects, and expansion into emerging markets, and was based i.a. on the Eurospace Facts & Figures, Euroconsult and Statista reports.

Recent reports, such as from the European Environmental Agency² or the World Economic Forum³, indicate that the financial losses from natural and man-made disasters have reached significant levels. With over €200 billion in global losses from natural disasters in 2022, satellite constellations play an essential role in reducing such losses by providing critical information for assessing damage, monitoring disaster evolution, planning evacuation and deploying resources efficiently.

Challenges and key actions

Despite the advantages, challenges related to issues such as data interoperability, cybersecurity risks, AI, and collaboration need addressing. Securing satellite data infrastructure against cyberattacks and preventing the manipulation of satellite imagery are vital for effective crisis management. Additionally, continued investment in capacity-building, expertise in data processing, and collaboration across public, academic, and private sectors is essential for maximizing satellite data's potential.

As the EU enhances its crisis management capabilities, balancing technological innovation, security, and sustainability is crucial. The development of AI solutions and the protection of space infrastructure will shape the future of crisis response while ensuring the safety of citizens and infrastructure.

² <https://www.eea.europa.eu/en/analysis/indicators/economic-losses-from-climate-related>

³ <https://www.weforum.org/publications/global-risks-report-2025/in-full/paste-test/>

Questions for discussion

In light of the presented information and the messages from the Council conclusions on the use of satellite data, particularly from Earth Observation constellations, for civil protection and crisis management⁴, Ministers are invited to respond to the following questions:

1. **How can Member States enhance coordination and improve cross-border collaboration to ensure the efficient and secure use of Earth observation data and consistent public warnings in emergency response, disaster management and critical infrastructure protection at EU level?**
 2. **How can the EU leverage space-based technologies, such as Earth observation constellations, to enhance crisis response, improve coordination between Member States and private providers, and strengthen the safety, security and resilience of citizens and critical infrastructure in an evolving geopolitical landscape?**
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⁴ 8343/25.