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PROTECTING EUROPE: HOW CAN SPACE APPLICATIONS SUPPORT EUROPEAN STATES TO
IMPLEMENT THE NEW CRITICAL ENTITIES RESILIENCE DIRECTIVE.

Abstract

In December 2022, the Council of the European Union approved the Critical Entities Resilience Directive, aiming to reduce the vulnerabilities and strengthen the physical resilience of critical entities. The Directive is motivated by the new challenges facing the EU, such as the rise of the digital economy, the growing impacts of climate change, health emergencies, and terrorist threats.

All EU Members States will need to have a national strategy, carry out a risk assessment at least every four years and identify the critical entities providing essential services that are crucial for the maintenance of vital societal functions, economic activities, public health and safety, and the environment.

In preparation of the approval of the Directive, Eurisy and the Network of European Regions Using Space Technologies (NEREUS) organised a webinar series to underline the contributions that space applications can make to the implementation of the Directive. The webinars were organised around some of the sectors identified in the Directive, namely energy, transport, banking, financial market infrastructure, health, drinking water, wastewater, digital infrastructure, and public administration.

Space-based data and signals offer opportunities to increase the resilience of critical infrastructure in each of such sectors. Indeed, satellite navigation and imagery can support the entire infrastructure life cycle, from site selection to building monitoring and post-construction operations. Galileo and Copernicus, the EU GNSS and EO satellite constellations, are already used by entities responsible for managing critical infrastructure in their daily activities. IRIS, Europe's new Infrastructure for Resilience, Interconnection Security by Satellites, will provide secure communication services, as well as broadband connectivity, to the EU and its Member States, putting an end to dead zones in Europe and the whole of Africa.

This paper will provide hands-on examples of use of satellite data to increase the resilience of critical infrastructure in Europe, highlighting the potential for replication of the examples presented in other geographical regions. Furthermore, the paper will include recommendations to enhance the exploitation of already existing satellite-based services and to favour the development of new satellite-based services that better respond to the needs of the entities involved in the construction, monitoring and operation of critical infrastructure.