

Position Paper on Submarine Cable Security & Resilience

Written in response to the European Commission Recommendation on the security and resilience of submarine cable infrastructures, published February 26, 2024.¹

Along with a white paper on “How to master Europe’s digital infrastructure needs?”, the European Commission recently published a recommendation on secure and resilient submarine cable infrastructure. Around 97 percent of international data traffic is carried through submarine cables, making their infrastructure a significant concern for Europe’s security, resilience, and autonomy.² While the European Commission’s white paper recognises the need to continue mapping vulnerabilities and stress-testing the systems, it could go further to outline dedicated resources to aid the competent national authorities in developing and maintaining the infrastructure’s high level of security.

As the leading provider for network traffic for research and education across Europe, GÉANT acknowledges the challenges faced by the European Commission and Member States in maintaining secure and resilient submarine infrastructure. We endorse initiatives that promote collaboration with like-minded global partners to not just share and disseminate public research and educational data, but also innovate solutions and services to bolster scientific advancement. The governance of international submarine cable networks should be rooted in reciprocity and trust. Thus, decisions on their feasibility, implementation and operation should consider the impact on National and Regional Research and Education Networks (NRENs / RENs), hence ensuring that the governance mechanisms remain as apolitical and inclusive within reason.

Network redundancy – the process of including multiple geographical separate paths for traffic to minimise disruption – is a crucial factor in ensuring that data keeps flowing in the event of a failure and thus a high priority for a resilient submarine cable infrastructure. GÉANT supports efforts to enhance redundancy in submarine cable infrastructure and welcomes the creation of Cable Projects of European Interest (CPEIs). However, to cope with the growing demands on submarine cable infrastructure, we encourage the establishment of centralised, inclusive funding mechanisms and planning.

The European Research Area (ERA), which heavily relies on resilient research infrastructures, will benefit significantly from such initiatives. The ERA itself has proven to foster international collaboration not only internally, establishing a single ecosystem for research, innovation and technology across the EU, but also in cooperation with associated countries. It should be noted that submarine cable infrastructures and Europe’s research interests are linked and global in nature. We recommend that this link should be recognised in future recommendations regarding this topic.

In conclusion, GÉANT welcomes the actions outlined in the European Commission’s recommendation and is committed to collaborating with the European Commission and national governments to advance the security, resilience, and inclusivity of submarine cable infrastructure. Reinforcing the resilience of critical research infrastructures, aided by centralised funding opportunities, is essential for the prosperity and progress of Europe’s research and education community.

About

GÉANT is Europe’s leading collaboration on network and related infrastructure and services for the benefit of research and education, contributing to Europe’s economic growth and competitiveness. The organisation develops, delivers and promotes advanced network and associated e-infrastructure services, and supports innovation and knowledge-sharing amongst its members, partners and the wider research and education networking community. GÉANT also implements the BELLA Programme – the long-term interconnectivity of European and Latin American research and education communities through ‘EllaLink’, a new 6000 km submarine cable. GÉANT is also a co-builder of Medusa, a submarine fibre optic system over 7,100 km long with 12 landing points, connecting the Atlantic with the Mediterranean and the Red Sea.

¹ <https://digital-strategy.ec.europa.eu/en/library/recommendation-security-and-resilience-submarine-cable-infrastructures>

² ENISA (2023). Undersea Cables – What is at stake?, available at: <https://www.enisa.europa.eu/publications/undersea-cables>