

SMART Cables Network

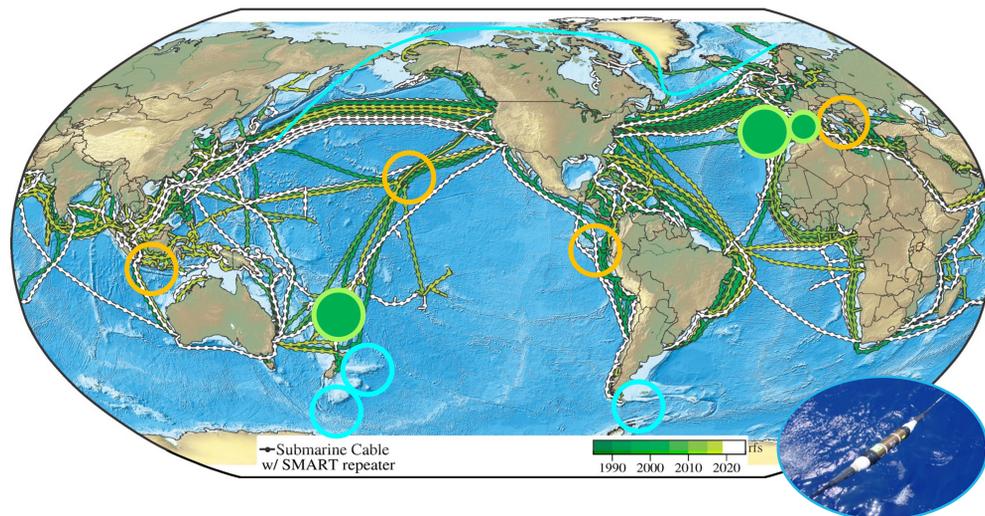
Emerging Network

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Science Monitoring And Reliable Telecommunications (SMART) Cables works to integrate environmental sensors into undersea telecommunications cables. These sensors share the power and communications infrastructure of millions of kilometers of undersea fiber optic cable, enabling seafloor-based global ocean observing at modest incremental costs.

The Joint Task Force (JTF) leads the initiative to develop SMART cables globally. The JTF is sponsored by three United Nations agencies, with members from governments, research and academic institutions, and the private sector.

Initial sensors include temperature, pressure, and seismic motion. These sensors will provide climate and ocean data and improve global tsunami and earthquake warning networks.



Current and planned cables span the oceans (> 1 Gm, 500 systems)

As they are replaced and expanded over their 25-year refresh cycle, environmental sensors can be added every ~100 km, gradually achieving real time global coverage. Symbols show systems under consideration. The InSEA SMART Wet Demo off Sicily has been delivering data since 2023. The Portugal Atlantic CAM and Vanuatu–New Caledonia Tamtam will be ready for service 2026.

Current SMART Cable Systems

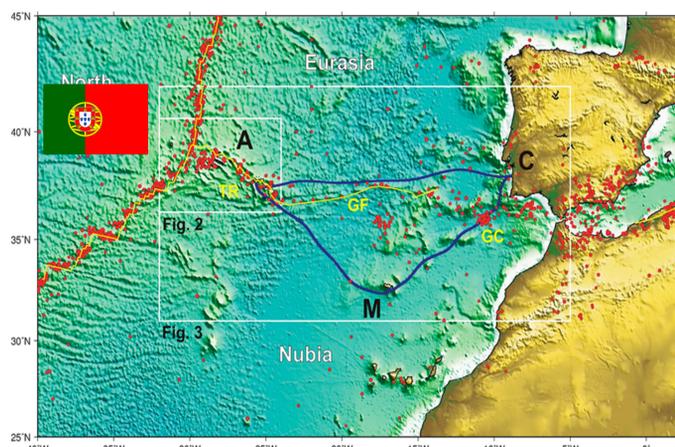
Tamtam

With the support of the French Government, the world's first SMART cable connecting Vanuatu and New Caledonia will be installed in 2026. This system will have 4 SMART modules.



Atlantic CAM

Motivated by the great earthquake and tsunami of 1755, Portugal is investing in the Atlantic CAM SMART system connecting Lisbon, Azores and Madeira in a ring allowing environmental sensing for ocean, climate and disaster risk reduction. This system will be 3,700 km long and it will have about 20 SMART modules.



Northern Hemisphere

Countries including Japan, Canada, the United States, and European nations are establishing collaborative frameworks for data sharing and joint monitoring networks, while innovative public-private partnerships between telecommunications companies, scientific institutions, and government agencies are creating sustainable funding models. The resulting data streams are enhancing climate monitoring capabilities and tsunami warning systems by providing continuous deep-ocean measurements from previously under-monitored regions.



Questions

Can GOOS review the GOOS SMART Cable Network specification sheet? Can GOOS work with appropriate entities (e.g., EMSO, INGV, IPMA, Ifremer, VMGD, JTF Data) to develop the data procedures, frameworks, metadata exchange with OceanOPS and WIS2.0, in preparation for the 2026 deployments.

