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Sensor Monitoring And Reliable Telecommunications Cables: Integration of Environmental Sensors Into Submarine Telecommunications Cables for Improved Ocean Monitoring

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Innovative deep ocean monitoring technologies are crucial to catalyzing fundamental improvements in mitigating natural disasters, reducing human vulnerabilities, and determining environmental threats. An attractive but untapped resource is the global submarine fibre optic cable network, which carries over 95% of international internet traffic. Key components of undersea fibre optic cable systems are repeaters, which are placed every 60-100 km along the cable to provide optical signal amplification, and provide a unique opportunity to deploy sensors globally. Installing Sensor Monitoring And Reliable Telecommunications Cables (SMART) repeater based sensor systems that include seismic, pressure, and temperature sensors will revolutionize our ability to monitor earthquakes, nuclear tests, tsunami, global climate change, and the security of major telecommunications infrastructure. While the SMART concept has been discussed and evaluated for over 10 years, developing a SMART repeater requires substantial research and development investment to validate the technology. Subsea Data Systems has developed a fully operational prototype SMART repeater sensor system. Our system includes best in class sensors validated by the scientific and monitoring communities, coupled with the data formatting and transmission frameworks already accepted by these communities and in extensive use worldwide. Here we present our ongoing efforts to make fully validated SMART cable systems a reality.

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Promotional text

We are developing sensor systems for SMART cables, a new technology included with submarine fibre optic cables that will revolutionize our ability to monitor earthquakes, nuclear tests, tsunami, global climate change, and the security of major telecommunications infrastructure.

Oral preference format

in-person

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