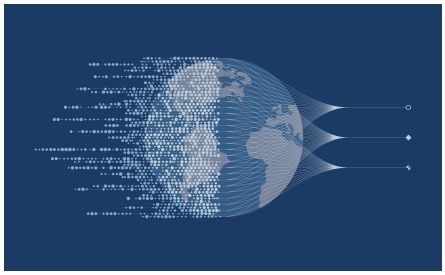

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in Telecommunication Technology: Enhancing the Colombian Seismological Network

The telecommunications sector has made significant advancements in recent years, particularly with the adoption of cutting-edge satellite technology. These innovations enable the deployment of critical mission infrastructure worldwide and facilitate connectivity in previously inaccessible regions. The Colombian Seismological Network embraced this technology to modernize its ageing point-to-multipoint satellite system. In early 2021, the network initiated testing and deployment of seismological stations capable of transmitting near real time data from three remote locations to its headquarters in Bogotá. Today, the network comprises over 180 seismological and GNSS instruments connected to data acquisition systems, consistently delivering near real time data. This modern telecommunication system leverages broadband internet from various sources, including the latest satellite technologies, allowing seamless connectivity to remote stations without relying on public IPs, dynamic DNS (DDNS), port forwarding, or other complex configurations. The network's scalable architecture supports multiple data acquisition and data centers across dispersed locations. It incorporates a local DNS for efficient station accessibility across all interfaces and data transmission ports. This versatile system operates over diverse internet infrastructures, including wireless providers, cellular networks, fiber optics, cable, DSL, and satellite, without requiring static public IP addresses.

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