Navigating the Uncharted Waters of Submarine Network Deployments

Submarine cable networks are uniquely complex to deploy, operate, and maintain. Ciena's Hubert Pelle details how the right support team and tools can help you navigate difficult waters.

Global demand for increased intercontinental connectivity and bandwidth is driving growth across submarine cable networks the world over. This surging demand creates challenges for rapid, secure, and cost-effective Submarine Line Terminal Equipment (SLTE) installations and upgrades.

The distinct technical requirements, support logistics, and geographic diversity of today's submarine networks make them uniquely complex to deploy, operate, and maintain. Accelerating service deployment and maximizing ROI on these costly undersea network assets requires true expertise and innovation, the kind that comes from an experienced team that has "seen it all" and faced down every challenge thrown at it.

These are challenges our Ciena Services team navigates every day, having both deployed next-generation SLTE and migrated legacy SLTE all over the globe – along with managing and maintaining them. Ciena's submarine deployments span an installed base across 72 countries, encompassing submarine cable networks in the Trans-Atlantic, Trans-Pacific, US-Latin America, Intra-Asia, Europe-Middle East and Egypt, Europe-East Asia, Europe-South Asia, East Asia-South Asia, and Europe-Sub-Saharan Africa routes. This includes a growing installed base of over 1,300 SLTE deployed and in service.

Our global deployments and coverage are second to none in the industry and have strengthened our knowledge on how to approach installation in new countries. Ciena teams understand licensing requirements and how to coordinate with local agencies to meet critical timelines. We have a strong track record working with customs clearance on all continents. Logistics personnel have deep expertise handling inspection documentation and importation administration and declaration forms minimizing delays.

With submarine network projects all over the globe, it's critical to have access to a dedicated team of industry experts who can work on multiple projects at the same time. A dedicated submarine network implementation team focuses on planning, designing, and deploying SLTE. The team includes services

partner ecosystems worldwide to provide in-market personnel and ensure multiple projects in multiple countries can be handled simultaneously.

Submarine networks are generally deployed with turnkey solutions which require support of the data communications network (DCN), servers, and switches/routers separate from the support of the actual traffic transported by the submarine cable itself. Ciena Services has a dedicated SLTE support team with 24/7/365 coverage. This team has deep expertise to debug non-linearities, lasing, and many other issues facing submarine cables with in-depth awareness of the mitigation or optimization techniques to deliver optimal performance of channels. Submarine support engineers handle core submarine network issues and have a thorough understanding of the wet plant, optical spectrum, mitigation of non-linearities, spectrum sharing, and more. Additional support services include emergency service, repair, and OEM support.