

Article Overview

The North Asia Branch of Communication Optical Cables primarily refers to the FLAG North Asia Loop (FNAL) and REACH North Asia Loop (RNAL), a 9,500-10,000 km submarine cable system linking Japan, Korea, Taiwan, and Hong Kong in a ring configuration.

Overview

The North Asia Loop is a critical regional submarine cable system designed to connect major East Asian telecom hubs. It consists of two main components: the FLAG North Asia Loop (FNAL) and the REACH North Asia Loop (RNAL), forming a ring network that enhances redundancy and reliability across the region . The system links four primary landing points: Tong Fuk in Hong Kong, Toucheng in Taiwan, Busan in South Korea, and Wada in Japan .

Technical Specifications

- o Length: Approximately 9,504-10,000 km
- o Fiber Pairs: 6 fiber pairs, with FLAG Telecom and PCCW Global (REACH) each owning three
- o Initial Technology: 64x10 Gbps DWDM (Dense Wavelength Division Multiplexing)
- o Upgrades: FNAL upgraded to 40G in 2011, introducing 10G LAN PHY and OTN services; RNAL upgraded to 100G network solutions in 2012
- o Configuration: Ring topology for enhanced resilience and low-latency routing

Ownership and History

- o FLAG Telecom originally built the western leg connecting Hong Kong, Korea, and Japan, later acquired by Reliance Globalcom in 2003 .
- o Level 3 Communications constructed the eastern leg connecting Hong Kong, Taiwan, and Japan, which was later acquired by REACH/PCCW Global .
- o The system has been operational since 2001, making it one of the earliest dedicated regional cables for East Asia .

Performance and Longevity

Despite being over 25 years old, the FLAG-NAL continues to deliver low-latency, high-reliability performance, with monitoring showing minimal degradation over its longest segment between Hong Kong and Japan . The ring design ensures that traffic can be rerouted in case of faults, maintaining continuous connectivity for telecom carriers and service providers.

Significance

The North Asia optical cable network is essential for supporting high-capacity data transmission, regional internet traffic, and services such as cloud computing, AI applications, and 5G infrastructure. Its upgrades over time have allowed it to remain relevant despite the rapid growth of bandwidth demand in East Asia. In summary, the North Asia Branch of Communication Optical Cables represents a robust, high-capacity, and strategically important network that underpins telecommunications and internet connectivity across Japan, Korea, Taiwan, and Hong Kong.

Hokkaido-Akita Cable Hokkaido-Sakhalin Cable System (HSCS) Japan-Guam-Australia North (JGA-N) Japan Information Highway

FLAG North Asia Loop/REACH North Asia Loop is a 9,504 km submarine cable connecting China, Japan, South Korea and Taiwan

The FALCON cable system was originally a private cable owned by FLAG Telecom. FLAG Europe Asia (FEA), FLAG North Asia

These cables, composed of optical fibers encased in protective layers, stretch across oceanic floors, linking major

Far North Fiber, also called Far North Fiber Express Route, is a proposed 14,000 km long submarine fiber-optic cable connecting

This brief explores Asia's evolving subsea cable network, explains why trusted cable networks are a key ingredient for

FLAG Europe Asia (FEA) was originally a private cable owned by FLAG Telecom. FLAG Europe Asia, FLAG North Asia

Fiber-optic telecommunication cables in North and South Korean were interconnected Monday marking the first time

TeleGeography's comprehensive and regularly updated interactive map of the world's major submarine cable systems

Cinia and Far North Digital announced a joint effort to build a fiber optic cable system linking Europe and Asia through

Alcatel Submarine Networks was picked to build the transpacific fibre optic network which will span around 12,500km

NEC's subsea cable owned by a consortium of telcos in Japan, China, Korea, Singapore, Malaysia, Thailand, and

Development Corporation formed for Trans-Arctic Fiber Cable connecting Europe to Asia An international consortium of companies

5 common challenges found in their operations. The working paper then reviews the operation of submarine cable systems and

What is the role of fiber optic cables today, and how does it transform internet connectivity

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