

■ Remarks for Special Issue on Optical Submarine Cable System

On behalf of all of us at NEC we would like to express our appreciation for your encouragement by supporting our products, solutions and services.

In this special issue, we would like to place the spotlight on the “Optical Submarine Cable System” which is one of the essential infrastructures of information and telecommunications network in the age of globalization. As you will all understand, Japan is a country surrounded by sea and heavily depends on optical submarine cable systems to access all other countries. The international communications traffic via optical submarine cable backbone systems has been significantly increased due to the dissemination of the Internet and the consequent emergence of related new businesses. These days, people are downloading more movie data on the Internet, and companies are introducing advanced cloud computing architectures to support their businesses. In such an environment, the volume of telecommunications has been increasing day by day. Global communications networks are now considered to be essential for people in all aspects of their lives, both at their homes and office environments. This means that secure, comfortable and convenient telecommunications networks are important lifestyle considerations just as are the needs for food, clothing and housing. At the same time, the world is becoming more and more globalized as time goes on. Taking these matters into consideration, NEC commits itself to develop safer and more advanced global telecommunications networks, realizing it as one of our social missions.

The optical submarine cable systems introduced in this special issue are core systems vital to connect people living in the globalized society. NEC began a submarine cable system business back in 1968 and has participated in many submarine cable construction projects. Since the start of our involvement, we have always placed priority on the innovation, high quality and high reliability, resulting in successful implementation of a large number of submarine cable systems around the world with industry-leading optical transport technologies.

Submarine cable systems, once laid, are expected to operate as stable social infrastructures for periods of 25 years or more. NEC designs and manufactures such systems based on our high-reliability technologies which have been accumulated over many years of experience. Moreover, besides introducing the latest technol-

ologies at each process in the design and manufacture, we place maximum priority on reliability and safety.

This special issue reports on our related products and system technologies and also deals with various challenges of ours in this field. Readers will first learn about the present status and current trends of optical submarine cable systems. Subsequently, they will be informed about the large-capacity optical transmission technologies, which are the core of our optical submarine cable system. Also described are major equipment components; including optical submarine repeaters, optical submarine cables, optical terminal equipment, system monitoring equipment and power feeding equipment. The latter part of this special issue will explore system design issues and field tests that enable the submarine cables to be made operational for our clients. Also revealed is the cable laying technologies including submarine cable route design, sea floor surveys and ocean construction procedures. The repeaterless transmission systems and submarine seismographic observation systems are based on the same submarine cable technologies. The repeaterless transmission systems are the technologies used to enable communications between isolated islands or between the mainland and isolated islands.

The importance of global communication networks will continue to increase, and the optical submarine cable systems remain to be the core infrastructure providing environmental compatibility, safety and security in people's every day life. The NEC Group will continue to make every effort to develop advanced technologies and provide our customers with products that will satisfy their needs. We are looking forward to your continued support and encouragement for years to come.



OTANI Susumu

Senior Vice President and Member of the Board