

March 12, 2021

Kawasaki Kisen Kaisha, Ltd

“K” LINE commenced Proof of Concept with NOKIA in the field of DX for ships
~ Accelerating safety and quality utilizing high speed communication network ~

We are pleased to announce that we decided to install IP/MPLS solution with LTE communication proposed by NOKIA as Digital Transformation (DX) solution for ships to our LNG-fueled Pure Car Carrier “CENTURY HIGHWAY GREEN” completed by Tadotsu Shipyard Co., Ltd, the Imabari Shipbuilding Group today. By 4G/LTE Field Area Network (FAN) that provides high speed and secure communications between ship and shore, on-site work of the vessel will be significantly improved using various Digital Technologies when the vessel stays at port in Japan or overseas.

“K” LINE’s aim

Satellite communication normally used between ship and shore is said to be 10 years behind of land communication and this is one of the causes of delay for ships digitalization. With the 4G/LTE network, we will be able to communicate more smoothly during berthing, and available the same sophisticated technology on land, which will realize same quality of work environment on land to improve work efficiency on board, available skill sharing for maintenance, safety management. We would like to accelerate further development and utilization of advanced digital technologies for safe, environmental-friendly, high quality services to contribute to sustainable society.

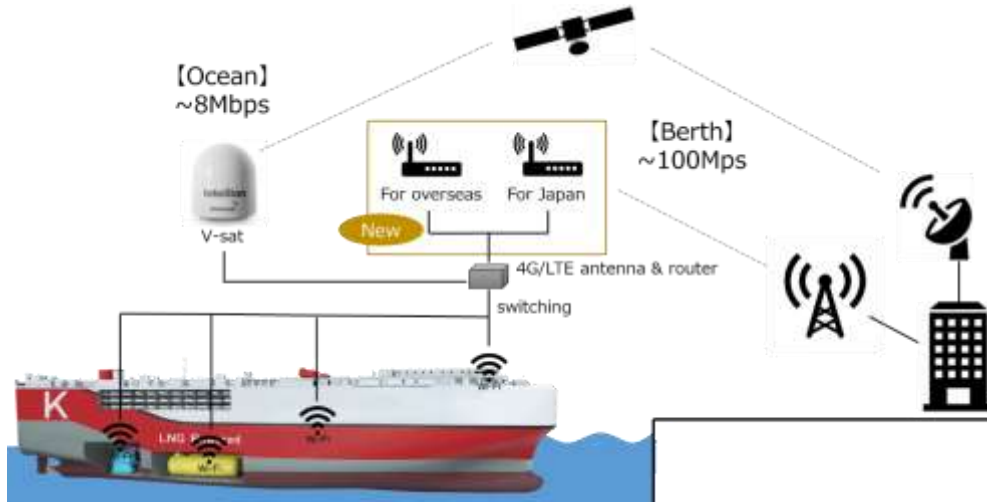
NOKIA solution

The Nokia industrial communication solution comprises the Nokia 7705 SAR-Hm (an industrial LTE router installed on ships), and the Nokia 7705 SAR-8 (a headend router in the office onshore). This solution enables “K” LINE to closely monitor loading and unloading in real time and significantly reduce time needed for large file exchange during port calls, greatly improving operation efficiency and industrial safety. All data is protected by an encrypted communication solution called Network Group Encryption (NGE). NGE protects MPLS services with minimal overhead. This special encryption technology ensures a high level of security and quality of service without any degradation of LTE link performance. While this solution has been deployed in overseas mining sites, electric grids and ports, this is the first introduction in Japan.

In the Management Plan released on last August, “K” LINE declared to expand and accelerate safety, environment, and quality initiatives top in the shipping industry and announced that DX is the important means. This solution is positioned as an DX infrastructure for ship to introduce new advanced digital technologies near future.

Through these efforts, “K” LINE will continue to improve our safe and environment-friendly operation on all our fleets.

<The concept diagram of communication network between ship and shore>



<Installed Antenna & Router on the vessel>



<Reference> Released on March 12, 2021

Delivery of Next-generation Environmentally Friendly Car Carrier Fueled by LNG

"CENTURY HIGHWAY GREEN"

<https://www.kline.co.jp/en/news/car/car753727087818379669/main/0/link/210312EN1.pdf>