

The future of maritime :

K:VDES



PROJECT OVERVIEW

- Korea's R&D project (2023~2026) on an integrated terrestrial-satellite VDES system that is compliant with international standards, sponsored by The Ministry of Oceans and Fisheries(ROK)

PROJECT OBJECTIVES

- Shipborne · Base Station VDES equipment and communication modules
 - VDES Operation Platform (data-link, resource sharing, integrity monitoring)
 - VDE-SAT uplink, downlink communication interface technology
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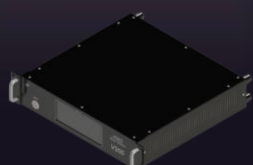
K:VDES R&D RESULTS

SHIPBORNE VDES



- AIS/ASM/VDE-TER/SAT
Built-in test functions
Multi GNSS receiver
- Compliant with ITU-R
M.2092-1, IEC 61162-
450, 460, and other
latest standards

BASE STATION VDES



- AIS/ASM/VDE-TER
- Multi GNSS receiver
- Redundant supplypower
- Compliant with ITU-R
M.2092-1 and other
latest standards

SERVICE GATEWAY



- Multi-application
protocol
conversion/configuration
- Network session
management
- Compliant with IEC
61162-450

RESOURCE COORDINATION SW



- Optimal slot search
algorithm for real-time
resource allocation
- Individual/total slot
statistics
- Resource allocation
predictions

K:VDES MARITIME SERVICES DEMONSTRATION

Based on the development results the Korean VDES R&D team executes three consecutive scenarios that demonstrates key maritime services for navigational safety

SCENARIO 1) ACCIDENT REPORT - ALARM MESSAGE & CCTV IMAGE TRANSMISSION

- A ship on a pre-established route plan encounters a dangerous situation in which the ship tilts due to flooding caused by a hull breach. The related situation information, including a short alarm message and CCTV images via one or more fragmented data sessions, is transmitted to the shore.

SCENARIO 2) ROUTE EXCHANGE - S-421 based ROUTE INFORMATION

- To request the safest route to the nearest port, the ship designates the shore station and sends a text message as a short data message to alert the shore station that the ship will discharge some of its cargo by unlashing to restore the hull tilt. It also sends its S-421 based pre-planned route information to the shore station via one or more fragmented data sessions.
- The shore station designates the ship and sends S-421 based the route-change information via one or more fragmented data sessions, so that the ship can get to the nearest port

SCENARIO 3) NAVIGATIONAL WARNING - S-124 based NAVIGATIONAL WARNING

- The shore station broadcasts the S-124 based navigational warning data including the information on the coordinates where the ship discharged the cargo, via one or more fragmented data sessions.

WANT TO JOIN THE FUTURE? CONTACT K:VDES

Lukas Kim
ALLFORLAND
lukaskimatwork@all4land.com
+82 10 8258 3356