Introduction of Vessel Monitoring System (VMS) Technology

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Introduction of VMS

Advantages of VMS
- Adoption of new maritime communication technology
- Employment of Communication Equipment on ships
- ECDIS-based operation in monitoring center
- Web-based service
- Continuous and real-time monitoring of ship’s location

Video

VMS(EEZ/High Sea)

AIS

Ship’s equipments for VMS

AIS
- Components: Transmitter, 2TDMA Receiver, DSC Receiver
- Frequency Range: 156.025 – 162.025 MHz

Inmarsat-C
- Frequency Range: TX: 1625.5~1646.5MHz, RX: 1530.0~1545.0MHz
- Using Inmarsat Satellite

SSAS
- Security Alert Transmitter
- Providing covert switch
- Signal transfer through satellite
- Frequency: 137~138Mhz
- Power Source: Normal AC 220V/100V, Emergency DC 24V
- Using ORBCOMM Satellite

Others
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- Power Source: Normal AC 220V/100V, Emergency DC 24V
- Using ORBCOMM Satellite
Implementation of GICOMS

- Long term project - Feasibility study, 2 years (2001-2002)
  - Implementation, 5 years (2003-2007)
- Establishing networking for sharing and providing information on AIS, Radar, Satellite terminal
- DB integrating for maritime safety
  - SAR, Oil Pollution prevention & response, Terrorism, Piracy, Meteorological data, Tide, Notice to Mariner, Aids to Navigation, Vessel Accidents Data
- Assistance of Decision-making in any event
- Supporting domestic & international coordination/cooperation
  - Displaying all information in one screen

GICOMS - Overview
1. Monitoring Vessel Traffic
2. Receiving Ship Security Alert Message
3. Monitoring Coastal Oil-Tanker
4. Monitoring Fishery boat in EEZ
5. Reviving Traffic Status at Accident Area
6. Provision Vessel Location to shipping Company
7. Sending Navigational Aids Information to the ship
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Conclusion

Establishment of GICOMS, the first in the world

- Fast and efficient action concerning ship’s accidents
- Increasing port operation efficiency
- Preventing international dispute on EEZ
- Increasing international confidence in maritime safety
- Contributing to the IMO policy
- Korean IT technology being utilized in other APEC economy

Information sharing between KOREA VMS and LRIT Server

Future plans

- Adding automatic analyzing functions for potentially dangerous elements (crew, passenger, cargo, ship and port)
- Protecting shipping company and personnel property information
- Upgrading GICOMS to maritime safety portal site
- Promoting international cooperation

Consideration points of VMS/GICOMS

- Choosing ship’s terminal according to communication range and cost
- Calling for inter-organizational cooperation for interfacing DB
- Reserving backup for connecting other DB in the future