

# Integrated navigation, motion control and communication system **SHIROTA** for marine transport ships



## PROVIDES

information support of ship navigation, improves the navigation safety and reduces maintenance costs

## THE SYSTEM PERFORMS THE FOLLOWING FUNCTIONS:

- Generation of navigation parameters, displaying and transmission to onboard users
- Avoidance of collisions with other ships, surface and underwater obstacles, and aids to navigation
- Remote automated, automated coordinated and remote-automated coordinated control of powerhelm unit
- Radio communication in various systems incl. GMDSS
- Broadcasting of commands and paired communication between the rooms in interior communication system
- Exchange of static, dynamic, and voyage-related data and messages on navigation safety using AIS
- Automatic registration of navigation environment
- Information support of decisions on ship handling, damage control, and emergency actions
- Reception and display of ice maps and GNSS signals



## THE SYSTEM INCLUDES THE EQUIPMENT AND SOFTWARE OF THE FOLLOWING FUNCTIONAL LOOPS:

- Navigation
- Propulsion control
- Mooring and keeping
- Communication incl. GMDSS
- Emergency control
- Handling control

### SPECIFICATIONS:

Heading	max 0.4°secφ
Speed	max 0.2 kt
Uder-keel clearance	max 2% of measured depth
Position	max 30 m
Number of tracked targets	max 256
Course keeping	max 0.5°
Trajectory keeping	max 15 m
Speed holding	max 0.2 kt
Keeping in positioning point	max 11 m
Course keeping in positioning point	max 3°

