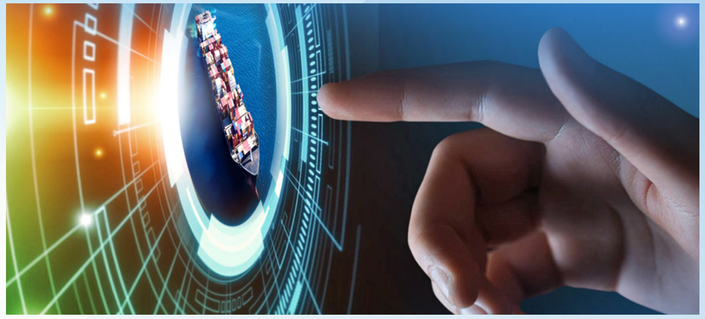


● Simulation test of intelligent navigation

Standard scenario



● Random generation of collision avoidance scenario according to the rules
● good differentiation of collision avoidance ability of the measured system



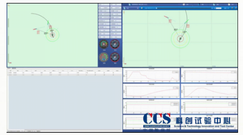
● High fidelity restoration of typical maritime accident scenarios
● Flexible addition and subtraction of multi-dimensional information as required



● Real waters, real test ship to produce traffic flow scene
● Real navigation data interaction

Test process management

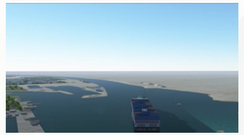
● Rule-based scenario generatio



● Typical accident process scene restoration



● Virtual-real integration test scenario construction



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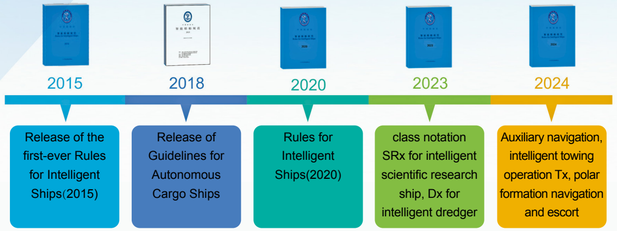
Reversion: 2024.03



CCS Rules for Intelligent Ships

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Rules for Intelligent Ships



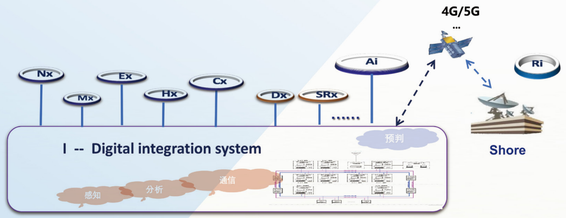
System of Rules for Intelligent Ships: “1 rule + N guidelines”system

Rules for Intelligent Ships(2024)

- Guidelines for Surveys of Intelligent Machinery of Ships (2024)
- Guidelines for Surveys of Intelligent Energy Efficiency Management of Ships (2024)
- Guidelines for Survey of Intelligent Cargo Management of Chemical Tankers (2023)
- Guidelines for Survey of Autonomous Navigation Class Notation of Ships (2023)
- Guidelines for Ship Cyber Security (2023)
- Guidelines for Survey of Intelligent Integration Platform (2018)
- Guidelines for Survey of Intelligent Cargo Management of Ships (Oil tankers) (2018)

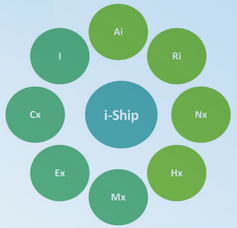
General framework of intelligent ships:

“1 system+N application”framework, including ship design, operation and maintenance into consideration

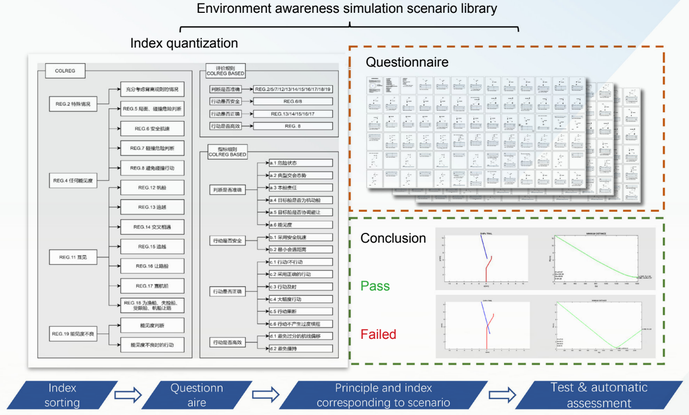


Class notation for intelligent ships: i-Ship (Ai ,Ri, Nx, Hx, Mx, Ex, Cx, I)

Ai — autonomous operation
Ri — remote control
Nx — intelligent navigation
Hx — intelligent hull
Mx — intelligent machinery
Ex — intelligent energy efficiency management
Cx — intelligent cargo management
I — intelligent integration platform
Dx — intelligent dredging operation
SRx — intelligent scientific research (scientific research ship)
Tx — intelligent towing operation



Index for intelligent navigation test



Virtual test and real ship test integration

