

Intelligent Ship Technology

• Risk Assessment of Intelligent Ships

CCS has established accident database and risk control measure virtual verification system for the purpose of risk assessment of intelligent ships and systems, so as to ensure their safety, environmental protection and security.

CCS has also developed relevant standards and technical guidelines for risk assessment of intelligent ships.

Related services are mainly as follows:

- Failure mode and impact analysis (FMEA) of intelligent ship system and equipment in design, production and application stage;
- Intelligent ship complex system safety analysis based on System Theoretical Process Analysis (STPA);
- Risk control measure verification based on virtual simulation fault input;
- Assessment of equivalent alternative/exemption of rules and regulations for intelligent ships;
- Assessment of intelligent ship test, application, operation schemes and safeguard measures.

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• Test and Verification of Ship Intelligent Navigation Systems



CCS has established intelligent ship simulation test and verification platform, which is capable of high precision hardware-in-the-loop simulation test. The platform, being equipped with a test scenario database on the basis of rules, accident recurrence and real traffic flow, provides qualitative and quantitative assessment of intelligence capability, behavior safety level and economy. The platform also allows for expert and AI accompany modes to make such tests more rational and science-based.

Services provided mainly are:

- Maritime autonomous navigation system test and verification;
- Ship collision avoidance warning equipment test and verification;
- Services related to intelligent ship navigation system test and verification.



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