

2021 Annual Report

CHINA CLASSIFICATION SOCIETY





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About CCS

Founded in 1956, China Classification Society (CCS) is headquartered in Beijing. It joined International Association of Classification Societies (IACS) in 1988 and has been its full member ever since.

As a classification society, CCS provides world-leading technical rules and standards as well as survey services for ships, offshore facilities and related industrial products. CCS further provides statutory, verification, and notarial surveys, certification and accreditation and other services in accordance with international conventions, regulations and Flag State requirements. CCS finished 2021 is a position of strength being authorised by 58 major shipping nations or regions, including China, to perform statutory surveys.

Adhering to our core principles of "safety,

environmental protection and creating value for clients and society", and based on the 129 offices established worldwide, CCS provides services for a range of industries and fields including shipping, shipbuilding, shipping finance and insurance, marine equipment, ocean resources exploration and development, ocean scientific research, industrial project supervision, system certification, government policy and rule development, energy saving and emission reduction, risk management and evaluation. Meanwhile, CCS is constantly developing new business areas.

Sticking to the spirit of "Unity, Devotion, Impartiality and Efficiency", CCS is a world class organization that continues to harness advanced technology to ensure the safety of human life and property and the prevention of environmental pollution across the globe.



President's Statement



In the past year, despite facing complicated and challenging circumstances at home and abroad, CCS has accomplished its main targets and tasks for the year while meeting the needs of the industry and clients, and made a good start to the 14th Five-Year Plan.

With our work to combat the impact of Covid-19 and serve economic and social development, our business made steady progress. The numbers of surveyed ships and offshore installations both increased year on year. We officially initiated the pilot work for Building China's Strength in Transportation project and actively increased the high-quality development of ship surveys.

We continued to innovate and by accelerating

independent research work, achieved new scientific and technological advancements. We have prepared and issued 44 rules and guidelines and continuously improved the standard system, providing a strong driving force for the high-quality development of the industry. We carried out research on the technology of "carbon peaking and neutrality" in the water transportation industry, and successfully released the "2021 Low-carbon Development Outlook for Shipping". In the field of ship intelligent systems, we further studied testing and verification technology and developed professional rules and guidelines to help the transformation and development of the industry.

Safety and quality remained at the heart of

all our work. Our management system operates continuously, steadily and effectively, and passed the Quality Assessment and Certification of Organisations Recognized by the European Union (QACE) and the International Quality Assessment Review Body (IQARB); and our Quality System Certification Scheme (QSCS) with IACS and EU recognition remain valid. Among IACS members, according to the benchmarking results, our overall performance is higher than the average level. Our safety performance remains excellent, as shown in the class-related detentions in Paris MoU, Tokyo MoU and the United States Coast Guard. Our performance in safety inspection for domestic ships also remains extremely high. And importantly our customer satisfaction levels are very positive.

We interconnected our domestic and overseas development and actively participated in international maritime affairs. This included chairing IACS Environmental Panel and Expert Group on MASS, and our technical recognitions and contributions in IACS significantly enhanced. We actively participated in the work of the International Maritime Organization (IMO) and the Association of Asian Classification Societies (ACS), and successfully joined the Society of International Gas Tanker and Terminal Operators (SIGTTO). We also successfully co-hosted the virtual Tripartite Meeting 2021 among international shipowners, shipbuilders and classification societies.

I am well aware that all the achievements and progress made by CCS could not happen without the care, support and trust of government administrations, industry colleagues and friends home and abroad, and they are a result of the passion, talent and efforts of all our staff. Here, I would like to express my gratitude to all who support us, and all our staff and their families.

In 2022, CCS will conscientiously continue the pilot work for Building China's Strength in Transportation project, make every effort to ensure safe and stable development and co-ordinate COVID-19 prevention and control. The focus will be on new energy, intelligence, digitalization and other technical advances. That will include providing effective rules and standards for green

energy and intelligence, enhancing researches on the development path of digital transformation, accelerating the deep integration of business with digitalization, and increasing the research and development of key high-tech ship types. We will strengthen basic generic technology research and laboratory capacity-building, and develop new products through strong research and development around carbon emissions and digital technologies. We will promote business work, improve work quality, efficiency and safety, and deepen overseas cooperation, supporting the smooth flow of international logistics chains and major materials.

We now stand at a new historic starting point. CCS will continue to follow strategic guidelines, deepen reform and focus on client demands. We will drive development through innovation, give value through performance, build consensus, boost digital transformation and enhance the application of new technologies. We will work hard and make steady progress in improving the efficiency and performance of business and management; we will accelerate the building of an all-round world-class classification society, while supporting economic and social development and promoting the development of the shipping and shipbuilding industries.

We look forward to working hand in hand with all sectors at home and abroad to provide professional and high-quality technical services for governments, the industry and clients, and making new contributions to the development of the industry and the realisation of a better world.

CCS Chairman & President

Top Management



SUN Feng Chairman & President (right in the front row)
LI Changjian Secretary of CPC and Vice President (left in the front row)
GAO Jianguang Secretary of Committee for Discipline Inspection (second from the right in the back row)
ZHONG Xiaojin Vice President (second from the left in the back row)
FAN Qiang Vice President (first from the right in the back row)
CAI Yanxian Vice President (first from the left in the back row)

Chronicle

On 2 April 2021

The 58m ultra-low temperature tuna longline fishing vessels CHANG RONG 7 and CHANG RONG 8, surveyed by CCS, were successfully delivered, becoming China's first professional ocean-going fishing vessels for bluefin tuna in the high latitude waters of the North Atlantic.



On 28 April 2021

The Ship and Offshore Engineering Industry Data Sharing Summit and China Ship/Shipping Block Chain (CSBC) Alliance Founding Conference, sponsored by CCS, were successfully held in Ningbo, Zhejiang Province.



On 7 June 2021

CCS held the founding and first meeting of the Academic Committee of Intelligent Technology and Safety Laboratory in Beijing to actively promote the water transportation industry in its goal of achieving "carbon peaking and neutrality" as soon as possible.



On 25 June 2021

The world's first 100,000 DWT deep-water (1,500m) semi-submersible production and storage platform SHEN HAI 1, surveyed by CCS, was successfully placed into operation.



On 13 July 2021

The first domestic dynamic positioning shuttle tanker BEI HAI XIN XI WANG, surveyed by CCS, was delivered. It will provide condensate transportation for China's deep-water semi-submersible oil storage platform SHEN HAI 1 and jointly complete the Lingshui 17-2 gas field development project.



On 22 July 2021

The world's first airborne SCR low-speed diesel engine CX52, independently developed by China, was officially launched. CCS took part in its development and surveyed it.



On 10 September 2021

China Classification Society Certification Co., Ltd. (CCSC) issued the first five-star "port tally" service certificate to Tianjin Ocean Shipping Tally Co., Ltd.



On 11 September 2021

CCS successfully completed the sea trial of the world's first LNG dual-fuel very large crude carrier (VLCC) YUAN RUI YANG in a conventional fuel mode, and the ship is classed by CCS.



On October 6, 2021

The pilot scheme for Building China's Strength in Transport, submitted by CCS, was officially approved by the Ministry of Transport. In the next few years, that pilot work will be carried out in five areas: the innovation and application of the ship survey mode; research and development into new ship equipment technology; the building of ship scientific research and experimental capability; the creation of a digital classification society and the improvement of international cooperation and exchange capability in ship surveys. The work will deliver demonstration and guidance, and effectively support the work to build China into a country with a strong transportation network.



On 7 December 2021

China's first floating offshore wind power platform, SAN XIA YIN LING, surveyed by CCS, was successfully connected to the grid for power generation.



On 15 December 2021

TIGER LONGKOU, a 700 TEU deck cargo ship for LNG tank containers, surveyed by CCS, fulfilled its trial voyage successfully.



On 28 December 2021

Sun Feng was appointed President of CCS and Cai Yanxian Vice President. The appointments followed the retirement of former President Mo Jianhui and former Vice President Zhu Kai.



Organisation



◎ Organisation and global offices

By the end of 2021, **129** offices were operating globally.



China Classification Society Industrial Corp. (CCSI), China Classification Society Certification Co., Ltd. (CCSC), Beijing Digital Easy Technology Development Co., Ltd. (Digital Easy), and China Ship Survey Press are subordinate to CCS.

● China Classification Society Industrial Corp. (CCSI)

CCSI has established 19 branches nationwide, mainly engaged in engineering supervision, technical services and assessment services. These services cover transportation engineering, energy and chemicals, finance and insurance, and equipment manufacturing. CCSI owns nearly 20 qualifications involving CNAS/CMA, equipment supervision, road and bridge engineering, electromechanical engineering for water transport, professional equipment, and special equipment testing.



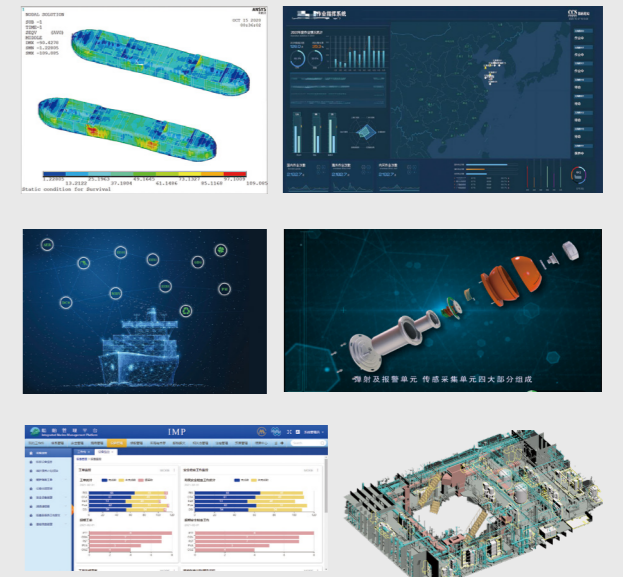
● China Classification Society Certification Co., Ltd. (CCSC)

Across China, CCSC has established 32 branches, three centers (Technical Center, Product Testing Center, and Training Center) and one wholly owned subsidiary. Its scope includes system, product and service certification, green and low-carbon business, safety, animal welfare assessment, vocational education and training, risk management, etc.



● Beijing Digital Easy Technology Development Co., Ltd. (Digital Easy)

Digital Easy provides hi-tech services for the ship industry and maritime industry concerning software development, technical services and operation management. Its products and services cover engineering software development, intelligent management platform development, data analysis services, visual model application, digital modeling, calculation evaluation, digital simulation, etc.



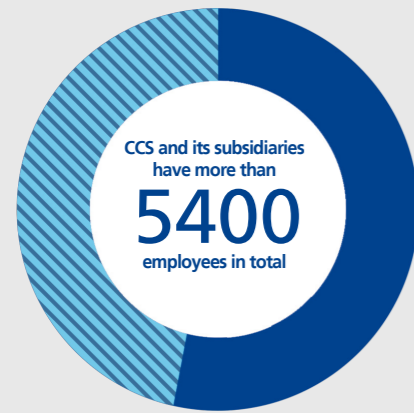
● China Ship Survey Press

China Ship Survey Press mainly publishes journals including China Ship Survey and the Special Issues of China Classification Society. It also operates new media platforms such as the official Weibo of China Ship Survey, provides public opinion analysis and various information services, develops cultural product and creative design services, and organizes cultural exchanges and exhibitions.



© Staff makeup

Number and composition



- Head office, branches and directly controlled entities: more than 3,000
- Subordinate companies: more than 2,400

Education of employees:

95%

have bachelor's degree or above.

Titles of employees:

62%

have senior technical titles or above.



Clients

CCS serves more than 30,000 clients from 140 countries and regions across six continents.



- More than 15,000 shipping company clients, accounting for 50% of all CCS clients in various business categories
- More than 600 offshore engineering clients, around 2% of CCS clients
- More than 10,000 marine equipment enterprises, around 33% of CCS clients
- More than 4,500 industrial sector clients, around 15% of CCS clients

Ships

The number of surveyed ships continued to increase in 2021 to reach 32,857 (179.39 million GT), and increased by 803 (15.94 million GT) compared to 2020. The fleet has increased by 2.5% in the last 12 months and the tonnage of ships increased by nearly 10%. Among them, there were 5,555 classed ships engaged on international voyages (140.25 million GT), with an average age 9.93 years, 24,561 ships (37.2 million GT) engaged on domestic voyages, with an average age 11.21 years, and 2,741 ocean-going fishing vessels (1.931 million GT), with an average age 7.9 years.



Number of ships surveyed by CCS

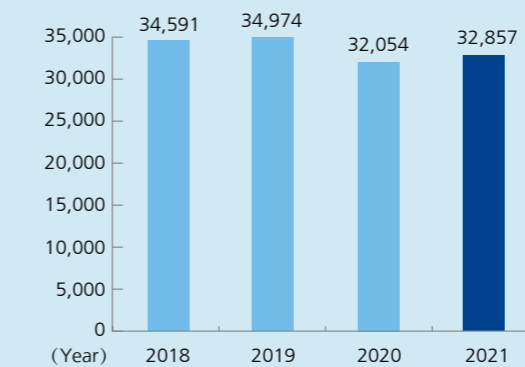
(Number of Ships)

32,857

Compared to 2020

▲
803

(Number of Ships)



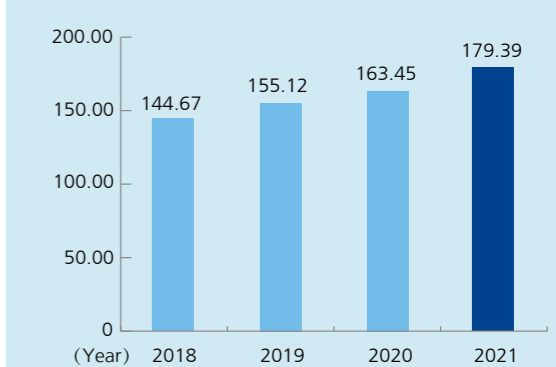
(million GT)

179.39

Compared to 2020

▲
9.8%

(million GT)



Ships engaged on international voyages

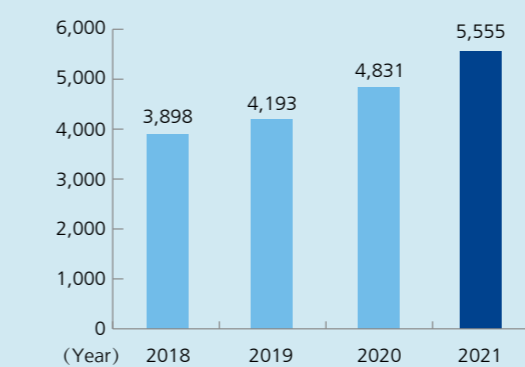
(Number of Ships)

5,555

Compared to 2020

▲
724

(Number of Ships)



(million GT)

140.25

Compared to 2020

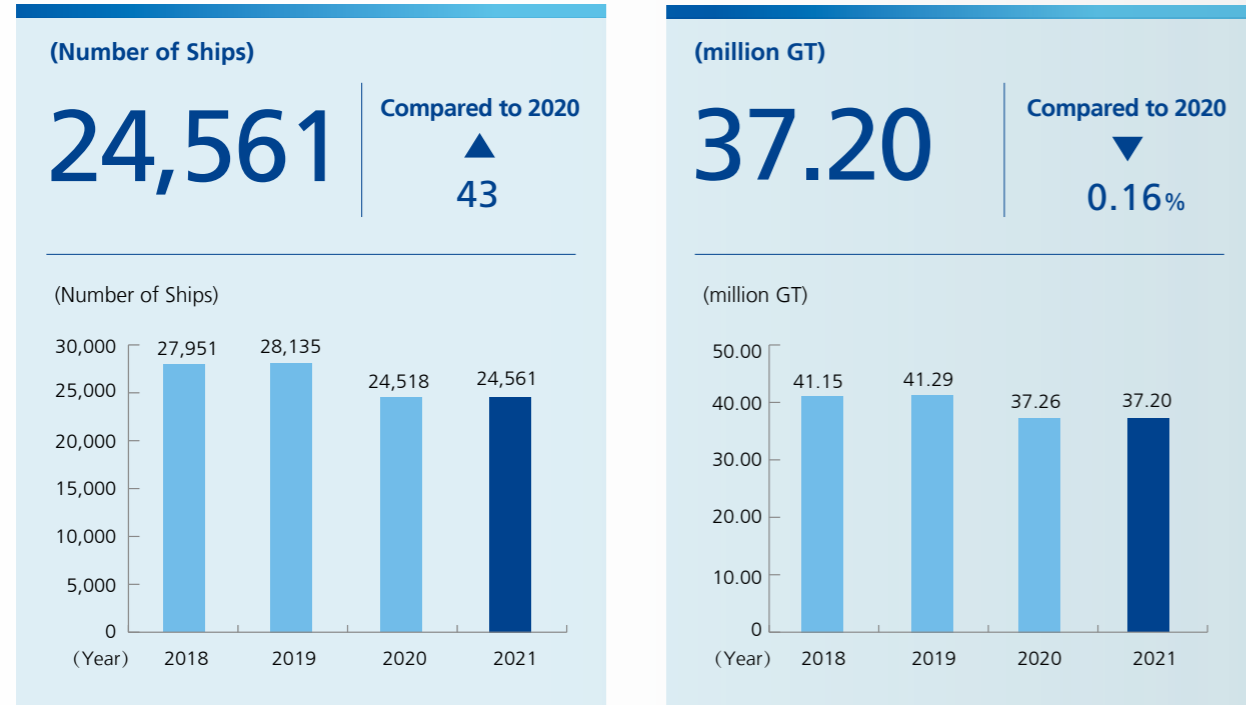
▲
13.1%

(million GT)



Average age: 9.93

● Ships engaged on domestic voyages



Average age: 11.21



● Ocean-going fishing ships

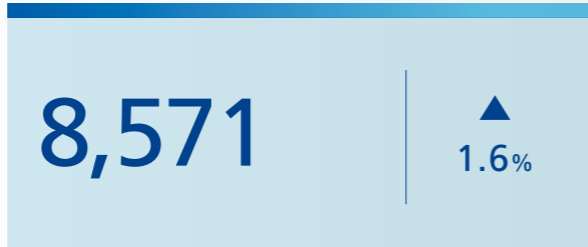


Average age: 7.9

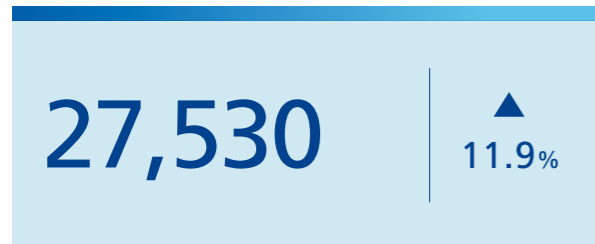


In 2021, CCS completed 8,571 surveys of classed ships engaged on international voyages, a year-on-year growth of 1.6%; 27,530 surveys of domestic ships, a year-on-year growth of 11.9%; and 2,982 surveys of ocean-going fishing vessels, an annual growth of 71%.

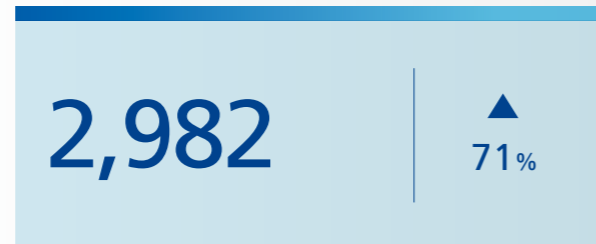
● Surveys of classed ships engaged on international voyages



● Surveys of domestic ships



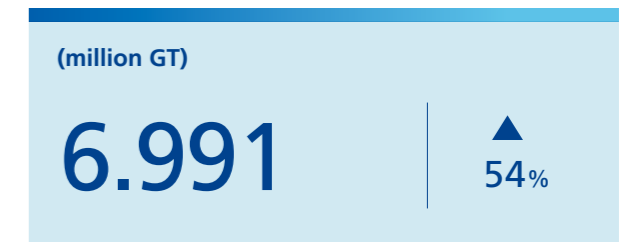
● Surveys of ocean-going fishing vessels



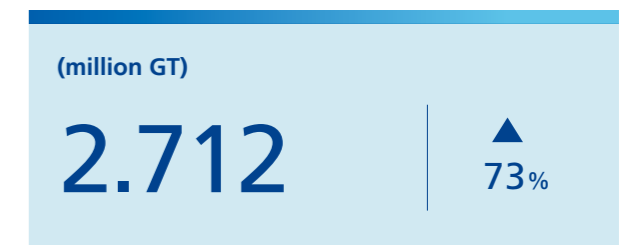
Over the same period, CCS completed classification surveys for 136 newbuildings for international voyages (6.991 million GT), a year-on-year increase of 26% (54%) and for 1,437 newbuildings for domestic voyages (2.712 million GT), a year-on-year increase of 107% (73%).



● Newbuildings for international voyages



● Newbuildings for domestic voyages



Plan approval management was optimised to increase efficiency, and innovative pilot work was carried out. Plan approval and survey was completed for many large vessels including VLCC, VLOC, 174,000m³ LNG carrier, 210,000 DWT bulk carrier, as well as other high-tech and high value-added ships.

These included dual-fuel multi-purpose gas carriers, 2,200 CEU car carriers, China's largest comprehensive ocean research ship, LNG-powered support vessels, self-propelled trailing suction hopper dredgers, new-generation river cruisers, multi-purpose pulp carriers and 4,000 DWT liquid sulfur carriers.



● CS HUNAN VENTURE, an energy-saving and environment-friendly VLCC



● HUI JIN HAI, a new generation of Newcastlemax intelligent bulk carrier



● CMA CGM SORBONNE, a CMA CGM 23,000 TEU dual-fuel LNG-powered container ship



● MU LAN, a 174,000 m³ LNG carrier



● ZHONG SHAN DA XUE, the largest comprehensive ocean research ship in China



● COSCO SHIPPING GRACE, a multi-purpose wood-pulp carrier



● SHI JI KAI GE, a new generation of intelligent and green luxury sightseeing ship



● NIMTOFTE MAERSK, a MAERSK 2,200 TEU container ship



• AN JI 31, a 2,200 CEU car carrier

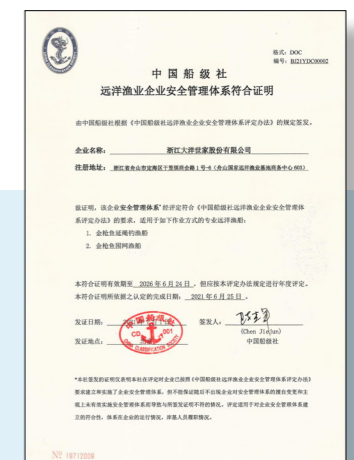
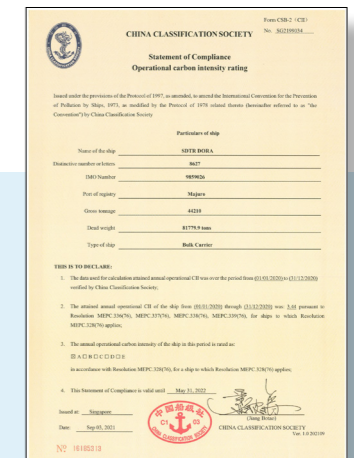


• HONG LI, the first dual-fuel LNG-powered multi-purpose gas carrier in China

In 2021, CCS overcame the continued impact of COVID-19, coordinating COVID-19 prevention and control, and effectively ensuring the smooth operation of the international logistics chain. CCS issued a Technical Notice on Loading and Carriage of Containers by Bulk Carriers to improve ship safety. It conducted COVID-19 prevention and control for cruise ships, evaluated safe operation and supported the resumption of cruises. Measures were taken to improve the safety management of passenger and cargo liners travelling between China and South Korea. Safety emergency guards and emergency response services were provided

in during key periods and in key areas.

In other fields, the first certificate of compliance of operational carbon intensity indicator (CII) was issued. The in-depth integration of commercial fishing vessels was promoted, and the ocean fishing vessel was fully integrated into the commercial vessel management system. CCS continued to promote pilot work in the safe management of ocean fishery enterprises, and completed safety management system certifications for six enterprises throughout the year, effectively promoting the high-quality development of ocean fishing vessels.



| Offshore Engineering

In 2021, CCS completed surveys for 961 offshore units in service, a year-on-year increase of 8%.

These included 296 mobile offshore units, 635 fixed offshore installations and 30 FPSOs in service. It completed product surveys for the subsea Christmas tree, gas turbine units and subsea BOP control cables, all made in China for the first time and a solid step towards the domestic production of key offshore equipment.

CCS issued survey certificates for several key projects, including the mid-deep water (1,000m) semi-submersible drilling unit SHEN LAN TAN SUO; the

world's first deep water semi-submersible production and storage platform SHEN HAI YI HAO; CHINA Three Gorges New Energy Jiangsu Rudong Converter Station, which is Asia's first offshore converter station; offshore wind turbine platform CTG Leader, China's first floating offshore wind turbine and a 2,500-ton wind turbine installation unit. CCS won the special prize for innovation and contribution to offshore engineering standards during the 13th Five-Year Plan period, one first prize and nine second prizes in marine science and technology.



● SHEN HAI YI HAO, the first deep-water semi-submersible production and storage platform in the world.



● SHEN LAN TAN SUO, a mid-deep water (1,000m) semi-submersible drilling unit

CCS promoted innovative offshore engineering businesses, carried out research on safe offshore wind farm installation, issued survey service tips for offshore wind farm facilities and provided survey service plans for offshore fish farming units and installations and leisure facilities in Shandong.

CCS successfully won the bid to provide the third-

party survey and certification service for CNOOC's Zhuhai Gaolan Terminal Carbon Dioxide Capture and Utilize Project and survey projects involving four onshore power platforms. It also achieved breakthroughs in new technologies such as net zero emission and carbon capture.



● CTG Leader, the first floating offshore wind turbine — wind farm platform in China



● China Three Gorges Renewable Jiangsu Rudong Converter Station, the first offshore converter station in Asia



● JING HAI 002, a deep-water intelligent fish farming installation

Industrial Services



CCS completed 335 technical supervision service projects involving roads and bridges, and port equipment, and 3,426 service projects of special equipment.

High-quality supervision and survey work for the CPI offshore wind farm project, PipeChina's project, and the reconstruction of port shore power facilities in the Yangtze River basin were also completed. CCS issued 5,468 system certificates, 191 product certificates, 675 work safety standardisation assessment certificates, and completed 176 survey and supervision projects involving industrial products, as well as 2,281 approval projects involving energy conservation and emission reduction.

CCS received China Urban Rail Certification (CURC)

qualification; the Category-A supervision qualification for oil and gas storage and transportation and pipeline equipment; the 'Enterprise's Good Standardization Practice' qualification from the China Association for Standardization, and the qualification recognized by CNAS information technology service management systems.

CCS expanded its new business involving the impact assessment of the green and low-carbon environment, issued the first certificates of epidemic prevention management in the water passenger transport service industry and the service certificate for "port tally", and it jointly issued the standard system for 'China's net-zero carbon target' with the Investment Association of China.



Technology R&D and Technical Innovation



CCS supported China's national strategy through scientific and technological innovation.

CCS comprehensively launched its pilot work in Building China's Strength in Transport looking at new survey technology, standard systems, experimental verification capability, digital transformation and internationalisation.

It actively participated in the scientific research work of the the "carbon peaking and neutrality" action plan, greenhouse gas emission reduction policies, major high-tech ship projects, and key programmes involving transportation equipment and intelligent transportation technology, playing a technical support role.



CCS continued improving standard systems.

CCS focused on green, intelligent, deep-sea and ocean development, and new ship types. It developed rules and standards, and comprehensively upgraded its technical service capabilities. It prepared and issued rules and standards, including the Guidelines for Monitoring and Evaluation of Cabin Air Quality and Biohazard Factors and the Guidelines for Applications of Methanol/Ethanol Fuel in Ships. These formed a green ecological standard system covering pollution prevention, clean fuel application, energy efficiency technology, ecological protection and human health.

CCS' original work, such as Guidelines for Assessment of Ship Data Quality and Guidelines on Verification of Digital Systems for Ships and Offshore Installations, were released worldwide. Its technical service capability in the structural design of luxury cruises/ large passenger ships and large container ships was improved, and its characteristic service capability in digitalization of ships has come into being.



CCS made continual progress in technical research and development.

Focusing on greenization, intellectualization and digitalization, CCS achieved productive scientific research results. Work progressed towards the goal of "carbon peaking and neutrality" and technical services supporting international greenhouse gas emission reduction continued to improve.

Technical services involving the analysis and calculation for alternative fuel ship types, the energy efficiency existing ship index (EEXI) and carbon intensity indicator (CII) evaluation were delivered, and the evaluation of more than 600 ships completed. A special technical team was established to lead research and development projects involving ammonia-fuelled VLCC. CCS completed the research and made breakthroughs in key structural design technologies regarding the containment system of LNG ship membrane and large container ships. It continued to promote research into virtual-real testing technology, intelligent navigation, equipment operation and maintenance, and formed core testing capabilities. In the field of intelligent collision avoidance, national competitions have been undertaken using the established platform to develop and improve the equipment.



氨燃料在VLCC上的应用研发 ——项目总结会暨AIP发证仪式





CCS laboratory construction work progressed steadily.

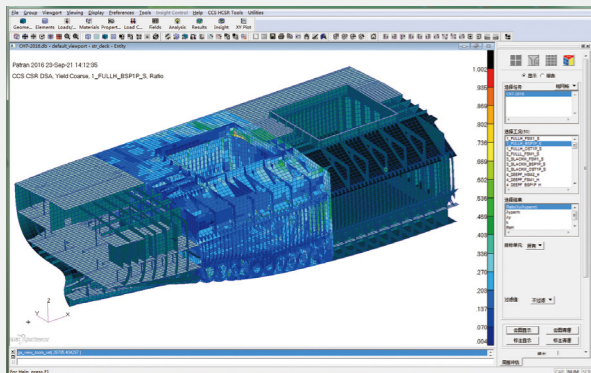
CCS established three laboratory academic committees examining green, intelligent and safe technologies. It promoted research into technical standards of intelligent ships to improve its test, verification and technical service capabilities on intelligent ship systems. It integrated the research on the application of digital and new energy technologies, delivering a technical service involving risk control and safety for the whole life cycle of marine lithium batteries and a package service for calculating greenhouse gas emission reductions and ship energy efficiency.

CCS also promoted the construction of ship firefighting simulation testing, research on a new water life-saving equipment system, and improved the safety verification of ship equipment.



CCS upgraded engineering software.

The phase II development of wave load calculation software for ships and marine structures was completed. Important software used in hull common structural rules-direct strength analysis (HCSR-DSA), passenger ship evacuation analysis, COMPASS marine ships, river ships and fishing vessels was upgraded to greatly improve software modeling, calculation analysis efficiency and user experience, and effectively support ship and offshore engineering design.



CCS saw new expansions in digitalisation.

Its "digital classification society" progressed steadily, 5G + remote survey technology was promoted, remote survey platforms and mobile applications were developed, and new steps were taken in the digital transformation of its survey business. CCS established an industry digital business ecosystem blockchain alliance and developed a comprehensive service platform for the industrial Internet in the shipbuilding industry, with more than 4.55 million codes issued to vigorously promote digital application services.



CCS achieved substantial progress in offshore engineering technology research.

The independently developed FPSO scantling calculation software entered its engineering trial stage, and the continuously upgraded platform integrity management system started its rapid application stage in all oil subsidiaries of CNOOC; 10 new service products showcasing offshore engineering technologies were launched, such as the emergency response of the jack-up structure and the risk-based assessment for offshore oil and gas facilities. Two projects, including "R&D and application of the drill string heave compensation system technology for floating drilling vessels", received a second prize from the China Institute of Navigation. Successful scientific research projects involving the deep-water semi-submersible oil production and storage platform, the underwater production system and floating wind farm helped the successful commissioning and application of China's first semi-submersible production and storage platform, floating wind farm facilities, and domestically made underwater production system equipment.



List of Rules developed/ revised in 2021

SN	Name of Rules	Effective date
1	Rule Change Notice for: Rules for Classification of Offshore Floating Installations (RCN No.1, March 2021)	2021.04.01
2	Rule Change Notice for: Rules for Classification of Sea-Going Steel Ships (RCN No.1, 2021)	2021.02.01
3	Rules for Construction of International Ocean-going Steel Fishing Vessels, 2021	2021.07.01
4	2021 Amendments to Rules for Classification of Sea-Going Steel Ships	2021.07.01
5	2021 Amendments to Rules for Materials and Welding	2021.07.01
6	2021 Amendments to Rules for Construction of Domestic Ships	2021.07.01
7	2021 Amendments to Rules for Construction and Equipment of Ships Carrying Liquefied Gases in Bulk	2021.07.01
8	Rule Change Notice for: Rules for Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (RCN No.1, 2021)	2021.07.01
9	Rule Change Notice for: Rules for Classification of Mobile Offshore Units (RCN No.1, July, 2021)	2021.07.01
10	Rules for Classification and Construction of Offshore Single Point Mooring Installations, 2021	2021.09.01
11	Rules for Classification of Small Sea-going Ships, 2021	2021.09.01
12	Rules for Submarine Pipeline Systems, 2021	2021.10.01
13	Structural Rules for Container Ships	2022.07.01
14	Rule Change Notice for: Rules for Ships Using Natural Gas Fuels 2021 (RCN No.1, 2021)	2022.01.01
15	Rule Change Notice for: Rules for Construction and Equipment of Inland Water Ships Carrying Liquefied Gases in Bulk 2017 (RCN No.1, November 2021)	2022.01.01
16	Rule Change Notice for: Rules for Classification of Sea-Going Steel Ships (RCN No.1, January, 2022)	2022.01.01

List of Guidelines Issued in 2021

SN	Name of Guidelines	Effective date
1	Guidelines for monitoring and evaluation of cabin air quality and biohazard factors, 2021	2021.03.01
2	Guidelines for survey of rim propellers, 2021	2021.03.01
3	Guidelines for application of environmental conditions in design and assessment of offshore structures, 2021	2021.04.01
4	Guidelines for construction inspection of dredging equipment, 2021	2021.04.01
5	Guidelines for quality assessment of ship data, 2021	2021.04.01
6	Guidelines for remote survey of fishery vessels (Trial Implementation)	2021.03.25
7	Guidelines for survey of additive manufacturing, 2021	2021.06.01
8	Guidelines for quality acceptance for firefighting system construction of offshore substation	2021.07.01
9	Guidelines for enhanced fire safety of container ships	2021.06.01
10	Guidelines for survey of self-propelled hyperbaric lifeboats for saturation diving system, 2021	2021.06.01
11	Guidelines for survey of external environmental control unit for saturation diving system, 2021	2021.06.01
12	Guidelines for hull structures of public service ships at sea, 2021	2021.07.01
13	Guidelines for intelligent search and rescue robots on the water, 2021	2021.06.01
14	Guidelines for shipboard vibration control, 2021	2021.07.01
15	Guidelines for approval of suppliers and personnel qualification management, 2021	2021.07.01
16	Guidelines for fatigue strength of ship structure, 2021	2021.08.01
17	Guidelines for inspection of hull welds, 2021	2022.01.01
18	Guidelines for complete ship model calculation of cruise ships, 2021	2021.08.01
19	Guidelines for local strength assessment of cruise ships, 2021	2021.08.01
20	Guidelines for strength assessment of ships with specific service area or service route or service life	2021.08.01
21	Guidelines for planning of ship to ship transfer (STS) operations	2021.09.01
22	Guidelines for verification of digital systems for ships and offshore installations, 2021	2021.10.01
23	Guidelines for ship/shore communications compatibility assessment of shore power systems	2021.11.01
24	Guidelines for power supply evaluation of renewable energy micro-grid at wharf	2021.11.01
25	Guidelines for certification of offshore wind turbine generator system, 2021	2022.01.01
26	Guidelines for application of high manganese austenitic steel for cryogenic service, 2021	2021.12.01
27	Guidelines for floating offshore wind turbine platform, 2021	2022.01.01
28	Guidelines for remote surveys of marine products	2022.01.01

International Maritime Affairs



CCS served as the chair of the IACS General Policy Group (GPG), and chaired the IACS Environmental Panel, the Expert Group on MASS and the Expert Group on Formal Safety Assessment (FSA). It also participated in the work of 18 IACS technical project teams. CCS actively attended various meetings of the International Maritime Organization (IMO) on maritime safety, environmental protection and greenhouse gas emission reduction, led the Chinese delegation's work in the IMO Sub-committee on Ship Design and Construction and the Sub-Committee on Ship Systems

and Equipment, submitted 19 papers to IMO, and continuously made technical contributions to remote surveys, greenhouse gas emission reduction, etc.

CCS also actively participated in the formulation of technical guidelines of the Association of Asian Classification Societies (ACS) for safety of domestic passenger ships, played the role of ACS Vice Chair and operated Shanghai Technical Office of ACS. In addition, CCS successfully joined the Society of International Gas Tanker and Terminal Operators (SIGTTO).

CCS signed three joint research and development agreements on the reduction of greenhouse gas emission from shipping with A.P. Moller-Maersk to start in-depth cooperation. Tripartite international cooperation in intelligent ship has begun with CCS, Tianjin Port and Wartsila, Finland.

The number of statutory survey authorisations from the maritime Authorities reached 58 including Dominica, the British Isle of Man and Egypt.

CCS actively attended the 1st North Bund Forum, signed the 2021 Shanghai Agreement, released the *2021 Low-carbon Development Outlook for Shipping*, and successfully held the Digitization and Intelligence Symposium, with nearly 150 attendees from domestic and foreign government administrations, shipping industry and industrial chain.



Domestic Exchanges



CCS provided all-round technical guidance and assistance for local ship survey organisations and helped them improve their technical capabilities following the Ministry of Transport's 'I do practical things for people' initiative.

CCS presented engineering software to the local ship survey organisations free of charge, with a cumulative value of 16 million yuan. It also undertook a great deal of training work involving river ship surveys, which was widely praised by students of local ship survey organisations.

CCS established strategic cooperative relations with

the transportation departments of five provinces and cities including Shandong and Shanghai, and continued to promote technical exchanges and cooperation with local ship survey organisations.

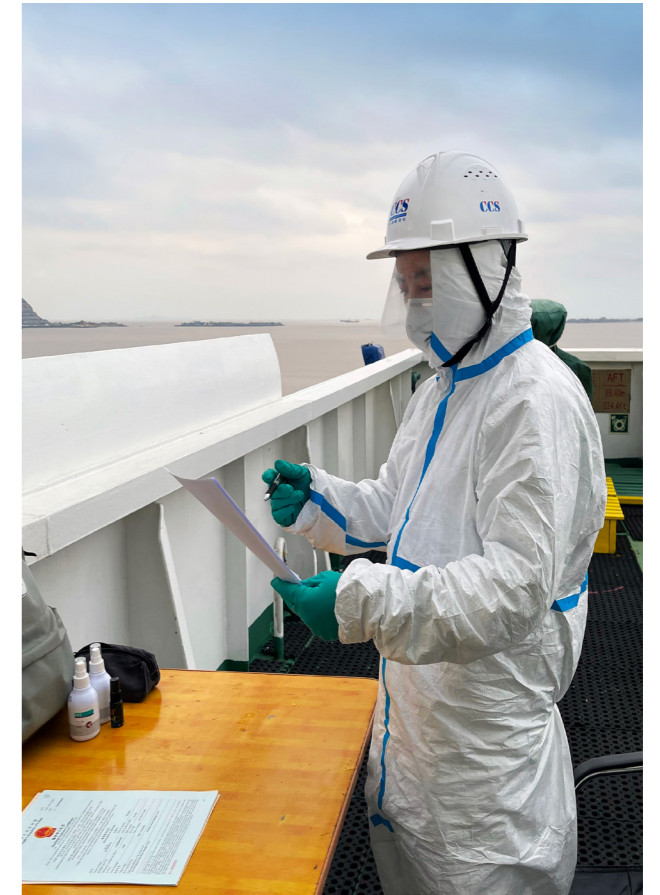
In order to cope with the impact of the COVID-19 pandemic and meet the needs of clients, CCS provided an online training platform for clients free of charge. It saw 61 instructors providing 39 courses for more than 10,000 students, accumulatively. In addition, CCS produced 6 short video courses and integrated them into VR technology development courses which were highly valued by trainees.



COVID-19 Prevention and Control



CCS persevered in COVID-19 prevention and control, implemented the “responsibilities of four parties”, did a good job in “guarding against imported cases and preventing a resurgence of the outbreak at home”, and accelerated COVID-19 booster vaccination.



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*Safety, environmental protection
and creating value
for clients and society*





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CHINA CLASSIFICATION SOCIETY



CCS Mansion, 9 Dongzhimen Nan Da Jie, Beijing 100007, China

Tel: +86 10 5811 2288 Fax: +86 10 5811 2811

www.ccs.org.cn