

財團法人驗船中心

CR CLASSIFICATION SOCIETY



CR Annual Report 2021

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Since 1951



CR Annual Report 2021 www.crclass.org

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驗船中心 品質政策

增進船舶及海上人命安全，防止船舶對海洋造成污染



CR CLASSIFICATION SOCIETY



Annual Report 2021

- 01 CR簡介
Brief Introduction of CR
- 02 組織架構
Organization
- 03 董事長感言
Chairman's Speech
- 05 董事會
Board of Directors
- 06 船級委員會
Classification Committee
- 07 技術委員會
Technical Committee
- 08 品管委員會
Quality Management Committee
風電諮詢委員會
WindEnergy Advisory Committee
- 09 建造中入級
Classification of Ships During Construction
現成船入級
Classification of Existing Ships
- 11 新入級船舶
Newly Classed Ships
在級船舶
Classed Ships
- 12 ISM, ISPS及MLC評鑑
ISM, ISPS & MLC Verifications
港口國管制
Port State Control
工廠認可及型式認可
Works Approval and Type Approval
- 13 規範研究
Rules Development
- 14 政府授權
Government Authorization
研究成果
Research Achievement
- 15 CRPA電子審圖
CR Plan Approval (CRPA)
ETAS緊急技術評估服務
Emergency Technical Assessment Service (ETAS)
- 16 研討會
Workshops
教育訓練
Training

CR 簡介

鑒於船舶檢驗與航行安全息息相關，世界各航運大國均設立本國驗船機構以執行船舶之嚴格檢驗。我航運業、保險業及造船業各界有識之士，為求航業蓬勃發展，幾經磋商籌劃，始於民國40年2月15日在台北市成立「社團法人中國驗船協會」，復於民國67年7月1日接受民間捐助，改組並更名為「財團法人中國驗船中心」。英文名稱為CR Classification Society(former name: China Corporation Register of Shipping)，簡稱CR。

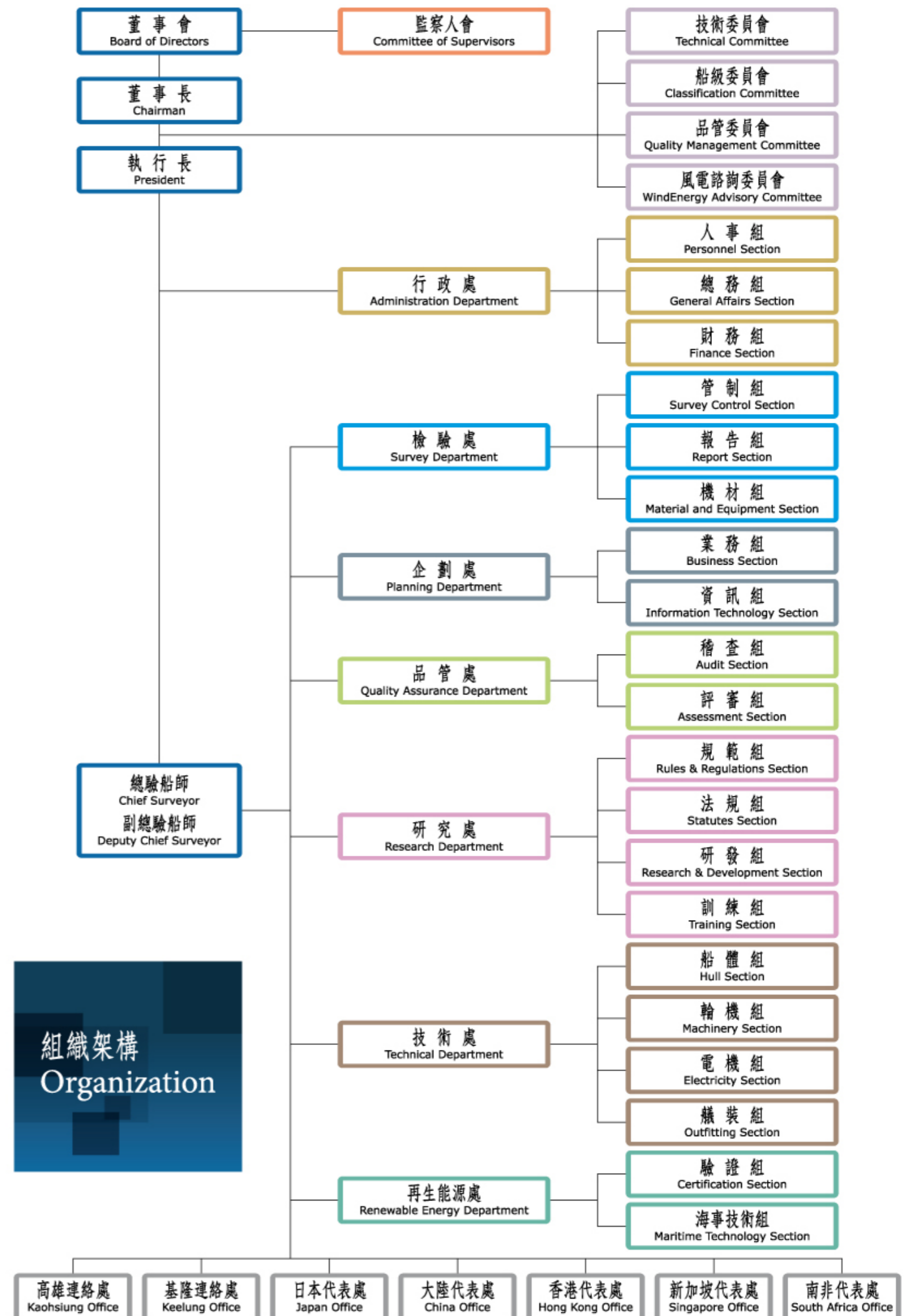
本中心為一民間純技術性，不以營利為目的之服務事業機構，其目標為提供優良之技術、高度之效率與熱忱之服務。組織型態(如下表)及工作內涵，一如世界各大驗船機構，其服務工作據點遍及世界各重要港口，為船東、造船廠及機材製造廠商提供最便捷之服務。



Brief Introduction of CR

As survey of ships and safety of navigation are closely related, countries throughout the world engaged in shipping activities have their own classification societies in order to conduct ship surveys in a strict manner. A good number of people of insight from the shipping industry, insurance industry, and shipbuilding industry in Taiwan share the same views on the importance of establishing this country's own classification society for the prosperity of its shipping industry. After repeated negotiations and adequate preparation, "CR Classification Society" (former name: China Corporation Register of Shipping), also know as CR, was founded on February 15, 1951, in Taipei City. On July 1, 1978, it was restructured after receiving financial contributions from non-governmental sources and hence changed its Chinese name.

CR is a non-governmental and nonprofit organization rendering technical services. The purpose of its work is to provide excellent techniques, high efficiency and cordial services. Its structure (see the following Organization Chart) and scope of work are similar to those of the other leading classification societies in the world, and it has a worldwide network of branch offices in important foreign ports, rendering quick services to shipowners, shipyards, and manufacturers of materials and equipment.



董事長感言



回顧2021年驗船中心(CR)在交通部、海巡署、海軍、航商及各界的督導、支持與協助下，技術實力與日俱增、業務穩定成長，於東京備忘錄(Tokyo MOU) 83個認可機構的評比維持「高表現度」之第11名；我船旗國亦持續名列「白名單」，並從2020年的第19名進步為第13名，獲得歷年來最佳成績；此外，我船旗國更連續3年名列美國海岸防衛隊(USCG)21世紀優質船舶計畫(QUALSHIP 21)合格船旗國之一，以上優異成績為海運業界共同努力之成果，CR將持續努力精進專業品牌與台灣海運業者共同成長。

驗船中心於海運界扮演協助航商之角色，致力於統整及宣達國際最新海運議題，除定期發行技術通報、舉辦研討會外，為輔助航商應對PSC檢查，已製作「PSC檢查實務及應對」影片供業界參考，並以LINE PSC應急群組第一時間給予協助；此外，為因應國際海事組織(IMO)宣布將實施「現成船能源效率指數(EEXI)」以及「碳強度指標(CII)」等兩項新規定，CR團隊亦親力親為拜訪航商說明相關內容，驗船中心承諾提供航商最專業、最有溫度之服務。

除提供船東技術服務外，為與海運界共同培育未來人才，CR與台灣海洋院所最完整之海事校院-國立臺灣海洋大學簽訂產學合作人才培育備忘錄，並已規畫擴大實質提供獎學金之系所及講座課程計畫，課程內容含括船舶及離岸風電相關題目，期望能有效整合資源，創造產、學界正向循環，鼓勵莘莘學子投入航運產業，持續增強我國海洋技術能量。



未來離岸風電仍是政府力推之核心產業，驗船中心繼去年取得五項ISO/IEC17065離岸風場專案驗證範圍認證後，今年再取得最後一項「運輸與安裝」範圍認證，為國內首家通過該認證範圍之驗證單位，CR於國際範圍認證已完成最後一塊拼圖，象徵技術移轉的成功，並再次證明驗船中心具有與國際接軌的技術實力，未來離岸風場投資單位可以更安心的委託CR進行驗證工作；此外，為因應離岸風電工作船之獨立公證檢驗，CR亦取得第一張國際海事承包商協會IMCA(International Marine Contractors Association)核發之MISW(Marine Inspection for Small Workboats)證書，中心此IMCA服務之推動將有助於我國船東或承包商承攬國外風場開發商工作。

2021年適逢海運市場蓬勃發展，我國航商之國際競爭力不容小覷，而在2022年CR將持續以服務為基礎、以技術本位為品牌導向，盡最大努力提供船東與客戶優質和高滿意度的技術協助及支援，為我國航運產業貢獻最大力量。

驗船中心 董事長

謝謂君

Chairman's Speech

Looking back to 2021, with the guidance, support, and assistance of Ministry of Transportation and Communications R.O.C., Coast Guard Administration, Ocean Affairs Council, Navy Command R.O.C., shipping companies, and other concerned party, CR has accumulated plenty of technical expertise, and our business has also steadily grown. CR has continuously maintained "High Performance" and ranked 11th among 83 recognized organizations. R.O.C flag has also continuously listed in "White List", and ranked 13th, a significant improvement of 6 places from last year, which was the best results over the years. Besides, R.O.C. flag has earned Qualship 21 designation from United States Coast Guard for three consecutive years. Those mentioned above is the result from efforts of Taiwanese shipping industries. CR will continue to work hard on professionalism and grow with Taiwanese shipping industries together.

CR plays the role in assisting shipowners. We are dedicated to organizing and publishing latest international shipping issues. We have issued technical circulars in a timely manner and held seminars at least twice a year. Besides, in order to help shipowners to meet PSC requirements, we have made a video for a reference, and also created a PSC group on LINE to provide in-time assistance. In response to new requirements of Energy Efficiency Existing Ship Index (EEXI), and Carbon Intensity Indicator (CII) implemented by International Maritime Organization (IMO), CR team has visited shipowners to explicate details. CR promises to provide the most professional and enthusiastic services.

In addition to provide technical services to shipowners, CR shouldered the responsibilities on talent cultivation. CR has signed MOU of talent cultivation with National Taiwan Ocean University (NTOU), the most important centers of high learning in the marine sciences and maritime studies in Taiwan. We have planned to provide scholarship in more departments, and we also offered a course related to maritime and offshore wind energy topics in NTOU. It is anticipated that NTOU and CR can effectively integrate resources, create a positive cycle between industry and academy, and encourage students to join in the shipping industry, and thus enhance marine technology capabilities in Taiwan.

In the future, offshore wind energy is still the core industry promoted by the government. Last year, CR has already obtained 5 categories of offshore wind farm project certification. This year, CR has obtained the last category "Transportation and Installation Surveillance", which is the first organization obtained this accreditation. CR has completed the last piece of the puzzle in the international certification, which symbolizes the success of technology transfer, and once again proves that CR has the technical strength in line with international standards. In the future, investment units of offshore wind farms can entrust CR to conduct verification work with more peace of mind. Besides, in response to independent surveys of offshore wind energy workboats, CR has obtained the first MISW(Marine Inspection for Small Workboats) certificate issued by IMCA (International Marine Contractors Association). CR's IMCA services will be beneficial for Taiwanese shipowners or contractors to undertake the work of foreign wind farm developers.

In 2021, the shipping market is booming, and competitiveness of Taiwan's shipping companies should not be underestimated. In 2022, CR will continue to service-based and technology-based as our brand orientation, and will try our best to provide shipowners and clients with high-quality and satisfactory technical assistance. We will do utmost to contribute to Taiwanese shipping industries.



CR Classification Society
Chairman

David W. Heick



董事會 Board of Directors

董事會係本中心最高管理階層，共有董事23人，監察人3人，第15屆董事會任期自2021年5月18日起至2024年5月17日止，為期三年，董事長由董事會選選之。第15屆董事會之董事及監察人如下：

The Board of Directors, consisting of 23 directors and 3 supervisors, is the top management of CR. The term of the Board of Directors is 3 years, starting from May 18, 2021 to May 17, 2024. The Chairman is elected from the directors. The name list of directors and supervisors is given below:

董事 Director	現任職務 Position
謝謂君 Wei-Chun Hsieh	驗船中心董事長 Chairman, CR Classification Society
何淑萍 Shu-Ping He	交通部航政司司長 Director of Department of Navigation and Aviation, Ministry of Transportation and Communications R.O.C.
葉協隆 Hsieh-Lung Yeh	交通部航港局局長 Director-General of Maritime and Port Bureau, Ministry of Transportation and Communications R.O.C.
盧公宇 Gong-Yeu Lu	海洋委員會海巡署後勤組副組長 Deputy Chief of Logistics Division, Coast Guard Administration, Ocean Affairs Council
鄭貞茂 Cheng-Mount Cheng	陽明海運股份有限公司董事長 Chairman, Yang Ming Marine Transport Corporation
劉文慶 Wen-Ching Liu	台灣航業股份有限公司董事長 Chairman, Taiwan Navigation Co., Ltd.
張秋波 Chiu-Po Chang	中鋼運通股份有限公司董事長 Chairman, China Steel Express Corporation
張衍義 Yen-I Chang	長榮海運股份有限公司董事長 Chairman, Evergreen Marine Corporation
王文潮 Wilfred Wang	台塑海運股份有限公司董事長 Chairman, Formosa Plastics Marine Corporation
陳柏廷 Po-Ting Chen	萬海航運股份有限公司董事長 Chairman, Wan Hai Lines Ltd.
王書吉 C. K. Ong	裕民航運股份有限公司總經理 General Manager, U-Ming Marine Transport Corporation
李健發 Kenneth Lee	世邦海運股份有限公司董事長 Chairman, TVL Marine Co., Ltd.
藍俊昇 James Lan	慧洋海運股份有限公司董事長 Chairman, Wisdom Marine Group
張瑞宗 Ray-Chung Chang	台灣中油股份有限公司發言人 Spokesperson, CPC Corporation, Taiwan
黃健強 Edward Huang	台灣水泥股份有限公司資深副總經理兼達和航運公司董事 Senior Vice President, Taiwan Cement Corporation
周志明 Chih-Ming Chou	台灣國際造船股份有限公司副總經理 Vice President, CSBC Corporation, Taiwan
陳德勝 T. S. Chen	德翔海運股份有限公司董事長 Chairman, T.S. Lines
戴聖堅 James S.C. Tai	中國航運股份有限公司總經理 President, Chinese Maritime Transport Ltd.
許志堅 Chih-Chien Hsu	益利航運股份有限公司董事長 Chairman, Eddie Steamship Co., Ltd.
陳伯耀 Po-Yao Chen	富邦產物保險股份有限公司董事長 Chairman, Fubon Insurance Co., Ltd.
宋道平 Charles Sung	台灣產物保險股份有限公司副董事長 Vice Chairman, Taiwan Fire & Marine Insurance Co., Ltd.
蕭捷明 Jimmy C. Hsiao	明台輪船股份有限公司董事長 Chairman, MingTai Navigation Co., Ltd.
藍心琪 Irene Lan	四維航業股份有限公司董事長 Chairman, Shih Wei Navigation Co., Ltd.

監察人 Supervisor	現任職務 Position
梁正德 Cheng-Te Liang	兆豐產物保險股份有限公司董事長 Chairman, Chung Kuo Insurance Co., Ltd.
程棟裕 Elizabeth T. H. Cheng	能源航運股份有限公司總經理 President, Energy Shipping Co., Ltd.
康江良 Jiang-Liang Kang	交通部統計處副處長 Deputy Director of Department of Statistics, Ministry of Transportation and Communications, R.O.C.

船級委員會 Classification Committee

職別 Title	姓名 Name	現任職務 Position
主任委員 Chairman	梅家禮 Charlie Mei	中國航運股份有限公司執行副總經理 Executive Vice President, Chinese Maritime Transport Ltd.
副主任委員 Vice-Chairman	何永順 Jackie Ho	陽明海運股份有限公司技術長 Chief Technical Officer, Yang Ming Marine Transport Corporation
委員 Member	王大明 Da-Ming Wang	交通部航港局船舶組副組長 Deputy Director, Vessel Management Division, Maritime and Port Bureau, MOTC
委員 Member	許健明 Chien-Ming Hsu	中鋼運通股份有限公司總經理 President, China Steel Express Corporation
委員 Member	林正川 J. C. Lin	四維航業股份有限公司經理 Manager, Shih Wei Navigation Co., Ltd.
委員 Member	吳巨聖 James Wu	裕民航運股份有限公司副總經理 Vice President, U-Ming Marine Transport Corporation
委員 Member	呂學修 S. S. Lu	台塑海運股份有限公司協理 Assistant Vice President, Formosa Plastics Marine Corporation
委員 Member	黃崇榮 Ron Huang	長榮海運股份有限公司造船部副總經理 Acting Executive Vice President of Shipbuilding Department, Evergreen Marine Corporation
委員 Member	樂文斌 Wen-Pin Luan	新興航運股份有限公司副總經理 Vice President, Sincere Navigation Corporation
委員 Member	林家淦 C. K. Lin	明台輪船股份有限公司副總經理 Vice President, MingTai Navigation Co., Ltd.
委員 Member	陳俊杰 Benson Chen	萬海航運股份有限公司經理 Manager, Wan Hai Lines Ltd.
委員 Member	范永政 Rice Fan	世邦海運股份有限公司協理 Senior General Manager, TVL Marine Co., Ltd.
委員 Member	袁國龍 Gordon Yuan	台灣國際造船股份有限公司業務處處長 Director of Sales Department, CSBC Corporation, Taiwan
委員 Member	郭志成 C. C. Kuo	光明海運股份有限公司總經理 President, Kuang Ming Shipping Corporation
委員 Member	黃崇智 Eddie C. Huang	協榮航業股份有限公司總經理 President, Glory Navigation Co., Ltd
委員 Member	吳偉國 Wei-Kuo Wu	新健海運公司協理 Assistant Vice President, Hsin Chien Marine Co., Ltd
委員 Member	褚世傑 Dino S.J. Chuu	中國航運股份有限公司海運部協理 Assistant Vice President, Shipping Division, Chinese Maritime Transport Ltd.
委員 Member	曹祥超 H. C. Tsao	慧洋海運股份有限公司技術長 Chief Technology Officer, Wisdom Marine Lines S.A.
委員 Member	謝敏雄 Alan Shieh	達和航運股份有限公司總經理 President, Ta-Ho Maritime Corporation
委員 Member	黃戊辰 W. C. Wu	台灣中油股份有限公司海技組組長 Section Manager, Marine Technique & Safety Section, CPC Corporation, Taiwan



技術委員會 Technical Committee

職別 Title	姓名 Name	現任職務 Position
主任委員 Chairman	王偉輝 W. H. Wang	國立臺灣海洋大學名譽教授 Professor Emeritus, National Taiwan Ocean University
副主任委員 Vice-Chairman	鄧運達 Y. L. Teng	驗船中心技術委員會副主任委員 Vice Chairman of Technical Committee, CR Classification Society
委員 Member	劉詩宗 Shy-Tzong Liou	台灣港務股份有限公司基隆港務分公司高級研究委員 Senior Researcher, Port of Keelung, Taiwan International Ports Corporation
委員 Member	邵維揚 Wei-Yang Shao	國防部參事 Counselor, Ministry of National Defense R.O.C.
委員 Member	劉嘉洪 C. H. Liu	交通部航港局船舶組組長 Director, Vessel Management Division, Maritime and Port Bureau, MOTC
委員 Member	韓碧祥 P. H. Han	中信造船股份有限公司董事長 Chairman, Jong Shyn Shipbuilding Co., Ltd.
委員 Member	何永順 Jackie Ho	陽明海運股份有限公司技術長 Chief Technical Officer, Yang Ming Marine Transport Corporation
委員 Member	黃守真 Sheldon Huang	龍德造船工業股份有限公司董事長 Chairman, Lung Teh Shipbuilding Co., Ltd.
委員 Member	鄭添元 T. Y. Cheng	中國鋼鐵股份有限公司冶金技術處專案副處長 Deputy Director of Metallurgical Dept., China Steel Corporation
委員 Member	林頂光 D. K. Lin	台灣中油股份有限公司儲運處副處長 Deputy Director of Department of Storage and Transportation, CPC Corporation, Taiwan
委員 Member	江茂雄 Mao-Hsiung Chiang	國立臺灣大學工程科學及海洋工程學系教授兼系主任 Chairperson and Professor, Department of Engineering Science and Ocean Engineering, National Taiwan University
委員 Member	戴聖堅 James S. C. Tai	中國航運股份有限公司總經理 President, Chinese Maritime Transport Ltd.
委員 Member	顏春木 C. Y. Yen	台灣國際造船股份有限公司顧問 Consultant, CSBC Corporation, Taiwan
委員 Member	謝曜安 Yao-An Hsieh	財團法人船舶暨海洋產業研發中心副執行長 Vice President, Ship and Ocean Industries R&D Center
委員 Member	吳金河 Chih-Ho Wu	海洋委員會海巡署艦隊分署副分署長 Deputy Director, Fleet Branch of Coast Guard Administration, Ocean Affairs Council



品管委員會 Quality Management Committee

職別 Title	姓名 Name	現任職務 Position
主任委員 Chairman	林沛樵 P. C. Lin	全國船聯會秘書長 Secretary General, National Association of Chinese Shipowners
副主任委員 Vice-Chairman	黃志文 Chih-Wen Huang	經濟部標準檢驗局第六組組長 Director of 6 th Division, Bureau of Standards, Metrology and Inspection, MOEA
委員 Member	紀允晴 Y. C. Chi	交通部航港局副長級技正 Technical Specialist, Maritime and Port Bureau, MOTC
委員 Member	仇忠林 Jong-Lin Chyu	台灣航業公司總經理 President, Taiwan Navigation Co., Ltd.
委員 Member	楊弘明 Hong-Ming Yang	長榮海運股份有限公司海技部協理 Assistant Vice President, Evergreen Marine Co., Ltd.
委員 Member	何秀綺 Alice H.C. Ho	陽明海運股份有限公司行政長 Chief Administration Officer, Yang Ming Marine Transport Corporation
委員 Member	劉守麟 Shou-Lin Liu	裕民航運股份有限公司船務處經理 Manager, Marine Department, U-Ming Marine Transport Corporation
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風電諮詢委員會 WindEnergy Advisory Committee

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主任委員 Chairman	謝翰璋 Han-Chang Hsieh	經濟部標準檢驗局副局長 Deputy Director General, Bureau of Standards, Metrology and Inspection, MOEA
委員 Member	沈淑賢 Shu-Hsien, Shen	交通部航港局航安組組長 Director, Maritime Port Bureau, MOTC
委員 Member	吳志偉 Chih-Wei Wu	經濟部能源局電力組組長 Director, Electricity Division, Bureau of Energy, MOEA
委員 Member	江茂雄 Mao-Hsiung Chiang	國立臺灣大學工程科學及海洋工程學系教授兼系主任 Department Chair and Professor, Department of Engineering Science and Ocean Engineering, National Taiwan University
委員 Member	黃金城 Chin-Cheng Huang	行政院原子能委員會核能研究所機械及系統工程專案計畫組長 Director, Mechanical and System Engineering Program, Institute of Nuclear Energy Research, Atomic Energy Council, R.O.C
委員 Member	林信宏 Peter Lin	富邦產物保險股份有限公司損害防阻暨勞工安全衛生部協理 Assistant Vice President, Loss Control & Labor Safety Dept., Fubon Insurance Co., Ltd.
委員 Member	辛敬業 Ching-Yeh Hsin	中國造船暨輪機工程師學會學術委員會主任委員/國立海洋大學系統工程暨造船學系副教授 Associate Professor, National Taiwan Ocean University Systems Engineering & Naval Architecture
委員 Member	鍾承憲 Cheng-Hsien Chung	財團法人船舶暨海洋產業研發中心專案室主任 Chief, Project Management Office, Ship and Ocean Industries R&D Center
委員 Member	蔡英聖 Ing-Sheng Tsay	台灣電力股份有限公司再生能源處處長 Director, Department of Renewable Energy, Taiwan Power Company
委員 Member	鄭文傑 Wen-Chieh Cheng	中能發電股份有限公司統包工程副總監 Deputy EPC Director, China Steel Power Corporation
委員 Member	楊迅 Augustine M. Yong Hsun	安能亞太有限公司品質經理 Quality Assurance Specialist, EnBw Asia Pacific Ltd.

建造中入級 Classification of Ships During Construction

2021年建造中入級CR的船舶共計有34艘，分列如下：

There were a total of 34 ships classed by CR during construction in 2021 as listed below:

船東 Owner	造船廠 Shipyard	建造地點 Place	船型 Ship Type	艘數 Number
台新航業股份有限公司 Tai Shing Maritime Co., S.A.	Oshima Shipbuilding Co., Ltd.	日本 JAPAN	61,670DWT 散裝船 61,670DWT Bulk Carrier	2
海洋委員會海巡署艦隊分署 Fleet Branch, Coast Guard Administration, Ocean Affairs Council	CSBC Corporation, Taiwan	台灣 TAIWAN	100噸級巡邏艇 100 ton PATROL BOAT	3
ALL OCEANS TRANSPORTATION INC.	CSBC Corporation, Taiwan	台灣 TAIWAN	2,800TEU 貨櫃船 2,800TEU CONTAINER CARRIER	4
海洋委員會海巡署艦隊分署 Fleet Branch, Coast Guard Administration, Ocean Affairs Council	CSBC Corporation, Taiwan	台灣 TAIWAN	4,000噸級巡邏艦 4,000 ton PATROL VESSEL	1
海洋委員會海巡署艦隊分署 Fleet Branch, Coast Guard Administration, Ocean Affairs Council	Jong Shyn Shipbuilding Co., Ltd.	台灣 TAIWAN	350噸級巡邏艇 350 ton PATROL BOAT	6
海洋委員會海巡署艦隊分署 Fleet Branch, Coast Guard Administration, Ocean Affairs Council	Jong Shyn Shipbuilding Co., Ltd.	台灣 TAIWAN	600噸級巡邏艇 600 ton PATROL BOAT	2
台灣中油股份有限公司 CPC CORPORATION, TAIWAN	ASL Shipyard Pte Ltd	新加坡 Singapore	拖船 TUG BOAT	1
WAN HAI LINES (SINGAPORE) PTE. LTD.	Japan Marine United Corporation, Kure Shipyard	日本 JAPAN	3,055TEU 貨櫃船 3,055TEU CONTAINER CARRIER	1
海洋委員會海巡署艦隊分署 Fleet Branch, Coast Guard Administration, Ocean Affairs Council	Karmin International Co., Ltd.	台灣 TAIWAN	FRP 巡邏艇 FRP PATROL BOAT	5
協榮航業股份有限公司 GLORY NAV. CO., LTD.	Shin Kurushima Dockyard Co., Ltd.	日本 JAPAN	8,500M.T. 一般乾貨船 8,500M.T. GENERAL DRY CARGO SHIP	1
Glory-Pacific Shipping(S) Pte Ltd	Shin Kurushima Dockyard Co., Ltd.	日本 JAPAN	8,500M.T. 一般乾貨船 8,500M.T. GENERAL DRY CARGO SHIP	1
臺灣港務港勤股份有限公司 TIPC Marine Corporation, Ltd.	Lung-Teh Shipbuilding Co., Ltd.	台灣 TAIWAN	人員運輸船 CREW BOAT	1
台新航業股份有限公司 Tai Shing Maritime Co., S.A.	Sasebo Heavy Industries Co., Ltd.	日本 JAPAN	84,100DWT 散裝船 84,100DWT Bulk Carrier	1
宏華營造股份有限公司 HUNG HUA CONSTRUCTION CO., LTD.	Zhou De Co., Ltd.	台灣 TAIWAN	駁船 BARGE	1
長榮海運股份有限公司 EVERGREEN MARINE CORP. (TAIWAN) LTD.	Hyundai Mipo Dockyard Co., Ltd.	韓國 KOREA	1,800TEU 貨櫃船 1,800TEU CONTAINER CARRIER	2
峰達海運股份有限公司 Ventus Marine Co., Ltd.	Penguin Shipyard Asia Pte Ltd	印尼 INDONESIA	人員運輸船 CREW BOAT	1
TV.L. International (Holding) Company Limited.	Kyokuyo Shipyard Corporation	日本 JAPAN	1,096TEU 貨櫃船 1,096TEU CONTAINER CARRIER	1

現成船入級 Classification of Existing Ships

2021年現成船入級CR的船舶共計有60艘，分列如下：

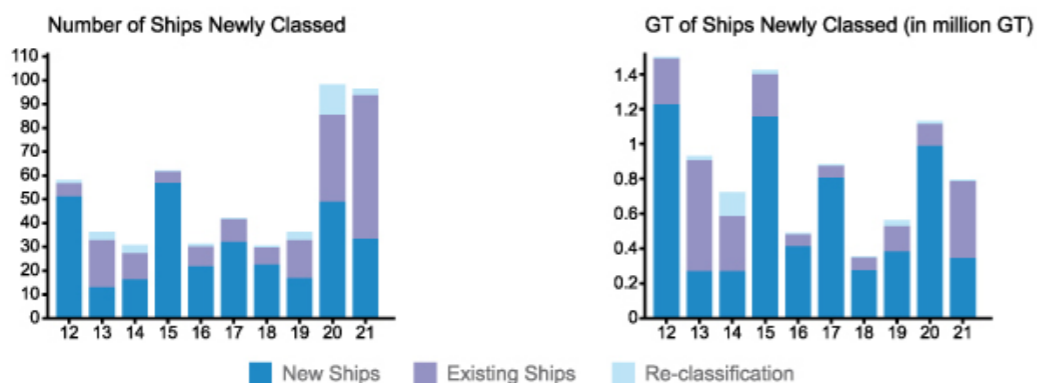
There were a total of 60 existing ships classed by CR in 2021 as listed below:

船名 Ship Name	船東 Owner	船旗 Flag	總噸位 GT	船型 Ship Type
永康653號 EC653	永康船舶股份有限公司 EVER COMFORT SHIPPING CO., LTD.	中華民國 R.O.C.	349	拖船 TUG BOAT
海洋探勘者3號 OCEAN SURVEYOR NO.3	國際海洋股份有限公司 International Ocean Vessel Technical Consultant Co., Ltd	中華民國 R.O.C.	39.75	WORK BOAT
宏禹 HUNG YU	宏華營造股份有限公司 HUNG HUA CONSTRUCTION CO., LTD.	中華民國 R.O.C.	2109	駁船 BARGE
宏富 HUNG FU	宏華營造股份有限公司 HUNG HUA CONSTRUCTION CO., LTD.	中華民國 R.O.C.	680	駁船 BARGE
JUMBO JAVELIN	Jumbo Javelin B.V.	荷蘭 Netherlands	15022	重吊船 HEAVY LIFT VESSEL
保時雅 POSH GAYA	嘉時航運股份有限公司 PKR OFFSHORE CO., LTD.	中華民國 R.O.C.	1031	TRANSPORT & SUPPLY VESSEL
風盛2號 PROSPEROUS 2	豐利航運股份有限公司 Feng Li Wind Ventures Limited	中華民國 R.O.C.	170	FAST UTILITY VESSEL
臺灣先鋒 MOET PIONEER	臺灣海事工程股份有限公司 Marine & Offshore Engineering Taiwan Co., Ltd.	中華民國 R.O.C.	1050	拖船 TUG BOAT
守護2號 GUARD NO.2	亞洲打撈股份有限公司 ASIAN MARINE SALVAGE LIMITED	中華民國 R.O.C.	80.41	帶纜船 MOORING BOAT
SEAJACKS SCYLLA	SEAJACKS 5 LIMITED	巴拿馬 Panama	23641	自昇式平台 SELF-ELEVATING UNIT
NEXUS	Van Oord Overig Materieel IV B.V.	荷蘭 Netherlands	9675	CABLE LAYING SHIP
米歐4001 EOS 4001	藍海離岸航運股份有限公司 BLUE SEA OFFSHORE TRANSPORT CO., LTD	中華民國 R.O.C.	9128	駁船 BARGE
米歐4002 EOS 4002	藍海離岸航運股份有限公司 BLUE SEA OFFSHORE TRANSPORT CO., LTD	中華民國 R.O.C.	9128	駁船 BARGE
米霖1號 MAGELLAN 1	藍海離岸航運股份有限公司 BLUE SEA OFFSHORE TRANSPORT CO., LTD	中華民國 R.O.C.	1496	拖船 TUG BOAT
米霖2號 MAGELLAN 2	藍海離岸航運股份有限公司 BLUE SEA OFFSHORE TRANSPORT CO., LTD	中華民國 R.O.C.	1496	拖船 TUG BOAT
SEA CHARLIE	SEA BRAVO B.V.	荷蘭 Netherlands	212	拖船 TUG BOAT

船名 Ship Name	船東 Owner	船旗 Flag	總噸位 GT	船型 Ship Type
亞昌2號 YACHANG NO.2	泛亞工程建造股份有限公司/皇昌營造股份有限公司 Pan Asia Engineers&Constructions Corp. Co. Ltd/Hwang Chang General Contractor Co., Ltd	中華民國 R.O.C.	7081	駁船 BARGE
合富快輪 HO FU EXPRESS	合富海運股份有限公司 HO FU MARINE CO., LTD.	中華民國 R.O.C.	3178	駁上駁下客船 Ro-Ro Passenger Ship
SAPURA 3500	SAPURA 3500 LTD	巴拿馬 Panama	40845	HEAVY LIFT & PIPELAY VESSEL
MP PROWESS	MARCO POLO OFFSHORE(III) PTE. LTD.	新加坡 Singapore	2562	拖船 TUG BOAT
TOPAZ INSTALLER	Team IV Ltd.	馬紹爾群島 Marshall Islands	4904	CABLE LAYING SHIP
COASTAL GUARDIAN	Coastal Shipping BV	荷蘭 Netherlands	135	MULTIPURPOSE SHIP
WILLEM DE VLAMINGH	Willem S.A.	盧森堡 Luxembourg	6821	MULTIPURPOSE SUPPORT VESSEL
TAILLEVENT	JAN DE NUL LUXEMBOURG SA	盧森堡 Luxembourg	19533	自昇式平台 SELF-ELEVATING UNIT
WINPOSH 3301	PT. WIN OFFSHORE	巴拿馬 Panama	5585	駁船 BARGE
MMA LEVEQUE	MMA Offshore Asia Pte. Ltd.	新加坡 Singapore	2874	SUPPLY VESSEL
JOSEPH PLATEAU	JAN DE NUL LUXEMBOURG SA	盧森堡 Luxembourg	35287	SPECIAL SERVICE FALL PIPE VESSEL
FRANCIS BEAUFORT	JAN DE NUL NV	盧森堡 Luxembourg	13001	Hopper Dredger
EOS 302	GIRINO ENTERPRISE PTE LTD	新加坡 Singapore	4360	駁船 BARGE
PTSC 01	PTSC Offshore Services Joint Stock Company	越南 Vietnam	4521	駁船 BARGE
巨冠前景 MP PROSPECT		中華民國 R.O.C.	2562	OFFSHORE SERVICE VESSEL
太平洋犀鳥 PACIFIC HORNBILL	國際海洋股份有限公司 International Ocean Vessel Technical Consultant Co., Ltd	中華民國 R.O.C.	4059	OFFSHORE SERVICE VESSEL
PACIFIC VALKYRIE	SWIRE PACIFIC OFFSHORE OPERATIONS (PTE) LTD	新加坡 Singapore	2147	拖船 TUG BOAT
PACIFIC VULCAN	SWIRE PACIFIC OFFSHORE OPERATIONS (PTE) LTD	新加坡 Singapore	2147	TUG & SUPPLY VESSEL
PACIFIC WARLOCK	SWIRE PACIFIC OFFSHORE OPERATIONS (PTE) LTD	新加坡 Singapore	2327	拖船 TUG BOAT
SEAHORSE	Deeprack C.V.	荷蘭 Netherlands	19516	OFFSHORE SERVICE VESSEL
TOPAZ TANGAROA	TEAM XLVI Ltd	馬紹爾群島 Marshall Islands	6133	MULTI PURPOSE OFFSHORE VESSEL
YAMATO	YAMATO MARINE S.A.	巴拿馬 Panama	14538	OFFSHORE SERVICE VESSEL
PACIFIC LIBERTY	SWIRE PACIFIC OFFSHORE OPERATIONS (PTE) LTD	新加坡 Singapore	5179	TUG & SUPPLY VESSEL
HAM 318	SLEEPHOPPERZUIGER HAM 318 BV.	荷蘭 Netherlands	33515	Hopper Dredger
宏華5號 FALCON NO.5	東方風能科技股份有限公司 Dong Fang Offshore Co., Ltd.	中華民國 R.O.C.	241.89	TRANSPORT & SUPPLY VESSEL
MMA PRESTIGE	MMA Offshore Malaysia Sdn Bhd	馬來西亞 Malaysia	5138	OFFSHORE SERVICE VESSEL
AEGIR	HEEREMA SHIPPING 6 BV.	巴拿馬 Panama	50228	OFFSHORE SERVICE VESSEL
BOKA TIAMAT	Team VI Ltd.	比利時 Belgium	6133	OFFSHORE SERVICE VESSEL
綠島之星2號 GREEN ISLAND STAR NO.2	龍鴻航業股份有限公司 LONG HUNG SHIPPING CO., LTD	中華民國 R.O.C.	428	客船 PASSENGER SHIP
JANNE	Ballast Nedam Bagger- en Exploitatiemaatschappij B.V.	荷蘭 Netherlands	85	駁船 BARGE
宏華6號 FALCON NO.6	東方風能科技股份有限公司 Dong Fang Offshore Co., Ltd.	中華民國 R.O.C.	241.89	TRANSPORT & SUPPLY VESSEL
NORMAND BALTIC	Solstad Rederi AS	曼島 Isle of Man	4792	OFFSHORE SERVICE VESSEL
VALLIANZ PRELUDE	Samson Marine Pte Ltd	吐瓦魯 Tuvalu	2181	OFFSHORE SERVICE VESSEL
CONNECTOR	JAN DE NUL NV	盧森堡 Luxembourg	20190	OFFSHORE SERVICE VESSEL
NINA	Taillevent S.A.	模里西斯 Mauritius	3261	Hopper Dredger
崑陽601號 KUEEN YANG NO.601	Kueen Yang Enterprise Co., Ltd.	中華民國 R.O.C.	670	拖船 TUG BOAT
海歷146號 SEAGREEN NO.146	海歷企業股份有限公司 SEAGREEN MARINE SERVICE CO., LTD.	中華民國 R.O.C.	4896	駁船 BARGE
仕國德 SK DYNAMIK	昱能南島海事股份有限公司 SK WYNNERGY OFFSHORE MARINE CO., LTD	中華民國 R.O.C.	2332	拖船 TUG BOAT
HERMES IV	SEATRENCH AS	挪威 Norway	22	WORK BOAT
ORTELIOUS	European dredging company S.A.	盧森堡 Luxembourg	7727	Hopper Dredger
金星3號 GOLD STAR NO.3	大發輪船股份有限公司 DA FA MARINE CO., LTD	中華民國 R.O.C.	386	客船 PASSENGER SHIP
MMA CRYSTAL	MMA Offshore Asia Pte. Ltd.	新加坡 Singapore	2763	OFFSHORE SERVICE VESSEL
東亞玉山 GEOQUIP SPEER	東亞能源探勘股份有限公司 DONG FANG SPEER MARINE CO.,LTD.	中華民國 R.O.C.	3504	OFFSHORE SERVICE VESSEL
HAPPY BUCCANEER	Rederij Happy Buccaneer	荷蘭 Netherlands	16341	一般乾貨船 GENERAL DRY CARGO SHIP

新入級船舶 Newly Classed Ships

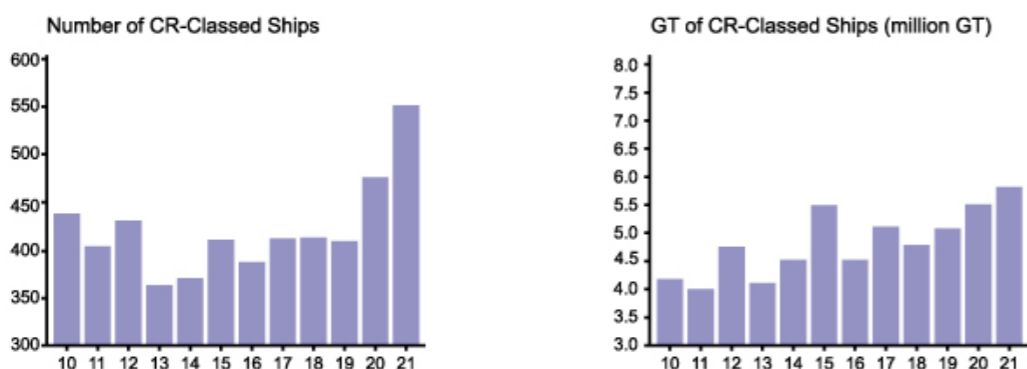
2021年經審核後正式入級的船舶有97艘共計801,559總噸，艘數為在級船舶的18%，其中新船入級34艘，現成船入級60艘，重新入級3艘。After careful review, a total of 97 ships with 801,559 gross tonnage were formally classed with CR in 2021. The number of ships accounted for 18% of the number of those already classed with CR. Among these newly classed ships, there were 34 new ships, 60 existing ships, and 3 re-classed ships.



在級船舶 Classed Ships

截至2021年底，維持CR船級之船舶有552艘，共計5,763,230總噸，平均船齡為12.1年。Up to the end of 2021 there were 552 ships maintaining CR class with 5,763,230 gross tonnage, and the average age of ships was 12.1 years.

歷年在級船舶艘數及總噸位 The number of CR-classed ships over the years and their gross tonnage



在級船舶之船旗國分析 Analysis of flag states of CR-classed ships



在級船舶之船齡分析 (平均船齡12.1年) Analysis of age of CR-classed ships (the average age of ships : 12.1 years)



在級船舶之船型分析 Analysis of types of CR-classed ships



ISM, ISPS及MLC評鑑

2021年CR辦理航業公司及其所屬船舶申請國際安全管理章程(ISM)及國際船舶與港口設施保全章程(ISPS)及海事勞工公約(MLC)之評鑑及發證工作，共計符合文件(DOC)評鑑38家，船舶管理評鑑(SMC)60艘，國際船舶保全(ISPS)評鑑共62艘次及海事勞工公約(MLC)檢查共66艘。

ISM, ISPS & MLC Verifications

In 2021, CR conducted ISM, ISPS and MLC verification and certification work, carrying out DOC verifications for 38 companies, SMC verifications for 60 ships, ISPS verifications for 62 ships, and MLC inspection for 66 ships.

港口國管制

為維持我國國輪在港口國管制(PSC)之檢查成績，自2017年起，配合主管機關政策向國輪航商宣導強化管制檢查措施，內容如下：

1. 擬定管制檢查措施，針對高風險船舶，本中心驗船師將會同航務中心檢查員每2~4個月登輪執行預防性加強檢驗。
2. 本中心提供「港口國管制檢查表(到港前使用)」及「船上保養檢查表」，請船東及船員落實使用，由本中心驗船師登輪檢驗時查核使用狀況。
3. 本中心提供IMO決議案A.1155(32) Appendix 2所列之可留置缺失項目，提醒船東注意。
4. 本中心於社群軟體LINE建立「CR PSC應急群組」，方便船舶遇有港口國管制官員登船檢查時，船上人員可即時加入此群組以取得本中心之協助。

依東京備忘錄(Tokyo MOU)發布之年報，本中心十餘年來皆獲得「高表現度」之評比，今年度公布之名次於全球82個驗船機構中，為第11名；國輪亦維持名列「白名單」，且名次逐年向上提升，從去年的第19名進步為第13名，顯見強化管制檢查措施已具成效。後續本中心將持續配合主管機關政策執行國輪強化管制檢查措施，以維持國輪在港口國管制的良好成績。

我船旗國於2019年首度榮獲美國21世紀優質船舶計劃(QUALSHIP 21)的殊榮，並連續三年持續名列QUALSHIP 21，這樣的優異成績，使通過美國官方審核的國輪，於航行美國港口PSC檢查週期將降為三年一次。

Port State Control

In order to maintain performance of R.O.C flagged vessels in Port State Control (PSC), CR has implemented enforcement control measures in accordance with government policies as follows:

1. CR has stipulated control measures, which for high-risk vessels, CR surveyors and administration inspectors will conduct preventive surveys onboard every two to four month.
2. CR has provided "Pre Arrival PSC Checklist" and "Checklist for Onboard Maintenance" for shipowners and crew to use. CR surveyors will check those document when conducting surveys onboard.
3. CR has drawn shipowners' attention to those detainable deficiencies listed in IMO Resolution A1155(32) Appendix 2.
4. CR has created a Line group link for PSC inspection. Once there are PSC officers onboard, the crew could join the group immediately to seek CR's assistance.

According to annual reports published by Tokyo MOU, CR has been listed in "High Performance" for more than ten years, and ranked 11th among 82 global classification societies this year. R.O.C. flag has been listed in "White List" and the ranking has gradually elevated. This year, R.O.C. flag was ranked 13th, a significant improvement of 6 places from last year. It is proved that enforcement control measures are effective. In the future, CR will continue to implement enforcement control measures on R.O.C. flagged vessels in accordance with government policies in order to maintain good performance of R.O.C. flagged vessels in Port State Control.

R.O.C. flag has earned Qualship 21 designation from United States Coast Guard for the first time in 2019, and continued to be in qualified flag administrations for three consecutive years. After approval, the examination intervals of R.O.C.-flagged vessels could be reduced to once every three years.

工廠認可及型式認可

2021年CR執行船舶用品工廠認可及產品型式認可共計61家116型，並執行危險品容器之檢驗業務，共計廠商11家，型式154型。

Works Approval and Type Approval

In 2021, CR conducted works approval of 61 companies and type approval of 116 products for use on vessels, and also carried out certification of packagings for dangerous goods for 11 companies and 154 types.

規範研究

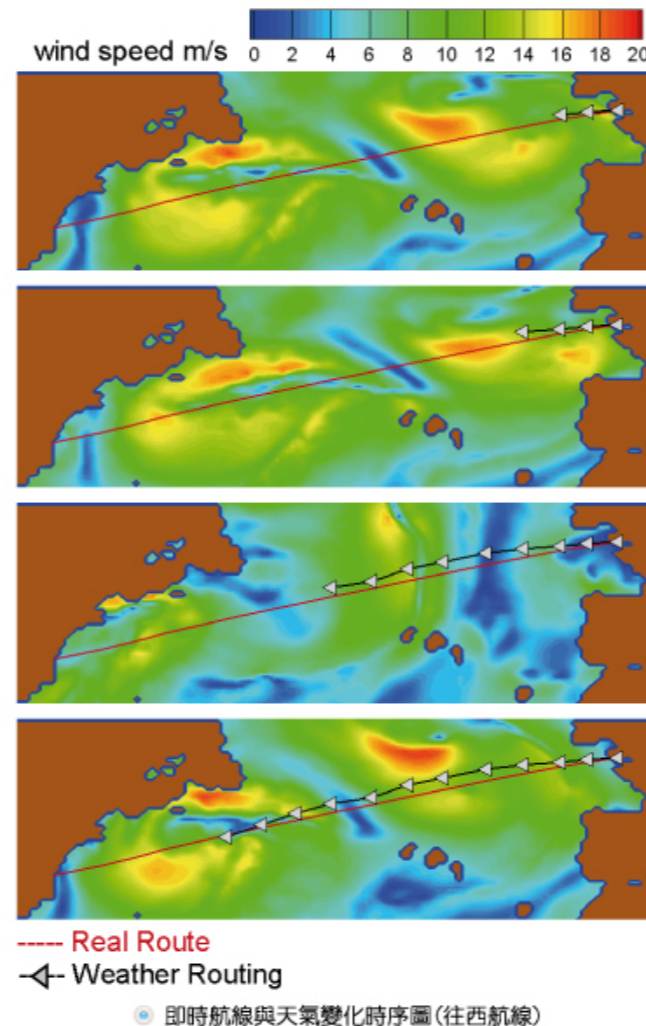
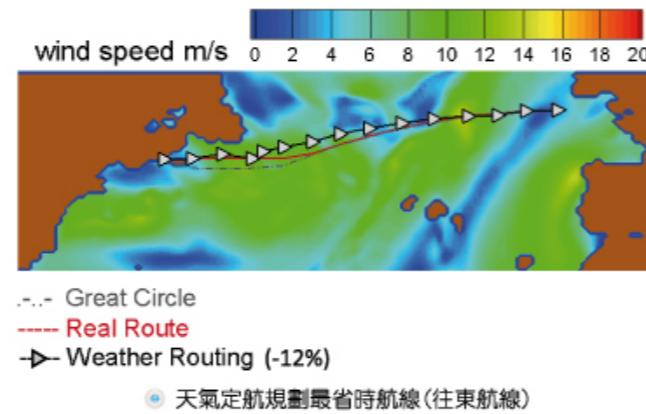
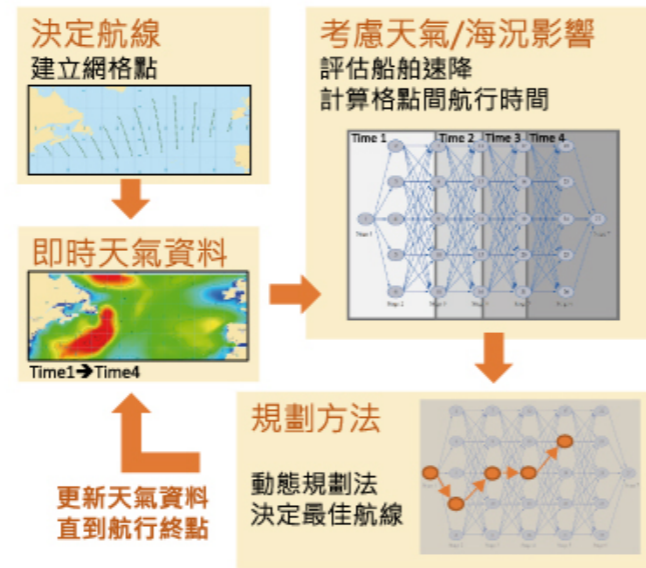
規範發展

本中心自行開發所有入級規範與認證規範，並因應最新國際法規及技術發展，每年實行規範之修訂與更新並經本中心技術委員會審查通過及交通部核可。目前本中心所編撰之規範有：

Rules Development

All the CR classification rules and certification rules are self-developed by the Society and have been revised and updated every year in response to the latest international conventions and the development of technology. In addition, the amendments of CR rules are also validated by the Technical Committee of CR and approved by Ministry of Transportation and Communications, R.O.C.. At present, we are compiling the following classification and certification rules.

- 2020年鋼船建造與入級規範
Rules for the Construction and Classification of Steel Ships, 2020
- 2017年貨櫃建造與發證規範
Rules for the Construction and Certification of Freight Containers, 2017
- 2013年貨物裝卸設備構造與檢驗規範
Rules for the Construction and Survey of Cargo Gear, 2013
- 2021年高速船建造與入級規範
Rules for the Construction and Classification of High-Speed Craft, 2021
- 2019年鋁合金船建造與入級規範
Rules for the Construction and Classification of Aluminum Vessels, 2019
- 2019年玻璃纖維強化塑膠船舶建造與入級規範
Rules and Regulations for the Construction and Classification of Ships of Fibreglass Reinforced Plastics, 2019
- 2016年離岸風場認證規範
Rules for the Certification of Offshore Wind Farms, 2016
- 2021年海巡艦艇建造與入級規範
Rules for the Construction and Classification of Coast Guard Ships, 2021



政府授權

CR接受交通部委託，承辦本國籍船舶之國際公約檢驗。此外，本中心亦符合IMO決議案MSC.349(92)RO Code之規定，並獲得巴拿馬、貝里斯等7國政府之授權執行各該國籍船舶之國際公約檢驗。

交通部航港局於9月29日至30日至本中心高雄連絡處執行驗船機構實地督導稽核，認可本中心符合驗船機構章程(RO Code)之規定，繼續授權本中心執行船舶法定檢驗及發證。

交通部航港局於11月25日辦理遊艇驗證機構之年度查核，本中心已順利通過查核。

國家通訊傳播委員會(NCC)於11月18日順利完成對本中心授權無線電委辦業務查核之年度稽查工作。

Government Authorization

CR is authorized by the Ministry of Transportation and Communications to carry out statutory surveys of ROC ships. In addition, we have met the requirements of IMO Resolutions MSC. 349 (92) RO Code and obtained authorization from the governments of Panama, Belize, and other five countries for conducting statutory surveys of ships registered with these governments.

Maritime and Port Bureau(MPB) has conducted an the recognized organization audit at CR Kaohsiung Office on September 29-30. CR was recognized to comply with requirements of RO Code, and authorized to conduct statutory surveys and certification.

CR has smoothly passed the annual audit on yacht inspection conducted by Maritime and Port Bureau on November 25.

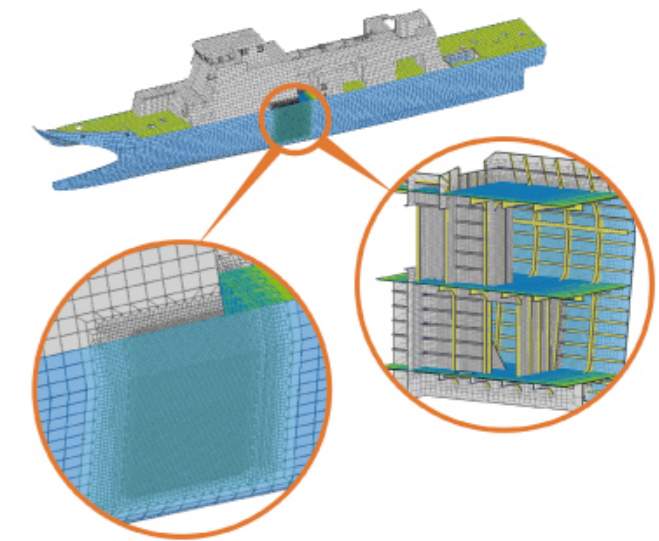
CR has smoothly passed the annual audit on radio inspection conducted by National Communications Commission (NCC) on November 18.

研究成果

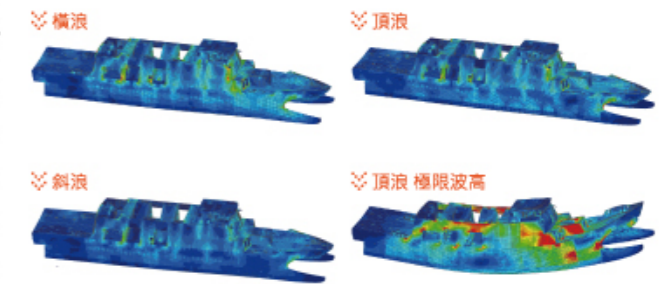
本中心於2021年發表五篇研究論文，題目分別為：「Analytical Solution for Froude-Krylov Force of Triangulated Geometry in Linear Waves」、「Dynamic Amplification of Gust-Induced Aerodynamic Loads Acting on a Wind Turbine during Typhoons in Taiwan」、「鋁合金雙體船結構碰撞分析」、「結合半經驗式船舶失速預測方法與動態規劃法進行航路最佳化」、「不同海況下高速雙體船之水彈性分析」。本中心以紮實的技術基礎為我國航運產業和再生能源產業發展提供專業服務。

Research Achievement

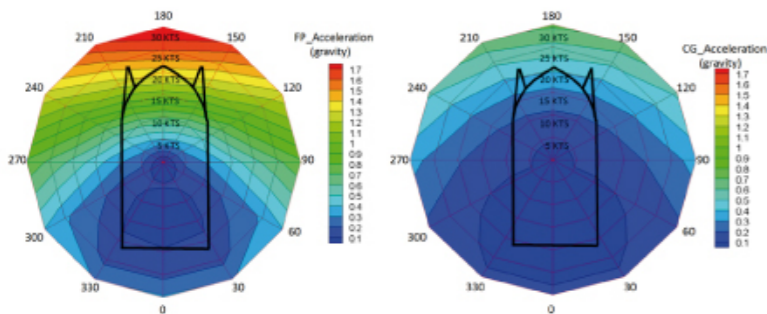
In 2021, this Society has published five technical papers, which respectively entitled as "Analytical Solution for Froude-Krylov Force of Triangulated Geometry in Linear Waves", "Dynamic Amplification of Gust-Induced Aerodynamic Loads Acting on a Wind Turbine during Typhoons in Taiwan", "Collision Simulation and Structural Analysis of An Aluminum Catamaran", "Application of Semi-Empirical Speed Loss Prediction Methods and Dynamic Programming for Ship Voyage Optimization", "Hydroelastic Analysis of High-Speed Catamaran in Different Sea Conditions". Based on the sound technics CR has provided professional services for developing shipping and renewable energy industries in Taiwan.



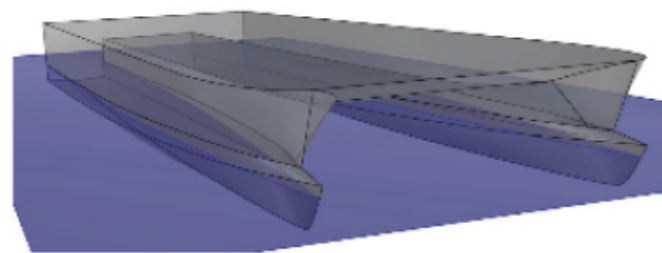
雙體船船艙細化結構模型



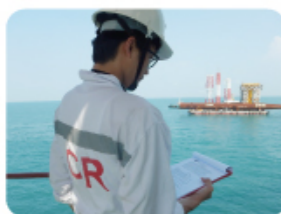
雙體船不同波向下的結構響應



● 耐海性能分析：決定波高、航向角、頻率



● 水動力分析：計算船殼壓力



CRPA 電子審圖

為加強新造船設計圖審核效率，並減少紙張印刷之資源浪費，本中心自行開發電子審圖系統(CRPA)，其功能包括由船廠傳送設計圖電子檔、本中心審核意見退審、現場驗船師查詢審圖意見、船廠處理退審意見、船東查詢送圖及審圖進度等。

CR Plan Approval (CRPA)

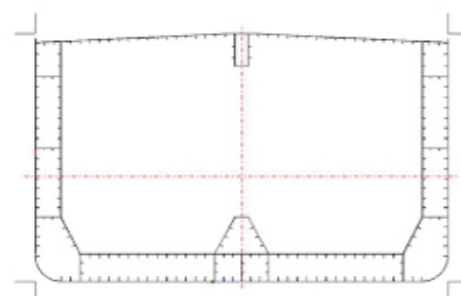
In order to enhance the efficiency of plan approval for newbuildings and to reduce paper consumption in the office, we have developed CR Plan Approval (CRPA). Its functions include submission of design drawings in electronic form by the shipyard, approval of drawings by CR with comments and return of drawings, review of approval comments by the field surveyors, handling of comments on returned drawings, and inquiries from the shipowner about submission of drawings and progress of drawing approval.

ETAS 緊急技術評估服務

本中心提供各航運公司船舶之緊急技術評估服務(ETAS)，截至2021年底服務中船舶共計有24艘次。

Emergency Technical Assessment Service (ETAS)

CR provides Emergency Technical Assessment Service (ETAS) to shipping companies. Up to the end of 2021, 24 ships have applied to CR for this service.



研討會 Workshops

本年度共舉辦2次研討會，深獲與會人士好評。

We held 2 workshop during 2021, which received favorable responses from participants.

日期 Date	研討會內容 Topic
2021.3.31	<ul style="list-style-type: none"> ● 現成船入級檢驗實務 Entry Survey of Existing Ships ● 國際公約發展現況 Recent Development of International Convention ● 船舶網路安全-CR船舶網路安全準則介紹 Cyber Security-Introduction to CR Guidelines for Cyber Security onboard Ships ● 船舶網路安全-船舶網路安全技術實務介紹 Cyber Security-Introduction to Cyber Security Technical Practice onboard Ships
2021.8.26	<ul style="list-style-type: none"> ● 2021年重點檢查活動及CR船級與PSC統計 Concentrated Inspection Campaign(CIC) 2021 and CR Classification & PSC Statistics ● 符合NOx Tier III及MEPC 76因應策略 Strategy for Complying with NOx Tier III Standards and MEPC 76 ● 研發策略與年度成果發表-智能船舶之應用-主題1天氣定航/主題2結構健康監測 R&D Strategy and Annual R&D Summary-Smart Ship Technologies 1.Weather Routing 2.Structural Health Monitoring



教育訓練

CR應業界要求舉辦公司保全員(CSO)及港口設施保全員(PFSO)之訓練課程，本年度舉辦公司保全員共3班次計46人，及港口設施保全員共3班次計130人。另並舉辦國際安全管理(ISM)內部稽查訓練課程共2班次共計35人，教育訓練課程均深獲參與學員之好評。

Training

In response to the request of the shipping industry, CR has offered 3 CSO training courses for a total of 46 participants and 3 PFSO training courses for a total of 130 participants. Moreover, CR has also held 2 ISM Code training courses for a total of 35 participants. The above-mentioned educational training courses all drew high praise from the participants.



驗船中心

CR CLASSIFICATION SOCIETY