



## CR Annual Report 2022

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財團法人驗船中心  
CR CLASSIFICATION SOCIETY

## CR Annual Report 2022

### 台北總部 HEADQUARTERS

台北市中山區南京東路3段103號8樓

8F., No. 103, Sec. 3, Nanjing E. Rd., Taipei City 104707, Taiwan (R.O.C.)

Tel:+886-2-25062711 Fax:+886-2-25074722 E-mail:cr.tp@crclass.org

### 高雄連絡處 KAOHSIUNG OFFICE

高雄市苓雅區海邊路31號26樓之3

26F.-3, No. 31, Haibian Rd., Lingya Dist., Kaohsiung City 802609, Taiwan (R.O.C.)

Tel:+886-7-3305617 Fax:+886-7-3306295 E-mail:cr.kh@crclass.org

### 基隆連絡處 KEELUNG OFFICE

基隆市中正區義一路43號9樓之3

9F.-3, No. 43, Yi 1st Rd., Zhongzheng Dist., Keelung City 202001, Taiwan (R.O.C.)

Tel:+886-2-24282797 Fax:+886-2-24282297 E-mail:cr.kl@crclass.org

### 日本代表處 JAPAN OFFICE

〒650-0031 日本神戸市中央區東町116-1シテイライフ三宮ビル9階

9F., No. 116-1, Higashimachi, Chuo-ku, Kobe 〒650-0031, Japan

Tel:+81-78-333-8515 Fax:+81-78-333-8506 E-mail:crskobe@silver.ocn.ne.jp

### 大陸代表處 CHINA OFFICE

Tel / Fax:+86-20-3207-0330 Mobile:+86-134-162-52949

E-mail:cr.cn@crclass.org

### 香港代表處 HONG KONG OFFICE

Tel:+852-5394-0874

E-mail:cr.hk@crclass.org

### 新加坡代表處 SINGAPORE OFFICE

24, Lilac Walk, Singapore 808156

Tel:+65-63101034 Fax:+65-68935997 E-mail:cr.sg@crclass.org

### 南非代表處 SOUTH AFRICA OFFICE

P. O. Box 298, Plumstead 7801, Cape Town, South Africa 23, Manson Close. Bergvliet Cape Town, South Africa

Tel:+27-21-7125382 Fax:+27-862736840 Mobile:+27-82-8813690

E-mail:frank7yang@hotmail.com

### 台北總部 HEADQUARTERS

台北市中山區南京東路3段103號8樓

8F., No. 103, Sec. 3, Nanjing E. Rd., Taipei City 104707, Taiwan (R.O.C.)

Tel:+886-2-25062711 Fax:+886-2-25074722 E-mail:cr.tp@crclass.org

## 驗船中心 品質政策 CR Quality Policy

提昇服務品質，增進船舶及海上人命安全，防止船舶對海洋造成污染

Provide The Best Service, Promote The Safety Of Life At Sea,  
Prevent Pollution To The Marine Environment



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## 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。

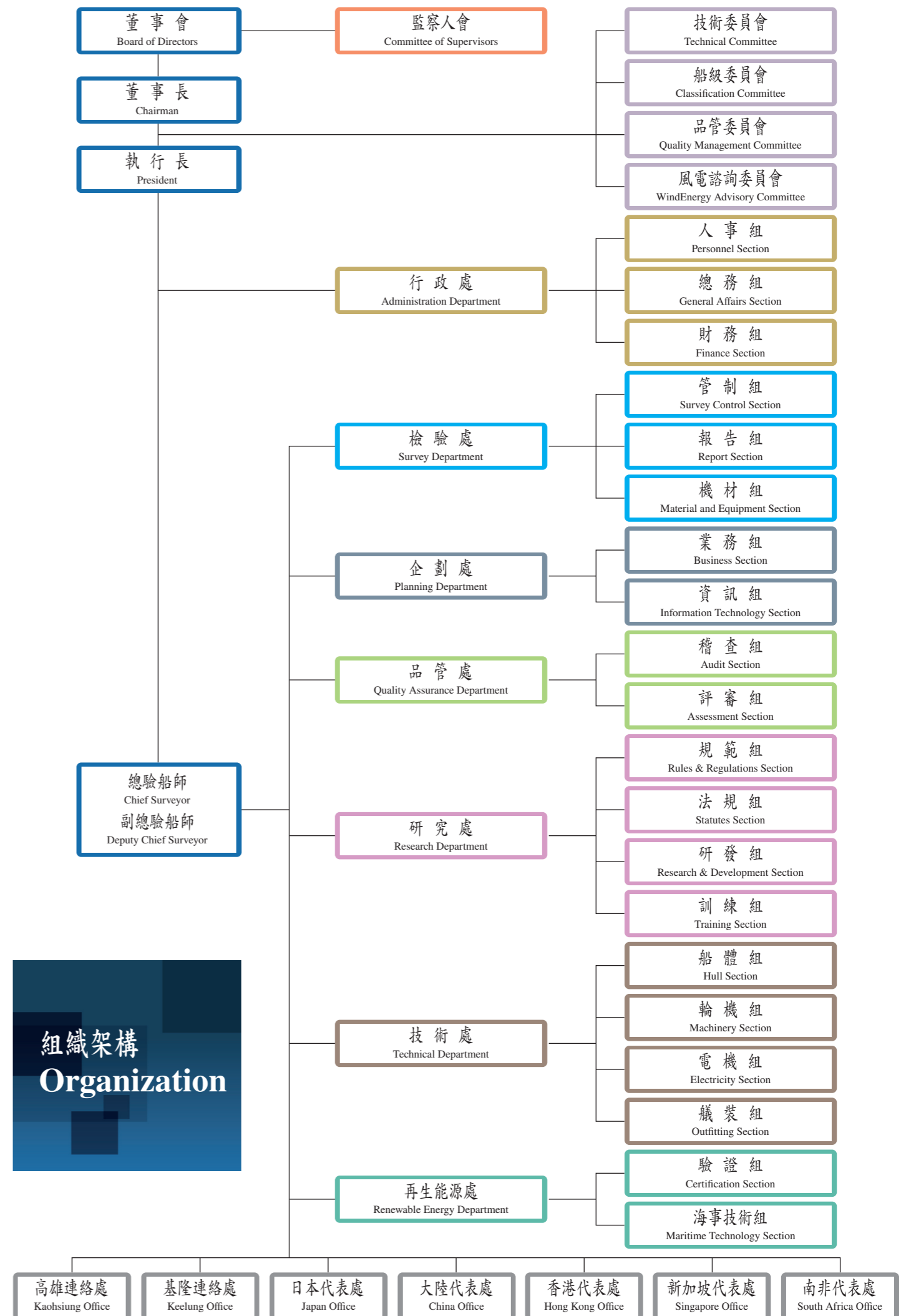
本中心為一民間純技術性，不以營利為目的之服務事業機構，其目標為提供優良之技術、高度之效率與熱忱之服務。組織型態(如下表)及工作內涵，一如世界各大驗船機構，其服務工作據點遍及世界各重要港口，為船東、造船廠及機材製造廠商提供最便捷之服務。



## 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



感謝交通部、海巡署、海軍、航商及各界在過去一年中一如往常支持驗船中心(CR)，2022年CR技術實力與日俱增、業務穩定成長，於東京備忘錄(Tokyo MOU) 77個認可機構評比維持「高表現度」並名列第10名，優異表現超越3個IACS國際船級協會；我船旗國亦持續名列「白名單」，並從2021年的第13名進步為第11名，由衷感謝交通部與航港局的督導以及所有船東的努力，我船旗國與中心的排名都再次突破歷年最佳成績。

CR是海運產業的技術智庫及工作夥伴，針對國際最新海運議題，CR除持續提供航港局國際公約諮詢、配合落實公約內國法化作業程序，亦定期發行技術通報、舉辦研討會；為使航商可以符合最新的安全及環保規定並順利營運，更專班開設「PSC 檢查機制重點及應對策略」、「MEPC78能效新措施」等訓練課程並為船東客製化課程內容，協助航商準備應對PSC檢查以及因應「現成船能源效率指數(EEXI)」、「碳強度指標(CII)」等兩項新規定；而隨著國際節能減碳議題持續升溫，未來更將以徵收碳費等機制加速零碳排之推行，勢必促使海運業開始力行減碳、導入替代燃料甚至零碳燃料。CR為因應此趨勢訂定「船舶使用氣體或其他低閃點燃料準則2022」、「船舶使用甲醇/乙醇燃料準則 2022」等替代燃料準則以協助船東渡過燃料轉換期；另與陽明海運公司合作開發「航行最佳化」計算程式，以基因演算法提供船東最低成本、最低碳排的雙目標最佳化航行規劃，不僅讓我國船東可降低碳排與成本，更可提升國際營運競爭力。後續也將密切注意相關發展並即時整理資訊供業界參考，以最專業、最有溫度之服務協助航運業界順利與國際新規定接軌。



2022年政府陸續展開離岸風電第三階段區塊開發及強化供應鏈本土化要求，在經濟部標準檢驗局的指導下，CR完成國際首部最完整而且最適合台灣海峽獨特環境條件的「離岸風場運轉及維護技術指引」，內容涵蓋技術條文與詳細解說供各界引用參考。2022年同時也是CR參與離岸風電案例、經驗累積最豐碩的一年，包含海能、大彰化、彰芳西島等離岸風場，從支撐結構安裝、風力機吊裝到海底電纜的鋪埋作業海事保證鑑定(MWS, Marine Warranty Survey)，以及確認施工現場環安衛符合性、岸際電纜管道施作等業主代表案件，並配合開發商與船東需求，持續增加更多符合國際海事承包商協會(IMCA, International Marine Contractors Association)資格的檢驗員，可更即時提供高品質服務並與國際接軌；而離岸風場專案開發資金龐大、風險議題複雜，CR透過技術盡職調查(TDD, Technical Due Diligence)與顧問專案服務我國金融保險業界，藉由專業工程面向評析揭露各案件需留意與關注的風險，大幅提升金融保險業界參與專案的信心。

展望未來，CR將持續深耕船舶檢驗、國際法規梳理與宣達以及離岸風電等重要業務，除提供船東與客戶優質技術支援與服務，亦將持續與學界共同培育海洋人才，期與產學界共同成長。

驗船中心 董事長

謝謂君

## Chairman's Speech

We would like to express our sincere appreciation to continuous support from Ministry of Transportation and Communications R.O.C., Coast Guard Administration, Navy Command R.O.C., shipping companies and other concerned Parties in 2022. This year CR has accumulated abundant expertise, and our business has also steadily grown. CR has continuously maintained “High Performance” and ranked 10th among 77 recognized organizations. R.O.C. flag has also continuously listed in “White List” and ranked 11th, an improvement of 2 places from last year. We heartfully appreciated guidance of Ministry of Transportation and Communications R.O.C. and Maritime Port Bureau as well as effort of all shipowners. The ranking of R.O.C. flag and CR both reached the best record.

CR is a think tank and partner for the shipping industry. CR continues to not only provide consulting services in international conventions, but also publish technical papers, hold seminars. In order to make shipowners realize the latest safety and environment requirements, and operate smoothly, CR offered a lot of training courses, e.g. Highlight and Strategy of Port State Control, New Measurements of MEPC 98, and assisted shipowners to prepare for port state control inspection and new requirements of Efficiency Existing Ship Index (EEXI) and Carbon Intensity Indicator (CII). Because of the trend for energy saving and carbon reduction, and possible carbon tax imposed in the future, shipowners must work hard on carbon reduction and use alternative fuel, even zero-carbon fuel. CR has already stipulated “Guidelines for Ships Using Gases or Other Low-Flashpoint Fuels 2022” and “Guidelines For Ships Using Methanol and Ethanol Fuels 2022” in order to help shipowners overcome the challenges of transition. Besides, CR has cooperated with Yang Ming Lines to develop calculation program for optimization of operation condition. This program can provide shipowners with the best operation route with the lowest cost and carbon emission. CR always pays attention to new international development, and collect information for reference. CR promises to provide the most professional and enthusiastic services.

In 2022, the government has begun round 3 offshore wind projects auctions, and enforced localization of the supply chain. With the guidance of Bureau of Standards, Metrology and Inspections, M.O.E.A, CR has completed “Technical Guidance of Taiwan Offshore Wind Farm - Operation and Maintenance”, which is the first and especially suitable for unique environment in Taiwan Strait. This year CR has participated in several projects such as Hai Neng, Greater Changhua, Zhangfang, and accumulated a lot of experiences in marine warranty survey for foundation installation, wind turbine hoisting, and cable laying. We continued to increase more surveyors qualified for IMCA(International Marine Contractors Association) in order to provide in-time and high quality services. The huge risks of offshore development are complex and complicated. Through TDD(Technical Due Diligence) and consulting services, CR has greatly enhanced the confidence of financial parties with enclosure of possible risks in professional and technical way.

CR will continue to deepen our services in vessel survey, statutory conventions, and offshore wind energy. In addition to provide technical support and services to our clients, CR will also work on talent cultivation. We anticipate to grow together with the shipping industry.



CR Classification Society  
Chairman

David W. Hsieh



## 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，董事長由董事會遴選之。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.
程祿稔 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	鄭正雄 James Jeng	陽明海運股份有限公司技術長 Chief Technical Officer, Yang Ming Marine Transport Corporation
委員 Member	李彥明 Y. M. Lee	交通部航港局船舶組副組長 Vice 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船舶本部本部主管 President of Ship Division, 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工務部經理 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經理 President of Sale 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	新健海運公司副總經理 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	王興華 Shing-Hwa Wang	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	鄧運連 Y. L. Teng	中國驗船中心顧問 Consultant, CR Classification Society
委員 Member	劉詩宗 Shy-Tzong Liou	臺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	鄭正雄 James Jeng	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特聘教授兼工學院副院長 Vice dean of engineering college and Professor of 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督導 Supervisor, 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	林沛樞 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 6th Division, Bureau of Standards, Metrology and Inspection, MOEA
委員 Member	黃姿婷 T. T. Huang	交通部航港局船員組專門委員 Senior Executive Officer, 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船舶本部海員部部主管 Head of Seaman Department of Ship Division, 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
委員 Member	王紹培 Davis Wang	台灣中油股份有限公司儲運處組長 Section Manager, Marine Management Section, CPC Corporation, Taiwan
委員 Member	林暉傑 Wei-Chien Lin	四維航業股份有限公司海務部工程師 Engineer, Shih Wei Navigation Co., Ltd.
委員 Member	俞克維 K. W. Yu	國立高雄科技大學副校長 Vice President, National Kaohsiung University of Science and Technology.
委員 Member	林 彬 B. Lin	國立臺灣海洋大學商船學系教授 Professor, Department of Merchant Marine, National Taiwan Ocean University

風電諮詢委員會 WindEnergy Advisory Committee

職別 Title	姓名 Name	現任職務 Position
主任委員 Chairman	謝翰璋 Han-Chang Hsieh	經濟部標準檢驗局代理局長 Deputy Director General, Bureau of Standards, Metrology and Inspection, MOEA
副主任委員 Vice-Chairman	沈淑賢 Shu-Hsien Shen	交通部航港局航安組組長 Director, Maritime and Port Bureau, MOTC
委員 Member	吳志偉 Chih-Wei Wu	經濟部能源局參事 Counselor, 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特聘教授兼工學院副院長 Vice dean of engineering college and Professor of 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	張勳彬 Keith Zhang	富邦產物保險股份有限公司工程暨海上保險商品部資深經理 Senior manager, engineering & marine insurance product department, 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理事/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	風能協會學術委員會委員/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	上緯新能源股份有限公司環安衛部品保經理 HSSEQ and Assurance-Quality Assurance Manager, Swancor Renewable Energy

## 建造中入級 Classification of Ships During Construction

2022年建造中入級CR的船舶共計有40艘，分列如下：

There were a total of 40 ships classed by CR during construction in 2022 as listed below:

船東 Owner	造船廠 Shipyard	建造地點 Place	船型 Ship Type	艘數 Number
麥寮工業區專用港管理股份有限公司 MAILIAO HARBOR ADMINISTRATION CORPORATION	PaxOcean Engineering Pte. Ltd.	印尼 INDONESIA	5,000HP SRP拖船 5,000HP SRP TUG BOAT	1
麥寮工業區專用港管理股份有限公司 MAILIAO HARBOR ADMINISTRATION CORPORATION	PaxOcean Engineering Pte. Ltd.	印尼 INDONESIA	5,000HP VSP拖船 5,000HP VSP TUG BOAT	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噸級巡防艇 100 ton PATROL BOAT	4
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	35噸級巡防艇 350ton PATROL BOAT	6
凱旋海運股份有限公司 Kai Shiuan Marine Co., Ltd	Glow Marine Pte. Ltd.	新加坡 SINGAPORE	499GT客船 499GT PASSENGER SHIP	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	600噸級巡防艦 600 ton PATROL VESSEL	2
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	沿岸多功能艇 FRP PATROL BOAT	2
臺灣港務港勤股份有限公司 TIPC Marine Corporation, Ltd.	Lung-Teh Shipbuilding Co., Ltd.	台灣 TAIWAN	26M CTV人員運輸船 26M CREW BOAT	1
南北海運股份有限公司 NORTH-SOUTH MARINE CORP., LTD.	Glow Marine Pte Ltd	印尼&新加坡 INDONESIA & SINGAPORE	499GT客船 499GT PASSENGER SHIP	1
台灣中油股份有限公司 CPC CORPORATION, TAIWAN	PaxOcean / PT. Graha Trisaka Industri	印尼 INDONESIA	6,000HP VSP拖船 6,000HP VSP TUG BOAT	2
台灣中油股份有限公司 CPC CORPORATION, TAIWAN	PaxOcean / PT. Graha Trisaka Industri	印尼 INDONESIA	600HP 帶纜船 600HP WORK BOAT	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	100噸級巡防艇 100 ton PATROL 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
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
裕民航運股份有限公司 U-MING MARINE TRANSPORT CORP.	Oshima Shipbuilding Co., Ltd.	日本 JAPAN	99,000DWT散裝船 99,000DWT BULK CARRIER	1
內政部警政署基隆港務警察總隊 Keelung Harbor Police Department, National Police Agency, Ministry of the Interior	Ting Hai Shipbuilding Co., Ltd.	台灣 TAIWAN	15M巡邏艇 15M PATROL BOAT	1
台新航業股份有限公司 Tai Shing Maritime Co., S.A.	Oshima Shipbuilding Co., Ltd.	日本 JAPAN	81,670DWT散裝船 81,670DWT BULK CARRIER	1
長榮海運股份有限公司 EVERGREEN MARINE CORP. (TAIWAN) LTD.	Samsung Heavy Industries Co., Ltd.	韓國 KOREA	23,000TEU貨櫃船 23,000TEU CONTAINER CARRIER	2
藍白航運股份有限公司 Leuco Sapphire Shipping co., Ltd.	Lung-Teh Shipbuilding Co., Ltd.	台灣 TAIWAN	200噸交通船 PASSENGER SHIP	3
大三商航運股份有限公司 Ta San Shang Marine Co. Ltd.	Vard Vung Tau Ltd.	越南 VIETNAM	SOV客船 PASSENGER SHIP	1
琉興有限公司	Shing Sheng Fa Boat Building Co., Ltd.	台灣 TAIWAN	交通船 PASSENGER SHIP	1
THC INTERNATIONAL S.A.	Oshima Shipbuilding Co., Ltd.	日本 JAPAN	84,110DWT散裝船 84,110DWT BULK CARRIER	1
台灣燃油股份有限公司 TAIWAN FUEL & ENERGY SUPPLY CO., LTD.	Sasaki Shipbuilding Co., Ltd.	日本 JAPAN	499GT油駁船 499GT OIL PRODUCT TANKER	1
峰達海運股份有限公司 Ventus Marine Co., Ltd.	Penguin Shipyard Asia Pte Ltd	印尼 INDONESIA	CTV人員運輸船 CREW BOAT	1

## 現成船入級 Classification of Existing Ships

2022年現成船入級CR的船舶共計有46艘，分列如下：

There were a total of 46 existing ships classed by CR in 2022 as listed below:

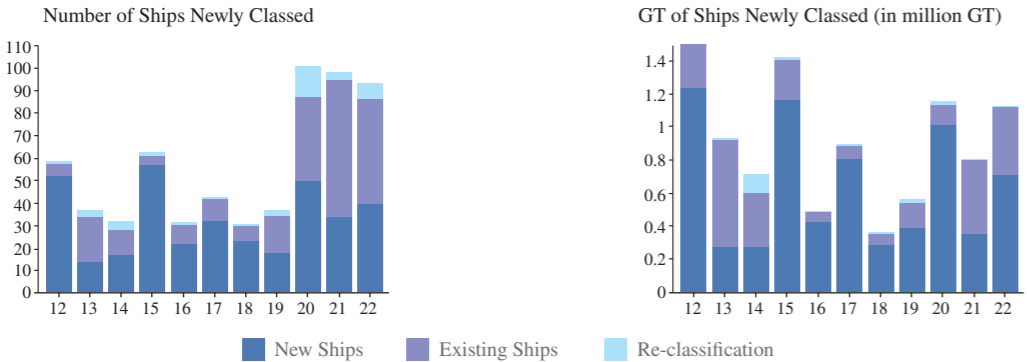
船名 Ship Name	船東 Owner	船旗 Flag	總噸位 GT	船型 Ship Type
TARGET	TARGET BV	庫拉索Curacao	42,515	SPECIAL SERVICE SEMI SUBMERSIBLE HEAVY LIFT VESSEL
高能102號 HIGH ENERGY NO.102	沈滿管理顧問有限公司Yeun Maan Ship Management & Consultancy Ltd.	中華民國 R.O.C.	155.22	拖船 TUG BOAT
JIF BREIZH	SILR4	法國France	310	MULTIPURPOSE SHIP
BEACHWAY	Boskalis Westminster Shipping B.V.	賽普勒斯Cyprus	6,848	Hopper Dredger
SUN SHINE	POS MARITIME CY S.A.	巴拿馬Panama	17,825	DECK CARGO SHIP
SEA BELUGA	SEA BELUGA BV	荷蘭 Netherlands	230	拖船 TUG BOAT
基739號 KEE NO.739	臺灣港務股份有限公司 TAIWAN INTERNATIONAL PORTS CO., LTD.	中華民國 R.O.C.	8.2	WORK BOAT

船名 Ship Name	船東 Owner	船旗 Flag	總噸位 GT	船型 Ship Type
GRAND CANYON II	GRAND CANYON 2 KS	挪威 Norway	12,433	MULTI PURPOSE OFFSHORE VESSEL
ZWERVER II	VSO Zwerver II B.V.	荷蘭 Netherlands	499	拖船 TUG BOAT
MMA PRIDE	MMA Offshore Asia Vessel Operations Pte. Ltd	新加坡 Singapore	4,227	OFFSHORE SERVICE VESSEL
SIEM BARRACUDA	Siem Offshore Rederi AS	賽普勒斯 Cyprus	8,594	MULTI PURPOSE OFFSHORE VESSEL
東方建設者 ORIENT CONSTRUCTOR	東方風能科技股份有限公司 Dong Fang Offshore Co., Ltd.	中華民國 R.O.C.	7,883	OFFSHORE SERVICE VESSEL
大地海工 GEO MARITIMER	環球測繪股份有限公司 PDE Offshore Corporation	中華民國 R.O.C.	2,177	Working Vessel
凱旋1號 KAI SHIUAN NO.1	帆利航運有限公司FANG LI SHIPPING CO., LTD.	中華民國 R.O.C.	287	客船 PASSENGER SHIP
恆星 EVEASTAR	大發輪船股份有限公司 DA FA MARINE CO., LTD	中華民國 R.O.C.	149	客船 PASSENGER SHIP
BOKALIFT 1	BOKALIFT 1 B.V.	賽普勒斯 Cyprus	39,379	CRANE VESSEL
SEAWAY PHOENIX	Subsea 7 International Contracting Limited	曼島 Isle of Man	13,275	OFFSHORE SERVICE VESSEL
威可利 VALKYRIE	歐潛士海洋風電股份有限公司 OPUS MARINE TAIWAN Co., Ltd.	中華民國 R.O.C.	199.06	CREW BOAT
威騰 WOTAN	歐潛士海洋風電股份有限公司 OPUS MARINE TAIWAN Co., Ltd.	中華民國 R.O.C.	199.06	CREW BOAT
NORMAND JARL	NORMAND SHIPS AS	挪威 Norway	7,403	OFFSHORE SERVICE VESSEL
仕國源 SK ATOMIK	昱能南昌海事股份有限公司 SK WYNNERGY OFFSHORE MARINE CO., LTD	中華民國 R.O.C.	2,332	OFFSHORE SERVICE VESSEL
MIGHTY SERVANT 3	Mighty Servant 3 B.V.	庫拉索 Curacao	23,123	SPECIAL SERVICE SEMI SUBMERSIBLE HEAVY LIFT VESSEL
全港通503號 APT NO.503	海歷企業股份有限公司 SEAGREEN MARINE SERVICE CO., LTD.	中華民國 R.O.C.	1,731	TRANSPORT & SUPPLY VESSEL
SHOREWAY	Boskalis Westminster Shipping B.V.	賽普勒斯 Cyprus	5,005	Hopper Dredger
雷莫洞悉者 REM INSPECTOR	雷莫海揚離岸股份有限公司 REM OCEAN OFFSHORE COMPANY LIMITED	中華民國 R.O.C.	9,783	OFFSHORE SERVICE VESSEL
海歷147號 SEAGREEN NO.147	海歷企業股份有限公司 SEAGREEN MARINE SERVICE CO., LTD.	中華民國 R.O.C.	4,901	駁船 BARGE
FLOATEL TRIUMPH	FLOATEL INTERNATIONAL LTD.	百慕達 Bermuda	27,211	COLUMN-STABILIZED UNIT
仕國衛9號 TRITON 9	海衛航運有限公司 TRITON MARINE LIMITED	中華民國 R.O.C.	217	WORK BOAT
仕國衛1號 TRITON 1	海衛航運有限公司 TRITON MARINE LIMITED	中華民國 R.O.C.	217	WORK BOAT
仕國衛8號 TRITON 8	海衛航運有限公司 TRITON MARINE LIMITED	中華民國 R.O.C.	217	WORK BOAT
仕國衛7號 TRITON 7	海衛航運有限公司 TRITON MARINE LIMITED	中華民國 R.O.C.	217	WORK BOAT
VALLIANZ PREMIER	Samson Marine Pte Ltd	吐瓦魯 Tuvalu	2,181	OFFSHORE SERVICE VESSEL
東方66號 DF NO.66	宏華營造股份有限公司 HUNG HUA CONSTRUCTION CO., LTD.	中華民國 R.O.C.	2,306	駁船 BARGE
東方68號 DF NO.68	宏華營造股份有限公司 HUNG HUA CONSTRUCTION CO., LTD.	中華民國 R.O.C.	2,306	駁船 BARGE
MAERSK CONNECTOR	Maersk Supply Service A/S	丹麥 Denmark	10,678	CABLE LAYING SHIP
BOKA FALCON	Da Wang Ltd	比利時 Belgium	6,776	OFFSHORE SERVICE VESSEL
BOKALIFT 2	BW MARINE (CYPRUS) LIMITED	賽普勒斯 Cyprus	60,825	CRANE VESSEL
ONYX	東方風能科技股份有限公司 Dong Fang Offshore Co., Ltd.	馬紹爾群島 Marshall Islands	11,803	OFFSHORE SERVICE VESSEL
PIONEER	FTAI PIONEER SINGAPORE PTE. LTD	新加坡 Singapore	4,399	OFFSHORE SERVICE VESSEL
NORMAND AUSTRALIS	Solstad Offshore Singapore Pte. Ltd.	新加坡 Singapore	4,230	OFFSHORE SERVICE VESSEL
SOUTHERN OCEAN	Boskalis Offshore Shipping B.V.	馬爾他 Malta	11,014	OFFSHORE SERVICE VESSEL
臺塑安華 FPMC S AMBER	台塑海運股份有限公司 FORMOSA PLASTICS MARINE CORP.	模里西斯 Mauritius	12,471	化學品及油品船 CHEMICAL AND OIL TANKER
臺塑康華 FPMC S EMERALD	台塑海運股份有限公司 FORMOSA PLASTICS MARINE CORP.	中華民國 R.O.C.	12,471	化學品及油品船 CHEMICAL AND OIL TANKER
臺塑恆華 FPMC S RUBY	台塑海運股份有限公司 FORMOSA PLASTICS MARINE CORP.	中華民國 R.O.C.	12,471	化學品及油品船 CHEMICAL AND OIL TANKER
臺塑福華 FPMC S SAPPHIRE	台塑海運股份有限公司 FORMOSA PLASTICS MARINE CORP.	中華民國 R.O.C.	12,471	化學品及油品船 CHEMICAL AND OIL TANKER
奔娜 CWINDE PESANACH	國際海洋股份有限公司 IOVTEC Co., Ltd.	中華民國 R.O.C.	230	CREW BOAT



新入級船舶 Newly Classed Ships

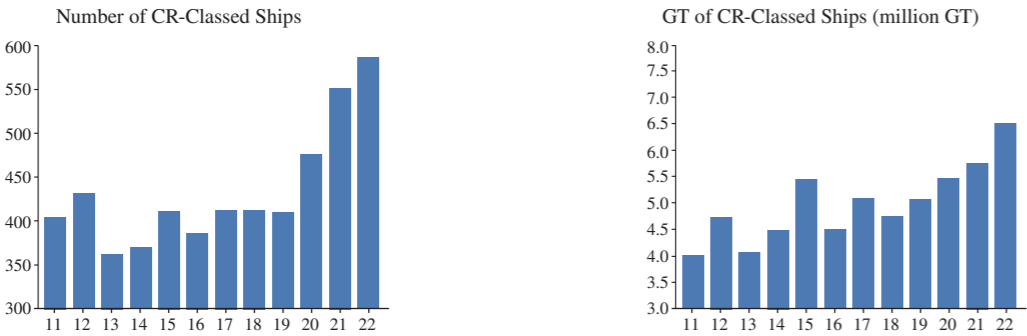
2022年經審核後正式入級的船舶有93艘共計1,121,386總噸，艘數為在級船舶的16%，其中新船入級40艘，現成船入級46艘，重新入級7艘。After careful review, a total of 93 ships with 1,121,386 gross tonnage were formally classed with CR in 2022. The number of ships accounted for 16% of the number of those already classed with CR. Among these newly classed ships, there were 40 new ships, 46 existing ships, and 7 re-classed ships.



在級船舶 Classed Ships

截至2022年底，維持CR船級之船舶有587艘，共計6,519,013總噸，平均船齡為12.3年。Up to the end of 2022 there were 587 ships maintaining CR class with 6,519,013 gross tonnage, and the average age of ships was 12.3 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



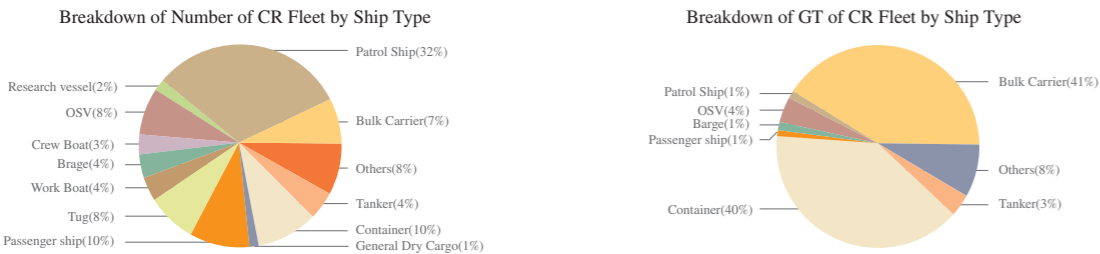
在級船舶之船旗國分析Analysis of flag states of CR-classed ships



在級船舶之船齡分析(平均船齡12.3年) Analysis of age of CR-classed ships (the average age of ships:12.3 years)



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



ISM , ISPS及MLC評鑑

2022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39家，船舶管理評鑑(SMC)55艘，國際船舶保全(ISPS)評鑑共50艘次及海事勞工公約(MLC)檢查共46艘。

ISM , ISPS & MLC Verifications

In 2022, CR conducted ISM, ISPS and MLC verification and certification work, carrying out DOC verifications for 39 companies, SMC verifications for 55 ships, ISPS verifications for 50 ships, and MLC inspection for 46 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，以及每6個月登輪執行船舶SMC、ISSC及MLC額外評鑑。
- 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77個驗船機構中，為第10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13名進步為第11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(QUALSHIP21)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 and board the ship every 6 months to perform additional evaluation of the ship's SMC, ISSC and MLC.
- 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 10th among 77 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 11th, a significant improvement of 2 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

2022年CR執行船舶用品工廠認可及產品型式認可共計49家81型，並執行危險品容器之檢驗業務，共計廠商31家，型式194型。

Works Approval and Type Approval

In 2022, CR conducted works approval of 49 companies and type approval of 81 products for use on vessels, and also carried out certification of packagings for dangerous goods for 31 companies and 194 types.

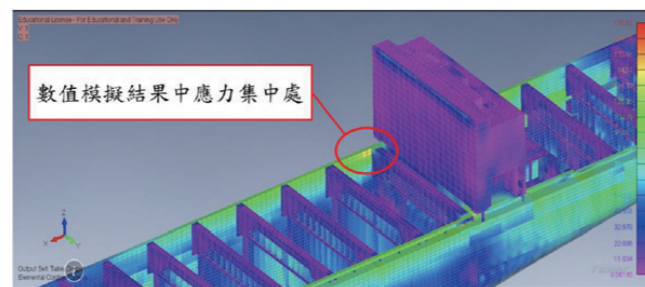
## 規範研究

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。目前本中心所編撰之規範有：

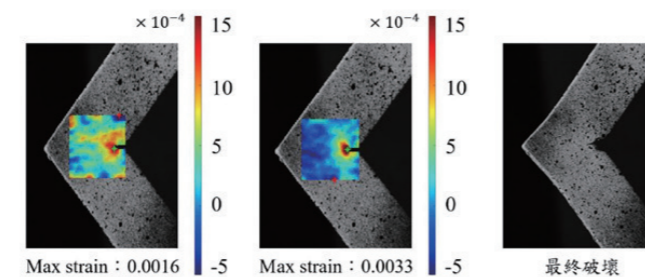
## Rules Development

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. At present, we are compiling the following classification and certification rules.

- 鋼船建造與入級規範  
Rules for the Construction and Classification of Steel Ships
- 貨櫃建造與發證規範  
Rules for the Construction and Certification of Freight Containers
- 貨物裝卸設備構造與檢驗規範  
Rules for the Construction and Survey of Cargo Gear
- 高速船建造與入級規範  
Rules for the Construction and Classification of High-Speed Craft
- 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
- 離岸風場認證規範  
Rules for the Certification of Offshore Wind Farms
- 海巡艦艇建造與入級規範  
Rules for the Construction and Classification of Coast Guard Ships



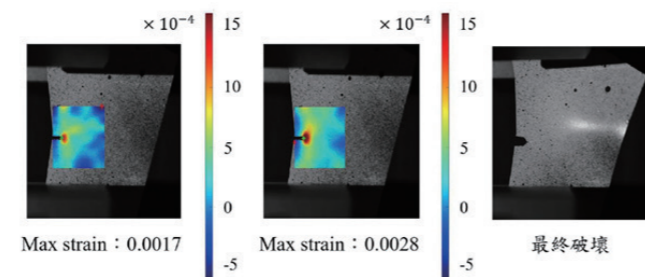
● 計算結果應力集中處-艙口角隅



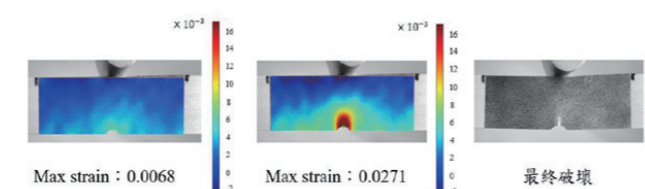
● 艙口角隅縮尺結構模型裂縫破壞預測



● 計算結果應力集中處-腋板



● 腋板縮尺結構裂縫破壞預測



● 彎曲試驗局部結構破壞預測結果

## 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19日至20日至本中心高雄連絡處執行驗船機構新造船垂直合約稽核，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12月15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25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 19-20. 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 December 15.

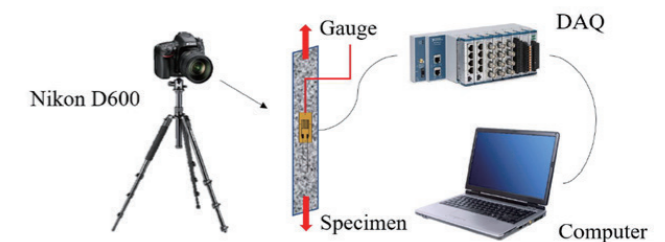
CR has smoothly passed the annual audit on radio inspection conducted by National Communications Commission (NCC) on November 25.

## 研究成果

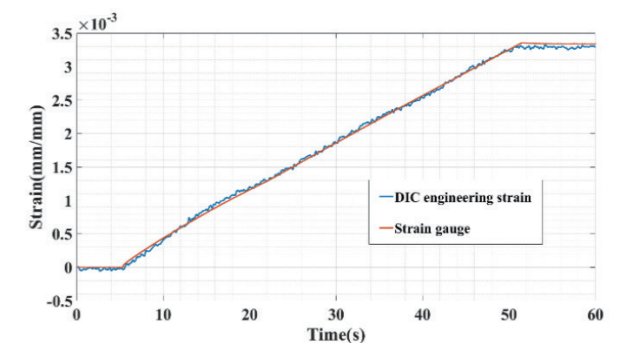
本中心於2022年與台灣大學工程科學及海洋工程學系黃心豪研究團隊共同發表三篇研究論文，題目分別為「應用數位影像相關法進行結構位移追蹤分析」(第29屆中華民國振動與噪音工程學術研討會)、「應用視覺感測器監測船體變形以及裂縫破壞」(第34屆中國造船暨輪機工程研討會)、「大型貨櫃船健康監測方法之建立」(第34屆中國造船暨輪機工程研討會)。本中心以紮實的技術基礎為我國航運產業和再生能源產業發展提供專業服務。

## Research Achievement

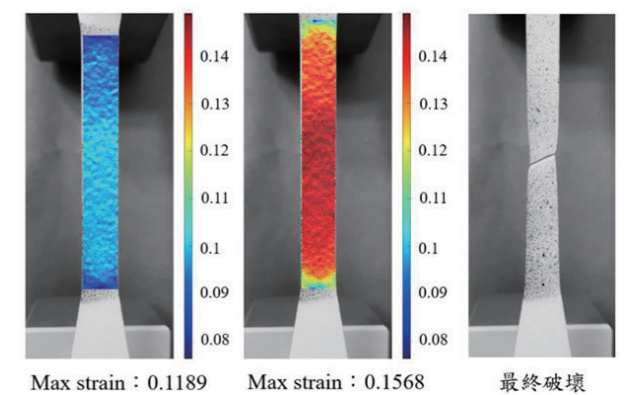
In 2022, CR collaborated with Professor Hsin-Haou Huang's research team, in the Department of Engineering Science and Ocean Engineering, National Taiwan University, to publish three research papers, titled "Application of Digital Image Correlation Method for Structure Displacement Tracking Analysis" (The 29th National Conference on Sound and Vibration), "Applied Vision Sensor Inspect Ship Deformation and Crack Damage" (The 34th National Conference on Naval Architecture and Marine Engineering), and "Structural Health Monitoring Method Base on Numerical Analysis" (The 34th National Conference on Naval Architecture and Marine Engineering). Based on the sound technics CR has provided professional services for developing shipping and renewable energy industries in Taiwan.



● 拉伸試驗全域應變場之實驗架設



● 影像量測應變值與應變規之比對結果



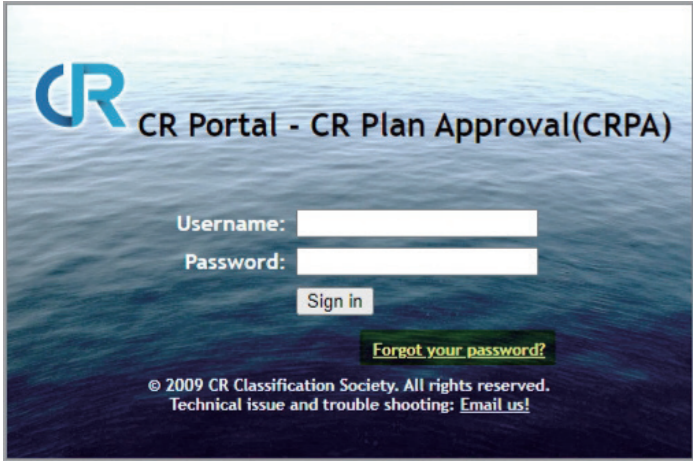
● 拉伸試驗局部結構破壞預測結果

CRPA 電子審圖

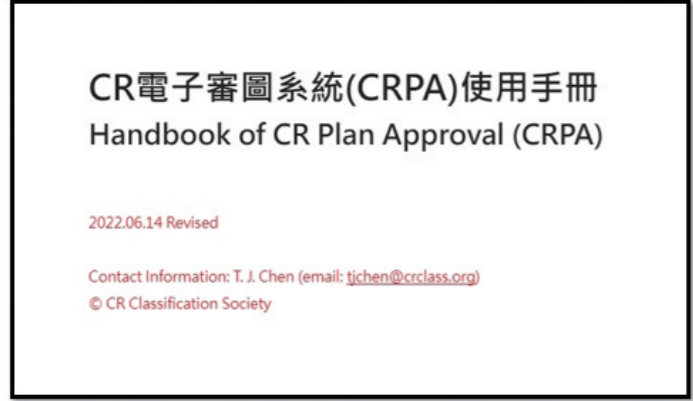
為加強新造船設計圖審核效率，並減少紙張印刷之資源浪費，本中心自行開發電子審圖系統（CRPA），其功能包括由船廠傳送設計圖電子檔、本中心審核意見退審、現場驗船師查詢審圖意見、船廠處理退審意見、船東查詢送圖及審圖進度等。

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.



CRPA 電子審圖系統



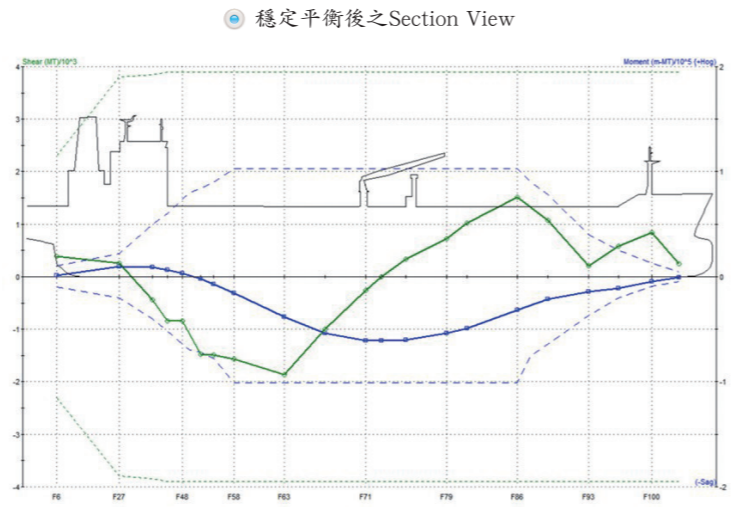
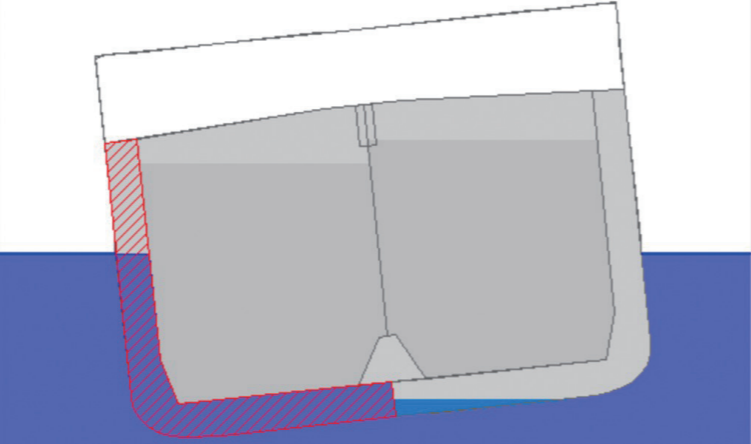
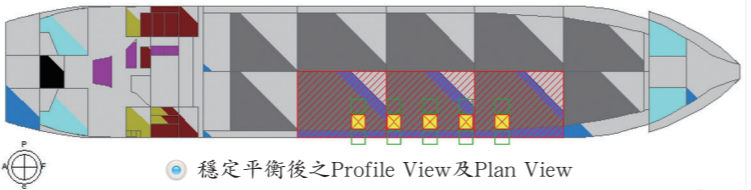
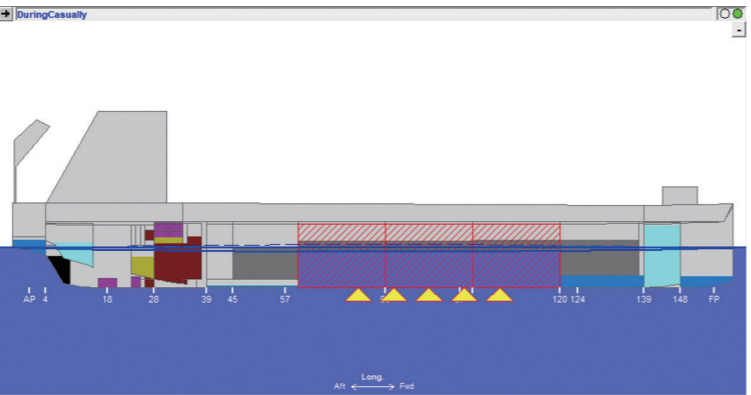
CRPA 使用手冊

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2022年服務中船舶共計有23艘次。

Emergency Technical Assessment Service (ETAS)

CR provides Emergency Technical Assessment Service (ETAS) to shipping companies. Up to the end of 2022, 23 ships have applied to CR for this service.



破損狀態下船體縱向剪剪力及彎矩值

對外研討會 External Workshops

本年度對外共舉辦3次研討會，深獲與會人士好評。  
We held 3 external workshop during 2022, which received favorable responses from participants.

日期 Date	研討會內容 Topic
2022.3.24	· 國際公約發展現況 Recent Development of International Convention · ISM/ISPS/MLC稽核缺失分享 Common Deficiencies of ISM/ISPS/MLC Periodical Verification · IMCA (International Marine Contractors Association)對於離岸風電船之檢驗要求 Offshore Windfarm Vessel Inspection according to IMCA (International Marine Contractors Association)
2022.8.25	· 2022年重點檢查活動 STCW Concentrated Inspection Campaign (CIC) 2022 on STCW · 船用替代燃料發展趨勢 The Future Trends for Alternative Marine Fuels · MEPC 78：能效新措施 MEPC 78：New Measure of Energy Efficiency for Ships
2022.11.30	· MSC 106 焦點：採納工業人員(IP)章程以及海上自主船舶(MASS)章程之進展 MSC 106 Highlight –Adoption of IP Code and Development of MASS Code · 減碳省錢好幫手-CR航行最佳化程式開發成果發表 CR Voyage Optimizer



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2班次計34人，及港口設施保全員共3班次計110人。另並舉辦國際安全管理(ISM)內部稽查訓練課程共3班次共計44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 2 CSO training courses for a total of 34 participants and 3 PFSO training courses for a total of 110 participants. Moreover, CR has also held 3 ISM Code training courses for a total of 44 participants. The above-mentioned educational training courses all drew high praise from the participants.



CR CLASSIFICATION SOCIETY