

# 中國驗船中心

CR CLASSIFICATION SOCIETY



## CR Annual Report 2019



### 台北總部 HEAD QUARTER

104 台北市中山區南京東路3段103號8樓  
8th Fl., No.103, Sec. 3, Nanking E. Rd., Jhongshan Dist., Taipei, 104, Taiwan R.O.C.  
Tel: +886-2-2506-2711 Fax: +886-2-2507-4722 E-mail: cr.tp@crclass.org

# CR

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CR Annual Report 2019 [www.crclass.org](http://www.crclass.org)

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104 台北市中山區南京東路3段103號8樓  
8th Fl., No.103, Sec. 3, Nanking E. Rd., Jhongshan Dist., Taipei, 104, Taiwan R.O.C.  
Tel: +886-2-2506-2711 Fax: +886-2-2507-4722 E-mail: cr.tp@crclass.org

### 高雄連絡處 KAOHSIUNG OFFICE

802 高雄市苓雅區海邊路31號26樓之3  
26th Fl.-3, No. 31, Haibian Rd., Lingya Dist., Kaohsiung, 802, Taiwan R.O.C.  
Tel: +886-7-330-5617 Fax: +886-7-330-6295 E-mail: cr.kh@crclass.org

### 基隆連絡處 KEELUNG OFFICE

202 基隆市中正區義一路43號9樓之3  
Rm. 3, 9F., No. 43, Yi 1st Rd., Zhongzheng Dist., Keelung City 202, Taiwan R.O.C.  
Tel: +886-2-2428-2797 Fax: +886-2-2428-2297 E-mail: cr.kl@crclass.org

### 日本代表處 JAPAN OFFICE

〒650-0031 日本神戸市中央区東町116-1シティライフ三宮ビル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: cr.kobe@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

2B, Hong San Walk, #17-06, Singapore 689048  
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

# 中國驗船中心 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



財團法人中國驗船中心  
CR CLASSIFICATION SOCIETY

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# CR



CR CLASSIFICATION SOCIETY

## 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」，英文名稱為CR Classification Society，簡稱CR。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」。

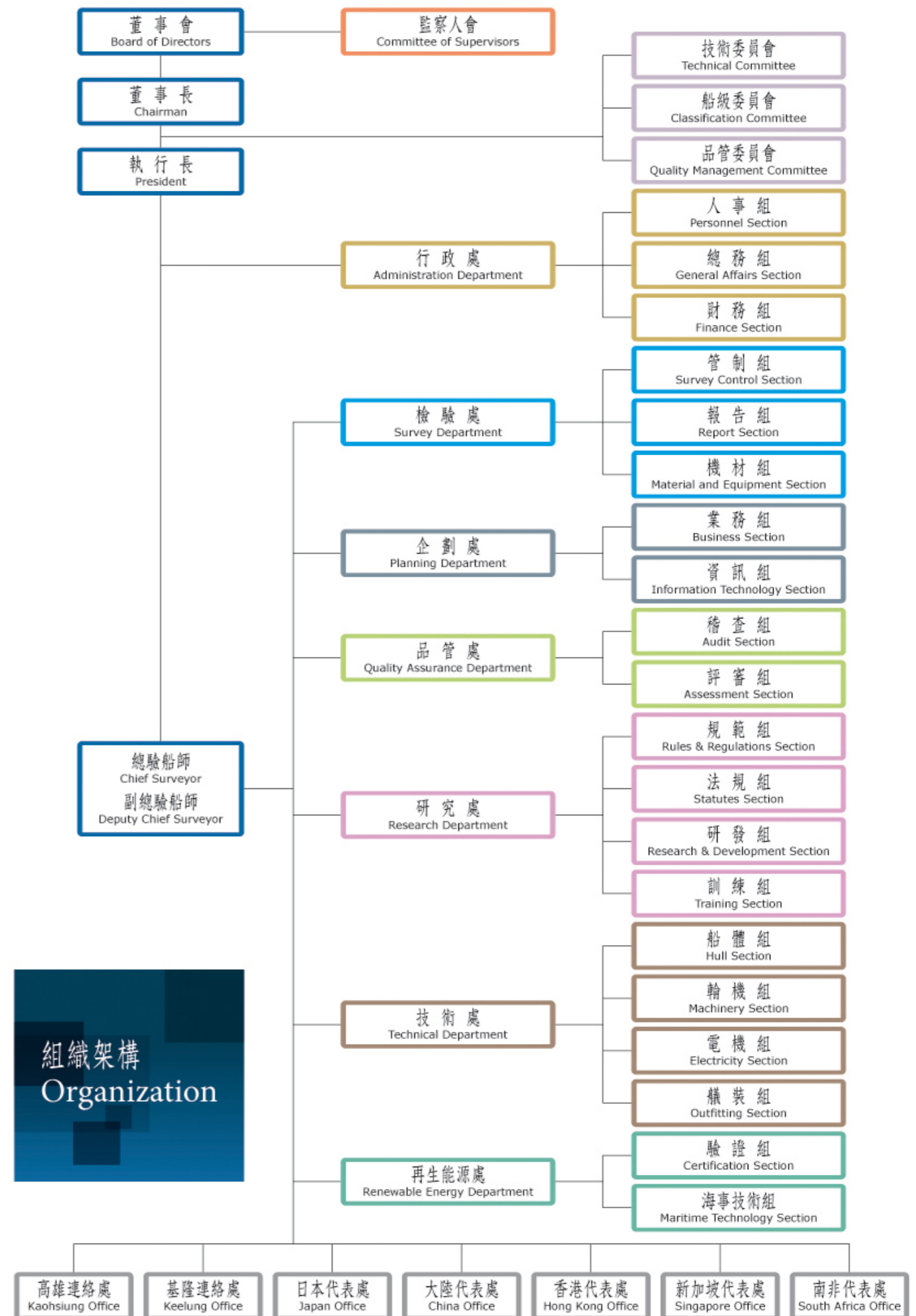
本中心為一民間純技術性，不以營利為目的之服務事業機構，其目標為提供優良之技術、高度之效率與熱忱之服務。組織型態(如下表)及工作內涵，一如世界各大驗船機構，其服務工作據點遍及世界各重要港口，為船東、造船廠及機材製造廠商提供最便捷之服務。



## 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", also known 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



2019年美中貿易戰如火如荼，致使全球經濟景氣不明，各產業展望趨於保守，雖然2019年全球航運市場需求不如預期，我國海運業者仍積極布局，等待市場復甦之時機來臨；CR秉持相同策略持續強化業務範圍及提升競爭力，身為專業法人組織，始終立基於提供優質技術服務，期待持續與台灣海運業者共同成長。

回顧2019年，為維護本國航運聲譽及避免船隻遭滯留，本中心與航港局研商制定並執行「108年度強化國輪管制檢查作業」已取得相當成績，我國於五月公布之東京備忘錄(Tokyo MOU)持續名列船旗國白名單，且名次持續大幅提升；CR於認可機構之評比亦持續維持「高表現度」，名列全世界驗船機構第12名；此外，我國更首度榮獲美國21世紀優質船舶計劃(QUALSHIP21)之殊榮，往後國輪航行美國港口，若經審核通過領取相關證書，PSC檢查週期將降為三年一次，有助於航商提升靠泊效率、強化船隊調度，也顯示我國船隊在航安與環保等管理作為，獲得美方高度肯定。

為配合國家綠能政策，CR於2020年1月正式成立再生能源處，透過經濟部標檢局第三方驗證團隊之推廣及參與開發商之委託案件，並與英國海事保證鑑定公司LOC簽署長期合作合約，持續累積專案驗證、海事保證鑑定及技術盡職調查之量能。



CR提供之能源驗證服務廣受業界肯定，未來更已取得國內兩座離岸風場的服務合約，為擴大服務範圍，並提升整體服務品質，我們有信心逐步地創造國內外業者合作機會，協助完善國內第三方驗證能量及綠色金融產業。

2019年除了於船舶檢驗本業及風能驗證領域取得佳績外，CR長年致力於船舶規範開發，配合政府國艦國造政策，完成編纂海軍軍艦規範之創舉，有助於未來加入國艦國造行列的本土零組件及裝備等業者迅速接軌，大幅縮短打入國艦國造供應鏈之磨合期，並提升本土產業鏈的國際競爭力。

展望2020年，在新冠肺炎疫情之影響下，全球海運業首當其衝，限硫令之實施也將為航運公司帶來額外燃油成本壓力，且中美貿易談判持續激盪，在如此具挑戰性的環境下，CR與航運各界同舟共濟，肩負起企業社會責任，持續提供最優質之服務，期許能為我國航運產業貢獻最大力量，以不負交通部之指導以及航運界長期以來的支持。

中國驗船中心  
董事長

謝謂君

## Chairman's Speech

In 2019, US-China trade war has caused uncertainty in global economy, and brought a conservative outlook to every industry. Although the demand for the shipping is not strong as expected, our domestic shipping companies still keep aggressive investment and wait for market recovery. CR maintains the same strategy to expand the scope of business, and enhance competitiveness. As a professional non-profit organization, CR always provides our technical services in best quality, and continue to grow along with Taiwanese shipping industries.

Looking back to 2019, in order to maintain reputation for Taiwanese shipping industries and avoid vessel detention, CR and MPB have stipulated and implemented "2019 Enforcement Control Measures for R.O.C.-flagged vessels", and thus the performance has been recognized.

According to Tokyo MOU annual report published in May, R.O.C flag has continuously listed in "White List", and the ranking has greatly elevated. CR has also maintained "High Performance", and ranked twelfth among worldwide recognized organizations. Besides, R.O.C. flag has earned Qualship 21 designation from United States Coast Guard for the first time. After approval and obtaining relevant certificates, the inspection duration of R.O.C.-flagged vessels can be reduced to once every three years. This will increase the efficiency of berthing operation, enhance fleet allocation, and also reveal that navigation safety and environmental protection of R.O.C. fleet have been highly recognized by the U.S.

In order to support the green-energy policy, CR has established "Renewable Energy Department" in January, 2020. We continue to accumulate experiences on project certification, marine warranty survey, and technical due diligence through promotion of the BSMI third-party certification team, attendance of projects appointed by the developers, and signing the long-term agreement with British marine warranty survey company LOC. The service of energy certification provided by CR has been recognized in the field. We have also obtained cooperation agreements of two offshore wind farms so far. In order to expand service scope and enhance service quality, we are confident to gradually create cooperation opportunities between domestic and international companies, and assist to complete domestic third-party certification energy and green financial industry.

CR has devoted to development of ship rules for a long time. In 2019, in addition to good performance on ship surveys and wind energy certification, CR has successfully completed Rules of Naval Ships for purpose of supporting the indigenous naval shipbuilding policy. The development of Rules of Naval Ships could facilitate components and equipment manufacturers rapidly integrate. Thus, run-in period could be greatly shortened, and competitiveness of domestic supply chain could be enhanced.

In 2020, due to the influence of novel coronavirus (COVID-19), implementation of sulfur cap, and tense negotiation between the U.S. and China, the global shipping industry has faced a challenging situation. CR will pull together with the shipping industry, and shoulder social responsibilities. CR will continue to provide the best-quality services, and contribute to domestic shipping industries as best as we can. Finally, we would like to express our sincere appreciation to guidance of MOTC and long-term support of the shipping industries.



CR Classification Society  
Chairman

David W. Hsieh

CR

## 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14屆董事會任期自2018年5月18日起至2021年5月17日止，為期三年，董事長由董事會遴選之。第14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, 2018 to May 17, 2021. 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	中國驗船中心董事長 Chairman, CR Classification Society
葉協隆 Hsieh-Lung Yeh	交通部航政司司長 Director of Department of Navigation and Aviation, Ministry of Transportation and Communications R.O.C.
郭添貴 Tien-Kuei Kuo	交通部航港局局長 Director-General of Maritime and Port Bureau, Ministry of Transportation and Communications R.O.C.
黃肇嘉 Chao-Chia Huang	海洋委員會海巡署督察組組長 Chief of Petrol Division, Coast Guard Administration, Ocean Affairs Council
謝志堅 Chih-Chien Hsieh	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.
李新民 Samuel Lee	中鋼運通股份有限公司董事長 Chairman, China Steel Express Corporation
張正鏞 Anchor 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
彭士孝 William S.H. Peng	中國航運股份有限公司董事長 Chairman, Chinese Maritime Transport Ltd.
藍俊昇 James Lan	藍海海運股份有限公司董事 Director, OceanLance Maritime Co., Ltd.
張瑞宗 Ray-Chung Chang	中美和石油化學股份有限公司董事長 Chairman, China American Petrochemical Co., Ltd.
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
郭義隆 I-Lung Guo	藍海海運及松光航業董事長 Chairman, OceanLance Maritime Co., Ltd. and Biggin Shipping Corporation
周慕豪 M. H. Jou	中國航運股份有限公司副董事長 Vice Chairman, 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總經理 President, 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總經理 President, Shih Wei Navigation Co., Ltd.
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
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.
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.
程采禾 Elizabeth T. H. Cheng	能源航運股份有限公司總經理 President, Energy Shipping Co., Ltd.

## 船級委員會 Classification Committee

(任期自2018年5月18日起至2021年5月17日止，為期三年)

職別 Title	姓名 Name	現任職務 Position
主任委員 Chairman	葉陳輝 C. H. Yeh	光明海運股份有限公司董事長 Chairman, Kuang Ming Shipping Corporation
副主任委員 Vice-Chairman	梅家禮 Charlie Mei	台灣航業股份有限公司總經理 President, Taiwan Navigation Co., Ltd.
委員 Member	陳宏州 Hong-Joe Chen	中鋼運通股份有限公司總經理 President, China Steel Express Corporation
委員 Member	高雅平 Y. P. Kao	裕民航運股份有限公司顧問 Advisor, U-Ming Marine Transport Corporation
委員 Member	李健發 Kenneth Lee	世邦國際企業集團董事長 Chairman, T. V. L. Business Group
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	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	張豐州 F. J. Chang	新興航運股份有限公司顧問 Advisor, Sincere Navigation 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
委員 Member	黃崇榮 Tsun-Yung 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	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	賴金池 C. C. Lai	台塑海運股份有限公司協理 Assistant Vice President, Formosa Plastics Marine Corporation
委員 Member	高國隆 Davis Kao	萬海航運股份有限公司協理 Assistant Vice President, Wan Hai Lines Ltd.
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	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	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	馬耀湘 Yao-Shiang Ma	新健海運公司副總經理 Vice President, Hsin Chien Marine Co., Ltd.
委員 Member	魏正賜 Cheng-Tzu Wei	台灣國際造船股份有限公司副總經理 Vice President, CSBC Corporation, Taiwan
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.



## 技術委員會 Technical Committee

(任期自2018年5月18日起至2021年5月17日止，為期三年)

職別 Title	姓名 Name	現任職務 Position
主任委員 Chairman	王偉輝 W. H. Wang	國立臺灣海洋大學教授 Professor, 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	台灣港務股份有限公司基隆分公司總經理 President, Port of Keelung, Taiwan International Ports Corporation
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	邵維揚 Wei-Yang Shao	海軍造船發展中心主任 Director, Naval Shipbuilding and Development Center
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	顏春木 C. Y. Yen	台灣國際造船股份有限公司設計處經理 Manager of Design Department, CSBC Corporation, Taiwan
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	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	林頂光 D. K. Lin	台灣中油股份有限公司儲運處造船組組長 Section Manager, Shipbuilding Section, CPC Corporation, Taiwan
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	蔡進發 J. F. Tsai	國立臺灣大學工程科學及海洋工程學系教授 Professor, Department of Engineering Science and Ocean Engineering, National Taiwan University
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	胡信正 H. C. Hu	明新科技大學電機工程學系助理教授 Assistant Professor, Minghsin University of Science and Technology



# CR

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## 品管委員會 Quality Management Committee

(任期自2018年5月18日起至2021年5月17日止，為期三年)

職別 Title	姓名 Name	現任職務 Position
主任委員 Chairman	許洪烈 H. L. Hsu	財團法人中國驗船中心品管委員會主任委員 Chairman of Quality Committee, CR Classification Society
副主任委員 Vice-Chairman	曹志毅 Chih-I T'sao	中華民國品質學會理事 Director, Chinese Society for Quality
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	史美琦 Michael Shih	陽明海運股份有限公司行政長 Chief Administration Officer, Yang Ming Marine Transport Corporation
委員 Member	楊弘明 Hong-Ming Yang	長榮海運股份有限公司海技部副協理 Deputy Senior Vice President, Evergreen Marine Co., Ltd.
委員 Member	陳木川 M. C. Chen	四維航業股份有限公司副總經理 Vice President, Shih Wei Navigation Co., Ltd.
委員 Member	仇忠林 Jong-Lin Chyu	台灣航業公司工務部協理 Assitant Vice President of Technical Department, Taiwan Navigation Co., Ltd.
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	俞克維 K. W. Yu	高雄海洋科技大學輪機工程學教授 Professor, Department of Marine Engineering, National Kaohsiung Marine University
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 彬 B. Lin	臺灣海洋大學商船學系教授 Professor, Department of Merchant Marine, National Taiwan Ocean University

## 據點擴展

為擴展據點，加強對船東之服務，CR於2020年4月正式成立基隆連絡處，CR總部及各代表處的連絡方式如下：

## Network Expansion

In order to expand our network and render better services to shipowners, CR officially established Keelung Office in April, 2020. CR Headquarter and branches can be reached in the following ways:



### 台北總部 HEAD QUARTER

104 台北市中山區南京東路3段103號8樓  
8th Fl., No.103, Sec. 3, Nanking E. Rd., Jhongsan Dist., Taipei, 104, Taiwan R.O.C.  
Tel: +886-2-2506-2711 Fax: +886-2-2507-4722  
E-mail: cr.tp@crclass.org

### 高雄連絡處 KAOHSIUNG OFFICE

802 高雄市苓雅區海邊路31號26樓之3  
26th Fl.-3, No. 31, Haibian Rd., Lingya Dist., Kaohsiung, 802, Taiwan R.O.C.  
Tel: +886-7-330-5617 Fax: +886-7-330-6295  
E-mail: cr.kh@crclass.org

### 基隆連絡處 KEELUNG OFFICE

202 基隆市中正區義一路43號9樓之3  
Rm. 3, 9F., No. 43, Yi 1st Rd., Zhongzheng Dist., Keelung City 202, Taiwan R.O.C.  
Tel: +886-2-2428-2797 Fax: +886-2-2428-2297  
E-mail: cr.kl@crclass.org

### 日本代表處 JAPAN OFFICE

〒650-0031 日本神戶市中央區東町116-1シティライフ三宮ビル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

2B, Hong San Walk, #17-06, Singapore 689048  
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



## 建造中入級 Classification of Ships During Construction

2019年建造中入級CR的船舶共計有18艘，分列如下：

There were a total of 18 ships classed by CR during construction in 2019 as listed below:

船東 Owner	造船廠 Shipyard	建造地點 Place	船型 Ship Type	艘數 Number
臺灣港務股份有限公司 TAIWAN INTERNATIONAL PORTS CO., LTD.	高鼎 Jade	台灣 TAIWAN	626GT 駁船(裝有挖泥設備) 626GT Dredger Barge	1
長榮海運股份有限公司 EVERGREEN MARINE CORP. (TAIWAN) LTD.	台船 CSBC	台灣 TAIWAN	2,800TEU 貨櫃船 2,800TEU Container Vessel	1
達和航運股份有限公司 TA-HO MARITIME CORPORATION	大島 Oshima	日本 JAPAN	84,000DWT 散裝船 84,000DWT Bulk Carrier	2
裕民航運新加坡私人有限公司 U-MING MARINE TRANSPORT(SINGAPORE) PTE LTD	大島 Oshima	日本 JAPAN	82,000DWT 散裝船 82,000DWT Bulk Carrier	2
達和航運股份有限公司 TA-HO MARITIME CORPORATION	新來島 Shin Kurushima	日本 JAPAN	23,000DWT 水泥運輸船 23,000DWT Cement Carrier	1
臺灣港務港勤股份有限公司 TIPC Marine Corporation, Ltd.	中信 Jong Shyn	台灣 TAIWAN	499GT 拖船 499GT Tug Boat	1
金廈海運股份有限公司 KING XIA MARINE CO., LTD.	Glow Marine	新加坡 SINGAPORE	40M 客船 40M Passenger Ship	1
中鋼運通股份有限公司 CHINA STEEL EXPRESS CORPORATION	台船 CSBC	台灣 TAIWAN	208,000DWT 散裝船 208,000DWT Bulk Carrier	1
百麗航運股份有限公司 BRAVE LINE CO., LTD.	Austal	菲律賓 PHILIPPINES	50M 鋁合金客船 50M Passenger Ship	2
協榮航業股份有限公司 GLORY NAVIGATION CO., LTD.	檜桓 Higaki	日本 JAPAN	10,000DWT 一般乾貨船 10,000DWT General Dry Cargo Ship	3
世邦海運股份有限公司 TVL Marine Company Limite	旭洋 Kyokuyo	日本 JAPAN	1,096TEU 貨櫃船 1,096TEU Container Carrier	1
臺灣港務港勤股份有限公司 TIPC Marine Corporation, Ltd.	高鼎 Jade	台灣 TAIWAN	496GT 拖船 496GT Tug Boat	1
台灣國際造船股份有限公司 CSBC CORPORATION, TAIWAN	台船 CSBC	台灣 TAIWAN	140M 駁船 140M Barge	1

## 現成船入級 Classification of Existing Ships

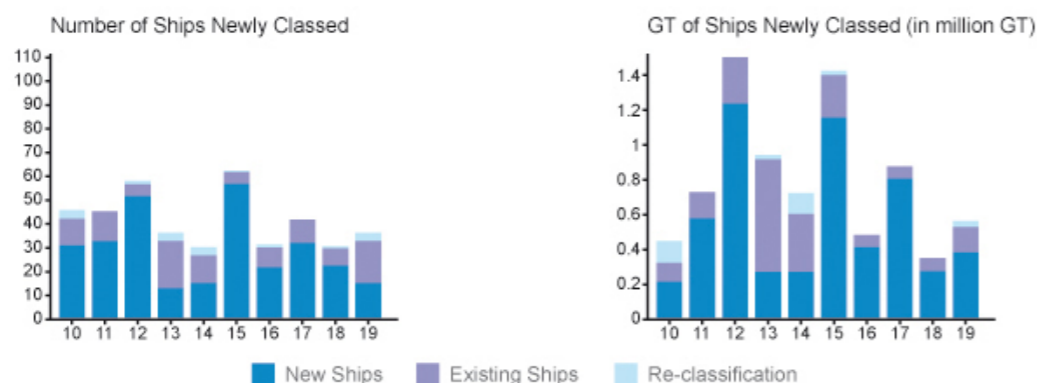
2019年現成船入級CR的船舶共計有16艘，分列如下：

There were a total of 16 existing ships classed by CR in 2019 as listed below:

船名 Ship Name	船東 Owner	船旗 Flag	總噸位 GT	船型 Ship Type
東彥112號 DONG YEN NO.112	東丕營造股份有限公司	中華民國 R.O.C.	574	自昇式平台 SELF-ELEVATING UNIT
寶拉麗絲 POLARIS	銓日儀企業有限公司 DRAGON PRINCE HYDRO-SURVEY ENTERPRISE CO.	中華民國 R.O.C.	275	探測船 HYDROGRAPHIC SURVEY VESSEL
綠島之晨 GREEN ISLAND SUCCESS	龍鴻航業股份有限公司 LONG HUNG SHIPPING CO., LTD	中華民國 R.O.C.	148	客船 PASSENGER SHIP
臺港22601號 TIPM NO.22601	臺灣港務港勤股份有限公司 TIPC Marine Corporation, Ltd.	中華民國 R.O.C.	176	CREW BOAT
臺港22602號 TIPM NO.22602	臺灣港務港勤股份有限公司 TIPC Marine Corporation, Ltd.	中華民國 R.O.C.	176	CREW BOAT
奧黛麗絲 POLARIS AUSTRALIS	銘大企業有限公司 HORNG TAH ENTERPRISE CO, LTD.	中華民國 R.O.C.	1314	SUPPLY VESSEL
保時旺 POSH PAHLAWAN	嘉時航運股份有限公司 PKR OFFSHORE CO., LTD.	中華民國 R.O.C.	962	拖船 TUG
永康668 EC 668	永康船舶股份有限公司 EVER COMFORT SHIPPING CO., LTD.	中華民國 R.O.C.	361	拖船 TUG
金保順 GIMPO SHUN	金保順海業股份有限公司 Gimpo Marine Co., Ltd.	中華民國 R.O.C.	7019	一般乾貨船 GENERAL DRY CARGO SHIP
保時揚 WORLD SAIL	前進海事工程股份有限公司 Advanced Marine Engineering Co., Ltd.	中華民國 R.O.C.	161	CREW BOAT
保時航 WORLD SEA	前進海事工程股份有限公司 Advanced Marine Engineering Co., Ltd.	中華民國 R.O.C.	161	CREW BOAT
奔騰 CWIN PHANTOM	國際海洋股份有限公司 International Ocean Vessel Technical Consultant Co., Ltd	中華民國 R.O.C.	161.88	CREW BOAT
長恆 EVER BEING	長榮海運股份有限公司 EVERGREEN MARINE CORP. (TAIWAN) LTD.	中華民國 R.O.C.	32691	貨櫃船 CONTAINER CARRIER
長卓 EVER BOARD	長榮海運股份有限公司 EVERGREEN MARINE CORP. (TAIWAN) LTD.	中華民國 R.O.C.	32691	貨櫃船 CONTAINER CARRIER
長福 EVER BLESS	長榮海運股份有限公司 EVERGREEN MARINE CORP. (TAIWAN) LTD.	中華民國 R.O.C.	32691	貨櫃船 CONTAINER CARRIER
OCEAN CONQUEROR	Conqueror Navigation Corp.	Marshall Islands	36452	散裝船 BULK CARRIER

## 新入級船舶 Newly Classed Ships

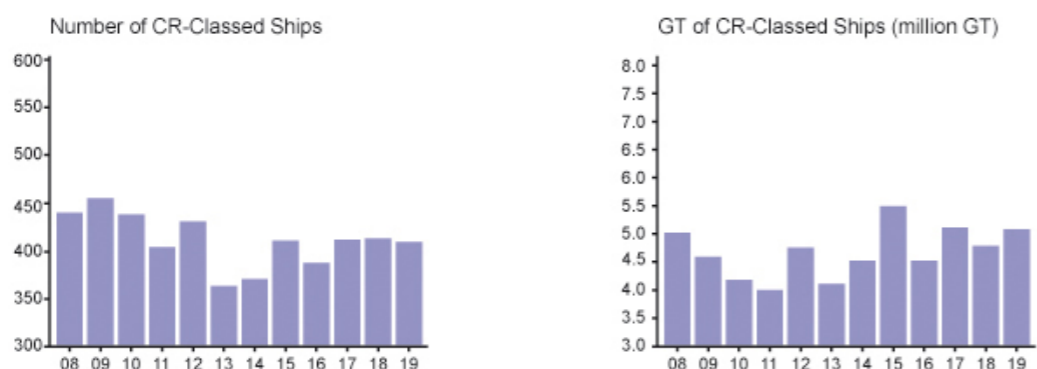
2019年經審核後正式入級的船舶有36艘共計549,811總噸，艘數為在級船舶的11%，其中新船入級18艘，現成船入級16艘，重新入級2艘。After careful review, a total of 36 ships with 549,811 gross tonnage were formally classed with CR in 2019. The number of ships accounted for 11% of the number of those already classed with CR. Among these newly classed ships, there were 18 new ships, 16 existing ships, and 2 re-classed ships.



## 在級船舶 Classed Ships

截至2019年底，維持CR船級之船舶有411艘，共計5,082,721總噸，平均船齡為12.7年。Up to the end of 2019 there were 411 ships maintaining CR class with 5,082,721 gross tonnage, and the average age of ships was 12.7 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



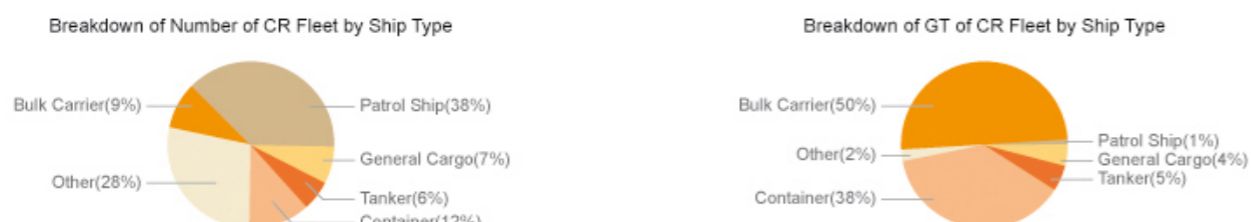
在級船舶之船旗國分析 Analysis of flag states of CR-classed ships



在級船舶之船齡分析(平均船齡12.7年) Analysis of age of CR-classed ships (the average age of ships : 12.7 years)



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



## ISM, ISPS及MLC評鑑

2019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33家，船舶管理評鑑(SMC)56艘，國際船舶保全(ISPS)評鑑共54艘次及海事勞工公約(MLC)檢查共30艘。

## ISM, ISPS & MLC Verifications

In 2019, CR conducted ISM, ISPS and MLC verification and certification work, carrying out DOC verifications for 33 companies, SMC verifications for 56 ships, ISPS verifications for 54 ships, and MLC inspection for 30 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.1119(30) Appendix 2所列之可滯船缺失項目，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(TokyoMOU)發布之年報，本中心十餘年來皆獲得「高績效」之評比；國輪均名列「白名單」，且名次逐年向上提升，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。

## 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 A1119(30) 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 TokyoMOU, CR has listed in "High Performance" for more than ten years, and the ranking has gradually elevated. 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.

## 工廠認可及型式認可

2019年CR執行船舶用品工廠認可及產品型式認可共計69家130型，並執行危險品容器之檢驗業務，共計廠商23家，型式186型(包括小型184型及中型2型)。

## Works Approval and Type Approval

In 2019, CR conducted works approval of 69 companies and type approval of 130 products for use on vessels, and also carried out certification of packagings for dangerous goods for 23 companies and 186 types (184 types of small packagings and 2 types of intermediate bull containers).



## 規範研究

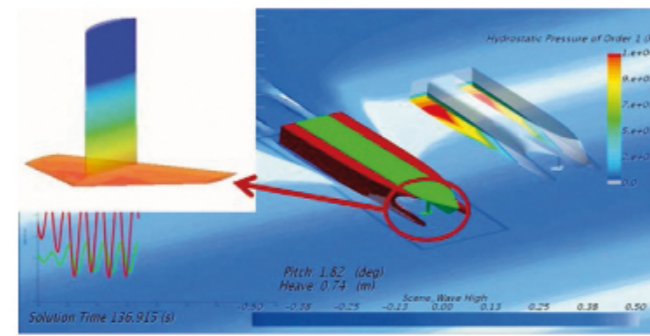
### 規範發展

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。目前本中心所編撰之規範有：

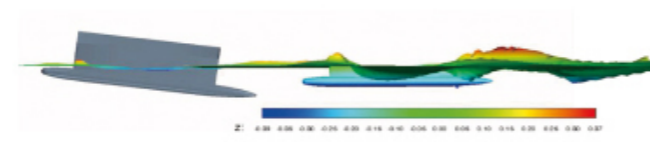
## Rules Development

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.

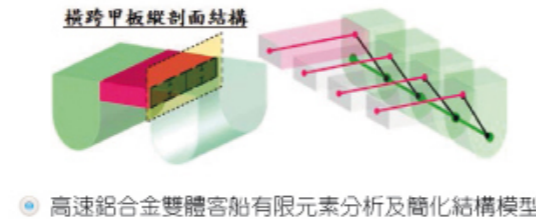
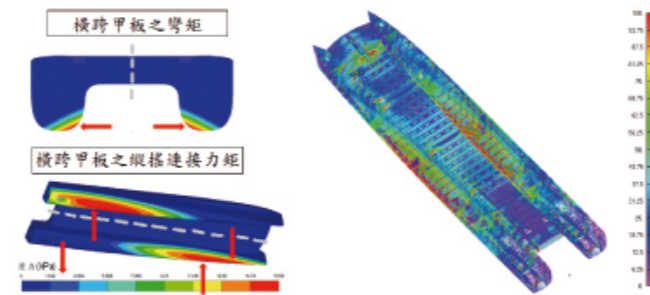
- 2019年鋼船建造與入級規範  
Rules for the Construction and Classification of Steel Ships, 2019
- 2017年貨櫃建造與發證規範  
Rules for the Construction and Certification of Freight Containers, 2017
- 2013年貨物裝卸設備構造與檢驗規範  
Rules for the Construction and Survey of Cargo Gear, 2013
- 2019年高速船建造與入級規範  
Rules for the Construction and Classification of High-Speed Craft, 2019
- 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



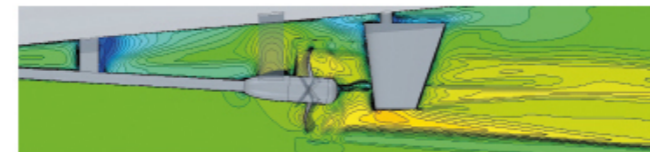
穿浪式雙體船之穩定翼運動控制系統



小水面雙體船耐海性能分析



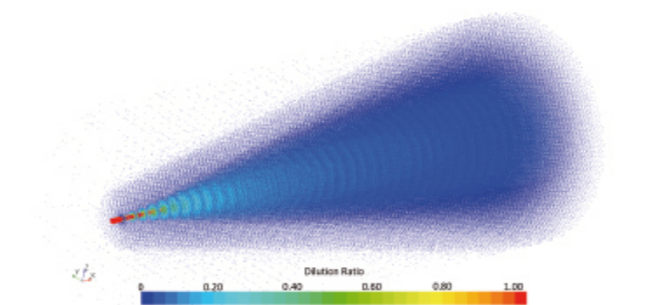
高速鋁合金雙體客船有限元素分析及簡化結構模型



高速艇可變螺距螺旋槳推進性能分析



涵道推進性能分析



圓管噴流之排放水稀釋流場模擬

## 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。

交通部於2019年12月18日順利完成對中心業務監督稽核工作。

交通部航港局於2019年11月19日前來本中心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2019年10月30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.

CR has smoothly passed the audit conducted by Ministry of Transportation and Communications R.O.C. on December 18, 2019.

CR has smoothly passed the annual audit on yacht inspection conducted by Maritime and Port Bureau, Ministry of Transportation and Communications R.O.C. on November 19, 2019.

CR has smoothly passed the annual audit on radio inspection conducted by National Communications Commission (NCC) on October 30, 2019.

## 研究成果

本中心於2019年發表十四篇研究論文，題目分別為：「設計與分析浮游式黑潮洋流渦輪機葉片」、「以不同計算方法研究雙體船的耐波性能」、「開環式廢氣淨化系統洗滌水之紊流混合分析」、「陸域風場中考慮地形影響的風機跡流模擬」、「任意幾何構型浮體之靜水剖面負荷計算方法」、「黑潮洋流發電機葉片之極限強度評估」、「任意幾何構型浮體之靜水力與穩定性能的另類計算方法」、「開環式廢氣淨化系統洗滌水之紊流混合分析」、「貨櫃船橫向艙口緣圍支柱疲勞強度評估方法之決定」、「高速雙體船於斜波下之剖面負荷計算與柵格式樑結構分析」、「考慮風力機跡流效應於固定套管基礎結構之疲勞壽命評估」、「應用計算模擬小水面雙體船與離岸風車之頂靠操作」、「離岸風場流場預測與即時發電量評估」、與「運用耦合式方法計算浮式風機在規則波中的運動特性」。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 2019, this Society has published fourteen technical papers, which respectively entitled as "Design and Analysis of the Floating Kuroshio Turbine Blades", "Investigation of the Seakeeping Performance of Twin Hull Vessels by Different Computational Methods", "Study on the Seakeeping Performance of SWATH with Control Fin", "Wake Modeling of Wind Turbines Located on Non-homogeneous Terrain", "A Computational Method for Sectional Loads of Floating Body with Arbitrary", "Ultimate Strength Evaluation of Kuroshio Current Turbine Blades", "An Alternative Method for Computing Hydrostatic and Stability Performances of Floating Bodies with Arbitrary Geometrical Configurations", "Turbulent Mixing Analysis of Discharge Streams for Open-loop Exhaust Gas Cleaning System", "Determination of a Methodology for the Fatigue Strength Evaluation of Transverse Hatch Coaming Stays on Container Ships", "Global Strength Evaluation of High-speed Catamaran by Sectional Load Calculation under Quartering Sea and Lattice Beam Modelling", "The Effects of Wind Turbine Wakes on the Fatigue Lives of Downwind Turbine Support Structures", "Computational Simulation of Docking Operation Between SWATH and Offshore Wind Turbine", "Wind Farm Flow Field Prediction for Real Time Energy Yield Assessment", "A Coupled Approach for Evaluation Motion Response of Floating Offshore Wind Turbine in Linear Waves". Based on the sound technics CR has provided professional services for developing shipping and renewable energy industries in Taiwan.

## 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2019年底服務中船舶共計有26艘次。

## Emergency Technical Assessment Service (ETAS)

CR provides Emergency Technical Assessment Service (ETAS) to shipping companies. Up to the end of 2019, 26 ships have applied to CR for this service.



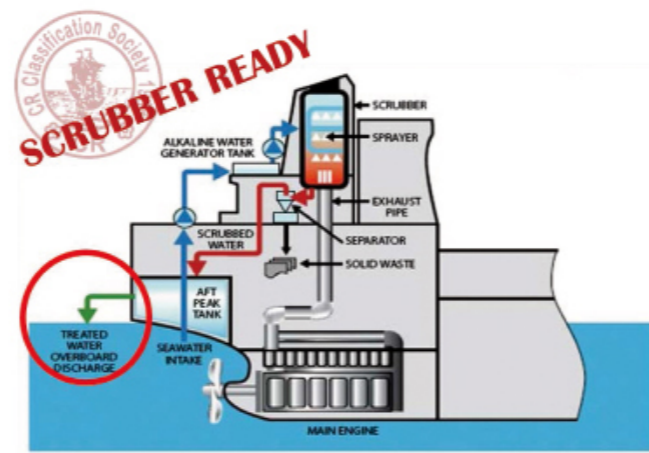
## CRPA電子審圖

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。

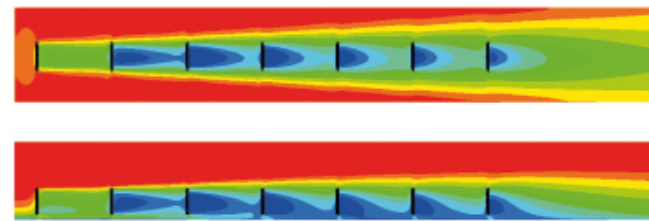
## CR Plan Approval (CRPA)

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.

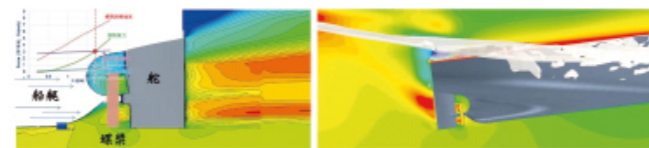
# CR



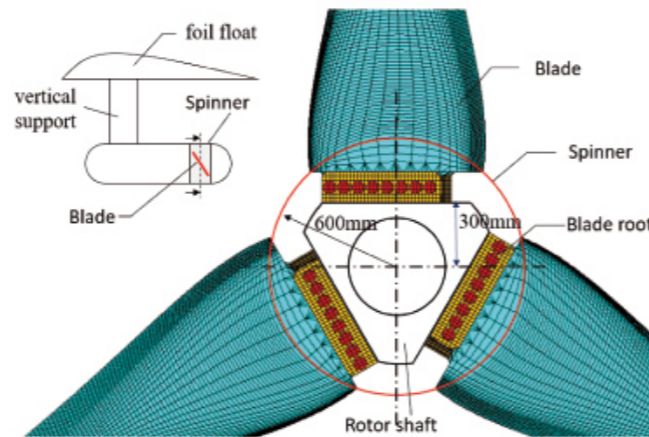
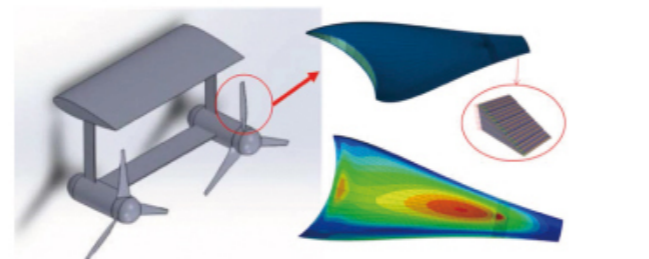
● 開環式洗煙器處理系統



● 風機尾跡流效應(上)上視圖(下)側視圖



● 商船波浪中推進性能模擬



● 浮游式黑潮渦輪發電機葉片結構分析

## 對外研討會 External Workshops

本年度對外共舉辦4次研討會，均深獲與會人士好評。

We held 4 external workshops during 2019, all of which received favorable responses from attendees.

日期 Date	研討會內容 Topic
2019.3.28 2019.3.29	<ul style="list-style-type: none"> <li>台灣船隊於香港港口國管制中常見缺失探討 Investigation of Taiwanese Fleet's Common Deficiencies in Port State Control in Hong Kong</li> <li>國際公約之發展現況 Recent Development of International Convention</li> <li>船舶檢驗常見的缺失 Common Deficiencies in the Survey of Ships</li> </ul>
2019.9.18 2019.9.19	<ul style="list-style-type: none"> <li>2019年重點檢查活動及CR船級與PSC統計 Concentrated Inspection Campaign (CIC) 2019 and CR Classification &amp; PSC Statistics</li> <li>研發策略與年度成果發表 R&amp;D Strategy and Annual R&amp;D Summary</li> </ul>

## 教育訓練 Training

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39人，及港口設施保全員共2班次計84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44人，教育訓練課程均深獲參與學員之好評。

In response to the request of the shipping industry, CR has offered 2 CSO training courses for a total of 39 participants and 2 PFSO training courses for a total of 84 participants. Moreover, CR has also held 2 ISM Code training courses for a total of 44 participants. The above-mentioned educational training courses all drew high praise from the participants.



## 國際交流 International Exchange

鄭總驗船師志文率員於2019年6月12日及13日，分別拜訪日本國土交通省海事局PSC辦公室及公益財團法人Tokyo MOU事務所，除簡介CR最新動態，亦與之進行技術交流。

鄭總驗船師志文率員於2019年10月24日至11月1日期間拜會美國海岸巡防隊 (USCG) 以建立聯繫管道並獲取台灣船旗被QS21認可之具體結果，後轉赴巴拿馬拜會新上任之巴拿馬海事局商船部主任Mr. Rafael Cigarruista並參加其舉辦之授權機構大會。

Chief Surveyor Chih-Wen Cheng led a group to visit Ministry of Land, Infrastructure, Transport, and Tourism of Japan as well as Tokyo MOU Secretariat respectively on June 12~13, 2019, to introduce CR classification activities, and have technical discussion.

Between October 24 and November 1, Chief Surveyor Chih-Wen Cheng led a group to visit United States Coast Guard (USCG) to establish communication channel and acquire information that R.O.C. flag has earned Qualship21 designation. After the trip in U.S., they went to Panama for visiting Mr. Rafael Cigarruista, General Director of Merchant Marine of Panama Maritime Authority, and attending the R.O. meeting.