



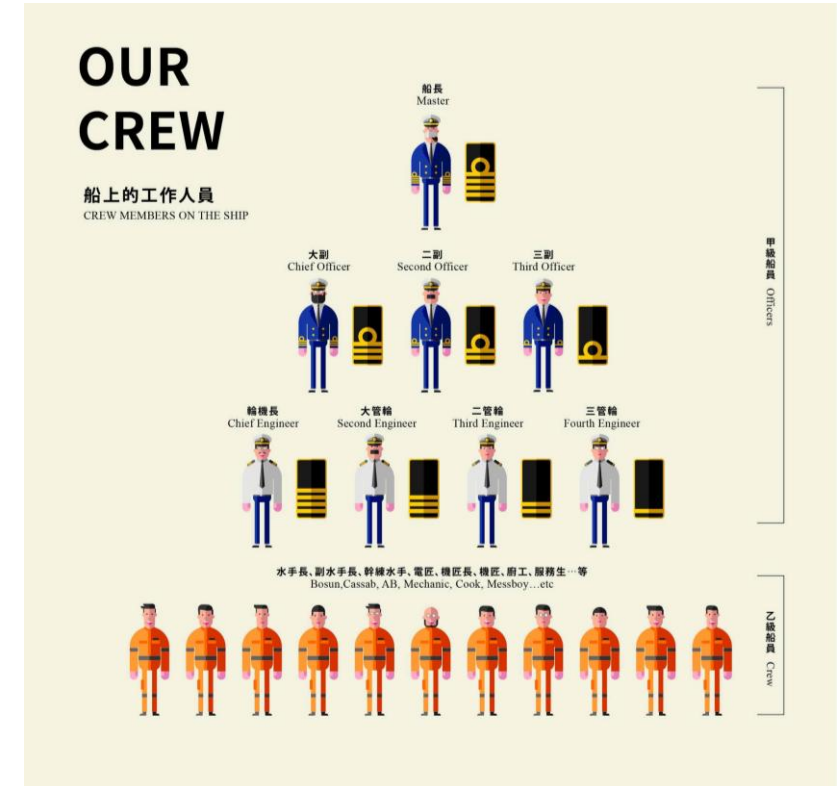
Chinese Crew Market Outlook & Training for Alternative Fuel Vessels

– INTERCARGO Technical Committee Semi-Annual Meeting

Presented by LIU Shi Jun (JUN)
CEO, SINOCREW

AGENDA

- Introduction to Sinocrew
- Chinese Seafarer Market
- Seafarers Training – the Case of Alternative Fuels



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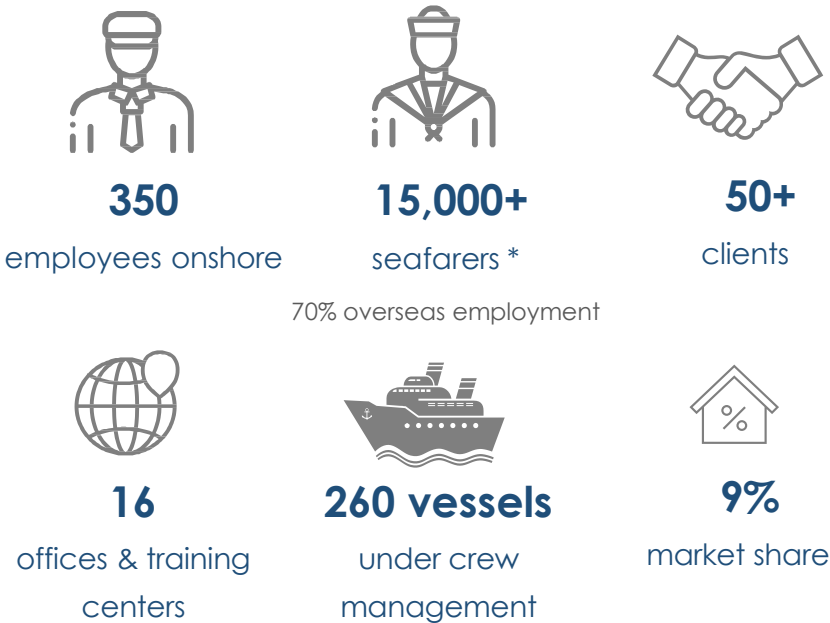


- CEO of Sinocrew Group
- 32 years in the maritime industry
- China Director of the Executive Committee of the International Maritime Employers' Council (IMEC)
- MBA, EMBA

SINOCREW AT A GLANCE



A Leading **future-ready** Provider of Integrated Maritime Talent



Three Core Services

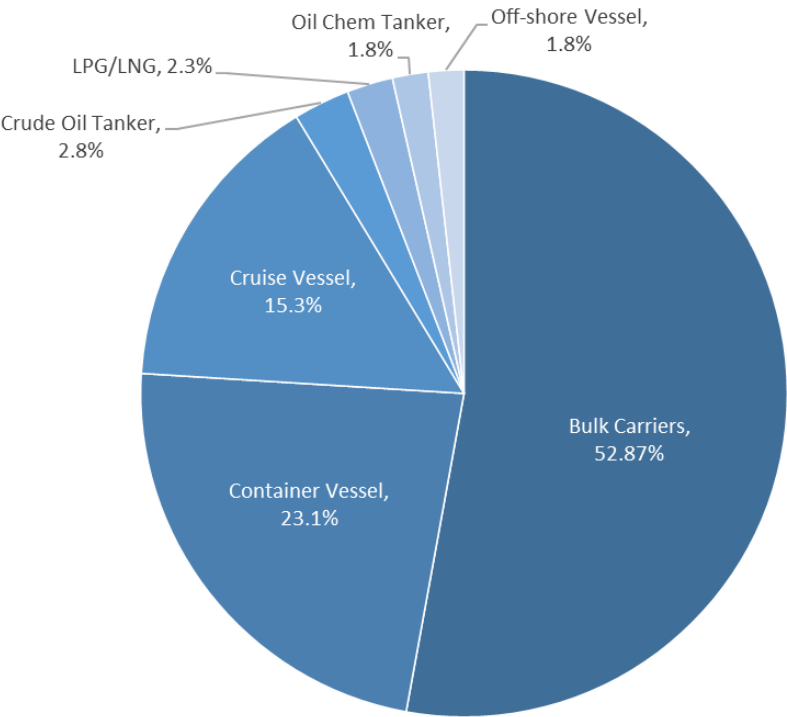


* At of May 1, 2025

Most preferred Chinese manning partner by top global shipping companies



Out of 7,600 seafarers onboard *, 52% or 4,000+ working on 175+ dry bulk vessels



DRY BULK CLIENTS



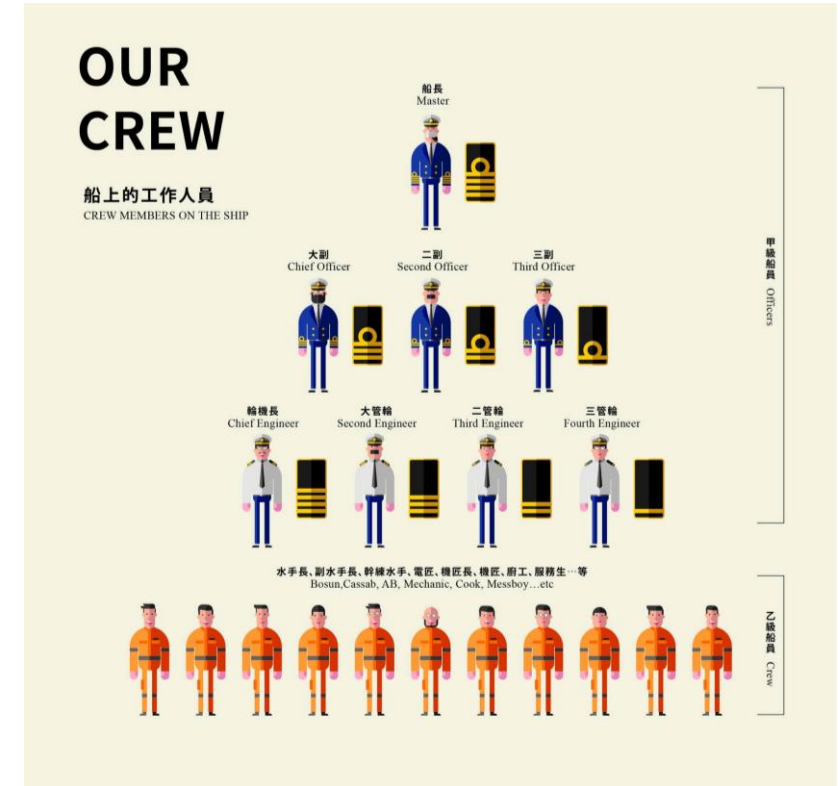
Current Vessels under Full Chinese Manning

	HANDYSIZE/HANDYMAX		PANAMAX/KAMSAMAX		CAPESIZE/VLOC		Total	
	No. of Vessels	%	No. of Vessels	%	No. of Vessels	%	No. of Vessels	%
Within 3 Years	23	48.9%	49	56.3%	19	46.3%	91	52.0%
3-5 Years	13	27.7%	24	27.6%	12	29.3%	49	28.0%
More than 5 Years	11	23.4%	14	16.1%	10	24.4%	35	20.0%
	47		87		41		175	

* At of May 1, 2025

AGENDA

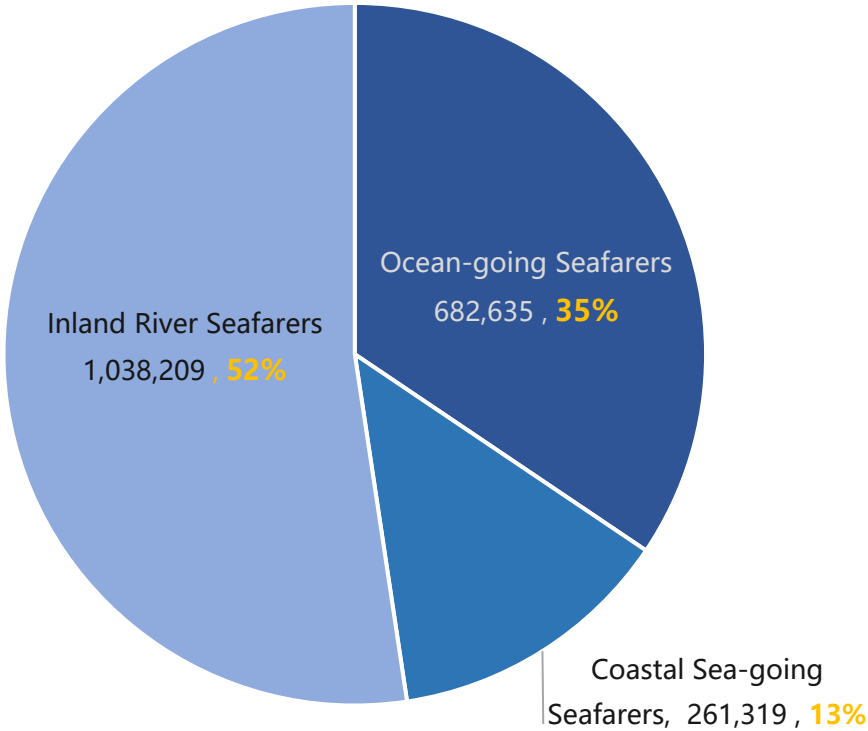
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Current Status of Chinese Seafarers (Ocean-going)

- **1,982,163** registered seafarers
- **443,800** ocean-going seafarers with sea service records
- **27,860** newly registered ocean-going seafarers in 2023
- **Valid seafarer certificates** in categories

No. of Registered Chinese Seafarers



	Ocean-going Vessels	Coastal sea-going Vessels	Inland River Vessels	Non-self-propelled Vessels	Pilot Vessels
Masters	17,939	17,918	133,040	690	1,875 (Sea ports)
Other Officers & Engineers	82,665	69,502	266,363	2,768	583 (River Ports)
Ratings	132,235	87,427	-	-	-
	232,839	174,847	399,403	3,458	2,458

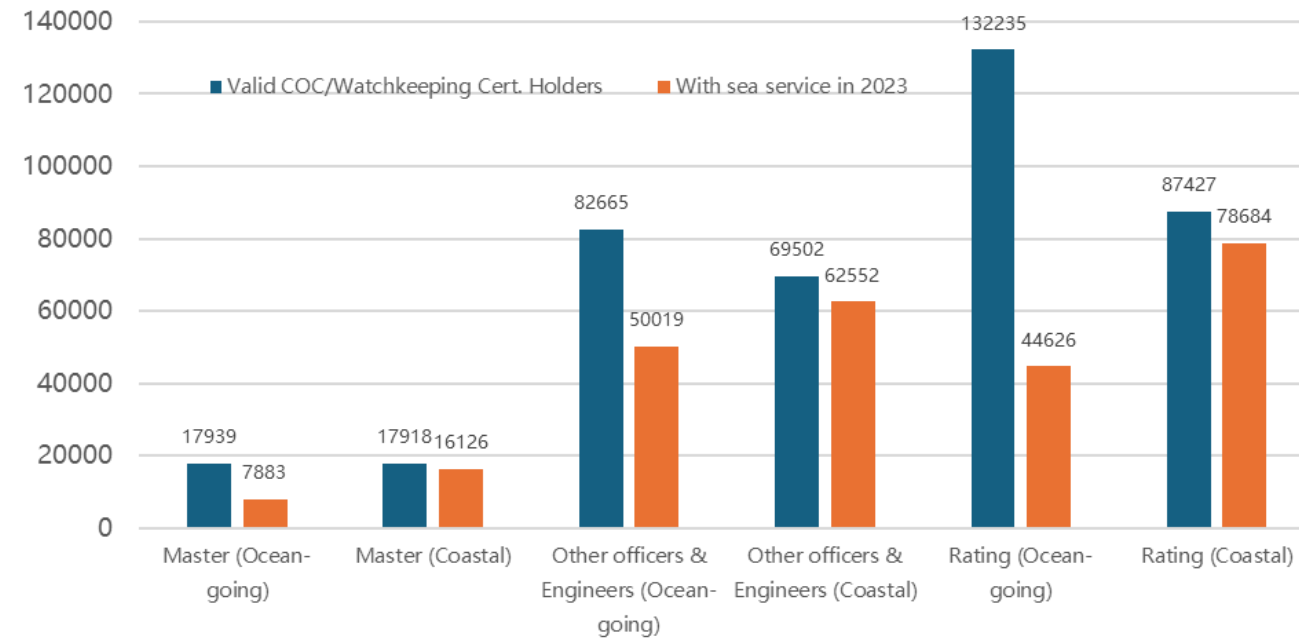
Source: China MSA Seafarers Report 2023

Chinese Seafarers Overseas Deployment

- **295 SRPS** accredited by China MSA
- **143,582** Chinese seafarers overseas deployments in 2023, a year-on-year **increase of 13.3%**
- **Hong Kong SAR, Panama, and Liberia** are the Top 3 Flag Registries for these seafarers

	Overseas Deployment 2023
Masters	7,883
Other Officers & Engineers	50,019
Ratings	44,626
Others (incl. cruise staffs)	41,054
	143,582

Source: China MSA Seafarers Report 2023



Maritime Training & Certification

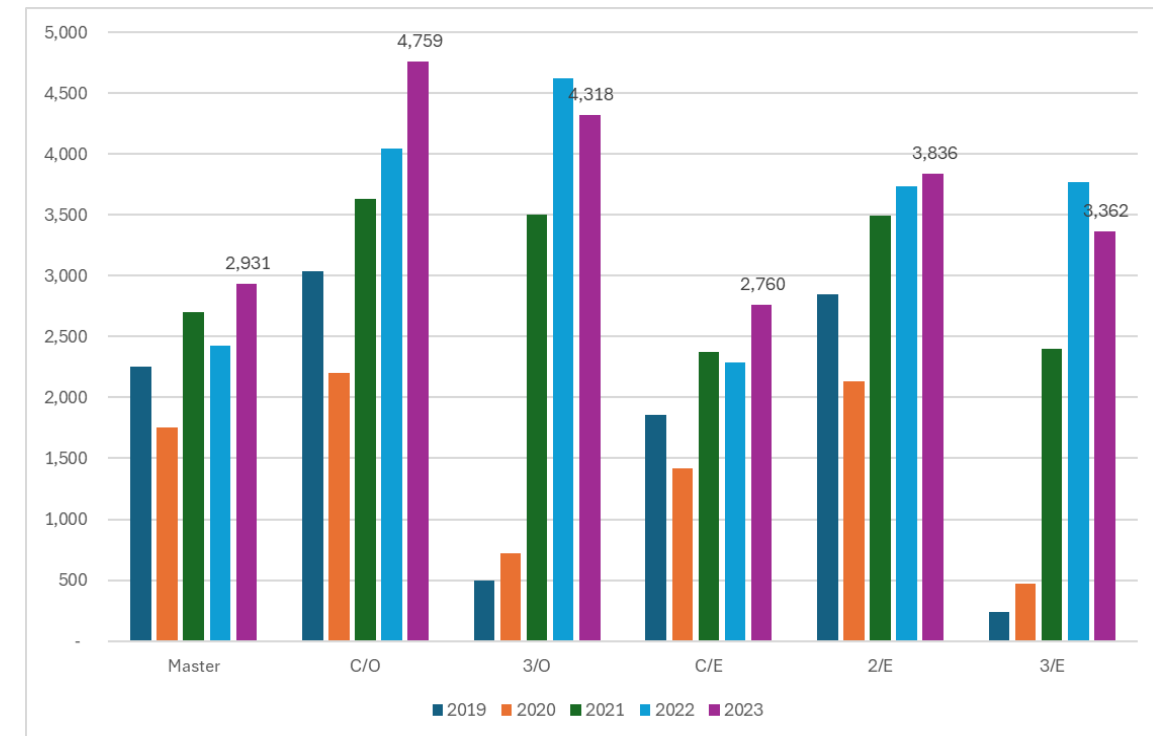
164,235 seafarers – on-the-job training completed in 2023

	Officers COC	Training for Watchkeeping Certificates	Onboard Training	Specialized Training Courses (Passenger, Tanker, Chemical, LPG Ships)	Revalidation Training	Training Courses for Inland Water
Number of Trainees	21,966	26,309	36,472	25,520	6,460	47,508

14,286 senior officers, 65% of COC courses

2019-2023 Number of Seafarers attended COC Training Courses

	2019	2020	2021	2022	2023
Master	2,253	1,756	2,697	2,425	2,931
C/O	3,033	2,201	3,629	4,043	4,759
3/O	499	718	3,502	4,624	4,318
C/E	1,861	1,414	2,375	2,284	2,760
2/E	2,850	2,137	3,492	3,731	3,836
3/E	239	471	2,399	3,771	3,362
Able Seamen	19,944	13,413	22,991	26,532	16,122
Oiler	14,792	8,013	13,568	20,023	9,441
Electrical Technical Rating	84	358	757	731	746
	45,555	30,481	55,410	68,164	48,275



Maritime Examinations & Certification

- **234,030 competency exams** were conducted, a 5.4% year-on-year increase
- **94,529 certificates** issued, a 22.6% year-on-year increase

Statistical Table of the Number of Seafarers Passing the Competency Examination in 2023							Unit: Person
Rank	Ocean-going	Coastal Sea-going	Total	Rank	Ocean-going	Coastal Sea-going	Total
Master	1,777	923	2,700	C/E	1,833	829	2,662
C/O	2,308	1,357	3,665	2/E	2,077	1,054	3,131
2/O	450	49	499	3/E	341	57	398
3/O	3,485	2,746	6,231	4/E	2,049	1,863	3,912
AB	12,274	5,939	18,213	Oiler	7,721	2,518	10,239
GMDSS Operator	7,626	194	7,820	ETO	382	8	390
				ETR	572	24	596
	27,920	11,208	39,128		14,975	6,353	21,328

Statistical Table of the Issuance of Seafarers' Competency Certificates in 2023							Unit: Certificates
Rank	Ocean-going	Coastal Sea-going	Total	Rank	Ocean-going	Coastal Sea-going	Total
Master	5,518	2,994	8,512	C/E	5,412	2,377	7,789
C/O	4,224	2,592	6,816	2/E	3,667	2,209	5,876
2/O	3,839	2,867	6,706	3/E	3,010	1,937	4,947
3/O	2,975	2,873	5,848	4/E	1,855	2,254	4,109
AB	-	831	831	Oiler	-	526	526
GMDSS Operator	3,611	396	4,007	ETO	703	27	730
				ETR	315	17	332
	20,167	12,553	32,720		14,962	9,347	24,309

Source: China MSA Seafarers Report 2023

Demand

- Fleet expansion by Asian owners driving robust demand
- International sectors prefer mixed-crew models
- High demand for LNG dual-fuel officers & engineers
- Intense competition for cadets

Supply

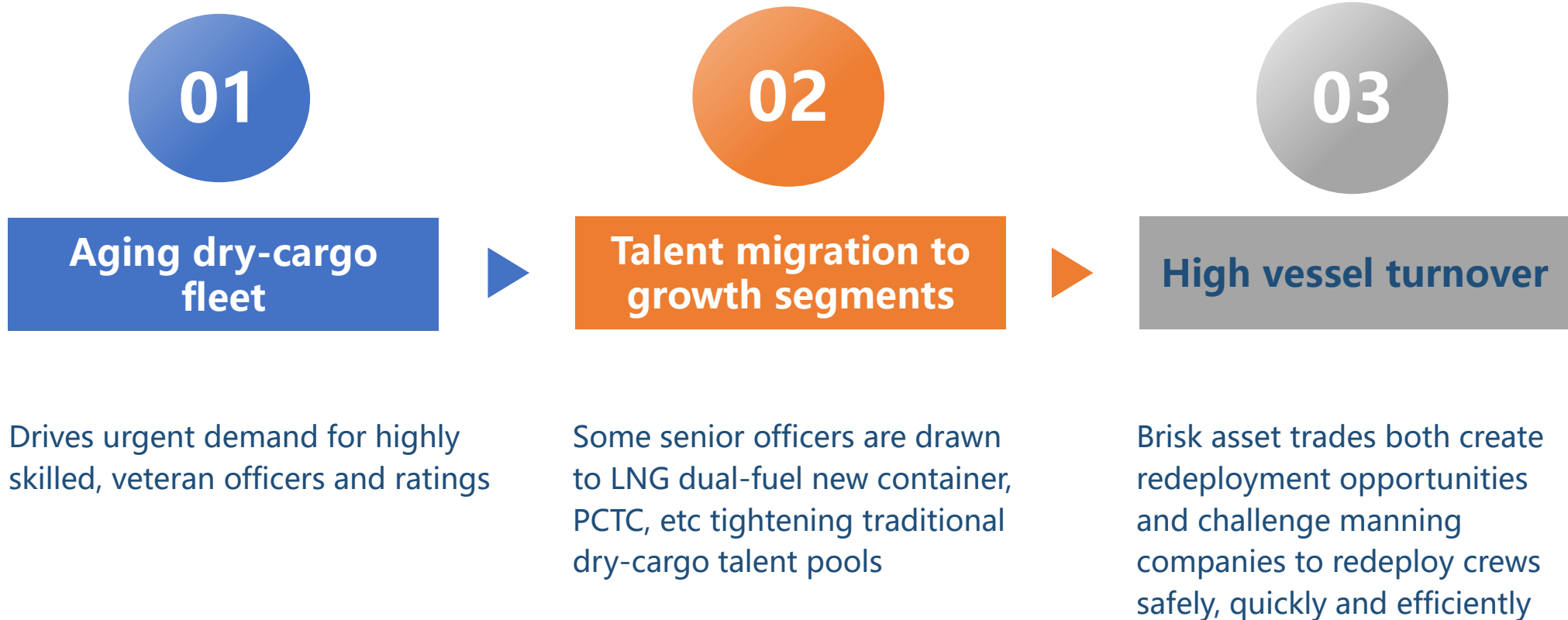
- More candidates due to domestic economic pressures
- Strong cadet output; need to improve English proficiency
- Growth in experienced senior officers & senior engineers

Operational Efficiency

- Crew wages normalized to pre-pandemic levels
- Value assessed beyond wages:
 - ✓ Ship Rightship & PSC performance
 - ✓ Chinese C/E, 2/E' s knowledge and skills in technical problem solving
 - ✓ On-site support in China ports
 - ✓ Saving on crew change cost

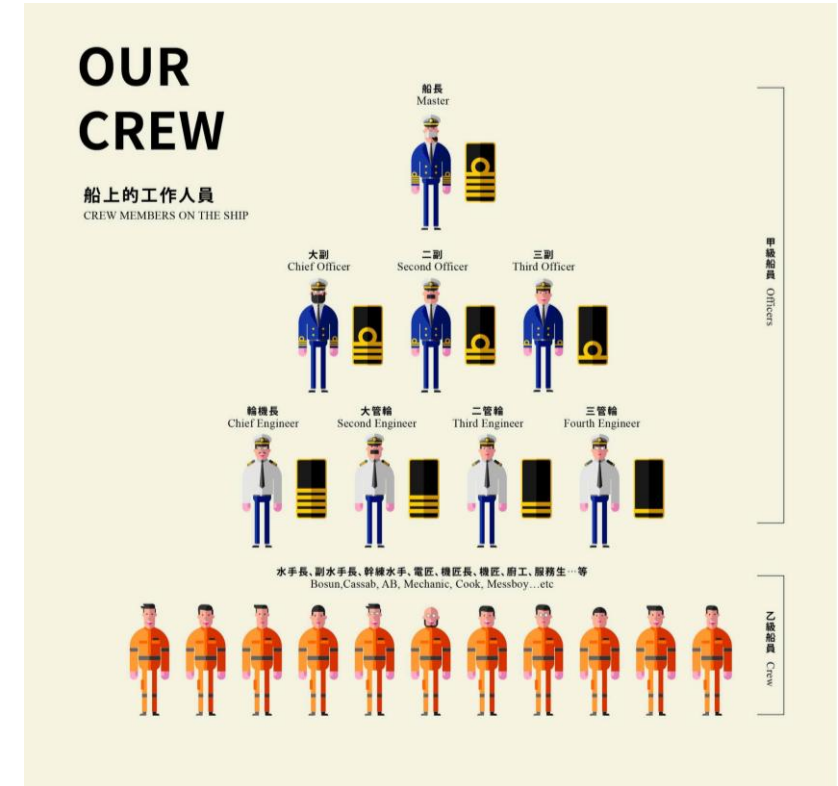
Expanding demand, strengthened talent pipelines, and cost-efficiency focus are reshaping global employment of Chinese seafarers.

Challenges



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Safety Focus

Rightship &
PSC Training
Seminar

Promotion
Assessment
& Training

Safety
Awareness
Training

Ship Handling
Course – For
Large Vessels

Regulatory Compliance

Pre-sea Cadet
training

Pre-joining
Briefing

Customer Company-
Specific KPI

Advanced Equipment
and System

DF IGF Basic
and Advance
Courses

Customized
Training
Courses



New Alliance Marine Training Centre (NAMTC) – an independent business unit



The most preferred Maritime Training Center in China



International Credentials



Maritime R&D



Partnership

- Established in 2009
- **Wuhan, Shanghai, Qingdao, Rizhao**
- USD 13 mil capital investment
- 8,000 sqm training space
- 18 bridge simulators + 4 full mission engine simulators (incl. Dual Fuel)
- 80 faculty and staff
- 100+ shipping clients
- 55,000+ officers trained



- Intelligent Ship R&D Center to develop most advanced simulation exercises – **Digital Twins** (ships, ports, and skills-learning)
- Incorporating the most recent technologies into simulation models and exercises
- **CAPT** – Customization, Assessment, Precision, Training

- SMOU & Wavelink Maritime Institute
- China Classification Society
- CMA CGM Training Center
- China Pilot Stations
- C-LNG Solution
- Yonghe Tech.

NAMTC - A 5-Star training institute accredited by the China MSA for the past 8 years

Leading the New Era of Shipping: The Value of IGF Dual-Fuel Training for Shipowners and Crew



The Flag States recognized IGF Code Basic course (T11) to all crew members and the IGF Code Advanced course (T12) to captains and all engine crew



Wartsila & Kongsberg dual-fuel simulators, with bunkering operation
Shanghai, Qingdao, Wuhan & Beihai (new in 2026)



中华人民共和国
海船船员培训合格证书
CERTIFICATE OF PROFICIENCY FOR SEAFARERS OF
THE PEOPLE'S REPUBLIC OF CHINA

持证人姓名: 宋纪存
Full name of the holder: SONG JICHUN
国籍: China
出生日期: 1968年09月09日 9 Sept. 1968
性别: 男 Male
证书编号: F0A202109926
签发日期: 2023年12月18日 18 Dec. 2023

持证人签名: [Signature]
Signature of the holder: [Signature]

代码	合格证书名称	课程名称	签发日期	有效期至
Prefix	Title of the Certificate(s)	Course	Date of Issue	Date of Expiry
T01	油船和化学品船货物操作基本培训	Basic training for oil and chemical tanker cargo operations	2013/07/18	2033/09/11
T04	液化气船舶货物操作基本培训	Basic training for liquefied gas tanker cargo operations	2013/07/18	2033/09/11
T11	国际公约要求的船上服务基本培训	Cap of basic training for service on ships subject to the IGF Code	2020/05/18	2025/05/18
T12	国际公约要求的船上服务高级培训	Cap of advanced training for service on ships subject to the IGF Code	2021/12/10	2026/12/10
Z05	陆上急救培训	Training in medical first aid	2013/07/18	2033/09/11
Z06	船上急救培训	Training in medical care	2013/07/18	2033/09/11

J 00744720

MARITIME AND PORT AUTHORITY OF SINGAPORE
Merchant Shipping Act (Chapter 176)
Merchant Shipping (Training, Certification and Manning) Regulations
Certificate of Proficiency No. IGF-0000089

CERTIFICATE IN ADVANCED TRAINING FOR SERVICE ON SHIPS SUBJECT TO THE INTERNATIONAL CODE OF SAFETY FOR SHIPS USING GASES OR OTHER LOW-FLASHPOINT FUELS

Based under the provisions of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended.

This is to certify that
WEI DONGBING
has satisfied the requirements of the Merchant Shipping (Training, Certification and Manning) Regulations and Regulation V/3.7 of the above convention.

Expiry date: 17 FEB 2023
Issued on 17 AUG 2022

Director of Marine
[Signature]
CHEAH AUN AUN
DIRECTOR OF MARINE
Maritime and Port Authority of Singapore

Date of birth of the holder: 07 OCT 1972
Country of birth of the holder: CHINA
IC/Passport No.: E31711007

Signature of the holder: [Signature]

Republic of Liberia
CERTIFICATE ISSUED UNDER THE PROVISIONS OF THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED

The Government of Liberia certifies that
JINPENG ZHANG
has been found duly qualified in accordance with the provisions of Regulation V/3 of the above Convention, as amended, and has been found competent to perform the following functions, at the levels specified, subject to any limitations indicated until 31-MAY-27

FUNCTION	LEVEL	LIMITATIONS APPLYING (if any)
MARINE ENGINEERING	MANAGEMENT	VALID FOR SHIPS SUBJECT TO THE IGF CODE ADV. TRAINING PER SECTION A-V/3, PARA 2

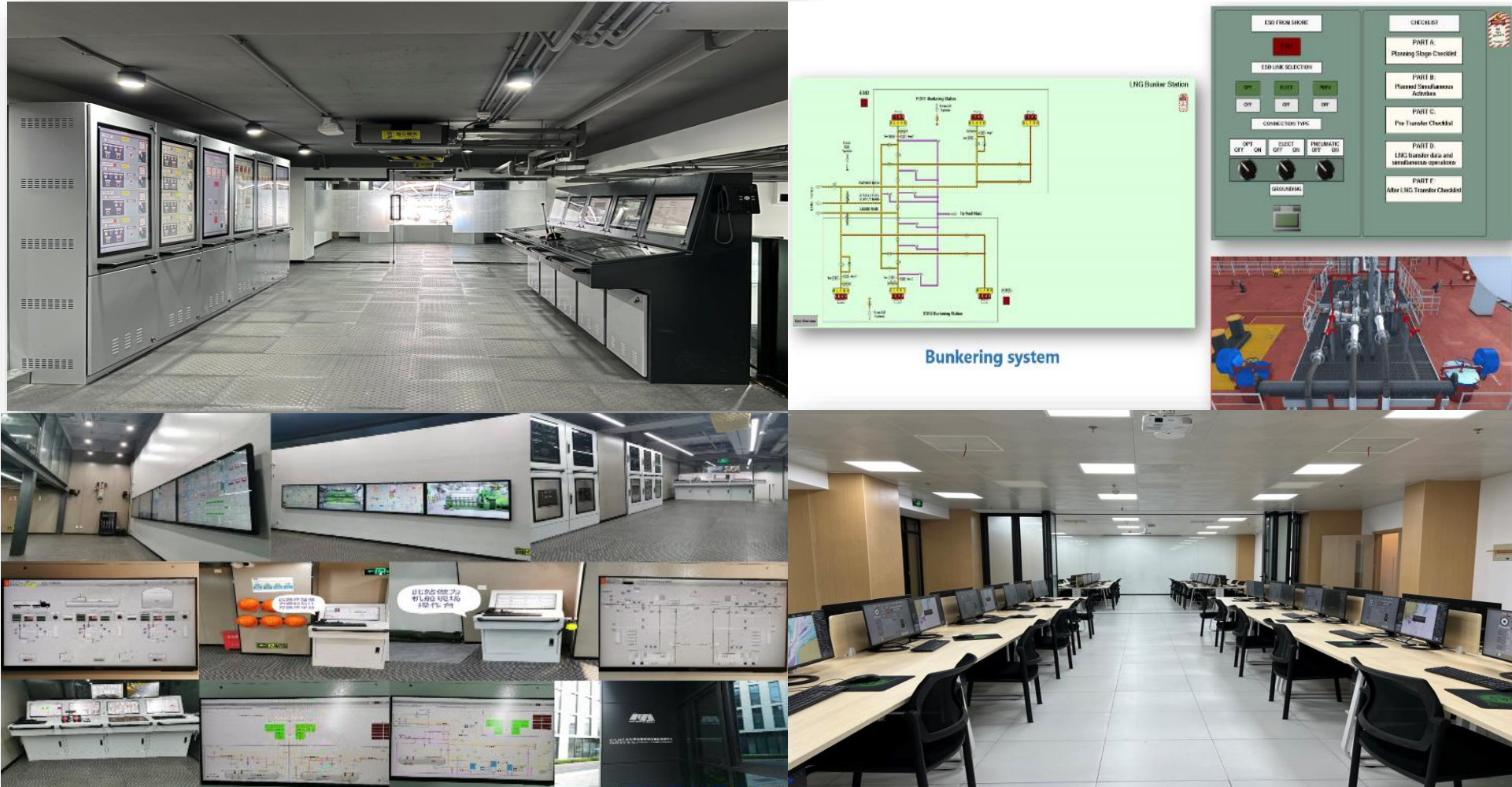
This useful holder of this certificate may serve in the following capacity or capacities as specified in the applicable safe manning requirements of the Administration:

CAPACITY	LIMITATIONS APPLYING (if any)
OFFICER ON BOARD A SHIP SUBJECT TO THE IGF CODE PER STCW REGULATION V/3	VALID FOR IMMEDIATE RESPONSIBILITY OF USE/CARE OF FUELS AND FUELING SYSTEMS

Certificate No. 3818195 Issued On 31-MAY-22 Book No. 1492740 PIN: 1008034

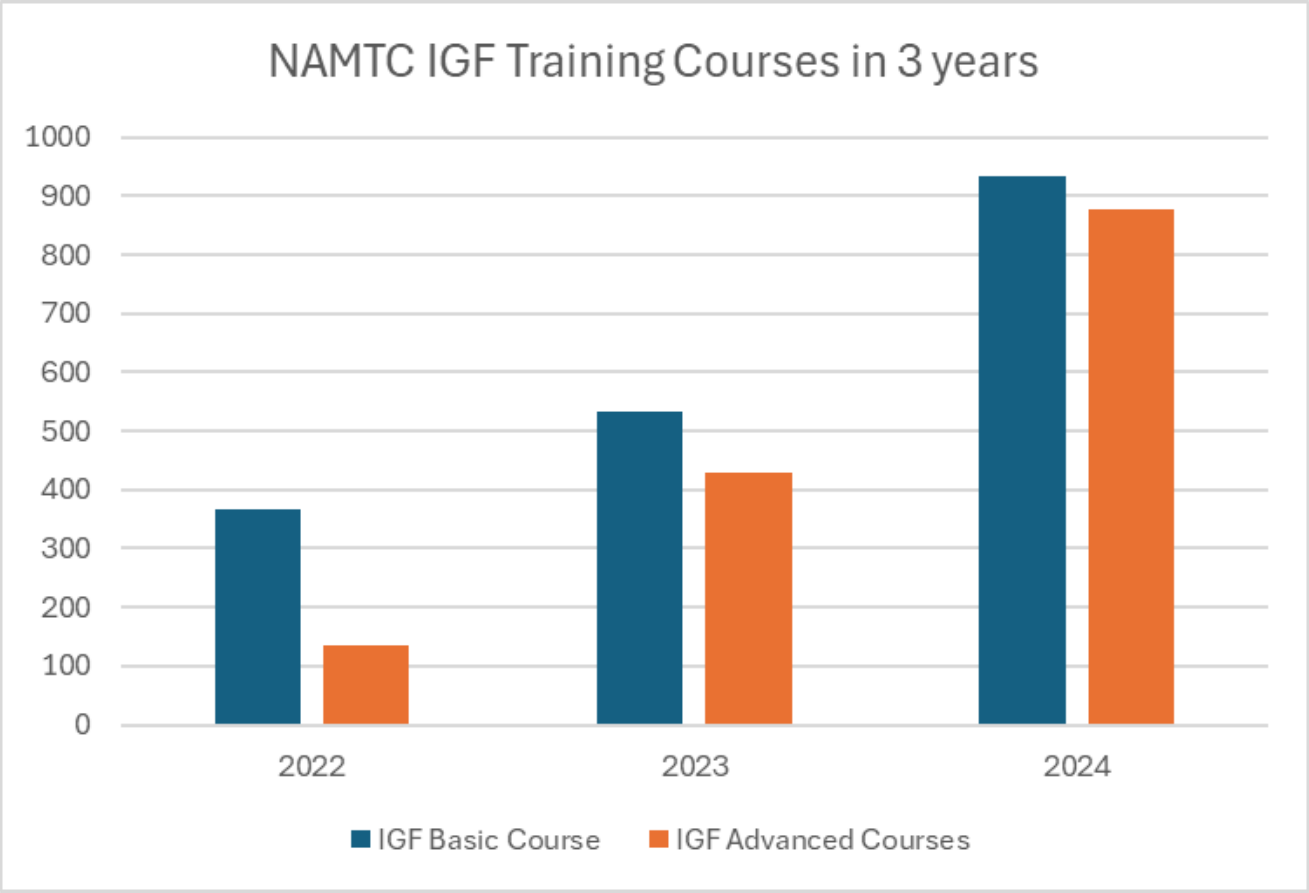
Signature of Seafarer: [Signature]
Signature duly authorized official: [Signature]
ANTHONY T. GREGG, JR.
Name of duly authorized official

Leading the New Era of Shipping: The Value of IGF Dual-Fuel Training for Shipowners and Crew





Wartsila & Kongsberg dual-fuel simulators, with bunkering operation

Shanghai, Qingdao, Wuhan & Beihai (new in 2026)



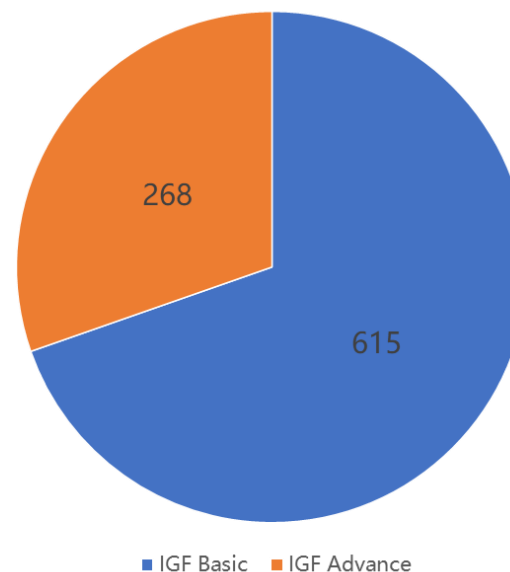
Demand for IGF dual-fuel training has surged in past 3 years, outpacing forecasts and prompting an accelerated scale-up of both basic and advanced courses

Container Fleet Dual-Fuel Transformation: A Blueprint for Dry-Bulk's New-Fuel Readiness

Vessel Size (TEU)	No. of Full PRC manning vessels	No. of Full PRC officers vessels
1000-2000 	9	2
2000-4000	8	-
4000-5000	6	-
5000-7000	6	4
7000-10000		6
10000-15000	-	4
15000+ 	-	2
	29 vessels	18 vessels
	No. of Crew Onboard	Percentage
Mixed crew	1,008	63%
Full PRC manning	593	37%



Holders of IGF certificates



Container Fleet Dual-Fuel Transformation: A Blueprint for Dry-Bulk' s New-Fuel Readiness

Green: LNG power Blue: Methanal power

CMA CGM - Conventional Engine Vessels

No.	Vessel Name	TEUS
1	KUO LIN	1756
2	KUO LONG	1756
3	CMA CGM FLORIDA	5095
4	CMA CGM GEORGIA	5095
5	CMA CGM TARPON	5095
6	CMA CGM WHITE SHARK	5095
7	CMA CGM NINGBO	7831
8	CMA CGM TOSCA	8488
9	CMA CGM RIGOLETTO	9415
10	CMA CGM IVANHOE	9658
11	APL QINGDAO	10106
12	CMA CGM LITANI	10622
13	CMA CGM ZEPHYR	15536
14	APL CHANGI	17292

**CMA CGM allocated vessels with
our Chinese officers**

CMA CGM - Dual Fuel Engine Vessels

No.	Vessel Name	TEUS	Take over time
1	CMA CGM AMBITION	7327	Oct-23
2	CMA CGM INNOVATION	7327	Apr-24
3	CMA CGM PARATY	13000	Apr- 24
4	CMA CGM SAO PAULO	13000	May-24
5	CMA CGM PLATINUM	13000	Jun-25
6	CMA CGM ANTIGONE	15000	Dec-25
7	CMA CGM CARMEN	15000	Mar-26
8	CMA CGM CYRANO	15000	Jun-26
9	CMA CGM LORENZACCIO	15000	Oct -26
10	CMA CGM VENDOME	23000	Apr- 26

PIL- Dual Fuel Engine Vessels

No.	Vessel Name	TEUS	Take over time
1	KOTA EAGLE	14000	Oct-24
2	KOTA EMERALD	14000	Dec-24
3	KOTA EBONY	14000	Feb-25
4	KOTA EMBUN	14000	Mar-25

**PIL allocated DF vessels with
Chinese officers**

Talent Development Strategy

- **Collaborate** with accredited training institutions that offer advanced simulators, comprehensive curricula and proven performance tracking
- **Launch** a full-cycle crew development program with a two-year lead time to build a loyal, high-caliber dual-fuel workforce
- **Engage** manning partners to optimize crew deployment, rotation and retention—boosting vessel safety and operational efficiency
- **Deliver** targeted upskilling modules for critical roles (e.g., chief engineers) to ensure operation safety, technical competence, and regulatory compliance

KEYS

- Quality Training Infrastructure, Trainers' Experience and Capability
- Crew Resource and Capability
- Advanced Planning and Collaboration

Your Local and Global Partner for Maritime Talent Solutions!

LIU Shi Jun | CEO | Sinocrew Maritime

E: jun@sinocrew.com

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- **Overseas offices:** Tokyo, Yangon