



2026年 第1周市场周报

Contents

第一部分

航运安全 SHIPPING SAFETY

第二部分

航运数据 SHIPPING DATA

第三部分

航运市场 SHIPPING MARKET

第四部分

运力分布 SUPPLY DISTRIBUTION

第五部分

远期运价协议 FFA

第六部分

燃油价格 BUNKER PRICE

第七部分

最新商品价格 LATEST COMMODITIES PRICE

第八部分

本周话题 WEEKLY TOPIC

租船AI是一款利用大模型技术自动整理船货盘邮件、快速检索公开/私密船盘与货盘，并帮助您更高效发布信息的智能工具。
Chartering AI is an AI-powered tool that automatically organises tonnage and cargo circulars, enables fast search and filtering, and helps you publish open tonnage or cargo requirements with ease.

主要用途Key benefits:

- 01** 每天收到大量船货盘邮件，阅读工作量大，找船特别费时。HiFleet租船AI使用大模型技术帮您整理船货盘邮件，能高效检索船盘与货盘。
Automatically structures tonnage/cargo emails for efficient review.
- 02** 按区域、港口附近智能检索船盘与货盘。Smart search by region or port proximity.
- 03** 自动识别发件人角色（船东/OP/经纪人）。Identifies sender type (Owner/Operator/Broker).
- 04** 标注 PSC 风险、制裁风险、吊机、舱口等关键技术信息。Tags key technical & risk fields (PSC, sanctions, cranes, hatch specs, etc.).
- 05** 支持公开与私密两种模式，适用于不同公司需求。Supports both Public and Private modes for different confidentiality needs.
- 06** 按港口多维度筛选预抵船舶，快速锁定目标船舶。Expected Arriving Vessels with multi-dimensional filters for quick targeting.

Expected Arrivals Screening

Public or private service modes

AI analysis of cargo & tonnage offers chartering emails

Fast search & filtering of cargo/tonnage offers

Search cargo & tonnage offers by port & its nearby

HiFleet

LLM AI Shipping Chartering Tool

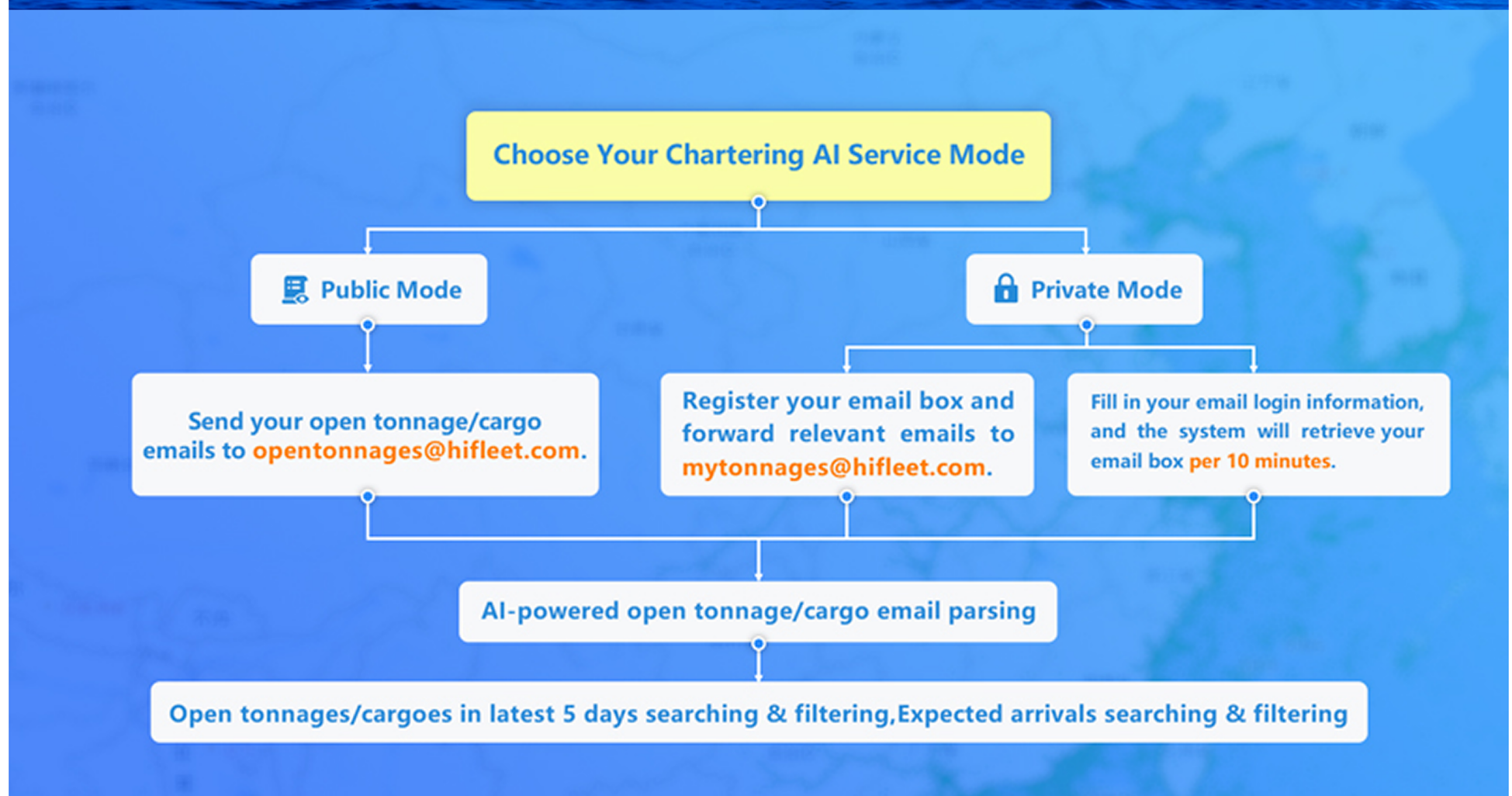
Basic authenticity screening for tonnage offers

Sanctions-risk alerts for tonnage offers

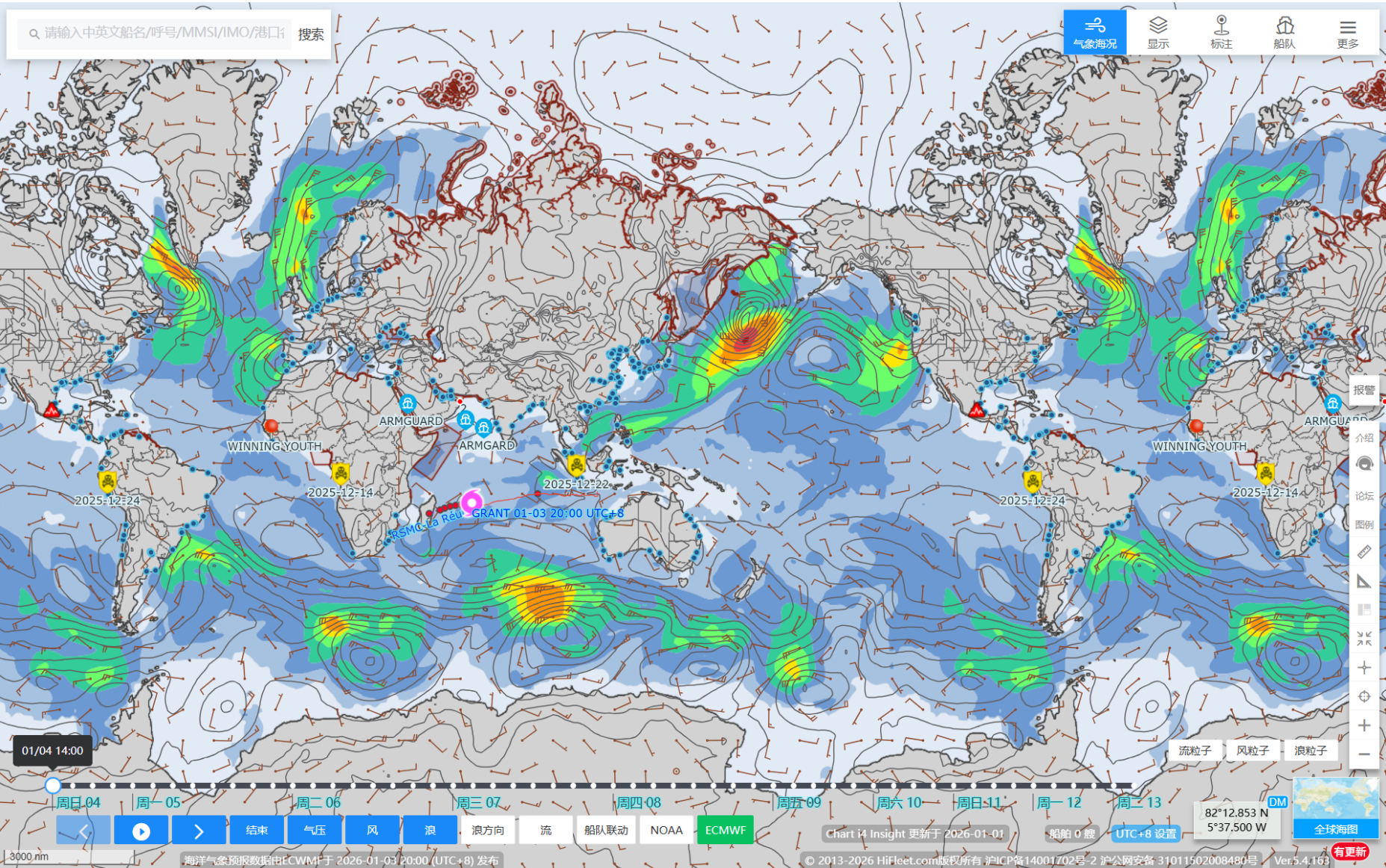
Basic analysis of 3-year vessel performance (speed/consumption)

Port-of-call country tags (e.g., CIS, AU, BH)





第一部分 航运安全 SHIPPING SAFETY



航行警告 Navigation Warning

HiFleet显示全球目前有效的航行警告有1444个，远东和环加勒比海居多，请相关水域船舶注意航行警告内容。There are currently 1444 navigational warnings in effect around the ocean on hiFleet with the Far East and around the coastal of Caribbean Sea still being the majority. Please pay attention to the navigational warnings in relevant waters.

航海气象 Meteorology

未来一周中国渤海海域风力3-6级，下半周风力增强，有中浪；黄海风力3-5级，有中浪；东海风力3-6级，有大浪；台湾海峡5-6级风，有中浪；南海大部海域风力5-6级，大浪。太平洋北部和北大西洋的低气压都开始变得活跃。The coming week the wind in Bohai Sea will become strong with moderate sea. Yellow Sea is fresh with moderate sea. And China East Sea will become strong with rough sea. The wind in the Taiwan Strait is strong with rough sea. In most of the South China Sea the wind will stay strong with very rough sea. The low pressure activities become frequent both in North of Pacific and Atlantic.

海盗事件 Piracy

最近一周没有海盗事件报告。There is no piracy reports for the latest week.

海上事件 Marine Incidents

2025年12月30日，丹麦的克里斯蒂安尼亚天然气公司已成功将 9 名被海盗劫持的船员安全送回。这些船员于 12 月 3 日在西非海域的一艘液化石油气运输船上遭劫持。艾泽恩家族控制的克里斯蒂安尼亚公司在周一发布的一份声明中表示，这些船员已与家人取得联系，并将被送回各自的祖国与家人团聚。Denmark's Christiania Gas has secured the safe return of nine crew members who were kidnapped by pirates from an LPG carrier off West Africa on 3 December. Eitzen-family controlled Christiania said in a prepared statement on Monday that the men have been in touch with their families and are being repatriated to their respective homelands to see them.

其它 Others

没有 Nil

备注 Remark

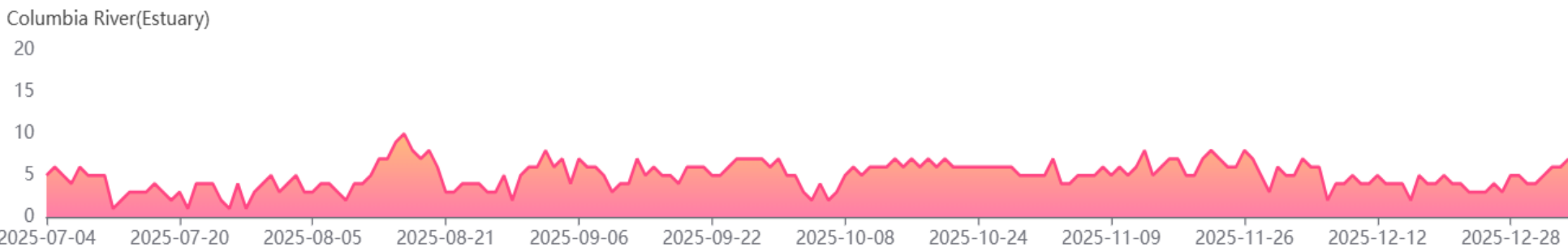
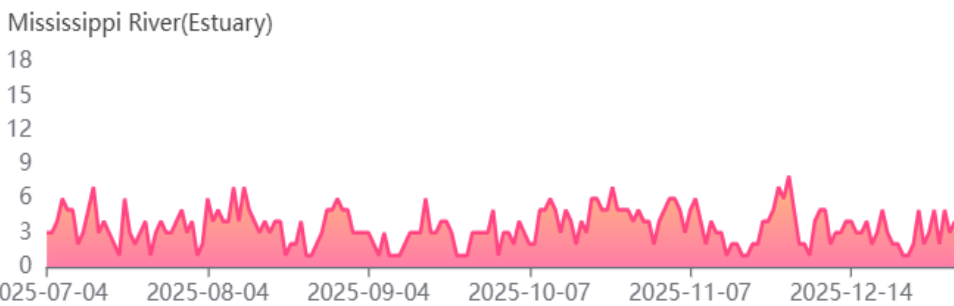
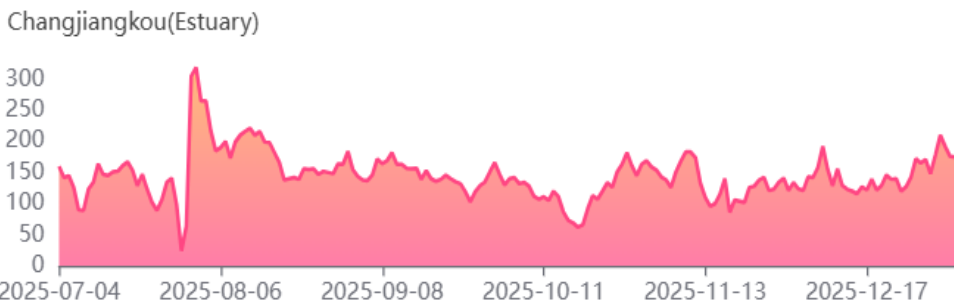
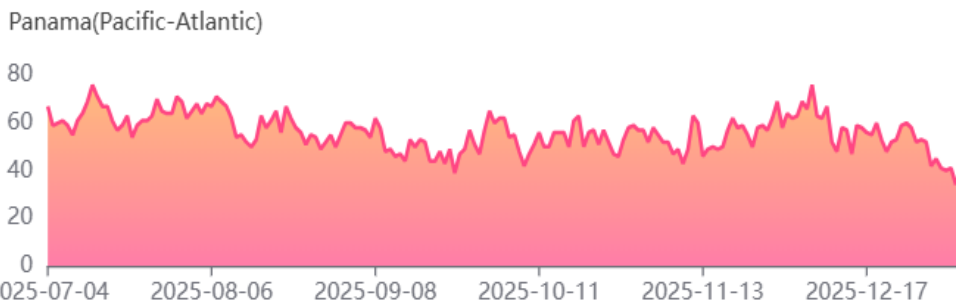
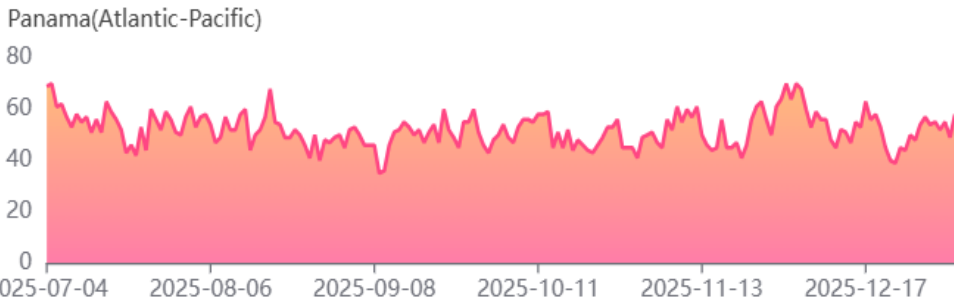
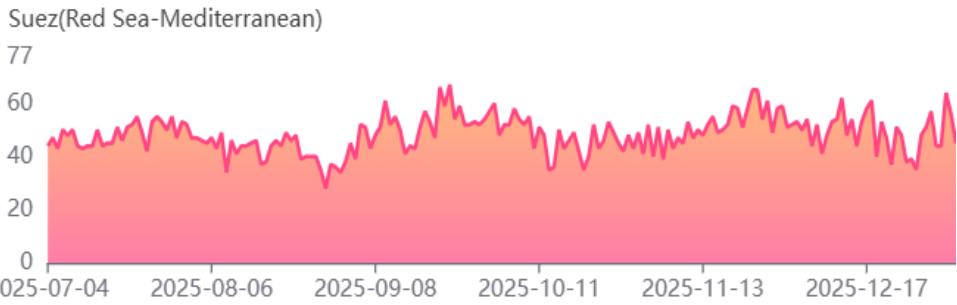
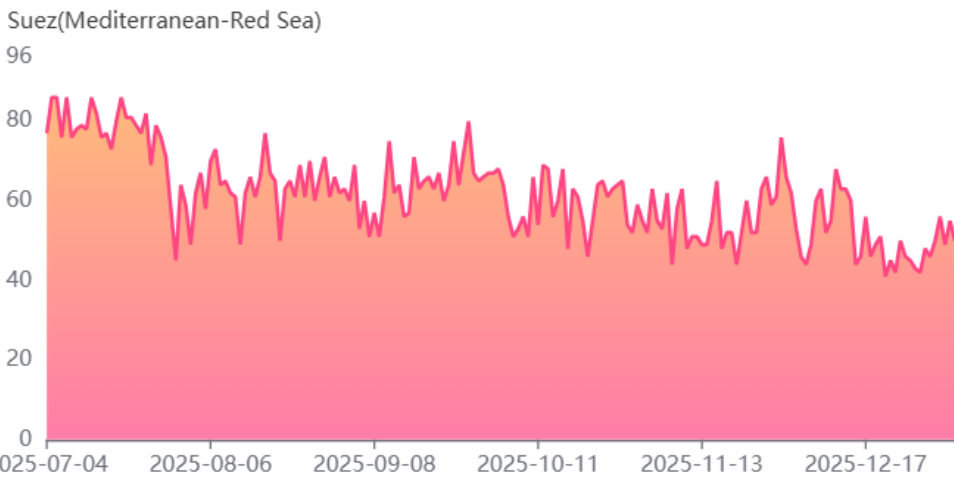
本报告数据截止时间为2026年1月4日北京时间17点；所有数据和或观点仅供参考，在任何情况下本公司及其员工不承担任何风险。The data deadline for this report is Beijing time 17 hours on Jan 04th of 2025; All data and/or opinions are for reference only and under no circumstances do the Company and its employees assume any risk.

第二部分 航运数据 SHIPPING DATA

最近一周船舶运河/河口锚地等待数量

Latest Week Update Vessel Waiting Numbers Information in Anchorages of Canals and Rivers

Canal/Riv.	P.N.	M.N.	WoW	MoM
Suez.Red	45	1425	66	-69
Miss.Riv.	4	81	13	-4
CJK	175	4318	264	690
Pa.Atlan.	58	1497	69	-56
Colum.Riv.	7	124	13	-39
Suez.Med.	50	1484	42	-64
Pa.Pac.	34	1525	-87	-101
ZJK	88	3413	-89	55

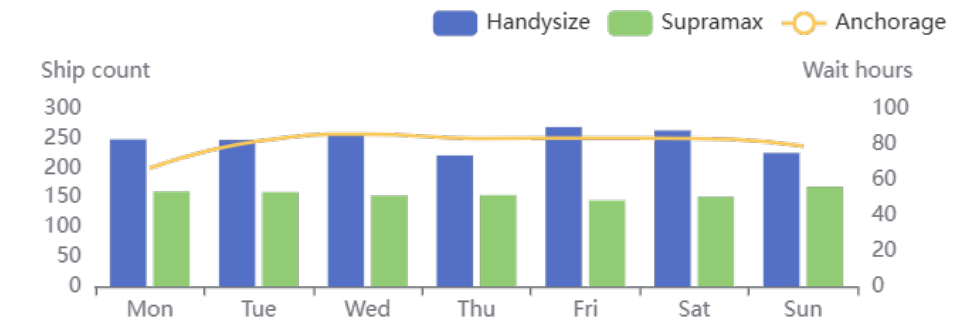


(P.N-Present Number; M.N.-Month Number; WoW-Week on Week; MoM-Month on Month)

最近一周中国区域超大灵便型散货船和灵便型散货船舶锚泊数量和平均锚泊时长

Latest Week Update for Supra and Handy Num. and Waiting Time Information in Anchorages of China

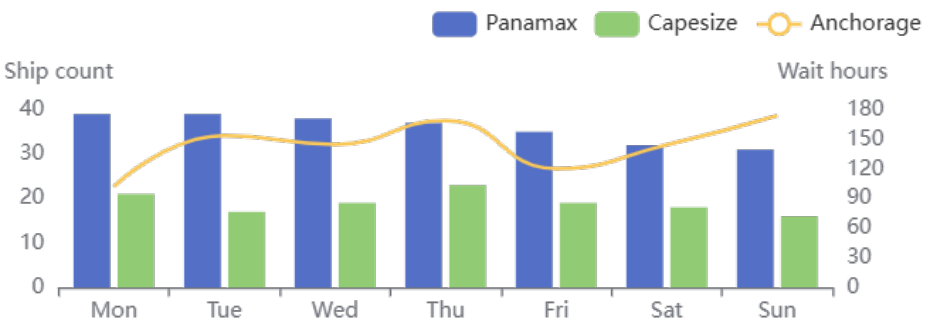
Type	M	T	W	Th	F	Sat	Sun
HDY	248	247	255	221	269	263	225
SMX	160	159	153	154	145	151	168
WT.h.	66.5	81.8	85.7	83.3	83.35	83.3	79



最近一周巴西区域好望角型和巴拿马型散货船舶锚泊数量和平均锚泊时长

Latest Week Update for Capesize and Panamax Num. and Waiting Time Information in Anchorages of Brazil

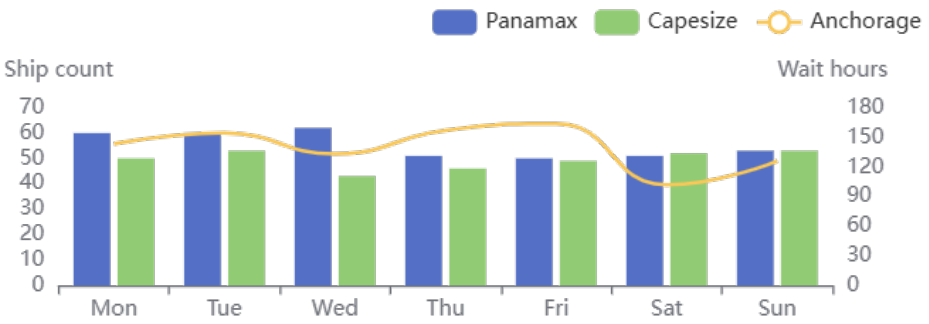
Type	M	T	W	Th	F	Sat	Sun
Pan.	39	39	38	37	35	32	31
Cap	21	17	19	23	19	18	16
WT.h.	102.1	153.8	144.9	168.9	120.3	144.3	174



最近一周澳大利亚区域好望角型和巴拿马型散货船舶锚泊数量和平均锚泊时长

Latest Week Update for Capesize and Panamax Num. and Waiting Time Information in Anchorages of Australia

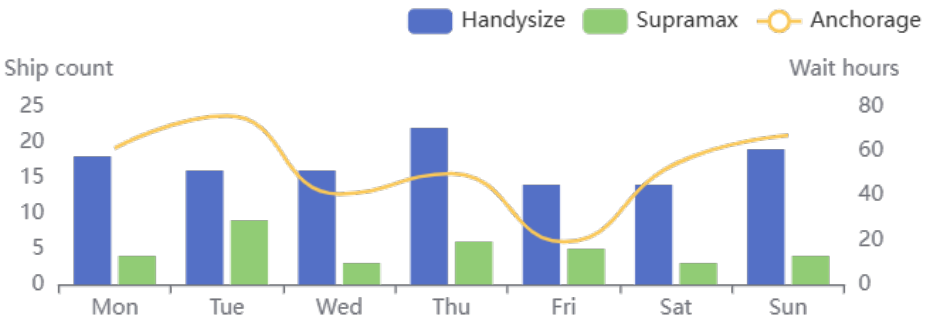
Type	M	T	W	Th	F	Sat	Sun
Pan.	60	60	62	51	50	51	53
Cap	50	53	43	46	49	52	53
WT.h.	143.4	154.3	133.1	157.1	163.9	101.8	126



最近一周黑海区域超大灵便型散货船和灵便型散货船舶锚泊数量和平均锚泊时长

Latest Week Update for Supra & Handy Num. and Waiting Time Information in Anchorages of Black Sea

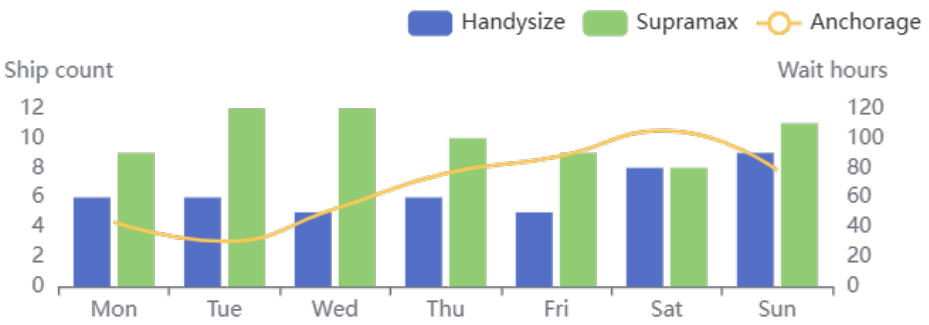
Type	M	T	W	Th	F	Sat	Sun
HDY	18	16	16	22	14	14	19
SMX	4	9	3	6	5	3	4
WT.h.	61.4	75.9	40.7	49.85	19.2	54.4	67



最近一周美湾区域超大灵便型散货船和灵便型散货船舶锚泊数量和平均锚泊时长

Latest Week Update for Supra and Handy Num. and Waiting Time Information in Anchorages of US Gulf

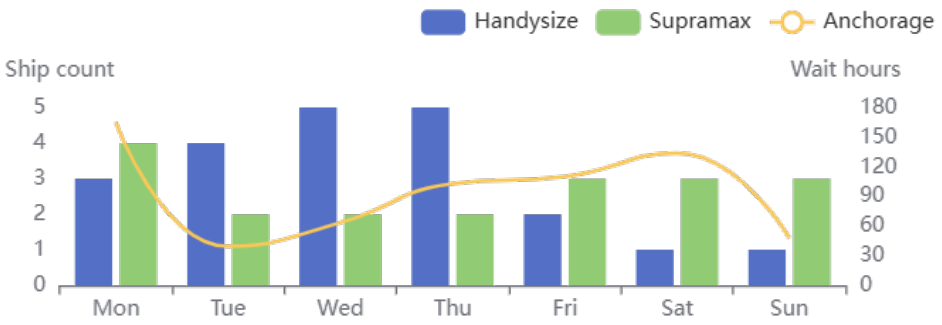
Type	M	T	W	Th	F	Sat	Sun
HDY	6	6	5	6	5	8	9
SMX	9	12	12	10	9	8	11
WT.h.	43.4	30.5	52.4	76.4	87.3	105.1	78.5



最近一周拉普拉特河区域超大型散货船和灵便型散货船舶锚泊数量和平均锚泊时长

Latest Week Update for Supra and Handy Num. and Waiting Time Information in Anchorages of Plate River

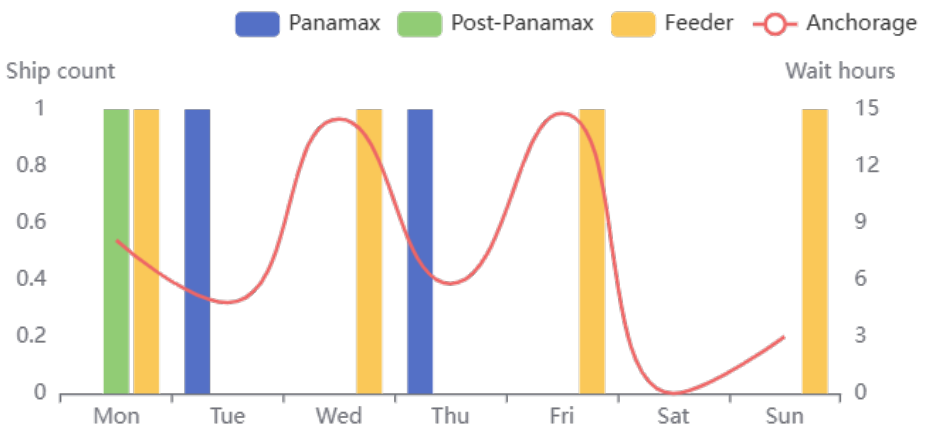
Type	M	T	W	Th	F	Sat	Sun
HDY	3	4	5	5	2	1	1
SMX	4	2	2	2	3	3	3
WT.h.	165.1	39.5	63.5	103.1	110.1	134.1	48



最近一周香港区域集装箱船锚泊数量和平均等待时长

Latest Week Update for Container Vessels Num. and Waiting Time Information on Anchorages of HongKong

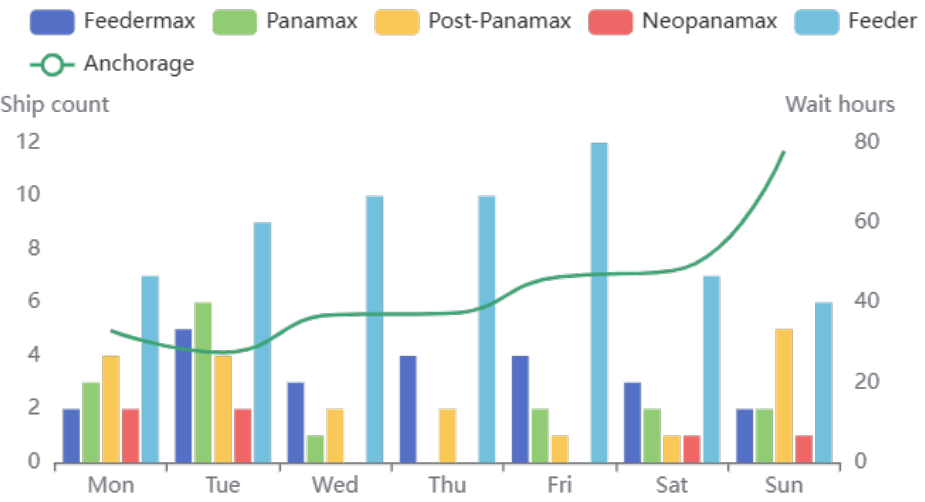
Type	M	T	W	Th	F	Sat	Sun
F.ma.	0	0	0	0	0	0	0
Pan.	0	1	0	1	0	0	0
PPx	1	0	0	0	0	0	0
NPx	0	0	0	0	0	0	0
Fd	1	0	1	0	1	0	1
WT.h.	8.1	4.8	14.5	5.8	14.8	0.0	3
Ulcw	0	0	0	0	0	0	0



最近一周上海区域集装箱船锚泊数量和平均等待时长

Latest Week Update for Container Vessels Num. and Waiting Time Information in Anchorages of Shanghai

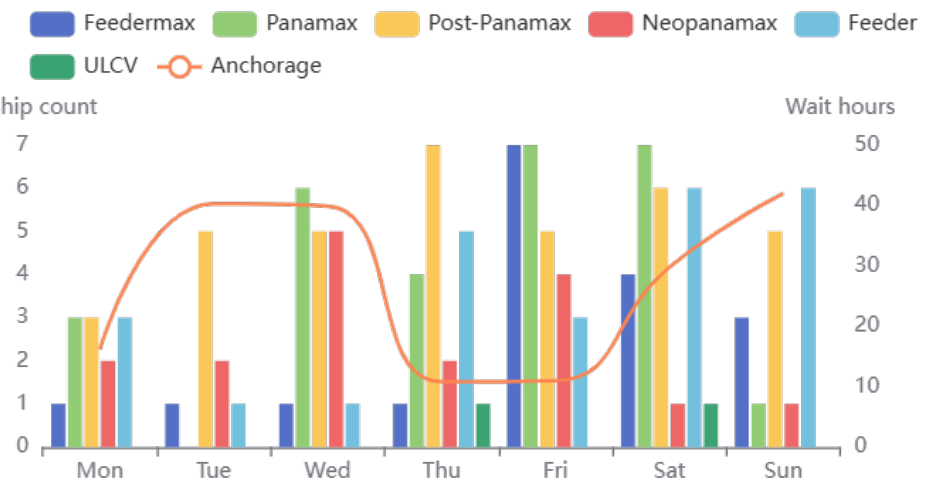
Type	M	T	W	Th	F	Sat	Sun
F.ma.	2	5	3	4	4	3	2
Pan.	3	6	1	0	2	2	2
PPx	4	4	2	2	1	1	5
NPx	2	2	0	0	0	1	1
Fd	7	9	10	10	12	7	6
Ulcw	0	0	0	0	0	0	0
WT.h.	33	27.6	37	37.3	46.5	48	78



最近一周新加坡区域集装箱船锚泊数量和平均锚泊时长

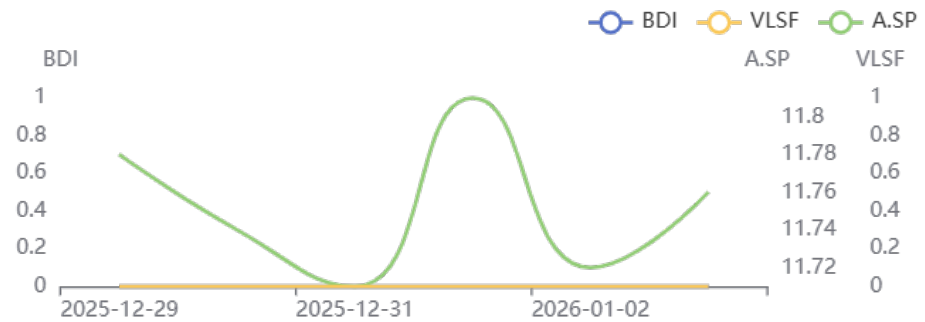
Latest Week Update for Container Vessels Num. and Waiting Time Information in Anchorages of Singapore

Type	M	T	W	Th	F	Sat	Sun
F.ma.	1	1	1	1	7	4	3
Pan.	3	0	6	4	7	7	1
PPx	3	5	5	7	5	6	5
NPx	2	2	5	2	4	1	1
Fd	3	1	1	5	3	6	6
Ulcw	0	0	0	1	0	1	0
WT.h.	16.2	40.3	39.9	10.8	11	29.8	42



最近一周空载散货船平均航速Latest Weekly Average Speed for Bulkers during Ballast Voyage

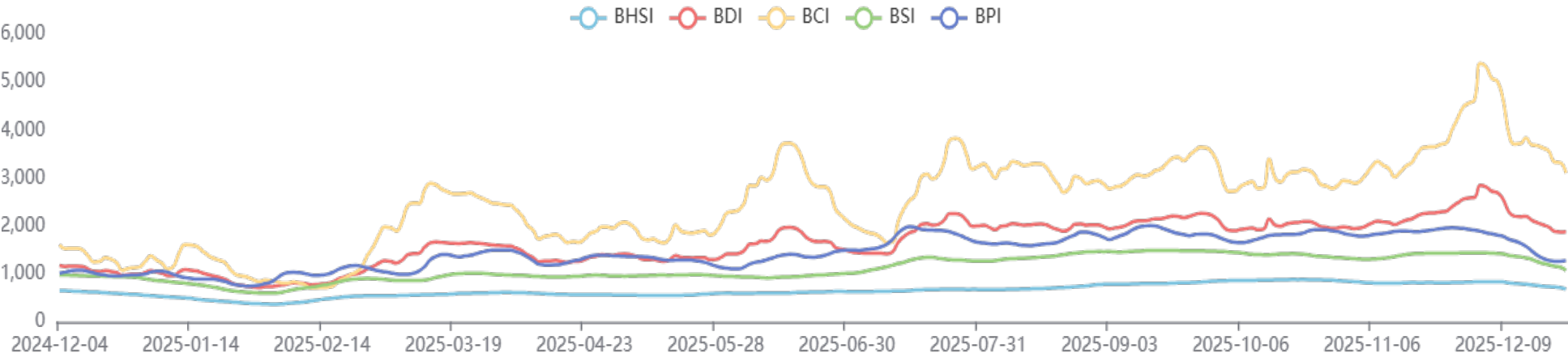
Type	M	T	W	Th	F	Sat	Sun
BDI	0	0	0	0	0	0	0
VLSF	0	0	0	0	0	0	0
A.SP	11.78	11.74	11.71	11.81	11.72	11.76	



第三部分 航运市场 SHIPPING MARKET

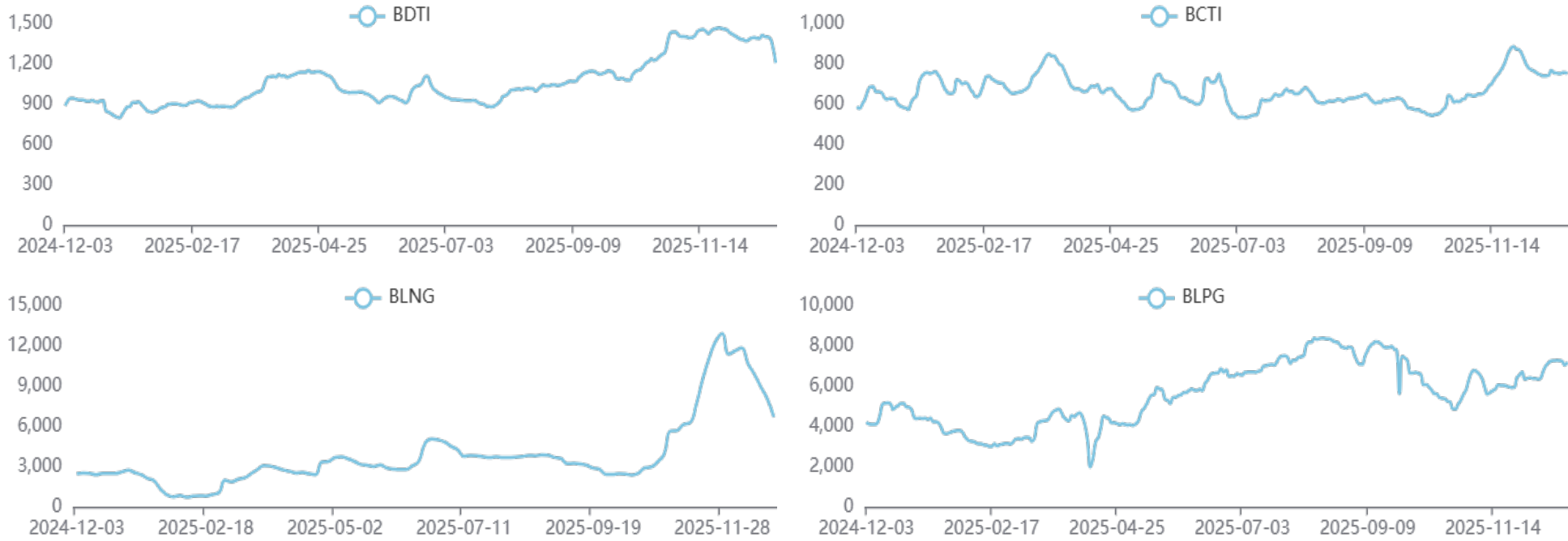
波罗的海干散货指数Baltic Dry Index

Type	PI	WoW	W%	M%	y%
BDI	1882	5.0	0.27	-30.99	82.9
BCI	3108	-211.0	-6.36	-38.86	146.47
BPI	1282	15.0	1.18	-30.21	28.2
BSI	1076	-68.0	-5.94	-25.07	19.69
BHSI	685	-34.0	-4.73	-18.55	23.65

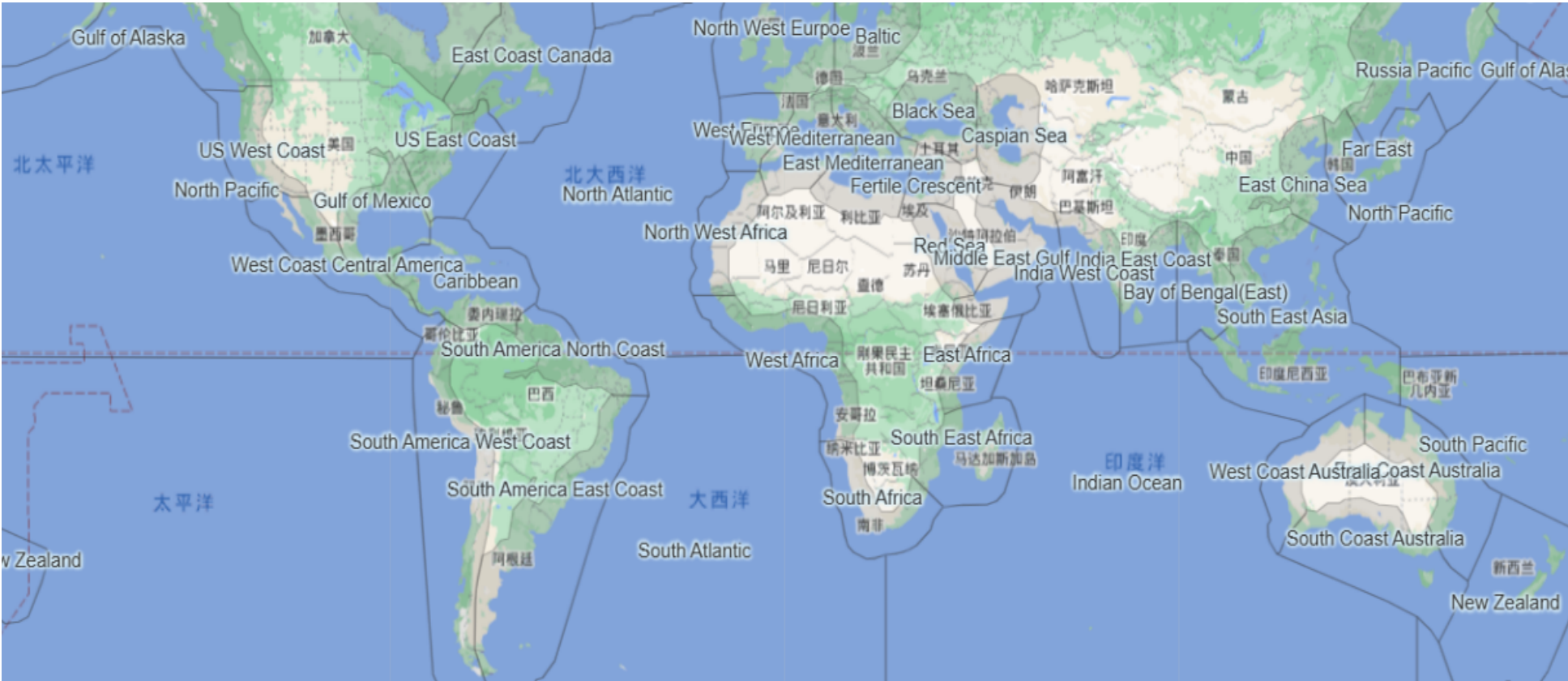


能源运价指数Energy Shipping Index

Type	PI	WoW	W%	M%	y%
BDTI	1207	-112.0	-8.49	-12.79	41.5
BCTI	752	-5.0	-0.66	-2.21	24.92
BLNG	6693	-1327.0	-16.55	-42.37	157.13
BLPG	7181	146.0	2.08	12.7	44.84



第四部分 运力分布 SUPPLY DISTRIBUTION

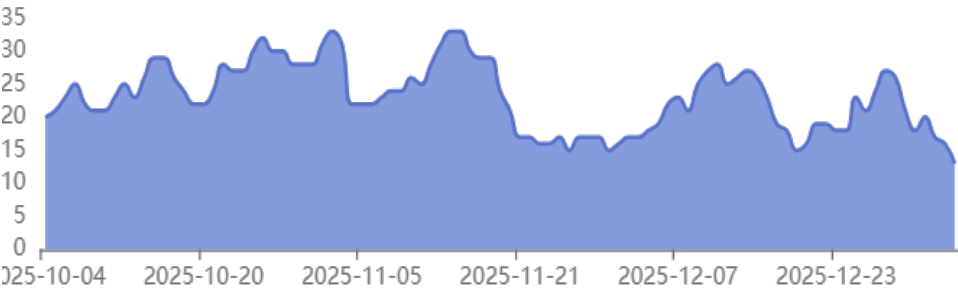


好望角型散货船 Capesize

区域：巴西，最近一周好望角型散货船准备装货船舶数量

Area: Brazil, The latest week update number for Capesize with cargo loading intention.

Type	M	T	W	Th	F	Sat	Sun
Cape	26	21	18	20	17	16	13



区域：南非，最近一周好望角型散货船准备装货船舶数量

Area: South Africa, The latest week update number for Capesize with cargo loading intention.

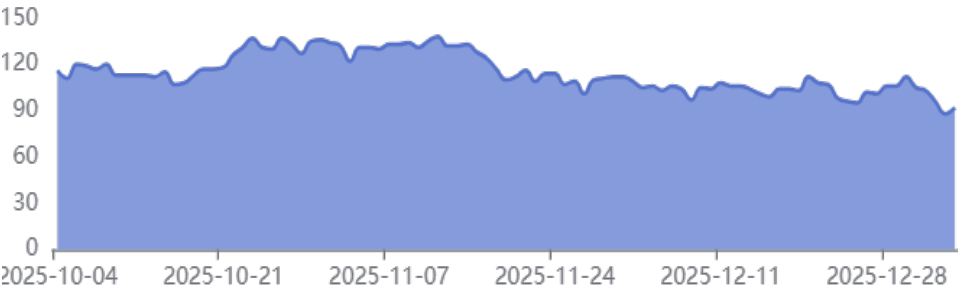
Type	M	T	W	Th	F	Sat	Sun
Cape	30	28	28	30	31	30	23

巴拿马型散货船 PANAMAX

区域：南美北部和东部。最近一周巴拿马型散货船准备装货船舶数量。

Area: South America. The latest week update number for Panamax with cargo loading intention.

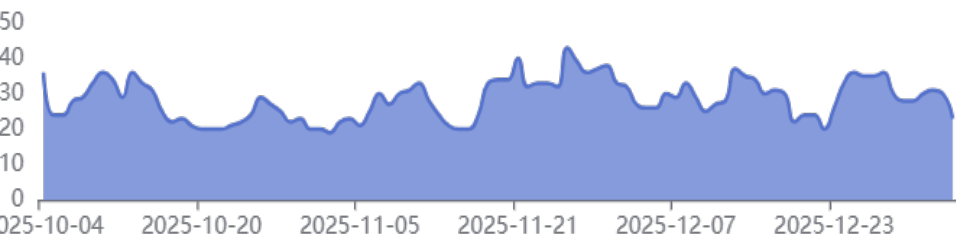
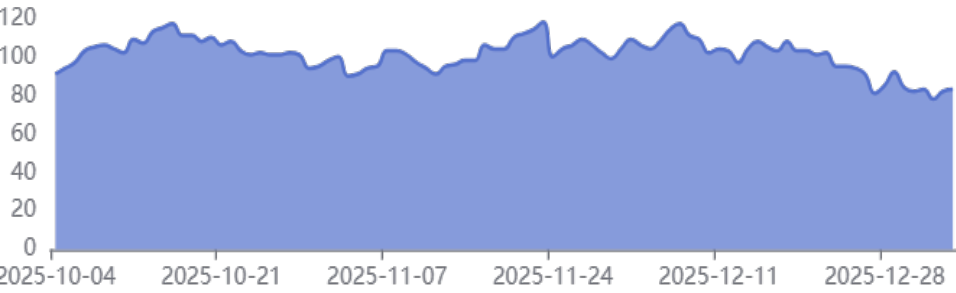
Type	M	T	W	Th	F	Sat	Sun
Pan.	106	112	105	103	96	88	92



区域：澳大利亚。最近一周好望角型散货船准备装货船舶数量。

Area: Australia. The latest week update number for Capesize with cargo loading intention.

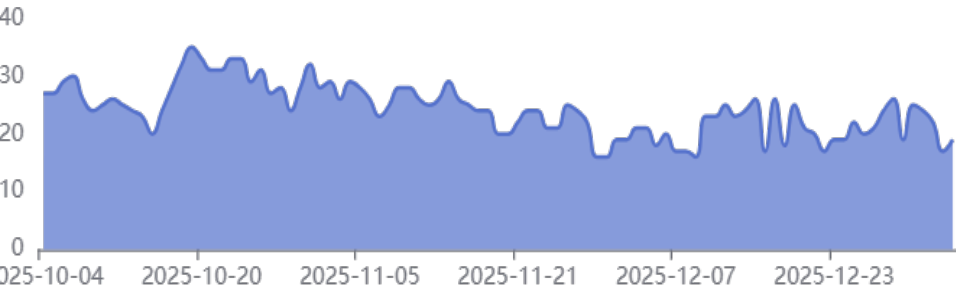
Type	M	T	W	Th	F	Sat	Sun
Cape	92	84	82	83	78	82	83



区域：黑海。最近一周巴拿马型散货船准备装货船舶数量。

Area: Black Sea. The latest week update number for Panamax with cargo loading intention.

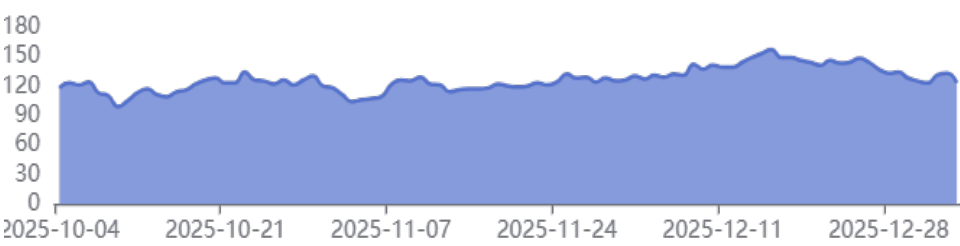
Type	M	T	W	Th	F	Sat	Sun
Pan.	6	6	8	12	12	14	14



区域：澳大利亚。最近一周巴拿马型散货船准备装货船舶数量。

Area: Australia. The latest week update number for Panamax with cargo loading intention.

Type	M	T	W	Th	F	Sat	Sun
Pan.	134	128	125	123	131	133	123

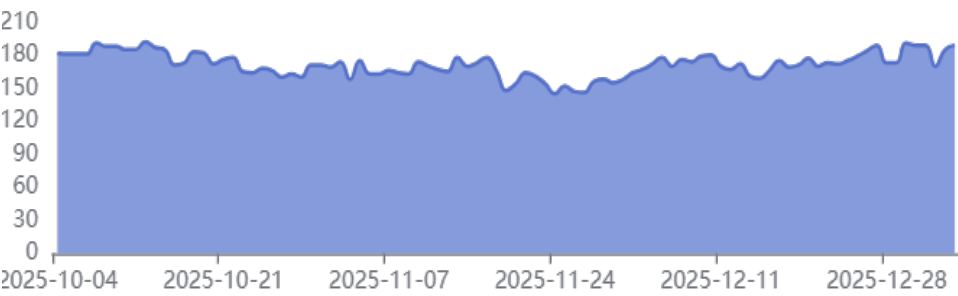


超大灵便型散货 SUPRAMAX

区域：北中国。最近一周超大灵便型散货船准备装货船舶数量。

Area: North China. The latest week update number for Supramax with cargo loading intention.

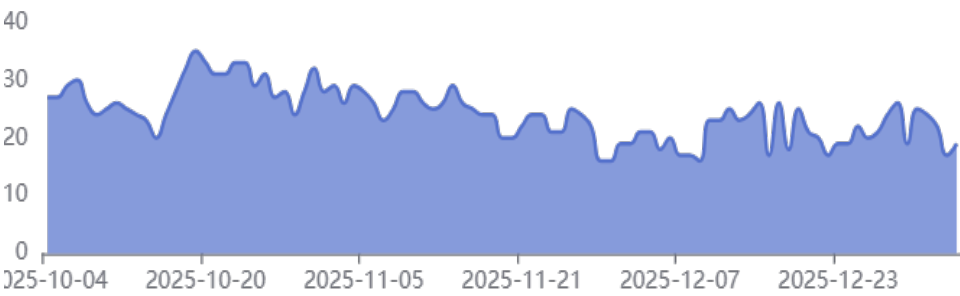
Type	M	T	W	Th	F	Sat	Sun
SMX	173	191	189	189	170	185	189



区域：黑海。最近一周巴拿马型散货船准备装货船舶数量。

Area: Black Sea. The latest week update number for Panamax with cargo loading intention.

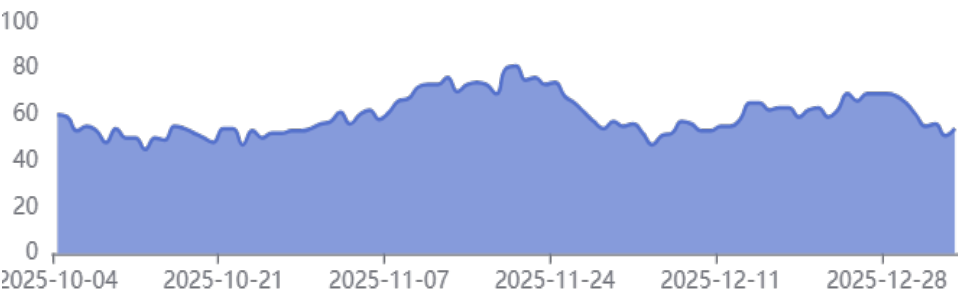
Type	M	T	W	Th	F	Sat	Sun
SMX	26	19	25	24	22	17	19



区域：美湾。最近一周超大灵便型散货船准备装货船舶数量。

Area: US Gulf. The latest week update number for Supramax with cargo loading intention.

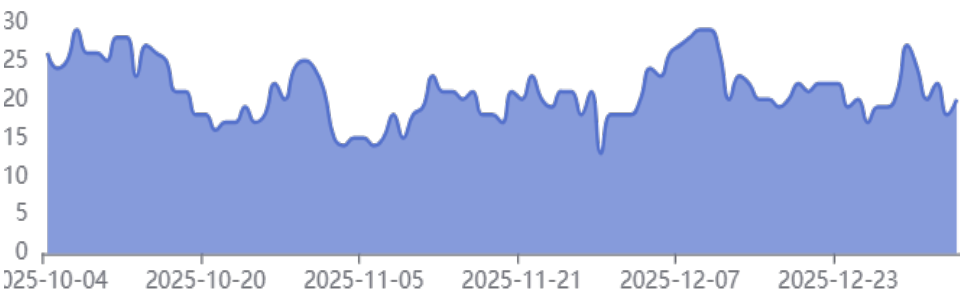
Type	M	T	W	Th	F	Sat	Sun
SMX	21	27	24	20	22	18	20



区域：南美的北部和东部。最近一周超大灵便型散货船准备装货船舶数量。

Area: South America. The latest week update number for Supramax with cargo loading intention.

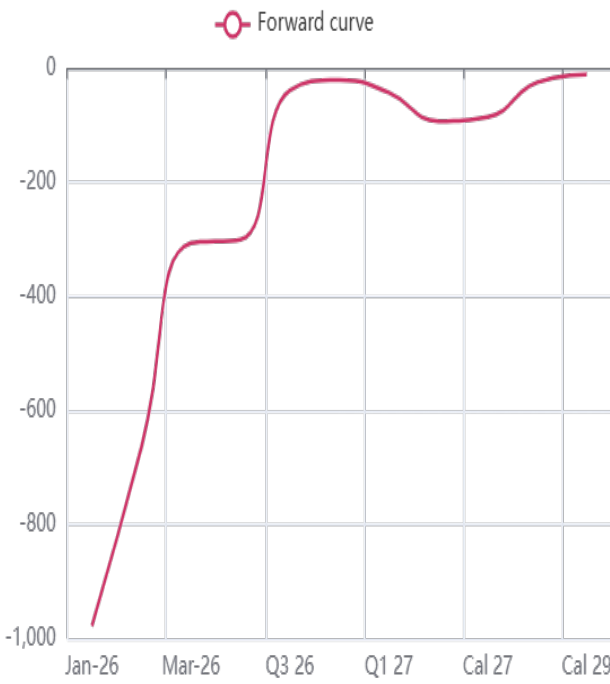
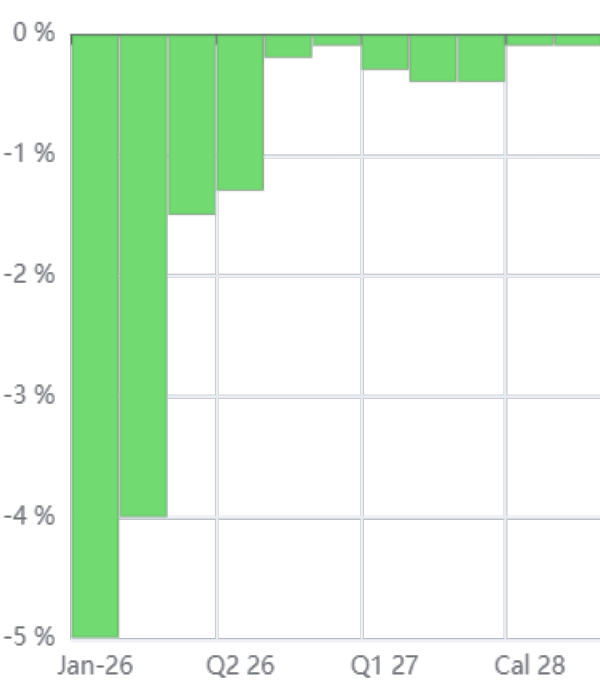
Type	M	T	W	Th	F	Sat	Sun
SMX	68	65	60	55	56	51	54



第五部分 远期运价协议 FFA

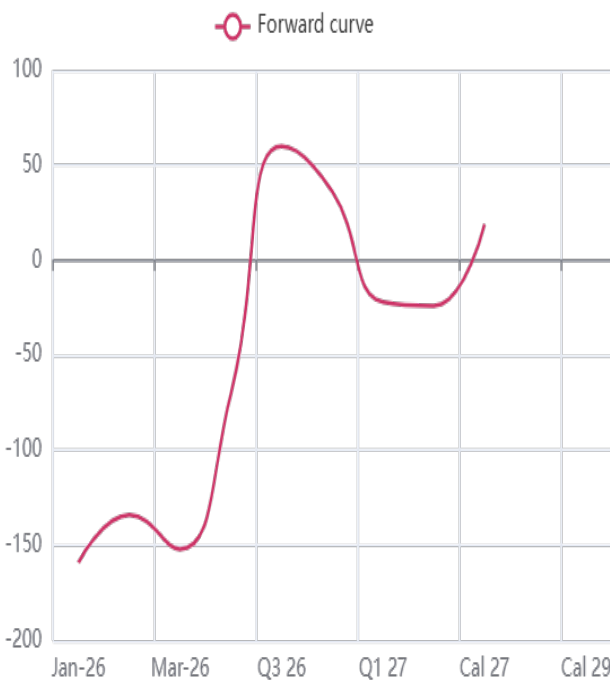
好望角型散货船Capesize

5TC	\$/day	WoW	
Jan-26	18,768.00	-978.0	-5.0 %
Feb-26	15,807.00	-664.0	-4.0 %
Mar-26	20,082.00	-307.0	-1.5 %
Q2 26	23,606.00	-301.0	-1.3 %
Q3 26	25,479.00	-39.0	-0.2 %
Q4 26	26,000.00	-21.0	-0.1 %
Q1 27	16,818.00	-43.0	-0.3 %
Q2 27	22,671.00	-93.0	-0.4 %
Cal 27	22,557.25	-85.5	-0.4 %
Cal 28	21,132.00	-25.0	-0.1 %
Cal 29	19,932.00	-11.0	-0.1 %



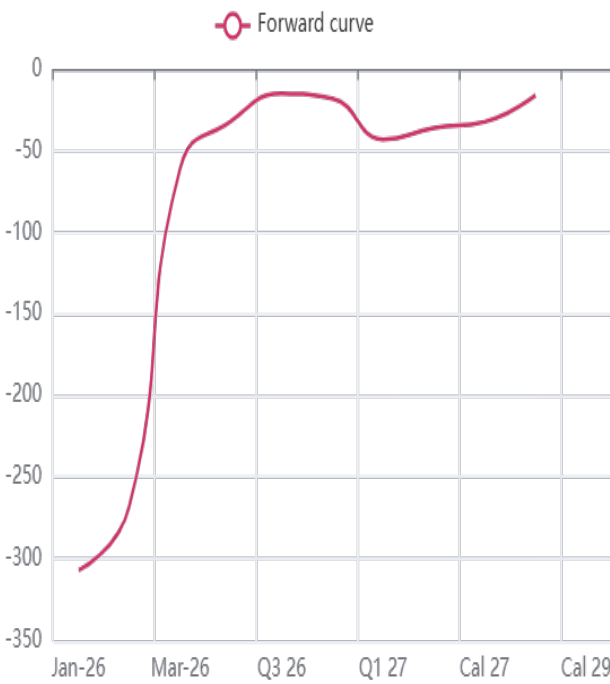
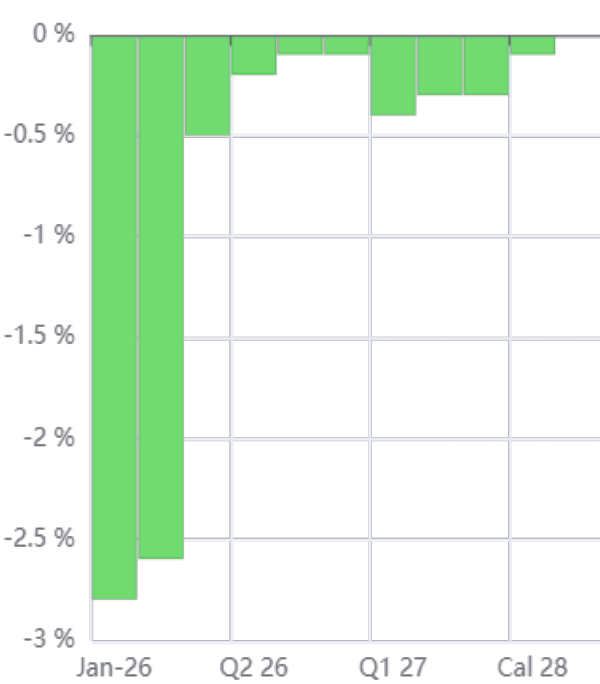
巴拿马型散货船Panamax

4TC	\$/day	WoW	
Jan-26	10,457.00	-159.0	-1.5 %
Feb-26	10,486.00	-134.0	-1.3 %
Mar-26	13,179.00	-152.0	-1.1 %
Q2 26	13,607.67	-70.33	-0.5 %
Q3 26	13,191.00	60.0	0.5 %
Q4 26	12,702.00	36.0	0.3 %
Q1 27	10,837.00	-22.0	-0.2 %
Q2 27	12,039.00	-24.0	-0.2 %
Cal 27	11,791.00	19.0	0.2 %
Cal 28	-	-	-
Cal 29	-	-	-



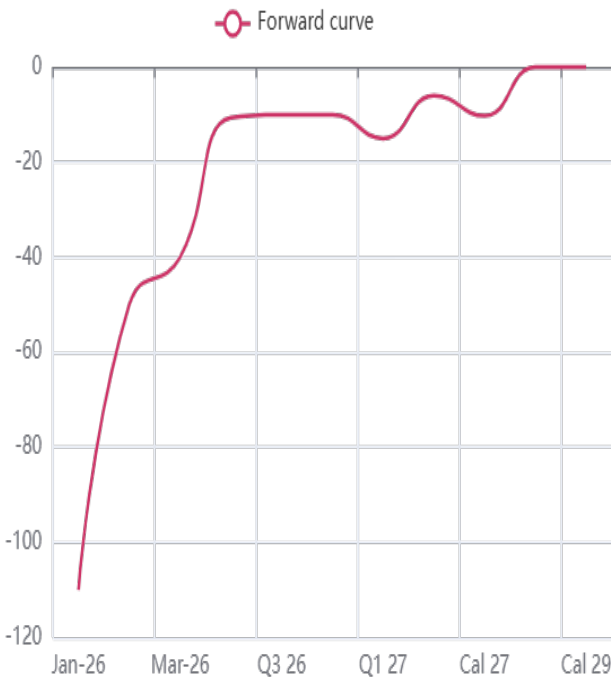
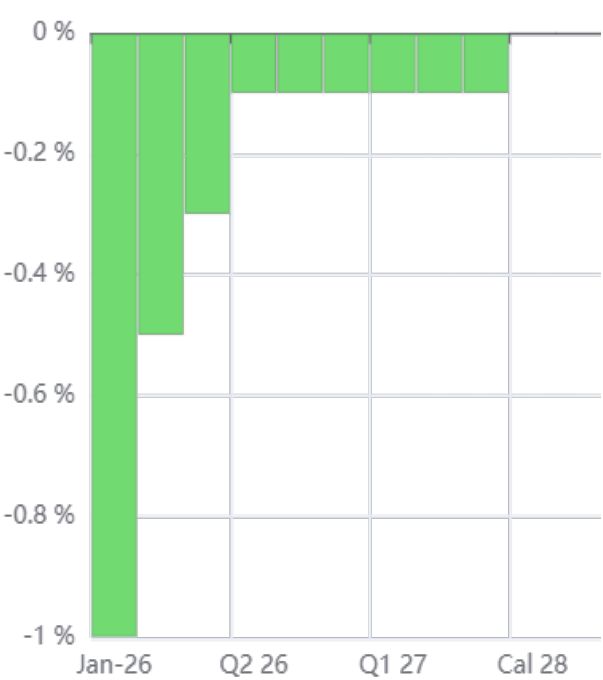
超大灵便型散货船Supramax

10TC	\$/day	WoW	
Jan-26	10,779.00	-307.0	-2.8 %
Feb-26	10,207.00	-268.0	-2.6 %
Mar-26	13,007.00	-61.0	-0.5 %
Q2 26	13,321.67	-32.0	-0.2 %
Q3 26	13,064.00	-15.0	-0.1 %
Q4 26	12,771.00	-18.0	-0.1 %
Q1 27	11,093.00	-43.0	-0.4 %
Q2 27	12,171.00	-36.0	-0.3 %
11,782.00	Cal 27	-32.25	-0.3 %
Cal 28	11,810.00	-16.0	-0.1 %
Cal 29	-	-	-



灵便型散货船Handysize

7TC	\$/day	WoW	
Jan-26	11,340.00	-110.0	-1.0 %
Feb-26	10,220.00	-50.0	-0.5 %
Mar-26	12,350.00	-40.0	-0.3 %
Q2 26	12,342.67	-10.67	-0.1 %
Q3 26	11,850.00	-10.0	-0.1 %
Q4 26	11,500.00	-10.0	-0.1 %
Q1 27	10,970.00	-15.0	-15.0
Q2 27	11,674.00	-6.0	-0.1 %
Cal 27	11,595.00	-10.25	-0.1 %
Cal 28	11,312.00	0.0	0.0 %
Cal 29	11,136.00	0.0	0.0 %



第六部分 燃油价格 BUNKER PRICE

MP	LO	HO	MO	SP	WoW	W%	M%
zhoushan	442.0	366.0	659.5	76.0	0.0	0.0	0.0
Singapore	426.0	353.5	602.0	72.5	4.5	6.62	-15.2
Rotterdam	402.5	350.5	605.5	52.0	5.5	11.83	25.3
Fujairah	426.5	331.0	714.5	95.5	6.5	7.3	-6.83
Houston	420.5	354.0	620.0	66.5	-10.0	-13.07	-12.5

(MP-Bunkering Main Ports; LO-Heavy Low Sulphur Fuel Oil; HO-Heavy Hight Sulphur Fuel Oil; MO-MGO; SP-Spread;)



第七部分 最新商品价格 LATEST COMMODITIES PRICE

Grains and Oilseeds	Index		+/-	Weekly	Monthly	YTD
Wheat	194.0		0.0	0.0	-0.51	-2.51
Maize	227.0		-4.0	-1.73	0.0	1.34
Soybeans	219.0		0.0	0.0	-3.52	8.96
Rice	160.0		-2.0	-1.23	3.23	-24.17
Barley	233.0		1.0	0.43	0.43	5.43
Energy	Index		+/-	Weekly	Monthly	YTD
Crude Oil	USD/Bbl	57.91	-0.49	-0.84	-2.56	-16.77
Brent	USD/Bbl	61.3	-0.96	-1.54	-2.87	-16.05
Natural Gas	USD/MMBtu	3.87	-0.38	-8.94	-21.82	3.75
Gasoline	USD/Gal	1.73	-0.02	-1.14	-6.49	-11.28
Heating Oil	USD/Gal	2.15	-0.01	-0.46	-6.52	-4.02
Ethanol	USD/Gal	1.66	0.07	4.4	-2.35	0.61
Naphtha	USD/T	499.43	-2.96	-0.59	-2.14	-17.95
Propane	USD/Gal	0.67	0.0	0.0	-2.9	-14.1
Uranium	USD/Lbs	81.85	0.6	0.74	7.34	13.29
Methanol	CNY/T	2191.0	57.0	2.67	5.34	-19.68
TTF Gas	EUR/MWh	27.4	-0.67	-2.39	-2.21	-40.11
UK Gas	GBp/thm	71.7	-2.12	-2.87	-2.13	-37.22
Industrial	Index		+/-	Weekly	Monthly	YTD
Copper	USD/Lbs	5.64	0.15	2.73	7.22	39.6
Coal	USD/T	106.65	-2.35	-2.16	-1.98	-15.02
Steel	CNY/T	3100.0	18.0	0.58	-0.42	-4.02
Iron Ore	USD/T	107.13	0.19	0.18	-0.2	3.17
Aluminum	USD/T	2987.15	30.2	1.02	3.33	17.84
Lithium	CNY/T	118500.0	13600.0	12.96	25.6	56.85
Metals	Index		+/-	Weekly	Monthly	YTD
Gold	USD/t.oz	4311.15	-169.69	-3.79	2.36	64.62
Silver	USD/t.oz	71.3	-0.64	-0.89	21.86	140.15
Platium	null	1952.6	-308.5	-13.64	18.55	105.73
Currencies	Index		+/-	Weekly	Monthly	YTD
EUR/USD	1.17		-0.01	-0.85	0.0	12.5
USD/CNY	6.97		-0.04	-0.57	-1.27	-4.52

第八部分 本周话题 WEEKLY TOPIC



人工智能时代的船舶驾驶员航行值班

当前电子通讯和网络不断发展的时代，船员再也不用担心流量和网络的访问了，很容易和全世界取得联系，航行值班的有效性问题的引起航运界的关注。如何有效提升驾驶台当值驾驶员的航行瞭望效果与安全值班质量、降低船舶碰撞事故，可从技术优化、管理规范、文化适配、人员保障四个维度去探讨。从技术优化方面说，升级驾驶台系统，需要平衡提醒有效性与报警疲劳。驾驶台电子系统的过度自动化是导致驾驶员工作负荷不足和注意力分散的核心因素，可过技术革新重构系统与驾驶员的互动模式，研发更加智能的电子海图系统（ECDIS），突破传统自动化系统替代人工的单一功能，新增主动唤醒机制。例如，当系统检测到附近船舶航线交叉、近岸水域暗礁风险或自身船舶偏离计划航线时，能以分级提醒方式主动引导驾驶员关注关键预警信息，模拟人工瞭望加上危险判断信息的思考过程，既减少无效操作，又赋予驾驶员监控与决策的工作意义，缓解值班慢性无聊感。优化报警筛选机制，强化关键警报穿透力，参考水壶哨声的警示逻辑，对驾驶台所有警报进行优先级分类。剔除重复、非紧急的冗余警报，仅保留碰撞预警、搁浅风险等核心安全警报，并通过独特的声光信号确保驾驶员能快速识别、优先响应，避免因警报泛滥导致的刻意关闭安全预警系统。管理方面，明确电子设备使用规则，强化值班监督。电子设备的无序使用，如值班时用平板聊天，休息时过度刷手机等都会直接导致驾驶员注意力分散与疲劳累积，需通过制度明确边界。建立多层次值班监

督机制，结合船舶航线特点，增加交叉检查环节。同时，通过驾驶台监控系统（如摄像头、操作日志）实现事后追溯，对违规行为进行警示与处罚，强化制度执行力。来自不同国家船员文化差异导致船员在无聊时段缺乏交流，进一步加剧注意力涣散，通过文化融合措施提升团队协作。组织针对性培训，内容包括不同国家船员的沟通习惯（如语言禁忌、肢体语言差异）、航海术语的统一表述（避免因翻译偏差导致的误解），以及值班互动流程演练（如如何主动与他国船员分享瞭望信息、如何礼貌提醒同伴专注值班），减少文化隔阂带来的交流障碍。鼓励船员在值班间隙开展轻互动，例如设定每小时简要交流附近海域船舶动态、天气变化，让交流成为缓解无聊和提升瞭望效率的重要方式。船员休息时过度使用电子设备导致的疲劳，会直接影响值班时的注意力，需从休息质量和心理状态两方面提供人员值班前保障。优化船员作息与休息环境，合理安排值班时长，避免连班导致的疲劳累积。关注船员心理状态，缓解慢性无聊，定期开展船员心理疏导，理解监控系统。

In the current era of rapidly evolving electronic communication and networks, crew members no longer need to worry about data traffic and network access. They can easily connect with the entire world. The issue of the effectiveness of navigation watchkeeping then drew the attention of the shipping industry. How to effectively enhance the navigation observation effect and safety watchkeeping quality of the duty officers on the bridge, and reduce ship collision accidents, can be explored from four dimensions: technical optimization, management standardization, cultural adaptation, and personnel support.

From the perspective of technical optimization, upgrading the bridge system requires balancing the effectiveness of alerts with alarm fatigue. The excessive automation of the bridge electronic system is a core factor leading to insufficient workload for drivers and distraction. By innovating technologies to reconfigure the interaction mode between the system and the driver, developing more intelligent electronic charting systems (ECDIS), breaking away from the single function of replacing manual operation in traditional automation systems, and adding an active awakening mechanism. For instance, when the system detects that the routes of nearby ships intersect, there is a risk of reefs in the nearshore waters, or the ship deviates from the planned route, it can actively guide the driver to pay attention to critical warning information in a graded reminder manner, simulating the thinking process of manual observation combined with danger judgment information. This not only reduces unnecessary operations but also gives the driver the meaning of monitoring and decision-making, alleviating the chronic boredom during duty.

Optimize the alarm filtering mechanism and enhance the penetration power of critical alarms. Refer to the warning logic of a kettle whistle, and classify all alarms on the bridge by priority. Eliminate duplicate and non-urgent redundant alarms, and only retain core safety alarms such as collision warnings and grounding risks. Ensure that drivers can quickly identify and respond to them through unique sound and light signals, avoiding the deliberate disabling of the safety warning system due to excessive alarms.

In terms of management, clear rules for the use of electronic devices should be established, and strict supervision during duty periods should be strengthened. Uncontrolled use of electronic devices, such as chatting on a tablet during duty or excessive phone usage during breaks, will directly lead to driver distraction and fatigue accumulation. This needs to be regulated by established rules. A multi-level duty supervision mechanism should be established, combined with the characteristics of the ship's route, and additional cross-checking steps should be added. At the same time, through the bridge monitoring system (such as cameras, operation logs), post-event tracing can be achieved, and warnings and penalties can be given for violations to strengthen the enforcement of the rules.

The cultural differences among crew members from different countries lead to a lack of communication among them during idle periods, further exacerbating their lack of concentration. By implementing cultural integration measures, team collaboration can be enhanced. Organize targeted training, including communication habits of crew members from different countries (such as language taboos, differences in body language), unified expression of nautical terms (to avoid misunderstandings caused by translation errors), and practice of duty interaction procedures (such as how to proactively share lookout information with crew members from other countries, and how to politely remind colleagues to focus on duty), to reduce communication barriers caused by cultural differences. Encourage crew members to engage in light interactions during duty breaks, for example, setting up brief exchanges every hour about nearby sea vessel dynamics and weather changes, making communication an important way to alleviate boredom and improve lookout efficiency.

The fatigue caused by excessive use of electronic devices during crew rest time will directly affect their concentration during duty. Therefore, it is necessary to provide personnel with pre-duty guarantees from both the quality of rest and psychological state aspects. Optimize the crew's schedule and rest environment, reasonably arrange duty hours, and avoid fatigue accumulation caused by consecutive shifts. Pay attention to the crew's psychological state, alleviate chronic boredom, conduct regular psychological counseling for the crew, and understand the monitoring system.