White Paper

How Can Maritime OEM
Companies Effectively
Navigate Geopolitical Shifts
And Decarbonization
Divide?



April 2025

About SprintlyWorks

About

Sprintly Works®

SPRINTS-AS-A-SERVICE

Answer Big Questions & Deliver Sustainable Impacts

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- Established in 2018
- Headquartered in Helsinki
- Headcount: 15
- 100+ projects delivered

We advise top management across industries...

Industrials Metals & Mining Chemicals

Healthcare Oil & Gas Automotive

Pulp & Paper **Consumer Goods** Utilities

...on most pressing & complex problems in:

Manufacturing Corporate Finance & Strategy

People & Organisation Supply Chain

AI & Technology **Business Development**

Sustainability Operations

Recognition & Awards



Featured on World **Economic Forum for** being a trailblazer in Future of Work



One of The Top 8% Achievers in 2024 ranked by Kauppalehti - Finland's largest economic publication



Customers appreciate our impact



"The work of the team was important in increasing the level of awareness and urgency on the selected subject internally.

Director, ABB



"I have to say that from quality perspective team exceeded all targets. Fast, intense – "Sprint Manner" way of working showed well its power. Senior Vice President, Kemira



"I have completed 23 years in the industry and I'm not that easily impressed but I must say astonished by the result you have here.

Director Strategic Innovation, Toyota - Material Handling

We have 50+ country research experience, with sector knowledge in Chemical, Industrial Equipment, Paper & Pulp to name a few

- Deep geographic coverage, we have conducted market interviews in 50+ countries namely.
 - Americas US. Canada
 - Asia India, UAE
 - EMEA Finland, Sweden, UK, Germany
- This help customers in building comprehensive knowledge of their business worldwide with strategic decision-making.



Our Notable Customers:



























































Our in-house capability

Team to lead, supervise, and drive the project



Rahul Abhisek

- Background: MSc Business and Design from Aalto University, Finland
- Notable references: Bill & Melinda Gates Foundation, Kemira. ABB, GE, Stora Enso, UPM

Tuomas Marttila

- Background: MBA from IMD
- Previous experience: Bain & Company and private equity across multiple industries. with a focus on industrial goods and services and energy.





Quy Pham

- ■Background: MSc. in Finance & CEMS from Aalto University
- ■Previous experience: I ead and delivered 30+ projects across multiple industries. like Energy, Pulp & Paper, Consumer Goods

Consultant



Jongsuk Hyun

- ■Background: MSc. in Management from **London Business** School
- ■Previous experience: Lead & delivered 10+ projects across a variety of sectors, like Chemical, Industrial Equipment and Food & Beverage

Knowledge Analysts



Lam Nguyen

- ■Background: BA, Economics at Foreign Trade University of Vietnam
- ■Previous experience: Designed market strategies & opportunity diagnosis in APAC region for 10+ European clients



Nanak Moolchandani

- Background: BCom Honors at Delhi University
- Previous Experience: Led & executed more than 20+ projects for clients across Sustainability. FMCG. Digitalization in EMEA and APAC



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Meriem

MSc in Marketing Stockholm School of Economics





Simon

MSc in Finance and Economics London School of Economics

Haytham

MSc in Strategic Management

HEC Paris

Experiences









LEK





Situation

- The global maritime OEM landscape is undergoing rapid transformation, influenced by various factors including geopolitics trends, decarbonization shifting focus, etc.
- Due to geopolitical landscape, maritime players are prone to localization pressure from certain countries, namely China, U.S., India, and Japan.
- Coupled with U.S. officially withdrawing their commitment to the Paris Agreement, maritime players are now deterred from achieving their initial net-zero goals.
- Facing these disruptions, maritime OEMs are under pressure to adapt to evolving customer expectations & industry dynamics
- Staying competitive requires access to up-to-date market intelligence and high-impact strategic initiatives to adapt operations within the local markets

Objectives

- Identify & deep-dive on 2 emerging industry dynamics of global maritime market
 - Geopolitical Shifts
 - Moving Away From Decarbonization
- Define strategic initiatives aligned with industry transformation and sustainability imperatives

SprintlyWorks aimed to answer the following questions in the pre-study:

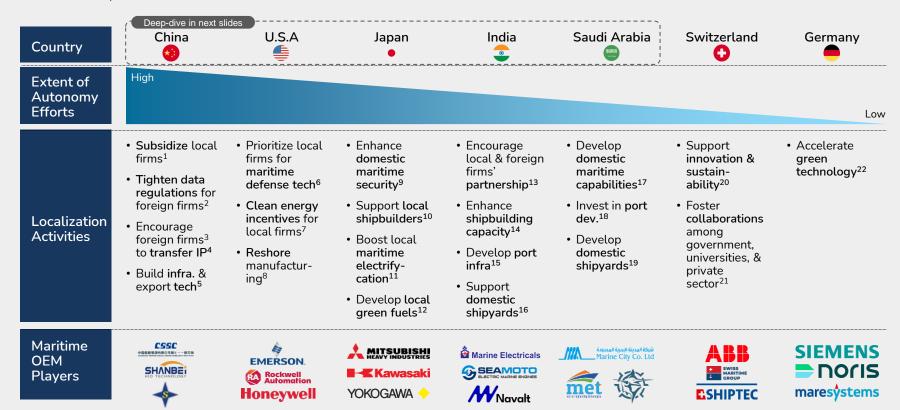
- How to navigate geopolitical shifts while maintaining a presence in local markets?
- What is the winning playbook for OEM partners to serve maritime customers as netzero goals for 2030 and 2050 seem increasingly difficult to meet?

Industry Dynamics **Geopolitical Shifts**

Geopolitical events are driving localization, innovation & alliance in the global maritime industry Localization Innovation Alliance

Red Sea **US-China** Suez Canal Green China's Russia's Attack Revenue Decline Regulations⁵ Tech War BRI¹³ & MSR¹⁴ NSR¹⁸ Significant **Events from** · Houthi attacks in • 60% decline in FU FTS⁶ for US semiconductor China's seaports Russia raise cargo 2023-2025 Red Sea¹ restrictions on investments traffic, leveraging revenues due to shipping & & Beyond decreased traffic³ CBAM⁷ push for China0 across Europe Arctic ice melt¹⁹ Force reroute via and Asia 15 decarbonization Cape of Good Hope Raise fuel costs. Affect alobal Compels Affect availability Raise Sanctions on Impacts on transit time & CO₂ shipping costs emissions of advanced chips connectivity Russia limit the Global for maritime Western emissions monitoring • Encourage fleet Infrastructure Maritime automation, etc. investments Need advanced efficiency Boost allowances dependencies Value Chain navigation tech purchase EU & US promote Re-shoring¹⁰ Egypt pushes • Egypt's EU enforce Russia seek nondiplomatic efforts modernization stricter emission alternative port Western China's strategic Actions for security² initiatives⁴ financing¹⁶ partners¹⁹ regulations partnerships¹¹ Taken by Western naval Asian accelerate Japan & India fund China invests in FU & US secure areen ship R&D8 port projects¹⁷ Arctic shipping²⁰ deployments Countries maritime tech12

China grants significant support to local maritime firms, among other nations, to achieve its self-reliance vision



Overview on Country's Localization Efforts in Maritime Industry

Countries offer notable incentives & supports for local players...

Country

Incentives Support for Local Players

- 1.6 trillion USD in Gov.1 Guidance Funds for tech and industrial upgrades²
- Heavy inv. in smart ports, green ships, & auto tech3

China



 Fees on Chinese-built vessels⁵

U.S.A

- Mandates 40% depr.⁶ U.S.-built. and 4% tax owned. & cut on crewed ships machinery and for domestic capital trade4 investment in maritime
 - R&D and regional revitaliza-tion incentives for ship-building

zones⁷

Japan



India

- 3 bil. USD Maritime Dev. Fund8
- 900 bil. USD inv. in maritime by 20479
- Subsidy¹⁰ under SFAP11 2.0
- 10-vear customs duty cut12
- Infra. status for large vessels13

Saudi Arabia



- 2.4 bil. loans for maritime sectors¹⁴
- 6.7 bil. nv. in maritime infra¹⁵
- SEZ incentives¹⁶
- · Raise local content to 70%17

...pushing global companies to localize



Deep-dive Local **Partnership**



National Plan Commitment

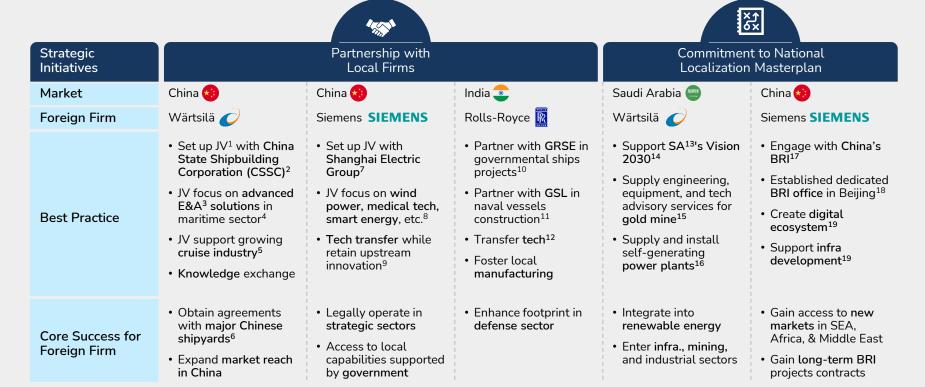


Subsidiary Setups



Acquisitions

Foreign firms partner with local firms and commit to the localization national masterplan to strengthen market position



China lays out a strong 25-year blueprint to achieve self-reliant manufacturing power...

- Champions technological advancement via indigenous innovation
- "Made in China 2025" released to restructure manufacturing sector to achieve independence from foreign technology
- Become a mfq.2 power
- Mfa.2 70% of basic components domestically
- Reduce op.³ costs and product defect rates by 50%
- Become a world mfq.2 and tech leader with advantages in main mfg.2 fields



Lists strategic

industries aimed

dominant, namely

equipment, new

energy vehicles

emerging

to become

maritime

2020

- · Achieve a high level of industrial digitalization
- Mfa.² 40% of basic components domestically
- Reduce operating costs and product defects by 30%

2035

• Become a global leader in industrial tech

2049

 Catch up with leading mfg.2 nations

...by committing to following focus actions



Grant financial incentives and R&D support for local firms⁴



Invest heavily on smart tech, automations, green shipping, etc.⁵



Close capabilities gap between local with foreign players



Build solid foundation of self-reliance to expand globally

China's local players is emerging as the competitor to EU OEMs in green maritime solutions at the global scale



Advancements in High-End Shipbuilding¹

- Ongoing capacity gains in high-value sectors (e.g., gas carriers)
- Secured 62 LPG carrier orders, surpassing South Korea's 59



- Develop vessels powered by alternative fuels (e.g., LNG, methanol)
- Establish a modern inland shipbuilding industry by 2030



Expansion of Domestic Shipbuilding Capacity³

- Already accounts for half of the global tonnage
- Continue expanding shipbuilding industry



Global Port Investments⁴

- SOEs⁵ dominate in financing, construction, mgmt.⁶ of overseas infra
- Invested ~11 bil. USD into overseas ports during 2010-2019



Threat on the green solutions edge of EU **OFMs** players...



...also threat on operations globally due to the massive expansion

The U.S. regulations push foreign firms to localize operations, otherwise they will miss sales opportunities

						Localized Operations
Regulations & Initiatives	Timeline	Localization Activities	Budget & Funding	Local Firms' Benefits	Impact on Foreign OEMs	lmpact Degree on EU Firms
Jones Act ¹	Since 1920 (ongoing)	Requires 100% U.S. ships for domestic trade	Non-applicable (Domestic protectionism	Excludes non-U.S. system integrators	High Cannot directly sell to ships
Buy American Act (maritime application) ²	Ongoing	60% components federal use are U.Smade ³	Non-applicable (Secures public contracts for U.Sbased firms	Disqualifies non- local systems	High Localize or face exclusion
Defense Production Act Shipbuilding Support ⁴	Since 2020	U.Sonly grants for shipbuilding innovation and supply chains	Dual-use tech, workforce in the U.S (12 bil. USD in'24–'28) ⁵	Fast-tracks domestic capacity	Excluded from grant access, IP funding, tech partnerships	Medium Cannot access funds
SHIPS for America Act ⁶	Introduced Dec-2024	25-40.5% inv. ⁷ tax credits for U.S. shipbuilding	Innovation office, tax breaks, etc.	Eases capital and labor costs	Likely limit foreign systems	Medium Future barrier to entry
Proposed Executive Order (Trump) ⁸	Announced Mar 2025	Tariffs on Chinese ships, production localization	Pending (Domestic protectionism	Raises imported components cost	Medium Pressure to localize

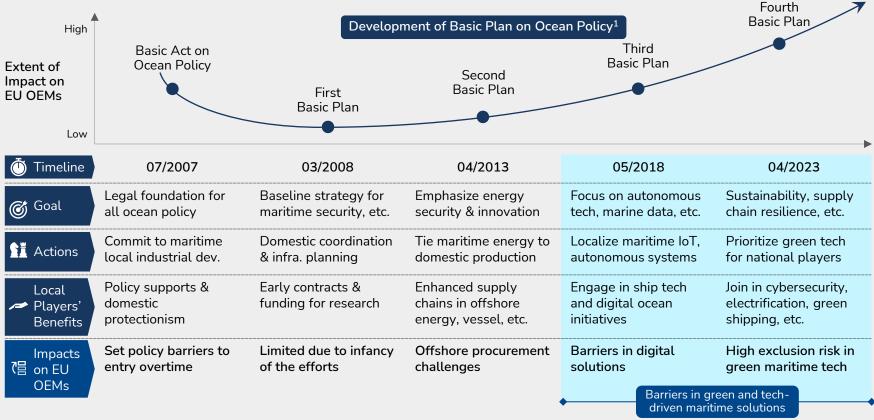
Push for

EU OEM players localize operations in the U.S. via subsidiary setups, strategic acquisitions, or local partnerships

Strategic	_ ★ Core	Case Studies				
Initiatives	Drivers	EU OEM Firm	Original Country	Strategy & Implementation		
Subsidiary Setups	 Adhere to localization requirements Improves credibility with 	⊘ Wärtsilä¹	+	Expand to 8 regional locationsProvide solutions for U.S. government vessels		
	federal customers Join in significant projects	MAN Energy ²		Develop comprehensive U.S. service hubsHeadquarter in Texas		
Strategic Acquisition	Adhere to localization requirements .	Kongsberg Gruppen ³	#	Acquire Rolls-Royce Commercial Marine including its U.S operations		
	 Access to ecosystem Access to specialized tech, compliance, etc. 	PALFINGE R Marine ⁴		 Acquire Ned-Deck Marine incl. U.S. operations Acquire Fast RSQ, a boat manufacturer 		
Local Partnership	 Meet local content requirements indirectly Co-develop products 	SIEMENSSiemens ⁵		 Partner with U.S. shipbuilders & shipyards Provide solutions for U.S. navy ships and commercial vessels 		

Japan Deep Dive

Japan's 'Basic Plan On Ocean Policy' create bureaucratic barriers for EU OEMs players in green and tech-driven maritime solutions





India intensifies cost and localization pressure on foreign OEMs by offering financial subsidy and tax incentives for localized entities

- Regulations & Initiatives	Timeline	fills: Incentives	Impacts on Maritime Players	Pressure on Foreign OEMs
Public Procurement (Make in India) Order ¹	Introduced in 2017	Priority for gov. ² contracts	Prioritize contracts for local OEMsForeign OEMs produce locally to qualify	Cost Localization
Shipbuilding Financial Assistance Policy ³	Conducted in 2016- 2026, to be extended	15–20% subsidy on ship contracts	 Cost-competitive Indian shipyards more Foreign OEMs excluded unless localized 	Cost Localization
Tax Exemption for Shipbuilding Inputs ⁴	Extended in 2024 Union Budget	10-year import duties exemption	Reduces production cost for Indian firms and yards	€ Cost
Infrastructure Status for Shipyards ⁵	Announced in 2024 Maritime Vision	Grant infra. financing	Financing & tax benefits for local yards	€ Cost
Maritime Development Fund (MDF) ⁶	Announced in 2024 Union Budget	3 bil. USD long- term loan fund	 Low-cost capital for local firms Foreign OEMs face capital disadvantage without local setup 	Cost Localization
Proposed PLI Scheme for Components ⁷	Expected 2025-2026	Performance- based incentives	Direct cash benefits for local OEMsCrowd out foreign OEMs if not localize	Cost Localization

Saudi Arabia foster foreign OEMs to partner with local firms and set up local operations by offering incentives to only localized entities

National Programs

Push Foreign OEMs for Local Partnership



King Salman International Complex¹

- Announce 2016, operate from 2019
- Establish an integrated maritime complex
- Provides infra., job, etc. for local firms
- Foreign OEMs need JVs to access opportunities

International Maritime Industries (IMI)²

- Establish 2017, operate from 2019
- Localize ship-building & maritime engineering
- Technology transfer, etc. for local firms
- Push foreign OEMs to integrate into local supply chains



Ras Al-Khair Special Economic Zone (SEZ)³

- Launch Apr 2023
- Develop localized shipbuilding and maritime logistics hub
- 0% tax incentives for local players
- Foreign OEMs must invest locally to qualify for benefits



In-Kingdom Total Value Add (IKTVA)⁴

• Launch 2015

Push Foreign OEMs for Local Setups

- Raise local content in supply chain to 70%
- Prioritizes local manufacturing & services in procurement
- Foreign OEMs pressured to localize or risk losing projects

Industry Dynamics Moving Away From Decarbonization

Latest Advancements | U.S. pivots from climate focus, a reversal of global direction while other nations are still committed to net-zero goal



Withdrawal from Paris
Agreement



Major Contributor of Clean Fuel Ships



Green fuels to accelerate net-zero by up to 20 years



Only Zero-Emission vessels from 2030



Major emitters targeting net-zero by 2050



- Initially announced in 2017 under President Trump, formal exit occurred in November 2020
- Rejoined briefly under the Biden administration before withdrawing again in January 2025



- China aims to manufacture >50% of the world's cleanerfuel-powered ships by 2025, focusing on LNG and ammoniapowered vessels¹
- Shanghai will launch a decarbonization center in 2025 to coordinate green fuel promotion and standardization.²



- Targets net-zero emissions in maritime sector by 2070
- Green fuels will cut emissions by 120 mil. tonnes CO₂ p.a.
- Save 15 bil. USD in fuel costs, supporting net-zero by 2050³



- 2050 goal for climate-neutral fleet (Norwegian Shipowners' Association)
- 50% reduction in GHG emissions per unit by 2030 (vs. 2008) and zeroemission vessels only from 20304



- Major shipping firms aim for net-zero emissions by 2050⁵
- Play a key role in raising the IMO target to reduce GHG emissions by 50% by 2050 compared to 2008 levels and achieving net-zero by mid-century⁶



Maritime sector; with ~3% GHG emissions, depends on IMO to achieve its net-zero target, but US decision may hinder this growth

US Announcement: Withdrawal from Paris Agreement

PUTTING AMERICA FIRST IN INTERNATIONAL ENVIRONMENTAL AGREEMENTS

US withdrawal from the Paris Climate Agreement and from the WHO

On the first day in office of his second term, US President Donald Trump signed a number of executive orders (EOs), including EOs withdrawing the US from the Paris Agreement on climate change and the World Health Organization (WHO). The Council and the Commission will make statements on the withdrawals during Parliament's February plenary session.

Impacts on global decarbonization



Reduced Global Momentum Weakens international climate action. slowing progress



Weakened Policy Alignment: Hindered adoption of IMO compliant measures

IMO's decarbonisation goals from



2030

- 40% CO₂ reduction per transport work
- 5% uptake of zero-emission fuels
- 20% reduction of total annual GHG

2040

70% reduction of the total annual GHG

2050

Net-Zero GHG emissions



US Maritime Industry still needs to comply with IMO's standards, however, withdrawal from Paris agreement, will have indirect impacts

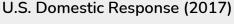
IMPACT ON IMO'S GOAL

Independent Net-Zero Strategy

The IMO's 2023 Revised GHG Strategy targets net-zero emissions by ~2050 with interim goals, operating independently of the Paris Agreement—so a U.S. withdrawal doesn't directly impact its trajectory



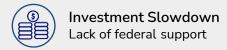
During the 2017-2020 U.S. withdrawal, the IMO stayed committed, adopted the Initial GHG Strategy, and continued U.S. involvement via *MEPC—similar continuity is expected in 2025



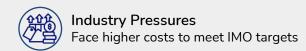
Despite the federal withdrawal attempt, 30 U.S. states and numerous cities pledged to continue supporting Paris Agreement goals



IMPACT ON US MARITIME INDUSTRY









Lack of government support and federal subsidies in clean energy will raise costs, making it harder for companies to meet IMO standards

Kev

Stakeholders

Shipowners and Operators



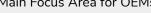
Risk losing contracts for zero-emission vessels and retrofits as federal

Shipbuilders and

Repair Yards

This will widen the gap between U.S. and foreign shipyards in innovation and

Main Focus Area for OEMs





Fuel Suppliers and Innovators



Port Authorities and Operators



- Impacts due withdrawal from Paris Agreement
- federal subsidies Domestic operators with

Higher costs due to no

- limited capital will struggle to retrofit or upgrade fleets
- Global firms will redirect green investments to countries offering stronger climate support
- programs promoting clean energy are paused or defunded
- capacity
- Green fuel developers will see R&D and pilot projects stalled. while traditional fuel providers benefit temporarily from policy shifts favoring LNG or diesel
- The long-term transition to alternative fuels will slow down
- Decarbonization plans (e.g., shore power, electrified equipment) will be delayed due to reduced federal arants
- Ports in states with weak climate policy will fall behind global green standards and lose cargo to more sustainable hubs

Ships in the U.S., whether in international or domestic waters, will face challenges if not compliant with IMO standards





Shipbuilders and Repair Yards



Fuel Suppliers and Innovators



International Voyages

Regulated by IMO, MARPOL Annexe VI

Prevention of Air Pollution from Ships

International Standards



The IMO's MARPOL Annex VI, which includes key regulations such as Efficiency Existing Ship Index (EEXI) and CII for air pollution, applies to all U.S.-flagged vessels engaged in international voyages, regardless of Paris status

Strictly Domestic Trade

Regulated by Jones Act, IMO rules doesn't apply

as MARPOL covers International Shipping, however:

U.S. Law Alignment



As an IMO member, the rules apply via the Coast Guard under Act to Prevent Pollution from Ships (APPS)

Practical Pressures



Non-compliance risks penalties or detention if ships later enter international waters; global waters demand IMO-compliant fleets



OEMs should offer cost-effective, minimum-compliance solutions, avoiding overengineering to help U.S. firms meet essential IMO standards

Challenge

Delay clean energy adoption due to no federal support

Reduced Demand for Green Ships:

Without subsidies or tax breaks, firms will delay ordering zero-emission solutions

Prioritization

Shipowners will favor short-term savings, investing only in essential green solutions

Fewer Contracts for U.S. Shipbuilders

U.S. builders like Philly and Bollinger will lose green ship retrofit or new-build orders

Navigating Barries

OEMs must understand minimum IMO Compliance

Study Core IMO Regulations

Focus on MARPOL Annex VI, EEXI, CII, and 2025 Net-Zero measures

Mapped in the next slide

Map U.S. Fleet Impact

Identify key rules affecting U.S.-flagged vessels, especially in international trade

Engage Experts

Consult classification societies to validate compliance needs and stay updated

Solution Identification

Identify, key solutions based on hurdles for US companies

Segment Fleet Needs

Segment fleets by type, age, and routes to identify minimal upgrades for compliance

Align Solutions to Compliance

Offer cost-effective retrofits aligned with IMO rules, avoiding overengineering

Build Value-Driven Cases

Show ROI, fuel savings & resale value to justify investments amid policy uncertainty



OEMs must assess key regulations impacting operations, and position themselves as tailored solution providers for U.S. ships

MARPOL, adopted by the IMO, is the main global treaty on maritime environmental standards, with six annexes targeting different types of ship pollution.

Annex I	Annex III Annex III	Annex IV	/ Annex V	Annex VI	- Prevention of Air Pollution from Ships		
	Energy Efficiency Existing Ship Ind	ex	Carbon Intensity Indicator (CII)		Future Goal-Based Fuel Standards		
Description	Measures CO2 efficiency for existing (>400 GT), requiring a one-time effici baseline (20-30% improvement vs. 2	ency	Tracks annual CO2 intensity (g CO2/ton-mile), with A-E ratings		Mandates low/zero-emission fuels (e.g., 5-10% zero-emission by 2030), adoption expected Oct 2025, effective ~2027		
Requirements	Achieve EEXI target via technical upgrades or power limits, certified at survey post-2023	first	 Continuous improvement (40% reduction vs. 2008 by 2030) Report 2024 CII data by 2025 		Prepare for fuel transition aligning with 2030 GHG reduction (20-30% vs. 2008)		
Solutions Required	 Engine Power Limitation (EPL) kits Hull optimization coatings Basic propulsion upgrade modules 		 Fuel efficiency retrofit kits Data monitoring sensors Basic fleet management software 		Fuel transition planning toolsHydrogen/ammonia readiness modulesDual-fuel engine retrofits		

OEMs must offset U.S. risks via retrofits, voluntary alliances, and scale clean energy solutions in active markets globally



European Union



Asian Market



USA

<u>[a]</u>}

Innovation Leadership

- Invest in R&D for IMO-compliant tech (e.g., hydrogen fuel systems)
- Partner with EU shipbuilders to integrate zero-emission solutions into fleets

Policy Alignment

- Align product portfolios with EU Green Deal incentives (e.g., carbon pricing, etc.)
- Align with rules and policies that create more demand for advanced OEM tech

Market Expansion

- Focus on ports like Rotterdam that are going green & offer them retrofit solutions
- Help older ships meet new standards without needing full replacements

Strategic Partnerships

- Collaborate with Asian shipyards to co-develop low-emission vessels
- Form JV's with local OEMs to penetrate highgrowth markets like China's net-zero push

Supply Chain Optimization

- Establish regional manufacturing hubs to reduce costs and meet local demand
- Secure raw materials (e.g., batteries, rare earths) through Asian supply chain agreements

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Competitive Positioning

- Differentiate with superior tech (e.g., energyefficient engines) against lower-cost competitor
- Target Japan/South Korea's maritime innovation hubs with premium offerings

Market Adaptation

- Develop modular, cost-effective solutions to appeal to U.S. firms despite Paris withdrawal
- Focus on voluntary decarbonization adopters (e.g., California ports, private fleets)

Risk Mitigation

- Diversify U.S. exposure by prioritizing EU/Asia contracts over uncertain U.S. demand
- Monitor state policies (e.g., Northeast clean energy initiatives) for niche opportunities

(<u>88</u>)

Long-Term Engagement

- Build relationships with U.S. maritime stakeholders to influence future policy shifts
- Offer retrofit kits for aging U.S. fleets to bridge to cleaner tech adoption

Contact Us

Sprintly Works®

Faster Progress on Strategic Topics

Same project internally would have been taken 4-6 months calendar time when running it beside all the other tasks ??

Let's be in touch!

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