Global chaos but fundamental market drivers still there – strong internationally active players can continue to grow

CONFIDENTIAL

RJDDAL

Presentation at Meriteollisuus ry. spring cruise

Viking Glory, May 10, 2022

© Reddal Inc. This material is Reddal proprietary.

Contents

The effects from recent disruptions have not changed the major trends and uncertainties in the industry – however there is a noticeable shift towards the "polarization of geopolitical competition" scenario

Cruise passenger demand is recovering a bit faster than expected in the Caribbean, European market still somewhat uncertain; can maintain a positive long-term outlook for ship building growth; short-to-mid-term opportunities in (partly mandatory) maintenance/ refurbishment business

China will stay in "isolation mode" for the near term (up to several years), but continued technological development will make China internationally competitive in coming decades (not likely much sooner)

Sanctions on Russia accelerate sustainability trend while causing some minor setbacks to supply chain

Finnish marine industry players with strong technical competence and unique offering combined with international reach and competitiveness will continue to see good opportunities – for others, the current squeeze can be challenging



Last year, we created four scenarios for development of the marine industry environment towards 2035 driven by two axes of uncertainty

Marine industry scenarios 2035

Strong development: Global productivity increases fast driven by technological development, new operating models and good availability of capital. Trust in current economic system is strong and economic principles remain the same.

Local: Yards employ majority of the work force and prefer local TK- supplier networks.	Scenario 4: Disintegration into large regional trade areas In a protectionist world, large regional trade market alliances are competing and creating new technological solutions inside them. Solutions are enabled by public infrastructure investments and protected by regulatory changes. The economy is growing fueled by the regional financial revival packages and increasing productivity, but world trade is ineffective. Marine industry is building for the own regional markets (North America, EU, China) while the demand is high, and new ecological ships are being built. Shipbuilding in Finland is focused on new prototype passenger ships that are mainly >185kGT in size and delivered to western operators. Scenario 3: Polarization of geopolitical competition	/ity growth and economic disruption	Scenario 1: Multi-disciplinary technological conglomerates Sustainability awareness and disruptive ecological technology solutions ensure global economic and welfare growth. Multi-disciplinary technology conglomerates increase their importance and power also in shipbuilding. Marine industry's demand is high and Europe leads the advanced passenger ship building market with innovative and progressive "yard platforms". China has created competitive cruise shipbuilding cluster but produces cruises still mainly for Asian operators; shipyards in EU compete tightly with Finnish yards and tough competition from Chinese yards may realize in the coming years. Shipbuilding value chain Scenario 2: Platform economy of shipbuilding and cost competition	Global : open global competition, yards work as project platforms and employ only necessary roles.
	while the demand is high, and new ecological ships are being built. Shipbuilding in Finland is focused on new prototype passenger ships that are mainly >185kGT in size and delivered to western operators.		operators; shipyards in EU compete tightly with Finnish yards and tough competition	competition,
prefer local TK-	•	ີ່ທີ່	Shipbuilding value chain	project platforms and employ only
supplier networks.	Scenario 3: Polarization of geopolitical competition		Scenario 2: Platform economy of shipbuilding and cost competition	
	Increasing protectionism trend lead countries to reduce the international collaboration as they try to protect their own economies. China with large domestic market can revive its economy and is growing, while western countries are experiencing a zero-growth era.		Economy is stagnating and wealth inequality is increasing, but countries aim to avoid recession by enforcing open free trade. Consumers have divided into price sensitive and ecologically aware groups.	
	Shipyards are driving the marine industry and seek to increase efficiency by increasing the integration of the value chain. Shipbuilding demand is weak in western countries which aim to ensure domestic security of supply. Shipbuilding demand in China is strong driven by domestic operators. Majority of Finnish yards have been closed.		The amount of new build projects in cruise is low as the current capacity is enough to meet the demand. Ships are built with a "gig economy" model in yard platforms to minimize the costs due to the tight cost competition in global shipbuilding where the cheapest yards win the orders. Companies in the value chain must be international and efficient to survive. Finnish yards are in crisis, and they try to survive by taking ship orders for a wide range of ship types.	

Weak development: Global productivity growth is slow or flat due to the moderate progress in technology development and in developing new models in organizing work and operations. More limited availability of capital weakens the productivity growth potential. Trust in economic system is weak, and China's role in global economy strengthens in comparison to western countries.

Source: Meriteollisuuden tilannekuva ja skenaariot alan kehityksestä report prepared by Reddal for Ministry of Economic Affairs and Employment of Finland.



During the recent twelve months several new events have influenced both axes, causing a push towards lower left (local value chains, slower growth)

Marine industry scenarios 2035

Strong development: Global productivity increases fast driven by technological development, new operating models and good availability of capital. Trust in current economic system is strong and economic principles remain the same.

 Scenario 1: Buintegration into large regional trade areas In a protectionist world, large regional trade market alliances are competing and creating new technological solutions inside them. Solutions are enabled by public infrastructure investments and protected by regulatory changes. The economy is growing fueled by the regional financial revival packages and increasing productivity. but world trade is ineffective. Marine industry is building of the own regional markets (North America, EU China) Finandis muscles reviewes the passenger ships on ear or the value chain. Russian of the value protectionism tred lead countries to hurden and ships are being builting of the own regional markets (North America, EU China) Finandis muscles reviewes three passenger ships on ear or the value chain. Scenario 3: oties the ir own regional markets (North America, EU China) Finandis muscles reviewes three passenger ships on ear or the value chain. Scenario 3: oties the or own economies. China is protectioned in the own economies. China is protectioned as growing, while western court is sconomy and is growing, while western courties to duce area. Shipyards are driving the marine industry and seek thorcrease efficiency by increase of the imegration of the value chain. Shipbuilding demand is sue in western courties as in the demand. Ships are built with a "ig geconomy" model in aprice the ensure to passenger ships on ear or necession. Shipyards are driving the marine industry and seek thorcrease efficiency by increase of the induce of the value chain. Shipbuilding demand is weak in western courties is stored while and ecologically ware groups. Shipyards are driving the marine industry and seek thorcrease efficiency by increase of the demand. Ships are built with a "ig geconomy" model in aprice index due to the signal due than investe in order to compare in the value chain. Shipbuilding demand is weak in westere nourties is and t	Global : open global competition, yards work as project platforms and employ only necessary roles.
--	--

While these events are causing a temporary shift towards scenario 3, the overall scenario matrix still holds – and in the long term way may still see shifts into other direction(s)

Marine industry scenario matrix drivers

Strong development: Global productivity increases fast driven by technological development, new operating models and good availability of capital. Trust in current economic system is strong and economic principles remain the same.

Local: Yards employ majority of	Scenario 4: Disintegration into large regional trade areas		Scenario 1: Multi-disciplinary technological conglomerates	Nordic West Office (<u>link</u>).
	In a protectionist world, large regional trade market alliances are competing and creating new technological solutions inside them. Solutions are enabled by public infrastructure investments and protected by regulatory changes. The economy is growing fueled by the regional financial revival packages and increasing productivity,		Sustainability awareness and disruptive ecological technology solutions ensure global economic and welfare growth. Multi-disciplinary technology conglomerates increase their importance and power also in shipbuilding.	
	but world trade is ineffective. Marine industry is building for the own regional markets (North America, EU, China) while the demand is high, and new ecological ships are being built. Shipbuilding in Finland is focused on new prototype passenger ships that are mainly >185kGT in size and delivered to western operators.		Marine industry's demand is high and Europe leads the advanced passenger ship building market with innovative and progressive "yard platforms". China has created competitive cruise shipbuilding cluster but produces cruises still mainly for Asian	
			operators; shipyards in EU compete tightly with Finnish yards and tough competition from Chinese yards may realize in the coming years.	Global : open global competition,
the work force and prefer local TK-	<	പഗ	Shipbuilding value chain	yards work as project platforms
supplier networks.	Scenario 3: Polarization of geopolitical competition		Scenario 2: Platform economy of shipbuilding and cost competition	and employ only necessary roles.
	Increasing protectionism trend lead countries to reduce the international collaboration as they try to protect their own economies. China with large domestic market can revive its economy and is growing, while western countries are experiencing a zero-growth era.	Productiv	Economy is stagnating and wealth inequality is increasing, but countries aim to avoid recession by enforcing open free trade. Consumers have divided into price sensitive and ecologically aware groups.	
	Shipyards are driving the marine industry and seek to increase efficiency by increasing the integration of the value chain. Shipbuilding demand is weak in western countries which aim to ensure domestic security of supply. Shipbuilding demand in China is strong driven by domestic operators. Majority of Finnish yards have been closed.	Ļ	The amount of new build projects in cruise is low as the current capacity is enough to meet the demand. Ships are built with a "gig economy" model in yard platforms to minimize the costs due to the tight cost competition in global shipbuilding where the cheapest yards win the orders. Companies in the value chain must be international and efficient to survive. Finnish yards are in crisis, and they try to survive by taking ship orders for a wide range of ship types.	

Weak development: Global productivity growth is slow or flat due to the moderate progress in technology development and in developing new models in organizing work and operations. More limited availability of capital weakens the productivity growth potential. Trust in economic system is weak, and China's role in global economy strengthens in comparison to western countries.

Source: Original Meriteollisuuden tilannekuva ja skenaariot alan kehityksestä report prepared by Reddal for Ministry of Economic Affairs and Employment of Finland.



See also recent scenario analysis by

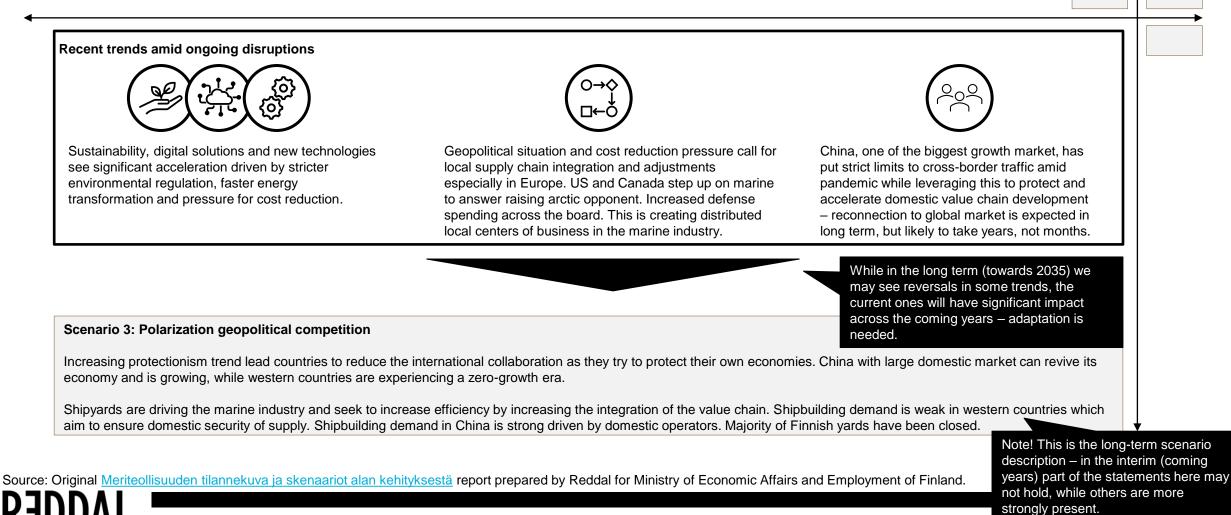
Industry Federation

the Chemical

of Finland and

However, the shift towards polarization is likely to be significant in the coming years, and the Finnish marine industry players need to adapt accordingly

Short term development in scenarios



6

Contents

The effects from recent disruptions have not changed the major trends and uncertainties in the industry – however there is a noticeable shift towards the "polarization of geopolitical competition" scenario

Cruise passenger demand is recovering a bit faster than expected in the Caribbean, European market still somewhat uncertain; can maintain a positive long-term outlook for ship building growth; short-to-mid-term opportunities in (partly mandatory) maintenance/ refurbishment business

China will stay in "isolation mode" for the near term (up to several years), but continued technological development will make China internationally competitive in coming decades (not likely much sooner)

Sanctions on Russia accelerate sustainability trend while causing some minor setbacks to supply chain

Finnish marine industry players with strong technical competence and unique offering combined with international reach and competitiveness will continue to see good opportunities – for others, the current squeeze can be challenging



Cruising demand is recovering rapidly in Q2 2022 after loosening of restrictions, and a comeback to long-term growth seems probable – yet, excess capacity persists until the end of 2020s

Overview of global cruise demand and supply dynamic

Cruise passenger capacity incl. current orderbook and estimated scrapping CLIA 12/2021 low scenario until 2026, 5% CAGR 2026+ Million passengers Order lead time of ~4 years - if capacity matches demand in 2029, 45 new order(s) placed in ~2025. 40 38 36 35 35 33 32 31 30 30 28 28 25 21 20 -231 15 10 5 0 2018A 2019A 2020A 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030

Reasoning for demand scenario and implications to marine industry

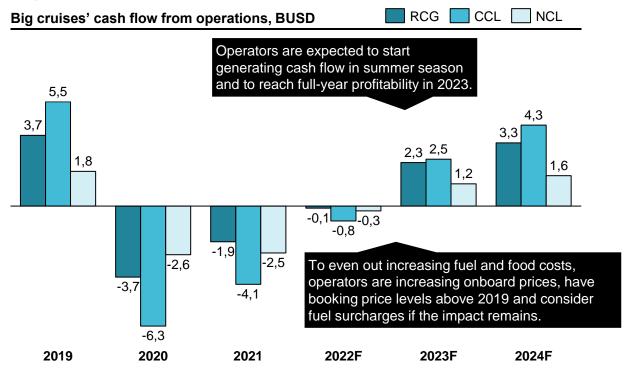
- With safety protocols onboard, high vaccination rates, and "revenge travel" after lockdowns and US CDC removal of the warning on cruise travel, passenger volumes are expected to recover rapidly in 2022, and estimated to reach 2019 levels in 2023
- Despite the short-term setbacks in Q1 of 2021 due to Omicron variant, operators have seen record high booking activity in the US in March-April
- Major operators expect to have their full fleets operational for the summer season and occupancy levels are gradually ramping up to pre-COVID levels during H2/2022
- In Europe demand is recovering also for summer season, but for Baltic routes the Russian invasion of Ukraine is limiting the demand
- Due to Chinese ports being closed and precaution in other countries, Asian activity will be low in 2022 more capacity is put to Caribbean and Alaska routes
- Due to large orderbook until 2027, the capacity still exceeds the demand in this scenario until 2028-2029, meaning that operators may hold back from ordering new builds before there is enough evidence that gap to capacity is diminishing
- So, it may be that no new large cruise ships are ordered before 2024-25, making it essential for cruise-focused businesses to seek for diversification opportunities

Source: Cruise Ship Orderbook; CLIA: State of the Cruise Industry Outlook 2022; Carnival Corporation Q1 Business Update; CDC Removes Cruise Travel Advisory; Risteilytoiminta palaamassa kasvu-uralle; Reddal analysis.



Cruise operators' cash flows could turn positive by H2/2022, but those and 2023 cash flows will likely first be used to offload debt before spending on discretionary refurbishment

Big 3 cruise operators' financial outlook



	Royal Caribbean Group	CARNIVAL CORPORATION&PLC	NORWEGIAN 1 CRUISE LINE®
Will run out of liquidity in 2022 if no new financing	No	No	No
Amount of liquidity (Q1/2022)	3,8 BUSD	7,2 BUSD	2,7 BUSD
Net debt to capital (Q1/2022)	84%	73%	82%
Equity ratio (Q1/2022)	12%	19%	13%
Quick ratio (Q1/2022)	0.37x	0.70x	0,85x

Financial KPIs have deteriorated since 2020, but capital markets believe that operators can turn cash flow positive during 2022 and can start offloading the debt in 2023 – no additional debt raised by big 3 during 2022, only refinancing of old.

¹NCL financials 12/2021.

²Net debt to capital = Net debt / (Net debt + Equity); Equity ratio = Shareholders' equity / Total assets; Quick ratio = (Current assets – inventory) / Current liabilities.

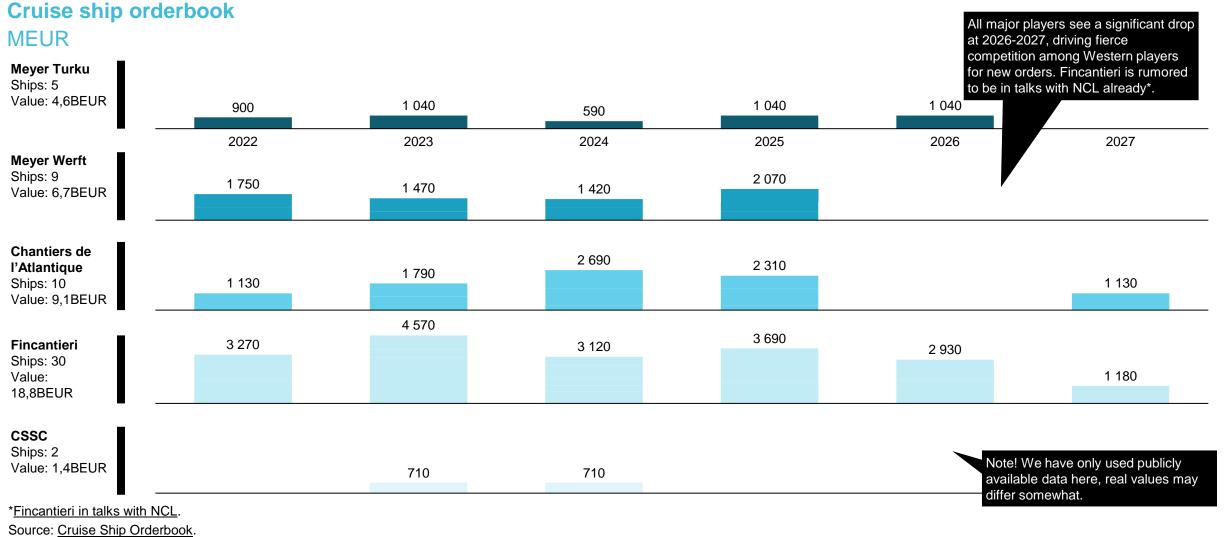
Source: <u>RCG; CCL; NCL</u>.; Reddal analysis.



Big cruises' liquidity and financial ratios², 2022 Q1

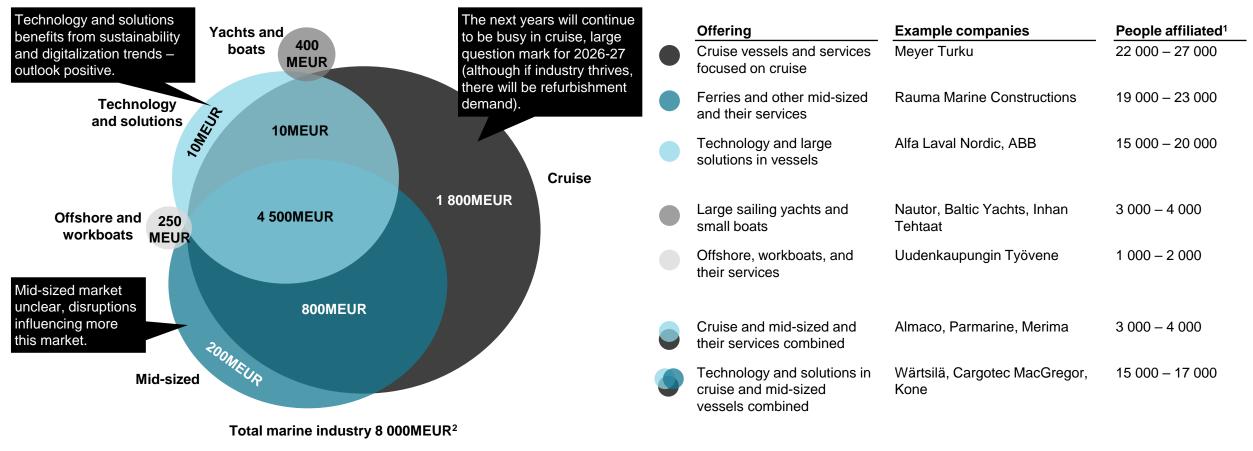
ROUGH ESTIMATE

Cruise shipyards have secured order books until 2027 – after the majority of current pipeline delivered in 2025, the competition to win first new orders will be tight



The Finnish marine industry is cross-connected around three large clusters of cruise, mid-sized vessels, and technology

Composition and annual revenues of Finnish marine industry



¹The entire marine industry employs around 30 000 persons, numbers do not sum up to that since people work with multiple offerings (overlap of the bubbles). ²Analysis is based on companies with annual revenue over 4MEUR covering 113 central marine industry players.



The shipyards' prospects beyond the current order backlog are uncertain – developing capabilities needed to get new orders

Outlook of the Fin	nish yar	Cruis Ferrie	e vessels es and other m	Large sailing yachts and small boats hid-sized and their services Offshore, workboats, and their services	New opportunities include icebreakers to Finland and Sweden.
Dockyard	Orderbook goes until	Orderbook value (MEUR)	Turnover 2020 (MEUR)	Outlook	
Meyer Turku	2026	4 860	1 035,8	Invested in increased capacity before pandemic but was able to stretch orderbook. Key challenge is to get new orders after current ones. Extensive development in sustainability and digitalization.	 Strong outlook in short term due to existing orderbooks The three largest shipyards account for more than 95% of the industry's turnover and orders
Rauma Marine Constructions	2024	1 600	185,6	In order book Navy's four new multifunctional corvettes and ferries, in this segment global competition intensifies.	 Shipyard orderbooks strong for a few years Main question mark is Helsinki Shipyard due to Russian owners currently for sale
Helsinki Shipyard	2022	~350	60,5	Yard currently on sale. Orderbook consists of two luxury cruisers for Swan Hellenic and one Russian icebreaker, which until now is not deemed subject to sanctions.	 Yacht manufacturers have taken a minor hit due to COVID, while small boat revenues have been growing Small yards focus on renovation construction and their horizons
Inhan Tehtaat			70,5	Aluminium leisure boat manufacturer, constantly rising demand over past years.	short, but demand is likely to return quickly as traffic recovers Longer term outlook uncertain due to changing competitive
Nautor			67,6	Sailboat manufacturer, slight dip in turnover in 2020.	landscape – consolidation expected
Botnia Marin			51,8	Leisure boat manufacturer, turnover constantly growing.	 According to the Scenario 3, competition in cruise and ferry shipbuilding intensifies globally
Baltic Yachts			27,7	Turnover fluctuating but order books in good shape according to CEO.	 Asian market provides highest growth potential for cruises, but shipbuilding becomes increasingly localized European and American cruise business expected to stagnate if
Turun Korjaustelakka			13,3	Recently refurbishments completed for Tallink and Finnish ice breakers	inflation continues Largest shipyards can survive through R&D focus and developing
Uudenkaupungin työvene	2023	~35	7,4	Orders from the Border Guard (total 22 MEUR), Västtrafik and Gdynia maritime office (20 MEUR).	efficiency in operations and supply chainsSmaller "midsized" shipyards face largest challenges in global competition
Western Shipyard			4,2	Transferred to Millog in 2020 and responds to security of supply targets.	 Small shipyards can thrive in their relatively local niche businesse they can continue providing unique solutions (technology and sustainability trends provide business opportunities)
Pori Offshore Constructions/ Enersense Offshore Oy			3,8	Demand in the oil and gas sector is low, looking for growth from offshore wind, recently acquired by Enersense.	, ,



Contents

The effects from recent disruptions have not changed the major trends and uncertainties in the industry – however there is a noticeable shift towards the "polarization of geopolitical competition" scenario

Cruise passenger demand is recovering a bit faster than expected in the Caribbean, European market still somewhat uncertain; can maintain a positive long-term outlook for ship building growth; short-to-mid-term opportunities in (partly mandatory) maintenance/ refurbishment business

China will stay in "isolation mode" for the near term (up to several years), but continued technological development will make China internationally competitive in coming decades (not likely much sooner)

Sanctions on Russia accelerate sustainability trend while causing some minor setbacks to supply chain

Finnish marine industry players with strong technical competence and unique offering combined with international reach and competitiveness will continue to see good opportunities – for others, the current squeeze can be challenging



China is seeking to secure its position amid rising uncertainties driven by the pandemic, worsening China-US relations, and rising unilateralism and protectionism

Blurry future of globalization and role of China in it

Global economic policy uncertainty index, Jan 2008 to Feb 2022 Importance of export to Chinese economy Share of exports in GDP in China Value of export from China Brexit confusion continues; political unrest in Italy, France, and Turkey; Value of export, Share of exports China slowdown worries. 450 In BUSD in GDP, % 3 4 2 4 400 3 500 25 Russia US-China trade tensions invasion of 350 begin to intensify. 3 0 0 0 Ukraine. 20 2 5 9 1 Global 300 2 4 9 9 Trump 2 4 8 7 Eurozone 2 500 financial 2 273 2 2 6 3 election. crisis. 2 0 9 8 250 crisis. 15 2 0 0 0 Brexit referendum 200 1 500 10 150 1 000 100 Global pandemic: 5 worsening US-China 500 50 relationship. 0 0 0 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2015 2016 2017 2018 2019 2020 2021

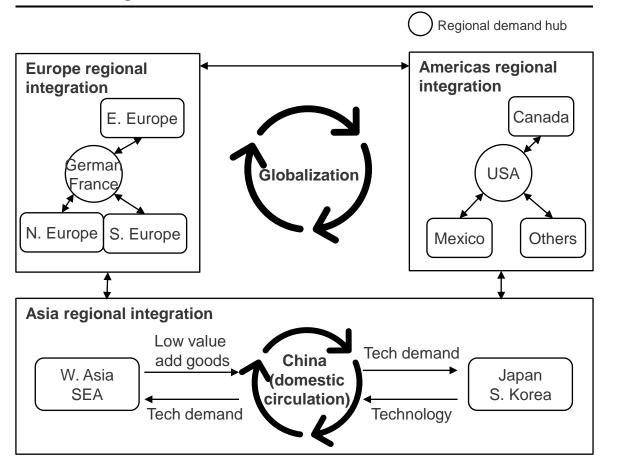
Source: Davis, Steven J., 2016. "An Index of Global Economic Policy Uncertainty," Macroeconomic Review; National Bureau of Statistics of China.



China is moving towards a dual circulation model combined with regional integration – stronger emphasis is put on domestic value chain from shipbuilding to cruise operator

From a flat world to dual circulation economy policy

New round of globalization: multi-model structure



Implications for Chinese marine industry

Prioritizing domestic value chain development from shipbuilding and its supply chain to cruise operation.

Prioritizing localization of capabilities via domestic companies and JVs with foreign industry leaders.

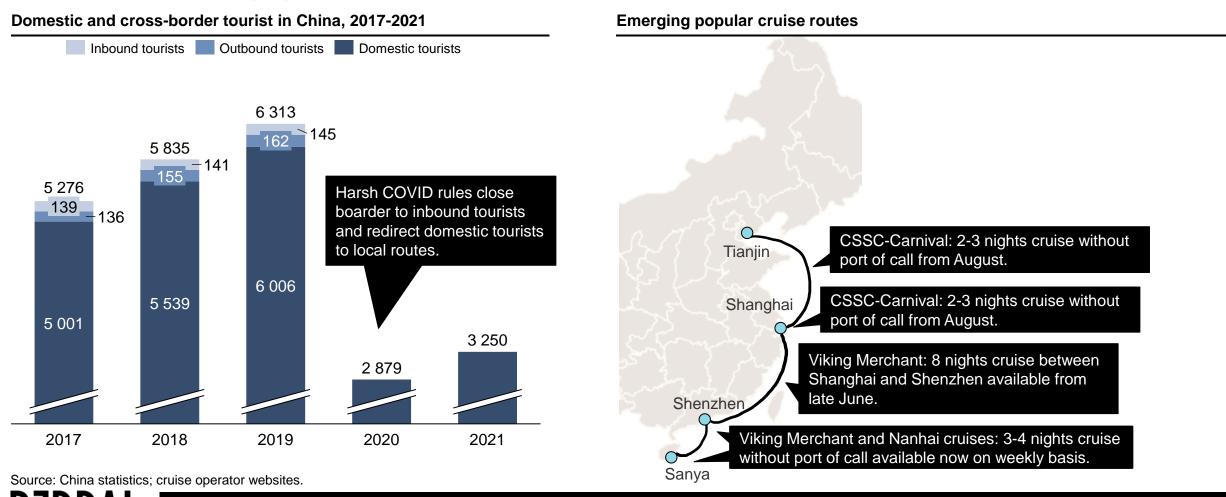
Deprioritizing pure transaction-based activities such as foreign cruise ships making calls to Chinese ports.

Continuing export of mature and competitive marine products such as ro-pax, ferries, rigs, LNG carriers and container ships.



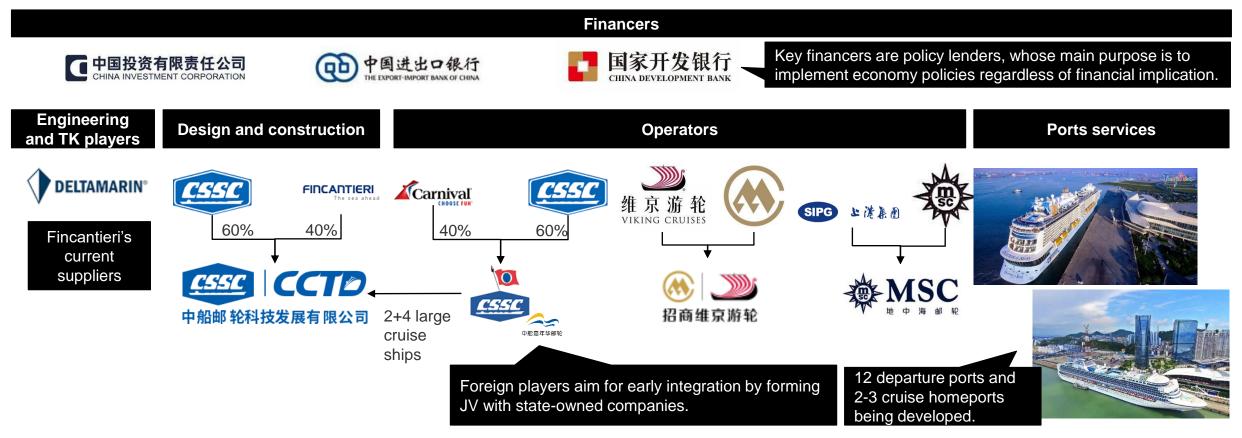
China's harsh COVID rules limit cross-boarder tourists and guide demand to domestic destinations in order to boost domestic cruise industry

Tourist traffic and emerging cruise routes in China



Meanwhile, using COVID restriction as protection, China accelerates cruise value chain development – foreign players enter for early integration with partnership approach

Translation from state policies to state-owned companies' actions



Source: The State Council of The People's Republic of China (2015); China securities news; CSSC Shanghai Waigaoqiao Shipbuilding (2018) press release.



Chinese state-owned shipyards dominate ferry market with a competitive advantage in lower price – export is expected to continue

Significant ferry orders 2020-2023

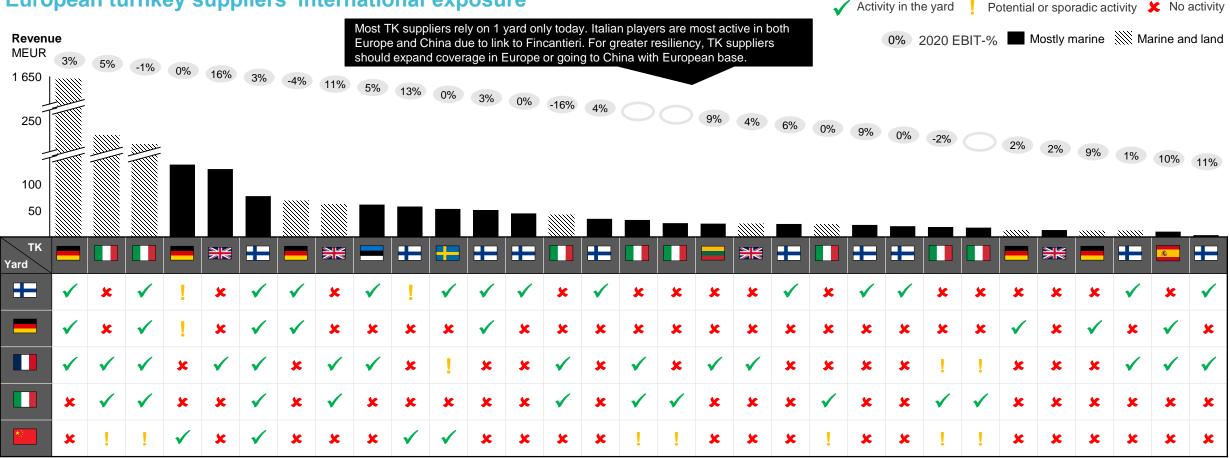
Delivery	Operator	Vessel	Shipyard	Country	
2021	Viking Line	Viking Glory	Xiamen Shipbuilding	China	
2021	Algerie Ferries	Badji Mokhtar	GSI	China	
2021	Stena RoRo	Stena Embla	CMI Jinling Weihai	China	Guangzhou Shipyard
2021	DFDS	Cote d'Opale	CMI Jinling Weihai	China	International (GSI) is part of
2021	DFDS	2 ro-pax	GSI	China	China State Shipbuilding
2022	Stena RoRo	E-Flexer 7	CMI Jinling Weihai	China	Corporation (CSSC).
2022	Stena RoRo	E-Flexer 8	CMI Jinling Weihai	China	
2022	Brittany Ferries	Salamanca	Weihai	China	
2022	Attica Group		Brodrene Aa	Norway	
2022	Seaworld express Ferry		Incat Tasmania	Australia	
2022	TT-Line	Ro-pax	CSC Jinling	China	
2022	BC Ferries	Ro-pax	Remontowa Shipbuilding	Poland	
2022	AS Tallink Grupp	Ro-pax	Rauma Marine Constructions	Finland	China Merchants Jinling
2022	Molslinjen		GSI	China	Shipyard and CSC Jinling
2022	Onorato Armatori Group		GSI	China	Shipyard are part of China
2022	Onorato Armatori Group	Ro-pax	GSI	China	Merchant Group (CMG).
2022	Spirit of Tasmania		Rauma Marine Constructions	Finland	
2022	P&O Ferries	2 ro-pax	GSI	China	
2023	Finnlines ²	Superstar	CMI Jinling Weihai	China	
2023	Spirit of Tasmania		Rauma Marine Constructions	Finland	
2023	Brittany Ferries	Santona	CMI Jinling Weihai	China	
2023	Isle of Man Steam Packet Co.	Ro-pax	Hyundai Mipo Dockyard	South Korea	

The global guide to passenger shipping, Cruise & Ferry Review, AW/20; Finnlines Orders Two Superstar Ro-Pax Ships, OFFSHORE Energy; Ferries for the coming decade, Ships monthly, 7. toukokuuta 2020; 4TT-Linen kahden uuden matkustaja-autolautan kauppa vahvistaa RMC:n tilauskantaa, RMC, 14. huhtikuuta 2021.



For Finnish marine industry supply chain players, expanding internationally will be key for future growth – China is one card to consider, albeit riskier than Europe

European turnkey suppliers' international exposure



Note! Based on 2020 financials.

Source: Reddal analysis, Orbis, Bundesanzeiger, Market Screener.



Contents

The effects from recent disruptions have not changed the major trends and uncertainties in the industry – however there is a noticeable shift towards the "polarization of geopolitical competition" scenario

Cruise passenger demand is recovering a bit faster than expected in the Caribbean, European market still somewhat uncertain; can maintain a positive long-term outlook for ship building growth; short-to-mid-term opportunities in (partly mandatory) maintenance/ refurbishment business

China will stay in "isolation mode" for the near term (up to several years), but continued technological development will make China internationally competitive in coming decades (not likely much sooner)

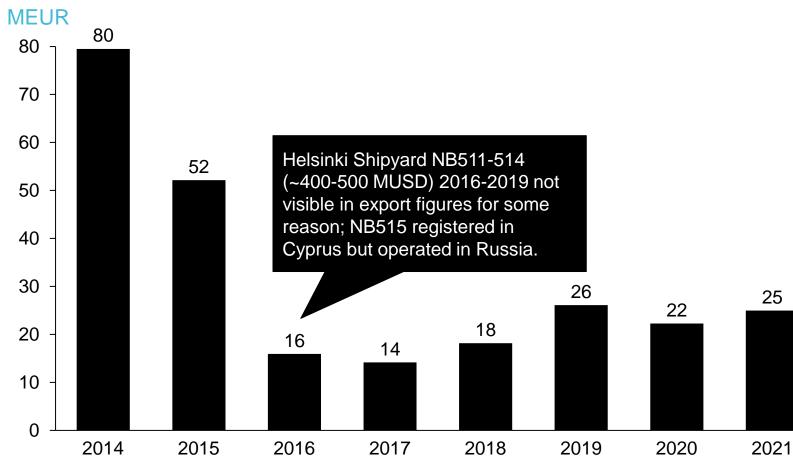
Sanctions on Russia accelerate sustainability trend while causing some minor setbacks to supply chain

Finnish marine industry players with strong technical competence and unique offering combined with international reach and competitiveness will continue to see good opportunities – for others, the current squeeze can be challenging



Russia sanctions and war in Ukraine have relatively little impact on revenue, but can cause issues for some regarding certain raw material sourcing

Development of Finnish marine industry export to Russia and Ukraine



Source: Finnish Customs database. Categories included: vessels, piston engines for vessels, sails, rubber fenders.

- Finnish marine industry exports to Russia are fairly limited today
- In addition to energy, Finland also imports certain raw materials from Russia (and Ukraine), which has a major impact on some players in the Finnish marine industry
- There is also an indirect effect, where the war affects certain commodity (energy, raw material) prices globally (such as natural gas, steel)
- There is a steady stream of smaller vessels and engines, and main outliers causing spikes are mainly ice breakers and other vessels delivered by Helsinki Shipyard
- After 2014 there was a slump, of which there had been signs of recovery; but this is expected to drop again
- Largest exposure of Russian trade is clearly with Helsinki Shipyard, with others having smaller stakes

Sanctions on Russia and war in Ukraine is primarily having an effect through geopolitical impact – polarization and protectionism

Coarse overview of Russian sanctions



Limitations and potential ban on energy imports



Prohibition of import, purchase and transport of steel and iron products (and other raw materials, such as wood products)



Banking limitations



Export bans on luxury goods and maritime navigation equipment



navigation equipment

Travel restrictions and prohibition on port access for Russian vessels

Impact

- Overall impact of Russian sanctions is limited due to low exposure
- Mid-sized shipbuilding is affected mainly due to Helsinki Shipyard
- Increasing energy prices put pressure on cruise and shipping operators
- Payment restrictions as well as energy and raw material sanctions cause some supply chain reconfiguration for shipbuilders
- Stricter KYC requirements for exports to avoid potential delivery to prohibited endusers
- Reduced customer base for luxury yachts
- Restrictions reduce cruise activity in Baltic Sea area (NCL cancelled '22 season, others re-routing St. Petersburg; Russian ports were in ~3-4% of routes)

Implication

- Increased energy prices
 accelerate green transition
- Inflation of price levels expected in short term due to quick localization of supply chain
- Overall impact on shipbuilding minor; main impact on operators through energy prices
- Helsinki Shipyard future
 uncertain, yard for sale
- Main impact comes from geopolitical shifts caused by Ukraine crisis - polarization and protectionism

RJDDAL

Contents

The effects from recent disruptions have not changed the major trends and uncertainties in the industry – however there is a noticeable shift towards the "polarization of geopolitical competition" scenario

Cruise passenger demand is recovering a bit faster than expected in the Caribbean, European market still somewhat uncertain; can maintain a positive long-term outlook for ship building growth; short-to-mid-term opportunities in (partly mandatory) maintenance/ refurbishment business

China will stay in "isolation mode" for the near term (up to several years), but continued technological development will make China internationally competitive in coming decades (not likely much sooner)

Sanctions on Russia accelerate sustainability trend while causing some minor setbacks to supply chain

Finnish marine industry players with strong technical competence and unique offering combined with international reach and competitiveness will continue to see good opportunities – for others, the current squeeze can be challenging



In summary, we believe the scenarios presented still hold, yet in the next years we are trending towards scenario 3 – this requires certain actions to be taken

Marine industry scenarios 2035

Strong development: Global productivity increases fast driven by technological development, new operating models and good availability of capital. Trust in current economic system is strong and economic principles remain the same.

Local: Yards employ majority of the work force and prefer local TK- supplier networks.	Scenario 4: Disintegration into large regional trade areas In a protectionist world, large regional trade market alliances are competing and creating new technological solutions inside them. Solutions are enabled by public infrastructure investments and protected by regulatory changes. The economy is growing fueled by the regional financial revival packages and increasing productivity, but world trade is ineffective. Marine industry is building for the own regional markets (North America, EU, China) while the demand is high, and new ecological ships are being built. Shipbuilding in Finland is focused on new prototype passenger ships that are mainly >185kGT in size and delivered to western operators.		Scenario 1: Multi-disciplinary technological conglomerates Sustainability awareness and disruptive ecological technology solutions ensure global economic and welfare growth. Multi-disciplinary technology conglomerates increase their importance and power also in shipbuilding. Marine industry's demand is high and Europe leads the advanced passenger ship building market with innovative and progressive "yard platforms". China has created competitive cruise shipbuilding cluster but produces cruises still mainly for Asian operators; shipyards in EU compete tightly with Finnish yards and tough competition from Chinese yards may realize in the coming years.	Global : open global competition, yards work as
	Scenario 3: Polarization geopolitical competition Increasing protectionism trend lead countries to reduce the international collaboration as they try to protect their own economies. China with large domestic market can revive its economy and is growing, while western countries are experiencing a zero-growth era. Shipyards are driving the marine industry and seek to increase efficiency by increasing the integration of the value chain. Shipbuilding demand is weak in western countries which aim to ensure domestic security of supply. Shipbuilding demand in China is strong driven by domestic operators. Majority of Finnish yards have been closed.	Productivity gr	 Scenario 2: Platform economy of shipbuilding and cost competition Economy is stagnating and wealth inequality is increasing, but countries aim to avoid recession by enforcing open free trade. Consumers have divided into price sensitive and ecologically aware groups. The amount of new build projects in cruise is low as the current capacity is enough to meet the demand. Ships are built with a "gig economy" model in yard platforms to minimize the costs due to the tight cost competition in global shipbuilding where the cheapest yards win the orders. Companies in the value chain must be international and efficient to survive. Finnish yards are in crisis, and they try to survive by taking ship orders for a wide range of ship types. 	project platforms and employ only necessary roles.

Weak development: Global productivity growth is slow or flat due to the moderate progress in technology development and in developing new models in organizing work and operations. More limited availability of capital weakens the productivity growth potential. Trust in economic system is weak, and China's role in global economy strengthens in comparison to western countries.

Source: Meriteollisuuden tilannekuva ja skenaariot alan kehityksestä report prepared by Reddal for Ministry of Economic Affairs and Employment of Finland.



Our long-term recommendations for the industry and Finnish government remain unchanged

Recommendations for long-term marine industry development



Competitiveness of companies throughout the value chain of the sector

- Reviewing broad themes for the development of the entire value chain of the marine industry and the necessary investments between the various actors in the marine industry
- Reducing the ship-centered nature of the communication of the various operators in the maritime industry, the importance of the entire value chain
- The shared will of the value chain to improve efficiency through process improvement and innovation



Internationalisation

- Understanding and strategic prioritisation of the internationalisation of industry and the importance of R&D projects
- Achieving cooperation and consensus on promoting exports of different segments between the different parties in the field
- Development of organisations' internationalisation capabilities and networks, for example with organisations in the field (Maritime Industry Association, Finnboat ry)



Financing of export guarantees and cruisers during construction

- Export guarantees will continue to be essential for large ship projects, with Basel III regulation making large and long-maturity shipbuilding loans poorly profitable for banks, commercial banks do not want loans alone to carry loans to carry
- Financing of cruise ships during construction is essential; OECD-based funding during the construction of shipyards is also important
- In addition to shipyards, export guarantees are important for system suppliers, subcontractors serving foreign shipyards and large boat carving shops

See also recent scenario analysis by the Chemical Industry Federation of Finland and Nordic West Office (link) – they talk about "mission led industrial policy" with government as a key actor.



Availability of labour

- Labour migration and the free movement of both national and international labour are important for the well-being of the marine industry
- The secure status of training places for maritime training programmes in both higher and vocational schools is also important



The functionality of the supply chain

• Benchmark comparison of the functionality of the supply network from the point of view of shipyards, comparison with other industries and international shipyards (aiming at the 'best practice' level, taking as a milestone the best industrial industries such as automotive or electronics)



International cooperation

 Increased cooperation with strong marine industrialised countries such as Germany

Maritime know-how in government organisations

• The substance competence of the maritime industry and maritime transport through structures and roles in state organisations is important in order to support legislative developments and other activities related to the maritime industry



On a company level, continued build-up of technological and operative competence, global competitiveness and market reach will be critical

Recommendations for long-term marine industry development

Shipyards should develop new capabilities, secure supply chain and own operations to maintain competitiveness and costefficiency; increased focus on R&D and network of partners in order to lead in application of technology trends.

sh ca en su ge Eu Cl

Technology and turnkey suppliers should build state-of-the-art capabilities in own area and new emerging areas (digitalization, sustainability), while expanding geographical reach (Europe, Europe/North America or expand to China with European base).



You can find more materials on both marine industry, China, strategy and other topics at reddal.com

Further reading on Reddal.com/Insights/

Finnish marine industry outlook

• Study: The Finnish marine industry - an emerging growth sector https://www.reddal.com/insights/study-the-finnish-marine-industry-an-emerging-growth-sector/

China perspectives

- China ambitions in cruise sets their agenda for full value chain a potentially lucrative opportunity awaits https://www.reddal.com/insights/china-ambitions-in-cruise-sets-their-agenda-for-full-value-chain-a-potentially-lucrative-opportunity-awaits/
- China ambitions in cruise sets their agenda for the full value chain <u>https://www.reddal.com/insights/china-ambitions-in-cruise-sets-their-agenda-for-the-full-value-chain/</u>
- Manufacturers, make your brand portfolio work again in China https://www.reddal.com/insights/manufacturers-make-your-brand-portfolio-work-again-in-china/

Strategy, digitization and operational improvement

- Corporate digital strategy as a compass to navigate through digitization https://www.reddal.com/insights/corporate-digital-strategy-as-a-compass-to-navigate-through-digitization/
- When traditional manufacturers encounter digital disruptors: collaborate and compete on industrial digital solutions https://www.reddal.com/insights/when-traditional-manufacturers-encounter-digital-disruptors-collaborate-and-compete-on-industrial-digital-solutions/
- Transforming reporting from bureaucracy to a value driving process https://www.reddal.com/insights/transforming-reporting-from-boring-bureaucracy-to-a-value-driving-process/





