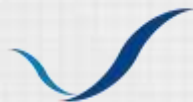


WORLD MARKET OPPORTUNITIES

PRESENTED BY PETER GREEN, CEO, NATIONAL MARITIME

30TH MARCH 2021



Interreg
Atlantic Area
European Regional Development Fund



EUROPEAN UNION

NATIONAL MARITIME

- We are a business engagement group for UK maritime SMEs
- We help drive trade, productivity and growth
- Represent the interests of over 726 member organisations, 375,110 professionals
- Ports & Logistics, Business Services, Marine Engineering, Renewables, Fisheries, Superyacht & Leisure, Offshore Energy, Heritage & Marine Social Sciences, Ship Building and Ship Repair
- Promote and develop excellence in all maritime activities related to business, skills and education
- Responsible for WP6 of Consortex – World Market Opportunities



EUROPEAN INTERNATIONALISATION MARITIME CONSORTIA



CONSORTIUM



www.consortex.eu

WORLD MARKET OPPORTUNITIES REPORT



DESCRIPTION

The report identified market opportunities for those maritime industries who specialise in the manufacture and supply of built-in packages for the production of: Vessels; (bridge, engine room, accommodation and deck) for certain ships including;

- Offshore vessels
- Marine power plants
- Cruise ships
- Scientific vessels

AIM

- To present the key opportunities and prospects from the most important maritime regions around the world
- To consider the trends shaping the development of the global maritime sector and highlights those opportunities being created by the shifting of energy production to new areas and identify the emerging environmental business opportunities

KEY INSIGHTS AND OPPORTUNITIES

- Merchant Global Shipbuilding opportunities until 2026
- New Orders by Country and Ship Type
- Growth in Container ships, Ro-Ro & Car Carriers, Fishing Vessels, Tugs, Research Vessels & OSV's
- Shipbuilding Supply chain opportunities until 2025
- Specialisation and high tech niche opportunities
- Military Global Shipbuilding opportunities until 2032
- New build Cruise Ship orders until 2027
- Offshore platforms and renewable energy facilities and devices, required to meet global demand
- Environmental Regulation and Compliance Opportunities; Smart ships, LNG Fuelled ships, Sulphur Cap 2020, BWMS

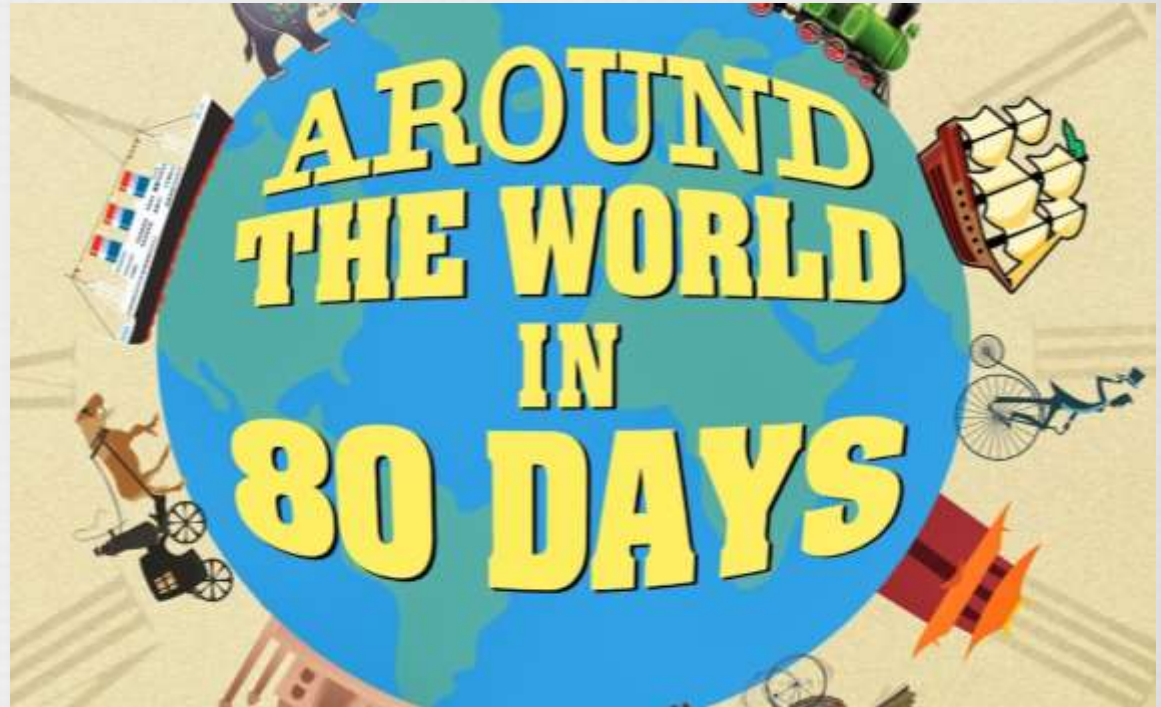
STRUCTURE OF RESEARCH

The report was based on

- A vast desk study and expert interviews
- Access to research material and maritime data
- Wider engagement with global shipbuilding associations
- Analysis of all global regions
- Comprehensive mapping of all maritime regions in the world to identify priority markets aligned with the projects priorities
- Reference to regions which might not be considered as key players in the global scale but had the potential to grow

CONSORTEX - WORLD MARKET OPPORTUNITIES

- World-wide market study
- Identify opportunities
- Inform the consortia
- Report published 1st December 2018



A POSITIVE MARINE WORLD IN 2030

In 2030,
we could be
living in a
world where

- China owns a quarter of the merchant fleet
- Almost half of offshore oil is extracted from the deepest waters
- There are 100 times as many offshore wind platforms
- The size of the tanker fleet is expanding slower than all other major ship types
- The number of containerships with capacities that exceed 7,600 teu is growing three times faster than those below that threshold
- Our work leads us to believe that we can expect growth and opportunities across all sector areas targeted by the Consortex export consortia
- This will mean more demand for shipping, shipbuilding, marine equipment manufacture, and related services – including the knowledge services that we all provide

Conclusion of the World Market Opportunities Report

- 'No growth' prediction in global shipping from 2018 to 2022
- Shifting of energy production to new areas and the opening of new shipping routes creating demand for 1) specialised maritime and offshore solutions 2) new shipping services 3) demand for environmental-friendly solutions
- Merchant, military and offshore opportunities that align with the high quality and specialisations of European clusters
- Global outlook of shipping projects by vessel type; Orders by CGT and for vessel types such as LNG and large containerships increasing
- Global investment across oil and gas increasing the requirement for the build of more offshore oil and gas platforms
- Greater promotion of the development of offshore wind farms and the supply of LNG related equipment
- Combination of European companies strengths - Design, Know-How and High-Quality materials is highly recommended



LETS TAKE A CLOSER LOOK AT THE OPPORTUNITIES

Environmental Regulation & Compliance

The acceleration of environmental regulation of ships and compliance with IMO recommendations including the development of Smart ships, LNG Fuelled ships, Sulphur Cap 2020, BWMS (Ballast Water Management System) creates immediate opportunities for those operating in the ship retrofit and equipment sales market around;

- Whole-vessel integration to deliver more affordable and optimized running (reduced staff and costs)
- Design, integration, manufacture and operation of autonomous vessels and systems, and refit of superyachts, high-end powerboats and high-end sailing yachts
- Extended use of composites and other novel materials
- Design and manufacture of specialist vessels for support of the offshore energy and naval sectors
- Through-life operation and insertion (including refits and conversions) to improve vessel efficiency
- Decision support systems - including integrated voyage optimization to deliver just-in-time arrival at Port

Scrubbers

- Environmental regulation is now responsible for the installation of scrubbers in over a third of the total orderbook by tonnage
- The IMO2020 Sulphur Cap 2020 regulation now in force
- Ships are obliged either to install SOx scrubbers or use expensive MGO (Marine Gas Oil)
- More than 70,000 ships will be affected by the regulation.
- As of August 2018, more than 1,200 ships had either installed or ordered scrubbers to be installed by 2020 (*DNV GL*)
- Fewer than 2,000 ships would have scrubbers installed by 2020, requiring the rest of the fleet to rely on compliant fuel



LNG

- The number of ships using LNG to increase as more infrastructure projects are planned or proposed along the main shipping lanes
- Rapid growth in LNG to over the next five to ten years (DNVGL)
- Increase in LNG for vessels operating in North American and Northern European waters with existing or upcoming NOX requirements
- An increase in compliant-fuel prices relative to LNG will encourage operators to invest in LNG

Ballast Water Management System (BWMS)

- Yearly increased market = 5.0 Billion US\$
- Currently no determined winner in the BWMS market and competitions in terms of USCG approval of BWMS type, price competitiveness, response to quality issues are increasing
- Projected future market for middle and large vessels based on USCG type approval
- The demand for BWMS continues to rise centring on the new shipbuilding market. Korea accounts for 55.5% of the market share from 2010

Fishing Vessels

- World fishing fleet estimated 25,000 vessels (above 100 GT) with a total tonnage of 11 million GT
- Total number of fishing vessels in the world was estimated to be about 4.72 million in 2012, 90% of them less than 12 m LOA.
- Currently, more than 50% of the ships are over 30 years old.
- Newbuild deliveries are expected to rise from around 240 vessels in the period 2019-2030 to around 385 vessels per year in the period 2031-2035

Tugs

- Defined as vessels over 100 Gross Tonnes (GT) - categories Tug, Pusher Tug, and Salvage Tug
- Tug order growth driven by world seaborne trade, the size of vessels to be handled and fleet renewal
- Large port tug operators in Europe, Asia, Middle East and the US are ordering or operating energy efficient and environmentally friendly tugs with new propulsion forms, such as hybrid propulsion (battery/diesel) or dual fuel engines fuelled by LNG or diesel
- 505 tug deliveries per year is forecasted during 2018-2020 period. A peak of close to 700 deliveries per year is expected in the 2025-2030 period

Specialised Vessels

- Specialised vessels around 2,770 vessels consisting of a wide variety of vessel types; crane, pollution control, buoy tenders, pilots, search & rescue, patrol & workboats
- Production of patrol vessels is rising. Developing nations are building up their navies, while navies in the Western world are increasingly looking to deployment of patrol vessels as a more cost-effective way of performing some duties which used to be performed by frigates and corvettes
- The average production of patrol vessels has almost doubled, from 16 units per year in the period 1998-2007 to 33 units per year in the period 2008-2017
- The production of utility vessels and work/repair, vessels have also sharply increased, from less than 10 units per year before 2008, to an average of around 14 units per year in the last ten years

Cruise Ships

- The cruise industry continues to see steady growth
- Over the last 10 years passenger numbers went up by over 50%
- Dedicated expedition cruise vessels is still a niche market, a steady growth can be seen here
- Adding tonnage combined with the steady growth increases demand for expedition cruise vessels

Ships on Order:	125
Orderbook Value:	\$69.8 Billion (Jan. 2019)
Average Size:	90,536 Tons
Total Berths:	269,498
Average Capacity:	2,227 Passengers
Average Price/Berth:	\$259,100
Average Cost:	\$577,000,000

Offshore Energy

- Oil and natural gas expected to account for 60% of global demand for energy in 2030
- Advances in technology, underpinned by innovation, research and development will be the keys to meeting the growing demand for energy from more diverse sources.
- The number of offshore platforms and renewable energy devices required to meet global demand will grow significantly
- At present the global offshore fleet consists of around 10,000 vessels across 30 vessel sub types. These supply and service vessels support over 1000 drilling rigs and floating production units
- Floating Production - The number of deep-water projects in the near-term planning queue indicates production floater orders are set to increase. There are over 200 projects at different planning stages (IMA). The timing for when the projects will materialise is uncertain and there is a possible trend towards conversions rather than newbuilds.

Offshore Energy

- Construction Support Vessels – projected strong growth towards 2021 and beyond driven by field development
- Offshore Wind - The average annual growth rate for new installations in the next decade is expected to be above 15%. In Europe, a tripling of capacity between 2020 and 2030 is expected
- The market for offshore wind support or service operation vessels is growing

NAVAL SECTOR



Naval power will double in 2030, although navies will only maintain and refresh the numbers of platforms and personnel, rather than expanding them

This escalation in naval capability suggests that there are growth opportunities for the naval sector in systems capability rather than platforms or people

The growth of automation, sensor integration, cyber security and related technologies will help to determine the nature of naval power in 2030

THANK YOU FOR YOUR TIME

Peter Green, CEO, National Maritime