The Shipbuilding and Offshore Marine Supplies Industry

Including selected results of a study for the European Commission 2013/2014

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WORKING PARTY ON SHIPBUILDING (WP6)
WORKSHOP ON SHIPBUILDING AND THE OFFSHORE INDUSTRY

Various Markets for Marine Supplies

• Newbuilding of Merchant Ships and Offshore Ships (shipyards, boatyards and shipping companies)
• Ship repair and conversion of merchant ships (shipyards, boatyards and shipping companies)
• Retrofitting - a special conversion market for ships following new regulations (shipyards, boatyards and shipping companies)
• Naval shipbuilding incl. maintenance and repair (shipyards and governments)
• Offshore O&G Platforms, Jack-ups etc., (offshore- and shipyards, oil and gas companies/operators)
• Offshore Wind (offshore- and shipyards, e-energy companies/operators)
• Boatbuilding (boatyards, shipyards)
• Other marine and marine supply markets
  ▪ Offshore underwater equipment and services
  ▪ Traffic management, logistics support and environmental surveillance
  ▪ Safety and security markets
  ▪ Polar technologies, marine science technologies
  ▪ Harbour technologies
  ▪ Shipyard technologies
Average World Market for Marine Supplies
149 bn €/a (2006 – 2010)

Total global purchasing volume: 149.05 bn €

Annual national demand (Top 20) for marine supplies in mill. €

Data: averages from OECD and Eurostat (2006-2010), OECD Input Output tables 2005, publications

The economic downturn created insourcing tendencies

Source: OECD, Eurostat, BALance TC
Value chains in shipbuilding:
Major 1st tier suppliers consolidate and grow ...

Value chains in shipbuilding:
... and globalise their supply chains
Value chains in shipbuilding: More fragmentation and globalisation

- Shipyards
- Subcontractor Design/Engineering
- Subcontractor Assembly/Service
- Material Suppliers
  - Steel/Pipes/Paint ...
- System/Component Suppliers
  - Manufacturer

+/- 30%  
+/- 30%  
+/- 40%

Europe Production Value

EU 28 + Norway + Turkey - Total Production in mill. €
(average 2006 - 2010) - 61.8 bn €
(abt. 41,5% world production)

EU-28 alone: 52,5 bn €
(abt. 35% world production)
Europe Export Value

EU 28 + Norway + Turkey - Total export value in mill. € - 27,43 bn €

- abt. 44% of the production goes into export
- abt. 33% is ex EU-28+N+TR export
- abt. 11% is inner European trade

Source: Eurostat (average 2006-2010), BALance TC calculations

Globally >11,500 marine supplies companies exist based on analysis of certificates
Asian Manufacture show significant growth rates in MED certificates 2010-2014

Future Projection
Marine Supplies

Economic drivers and market outlook
for 7 markets
including market forecast 2013-2017
Shipbuilding, Shirepair, Retrofitting,
Naval Shipbuilding and MRO, Boatbuilding
Offshore Oil & Gas, Offshore Wind
**Marine Supplies Market Forecast 2013 – 2017**


- **Ship Newbuilding**: 50.4 bn USD/a (37%)
- **Ship Repair**: 12.6 bn USD/a (9%)
- **Retrofitting**: 9.6 bn USD/a (7%)
- **Offshore O&G**: 8.1 bn USD/a (6%)
- **Offshore Wind**: 18.5 bn USD/a (14%)
- **Naval Ships + MRO**: 3.0 bn USD/a (2%)

135.2 bn USD/a = ~ 102 bn EUR/a

- **+ Harbour Technologies, + Shipyard Technologies, + Coastal Engineering**
- **+ Marine Safety and Security Technologies, + Traffic Control Technologies**
- **+ environmental surveillance and cleaning, + Polar Technologies, Marine Science Technologies**

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**Offshore (floating) dominates the shipbuilding market >130bn USD - ~32%**

**Merchant Shipbuilding 2013-2017 [bn USD]**

- **Total Orderbook Forecast**
  - 410 bn USD total shipbuilding value
  - 252 bn USD marine supplies value
Offshore ships clearly represent high value and marine supplies intensive ships

Marine Supplies Industry Structure
Simplified Structure of 10 Supply Trades

1. External services and subcontracts - engineering, design and consulting services are covered, also subcontracts for pre-manufacturing or assembly. But, in many cases these are integrated in post-calculation data of material supplies or system/equipment supplies, i.e. these are included in the following subcategories.

2. Materials – Steel (half raw materials, subassemblies)
3. Materials – Pipes and Ducts (half raw materials, subassemblies)
4. Materials – Paint, Coating (paints, painting services)
5. Systems/Equipment – Ship Operation (steering gear, anchor, deck machinery, life saving equipment, MARPOL equipment, general outfitting components)
6. Systems/Equipment - Cargo Handling and Processing Equipment (equipment and Special Cargo Plants (cranes, sucker, conveyors, cargo lift, hatch covers, Ro-Ro doors and ramps, trailerlifts, cargo hold outfitting and fittings, HVAC for cargo holds, LNG/LPG plants, fishing vessel equipment, special equipment for dredgers, offshore ships equipment - production, processing, drilling, exploration, etc.)
Marine Supplies Industry Structure
Simplified Structure of 10 Supply Trades

7. Systems/Equipment – Accommodation (preprepared cabins, doors, windows, walls, ceilings, coverings, floor coverings, carpets, staircases, railings, lifts, sanitary rooms, swimming pool equipment, accessories, equipment for public rooms, pantry, bar, restaurant, kitchen, food storage, laundry, furniture and decoration etc.)

8. Systems/Equipment - Propulsion, Power Generation (diesel engines, boiler, steam turbines, gas turbines, gears and couplings, propeller, shaft and bearings, accessories, auxiliary engines (diesel), auxiliary boilers, etc)

9. Systems/Equipment - Auxiliary Systems, Apparatus & Accessories for engine operation, ship operation, cargo handling, accommodation (seawater cooling, fresh water cooling, fuel systems, lub oil systems, exhaust system, engine starting system, steam systems, heating systems, ballast water, fire fighting, deck washing, pressurized air, tank heating, cargo hold heating and cooling, cargo pumps, inert gas plants, tank cleaning, tank heating, drinking water, sanitation hot/coldwater/sewage, HVAC, waste disposal, swimming pool technology, general engine room outfitting, roll-damping, anti heeling systems, active stabilizers, etc.)

10. Systems/Equipment - Electrical Plants and Electronic Systems (main plants, generators, batteries, cable trays, cables, fittings, e-engines, lighting (all rooms and decks), electrical heating, alarm and control systems (ship automation, remote engine control, monitoring, cargo control, communication systems, nautical equipment (compass, radar, log, sat receiver, ECDIS, weather plotter), navigational lighting, entertainment systems (audio, video, cinema, theatre, meeting rooms, hotel management, locks))

More than 50% of the demand is coming from China and Korea, followed by EU-27, Japan and rest of Asia with about equal shares and 12% for the rest of the world.
The dominant supply trades are propulsion and power generation with about 45 billion USD, followed by cargo systems (35 billion USD), steel and auxiliary systems (both 30 billion USD) and accommodation with 21 billion USD.

Korea creates the highest single demand for cargo systems, caused by the huge orderbook on offshore production and drilling vessels with extremely costly processing plants.
Europe creates the highest demand on accommodation systems, caused by the market leading orderbook for cruise ships and superyachts

### Economic Drivers

- Offshore is and remain a major driver
- Niche Shipypes with high technology content (Pax, Chemical, RoRo, LNG, NCCV …)
- Bunker Price
- \( \rightarrow \) Change of Paradigm: OPEX drives CAPEX
- MARPOL VI, ECA’s – Nox, Sox, Particulates, EEDI
- Ballast Water Convention
- \( \rightarrow \) Retrofitting or earlier replacement
- Innovation and Technology
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