



Platform for cooperation in European Naval shipbuilding

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- Current structure of the European Naval Shipbuilding**
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The Naval Sector (1)

- **The European maritime sector and the naval defence industry in particular is a strategic asset for Europe.**
- **European naval integrators are the cornerstones of EU strategic autonomy in the naval domain by designing, integrating and building the most complex and expensive assets in service.**

The development of defence assets is always initiated by States. They are the one recognising and defining the needed capability.

The ultimate goal of this capability oriented process is to provide the political power with the assets it needs to attain its political aim.

The European Maritime Technology Sector

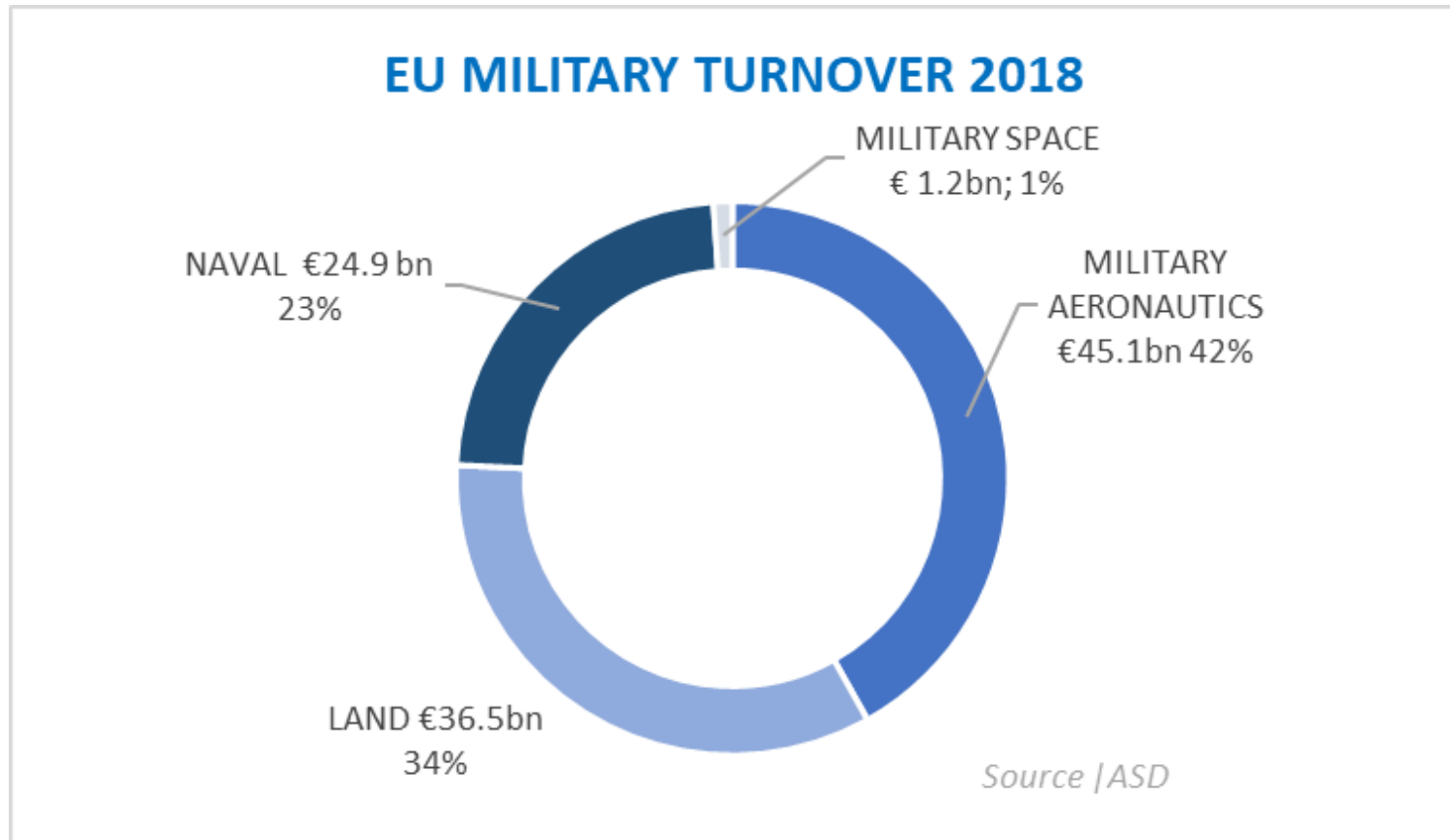


> 500,000
highly skilled
workforce

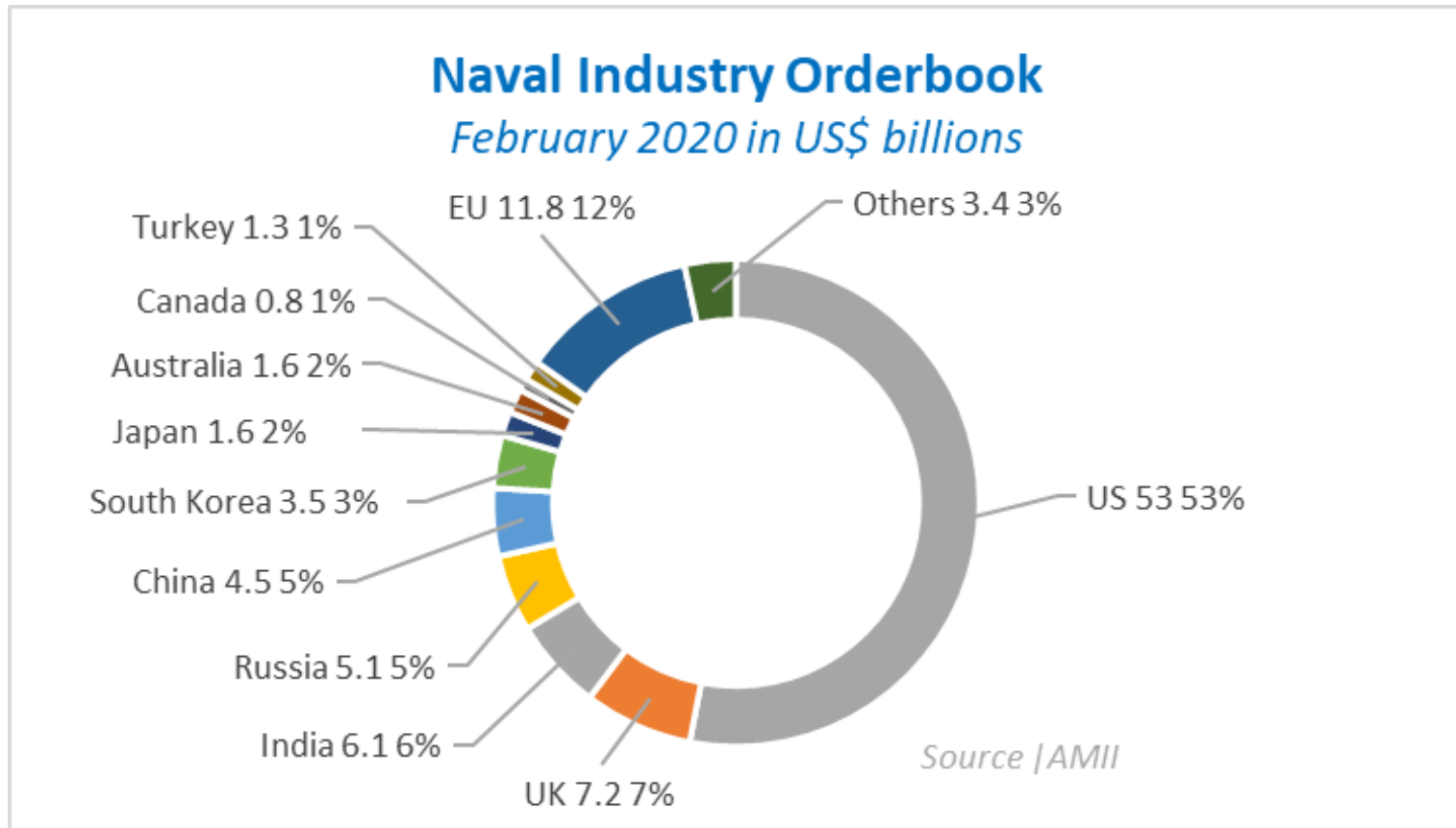
The Naval Sector (2)

- **Half of European shipbuilding and ship maintenance are naval(military) based.**
- **In the last decade the number of specific naval shipyards has been significantly decreased thru mergers, acquisitions and closures.**
- **Today 90 % of the naval shipbuilding is concentrated in 6 countries (It, Sp, Fr, Ge, NL and Swe) with 7 companies and a turnover of more than 15b €.**
- **Most companies combine commercial and naval activities creating cross fertilisation of technologies and the use of commercial off the shelf products.**

Naval Compared to Other Sectors



Global Orderbook



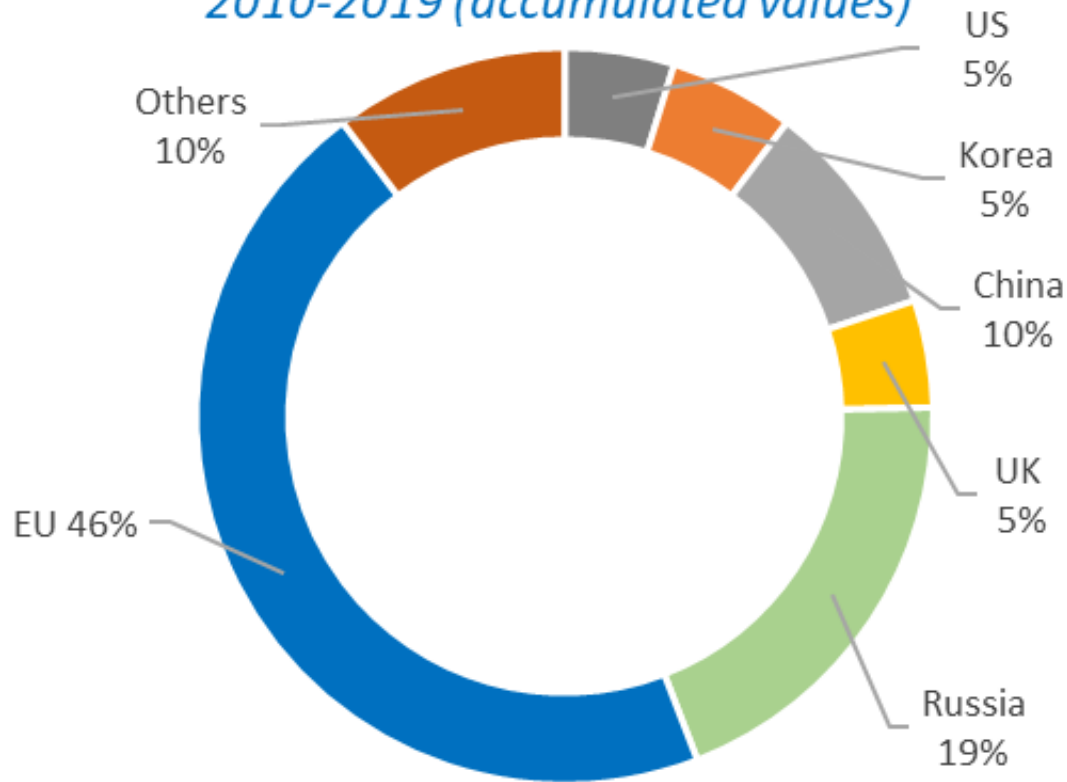
The Naval Sector (3)

- **Serving the home market is no longer sufficient to maintain the necessary capabilities thus the export market has become of prime importance for the European Naval Sector;**
- **Recent studies indicate that European naval integrators still cover 60% of the accessible export market but competition is growing fast: China, Russia;**
- **Product development and Technological breakthroughs are primarily driven by the operational ambitions of the national navies; at the same time governments decrease R&D funding;**
- **EDF funds have the potential to close this cap especially considering system**

Export Market

Shares in Naval Exports by Geographical Area

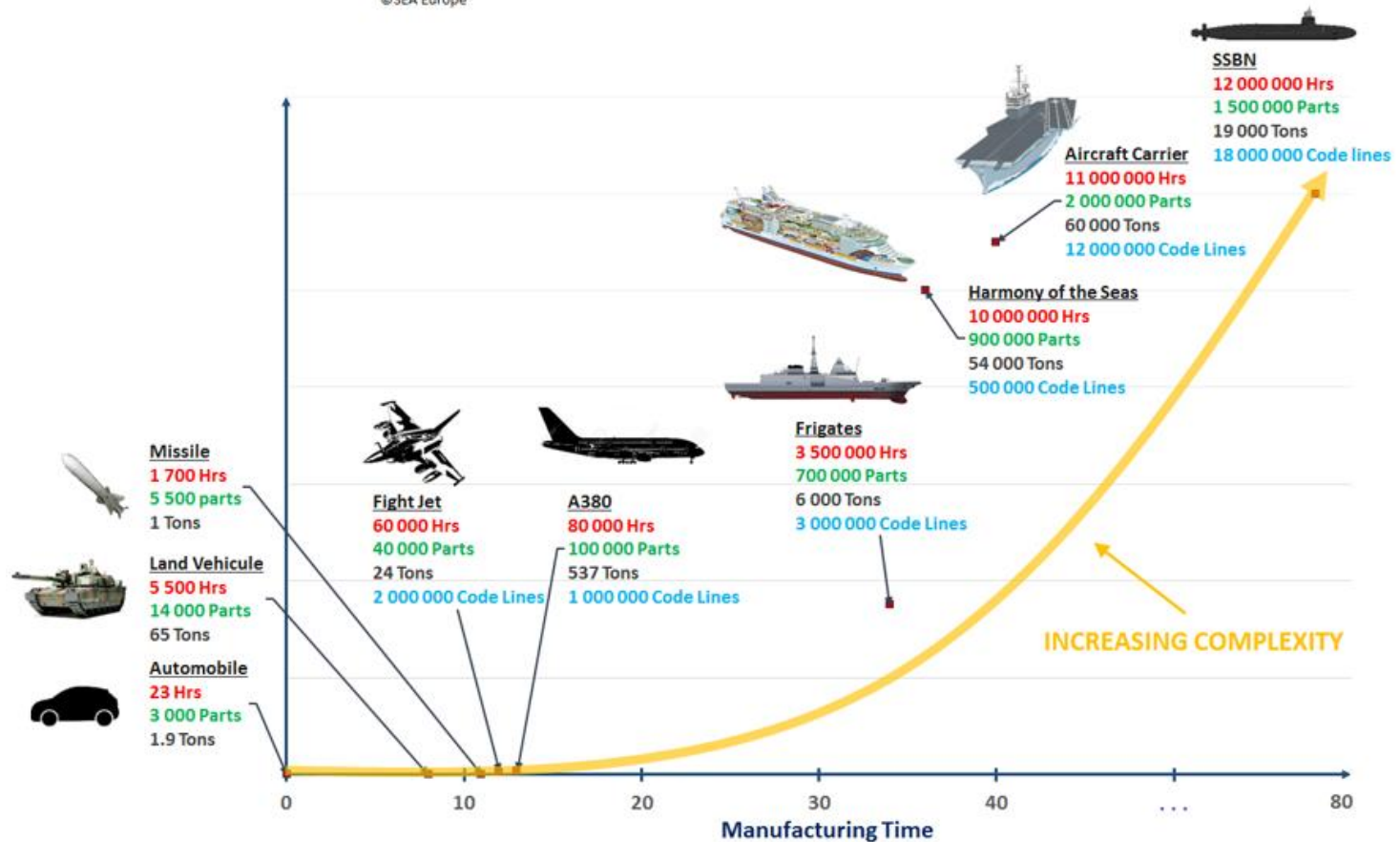
2010-2019 (accumulated values)



The SEA Naval Product

MARITIME INDUSTRIES : HIGHLY COMPLEX VESSELS

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The Naval Product

40+ years

is the Lifespan between the conception and the decommissioning of a ship.

Last commanding officers for ships commissioned today are not born

5-10+ years

is the time needed to train people in the technical fields of expertise required.

Some specialist worker are trained longer than doctors

Unique

Naval Integrators' production machinery, tools and facilities are unique in size or capabilities.

Some naval cranes can lift the weight of three A380s

10%

is the R&D intensity of the Naval industries, one of the highest in Europe.

Average R&D intensity in Europe is 4%

European initiatives in a changing world

STATE OF PLAY AND CHALLENGES

Geopolitical challenges

- **The use of military power politics by some strategic rivals of Europe made a staggering comeback in the past years.**
- **Policy uncertainty characterizes the US, Europe's natural partner and ally and what means Brexit?**
- **China the belt and road initiative includes aggressive and predatory commercial policy on naval and civil assets.**

China's fleet outpaces Europe's since 2016 and keep growing:

- It built more than 70 capital ships in 4 years, the equivalent of the French navy.
- It currently builds 1 frigate per month and 1 submarine every 3 months.

State of play in Europe

- **European navies are at a crossroads:**
 - Fleets are reaching obsolescence and numbers have been reduced by decommissioning;
 - Their replacements have been delayed in previous years for reasons of budget constraints (peace dividend);
 - Newbuilding was focussed on lightly armed vessels for policing and expeditionary operations;
 - Now threats are re-emerging from medium to high intensity.
 - Areas of operation are becoming more extreme both tropic and arctic
 - Due to difficulties to align requirements Multi-national newbuilt programs have been very limited.

Technological challenges

- **Emerging trends from the technological side are rearranging the way we think about platforms.**
- **Most relevant trends:**
 - **Artificial Intelligence, use of big data;**
 - **Countermeasures for a new generation of weapons;**
 - **Intelligent warship: hyper-sensed, health monitoring system, digital twin vessel;**
 - **Energy efficiency, production, management and storage;**
 - **Built-in maintenance features;**
 - **Robotics and automation, including UxVs (stand-alone/integration).**
 - **Extended operational use (more days at sea) and improved survivability**

Key enablers

- **To meet the challenges Europe is facing in the naval domain and to do that in a self sufficient way Navies , Institutes and Industry need to work closely together.**
- **Naval R&D requires a meaningful and stable budget level and funds for prototyping/demonstration at system level.**
- **Cooperation should be organised, using pooled resources for pre-competitive topics.**
- **Joint requirements should be established to further interoperability of systems, vessels and fleets and reduce cost of ownership.**

European initiatives

- **Defense is still the prerogative of the individual member State. Today there are three European initiatives :**

1)Based on partnership the MOD's provide since (2006) through EDA a continuous Capability Development Plan detailing the needs of the armed forces. The recent PESCO initiative (2019) is aimed to solve the need and stimulates and facilitates shared development and procurement plans.

2)The European Commission has entered the defense field with the European Defense Fund to strengthen the European Defense Industry Technological Base.

3)The European Commission has its Military Mobility initiative to enable the strategic cooperation of the European armed forces by adapting the European infrastructure (road, rail, waterways)

EDF

- From an industrial point of view EDF is a very important instrument.
- Its prime goal is to stimulate and facilitate common (shared) R&D and help promising technology to pass the valley of death.
- Although the original plans were more ambitious EDF has a budget of 8,5 b € for the next 7 years in the form of financing R&D (500m€ p/a) and sponsoring demonstration and pre-production up to 20% (= > 3,5b€ p/a)
- The ultimate selection of R&D topics and (due to the 80% financing) the choice of which demonstration project will go ahead is by the MS only.
- The logic behind it is that with the right R&D and help to get promising technology mature, multi-national procurement (PESCO) is the logical next step.
- Both instruments have been tested by the PDRA and EDIDP programs and EDF is about to publish its first calls. (2021)

The Way Ahead

- **Key relevance of the EDF - its leverage on Member States budgets (20%-80% rule), now in post-COVID scenario, cannot be overstated;**
- **EDF should now match with the Pillars of the Recovery Fund;**
- **The “fair share” must be implemented in the EDF (23%)**
- **Continuation of PESCO at the same pace;**
- **Fixing a serious gap in the Military Mobility instrument by including the maritime dimension;**
- **Discussion on shared ownership of capital naval assets as part of a extended pooling and sharing scheme.**

Developing a basis for more cooperation

SEA NAVAL

SEA Naval: Who we are

- **SEA Europe facilitates cooperation at European level in areas of common interest such as its dedicated SEA Naval group.**
 - **Permanent working group open to naval companies ranging from large naval integrators to SMEs via SEA Europe member-associations.**
 - **Platform for the European Naval industry to meet and discuss:**
 - **matters of common interest to the naval sector;**
 - **common position on research and development;**
 - **support institutions with expertise when needed;**

Our goal is to provide the EU and its Member-States with the expertise, technology and capabilities required to guarantee their freedom of action.

SEA Naval Membership

- **Membership in 2019**
 - 7 companies are official members: Damen, Fincantieri, Lürssen, Naval Group, Navantia, SAAB and Thyssenkrupp Marine Systems.
 - They represents nearly 90% of naval systems integrators and shipyards in Europe.
 - They are integrators at system of system level managing a very large supply base.
- **SEA Naval member companies depend on collaborating with all Tiers 1, 2 and 3 companies involved in Naval representing in many cases more then 80% of the contact value.**

SEA Naval activities (1)

- **The members have been involved over the past years in policy related projects:**
 - **In 2011: the first Naval Strategic Research Agenda (tendered by EDA);**
 - **In 2016: the Future Naval Systems Study (tendered by the EDA);**
 - **In 2019: the second Naval Strategic Research Agenda (tendered by EDA), contributing to the EDA OSRA;**
 - **Continuous contribution to EDA'S CDP, SCCs and KSA work.**

SEA Naval activities (2)

- **All 7 SEA Naval member companies (+DK) participate in an EDIDP feasibility study on Future Naval Platforms and Related Technologies.**
- **SEA Naval provides both EDA and DG DEFIS input for both the R&D and the Capability windows of the yearly EDF calls.**
- **SEA Naval coordinates the response of our members on the calls and as it stands now will be involved in projects (>2022) to enlarge the use of IT in design, production and training of naval assets and the first stage of an European Corvette programme.**

Conclusions

The maritime domain is critical for the **autonomy and security of Europe**.

Naval vessels are among the most **complex and expensive existing assets** at the disposal of the Armed Forces.

Sufficient funds should be dedicated to the naval domain to correct the capability deficiencies and to address the new threats.

Industry can and is ready to answer this need in a cooperative way and have taken significant steps to develop the technology necessary together.