

## Naval in Europe:

How can the EU assist in meeting the Naval industry's challenges in innovation ?

# A world leader in naval defence. An innovative player in energy.

## First supplier of French Defence in 2014

Industrial actor in the French deterrent force  
and primary contractor of the French Navy

## 50 Navy clients worldwide

**Naval sector jobs** 40,000

## Shareholding

- Government Shareholding Agency 63.58%
- Thales 35%
- DCNS staff members 1.02%
- DCNS 0.40%

## 2014 figures

- **Revenues** €3.1 billion
- **International share** 33%
- **Order intake** €3.6 billion
- **Order book** €13.2 billion
- **Investments in R&D** ≈ €100 million or 3% of income
- **Group staff** 13,130  
(including subsidiaries)

# SEA Naval Group Committee

- Representing the naval defence expertise in Europe.
- 95% of the market represented through companies and associations.
- Via System Integrators, members have already direct links and contacts with virtually all European players in the naval field and in a number of related domains, whether military or commercial.
- SEA Europe's Naval Group based its work on the last successful EDA' study developed by the following consortium partners:



# Industrial backing and customised technology

A comprehensive offering and industrial positioning for across the board or customised backing.



- **Construction of new surface ships and submarines**



- **Supply and integration of complex equipment and systems**



- **Support and services for the fleet throughout the ships' life-cycles**
- **Naval infrastructure**



Produced at domestic sites



Produced at clients' sites



Produced via technology transfer



# STATE OF PLAY

# Preliminary General Statement

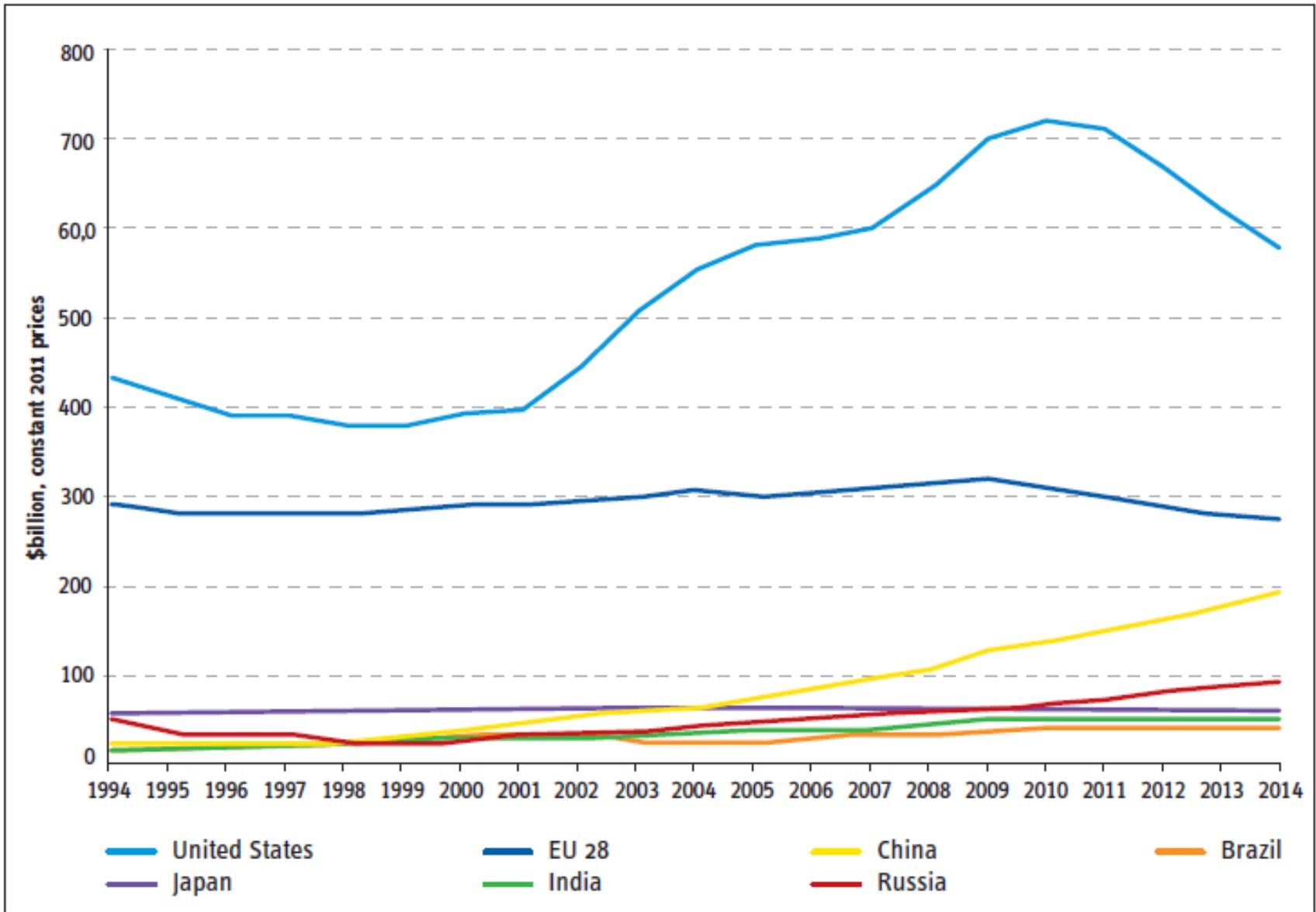
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- **Current context of growing tensions across the world, US repositioning toward Asia,**
- **Europe in the front line of threats with its southern and eastern borders at risks.**
- **European States must be able to assume responsibility for their own security and to contribute to international peace and stability.**
- **This requires a certain degree of strategic autonomy: to be a credible partner, Europe should be able to decide and act without depending on capabilities provided by third parties.**

# Strategic autonomy is a legitimate objective for Europe

- **Strategic autonomy relies on four abilities for which a sustainable and competitive European Defence Technological and Industrial Base (EDTIB) is essential:**
  - Autonomy of assessment and decision
  - Freedom of action,
  - security of supply,
  - and access control to technologies.
- **Access control to technologies require a high rate of investments in RTD. It means dedicating resources to sustained the research intensity.**
- **Continuous investment in RTD contributes to healthy EDTIB**
  - The European defence industry is at the forefront thanks to its in-depth knowledge of technologies, results of continuous investment in RTD for more than 50 years

# Defence Expenditure 1994-2014



Sources: SIPRI

MESA Conference – Naval Group / 28 juin 2016

# Defence industry, a unique sector:

- **Defence industry is specific and different from other markets.**
  - Industry is directly working for a customer expressing a need and requirements,
  - it will answer by launching a development program.
- **Despite its recognized competitiveness, defence industry does not amortise this R&T investment like other industries:**
  - countries impose specifications for programmes and strictly control sales to foreign customers, exchange of technologies and sometimes, cooperation.
  - because of programmes duration and complexity of systems.
- **Contrary to the civilian market, the military market is unpredictable:**
  - the market trades sovereignty capability and not a product,
  - military developments require more time for derisking,
- **Defence R&D is client-funded, which means government-funded.**

# A specific community tool is needed to finance defence R&T to complement the efforts of Member States

- In this Preparatory Action, priority should be given to project enabling, cooperation programs funded by Member States on topic ensuring
  - EU non-dependence and interoperability,
  - Avoiding duplication on technologies.
- A need to be part of global capability development plan in partnership with the Member States and / or the European Defence Agency
  - Governance
- An adapted model has to be coherent with the defence sector economic and regulatory model.
  - Financing & Regulation
- The management model for Intellectual Property Rights must ensure that critical technologies would be protected at the European level.
  - IPR & Eligibility

# Need for a coherent financing framework and dedicated eligibility rules

- **Due to the specific structure of the Defence market, financing should normally weight much more than the 50% of total costs eligible under H2020 rules,**
- **We need to engage intensive thinking in order to identify ways that would enable a full coverage (as close to 100% as possible) based on real costs,**
  - Even if doing so implies developing or adapting a new financial framework, outside of the current H2020 rules.
- **EU should not fund non-EU defence capabilities. Hence:**
  - the tool should be only dedicated to Member States,
  - only industry with a significant R&D activity on the EU territory should be eligible
- **We must create “European Value” for “European Money”.**

# Need for a safe and dedicated IPR management model

- **Property of foreground and background should remain property of the partner generating them.**
  - **Grant constitute a contribution to Research, which objectives and steps are :**
    - defined by the beneficiary,
    - do not preclude of any counterpart on use right from the beneficiary towards the EC.
  - **Absence of a specific frame would :**
    - create reluctance at Member State level to authorise their companies to cooperate,
    - Increase the risk of duplication and dissemination of strategic technologies outside the EU.
- **A dedicated IPR framework is needed.**

# Need for an innovative governance model

- A strong presence of MOD is needed at program committee level,
- EDA would be the good medium to steer the discussion,
  - It is already the place where MOD representatives are discussing future defense priorities,
  - It is where defence expertise exists in Europe, today.
- This is a must for maximising EU impact on the improvement of its members' defence capabilities and ensuring success of the tool.

# Need for a stable and clear regulatory environment

- **The Directives approved in the Defence Package :**

- on Defence Procurement (2009/81)
- and on Intra-community Transfers (2009/43)

**are major changes in the regulatory environment of EU Member States and European companies but whose implementation is not yet stabilized.**

- **Regarding the 2009/43 general licenses should be harmonized between Member States for the purpose of facilitating intra-community transfers to be achieved.**

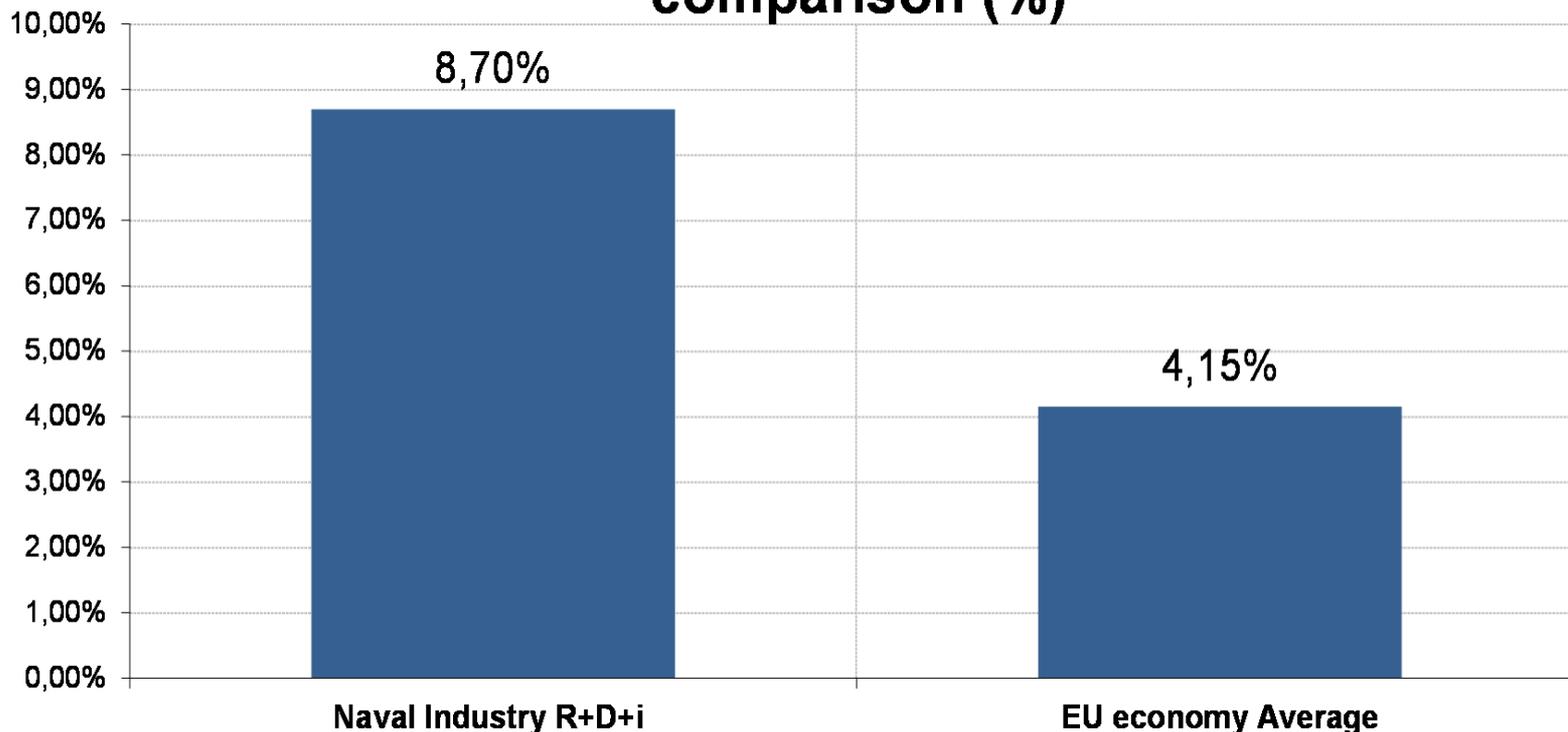
➤ **Before new regulations are decided, current frame should be stabilized.**

A high-angle, rear-quarter view of a grey naval ship, likely a frigate, sailing on a blue sea under a clear sky. The ship's complex superstructure, including a radar mast and various antennas, is visible. The ship's wake is visible in the water.

# TAKING NAVAL SPECIFICITIES INTO CONSIDERATION

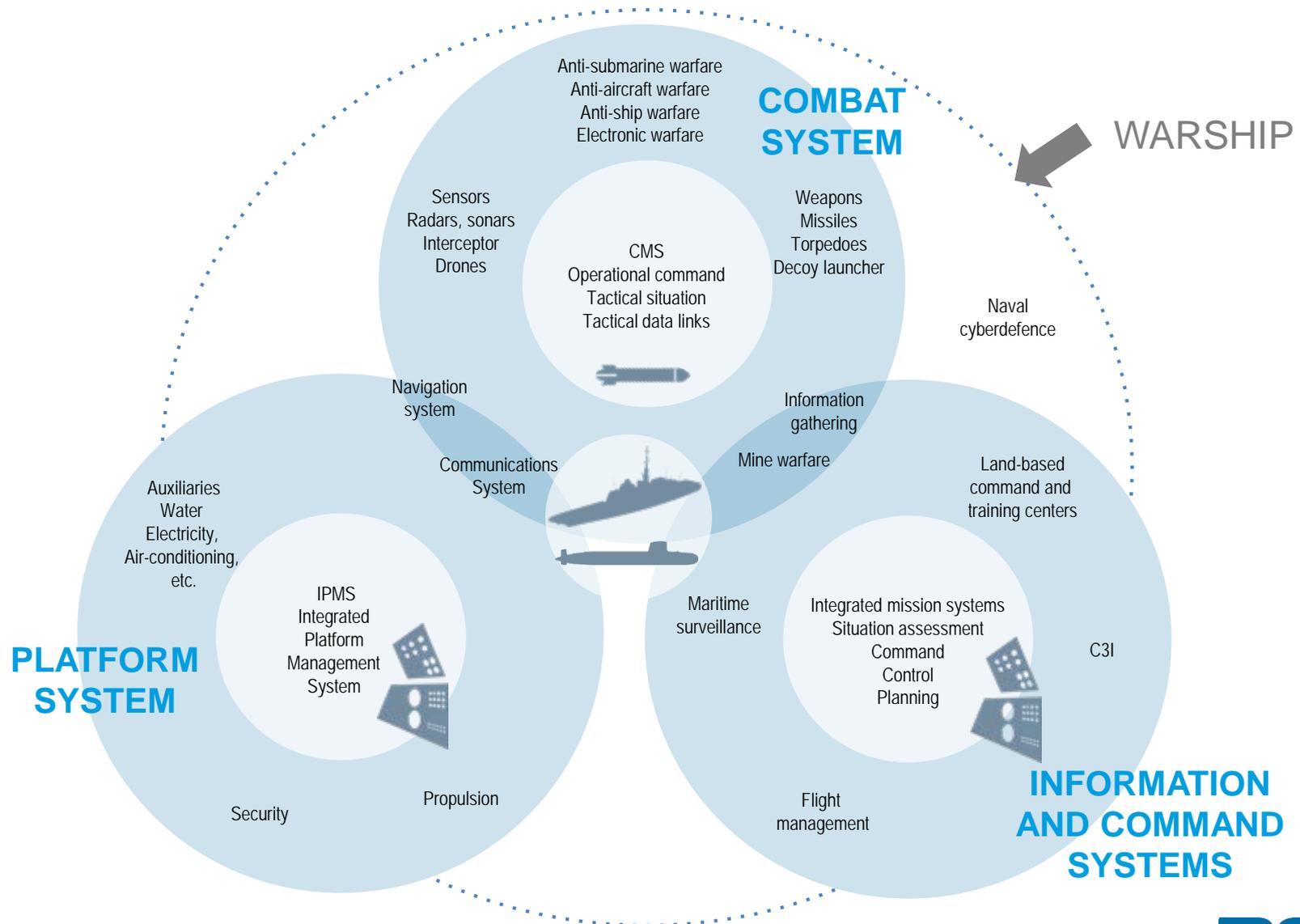
# Naval sector is no longer and not only putting systems and equipment on a steel hull.

## European naval industry: innovation intensity comparison (%)



SOURCE: Author's calculations from Eurostat and members Consortium figures

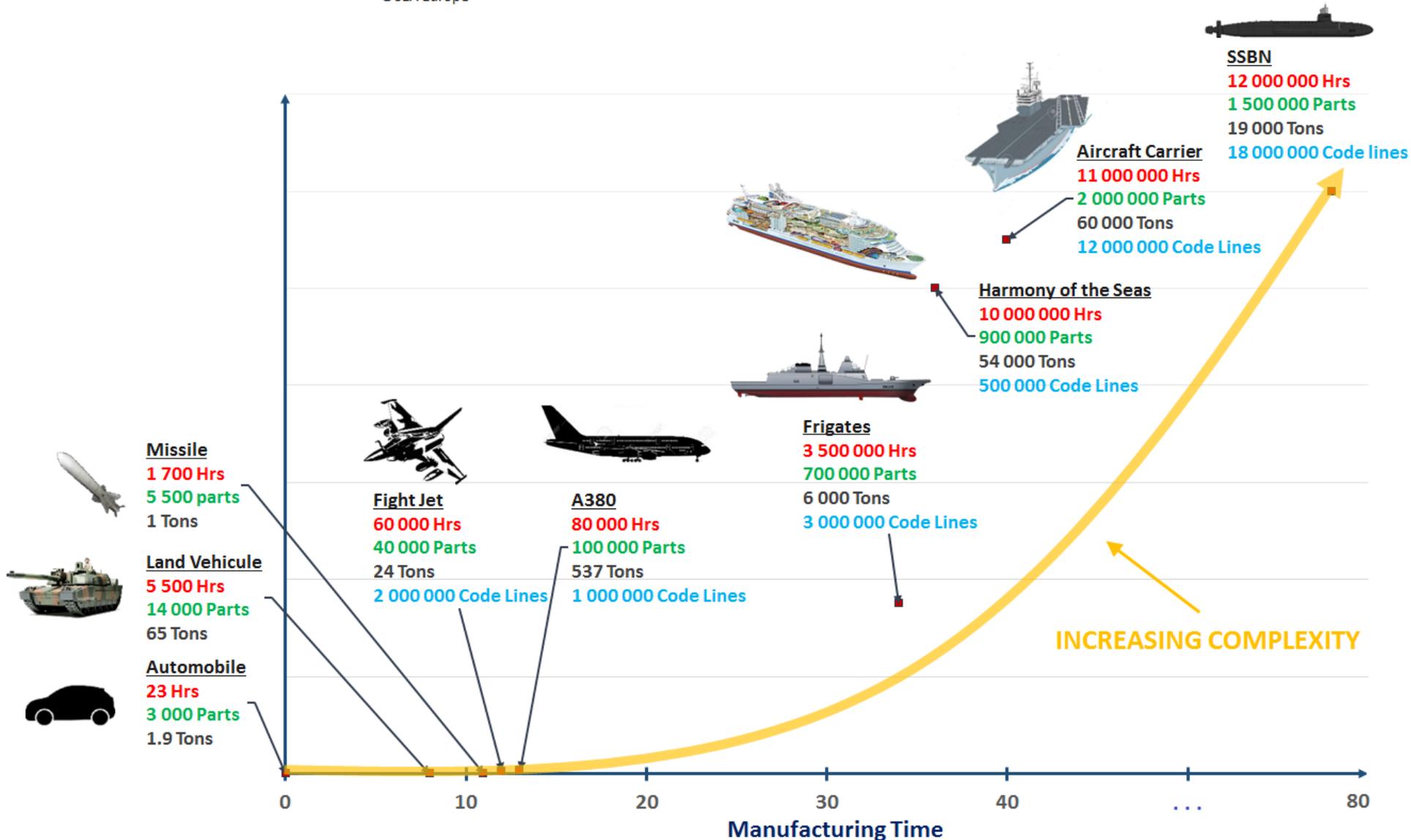
# A specific know-how in design, conception and integration of a system of systems.



# Complex naval system integration:

## MARITIME INDUSTRIES : HIGHLY COMPLEX VESSELS

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# Naval Defence Sector Operational Specificities

- **5 main domains of specificities make the Naval Defence Sector different from other industrial sectors**
- **Products & Programs compared to other industrial products**
  - Heterogeneity of the different products and services types
  - High level of price and complexity of some of the products types (High number of parts of the nuclear submarines, complexity of the integration phase, etc.)
  - Extended timeframe (from design to decommissioning, more than 50 years)
  - Limited number of series
- **Competencies & Industrials Capabilities**
  - High variety of competencies and technical areas of expertise needed at the prime contractor level
  - Some competencies needed at the prime contractor level demand several years of dedicated, rare and costly theoretical and practical formation
  - Tools and facilities unique in terms of size and capabilities

# Naval Defence Sector Operational Specificities

- **Prime contractorship**

- Six main prime contractors: BAE Systems, Damen, DCNS, Fincantieri, Navantia and TKMS with whole warship design authorities
- Different business models and strategies for each of them

- **Network of suppliers and subcontractors**

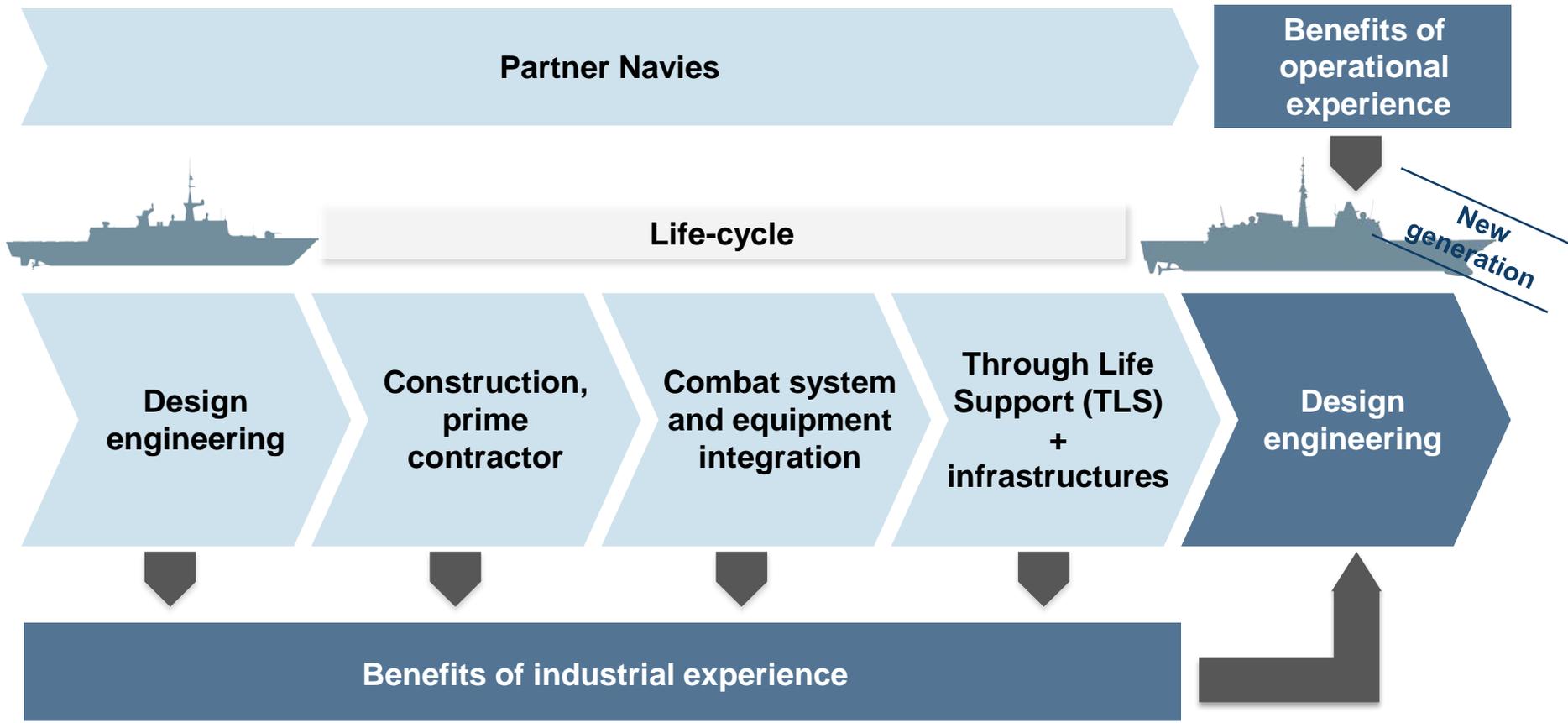
- High number of suppliers, varied in terms of size and type of activities they conduct

- **Deterrence policy**

- Main factor explaining the level of complexity of some DTIB (France and UK)
  - Capability to design, build, integrate and maintain the most complex ships (surface and submarine, with conventional or nuclear propulsion)
  - Development of competences in the nuclear defence sector
- Naval defence industry developed in an autonomous way

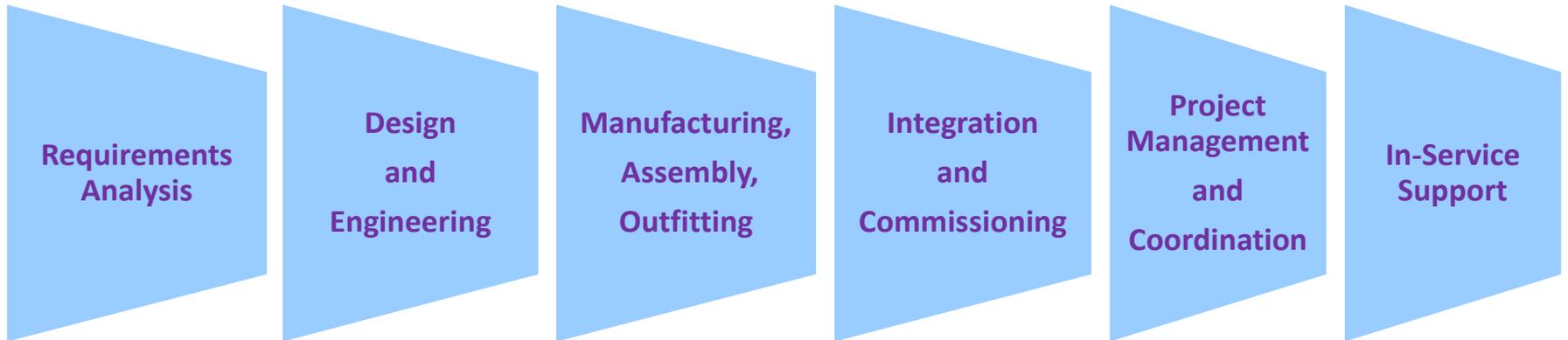
# Totally in command of ships' entire life-cycles

Latest generation ships benefitting from experience in two fields: industrial and operational.



# Focus on high priorities technologies

- **Technological and industrial capabilities were identified in the following areas :**



**HIGH PRIORITY** – Focusing on technologies identified by EDA:  
Guarantee of creation of added value

# Most relevant trends for RDI : Highest priorities

- **Reduced manning,**
- **Cyber,**
- **Automation (man independence) of major systems such as propulsion, power generation, damage control**
- **Energy efficiency,**
- **Multi mission capabilities,**
- **Built-in maintenance features,**
- **In-service support concepts using existing industrial resources,**
- **Availability-based contracting for services and life-cycle management concepts,**
- **Unmanned systems (stand-alone / integration).**

# Conclusion

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- **Maintaining autonomy of the European Industry is a key objective.**
- **Naval Defence Industry is specific and cannot be considered as civilian or aerospace Industry.**
- **The competitiveness of the European Naval defence companies is key.**
- **Ability to export must also be seen as an important factor but should not be seen as the only solution for the development of the required capabilities. States must keep the willingness to finance what they need.**
- **Defense R&D financing needs call for European budget to take over declining resources of the Member States.**
- **Galileo mechanism could pave the way to a future European armament.**

# Practical Recommendations

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- **Launch an active RDI policy taking defence and naval specificities into due consideration,**
- **Reinforce the EU Naval RDI infrastructure,**
- **Launch initiatives to modernize/improve the design and production tools,**
- **Study common purchasing policies**
- **Improve visibility of the EU naval industries**

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# DCNS

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