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« Military Shipbuilding in Europe »

Naval shipbuilding for defense purposes represents an absolute imperative for most major States. It constitutes a highly specific sector of the maritime industry, as it directly involves a critical strategic stake of national sovereignty. For numerous countries, it also operates as a major export asset within the framework of defense sales diplomacy. At a time when geopolitical tensions are multiplying and the United States could potentially initiate a strategic shift, European defense—in which France stands as a prominent actor—is far from being disadvantaged, though international competition remains fiercely intense.

Warfare and Naval Assets

Throughout the history of warfare, naval combat has consistently proved to be an essential, if not decisive, component of military confrontations. Following the Falklands War (1982), naval conflict largely shed its most traditional features to take on the characteristics of hybrid warfare, notably within the Persian Gulf, the Red Sea, and the South China Sea. Selected conventional naval operations continue to punctuate modern conflicts, particularly on the Russo-Ukrainian front (such as the naval battle for Snake Island).

However, prior to even considering a victory achieved by sea, it is imperative for great powers to endow themselves with vessels and, consequently, with the associated procurement and manufacturing supply chain capacities. While the earliest traces of shipbuilding activities date back to prehistoric times, it was the rapid expansion of naval and merchant fleets that structurally justified the establishment of military arsenals and shipyards under the direct control and funding of sovereign authorities.

Over the centuries, this model led to a deep industrialization of manufacturing, which conferred upon the ruling powers not only military superiority but industrial dominance as well. The advent of the Industrial Revolution triggered a fundamental transformation in shipbuilding, notably through the integration of metallic materials, which remain predominant to this day. Today, shipboard innovation on modern warships is progressively reducing the vessel's hull to the role of a mobile vehicle and an energy source tailored to power state-of-the-art technological systems.

An Unequal Distribution of Buyers

An analysis of the geographical distribution of naval fleets reveals a global demand imbalance. Unsurprisingly, the majority of active hulls are concentrated within the United States, China, and Russia. However, the European continent also commands nations of significant naval power: a ranking based on total vessel tonnage, compiled by *Flottes de combat* (FdC) and the GICAN as of January 1, 2024, positions France 7th globally, sandwiched between India and South Korea. Concurrently, Italy ranks 10th, while Germany reaches the 20th position.

Nations with the largest naval fleets are identically those spending the most capital to equip their marines. According to FdC and GICAN data spanning 2022 to 2023, the world's premier procurement buyers of warships were the United States (\$20.8 billion), China (\$14.7 billion), India (\$7.6 billion), and Russia (\$3.8 billion). High up on this international matrix feature France (\$3.4 billion), Japan (\$3.1 billion), Italy (\$2.1 billion), the United Kingdom (\$1.5 billion), Spain (\$1.1 billion), Germany (\$1 billion), and Turkey (\$1 billion). Their primary shared characteristic is the possession of resilient domestic naval shipbuilding industries capable of self-subsiding sovereign national operational needs.

Conversely, a dense cluster of buyer nations command immense operational requirements and substantial budgets, yet remain structurally mandated to source their hardware on international procurement marketplaces. This segment prominently encompasses Qatar (\$3.1 billion), Egypt (\$2.7 billion), Saudi Arabia (\$1.6 billion), and Israel (\$1.5 billion).

A Favorable Upward Trajectory for Defense Budgets

Following decades of chronic post-Cold War budgetary reductions, the financial resources allocated by sovereign States to defense expenditures are currently experiencing a powerful upward trajectory, driven by multiplying international flashpoints (including the Russo-Ukrainian war, protracted conflicts across the Middle East, and escalating geostrategic tensions throughout the South China Sea).

These enhanced cash allocations directly benefit national navies, which now command heightened capital capacities to purchase next-generation surface combatants and submarines. Pursuant to macroeconomic projections compiled by McKinsey & Company (2024), the global naval defense market is forecasted to scale up from €78 billion in 2024 to reach €100 billion by 2033, propelled by an intense expansion curve across the Asia-Pacific region.

Sovereignly, Europe is projected to remain the world's second-largest naval market by volume, with a regional market valuation estimated at €28 billion by 2033. This structural spending boom opens up a paramount strategic opportunity for European naval shipbuilders, enabling them to simultaneously capture rapidly expanding intra-regional demands and extra-regional export contracts worldwide.

An Evolution Responding to Greenfield Conflictualities

According to McKinsey projections, the current operational ratio between surface combatants and submarines (70% to 30%) is forecasted to remain stable through 2033. Conversely, the global market demand for conventional submarines is poised to strengthen to the detriment of nuclear-powered attack submarines, whose proliferation and access are strictly restricted by international regulatory frameworks and highly classified industrial know-how.

It must nonetheless be noted that this subsea theater regularly welcomes greenfield new entrants, led by Brazil, Australia, and India. Furthermore, while frigates and corvettes continuously represent the absolute bulk of the surface combatant segment, McKinsey's teams anticipate an accelerated expansion in the demand for Offshore Patrol Vessels (OPVs) and specialized mine countermeasure vessels (MCMVs).

Sovereign procurement clients are concurrently expressing sophisticated qualitative requirements. First, the technological complexity of warships expands exponentially: encompassing long-range deep-strike capabilities, absolute mastery of the tactical battlespace, high-velocity automation optimized for reduced crew operations, resilience within Anti-Access/Area Denial (A2/AD) zones, and asymmetric threat defense grids. These highly capital-intensive, high-value technological platforms ignite a fierce, high-stakes competition among naval powers.

Concurrently, a structural demand surges for unmanned vehicles. While numerous technical, operational, and regulatory bottlenecks must be breached prior to a generalized deployment of these solutions, pioneering autonomous platforms are entering active service and captivating intense institutional interest. For instance, Remotely Operated Vehicles (ROVs) are actively deployed to execute critical seabed warfare and mine countermeasure operations.

Simultaneously, the initial naval patrols deployed by Unmanned Surface Vessels (USVs) are actively monitoring Singaporean territorial waters. One highly sought-after yet still highly classified (*confidentiel*) mission profile remains the capacity for armed autonomous combat. Furthermore, the force-multiplying capability of cooperative swarm operations and collaborative manned/unmanned teaming (MUM-T) configurations is strongly anticipated.

Finally, in parallel with this high-end technological ramp-up, it is critical to observe that certain emerging buyers of naval platforms—notably across Africa or selected Asia-Pacific sectors—operate under strict budgetary constraints, prioritizing above all cost-optimized, highly competitive pricing proposals. This opens a substantial market volume for suppliers delivering small-scale, lower-end, and cost-engineered solutions.

European Leadership in the Global Export Marketplace

The sovereign powers commanding the largest naval fleets are identically those producing the absolute highest volume of warships, relying on a fully integrated national industrial base. Thus, pursuant to FdC and GICAN evaluations spanning 2022 to 2023, the three premier geographical nodes of value creation within naval shipbuilding are the United States (\$20.8 billion), China (\$16.1 billion), and India (\$7.6 billion). However, for highly diverse geostrategic reasons, these nations share the common characteristic of exporting virtually zero naval hardware.

A contrario, Italy, Germany, and France, which capture the subsequent positions in the global value ranking, are exceptionally active in commercializing their military platforms on international export markets, outside supplying nearly exclusively their domestic defense sectors. For Italy, Germany, and Spain, international export sales generate a corporate turnover significantly superior to that achieved through national procurement programs.

Their client portfolio encompasses both allied European navies—exemplified by the German-Norwegian Type 212CD submarine program or the Franco-Greek FDI frigate defense treaty—and extra-european sovereign states (including *Egypt, Indonesia, Qatar, and the United Arab Emirates*).

The export sales generated by the European defense industrial base span all categories of naval platforms. The continent commands a near-monopoly over the conventional submarine market: Germany supplies its proprietary navy alongside Norway, Israel, and Singapore, while French subsea products are successfully exported to Indonesia, India, and the Netherlands.

Although less frequently crowned with major international export success, alternative European shipyards actively market conventional submarines, led by *Saab Kockums* in Sweden, *Fincantieri* in Italy, and *Navantia* in Spain. The British naval industry, which exclusively designs and manufactures nuclear-powered submarines, currently does not target international exports, save for the exceptional geostrategic architecture of the AUKUS trilateral pact (Australia, United Kingdom, United States).

The European surface combatant offering is even more heavily diversified:

- Frigates: highlighted by the sale of Dutch-designed frigates to Germany and Colombia, Italian-built FREMM frigates to Egypt, and British Type 26 frigates exported to Canada and Australia.
- Corvettes: exemplified by French Gowind corvettes exported to the UAE, Malaysia, and Argentina, and the export of German designs to Israel and Brazil.
- Aviation-capable vessels: featuring Spain's industrial cooperation with Turkey (amphibious assault ships).
- Patrol crafts: backed by a massive volume of patrol vessels tailored for the African and Asian continents.

An Analytical Typology of Industrial Stakeholders

This commercial dynamism is sustained by a dense matrix of industrial and technological stakeholders, establishing Western Europe as a paramount territory for global naval shipbuilding. Highly diverse entities coexist and aggressively compete on this theater. A series of distinct typologies can be formulated, despite their structural analytical limitations.

The initial core is formed by sovereign defense industrial groups, heirs to historical state arsenals, which maintain a profound, unbreakable bond—most distinctively capital-wise—with the State. This segment prominently features Naval Group (France), Navantia (Spain), and Fincantieri (Italy). These state-backed mega-shipyards operate as the near-exclusive suppliers to their national clients, benefiting from continuous public financial and diplomatic backing to forward a sovereign industrial footprint, occasionally operating at a loss.

In comparison, Northern European shipyards align themselves with an alternative organizational model: they are backed by private equity capital and respond primarily to commercial, market-driven logics. They are occasionally challenged by competing industrial actors on their own domestic marketplaces in the name of distortion-free competition. The prime representatives of this model prominently include TKMS (ThyssenKrupp Marine Systems), Saab Kockums, and the Damen Shipyards Group.

Nevertheless, these corporate distinctions are by no means frozen: the so-called Southern shipyards have executed a profound transition toward market-driven economic logics, aggressively diversifying their portfolios (notably into civil shipbuilding and offshore renewable assets) and opening their equity capital to private investors. *A contrario*, Northern industrial actors increasingly voice their determination to operate as privileged sovereign partners to public authorities. Illustrating this friction, the direct awarding of the F126 frigate procurement contract by the German Navy (Deutsche Marine) to the Dutch shipbuilder Damen ignited an intense political and industrial outcry (*levée de boucliers*) among shipyards across the Rhine.

A secondary strategic distinction can be formulated relative to the Anglo-Saxon industrial model, embodied in Europe by BAE Systems. This corporate model promotes the engineering of massive, vertically integrated defense actors that place highly complex military and weapons systems at the absolute core of value creation, rather than raw hull shipbuilding.

Conversely, alternate European heavyweights, such as Fincantieri¹ and Damen, heavily put forward their traditional naval architecture and shipbuilding know-how—explicitly encompassing complex civil construction, such as mega-cruise liners. They historically operate in close collaboration with independent specialized systems providers (such as Thales or Leonardo).

This structural separation tends, however, to shrink rapidly under the pressure of expanding vertical integration, as shipyards aggressively absorb electronics and weapon systems into their proprietary corporate portfolios; a prime manifestation is Fincantieri's recent strategic acquisition of Leonardo's Underwater Systems division.

A final distinction can be mapped out within the European defense industrial base, which is composed of mega-conglomerates that traditionally endorse the prime contractorship (*maîtrise d'œuvre*) and ultimate liability for macro-program execution, but also encompasses mid-sized and smaller corporate structures. Selected firms specialize in smaller-dimension military naval construction—such as NVL Group (Naval Vessels Lürssen), CMN (Constructions Mécaniques de Normandie), and Kership—and/or operate as critical Tier 1 suppliers within the defense ecosystem.

These actors are frequently significantly more agile than industrial giants regarding tech innovation, constituting an indispensable pool of strategic partners. They contribute in a highly significant manner to the commercial attractiveness and competitiveness of the European naval industry across international export marketplaces.

Western Europe Confronting Rising Emerging Naval Powers

The violent surge of extra-European competition constitutes a paramount structural challenge for the European naval shipbuilding value chain. Among the most formidable emerging competitors, Turkey and South Korea are aggressively exporting their naval platforms toward highly contested sovereign markets, including Indonesia, Peru, Canada, and Australia.

They are increasingly securing strategic positions directly within the European theater itself: Turkey formally supplies Ada-class anti-submarine corvettes to the Ukrainian Navy, while South Korean conglomerates (HD Hyundai / Hanwha Ocean) actively deploy massive corporate campaigns hoping to export next-generation conventional submarines to Poland.

For the time being, Japan adopts a more reserved posture, although it is stepping forward in Canada and Australia regarding submarine programs and regularly positioning itself for the sale of surface combatants across the Asia-Pacific theater (a critical highlight to monitor remains the upcoming competition to supply frigates to Australia, facing off against TKMS). Concurrently, India could rapidly achieve a high degree of technological autonomy, ascending as a formidable commercial power on international export marketplaces.

These non-European actors benefit from several distinct competitive advantages:

- **(a)** Generous and sustained public backing through substantial domestic naval procurement orders and state-driven industrial development mechanisms.
- **(b)** Highly competitive construction costs, heavily driven by lower labor outlays and long-series production economies of scale.
- **(c)** Significantly less restrictive regulatory legislations than those in force across Europe regarding arms export controls and environmental mandates.
- **(d)** Naval platforms that are generally less over-engineered or sophisticated, thus lowering baseline procurement costs.
- **(e)** Shipyard and port infrastructures built to the most modern industrial standards.
- **(f)** Drastically reduced R&D and development costs secured through licensed construction (for instance, South Korean and Turkish shipyards historically manufacture conventional submarines based on German designs).

Furthermore, selected non-European stakeholders have successfully captured a technological head start on high-value products, most notably regarding autonomous platforms and unmanned systems (such as Singapore, Israel, and Turkey).

¹ In France, Chantiers de l'Atlantique are predominantly active within the civil shipbuilding sector; nonetheless, they command highly advanced know-how within the naval defense domain, highlighted in recent years by the construction of Amphibious Assault Ships (LHDs / **BPC**), Fleet Replenishment Oilers (**BRF**), and, in the near future, the next-generation nuclear-powered aircraft carrier (**PANG**).

The Ambivalent Posture of the United States

American defense shipyards—led by Huntington Ingalls Industries (HII) and General Dynamics Bath Iron Works—manufacture surface combatants and submarines almost exclusively to supply the United States Armed Forces. However, the United States is far from being a marginal actor on the global naval defense market, exercising a decisive, system-wide influence on numerous international programs. The most striking contemporary manifestation remains, of course, the AUKUS trilateral pact.

More broadly, virtually no major international naval contract is signed with a NATO member nation without triggering the complex question of integrating American-origin military hardware and subsystems (encompassing missiles, weapons systems, and advanced radar arrays). Consequently, despite commanding a highly diversified, high-end product portfolio, the European naval defense industrial base is structurally mandated to compose with highly influential American defense giants, most notably Lockheed Martin and RTX (*Raytheon*).

Finally, the United States commands the unique capacity to offer for sale or donation a massive volume of second-hand warships and legacy naval assets through specialized sovereign commercial mechanisms, such as the Excess Defense Articles (EDA) program. Although it remains futile to attempt to anticipate the executive decisions of the unpredictable American President, Donald Trump, it will be exceptionally critical to monitor their cascading impacts on the American defense shipbuilding industry, its future openness to foreign Tier 1 suppliers, and its raw influence over global export markets.

Maintaining Employment in a Changing World

In order to meet global demand, European shipbuilders are confronted with a major challenge that is deterministic for their future: human resources. In Europe, shipyards constitute critical employment hubs. This is highly visible in Germany, where TKMS (Kiel) stands as one of the most prominent employers in the state of Schleswig-Holstein. The closure or sale of a site, a breach in the production backlog, or a shift in the industrial model can therefore trigger major social and political crises. Consequently, shipyards are heavily monitored by powerful and active labor unions.

Furthermore, the volatility of the industrial workload poses a genuine challenge in terms of skills management. Periods of low activity jeopardize the retention of specialized qualifications and certain worker profiles, whereas during boom periods, some builders struggle to recruit the required skill levels. Chronic shortages are observed in specific specialized technical trades, such as welding.

To adapt and reduce expenditures within an intensely competitive environment, shipyards are altering their business models, shifting toward: (a) a more systematic reliance on external subcontracted labor, (b) the offshoring of low value-added tasks, and (c) modern, automated construction techniques. These trade-offs, indispensable in a fast-evolving world, can carry heavy consequences for domestic employment, international dependencies, and corporate reputations.

Cooperating Between Competitors

The European naval industrial base is extremely fragmented, scattering available capital among numerous corporate structures, production sites, and programs. Historically, national procurement clients accepted paying a premium price to secure small-series, customized products. However, faced with aggressive Asian competition, European builders must be capable of offering financially accessible platforms to their new international clientele.

Significant gains could be unlocked through long-series construction effects and economies of scale. This approach was put to the test by Germany and Norway, which are jointly purchasing identical conventional submarines from TKMS. Yet, this model remains complex to orchestrate and occasionally struggles to deliver convincing operational results.

The consolidation of European naval shipbuilding remains a true sea serpent (*un serpent de mer*). Industrial players retain a profound national anchoring, and past attempts at corporate mergers have frequently proved abortive: the Naviris joint venture (Naval Group / Fincantieri) fell into oblivion, while TKMS's historical acquisition of Kockums ultimately resulted in the Swedish armed forces clawing back sovereign control over the Malmö-based yard.

Nevertheless, structural movements continue: for instance, Fincantieri has publicly voiced its strategic interest in acquiring the naval defense activities of the German conglomerate TKMS.

To confront modern security challenges and promote the "Made in Europe" brand, the European Union is deploying billions of euros through the European Defence Fund (EDF) and the PESCO framework to

foster structural convergence among industrial actors. Within the naval theater, the most high-profile initiative is the MMPC (Modular and Multirole Patrol Corvette) program, which clusters ten nations and directly involves Fincantieri, Naval Group, and Navantia. However, at least two distinct operational variants are already slated for development to meet divergent national needs, and the definitive headcount of total hulls remains uncertain.

Internationalizing to Retain Sovereignty

With the resurgence of raw sovereignty stakes, internationalization may appear counter-intuitive. Corporate asset takeovers are viewed with deep suspicion, as are the extra-European opening of industrial supply chains or technology transfers that disseminate sensitive know-how. Faced with these risks, should the European naval industry continue to build warships for the entire planet?

First and foremost, international naval export sales operate as a primary vector of diplomatic influence. For example, France reinforces its geostrategic footprint within the Indo-Pacific theater by exporting defense hardware to Indonesia and India. Navantia sells advanced surface combatants to the Royal Saudi Navy by virtue of the historic proximity binding the ruling royal families, while the British defense industry remains a core Tier 1 supplier to the Five Eyes (5 Eyes) intelligence alliance. Export diplomacy thus allows European nations to carve out a strategic positioning on the global geopolitical chessboard. Furthermore, the strategic autonomy of European States regarding naval power depends strictly on their capacity to maintain an active, cutting-edge industrial ecosystem, spanning from prime contractors down to small niche suppliers. This industrial vitality relies fundamentally on the export market, which constitutes the primary commercial outlet for the absolute majority of European shipyards.

Thus, without being overly naive regarding the associated security risks, the international competitiveness of the European naval shipbuilding industry is not merely a matter of financial gains and corporate turnovers, but indeed stands as one of the absolute prerequisites for preserving specialized know-how, domestic employment, and national sovereignty on the home territory.

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