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THE EUROPEAN DEFENCE INDUSTRY IN A NEW GEOPOLITICAL ERA

INSTITUTE FOR THE
GLOBAL COMMON GOOD

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EXECUTIVE SUMMARY

1. The new world disorder and specially the war in Ukraine has irreversibly changed the security landscape in Europe. The pressure from the conflict has revealed that the previous European defence industry model, based on reduced inventories and slow production cycles, is no longer optimal. This external change is the main engine that explains the current evolution of each national industry. All the countries analysed have had to review their levels of preparedness, their industrial policies and their procurement processes.

1. European production capacity is insufficient for current demands. The shortage affects critical areas such as C4, space, artillery and missiles, air defence, drones and anti-drone capacities, maintenance and heavy production. This limitation is shared by great powers such as Germany, France or the United Kingdom and by intermediate powers such as Spain and Italy and Poland.

1. Although with different intensities, all countries have structural weaknesses that hinder industrial growth:

- Slow, rigid, or overly bureaucratic hiring processes.
- Lack of qualified technical personnel and labor shortages in key sectors.
- External technological and logistical dependencies, especially from the US and Asia.
- Deficits in investment in R+D and difficulties in integrating SMEs into large programmes.
- Fragmentation of European markets and lack of real specialisation between countries.

This set of factors explains why the desired acceleration doesn't always translate into operational results.

1. Each country follows its own trail, clearly differentiated from the rest. This diversity of national situations conditions slab Europe's ability to move forward in an integrated way.

- Germany: industrial powerhouse struggling to scale up production and modernize processes; heavy reliance on procurement reforms.
- France: BITD advanced but with the risk of relative loss of influence in the face of the German advance and lack of firm measures to strengthen competitiveness.
- Italy: broad and export-producing industry, with large integrators, but fragile SMEs and deficits in key sectors such as drones or heavy armoured vehicles.

- Spain: deep restructuring after years of low investment, an attempt to create a "national champion", but with problems of governance, bureaucracy and vulnerability of SMEs.
- Poland: exceptional growth driven by unprecedented spending; rapid industrial expansion, albeit with high technological dependencies and capacity saturation.
- United Kingdom: consolidated industry, with critical sovereign capabilities, extensive presence of foreign capital and new industrial strategies oriented towards growth and export.
- Portugal: is creating the conditions to advance towards the production of aerial, land-based, and naval platforms, the development of unmanned systems in the air, and the incorporation of technologies such as Artificial Intelligence or quantum technology.

1. All European countries are strengthening their industrial clusters: Rheinmetall in Germany, Leonardo in Italy, Indra in Spain, BAE System in the UK. This consolidation improves capabilities, but also generates risks: less competition, excessive dependence on the "single supplier" and a difficulty in integrating SMEs.

1. One of the main conclusions of this research is the persistence of large duplications: parallel programs of tanks, fighters, frigates, drones or air defense. Without stronger European coordination, current investments risk being inefficient or insufficient.

1. The role of SMEs in the sector is fundamental, but in the European Union they suffer significant barriers: lack of funding, excessive bureaucracy, difficulties in accessing large European programmes and a shortage of qualified personnel. The survival and strengthening of this industrial fabric is essential for any European vision of strategic autonomy.

1. The main recommendations based on the analysis carried out would be:

- Promoting industrial specialisation by country so as not to overlap capacities
- Develop more resilient European supply chains.
- Reduce the risk of internal competition and fragmentation vis-à-vis the United States or Asia.
- Enhance the role of SMEs, essential to guarantee innovation and agility to the growth and dynamism of the demand for new capabilities for defence.

European countries are increasing budgets, capacities and industrial ambitions, but the challenge is to ensure that this effort is sustainable and coherent in the long term, so there is a need for budgetary stability beyond changes of government, the importance of investing in emerging technologies (AI, autonomous systems, cyber, space), and the need to manage the risk of technological dependencies limiting European autonomy (especially by US companies).

INTRODUCTION: THE EUROPEAN DEFENCE INDUSTRY AS THE FOUNDATION OF EUROPEAN SECURITY IN A NEW GEOPOLITICAL ERA

César Ramos Villena
Director TDAE

This is an occasion in which we reflect collectively upon the challenges that defence faces in the present day, and on the arduous but vital task of constructing European security amid a shifting and perilous geopolitical landscape.

This reflection emerges from the perspective of Spain's defence industry, and equally from a broader community—one that understands with stark clarity that security is not a luxury, but the very bedrock upon which our democracies are built.

We are witnesses—and indeed participants—in an era shaped by rapid, often convulsive change.

War has once again stained the soil of our continent. The Russian invasion of Ukraine has not only disrupted the fragile equilibrium of regional geopolitics; it has rekindled questions we had hoped history had rendered obsolete.

What are we truly prepared to defend? How must we prepare to secure our collective safety? What, precisely, is the role of our industrial strength in achieving such a mission?

The aim is not merely to catalogue these dilemmas, but to offer a vision from the industrial front—of how our capabilities, our limitations, and the strategic decisions we now make will determine whether we are worthy of this historic hour that has been thrust upon us.

For defence, like peace, is not something one stumbles upon. It is not found by chance or conjured in haste. It is prepared for, forged through effort, and sustained by will.

Though today's turbulent geopolitics demand that each nation shoulder more responsibility for its own defence—I resist the blunt invocation of “rearmament”—the essential question before us is this: will we, together, possess the fortitude and vision to construct a European security architecture that is credible, resilient, and equal to the demands of our century?

An increase in budgets is not enough.

Though European nations have taken commendable steps in boosting defence expenditure, such steps are the first of many. Alone, they are insufficient—in volume, in urgency, and in strategic coherence. A deep and troubling gap persists between the immediate need for capability and the actual capacity of our industrial base to deliver it. Thus, we are faced with a paradox—one that would befit the pages of Gibbon or Tacitus.

Europe possesses enterprises of global standing, bursting with talent, with technological ingenuity, with the flame of innovation. And yet, we find ourselves lagging—slow, hesitant, encumbered—when it comes to responding to the exigencies of this new era with the scale and swiftness required. Why is this?

Because we have endured the consequences of three decades of chronic underinvestment, of platform fragmentation, of public procurement shackled by bureaucracy, and of mutual suspicion between nations. Demand has long been circumscribed by austere fiscal constraints and a limited operational outlook—tailored to missions of low or moderate intensity, requiring neither breadth of resources nor speed of deployment.

Our industry has operated, until recently, under the long shadow of peace. But peace, like all precious things, is fleeting without vigilance.

The world has changed—and changed dramatically. Now we must transform with the same urgency and audacity as the evolving nature of conflict demands. We are called to act with greater agility, with immediacy at times, to increase production capacity while maintaining high technological standards and reasonable costs.

The war in Ukraine has laid bare an irrefutable truth: the nature of modern conflict has irrevocably shifted. Consider an example: during the early days of the war in Ukraine, the immediate response was to send available materiel to Kyiv. But soon, our arsenals began to empty. What, then, did we discover?

We discovered that many nations no longer possessed the industrial means to replenish those stocks at speed. We saw that our logistical chains were brittle. That coordination in procurement was sorely lacking. That was the moment when the defence industry raised its hand and declared: we are here, but we need foresight, commitment, and scale.

We must know that investments in expanding capacity will not be in vain. That there will be stable contracts, medium- and long-term planning. That governments will not behave as occasional customers but as strategic partners. And that, precisely, is the transition we are beginning to witness.

A transition toward understanding defence as an integrated system—one where industry does not merely react to demand but participates in shaping the very strategy itself.

There are no easy answers. But there is a growing consensus: if Europe is to play a meaningful role in the world that is fast approaching, we must build a defence industrial base that is integrated, innovative, and competitive. This will demand political will, appropriate regulatory frameworks, and, above all, a shared vision.

As NATO Secretary-General Mark Rutte recently stated, “Two percent is no longer a ceiling—it is a floor.”

If we are to secure our safety, we must look beyond figures and turn our gaze to actual capabilities. This, then, is the new strategic compact we must forge between state and industry.

When we speak of each country’s obligation to provide for its own defence, we do not refer merely to a tactical necessity—but rather to a structural imperative. Europe arrives at this geopolitical crossroads with Armed Forces that are significantly diminished, and in many cases, technologically outdated. Three decades of disinvestment have left behind a chasm that cannot be filled overnight. The figures speak plainly.

Since 1992, inventories of critical military equipment across Europe have declined by between 43% and 77%, depending on the category. On land, the number of main battle tanks has been nearly halved. At sea, submarines have diminished by 60%. In the air, combat and strike aircraft have fallen by 47%.

These reductions stem in part from the aforementioned “peace dividend,” but also from erratic planning and a chronic lack of long-term vision. And it is not merely about quantity—but age. In many European nations, a disturbing proportion of materiel in service is classed as “obsolete” or “obsolescent.” In the realm of combat vehicles, over 60% belong to pre-2000 generations. In artillery systems, that number exceeds 69%. This not only reduces operational effectiveness, it drives up maintenance costs, diminishes readiness, and hampers interoperability with technologically advanced allies.

Thus, a critical juncture emerges: operational availability. Possessing equipment does not equate to possessing real capability. Germany, France, and the United Kingdom have each publicly acknowledged that only between 40% and 70% of their key equipment is ready for immediate deployment. The reasons are plain: insufficient maintenance, spare part shortages, a lack of skilled technicians, and overstretched logistical chains.

It is no coincidence that one of the most repeated recommendations in current assessments is the urgent need to invest in maintenance, repair, and operational support. If we fail to preserve what we already possess, our efforts to acquire new systems will be like building a house upon fractured foundations.

Yet the challenge is not only technical, nor solely financial. It is organisational as well. We observe with clarity that funding is slow to reach the field. Germany offers a poignant example: after announcing a €100 billion special fund in 2022, just 23% had been disbursed two years later. Execution is too slow. Procurement procedures are overly complex, lacking transparency, and often divorced from the real urgency on the ground.

This prompts an uncomfortable but necessary reflection: Are our administrations prepared to spend effectively and efficiently? Are our procurement agencies equipped with the personnel, technical expertise, and administrative agility required? Do we possess legislation suited to our present moment? In far too many cases, the answer is “no.”

Meanwhile, the industry faces its own dilemma: the will to increase output exists—but not always the capacity. Europe’s factories are not scaled for the challenges ahead. It takes months—if not years—to significantly increase production of tanks, missiles, or artillery shells. Production lines must be expanded, skilled personnel trained, supply chains reinforced. And here lies a vital opportunity for strategic cooperation. For the solution cannot be merely national. It must be European.

The fragmentation of systems, platforms, and requirements has fostered an inefficient ecosystem—one that duplicates development costs, reduces economies of scale, and complicates logistics. During the war in Ukraine, we observed a frenzy of ad hoc procurements—South Korean K2 tanks, Israeli artillery, American HIMARS, German and French armoured vehicles—all acquired in parallel. The result: a cumbersome amalgam, difficult to sustain, difficult to maintain, and difficult to operate over time.

To reverse this trend, we must advance toward greater convergence in the acquisition of common systems. It is not a question of enforcing uniformity, but of seeking synergy—identifying shared platforms and building a truly European defence market.

This will not only enhance our collective capabilities—it will also invigorate the competitiveness of our industry. And as we speak of industry, let us remember: the need for each nation to provide for its own defence cannot be limited to the act of procurement alone. It must also be embraced as an opportunity for transformation.

An opportunity to modernise processes, to integrate dual-use technologies, to encourage innovation and the digitalisation of our factories. An opportunity to attract the younger generations, and to cultivate a new class of defence professionals.

This is not a call to return to the past—but a summons to prepare for the future. A future in which conflicts will increasingly be hybrid, technological, and geographically unbound. Where the new domains—space, electromagnetic, cognitive—will be as decisive as the traditional land, sea, and air.

A future in which industrial and technological resilience will constitute a core pillar of deterrence.

For that, rising budgets are not enough.

We need vision. We need coordination. We need mutual trust between governments and industry. We need transparency in our objectives. We need agility in our procedures. And above all, we need a shared strategic culture—one that recognises that defence is not an expense, but an investment.

That understands that every euro committed to capability is a wager on sovereignty, on stability, on economic development. And that the ultimate purpose of such investment is to guarantee a credible capacity for deterrence—and, if need be, a decisive capacity for response.

In short, the need for each country to provide for its own defence is urgent in Europe. Yet even more urgent is the need to do it right.

If this is a structural imperative, then the technological leap we now face is nothing short of a revolution in motion. This is not merely a matter of replacing old equipment with new. It is about reimagining entirely how we conceive defence itself.

For technology does not simply alter our tools—it transforms the very character of conflict. The war in Ukraine has served as a grim but revelatory laboratory. For the first time, we have witnessed the mass and simultaneous use of drones, artificial intelligence, electronic warfare, cyberattacks, and commercial satellites as standard fare on the battlefield.

It has become indisputable that there is no longer a divide between civil and military technologies. The “dual-use” paradigm is now the prevailing one. We can no longer deny that the nature of warfare is evolving at breakneck speed. Victory today does not stem solely from the number of tanks or fighter jets, but from the capacity to decide faster—with superior information—and with more tightly interconnected systems. Information superiority has become the new decisive battlefield.

The United States has taken the lead through its doctrine of “Joint All-Domain Command and Control” (JADC2), a vision that seeks to integrate sensors, platforms, and operators

in real time to achieve what they call “decision overmatch”—the ability to decide earlier and better than the adversary. This doctrine demands simultaneous operation across every domain: land, sea, air, space, cyberspace, and information.

To make this vision a reality, ten technological priority areas have been identified—areas that many of our allies are now beginning to embrace: artificial intelligence, quantum computing, microelectronics, advanced materials, autonomy, next-generation networks, sensors, cybersecurity, space technologies, and advanced platforms.

In Europe, the landscape is more varied. We do have leading companies, but the ecosystem remains fragmented—particularly when it comes to coordination and integration between start-ups, research centres, and established firms. Yet within that fragmentation lies great opportunity.

A European technological defence ecosystem is currently emerging. Increasingly, start-ups are venturing into the defence sector, many of them stemming from fields such as AI, robotics, and data analytics. Venture capital investment has multiplied in recent years, although it remains modest when compared to the American environment. Many large firms and SMEs alike are proving that technological agility can indeed yield military impact. They are building open platforms, scalable software, and autonomous solutions for multi-domain combat. Their model is built on speed, close cooperation with end-users, and short innovation cycles. In stark contrast with traditional defence acquisition models—which can require a decade or more to field a new system—these actors can deliver functional prototypes within mere months.

Europe must learn from this dynamism, without abandoning its solid industrial base. The key lies in fostering a virtuous alliance between traditional and disruptive actors. Not in replacing one with the other—but in blending their strengths: the experience, scalability, and regulatory expertise of established firms, with the creativity, flexibility, and digital acumen of emerging innovators.

This collaboration must be encouraged—through funding, through regulatory frameworks, through joint programmes. It must be pursued with generosity and a deliberate rejection of narrow particularism. Yet for this revolution to succeed, we must confront two great challenges.

The first: the challenge of talent. Today’s software engineers, data scientists, cybersecurity experts—they have countless career options beyond the defence sector. We must make this field attractive to the new generations. We must show that working in defence means contributing to the common good, to the protection of democratic values, to the building of a secure and just future. This also entails reshaping the internal culture of our companies—making them more open, more digital, more aligned with the values of the twenty-first century.

This challenge will only grow in relevance, particularly given Europe's—and especially Spain's—demographic trends.

The second challenge is that of financing. Europe suffers from a lack of late-stage capital. Start-ups can be born, but often struggle to scale.

Too frequently, it is American investors who end up acquiring or funding their growth—at the risk of surrendering critical technological sovereignty. We must build bold European financial instruments—capable of supporting these companies from seed to scale.

As controversial as he may be, Elon Musk once voiced a stark truth: “In modern war, who masters software shall master the conflict”.

If Europe wishes to play a truly strategic, autonomous role, we must also command the digital layers of defence: the algorithms, the networks, the sensors, the data. Steel and powder alone will no longer suffice. We must command code and silicon too.

That is why we must not regard the technological leap solely as a reaction to threat, but rather as an industrial and strategic opportunity. An opportunity to turn Europe into a true “industrial district,” in the spirit of Alfred Marshall—a hub of innovation capable of generating high-skilled employment, attracting global investment, and securing sovereignty in key areas for the decades to come.

The change is already underway. What remains is to ensure we are not late to the hour. For the future does not wait.

Now, having examined the geopolitical context, the urgent need to provide for our own defence, and the technological revolution unfolding before us, I should like to turn to action.

For the defence of tomorrow will not be built upon diagnoses alone, but upon decisions—upon firm agreements and shared commitments.

Europe stands at a crossroads. We possess the talent. We possess the resources. We possess democratic legitimacy. But if we are truly to become a geopolitical actor of consequence, we must possess something more: a shared strategic culture—built upon the foundation of cooperation among governments, armed forces, industry, and civil society.

What does this mean, in concrete terms? It means that we must leave behind the old model of defence as a patchwork of national interests, and advance towards a new model: defence as a common European project. This transformation requires deep change along three fundamental dimensions: financing, demand, and supply.

First, financing. Europe must commit to multiannual, predictable budgets. The current model—based on annual negotiations and fragmented decisions—prevents industry from planning, investing, and scaling with confidence. Industry needs clear signals, stable contracts and long-term visibility. Only with such certainty can investments in new plants, talent training, and technological development be justified.

Moreover, we must mobilise new financial instruments. European funds such as the European Defence Fund must grow and evolve. But we also need public guarantees, soft loans, venture capital investments, and strategic merger support—all to strengthen our industrial base.

Second, demand. Demand must become more coherent, more agile, and better coordinated. Our procurement agencies must be reinforced and professionalised. They must act with urgency and efficiency. In short, we must reform how Europe buys defence.

Here, joint procurement must become the rule, not the exception. Europe can no longer afford to develop five different systems for a single function. We must agree on common platforms, compatible logistics chains, and sustainable life cycles. This makes strategic sense—and it multiplies industrial efficiency while reducing cost.

We must also stimulate demand for innovation. Governments must take on the role of visionary clients—ones who fund technological risk, support prototypes, and purchase capabilities before they become necessities. As one American general once said: “You cannot buy deterrence once the war has begun. Deterrence must be built before”.

Third, supply. Industry, for its part, must respond with ambition, agility, and a profound sense of responsibility. It must overcome the silo mentality. It must embrace open innovation, collaborate with start-ups, with universities, with research institutions. It must integrate software, digitalisation, sustainability, and strategic thinking into every process and programme. It must also avoid fragmentation. Europe cannot afford to have different versions of every system merely to satisfy national pride.

We must concentrate capabilities, share technologies, and scale production with unity of purpose. And here lies a dimension too often left unsaid: shared prosperity. The need for each nation to provide for its own defence must contribute to the economic development of all member states.

We cannot have an industry concentrated in just the major powers. We must integrate SMEs, local suppliers, and regional talent. Let us make defence a lever for territorial and social cohesion.

All of this, demands leadership—and a new way of thinking. A shared strategic culture—one that recognises that defence is not merely military expenditure, but an investment in

stability, in innovation, and in sovereignty. We must shatter the taboos. Speaking of defence must no longer be uncomfortable or marginal. It is part of our collective responsibility. It is a measure of the democratic maturity of our societies. Only those nations that take defence seriously may speak with credibility on the world stage.

We must also recover a sense of purpose. Defence is not merely about protecting borders. It is about defending our values: liberty, human rights, pluralism, and cooperation. In a world where these values are under siege, our responsibility is greater than ever.

Therefore, we must advance toward a new European strategic contract. One that rests upon five concrete pillars: Sustained political commitment—ensuring that defence remains a priority beyond electoral cycles; Stable public-private alliances—allowing industry to invest with confidence and respond with excellence; Innovation in service of sovereignty—integrating the best of both civil and military technological ecosystems; Strategic talent formation—guaranteeing generational renewal and technical excellence; European coherence—with common platforms, harmonised standards, and joint procurement mechanisms.

This is not an easy task. But it is achievable. And more than that—it is indispensable. As a young engineer from a defence start-up recently expressed: “I do not work in this field to make weapons. I do it because I want Europe never to have to use them.” And that, in essence, is the point.

We do not seek war. We seek peace. But peace must be constructed—with preparation, with credibility, and with determination.

Finally, the spotlight must rest where it ultimately belongs: upon our people, and our societies. This debate must not remain confined to experts or political elites. It demands the conviction of our citizens. We must explain clearly—why it is necessary to invest in defence, how it will be done, what democratic oversight will be in place, and for what ultimate purpose.

Only through public pedagogy—through transparent and open communication—can we avoid the disconnect between a pacifist public spirit and the strategic exigencies of the twenty-first century.

Europe must forge a defence that is more robust, more sovereign—built upon cooperation, not confrontation. Europe now holds a historic opportunity to contribute to that vision—as a community committed to peace, democracy, and international stability. Because investing in defence is not a rejection of peace. It is the most mature means of preserving it.

The 2022 *Zeitenwende*: Overcoming the Peace Dividend Years

Since Russia's illegal annexation of Crimea in 2014, Germany has experienced a steady but modest increase in its military spending, gradually reversing decades of underinvestment resulting from the peace dividend after the end of the Cold War.

Beginning with a defense budget of about €32 billion^[3] in 2014, Moscow's aggression prompted a "turnaround" in terms of spending, materiel, and personnel to better equip and grow the armed forces.^[4] While the implementation across all categories remained below both expectations and necessities, the full-scale invasion in 2022 added a new sense of urgency, as assumptions about cooperation with Russia were shattered and Europe's peace and security could no longer be taken for granted: "The twenty-fourth of February 2022 marks a watershed in the history of our continent," Chancellor Scholz declared in his now famous *Zeitenwende* ("watershed") speech^[35], ushering in significant policy changes, such as the creation of a €100 billion special fund for Bundeswehr modernization, a firm commitment to spend over two percent of GDP on defense, and substantial military aid to Ukraine, with more than €16.5 billion allocated by summer 2025.^[6] Key strategic documents, such as the 2022 National Security Strategy^[7], and subsequent policy statements now reflect a critical reassessment of Germany's role in European defense, aiming to build "the best-equipped forces in Europe"^[8] and step up as "a guarantor of European security"^[9].

This ambitious goal, combined with Germany's military support for Ukraine in the face of Russia's accelerating military-industrial complex, has shifted the focus toward replenishing military equipment stocks, reforming procurement processes, and increasing production capacities both in Germany and across Europe. An analysis by the Kiel

[3] Federal Ministry of Defense. (n.d.). Entwicklung und Struktur des Verteidigungshaushalts. [Development and structure of the defense budget]. Retrieved September 17, 2025, from <https://www.bmvg.de/de/themen/verteidigungshaushalt/entwicklung-und-struktur-des-verteidigungshaushalts>

[4] Federal Government of Germany. (2016, September 7). Rede der Bundesministerin der Verteidigung, Dr. Ursula von der Leyen, zum Haushaltsgesetz 2017 vor dem Deutschen Bundestag am 7. September 2016 in Berlin [Speech by the Federal Minister of Defense, Dr. Ursula von der Leyen, on the 2017 Budget Act before the German Bundestag]. <https://www.bundesregierung.de/breg-de/service/newsletter-und-abos/bulletin/rede-der-bundesministerin-der-verteidigung-dr-ursula-von-der-leyen--791180>

[5] Federal Government of Germany. (2022, February 27). Regierungserklärung von Bundeskanzler Olaf Scholz in der Sondersitzung zum Krieg gegen die Ukraine [Government statement by Federal Chancellor Olaf Scholz in the special session on the war against Ukraine]. <https://www.bundesregierung.de/breg-de/service/newsletter-und-abos/bulletin/regierungserklaerung-von-bundeskanzler-olaf-scholz-in-der-sondersitzung-zum-krieg-gegen-die-ukraine> Institute for the World Economy (IfW) examined the stock levels from 1992 to 2021 in leading European nations, showing that, especially in Germany, the decline in military capabilities was "massive" (Table 1):^[10]

[6] Kiel Institut für Weltwirtschaft. (2025). Ukraine Support Tracker. Retrieved September 17, 2025, from <https://www.kiwi-institut.de/en/research/ukraine-support-tracker> Institute for the World Economy (IfW) examined the stock levels from 1992 to 2021 in leading European nations, showing that, especially in Germany, the decline in military capabilities was "massive" (Table 1):^[10]

[7] Federal Government of Germany. (2024). National Security Strategy: Robust. Resilient. Sustainable. Integrated security for Germany. <https://www.bundesregierung.de/breg-de/service/newsletter-und-abos/bulletin/national-security-strategy> Institute for the World Economy (IfW) examined the stock levels from 1992 to 2021 in leading European nations, showing that, especially in Germany, the decline in military capabilities was "massive" (Table 1):^[10]

[8] Deutsche Welle. (2022, September 16). Germany: Armed forces must become "best-equipped in Europe". DW. <https://www.dw.com/en/germany-armed-forces-must-become-best-equipped-in-europe/a-62844444> Institute for the World Economy (IfW) examined the stock levels from 1992 to 2021 in leading European nations, showing that, especially in Germany, the decline in military capabilities was "massive" (Table 1):^[10]

[9] Scholz, O. (2022, December 5). The Global *Zeitenwende*: How to Avoid a New Cold War in a Multipolar Era. Foreign Affairs. <https://www.bundesregierung.de/breg-de/service/newsletter-und-abos/bulletin/the-global-zeitenwende-how-to-avoid-a-new-cold-war-in-a-multipolar-era> Institute for the World Economy (IfW) examined the stock levels from 1992 to 2021 in leading European nations, showing that, especially in Germany, the decline in military capabilities was "massive" (Table 1):^[10]

THE GERMAN DEFENSE INDUSTRY: BRIDGING THE GAP BETWEEN AMBITION AND NECESSITY?

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“As the most populous country with the greatest economic power and as a country in the middle of the continent, our army must become the cornerstone of conventional defense in Europe: the best-equipped force in Europe.” (Olaf Scholz, September 16, 2022) [1]

“In view of the threats to our freedom and the peace on our continent, the same must now apply to our defense: whatever it takes.” (Friedrich Merz, March 5, 2025)[2]

Since 2022, Germany has been undergoing a profound shift in its security and defense policy. The war of attrition in Ukraine has demonstrated the importance of a competitive defense-industrial base and exposed critical capability gaps in both the Bundeswehr and the production capacities of Germany's defense sector after years of underinvestment. In response, initially the Scholz government and now the Merz government have sought to enhance Germany's military readiness and, by extension, strengthen the capacity of the domestic defense industry to deliver the necessary equipment. Traditionally known for its fiscal restraint, Berlin has been driven by Moscow's invasion of Ukraine, the long-term security threat posed by Russia, and the second Trump administration's approach to European security to invest heavily in strengthening the armed forces and domestic production. Yet the window of opportunity is closing rapidly: Germany has little time to overcome persistent challenges in its defense-industrial policy and to implement its pledged measures, if it wants to meet allied expectations and security needs.

[1] Deutsche Welle. (2022, September 16). Germany: Armed forces must become “best-equipped in Europe”. DW. <https://www.dw.com/en/germany-armed-forces-must-be-best-equipped-in-europe-scholz-says/a-63146510>

[2] Christian Democratic Union of Germany. (2025, March 5). Erste Einigung Union mit SPD: Was bedeutet das Milliardenpaket? [First agreement between CDU/CSU and SPD: What the billion-euro package means]. CDU.de. <https://www.cdu.de/aktuelles/aussen-und-sicherheitspolitik/erste-einigung-union-mit-spd-was-bedeutet-das-milliardenpaket/>

Institute for the World Economy (IfW) examined the stock levels from 1992 to 2021 in leading European nations, showing that, especially in Germany, the decline in military capabilities was “massive” (Table 1):[10]

	1992	2021	Change
Main Battle Tanks	6,684	339	- 94.93%
Light Tanks	118	175	+48.3 %
Infantry Fighting Vehicles	3,250	674	-79.3 %
Armored Vehicles	12,977	2,067	-84.1 %
Howitzers	3,214	121	-96.2 %
Long Range Anti-Aircraft	300	30	-90 %
Short Range Anti-Aircraft	680	12	-98.2 %
MRLS	237	41	-82.7 %
Combat Aircraft	553	226	-59.1 %

Table 1: Stock development in Germany, 1992-2021[11]

Against this backdrop, the realities of the war in Ukraine and Germany’s focus on military readiness have shifted attention to the German defense industry as a critical enabler of the Zeitenwende agenda and raised the question of how well it is equipped to meet these increased demands.

Germany’s Defense-Industrial Base

The German defense sector is generally well positioned and ranks among the world’s biggest producers and exporters. According to the Stockholm International Peace Research Institute (SIPRI) database on international arms transfers, Germany holds a global share of 5.6% (2020-2024), ranking fifth after the United States (43%), France (9.6%), Russia (7.8%), and China (5.9%).[12] Among the top global 100 defense companies, Germany is represented by four firms: Rheinmetall AG (rank 18, \$8,245,594,675 in defense revenue in 2024 – military vehicles, weapons systems, ammunition), Hensoldt AG (rank 52, \$2,424,242,000 – sensors, radar, defense electronics), Diehl Group (rank 82, \$1,169,867,965 – guided missiles, air defense systems, munitions), and RENK Group (rank 95, \$887,241,600 – military transmissions, gear systems, armored vehicle components).[13] Other key players in Germany include

[10] Wolff, G. B., et al. (2024, September). Fit for war in decades: Europe’s and Germany’s slow rearmament vis-à-vis Russia. Kiel Institute for the World Economy. https://www.ifw-kiel.de/fileadmin/Dateiverwaltung/IfW-Publications/fis-import/1f9c7f5f-15d2-45c4-8b85-9bb550cd449d-Kiel_Report_no1.pdf

[11] Author’s own representation based on Wolff, G. B., 2024.

[12] George, M., Djokic, K., Hussain, Z., Wezeman, P. D., & Wezeman, S. T. (2025, March). Trends in international arms transfers, 2024. Stockholm International Peace Research Institute (SIPRI). https://www.sipri.org/sites/default/files/2025-03/fs_2503_at_2024_0.pdf

[13] Defense News. (2025). 2025 Top 100. Retrieved September 17, 2025, from <https://people.defensenews.com/top-100/>

Thyssenkrupp (naval vessels, submarine systems) and MTU Aero Engines (aircraft engines), rising companies like Helsing (sensors, defense electronics), and multinational companies with operations in Germany, such as MBDA (missile systems), Airbus (military aircraft, space systems), and KNDS Group (tanks, armored vehicles).

At the same time, however, and similar to experiences across Europe[14] and the United States[15], the sharp rise in demand and the influx of additional funding for military equipment following Russia's full-scale invasion of Ukraine have exposed persistent shortages and long-standing production bottlenecks.[16] After decades of post-Cold War cuts to spending, skilled labor, and inventories, the German defense industry had been operating in limited manufacturing mode rather than mass production.[17] According to surveys and data available to the then Federal Ministry for Economic Affairs and Climate Action (BMWK) in 2022, the German defense industry generated an annual revenue of ca. €31 billion, employing 105,000 jobs.[18]

Particularly in the months following the war, the public and political debate centered on scaling up German and European production capacity and improving procurement policy. While French President Macron openly discussed the necessity of transitioning from a peacetime to a *war economy*, the German discourse was in part shaped by the same constraints of its history-driven strategic culture as in other military-related areas. The German defense industry has thus embraced the concept of a *resilience economy* as an essential part of overall defense capacity and readiness – rather than adopting the framing of a war economy.[19]

[14] Burilkov, A., Bushnell, K., Mejino-López, J., Morgan, T., & Wolff, G. B. (2025, June). Fit for war by 2030? European rearmament efforts vis-à-vis Russia [Kiel Report No. 3]. Kiel Institute for the World Economy.

https://www.kielinstitut.de/fileadmin/Dateiverwaltung/IfW-Publications/fis-import/eef51261-68bf-4883-b1e9-ed0fb74a92ed-Kiel_Report_no3.pdf

[15] Jones, S. G. (2023, January). Empty bins in a wartime environment: The challenge to the U.S. defense industrial base [Report]. Center for Strategic and International Studies. https://csis-website-prod.s3.amazonaws.com/s3fs-public/2023-01/230119_Jones_Empty_Bins.pdf?VersionId=mW3OOngwul8V2nR2EHKBYxkpiOzMIS88

[16] Buckenmaier, C. (2022, November 11). Ausrüstung der Bundeswehr: Zeitenwende in Zeitlupe [Equipping the Bundeswehr: Turning point in slow motion]. Tagesschau. <https://www.tagesschau.de/inland/innenpolitik/bundeswehr-sondervermoegen-111.html>

[17] Mölling, C., & Schütz, T. (2024, April 10). Eine Industriepolitik für die Rüstung: Was Deutschland tun muss, um die Versorgung seiner Streitkräfte zu sichern [An Industrial Policy for Defense: What Germany Must Do to Secure the Supply of Its Armed Forces]. German Council on Foreign Relations (DGAP).

<https://doi.org/10.60823/DGAP-24-40562-de>

[18] Federal Ministry for Economic Affairs and Energy. (2024, December 4). Sicherheits- und Verteidigungsindustrie [Security and Defense Industry]. Retrieved September 18, from

<https://www.bmwk.de/Redaktion/DE/Artikel/Branchenfokus/Industrie/branchenfokus-sicherheits-und-verteidigungsindustrie.html>

[19] Bundesverband der Deutschen Sicherheits- und Verteidigungsindustrie e.V. (BDSV). (2024, March 20) Resilienzwirtschaft [Resilience Economy] <https://www.bdsv.eu/Resilienzwirtschaft/resilienzwirtschaft.html>

A Failed *Zeitenwende*?

Yet an overall promising defense-industrial base and the ambitious policies proclaimed under the *Zeitenwende* framework notwithstanding, assessments of their implementation have been largely critical. Major procurement projects to fill long-standing capability gaps, such as 123 Leopard 2A8 MBTs, 35 F-35 fighter jets or 60 Chinook helicopters as well as IRIS-T and Patriot systems, indeed contribute to enhancing the Bundeswehr's defense capabilities.[20] However, procurement processes have remained too slow and inefficient, despite a Bundeswehr Procurement Acceleration Act (*Bundeswehrbeschaffungsbeschleunigungsgesetz*, BwBBG)[21] in 2022, which was intended to simplify procurement processes for military equipment and facilitate European cooperation, and a 2023 directive[22] by the Federal Minister of Defense aimed at accelerating procurement processes. Additionally, the largely stagnant defense budget (apart from the special fund) has been widely deemed insufficient to address the capability gaps resulting from decades of underinvestment in the military – particularly given that the Bundeswehr's special fund would have been depleted by 2027 without further action.[23]

Especially in the months following February 2022, several challenges to rapidly ramp up defense-industrial production became apparent:

- Financial and industrial constraints: Years of the peace dividend, combined with a lack of financial resources, access to private capital, and major contracts, limited the long-term budget certainty for planning for the private sector. This, in turn, provided little incentive, especially for small and medium enterprises[24], which constitute a substantial proportion of the German defense sector[25], to invest and scale up at their own risk.

[20] Tallis, B. (2024, August 30). The end of the *Zeitenwende*: Reflections after two years of Action Group *Zeitenwende*. German Council on Foreign Relations. <https://dgap.org/en/research/publications/end-zeitenwende>

[21] Federal Ministry of Defense. (2022, July 8). Parlamentsbeschluss: Beschaffung für die Bundeswehr wird beschleunigt [Parliamentary decision: Procurement for the Bundeswehr is accelerated]. <https://www.bmvg.de/de/aktuelles/beschluss-beschaffung-fuer-die-bundeswehr-wird-beschleunigt-5450574>

[22] Federal Ministry of Defense. (2023, April 26). Tagesbefehl: Beschleunigung des Beschaffungswesens [Order: Acceleration of Procurement]. <https://www.bmvg.de/de/aktuelles/tagesbefehl-beschleunigung-des-beschaffungswesens-5615830>

[23] Mölling, C., & Schütz, T. (2023, July 19). Germany's defense budget 2024: The planned increase is not yet enough (DGAP Memo No. 3). German Council on Foreign Relations. <https://dgap.org/en/research/publications/germanys-defense-budget-2024>

[24] Voß, A. (2025, June 26). Rüstung: Warum die *Zeitenwende* am Mittelstand scheitern könnte [Defense: Why the turning point could fail in the medium-sized sector]. Handelsblatt. <https://www.handelsblatt.com/unternehmen/industrie/ruestung-warum-die-zeitenwende-am-mittelstand-scheitern-koennte/100133282.html>

[25] Federal Ministry for Economic Affairs and Energy, 2024.

- **Workforce and infrastructure limitations:** As result of lacking major contracts the defense sector in 2022 faced – and still faces – a shortage of skilled labor[26] across key areas, outdated production facilities and vulnerable supply chains, particularly with regard to raw materials and components[27].
- **Bureaucratic bottlenecks and regulatory challenges:** Germany is notoriously known for its slow and complex procurement processes and, when talking to SME representatives, excessive bureaucratic burden. At the same time, internationally restrictive export control policies, leading to a preference for “German-free” products, together with the prohibition on producing for stockpiling, complicate efforts to raise production capacities.[28]
- **Technology and innovation gaps:** As the war in Ukraine has become a testing ground for new technologies, innovation capacity is an important indicator of long-term readiness and international competitiveness.[29] Compared to other states, such as the United States, Germany faces several hurdles, particularly in effective civil-military cooperation for R&D, limited access to investment for defense companies and startups, and regulatory frameworks that are insufficient to address the development and deployment of dual-use technologies[30] (e.g. so-called “civil clauses”[31] at universities that prohibit the use of research for military purposes).

Thus, it is not surprising, that – despite considerable growth in the German defense sector over the last few years – production rates and the ability to replenish stocks, are generally considered too low to meet the pressing security challenges. A study by Guntram Wolff et al. in September 2024 highlights the slow progress in increasing production output: Based on procurement rates between February 2022 and July 2024, Germany would need several decades to replenish certain types of military equipment to the stock levels of 2004, compared to only a few months for Russia.[32]

[26] Spiegel Online. (2025, February 28). Fachkräftemangel in der Rüstungsbranche: Europa fehlt das Personal für die Aufrüstung [Skilled labor shortage in the defense industry: Europe lacks personnel for rearmament].

<https://www.spiegel.de/wirtschaft/fachkraeftemangel-in-der-ruestungsbranche-europa-fehlt-das-personal-fuer-die-aufruestung-a-788c6666-5f1b-4f54-981a-3893c253163e>

[27] Hofmann, A. (2025, August 30). Rohstoffabhängigkeit: Deutschlands Risiko beim Rüstungsboom [Raw material dependency: Germany's risk in the defense boom]. Table.Briefings. <https://table.media/ceo/executive-summary/risiko-einer-preiseskalation-deutschlands-kritische-rohstoffabhaengigkeit>

[28] Lina, S. (2024, November 18). Mehr Planungssicherheit, weniger „Kleinstaaterei“ [More planning security, less ‘small-state mentality’]. Tagesschau. <https://www.tagesschau.de/wirtschaft/unternehmen/ruestungskonzerne-auftragslage-100.html>

[29] Hakmeh, J. (2025, March 5). What Ukraine can teach Europe and the world about innovation in modern warfare. Chatham House. <https://www.chathamhouse.org/2025/03/what-ukraine-can-teach-europe-and-world-about-innovation-modern-warfare>

[30] Ksienzyk, L. (2024, February 23). Dual-use: Das schwierige Verhältnis zwischen Start-up-Szene und Aufrüstung [Dual-use: The difficult relationship between the start-up scene and rearmament]. WirtschaftsWoche.

<https://www.wiwo.de/unternehmen/industrie/dual-use-das-schwierige-verhaeltnis-zwischen-start-up-szene-und-aufruestung/29670248.html>

[31] Alviz, L. (2025, February 1). Germany rethinks separation of civilian and military research. Bloomberg.

<https://www.bloomberg.com/news/articles/2025-02-01/germany-rethinks-separation-of-civilian-and-military-research>

[32] Wolff, G. B., 2024.

In December 2024, the Scholz government consequently adopted the *National Security and Defense Industry Strategy*, updating an earlier 2020 version, to strengthen the national security and defense industry. The strategy paper emphasizes: “For national and alliance defense, as well as the continued military support of Ukraine, Germany must become defensible as quickly as possible in view of the current threat situation. This requires a national and European security and defense industry (SDI) that is capable and well-prepared for all situations.” [33] It places particular emphasis on dynamism and scalability, responsiveness and resilience, competitiveness, innovation, and adaptability. [34]

To overcome the manifold challenges, the strategy paper seeks to “establish the necessary political, economic, regulatory, and societal framework conditions at the national and European level”, offering measures to (1) maintain and promote key security and defense technologies – at the national level in particular protection, electromagnetic warfare, sensors, protected/armored vehicles, security-relevant IT and communication technologies, artificial intelligence, and naval shipbuilding; (2) strengthen the role of the state as a customer and facilitator; (3) implement suitable regulation; (4) put adequate financial frameworks in place; (5) secure skilled labor; and (6) strengthen European and international cooperation. [35] While the strategy paper sets out a wide range of actions, these measures require both political action and time, grounded in a broader shift in mindset that reflects the changed security environment – at the public and political levels, as well as among investors, industry and procurers.[36]

Early German Procurement Rationales

The challenges in the defense-industrial sector also affected, in part, Germany’s procurement policy. Underscored by national intelligence assessments[37] and Defense Minister Boris Pistorius’s public appeal that Germany has to be “ready for war by 2029”[38], the urgency of the security situation has undoubtedly driven transformation and expansion of production capacities.

[33] Federal Ministry of Defense. (2024, December). Nationale Sicherheits- und Verteidigungsindustriestrategie [National Security and Defense Industry Strategy]. <https://www.bmvg.de/resource/blob/5865332/d4d0d9ab55edde72a11cee2a3ca59d3b/nationale-sicherheits-und-verteidigungsindustriestrategie-data.pdf>

[34] Ibid.

[35] Ibid.

[36] Tagesschau. (2023, November 12). Haltung zur Bundeswehr: Pistorius fordert Mentalitätswechsel [Attitude towards the Bundeswehr: Pistorius calls for a change in mentality]. <https://www.tagesschau.de/inland/innenpolitik/pistorius-bundeswehr-114.html>

[37] German Bundestag. (2024, October 14). Nachrichtendienste sehen wachsende Bedrohung durch Russland [National intelligence agencies assess an increasing threat from Russia]. <https://www.bundestag.de/presse/hib/kurzmeldungen-1024388>

[38] Ngendakumana, P. E. (2024, June 5). Germany must be ready for war by 2029, defense minister warns. Politico. <https://www.politico.eu/article/germany-must-be-ready-for-war-by-2029-defense-minister-warns/>

However, particularly in the early years of the war, Germany prioritized market-available solutions through off-the-shelf procurement and foreign military sales over tailor-made, “gold-plated” options to close critical military capability gaps and replace aging equipment nearing the end of its operational lifecycle.[39] Prominent examples include replacing the Tornado fleet with American F-35 fighter jets and purchasing CH-47 Chinook helicopters, which added tension between Germany and France against the backdrop of the complicated Franco-German FCAS fighter jet partnership and Paris’ push for more European rather than U.S. arms purchases. This tension erupted in particular when Germany initiated the European Sky Shield Initiative (ESSI) to strengthen European air defense by including weaponry from Germany, the United States, and Israel for reasons of speed, in contrast to France’s objective of prioritizing procurement from the European market.[40]

In general, a strong focus in Germany’s largely U.S.-oriented procurement practices has been on fulfilling NATO commitments and guaranteeing interoperability, thereby aiming to strengthen the transatlantic relationship and keeping the U.S. involvement in European security. Additionally, time-critical needs were prioritized over EU-centered approaches. While the Scholz government cautiously backed the EU Commission’s defense-industrial initiatives, protecting national key technologies and maintaining national sovereignty vis-à-vis an expansion of the EU Commission’s competencies remained a dominant concern.[41]

“Whatever it takes”: *Zeitenwende* 2.0?

The Scholz government, however, had little time to implement the envisioned changes due to the snap federal election in February 2025. Against the backdrop of a widely discussed meeting between U.S. President Trump and Ukrainian President Zelensky, which heightened European doubts about the Trump administration’s reliability in the transatlantic security partnership[42], then incoming Chancellor Friedrich Merz, whose CDU/CSU coalition had won the federal election, noted with consternation: “In view of the threats to our freedom and the peace on our continent, the same must now apply to our defense: whatever it takes”.[43]

[39] Heinemann, N. (2025, February). What are the main drivers of member states’ defense procurement practices? The German case (ARES Comment No. 108). French Institute for International and Strategic Affairs (IRIS). https://www.iris-france.org/wp-content/uploads/2025/02/ARES_2025_01_108_Defence_Procurement_Practises_Germany_Comment-1.pdf

[40] Kayali, L. (2023, September 20). France and Germany clash (again) on buying US arms. Politico. <https://www.politico.eu/article/france-germany-disagreement-over-us-arms-deals/>

[41] Puglierin, J. (2024, January). Germany’s perception of the EU defense industrial “toolbox” (ARES Comment No. 91). French Institute for International and Strategic Affairs (IRIS). https://www.iris-france.org/wp-content/uploads/2024/09/ARES_2024_01_91_EU_Defence_Toolbox_Germany_Comment.pdf

[42] Birnbaum, M., & Viser, M. (2025, February 28). Contentious Trump-Zelensky meeting threatens U.S. support for Ukraine. The Washington Post. <https://www.washingtonpost.com/politics/2025/02/28/trump-ukraine-russia-zelensky/>

[43] Christian Democratic Union of Germany, 2025.

As a consequence, a consensus among the CDU/CSU, the Social Democrats, and the Green Party – uniquely reached after the election but before the newly elected Bundestag convened to secure the necessary two-thirds majority for a change to the German constitution (*Grundgesetz*) – resulted in March 2025 in significant changes to Germany’s fiscal policies. The approved package exempts Germany’s defense spending from debt rules when exceeding one percent of GDP to address armed forces gaps and enhance civil protection. It also includes a €500 billion fund, financed through borrowing, to invest in the country’s infrastructure over the next twelve years and help revitalize Germany’s struggling economy.[44]

Traditionally known for its emphasis on austerity, Germany committed to invest heavily in strengthening the defense readiness of the German armed forces, heralding another profound transformation of its security and defense policy after the (first) *Zeitenwende* in 2022.[45] International commentators since then have not hesitated to use superlatives such as “historic,”[46] “seismic,”[47] and the “awakening of the sleeping giant”[48] to describe Germany’s recent policy shifts and their potential beneficial impact on European security and defense.

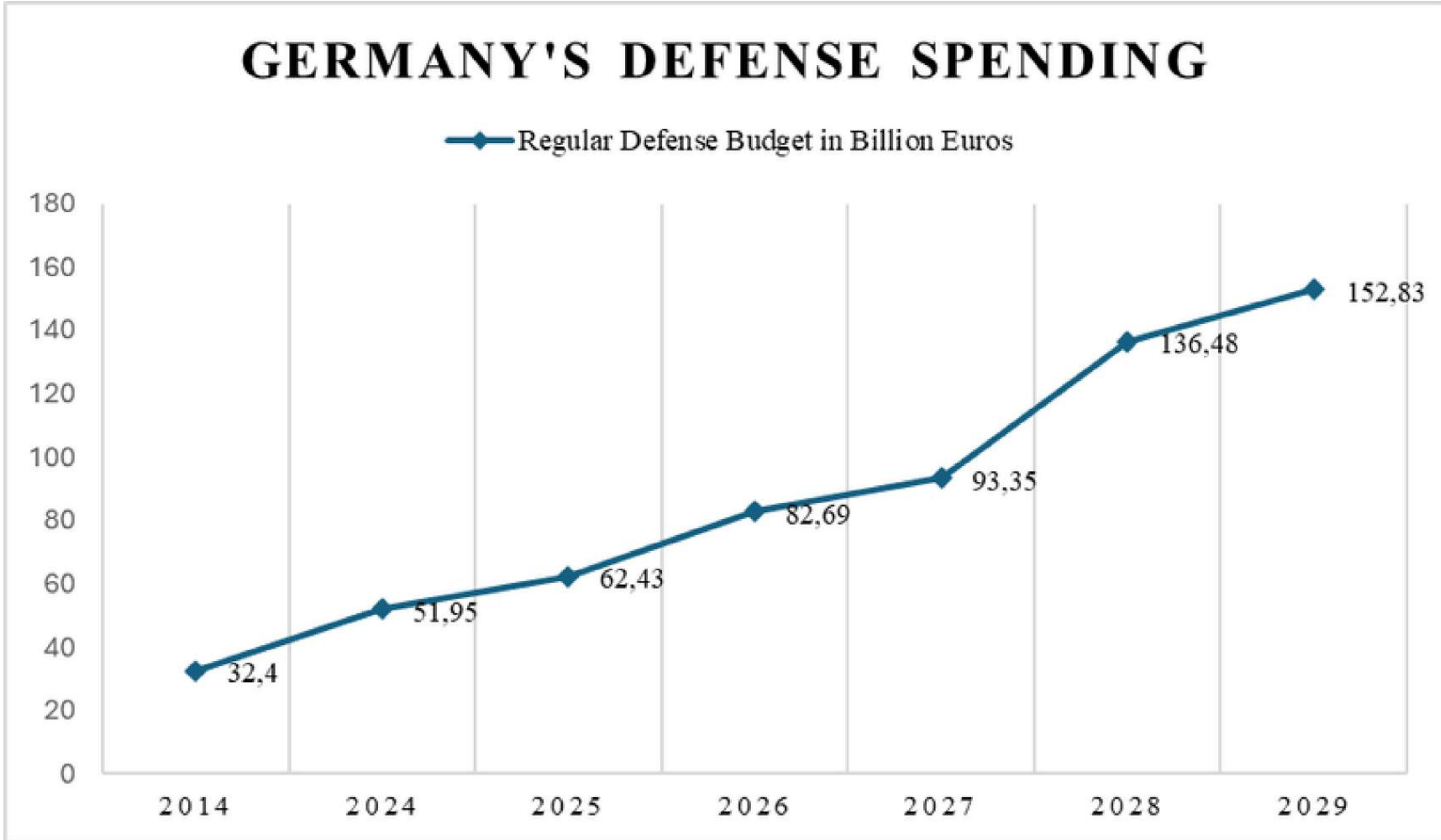


Figure 1: Germany’s regular defense budget (in billion euros, using European decimal notation)

[44] Nöstlinger, N. (2025, March 18). German parliament passes historic spending reforms. Politico. <https://www.politico.eu/article/germany-parliament-spending-reforms-defense-military-infrastructure-friedrich-merz/>
[45] Cooper, R. (2025, April 2). Germany finally gets over austerity. The American Prospect. <https://prospect.org/world/2025-04-02-germany-finally-gets-over-austerity/>
[46] Nöstlinger, N. (2025, March 18). German parliament passes historic spending reforms. Politico. <https://www.politico.eu/article/germany-parliament-spending-reforms-defense-military-infrastructure-friedrich-merz/>
[47] Adler, K. (2025, February 24). Germany’s Friedrich Merz signals seismic shift in Europe-US relations. BBC. <https://www.bbc.com/news/articles/cpv4n0dg3v3o>
[48] Crawford, A. (2025, March 5). Trump Awakes Sleeping Giant Germany to Boost EU Defense. Bloomberg. <https://www.bloomberg.com/news/newsletters/2025-03-05/sleeping-giant-germany-finally-awakes-to-boost-eu-defense>.

Among the first noticeable changes in German policy is the significant boost to military spending (Figure 1). Compared to about €32.4 billion in 2014, the Merz government has pledged to increase regular defense spending (“Budget Plan 14”) significantly over the coming years, thereby meeting the new NATO target of spending 5 percent of GDP per year on defense and security by 2035 – 3.5 percent on core military requirements and 1.5 percent on resilience-related spending such as the protection of critical infrastructure[49] – already by 2029.[50] In 2025, Germany’s defense budget amounts to €86,37 billion in total, including €62,43 billion for regular defense spending and €24 billion from the special fund).[51] The coming years project that Budget Plan 14 will rise to €82.69 billion in 2026, €93.35 billion in 2027, €136.48 billion in 2028, and €152.83 billion in 2029.[52]

The 2025 Coalition Agreement

Beyond the financial dimension, incentivizing Germany’s defense industry to expand production capacities and to strengthen Europe’s defense-industrial base in light of the demonstrated strategic importance of industrial capacity in modern warfare, as seen in Ukraine, remains a significant challenge and key priority for the Merz government. The 2025 coalition agreement[53] between the CDU/CSU and SPD outlines several key reform areas designed to scale up defense production, accelerate procurement, and address critical capability gaps in the armed forces in order to meet NATO commitments and ensure long-term capability development:

- ***Defense-Industrial Base:***

- Exploring potential to leverage struggling industry branches (automotive, steel) for defense purposes by examining how the conversion and upgrading of existing facilities to meet defense industry needs can be supported (p. 7);
- Exploring the potential of strategic state investments in the defense (and energy) sector to strengthen resilience and preparedness (p. 55);
- Ensuring long-term financial planning security, regardless of legislative periods, by introducing a multi-year investment plan for defense capabilities (p. 130);

[49] NATO. (2025, August 27). Defense expenditures and NATO’s 5% commitment.

https://www.nato.int/cps/en/natohq/topics_49198.htm

[50] Zeit Online. (2025, June 23). Deutscher Wehretat soll bis 2029 auf 150 Milliarden Euro steigen [German defense budget to rise to 150 billion euros by 2029]. <https://www.zeit.de/politik/deutschland/2025-06/bundeswehr-wehretat-ruestungsausgaben-verteidigung-nato>

[51] German Bundestag. (2025, September 5). Haushalt 2025: Verteidigungsetat auf neuem Höchststand [Budget 2025: Defense budget at a new record high]. <https://www.bundestag.de/presse/hib/kurzmeldungen-1107332>

[52] Federal Ministry of Defense. (n.d.). Entwicklung und Struktur des Verteidigungshaushalts [Development and structure of the defense budget]. Retrieved September 16, 2025, from <https://www.bmvg.de/de/themen/verteidigungshaushalt>

[53] CDU, CSU, & SPD. (2025). Koalitionsvertrag 2025: Verantwortung für Deutschland [Coalition Agreement 2025: Responsibility for Germany]. https://www.koalitionsvertrag2025.de/sites/www.koalitionsvertrag2025.de/files/koav_2025.pdf

- Increasing reliance on advance supply contracts and purchase guarantees in critical areas, such as ammunition production (p. 131);
- Ensuring the availability of key resources, such as explosives (p.131);
- Strengthening the competitiveness of the German and European security and defense industry, including defense tech SMEs, through long-term, predictable contracts and simplified access to capital (p. 131);
- Creating more resilient supply chains to maximize German and European operational autonomy (p. 131);
- Leveraging strategic federal investments to safeguard German security and defense interests when threatened by changes in ownership or shareholding of key industry (p. 132).

• ***Procurement:***

- Introducing a Planning and Procurement Acceleration Act for the Bundeswehr to reform and speed up procurement processes (p. 130);
- Adopting new implementation approaches for major projects and cutting-edge technologies (p. 131);
- Accelerating parliamentary involvement in procurement matters, by among others, recommending to raise the threshold for procurement proposals (currently, the threshold for prior approval by the Budget Committee of the German Bundestag applies to all Bundeswehr procurement projects with an investment volume of €25 million or more)[54] (p.131).

• ***Innovation and Technology:***

- Removing obstacles to dual-use research and civil-military research cooperation (p. 130);
- Accelerating the adoption of future technologies for the Bundeswehr (e.g. satellite systems, artificial intelligence, unmanned (combat-capable) systems, electronic warfare, cyber, software-defined defense and cloud applications, hypersonic systems) and integrating them into the armed forces (p.131);
- Fostering and intensifying exchanges between research institutions, academia, start-ups, and industry (p.131).

• ***International Partnerships:***

- Fostering European cooperation to improve cost efficiency and quality, with a special focus on “Simplification, Standardization, and Scale” (p. 130);
- Reducing redundant procedures by recognizing partner nations’ certifications and approvals whenever possible (p. 131);

[54] Federal Ministry of Defense. (n.d.). Beschaffung: Die 25 Millionen-Euro-Vorlagen [Procurement: The €25 Million Proposals]. Retrieved October 7, 2025, from <https://www.bmvg.de/de/beschaffung-25-millionen-euro-vorlagen>

- Jointly advising advancing the development of the Future Combat Air System (FCAS) and the Main Ground Combat System (MGCS) (p. 131).

- ***Arms Exports:***

- Aligning Germany's arms exports more closely with the country's foreign, economic, and security interests by adopting a more strategic export policy that provides reliability for the German security and defense industry, its foreign partners, and customers (p.132);
- Expanding support for arms exports through government-to-government agreements by accelerating export control approvals and harmonizing European arms export rules, while continuing to reject exports that could be used for repression or violate international law (p. 132).

- ***The Way Ahead and Remaining Challenges***

Since taking office in May 2025, the German Federal Government under Friedrich Merz has not yet had sufficient time to fully implement all aspects of the ambitious program outlined in the coalition agreement. To address the Bundeswehr's capability gaps, Inspector General of the Armed Forces, General Carsten Breuer, has issued a directive[55] defining the priorities to enhance operational and defense readiness by 2029:

- Strengthening air defense (integrated missile defense, short/medium-range air systems, counter-drone systems);
- Developing deep-precision strike capabilities;
- Closing ammunition gaps and increasing cross-domain stockpiles;
- Procuring drones and loitering munitions for AI-optimized, interoperable reconnaissance and effects;
- Expanding electronic warfare;
- Enhancing the combat power of large formations and supporting units;
- Modernizing airstrike and naval capabilities, including nuclear sharing;
- Building resilient offensive and defensive space capabilities;
- Ensuring force growth and surge capacity through service, reserves, and homeland defense;
- Expanding and protecting defense-critical infrastructure.

[55] Breuer, C. (2025, May 19). Prioritäten zur Steigerung der Einsatz- und Verteidigungsbereitschaft [Priorities for increasing operational and defense readiness]. Politico. https://www.politico.eu/wp-content/uploads/2025/05/25/250519_Prio_Redacted.pdf

In terms of procurement policy, and in light of considerable skepticism[56] about the role of the United States as the primary supplier of critical capabilities, recent decisions by the Merz government indicate a turn towards European contractors[57] – bringing Germany’s approach more in line with the European Commission’s plans[58] to strengthen the European defense-industrial base and reduce dependence on American defense providers.

However, capability gaps and defense-industrial capacity are not the only pressing challenges to Germany’s defense readiness. Current efforts also focus on the urgent need to expand personnel. As of 2024, the Bundeswehr comprised around 181,000 active troops, following the suspension of compulsory military service for men in 2011.[59] According to NATO defense plans, Germany will have to grow its armed forces to at least 260,000 troops and 200,000 reservists.[60] For this reason, the questions of whether to reinstate conscription has become a dominant issue public and political debate. A draft for a new Armed Forces Act envisions growing the Bundeswehr on a voluntary basis, following a mandatory questionnaire on suitability and willingness, with the provision to reintroduce compulsory military service if troops numbers do not increase significantly.[61] While a voluntary-based approach provides an opportunity to rebuild the necessary infrastructure and logistics for registration and draft assessment in the coming months, experts remain skeptical that the envisioned measures to increase the attractiveness of military service will be sufficient to grow the Bundeswehr to the required levels.[62]

All in all, the efforts needed to enhance the Bundeswehr’s preparedness demand the continued adaptation of Germany’s strategic culture to the significantly deteriorated security environment. Since the start of Russia’s invasion of Ukraine, polls have indicated broad support for a more responsible (and even leading) role for Germany in European security, along with growing acceptance for increased defense spending and the

[56] Vincent, E. (2025, March 16). European armies seek to urgently end dependence on US. Le Monde. https://www.lemonde.fr/en/economy/article/2025/03/16/european-armies-seek-to-urgently-end-dependence-on-us_6739212_19.html

[57] Lunday, C. (2025, September 23). Germany’s €80B rearmament plan sidelines US weapons. Politico. <https://www.politico.eu/article/germanys-defense-donald-trump-air-defense-washington-us-weapons/>

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expansion of the Bundeswehr.[63] At the same time, Russian narratives continue to resonate with a considerable part of the German public, with fringe (populist) political parties and, in some cases, pro-Russian stances gaining in popularity.[64] The success and sustainability of the second watershed moment in Germany's approach to security and defense will depend on public awareness and support.

Conclusion

Germany's changes in security and defense policy since 2022 have been historic – as is the threat posed by Russia. Bridging the gap between ambition and necessity in German defense policy, which ultimately rests on the country's domestic industrial capacity, will require far more than increased military spending: While additional funding offers a crucial opportunity for the German defense sector, only concrete and far-reaching measures to scale up defense-industrial production, accelerate procurement, and enhance the Bundeswehr's readiness will be sufficient to meet the severe security challenges ahead.

Many of the steps outlined in the coalition agreement address the remaining political and structural obstacles – providing long-term certainty and access to capital for the defense sector, reducing bureaucratic hurdles, accelerating procurement processes, recognizing the strategic role of arms exports, fostering dual-use research and civil-military cooperation, and strengthening European cooperation. Yet their successful implementation will require sustained political will, long-term strategic foresight, and effective communication with the German public.

This imperative is even more underlined by the increasing number of hybrid attacks, such as disinformation, cyberattacks, acts of sabotage, and drone incursions, challenging Germany's resilience and security. As Chancellor Merz somberly observed, "We are not at war, but we are no longer at peace either." [65] Little time is left to realize Germany's full defense-industrial potential as a critical enabler of European security.

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DEFENCE: CAN THE EUROPEAN DTIB REALLY MEET THE CHALLENGE OF NEW THREATS?

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Faced with the Russian threat and Chinese demonstrations of force, Europe and France are organising their defence industry. While states can count on the know-how of arms manufacturers, they still have to allocate the budgets announced by the political communication.

The show of force has left its mark on Western chancelleries: on 3 September, in a [Large-scale military parade](#), Beijing has shown "Advances in all areas ». The threat is barely veiled: China and its allies are imposing their "hard power" on the world, in particular with their deep strike capabilities. Europe will have to work twice as hard in terms of sovereign military equipment to catch up.

Europe must flex its muscles

In fact, this "coercive power" is sorely lacking in Europe, whose strategic frame of reference has until now been articulated around its "defensive capabilities". To reverse this trend, the EU has included among the 7 critical capabilities of [its white paper for A European defence](#), Strikes in depth which, unlike defensive means, allow the initiative to be taken by decisive blows inside enemy territory. The recent lessons of Ukraine and Pakistan seem to be well identified by European executives, while industrialists have not remained inactive.

In 2024, France proposed to its European partners the [European Long-Range Strike Approach \(ELSA\) initiative](#), which aims to stimulate member states and their industrial champions according to their technological excellence. Several projects – some of which have reached maturity – are on the table. In France, for example, MBDA already offers the Land Cruise Missile (LCM), with a range of more than 1000km. This land-based cruise missile is an adaptation of the Naval Cruise Missile (CNM) that has proven itself in operations, and which will soon be brought up to the latest technical standards. On the industrial level, this land-sea synergy (and even both "surface" and "underwater", the

missile can be fired from these two environments) would allow obvious economies of scale during production, and cost control. These are all arguments likely to seduce the European Commission or partners such as Poland, which is linked to France by a recent *Letter of Intent* on the matter.

Longer-term projects are also being studied, such as the Franco-British Stratus system, available in two versions, the Stratus LO (Low Observable) and the Stratus RS (Rapid Strike). While this missile seems to be provoking the enthusiasm of political decision-makers in Paris, London and Rome, the launch of development is still awaited. In any case, only projects like these, which are 100% European, will be able to guarantee Europe its strategic autonomy. According to [Éric Bélanger](#), CEO of MBDA, a company that is emblematic of a convergence of European interests, sovereignty in this area is based on the possession of "*brains that know objects, that design them and that are then able to modify them as much as necessary*". However, according to him, "*we have everything we need in Europe, all the technical capacities, all the brains necessary to do without the United States*". But you also have to put your hand in your pocket, and only states can do that.

Putting your hand in your wallet

Because the private sector has already played a large part. Since 2022, it has multiplied its financial efforts to respond to the call of the [President Macron](#) who then asked to switch to "a war economy, (...) in which we will have to move faster, think differently about the rhythms, the ramp-ups, the margins, in order to be able to reconstitute more quickly what is essential for our armed forces, for our allies". Tapping into their cash flows, companies have considerably increased their production capacities, opened new chains, and recruited many specialists who have become scarce due to reindustrialization. MBDA has thus [invested €2.5 billion](#) in its production apparatus and strategic stocks, while KNDS has devoted €600 million to [tripler sa production de canon Caesar](#), and [released 120 million](#) to replenish your stock of powder... These efforts have enabled France to catch up in terms of support for Ukraine. But these companies cannot take on everything.

It is therefore now a matter of the State taking over, in line with its declarations, to maintain this effort over the long term, and to promote the return on investment of companies, which is essential to the continuation of their efforts. However, the signals are not encouraging. The armed forces have recorded a record 8 billion in deferred charges in 2024, unpaid bills that weigh on suppliers and on the availability of their cash flow. On the budget side, while the executive claims to be taking the lead in "dimensional" initiatives, such as the coalition of the willing for Ukraine, the financial effort does not reflect intentions. From 2022 to 2024, [France](#) went from 1.92% to 1.99% of GDP devoted to Defence, while [Poland](#) rose from 2.23% to 4.12%, and Great [Britain](#) remained around 2.3%.

The figures do not lie: France is lagging behind even though it is holding a very ambitious discourse. The national representation does not hide its concern. In April 2025, MPs Matthieu Bloch and Jean-Louis Thiériot, members of the Committee on National Defence and the Armed Forces, presented a [report devoting a large section to deep strikes](#), and concluding that these resources need to be significantly strengthened. On the financial level, they were already expressing their concern: "How can we ensure that the projects in progress will respect the deadlines and the planned budgets in order to avoid any delay that would be detrimental to our operational capacity? A concern that has certainly not diminished, as six months later, France is sinking into political instability, precisely for budgetary reasons.

France must not let itself be let behind

There is therefore an urgency, for fear of seeing the French DTIB downgraded, especially in comparison with the major manoeuvres in Germany where a giant like [Rheinmetall enjoys very strong growth](#) and multiplied acquisitions. Its share price tends to prove that its strategy is paying off (488 euros in September 2024, 1912 euros a year later). If our partners continue their efforts at this rate, French industry will automatically lose its influence in Europe. Domestically, this could also have a direct impact on employment and technological know-how. In Paris, the public authorities are now faced with their responsibilities: they must move from words to action and give the DTIB all the means to be competitive.

THE ITALIAN AEROSPACE AND DEFENCE INDUSTRY

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This paper provides a tailored analysis of Italian aerospace and defence industry in light of the changing international security environment, marked by Russian invasion of Ukraine and Donald Trump's administration, and of the growing military budgets in Europe. It first offers an overview of the sector in terms of turnover, employees, and major industrial actors. Second, it addresses industrial cooperation with European and transatlantic partners. Third, it focuses on some strengths and weaknesses on Italian Defence Technological and Industrial Base (DTIB). Finally, a brief conclusion will sketch a future outlook for this sector.

1. The Italian defence technological and industrial base: a full spectrum pyramid

In 2023 the Italian DTIB achieved a turnover of about 20 billion euros. Notably, around 68% of such turnover came from export revenues: this is a very important indicator of a structural feature, that is the degree Italian industries rely on foreign markets and international cooperation. According to recent estimates, the whole of Italian aerospace and defence industries employed about 54,000 workers directly and roughly 181,000 indirectly^[67].

The national DTIB covers the entire spectrum of conventional capabilities, either through system integrators or by providing key components and technologies. Concerning system integrators, Italian industry has the design authority for complex platforms such as helicopters, jet trainers like 346, various classes of warships as well as a number of army vehicles. Italian industries are also co-leader of the Eurofighter multinational cooperation for combat aircraft and of the Samp-T missile systems resulted by the bilateral project with France. In terms of dual-use space capabilities, Italy is one of the very few countries in Europe to host both upstream and downstream sectors, including launchers.

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[67] Decode 39, "A snapshot of Italy's growing defence industry", in Decode 39, 27 November 2024, <https://decode39.com/9741/mediobanca-report-italy-growing-defence-industry/>

The largest prime contractor in Italy is obviously Leonardo, which according to SIPRI 2023 data ranks 13th worldwide in terms of revenues, and third in Europe after BAE System and Airbus[68]. Leonardo's main divisions focus on helicopters, aircraft, defence electronics, armament systems. In 2024 a novel space division has been established[69]. The company is the Italian shareholder of European missile defence champion MBDA, whereby MBDA Italy represents the Italian leg – alongside with British, French and German ones - working on both seekers and interceptors.

Leonardo also forms the so-called “Space Alliance” with the French company Thales through joint ownership of Telespazio (67 percent of shares) and Thales Alenia Space (33 percent of shares), and holds a stake in Avio, the launch vehicle manufacturer which successfully launched Vega C on December 2024[70]. Thales Alenia Space focuses on the production of satellites, while Telespazio works on the provision of satellites services. The creation of a space division in Leonardo may pave the way for a reorganization of the space sector in Italy, and might change the Italian position vis-à-vis a possible European consolidation in this field. At the same time, new space companies like Argotec, D-Orbit, Planetek and T4I grew significantly over the last decade and increasingly provides space services and assets to the military and government agencies.

Fincantieri is the premier shipbuilder in the DTIB and the home of the Italian navy's capabilities, from the Cavour and Trieste aircraft carriers to various classes of warships and submarines[71]. It built the Orizzonte and FREMM frigates as well as the Vulcano logistic support ships in cooperation with the French Naval Group. Fincantieri also produced the U212 submarines as junior partner of the German TKMS, and is working on Near Future Submarines (NFS) with the design authority on this platform[72]. Fincantieri has also a strong portfolio of civilian ships, by leveraging the dual-use characters of many technologies components, and large part of its revenues come from exports worldwide.

Among tier two companies, EltGroup (formerly Elettronica) is a major supplier of defence electronics, electromagnetic and cyber solutions in multiple operational domains. In the land sector, Iveco Defence Vehicles (IDV) is a major player in Italy and internationally with a range of wheeled vehicles. Interestingly, in 2025 Leonardo in partnership with

[68]Stockholm International Peace Research Institute, “The SIPRI Top 100 arms-producing and military services companies in the world, 2023”, SIPRI, in sipri.org, 2 December 2024, <https://www.sipri.org/visualizations/2024/sipri-top-100-arms-producing-and-military-services-companies-world-2023>

[269]MARELLI P., “Leonardo, nuova divisione Space: crescita del business a doppia cifra”, in Space Economy 360, 12 March 2024, <https://www.spaceeconomy360.it/industria-spaziale/leonardo-nuova-divisione-space-crescita-del-business-a-doppia-cifra/>

[70]COZZI E., “L'Italia torna in orbita: lanciato il razzo Vega C con il satellite Sentinel-1C”, in Il Sole 24 Ore, 6 December 2024, <https://www.ilsole24ore.com/art/l-italia-torna-orbita-lanciato-razzo-vega-c-il-satellite-sentinel-1c-AGooKraB>

[71]See in this regards, among others, MARRONE A., CALCAGNO E. (eds.), “Naval Combat Systems: Developments and Challenges”, in Documenti IAI, Istituto Affari Internazionali, iai.it, 26 January 2023, <https://www.iai.it/sites/default/files/iai2301.pdf>

[72]MARRONE A., CALCAGNO E. (eds.), “The Underwater Environment and Europe's Defence and Security”, in Documenti IAI, Istituto Affari Internazionali, iai.it, 26 June 2023, <https://www.iai.it/sites/default/files/iai2313.pdf>

Rheinmetall has made an offer of 1,6 billion euro to acquire the control of IDV, whereby the Germany company KNDS reportedly has offered more[1]. Beretta company supplies individual soldier weapons and equipment to the Italian Army and abroad. The German company Rheinmetall is also present and active in the Italian DTIB through its subsidiary Rheinmetall Italia, which is set to grow in terms of industrial capacities thanks to the 2024 joint venture with Leonardo for the development and production the next generation main battle tank and a family of armoured vehicle for the Italian Army[74]. Avio Aero, a GE company, is the Italian engine manufacturer in the aerospace sector, in charge also of Eurofighter and Eurodrone propulsion[75].

Finally, a large number of Small and Medium Enterprises (SMEs) are active in the defence sector, often with dual-use technologies, such as STAM or RINA. Indeed, beyond state-controlled prime contractors Leonardo and Fincantieri, only other 8 companies in Italy have a turnover above 1 billion euro[76]. More than 80% of companies in this sector are SMEs, but in turn the large companies employ more than 90% of the sector's workforce[77].

Actually, these data show another structural feature of the Italian DTIB: it can be described as a pyramid, with at its top a leading role of Leonardo across the board, and of Fincantieri on shipbuilding, and at its basis a wide supply chain involving numerous SMEs. In between of the pyramid, the aforementioned midcaps and branches of European or US groups act either as subcontractor of Leonardo and Fincantieri, or as prime contractor of the Ministry of Defence (and Italian Space Agency) to provide important products and/or services to the military: Avio, Avio Aero, EltGroup, IDV, MBDA Italia, Rheinmetall Italia, Telespazio and Thales Alenia Space.

1.International defence industrial cooperation: bilateral and mini-lateral partnerships

As mentioned before, 68% of Italian defence industry's turnover comes from export. This percentage includes several cooperative procurements at bilateral, mini-lateral and multilateral level, mainly but not only with other NATO countries. Indeed, Italian DTIB traditionally cooperates with both European and transatlantic partners, and Italy considers these partnerships as complimentary and mutually reinforcing.

[73]ROSSI C., "Come va la trattativa fra Leonardo e Iveco sulla difesa", in Start Magazine, 11 July 2025,

<https://www.startmag.it/economia/come-va-la-trattativa-fra-leonardo-e-iveco-sulla-difesa/>

[74]FIORENZA N., "Leonardo and Rheinmetall announce joint venture on land defence systems", in Janes, 4 July 2024,

<https://www.janes.com/osint-insights/defence-news/land/leonardo-and-rheinmetall-announce-joint-venture-on-land-defence-systems>

[75]Airbus, "Airbus selects Avio Aero engine solution for Eurodrone", Press Release, in airbus.com, 25 March 2022,

<https://www.airbus.com/en/newsroom/press-releases/2022-03-airbus-selects-avio-aero-engine-solution-for-eurodrone>

[76]Decode 39, "A snapshot of Italy's growing defence industry", in Decode 39, 27 November 2024,

<https://decode39.com/9741/mediobanca-report-italy-growing-defence-industry/>

[77]Federazione Aziende Italiane per la Difesa, l'Aerospazio e la Sicurezza, "Intervento Presidente AIAD-Ing. Giuseppe Cossiga", in senato.it, 14 February 2023,

https://www.senato.it/application/xmanager/projects/leg19/attachments/documento_evento_procedura_commissione/files/000/425/45/7/Memoria_Cossiga_AIAD.pdf

The UK is one of the two major partners for Rome, concerning a number of key, complex and expensive capabilities such as fighter aircraft, helicopters, defence electronics and missile systems. The defence industrial cooperation is deep-rooted since the 1980s, and nurtured by major aerospace multinational programmes such as Tornado, Eurofighter and the novel Global Combat Air Programme (GCAP) [78]. In this context, the subsidiary of Leonardo in the UK cultivated a significant footprint beyond the Channel, with more than 7.000 employees[79]. Against this backdrop, in 2023 the Italian and British governments signed a Memorandum of Understanding (MoU) aimed to strengthen cooperation on defence and other dossiers[80]. The respective Ministries of Defence established further agreements to implement and develop such a partnership.

France is the other major partner for Italy in Europe, across the space and naval domains. As mentioned before, the space alliance between Leonardo and Thales was established in the 2000s with the twin joint ventures Thales Alenia Space and Telespazio. Space cooperation is also covered by the article 7 of the Quirinale Treaty, which was signed in 2021 with the aim to increase cooperation between Italy and France on a number of policy areas[81]. Interestingly, the article 2 addresses security and defence cooperation. In the naval domain, Fincantieri and Naval Group have worked together to develop and produce Orizzonte and FREMM warships, and in 2020 the two companies set up the joint venture NAVIRIS[82] which is also leading the multinational project to develop and produce a new European Patrol Corvett. Moreover, the two countries cooperate on missile systems within MBDA, similarly to what happens between Italy and UK. Actually, the Franco-Italian cooperation has never been easy, with recurring tensions at political, military and industrial level, particularly after the 2011 war in Libya[83], and still tense negotiations on workshare, design authority and technological sovereignty.

Historically, Italy's partnership with Germany in the defence and space sectors has been much more limited than with France and UK, but it has been growing in recent years. The cooperation between Fincantieri and TKMS has been crucial to develop and produce the class Todaro submarines currently in service, and in 2024 the Italian company made clear it wanted to buy a share of the German one[84]. Already in 2021, Leonardo bought 25% shares of German company Hensoldt working on defence electronics[85].

[78]CALCAGNO E., "La cooperazione italo-britannica nel combattimento aereo", in AffarInternazionali, 6 May 2025,

<https://www.affarinternazionali.it/gcap-come-punta-delliceberg-la-cooperazione-italo-britannica-nel-combattimento-aereo/>

[79]Leonardo, "Meet our People", in uk.leonardo.com, <https://uk.leonardo.com/en/people/life-at-leonardo/meet-our-people>

[80]CARRER G., "Meloni and Sunak sign a new beginning for Rome and London", in Decode 39, 27 April 2023,

<https://decode39.com/6592/meloni-sunak-new-beginning-italy-uk-mou/>

[81]Il Foglio, "Ecco il testo del Trattato del Quirinale tra Italia e Francia", in Il Foglio, 26 November 2021,

<https://www.ilmfoglio.it/esteri/2021/11/26/news/ecco-il-testo-del-trattato-del-quirinale-tra-italia-e-francia-3408083/>

[82]Fincantieri, "Naviris, the Joint Venture between Fincantieri and Naval Group", in fincantieri.com,

<https://www.fincantieri.com/en/group/subsidiaries-and-associates/naviris/>

[83]For an historical perspective on the bilateral relations see, among others: DARNIS J. P., "Una visione strategica delle relazioni franco-italiane: per un trattato bilaterale?", in IAI Papers, Istituto Affari Internazionali, iai.it, 3 August 2020,

<https://www.iai.it/sites/default/files/iaip2021.pdf>

[84]ANSA, "Fincantieri punta ad acquisire la tedesca Tkms", in ANSA, 6 June 2024,

https://www.ansa.it/sito/notizie/economia/2024/06/06/fincantieri-punta-a-una-fusione-con-la-tedesca-tkms_b681c1c6-3bdb-43e9-bd19-f85dde7bc779.html

[85]Reuters, "Italy's Leonardo to buy 25% stake in German sensor maker Hensoldt", in Reuters, 24 April 2021,

<https://www.reuters.com/article/world/europe/italys-leonardo-to-buy-25-stake-in-german-sensor-maker-hensoldt-idUSKBN2CB073/>

As mentioned before, in 2024, the Italian Ministry of Defence decided to acquire a new generation of main battle tanks and a family of armoured vehicles, and it did encourage the establishment of a 50/50 joint venture between Rheinmetall and Leonardo. The new company Leonardo Rheinmetall Military Vehicles is headquartered in La Spezia and is set to run 60% of its activities in Italy[86]. In 2023 the Italian and German governments signed an action plan on defence cooperation providing the politico-strategic mandate to develop the bilateral partnerships on foreign, defence and economic dossiers[87].

Interestingly, as whole over the last three years the right-wing Giorgia Meloni government pursued bilateral agreements with both conservative (British Rishi Suni) and progressive (German Olaf Sholz) governments in Europe, as well as the implementation of the Quirinale Treaty signed by Emmanuel Macron. Such a pragmatic attitude actually prioritized long-term Italian interests in the defence sector over temporary political misalignments between the executives in charge at that time.

Last but not least, it is noteworthy the Italian companies' presence in the Polish DTIB through subsidiaries and partnerships, in particular but not only Leonardo. However, there is not such an industrial, military or political cooperation as in the case of UK, France and Germany. Nor there is such a partnership between Italy and Spain, despite the geographical proximity which should contribute somehow to an alignment of threat perceptions and military needs.

At mini-lateral level, Rome cooperates with Berlin, Madrid and Paris on the Eurodrone project since its beginning a decade ago to develop and produce a Medium Altitude Long Endurance drone under German coordination. The programme suffered delays, still India and Japan signed as observers in recent years[88]. Italy also participates in or lead a number of projects within the EU Permanent Structured Cooperation (PESCO) with significant industrial implications. Despite PESCO has been joined by 25 out of 27 EU member states, most projects are initiated by a small groups of like-minded countries, from 2 to 7 countries, therefore they can be considered a form of mini-lateral cooperation.

For example, this is the case for the aforementioned Eurodrone and European Patrol Corvette (EPC). The EPC involves France, Spain, Portugal and Greece under Italian leadership[89], with important roles for NAVIRIS but also Navantia. Another relevant

[86]Leonardo, "Nasce la Joint Venture Leonardo Rheinmetall: nuovo player nella produzione europea dei sistemi di difesa terrestre", in leonardo.com, 15 October 2024, <https://www.leonardo.com/it/press-release-detail/-/detail/15-10-2024-new-player-in-european-tank-production-leonardo-and-rheinmetall-establish-joint-venture>

[87]Decode 39, "Strengthening European defence. The Italy-Germany action plan", in Decode 39, 15 June 2023, <https://decode39.com/7051/italy-germany-eu-defence/>

[88]HOYLE C., "Eurodrone could gain new missions and additional partners, Airbus says", in FlighGlobal, 19 June 2025, <https://www.flightglobal.com/defence/eurodrone-could-gain-new-missions-and-additional-partners-airbus-says/163512.article>

[89]Permanent Structured Cooperation (PESCO), "European Patrol Corvette (EPC)", in pesco.europa.eu, <https://www.pesco.europa.eu/project/european-patrol-corvette-epc/>

mini-lateral PESCO project is TWISTER, whereby Italy and other six EU countries cooperate under French lead to develop a space-based system for missile early warning, with an obvious primary role for MBDA[90].

Regarding the European Defence Fund (EDF) projects launched from 2021 onwards, Italian companies have participated in a high number of successful proposals for Research and Development (R&D) projects, albeit rarely with a leading role[91], and Italy is together with France one of the main beneficiaries of EDF investments. In this case, industrial consortium often feature a larger number of partners, entailing a higher degree of complexity and delays which negatively affect the likelihood to turn R&D into real procurement cooperation.

At transatlantic level, the most important cooperation is by far the F-35, which Italy joined since its beginning in the 1990s as Tier-2 partner. Italian industries build aircraft's central cell and wings, provides a number of key components – i.e. electronics - through the involvement of Leonardo and other companies[92]. Notably, thanks to the infrastructures provided by the Ministry of Defence, Italy hosts the only Final Assembly and Check Out (FACO) facility out of the US, in Cameri (Piemonte region). The Cameri factory serves also as Maintenance Repair Overhaul Upgrade (MROU) site, thus ensuring a workflow for the next three-four decades linked to F-35 stationed in Europe, including American ones[93]. Dutch F-35 are assembled there too since the 2010s[94].

Significant transatlantic cooperation takes place also on space, for example within the Artemis Accords featuring Thales Alenia Space and Telespazio working on elements of the ambitious project to establish a stable human presence on the Moon[95]. Finally, Leonardo owns the American DRS company working on defence electronics.

Beyond European and transatlantic partnerships, an important novel is the aforementioned GCAP launched by UK, Italy and Japan in December 2022. Over the last three years the three countries set up an intergovernmental organization to manage the programme, an industrial joint venture to realize it – whose CEO is Italian - and each of

[90] On TWISTER and Europe's missile defence, see also: MARRONE M., MUTI K. (eds.), "Europe's Missile Defence and Italy: Capabilities and Cooperation", in Documenti IAI, Istituto Affari Internazionali, iai.it, 7 July 2021, <https://www.iai.it/sites/default/files/iai2105.pdf>

[91] FREYRIE M., "Italy Punches Below Its Weight on the European Defence Fund", in IAI Commentaries, Istituto Affari Internazionali, iai.it, 31 July 2023, <https://www.iai.it/sites/default/files/iaicom2338.pdf>

[92] On Italian participation in F35 project, see: CAMPORINI V. et al., "The Role of Italian Fighter Aircraft in Crisis Management Operations: Trends and Needs", IAI Research Papers, Istituto Affari Internazionali, iai.it, March 2014, Chapters 4 and 5, https://www.iai.it/sites/default/files/iairp_16.pdf

[93] SILVESTRIS E., "First USAFE F-35 Inducted at Cameri's MRO&U Facility", in The Aviationist, 27 March 2025, <https://theaviationist.com/2025/03/27/first-usafe-f-35-inducted-cameri-mrou-facility/>

[94] CONVERSI G., "Maiden flight for the 18th Royal Netherlands Air Force F-35A, the tenth assembled in Italy at the FACO in Cameri", in Aviation Reports, 17 May 2021, <https://en.aviation-report.com/maiden-flight-for-18th-royal-netherlands-air-force-f35-from-italian-faco-in-cameri/>

[95] LARA News, "L'Italia verso la Luna: firmati gli Artemis Accords e assegnati i primi contratti", in LARA News, 14 October 2020, <https://new.news.laran.it/litalia-verso-la-luna-firmati-gli-artemis-accords-e-assegnati-i-primi-contratti/>

the three MoD invested billions of euros on research and development activities[96]. Leonardo is going to be Lead System Integrator of GCAP, while EltGroup, Avio Aero and MBDA Italia will act as led subsystems integrators in the respective fields.

From such an overview, it clearly emerges there is no unique or privileged format nor partner for defence industrial cooperation. Surely, UK and France stand out respectively in the aerospace, space and naval sectors, but none of them is the partner by default of the whole Italian DTIB. The plurality of partnerships reflects the wide scope of aerospace and defence industry, as well as the individual preferences of powerful actors such as the air force, the navy[97], Leonardo and Fincantieri. Even during a rather long government as the Meloni one, there has been no top-down attempt to establish a prominent format for cooperation, nor to elaborate a strategic guideline like a Defence White Book. Diverse partnerships have rather been pursued and enhanced by building to their respective strengths, by showing a pragmatic approach which take into account the plurality of actors and preferences in Italy.

The main patterns of cooperation are quite deep-rooted and resilient. Notably, Brexit did not weaken the Anglo-Italian defence partnership, and the aforementioned bilateral agreement preceded the EU-UK security and defence partnership signed in 2025[98]. The cooperative relationship between Italy and the US continued under different Italian governments and American administration, and defence cooperation has not been halted during second Trump presidency despite tense transatlantic relations on trade tariffs. Actually, Giorgia Meloni managed to establish a good, cooperative relation with the Republic president and its administration. The novel partnership with Japan seems to be set on a solid basis too, as Italy shows growing interest in the Indo-Pacific where the Italian navy's carrier strike group Cavour and other vessels held an activity in 2024[99] and the Meloni government has signed a number of bilateral deals[100]. Some experts argue there is quiet and gradual Italian pivot towards that region[101].

More problematic is the issue of Europe's air and missile defence. In 2023-2025 discussion got traction among European countries on a possible cooperation in this field, including through an international conference organized by the Italian Ministry of Defence in Rome on September 2024[102], where both Minister Crosetto and French Minister Sebastien Lecornu made the concluding remarks.

[96] On GCAP, see: MARRONE A. (ed.), "The New Partnership among Italy, Japan and the UK on the Global Combat Air Programme (GCAP)", in Documenti IAI, Istituto Affari Internazionali, iai.it, 14 March 2025, <https://iai.it/en/pubblicazioni/c04/new-partnership-among-italy-japan-and-uk-global-combat-air-programme-gcap>

[97] On the role of single services concerning Italian procurement, see: MARRONE A., "What are the Main Drivers of Member States' Defence Procurement Practices? The Italian Case", Armament Industry European Research Group – ARES, September 2024, https://www.iris-france.org/wp-content/uploads/2024/09/ARES_2024_09_101_Defence_Procurement_Practises_Italy_Comment.pdf

[98] Government of His Majesty, "UK-EU security and defence partnership", Policy Paper, in gov.uk, 19 May 2025, <https://www.gov.uk/government/publications/uk-eu-security-and-defence-partnership>

[100] CRISTIANI D., "Why and How Italy and Japan Are Upgrading Their Partnership", in The Diplomat, 13 January 2023, <https://thediplomat.com/2023/01/why-and-how-italy-and-japan-are-upgrading-their-partnership/>

[101] ABBONDANZA G., "Italy's quiet pivot to the Indo-Pacific: Towards an Italian Indo-Pacific strategy", International Political Science Review, Vol. 45, Issue no. 5, September 2023, <https://journals.sagepub.com/doi/10.1177/01925121231190093>

[102] Italian Ministry of Defence, "European Air and Missile Defence Conference", in difesa.it, 17 September 2024, <https://www.difesa.it/eng/primo-piano/european-air-and-missile-defence-conference/56562.html>

On this field, Italy pursues a European solution to satisfy both Italian and EU armed forces needs to upgrade and expand the continent's capabilities to be operationally integrated within NATO. There is a convergence with France, as both countries are sceptical on the procurement of extra-European equipment and rather prioritize operational and technological sovereignty. In contrast, Germany launched the European Sky Shield Initiative (ESSI) to pool demand for both European and non-European products, including US and Israeli ones[103], and more than a dozen of countries joined it. Against this backdrop, France, Germany, Italy and Poland launched the European Long-range Strike Approach (ELSA), than joined by other European countries, which may become the framework to develop advanced European capabilities in the missile sector, obviously with a prime contractor role for MBDA[104].

1.Strengths and weaknesses of Italian DTIB

Broadly speaking, the Italian DTIB's strengths lie in the sectors where major domestic and/or international procurement programmes have been going on with a leading or significant role played by national industries. Fighter aircraft, training aircraft, helicopters, warships, space assets, and several defence electronics items are a case in point.

In contrast, a clear weakness regards main battle tanks. In recent years, Italy has been looking for a solution to replace the Ariete platform built back in the 1990s by Leonardo and IDV which has not been upgraded nor exported afterwards[105]. Therefore, the LRMV joint venture has been established to leverage the German expertise in this regard.

A second worrying weakness concerns drones. Beyond Eurodrone Leonardo has not produces successful Unmanned Air Systems (UAS) in the 2010s and 2020s, and Italy lags behind on combat UAS[106]. As a result, in 2025, Leonardo has established a 50/50 joint venture with the Turkish company Baykar start drone production in Italy thanks to the know-how brought by the partner[107]. Altogether, the strategy to establish equal-based JV with partners better positioned than Leonardo on certain technologies and/or capabilities seems to be a pragmatic way to overcome the weakness of in-house capacities through a win-win approach.

[103] EGOZI A., "Arrow 3 system: the highest layer of the European Sky Shield Initiative", in Defence Industry Europe, 2 October 2023, <https://defence-industry.eu/arrow-3-system-the-highest-layer-of-the-european-sky-shield-initiative/>

[104]SPRENGER S., "MBDA eyes a long-range strike missile boom in Europe", in Defence News, 15 July 2024, <https://www.defensenews.com/global/europe/2024/07/15/mbda-eyes-a-long-range-strike-missile-boom-in-europe/>

[105] MARRONE A., SABATINO E. (eds.), "Main Battle Tanks, Europe and the Implications for Italy", in Documenti IAI, Istituto Affari Internazionali, iai.it, 25 May 2020, <https://www.iai.it/sites/default/files/iai2007.pdf>

[106] MARRONE A., CALCAGNO E. (eds.), "Above and Beyond: State of the Art of Uncrewed Combat Aerial Systems and Future Perspectives", in Documenti IAI, Istituto Affari Internazionali, iai.it, 15 December 2023, <https://www.iai.it/sites/default/files/iai2324.pdf>

[107] GREET K., Baykar, Leonardo Advance Memorandum of Understanding with New 50:50 Joint Venture", in The Aviationist, 24 June 2025, <https://theaviationist.com/2025/06/24/baykar-leonardo-lba-systems/>

Broadly speaking, when it comes to production capacity, Italian DTIB has to face weaknesses, limits and challenges similar to those of other major countries in Western Europe due to the war in Ukraine. Defence budgets' spike across NATO countries calls for an increase of production capacities also from Italian companies, however bottlenecks in terms of supplies of components, raw materials, factories infrastructures and skilled human resource affect Italy too[108].

In addition, an important, peculiar Italian weakness is represented by the uncertainty over mid- to long-term investments by the Ministry of Defence (MoD). Indeed, the MoD has a multi-annual procurement planning – names Documento Programmatico Pluriennale (DPP)[109] - but does not have a multi-annual, legally binding allocation of budget, and this discourages companies' long-term investments on facilities, workforce and suppliers. There has been initiatives to introduce a multi-year financial programming law, but so far they have not succeeded.

On top of that, national defence budget until 2024 has not augmented at the pace of other major European countries which committed additional funds after 2022 Russian invasion of Ukraine. In 2024, 23 out of 32 NATO members reached 2% target[110], but Italy lagged behind at around 1.5%. In 2025, Prime Minister Meloni and several Ministers affirmed that Italy reaches 2% target[111]. Nevertheless, it is not clear which expenditures currently fall in this accounting since the 2025 DPP has not yet been published at the times of writing.

Against this backdrop, at the 2025 Hague Summit, Italy committed as all other NATO allies to reach 3,5% GDP spending on defence by 2035[112], that means about to double the current budget that took a decade to move up 0,5% from roughly 1% in 2014 to 1,5% in 2024. As for the other NATO target of 1,5% to be accounted for civilian resilience and critical infrastructures, it is likely to be fulfilled in Italy as in other Western and Southern European countries by accounting for already planned civilian investments on railways, bridges, airports and ports, with little to zero new funding for the defence industry through military procurement. As a result, a likely slow growth of Italian defence budget may continue to weaken the Italian DTIB which would suffer from the constraints of the domestic market in comparison with German, British or French companies. In particular, the Italian MoD has launched a number of important modernization and acquisition

[108] For a comprehensive analysis of production weaknesses in Italy and Western Europe see Industrial Production in Support of European and Transatlantic Defence, see: FREYRIE M., "Industrial Production in Support of European and Transatlantic Defence", in Documenti IAI, Istituto Affari Internazionali, iai.it, 5 July 2023, <https://www.iai.it/en/pubblicazioni/industrial-production-support-european-and-transatlantic-defence>

[109] Italian Senate, "Documento Programmatico Pluriennale per la Difesa per il Triennio 2024-2026", in senato.it, 12 September 2024, <https://www.senato.it/service/PDF/PDFServer/BGT/1429398.pdf>

[110] NATO, "Defence Expenditure of NATO Countries (2014-2024)", Press Release, in nato.int, 12 June 2024, https://www.nato.int/nato_static_fl2014/assets/pdf/2024/6/pdf/240617-def-exp-2024-en.pdf

[111] MIGLIACCIO A., "Italy to Reach 2% Defence Spending This Year, Meloni Says", in Bloomberg, 7 May 2025, <https://www.bloomberg.com/news/articles/2025-05-07/italy-to-reach-2-defense-spending-target-this-year-meloni-says>

[112] NATO, "The Hague Summit Declaration", Official Texts, in nato.int, 25 June 2025, https://www.nato.int/cps/en/natohq/official_texts_236705.htm

programmes over the last three years, but the funds for these investments are too little and are therefore spread over a rather long timeframe^[113]: this in turn does not enable a ramp-up of production capacity in the short term nor allow timely investments on R&D.

On the supply side, as mentioned before the DTIB “pyramid” sees at its basis a number of SMEs. They are very agile and innovative, but at the same time are vulnerable and constrained and this represents a weakness of the Italian aerospace and defence industry. SMEs are vulnerable with respect to the ups and downs of programmes and contracts, and delays in execution of national/multinational procurement programmes or EDF projects may create significant difficulties too. They are also vulnerable to hostile Foreign Direct Investments (FDI). Italy has adopted already in 2011 an effective law granting a “golden power” to the government to prevent, mitigate or manage FDI in strategic sectors including defence and aerospace, but many SMEs are out of the radar of the executive and may be approached by foreign buyers with political intention well beyond market dynamics. Italian SMEs are also constrained by two major factors. One is the access to credit, also because many Italian banks fear reputational issues if they finance defence companies. The situation is gradually improving in light of EU initiatives like ReArm Europe and the partial changes of the European Investment Bank lending policy towards defence companies, but it still an hurdle for SMEs. The second constraining factor is the length and complexity of both Italian and EU rules for grants and projects, which require substantial red tape and human resources which most SMEs cannot afford.

Those constraints make it difficult for start-ups to enter the market, and for SMEs to grow. Notably, the space sector looks more dynamic than the traditional defence one, and the merge between the two new space SMEs Planetek and D-Orbit, by creating a mid-cap worthy 45 million turnover and around 500 employees,^[114] represents a positive signal in the right direction.

[113] SERINO P., “Un’unica, robusta iniezione di risorse”, in AffarInternazionali, 6 March 2025, <https://www.affarinternazionali.it/ununica-robusta-iniezione-di-risorse/>

[114] ORLANDO L., “D-Orbit rileva Planetek: nasce un gruppo da 500 addetti”, in Il Sole 24 Ore, 4 April 2025, <https://www.ilsole24ore.com/art/d-orbit-rileva-planetek-nasce-gruppo-500-addetti-AGptrrwd>

THE DEFENCE INDUSTRY IN POLAND

Col. Carlos de Antonio Alcázar

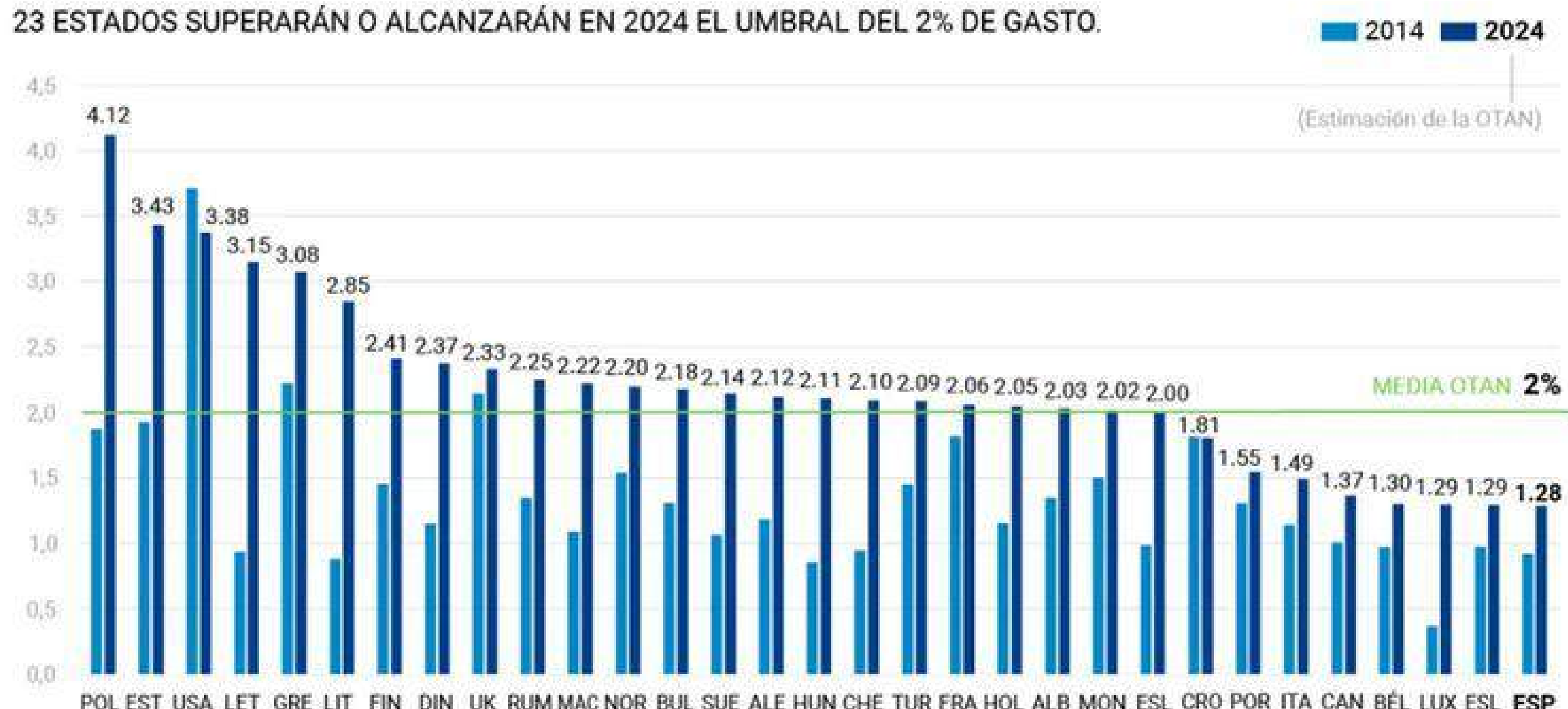
Analyst at the Centre for International Security of the Institute for the Global Common Good

The upcoming NATO summit, to be held in The Hague on 24th and 25th June, will be, or rather should be, a special and historic summit in these difficult geopolitical times. A commitment to defence spending above 3% of current GDP for sure, is expected to be reached. Perhaps 3.5 plus %. This should send a clear message to Russia, China, and other countries, coming from the Atlantic Alliance, while it will serve as a catalyst for the European defence industry.

In this context, let us proceed to analyse defence spending and industry in a paradigmatic case such as Poland: in 2024, it was the NATO country that invested the most, with 4.12%. The Russian attack on Ukraine in 2022 and the growing Russian threat have forced Poland to reconsider its approach to national security and refocus on its military aspects, leading to an increase in defence spending.[115]

Gasto militar con respecto al PIB de cada país

23 ESTADOS SUPERARÁN O ALCANZARÁN EN 2024 EL UMBRAL DEL 2% DE GASTO.



FUENTE: OTAN GRÁFICO: Carlos G. Kindelán

20minutos

[115] [National Security Strategy of the Republic of Poland 2020.pdf](#)

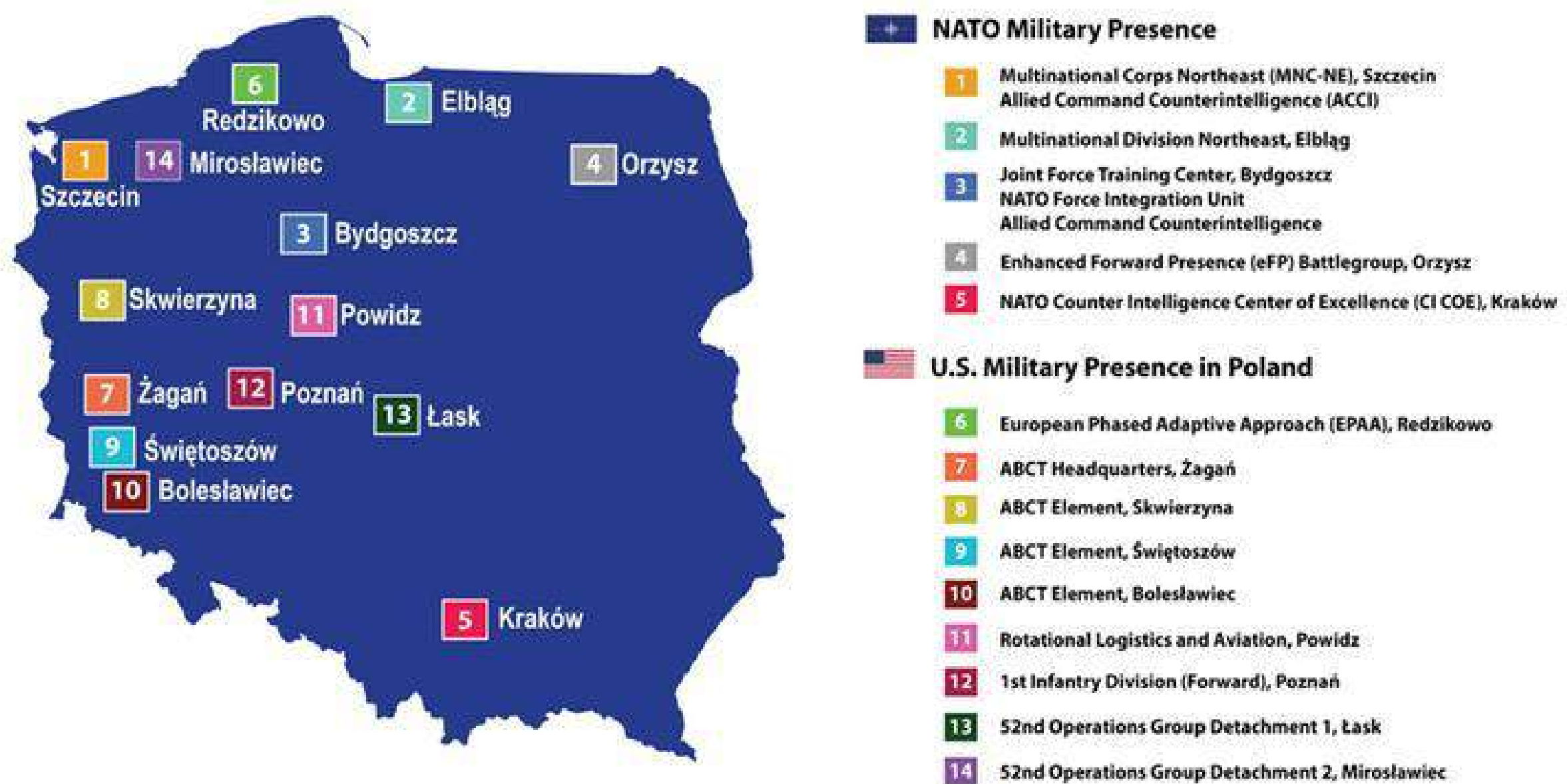
Another weakness of the Italian aerospace and defence industry is, on average, the relatively low attitude to take the risk of making private investments out of the comfort zone provided by national or multinational procurement programmes. This is due to a number of deep-rooted reasons, including the shortage of STEM graduates, the rigidity of the Italian job market, and the mindset of state-owned companies still present among the management of Italian prime contractors. This in turn negatively affects both the innovation process and the ability to ramp up production capacities.

1.Future outlook and conclusions

Italian DTIB is rather solid but also quite rigid, thus it is unlikely to experience revolutionary changes. It may become more global in the aerospace sector if the GCAP will succeed by delivering next generation aircraft to British, Japanese and Italian markets, as well as further ones in Middle East, Europe and Indo-Pacific. Much will depend on the GCAP time-to-market in comparison with Franco-German Future Combat Air System (FCAS) and US F-47 programmes. The Italian DTIB may become more European if cooperation in the land (Leonardo-Rehinmetall), naval (Fincantieri-Naval Group), missile (MBDA) and space sectors (Leonardo-Thales) move forward, also supported by joint procurement programmes with EU financial incentives. Or, the Italian industrial landscape may become both more global in certain sectors and more European in others at the same time. The national DTIB may also experience some consolidation, as showed by the D-Orbit/Planetek merge and the Leonardo offer to buy IDV, eventually also at European level i.e. in the space segment.

In any case, Italian aerospace and defence sector likely to build on its existing strengths, such as fighter aircraft, trainers, warships, helicopters, defence electronics, space assets and services, while lagging behind on information communication technology (ICT) and cyber, including artificial intelligence and quantum. Considering the scarcity of AI or Quantum champions in Europe, Italian DTIB as others in the Old Continent will likely experience a certain dependency on US big tech companies, with all the related disadvantages and constraints.

In conclusion, Italy hosts an aerospace and defence sector able to cover the full spectrum of conventional military capabilities, featuring Leonardo as larger prime contractor, a group of large companies, and many SMEs and the basis of pyramid. The DTIB cooperate primarily with British, French, American and German partners, but international cooperation and export go well beyond that first circle. The aerospace and defence sector presents both strengths and weaknesses, as well as peculiarities linked to the national specificities of Italy and its armed forces. As such, it is likely to evolve in light of changing international security environment, but not to radically change in the foreseeable future.



Source : NATO-U.S. Military Presence in Poland - U.S. Embassy & Consulate in Poland (usembassy.gov)

Faced with the possible and announced ‘disengagement’ of the US from support for Ukraine and the defence of Europe, the European Union has committed itself to strengthening European defence capabilities. The European Commission's ‘ReArm Europe’ proposal [118] prioritises the supply of strategic equipment, such as air defence and anti-missile systems, artillery systems, missiles, ammunition, and drone and anti-drone systems. Military spending would be excluded from strict European fiscal restrictions. And Poland supports this plan.

The plan proposes allocating an additional €800 billion to defence, structured around five pillars:

- 1.Unlocking national public funds for defence without risk of exceeding the budget deficit, potentially generating €650 billion over four years.
- 2.Provide EU Member States with €150 billion in loans for key defence systems.
- 3.Redirect EU funds towards military investments.
- 4.Mobilise private capital for defence projects.
- 5.Involve the European Investment Bank in defence financing.

Part of these funds could be used to help war-torn Ukraine.

[118] ReArm Europe Plan/Readiness 2030 EPRS | European Parliamentary Research Service Authors: Sebastian Clapp, Martin Höflmayer, Elena Lazarou and Marianna Pari Members' Research Service EN PE 769.566 – April 2025



Source: web Poland Ministry of Defence

In addition, Poland is in the process of reviewing its National Recovery Plan for Poland to consider reallocating resources to defence, the defence industry and economic resilience. Since before 2022, the pillars of Poland's defence strategy have focused on modernising the armed forces through significant investment in advanced military equipment. Acquisitions have included and will include integrated air and missile defence systems, tanks, combat vehicles, rocket artillery, fighter jets, ships, and drones.

In this context, Poland's increase in defence spending will be long-lasting and could reach 4.7% of GDP in 2025[119]. However, this sustained gradual increase in defence spending, with foreign purchases and the strengthening of Poland's own defence industry, will require a stable source of funding, either through cuts in other public spending or tax increases. This will require not only European support but also a clear economic strategy.

The need to purchase quickly has led to an increase in maintenance costs. Poland currently has several types of battle tanks: a modernised Polish version of the Soviet T-72 (the PT-91 Twardy), which has been and is being donated to Ukraine; a modernised version of the German Leopard; the American Abrams; and the Korean K2, which is being acquired to quickly cover the shortage resulting from the transfer of equipment to Ukraine. For the Polish defence industry, these three types of tanks will mean increased and difficult maintenance and repair costs.

But how has this investment effort in foreign military equipment purchases and the search for partnerships and manufacturing in Poland been possible? In May 2022[1], the Minister of National Defence signed an agreement with the president of Poland's national development bank, Bank Gospodarstwa Krajowego (BGK), on the management of the

[119] [Poland's government plans record defense spending in its 2025 budget | AP News](#)

[120] [Poland - Defense Industry](#)

Armed Forces Support Fund by BGK. The National Defence Act of 2022 consolidated defence regulations, increased the number of active personnel, raised defence spending for 2023, and established the Armed Forces Support Fund as an extra-budgetary resource to significantly increase funding for defence expenditure and modernisation.

As a result, Poland has an ambitious 'Technical Modernisation Plan' for its Armed Forces. The plan estimates an investment of approximately €130 billion in new equipment between 2021 and 2035.

It is based on three principles:

- 1.assessment of Polish military needs;
- 2.delivery time for equipment; and
- 3.participation of Polish industry.

The programme emphasises the use of the capabilities of the Polish defence industry, especially the companies of the Polish Armaments Group (PGZ). To increase the competitiveness of the Polish defence industry, the Polish Armaments Group (PGZ) was created in 2013, consolidating approximately 50 Polish state-owned companies, of which 30 are defence companies and another 20 participate in shipbuilding and modern technologies. In 2022, *la web Defence News* ranked PGZ 70th among the 100 largest defence companies in the world. Cooperation with PGZ has been key to the success of many foreign defence companies that have entered the Polish market. US and other country companies have been encouraged to collaborate with Polish defence companies, seeking cooperation agreements or joint venture opportunities that, combined with the lower production costs in Poland, are attractive to potential customers.

Recent major Foreign Military Sales agreements with the United States include the Abrams M1A2 SEPv3 main battle tank, the Integrated Battle Command System (IBCS), the PATRIOT air defence and anti-missile system, the F-35 Lightning II fighter jet, the High Mobility Artillery Rocket System (HIMARS), the Javelin anti-tank missile, and the Joint Air-to-Surface Standoff Missile Extended Range (JASSM-ER).[121]

At the end of 2022, Poland received \$288 million in Foreign Military Financing (FMF). FMF grants helped replenish capabilities that Poland provided from its own reserves to bolster Ukraine's defence. In September 2023, Poland received a historic \$2 billion FMF direct loan agreement to accelerate Poland's defence modernisation by supporting the urgent acquisition of US defence articles and services. These funds have boosted Poland's military modernisation effort across a wide range of capabilities, contributing to strengthening NATO's Eastern Flank defence and deterrence.

[121] [Poland signs major deal for new air defense systems](#)



Archive: General Dynamics / Getty Images

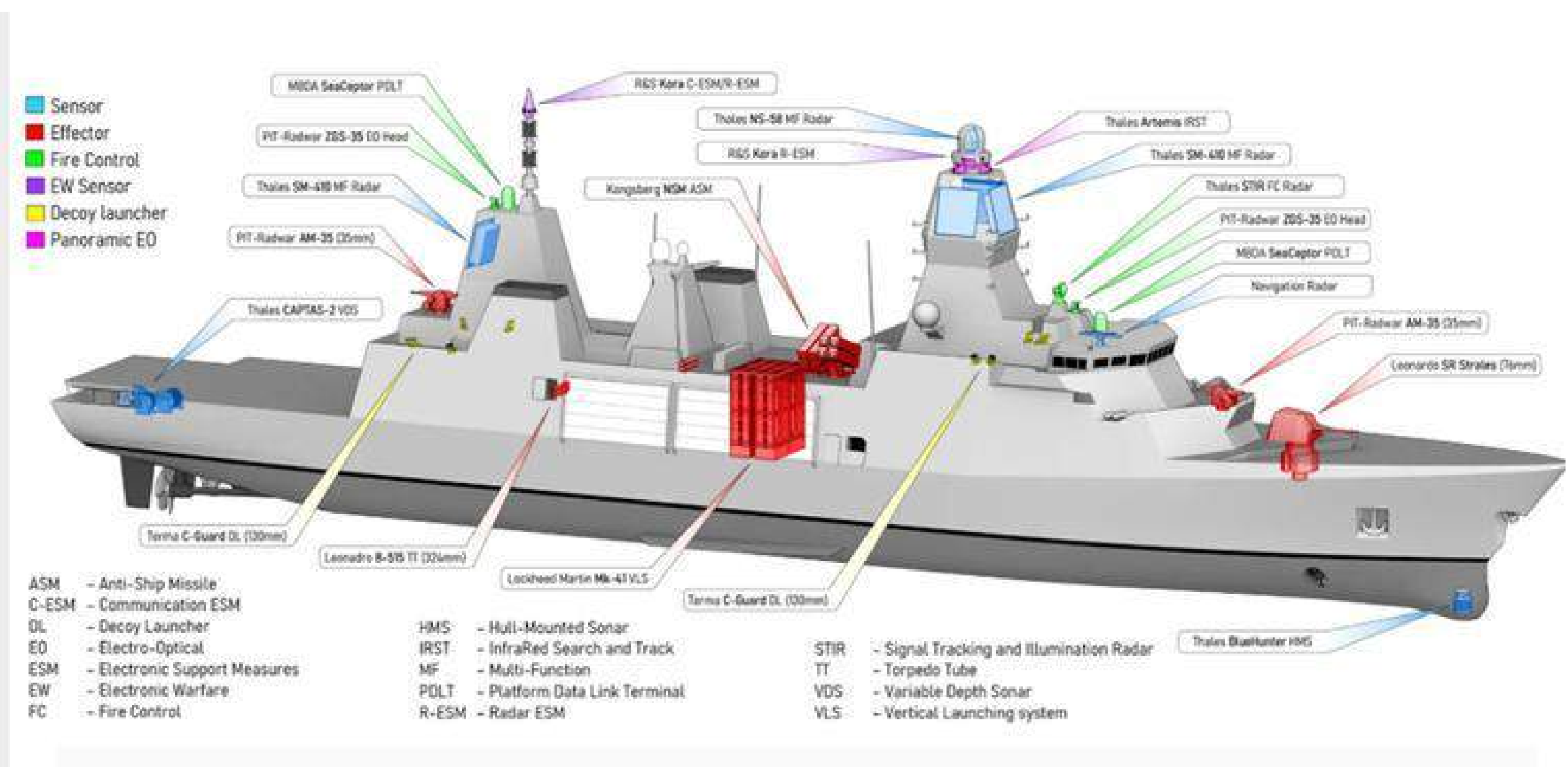
Many Polish factories have taken advantage of this moment to increase their production capacity. A notable example is the Łucznik factory in Radom, which designs and produces small arms, including the Grot assault rifle. The first batch of these rifles was delivered to Ukraine in March 2022. That same year, production of Grot rifles increased to 17,000 units, and in 2023, to 35,000. By 2026, Łucznik aims to produce 100,000 rifles per year.

The Polish Armed Forces alone have placed an order for 236,000 Grot rifles, of which at least 80,000 have already been delivered. At the same time, work is underway on the Grot A3, which, unlike the previous variant, will feature a shorter barrel and a more ergonomic design.

The Polish company Huta Stalowa Wola (HSW) is doubling its production capacity. The company manufactures several leading systems, such as the Baobab-K automated mine-laying vehicle, the 120 mm Rak self-propelled mortar, the 122 mm WR-40 Langusta multiple rocket launcher (MRL) and the 155 mm Krab self-propelled howitzer. HSW has acquired new land and facilities and is increasing its workforce.

This expansion is due to the company receiving €141 million in capital last year, with a promise of an additional €282 million in the near future. These funds will also facilitate the modernisation and improvement of production capacity at HSW's Autosan plant in Sanok, which produces civilian and military vehicles.

Poland is also striving to rebuild its naval industry. The Miecznik (Swordfish) programme will introduce new frigates based on the Arrowhead 140 design, the basis of the Royal Navy's Type 31. While sharing a common hull, Miecznik is more extensively equipped, although both share the potential to be enhanced by carrying off-board uncrewed systems. Both Remontowa Shipbuilding and PGZ Stocznia Wojenna are currently involved in the construction of three new-generation multi-purpose frigates of the Miecznik series. In 2022, PGZ Stocznia Wojenna reported a profit of €634,000. Although modest, it is noteworthy for two reasons. First, it was the first profit in a long time, and second, prior to its acquisition by PGZ in 2017, Stocznia Wojenna was on the verge of liquidation due to bankruptcy.



Source : NAVY LOOKOUT

This project leverages foreign technology acquired from Babcock International Group (the design of the Arrowhead 140 frigate) and Thales UK (the TACTICOS combat management system). The ships will be built, as we have underlined, in Polish shipyards with significant participation from the Polish defence industry.

The new generation of warships will be highly capable, multi-role frigates designed to replace the Oliver Hazard Perry-class frigates currently in service with the Polish Navy. The Miecznik first-of-class, ORP Wicher (Gale), is under construction in Gdynia and due to be launched in 2026. Two further ships ORP Burza (Storm) and ORP Huragan (Hurricane) are on order and the Polish Navy has an option with Babcock to build a further 5 ships.

There are also high hopes for the planned expansion of Nitro-Chem in Bydgoszcz, Europe's largest producer of TNT and other high-energy materials. In 2023, Nitro-Chem began automating the filling of explosive materials and is systematically increasing its production capacity. Currently, TNT is produced in three shifts, operating 24 hours a day.

Due to its importance, Nitro-Chem, which produced 10,000 tonnes of TNT annually before Russia's large-scale aggression against Ukraine in 2022, is now a highly protected company, including counterintelligence measures. Nitro-Chem also actively exports, being the largest supplier of TNT to the US Army. Its current production capacity is classified.

The Polish defence industry continues to face significant challenges. Many problems stem from years of underfunding and a lack of development vision. Currently, one of the key issues is the still relatively small contribution of the Polish defence industry to the technical modernisation of the armed forces. It is recognised that the goal is to place as

many orders as possible with the Polish defence industry, but that production capacity is being fully utilised.

A clear example is the flagship product of the Polish defence sector, the Krab SPH. Ukraine had already ordered 54 Krabs and received an additional 54 as a donation. In 2024, under a commercial agreement, Poland will deliver the third batch of 18 howitzers. This contract has completely exhausted HSW's production capacity, leading the Polish authorities to purchase Korean Hanwha K9 howitzers. The situation could improve in the near future, but this is a long-term process.

A major weakness of the Polish defence industry is its continued dependence on the assembly of artillery ammunition with foreign-sourced components. This limits Polish companies to producing between 30,000 and 40,000 artillery shells per year, while the Russian army consumes that amount in just a few days.



Source : Rheinmetall- Illustrative photo from the Rheinmetall Denel Munition plant

In the event of a prolonged military conflict, this is a crucial issue. In December 2023, PGZ signed a contract for the production and supply of 300,000 units of 155 mm artillery ammunition. The contract is scheduled to be executed between 2024 and 2029, with an estimated value of €2.6 billion. This contract is part of a plan to increase production capacity.

In February 2025 , Poland and Slovakia have signed a letter of intent to jointly produce ammunition and cooperate on the procurement of armoured vehicles, tank, and air defence weapons. Under this initiative covered by the document, Poland is to benefit from Slovakia's know-how and technology for 155-millimeter artillery shell manufacturing.

In late 2024, Warsaw decided to set up new fund of around PLN 3 billion (\$759 million) to support investments by domestic and foreign players in ramping up the country's ammunition manufacturing capacities, with a focus on 155 mm rounds.

The second project concerns joint production of an armoured fighting vehicle based on the eight-wheel-drive Rosomak, which is made by Poland's state-run defence group PGZ under a license from Finland's Patria. The envisioned new vehicle is to be fitted with the Turra 30 remote controlled turret developed by Slovak company EVPÚ.

The third initiative relates to Poland's offer to supply K2 Black Panther tanks, to be produced domestically under a license from South Korea's Hyundai Rotem to Slovakia. In July 2022, the Polish ministry signed a framework deal to acquire up to 1,000 K2s. Of those, 180 tanks to be made in South Korea are already on order, with an additional 820 vehicles in the K2PL variant possibly made by the Polish Defence industry.

Slovakia is pursuing plans to acquire up to 104 new tanks. The CV90120, a light tracked vehicle made by BAE Systems Hägglunds, is one of the considered options. Other vehicles considered by Bratislava are said to comprise new Leopard 2A8 tanks from Germany's KNDS or used 2A4s, an older Leopard variant that would be upgraded by the Slovak Defence industry.

The fourth project relates to Slovakia's interest in purchasing the Piorun (Thunderbolt), a man-portable air defence weapon made by PGZ. The Ukrainian military's extensive use of the weapon against Russian invaders has spurred the weapon's exports to various European nations, but also to countries such as the United States, Japan, and Indonesia, according to its manufacturer.



In May 2021, a contract for the delivery of 4 MALE class Bayraktar TB2 unmanned aerial systems (UAV) sets to the Polish Armed Forces was signed. The first of the sets has arrived at the Polish Armed Forces, including, among others, 6 unmanned aerial vehicles with 3 mobile control stations. The first batch of contracted military equipment deliveries also includes elements of the ground support system, diagnostic devices, and spare parts.



Source: Polish Ministry of Defence

Türkiye trained the first instructors and system users (primarily from the 12 Unmanned Aerial Vehicle Base in Mirosławiec and the Engineering and Aviation Training Centre in Dęblin). Each set includes 6 armed Bayraktar TB2 drones. In total, 24 UAVs will strengthen the Polish Armed Forces. The contract also includes the delivery of, among others, mobile control stations, SAR radars, simulators, and a stock of spare parts. The contract also provides for the delivery of MAM-L and MAM-C laser-guided missiles, which will enable the implementation of the full spectrum of tactical tasks following the operational purpose of the system and school ammunition.

The Bayraktar TB2 is a MALE class tactical unmanned aerial vehicle (UAV) capable of conducting surveillance and reconnaissance (ISR) tasks and combat missions using guided missiles carried on four suspension points under the wings. The Bayraktar TB2 has been equipped with an avionics system enabling fully autonomous taxiing, take-off, flight, and landing. The drone is 6.5 meters long and has a span of 12 meters. It achieves a flight duration of up to 27 hours. The take-off weight of the drone is 650 kilograms, and the maximum speed is about 220 kmph.

The contract provides a 24-month warranty, training, and logistics packages, as well as technology transfer ensuring the possibility of servicing and repairing, among others, engines, ground control stations, and cameras.

Additionally, Poland is expanding its attack helicopter fleet from 16 to 96 aircraft thanks to the purchase of AH-64E Apache Guardians initiated in August 2024. The creation of a

drone command has also been proposed to facilitate incorporation of new robotic platforms across all of the branches of the Polish military.

Poland also hopes to boost its armoured vehicle industry, which had declined significantly since 1989 and is now mainly limited to offering repair services and minor upgrades. For example, PGZ's Bumar-Łabędy in Gliwice participates in the modernisation of Leopard tanks as part of the Leopard 2PL project. At the same time, in February 2024, WZM (Wojskowe Zakłady Motoryzacyjne) in Poznań opened a service centre for M1 Abrams tanks, as Poland ordered 116 M1A1 FEP tanks (deliveries completed in June 2024) and 250 M1A2 SEPv3 tanks (deliveries planned for 2025). PGZ and ZM Bumar-Łabędy are collaborating with Rheinmetall AG on this project.

In summary,

- Poland is indeed a paradigmatic case, an example: in 2024, it was the NATO country that invested the most, with 4.12% of its GDP . Perhaps 4.7% in 2025.
- Without a doubt, the development of the Polish Armed Forces is a top priority for the Polish government. All long-term documents, such as the "Armed Forces Development Program for 2021-2035," include significant assumptions for the modernization and growth of the armed forces. With the ultimate goal of reaching 5% of GDP dedicated to defense, Poland's spending would be the highest among all NATO member states (in terms of percentage of GDP).[122]
- Poland is positioning itself as a key leader among its allies and a strong voice for the region on the international stage. This level of funding will enable the acquisition of modern equipment, the development of operational capabilities and the improvement of the Polish Army's combat readiness.
- New, modern, and effective military equipment is being acquired. Modernisation involves not only contracts but also the implementation of modern technologies. The Polish Armed Forces are constantly receiving new tanks, combat vehicles, rocket and artillery systems, aircraft, helicopters, ships, and drones. These include, among others, American Apache attack helicopters, F35 fighter jets, and Kormoran and Miecznik class ships.
- This effort in the Polish defence industry has also gone hand in hand with an increase in the size of the armed forces. More than 208,000 soldiers are in service (3rd largest NATO force). Voluntary basic military service is maintained. The annual recruitment limit has been increased from 30,000 to 40,000.

[122] [National Security Strategy of the Republic of Poland 2020.pdf \(bbn.gov.pl\)](#)

- The number of personnel in the Territorial Defence Forces increased by more than 2,000 soldiers in 2024, reaching a total of 42,000.
- The Polish Armed Forces also continue to support the Border Guard in securing and defending Poland's borders. Currently, a certain number of soldiers are serving in this mission, with six-month rotations provided by designated divisions. Their task is to maintain security until the Border Defence Component reaches full operational capacity.
- With regard to the ammunition issue, an additional budget has been allocated for the construction of ammunition factories in Poland. This is Poland's first tangible initiative to increase ammunition production capacity, especially the much-needed 155 mm artillery ammunition.
- In terms of aid to Ukraine, Poland has played a key role in helping Ukraine since the beginning of the war, in political, diplomatic, humanitarian, social and military aspects. Military assistance totalling more than €4.5 billion, of which more than €3.3 billion corresponds to donations of military equipment: more than 1,300 tanks, infantry fighting vehicles, artillery systems, aircraft, helicopters, and other minor equipment. In addition, it has conducted large-scale training programmes for Ukrainian soldiers in Polish military units. Since the second day of the war, we have been operating a logistic centre in Rzeszów, responsible for more than 95% of supplies to Ukraine.
- In the coming years, its Armed Forces aim to reach 300,000 soldiers, almost double the current number. By 2032, the Polish Armed Forces will be one of the most modern and numerous militaries in Europe. They will consist of five services: Land Forces, Navy, Air Force, Special Operations Forces, and Territorial Defence Forces. Moreover, Poland has improved its position in NATO and strengthened relations with international partners. It has consolidated a strong position in NATO. [123]
- The main challenge for its Defense Industry will be to secure long-term funding for such significant modernization projects. This will place a heavy burden on the state budget, which also has and will have other key expenditures (infrastructure, science, healthcare, social assistance, pensions, etc.). Poland must ensure that these procurement programs are sustainable and affordable in the long term. For now, these investments are the result of cross-party consensus. To make the most of acquisition programs, Poland is investing in developing a skilled workforce capable of handling new equipment and technologies. It should establish training programs and centers to train its military personnel and provide them with the skills necessary to operate and maintain new systems. This will encourage the development of local defence industries and will promote technological innovation, boost the economy, and reduce dependence on the military.

[123] [Poland's military modernisation – still many challenges ahead – Casimir Pulaski Foundation](#)

- The acquisition of military equipment, understandable and necessary in the current geopolitical situation, cannot be detrimental to the Polish defense industry. The truth is that the acquisition of military equipment often allows for the transfer of modern technologies that should boost the national defence industry. Weapons systems have been purchased from the US and South Korea, but some of these weapons systems will subsequently be co-produced in Poland.
- Efforts are also being made to rebuild its naval industry. Both Remontowa Shipbuilding and PGZ Stocznia Wojenna are currently involved in the construction of three new-generation multipurpose frigates from the Miecznik series. This project leverages foreign technology acquired from Babcock International Group (the Arrowhead 140 frigate design) and Thales UK (the TACTICOS combat management system). The ships will be built in Polish shipyards with significant participation from the Polish defense industry.
- Poland can serve as an example for EU countries that are still hesitant to increase their military spending. Poland has long argued that strengthening European security must be a top priority for EU leaders.
- This is an excellent opportunity for Poland's domestic defense industry and, consequently, for its armed forces as well. And I am confident that Poland will seize it. Poland is not only enhancing its defense capabilities, but is also sending a clear message about its intention to remain strong and prepared to face any challenge to its sovereignty and territorial security.

BRITISH DEFENCE INDUSTRY

Trevor Taylor

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The scope of the paper

The concept of a defence industry can be simply defined as those enterprises that supply and thus enable the armed forces of a country. However, defence ministries buy a large range of products and services. Some of them, such as artillery shells, are of use only to the military sector. At the other end of the spectrum are things with an essential civil use but are nonetheless needed by armed forces: this is where diesel fuel, some diesel engines, office stationery can be found. However, the blurred boundaries of the defence industrial domain are not static, as new technologies and products emerge which are of military value. Increasingly such technologies are coming from the civil, commercial sector which now accounts for the great majority of global R&D spending.

‘Defence’ technologies changed rapidly from the middle of the 19th century: clearly steam powered ships transformed naval operations. Today Western militaries are increasingly seeing the need for large data storage and processing facilities, a requirement which is making firms such as AWS and Microsoft relevant to defence.

Understandably governmental concern has long been focused on goods and services that have either a purely military character or need substantial adaption to be usable for military purposes. This is the area addressed here, but with the qualifications noted above about vague boundaries and changing character of the defence industrial sector.

Continuity and change

A notable feature of the UK defence industry is its continuity, reflecting the importance (and qualified success) of its military. Unlike Germany, Italy and Japan, the UK has not lost a war which then resulted in a forced dismantlement of its defence industrial assets. The UK’s largest defence firm, BAE Systems, can trace its ancestry back hundreds of years in terms of the enterprises that it has absorbed.

Continuity has not meant statis: major restructuring has occurred both periodically, notably after the end of major wars or confrontations, and regularly as governmental priorities and technologies advanced. While some new firms have entered the defence market, the most prominent trend has been consolidation as firms have either left the sector or opted to be taken over by others. In 1987-1988, excluding fuel suppliers, the MoD listed 34 UK firms as its top suppliers in terms of value.[124] Of its top six firms then, just two remain with the same or similar identity (BAE Systems and Rolls Royce). In the next tranche of nine firms, Babcock is the sole survivor. In the third tier of 13 firms, British Telecom and the Atomic Weapons Establishment are the only ones still around with their own identity. Similar consolidation has been a feature of many NATO states and has been driven by the rising development costs and lower procurement numbers of air, sea and land platforms. Subsequently today the UK MoD has some key monopoly providers with a capacity to design and develop big systems.

Sole source of supply in the UK

Equipment Type	Company
Combat aircraft	BAE Systems, with shares traded on London stock exchange, and with Government owning a golden share
Gas turbine engines	Rolls Royce, with shares traded on London stock exchange, and with Government owning a golden share
Submarine nuclear power & propulsion	Rolls Royce, with shares traded on London stock exchange, and with Government owning a golden share
Nuclear submarine development & production	BAE Systems
Nuclear weapons	Atomic Weapons Establishment (AWE), state-owned and directed
Airborne radars	Leonardo UK, Italian with Italian government part shareholding
Helicopters	Leonardo, Italian with Italian government part shareholding
Specified list of land munitions	BAE Systems, with shares traded on London stock exchange, and with Government owning a golden share

[124] Table 2.10, Statement on the Defence Estimates 1989, Vol.2 Statistics, London, HMSO, p.15.

In some other areas, there are a few UK suppliers able to take on major elements of the whole platform/system cycle from design to disposal.This is particularly the case with tracked and wheeled armoured vehicles where BAE Systems have a joint venture with Rheinmetall, Krauss Maffei UK which makes combat bridging platforms and some of the Army’s emerging Boxer fleet, Supacat that make the Foxhound wheeled vehicle and General Dynamics UK which builds the Ajax fleet of tracked vehicles.

In 2025 these firms along with Babcock are vying for position in land platforms sector. Army's emerging Boxer fleet, Supacat that make the Foxhound wheeled vehicle and General Dynamics UK which builds the Ajax fleet of tracked vehicles. In 2025 these firms along with Babcock are vying for position in land platforms sector.

In some fields the Government has embraced one firm as the key provider. In 2005 the Government launched a long-term commitment to provide MBDA with work so as to maintain a capacity to design and build complex weapons in the UK, a commitment that was again renewed in 10-year Portfolio Management Agreement 2 (PMA2) in the summer of 2024.[125] MBDA UK works with its continental partners to deliver effective weapons including Storm Shadow, dual-mode Brimstone and most recently Sea Viper. While MBDA commands most missile work, it does not do everything: Thales in Belfast also produces short range air defence missiles and anti-tank weapons, the latter in cooperation with Saab. Both weapon types have been supplied to Ukraine and proved their effectiveness. Another major long-standing agreement for multiple natures of ammunition supply is with BAE Systems, the company that had bought the former state enterprise Royal Ordnance Factories in the later 1980s. In 2008 BAE Systems was given a 15-year contract (Munitions Acquisition the Support Solution MASS) to modernise production and manufacture small arms ammunition and shells.[126] The Next Generation Munitions Solution' (NGMS) was a 15-year renewal contract in 2020 but has since been expanded in scope as a consequence of the Ukraine war. [127]

With regard to warships, while only BAE Systems has designed, integrated and built advanced vessels, Babcock is developing, integrating and building the Type 31 general purpose frigate using a Danish design. In 2017 the Government had launched a National Shipbuilding Strategy which aimed to revive what had once been a major sector. Navantia won a competition for three Fleet Solid Support ships with much of the build work to be done in yards owned by Harland & Wolff (H&W). However, that firm had financial difficulties and Navantia has had to take it over to enable the delivery of the contract.[128] Navantia will have to make a sustained effort to develop the workforce and infrastructure at the H&W yard in Belfast for to enable the work envisaged by the MoD to be done in the UK.[129]

The MoD has not yet developed an industrial strategy for drones where there are numerous ambitious UK firms as well as several foreign origin firms looking to establishing factories in the UK. To date the UK is buying drones for Ukraine from wherever suitable goods can be found, but its government is holding its fire on what it sees as vital to have based in the UK.

[125] [Battle-winning complex weapons for UK Armed Forces secured for another decade - Defence Equipment & Support](#)

[126] <https://hansard.parliament.uk/%E2%80%8CCommons/2008-09-15/debates/0809154000010/ProjectMASS#:~:text=I%20am%20pleased%20to%20announce,a%20minimum%20of%2015%20years>.

[127] [BAE Systems awarded £2.4 billion munitions contract to equip UK Armed Forces | Newsroom](#); [UK Ministry of Defence invests £20m in small arms ammunition](#); [UK Ministry of Defence raises frontline battlefield munitions order to £410m](#)

[128] [Harland and Wolff: Spanish firm Navantia completes takeover - BBC News](#)

[129] <https://ukdefencejournal.org.uk/mod-confirms-harland-wolff-assessed-fit-to-deliver/>

Private sector dominance

Whereas state ownership of some important defence sectors was a UK feature for much of the Cold War, this was incrementally abandoned from Margaret Thatcher's period as Prime Minister beginning in 1979. Nationalised firms were often associated both with complacency and limited access to capital for investment. Today BAE Systems and Rolls Royce are listed on the London stock exchange as is QinetiQ (which was a spin-off from the Government Defence Evaluation & Research Agency). Nationalisation made a small comeback in the latter years of the Conservative Government at the beginning of the 2020s: the private sector responsibility for the Atomic Weapons Establishment was brought back into Government in 2020^[130] and Sheffield Forgemasters, a key supplier of specialist steel products, not least for submarines, was nationalised when in financial difficulties in 2021. ^[131] Then in 2024 the Government took over Optic, the only company in the country able to make the gallium arsenide semiconductors important in defence to assure its survival and development.^[132] However the aim with regard to both Optic and Sheffield Forgemasters will be to modify them so that they can be returned to the private sector.

Foreign investment in UK defence

Compared with some other European countries, the UK has long been open to foreign investment in British defence companies.

Some foreign firms and sites have a long history. The Dutch electronics firm Philips had investments in the UK with defence applications after the Second World War. When it elected to sell them after the end of Cold War. The main buyer was what is now Thales of France which also bought other British firms including Pilkington Optronics and the missile business of Short Brothers. Today Thales has 7000 employees across 16 UK sites.^[4] Raytheon (now RTX) invested in the UK when it bought Cossor in 1961, a firm then specialising in IFF (Identification Friend or Foe) equipment. RTX has subsequently expanded with investments several other areas. ^[134]

Firms have their individual stories and trajectories. Airbus built diverse interests in the UK, partly by acquisition of large aircraft wing design and manufacture from BAE Systems. It has bought and built up cyber and cryptographic capability in Wales and around the UK.

[130] [UK MOD takes back control of Atomic Weapons Establishment - Army Technology](#)

[131] <https://www.gov.uk/government/news/uk-government-to-acquire-sheffield-forgemasters-international-limited>.

[132] <https://www.gov.uk/government/news/uk-defence-supply-chain-bolstered-to-support-armed-forces>.

[133] Thales website, <https://www.thalesgroup.com/en/countries/europe/united-kingdom/about-thales-uk>.

[134] [Weapons | Raytheon UK](#)

It acquired the Astrium space business in 2013 [135] including a small satellite specialist Surrey Satellites in 2009. These firms are central to the implementation of the 2021 Government's National Space Strategy. [136] In February 2025 Airbus Defence & Space UK won a £170 million MoD contract to build two synthetic aperture satellites [137] Surrey Satellites had been awarded contracts in 2022 and 2024 to build an optical earth surveillance satellites.[138] Airbus also has a helicopter support base near Oxford with the potential to military as well as civil work. [139]

More recent entrants into the British economy include Rheinmetall which entered into a joint venture with BAE Systems to build the Boxer suite of wheeled armoured vehicles and to develop and build the Challenger 3 tank programme. Rheinmetall has also decided to build a UK gun barrel factory at Telford in the English Midlands. Krauss Maffei (now KNDS) bought WFEL, a military bridging company near Manchester in 2012.[140] It too is producing Boxers for and in the UK in 2025.

European defence investors in the UK have often acquired both valuable facilities and workforces with knowledge and skills. In general they have opted to sustain and develop these industrial capabilities. This has been a feature of not just the approach of Thales and Airbus but also Leonardo of Italy.

Leonardo acquired its UK assets in helicopters and airborne electronics including radars through the evolution of joint ventures into single company control. In 2025, although having its main board in Italy, Leonardo's expertise in airborne radars, defensive aids and other electronic is predominantly located in the UK at its sites in Scotland and the Midlands of England. The Scotland site originally belonged to a company called Ferranti that failed financially but not technologically in 1993. A UK defence industrial giant of the time, GEC, bought it only for it to make the fatal decision to leave the defence sector at the end of the 1990s. GEC defence was sold to BAE Systems in 1999 which then opted to extract itself from airborne radars and defensive aids by selling its assets to Leonardo. With helicopters, Leonardo had worked collaboratively with Westland of the UK to develop the EH.101 and the joint venture between the two companies was turned into sole control by Leonardo in 2016. Although Leonardo overall has significant capabilities in both the UK and Italy, it would be reasonable to say that the majority of its expertise in helicopters lies in Italy and the larger share of its radar and electronics capabilities are in the UK.

[135] [Earnings Call Shows Why Astrium Is Being Merged into Airbus Defence & Space - SpaceNews](#)

[136] [National space strategy - GOV.UK](#)

[137] [Airbus awarded Oberon satellites contract by UK MOD | Airbus](#)

[138] [UK Awards Surrey Satellite Military Earth-Imaging Spacecraft Contract | Aviation Week Network](#); [UK MOD Taps Airbus to Build £127M Spy Satellite Constellation - European Spaceflight](#)

[139] [The impact of Airbus on the UK economy - Oxford Economics - March 2022.pdf](#);

[140] [Krauss-Maffei Wegmann on its acquisition of WFEL | Steen Associates](#); [MoD awards £150M contract to provide 'technically advanced' military bridges | New Civil Engineer](#) ; [Tactical Military Bridges | WFEL | Concept Design To Manufacturing](#)

In the continuous re-structuring of defence industry, the UK emerges as having the most 'European' defence industrial base in NATO. Both Germany and France have been more protective of their defence enterprises, indeed it was the German Government that vetoed the proposed merger of BAE Systems with EADS in 2012. [141] The corporate sense of the significance of the UK as part of Europe stands on contrast to the Brexit vote result of 2016.

However, US firms also have sought and been allowed to make significant investments in the British industrial sector. Raytheon (RTX) having invested in Cossor, a British IFF/radar firm not long after the Second World War, today produces Paveway IV smart bombs in Scotland and provides elements of other US weapons that are operated by the UK.

In addition to Raytheon mentioned above, General Dynamics (the Ajax fleet of armoured vehicles and military communications), and Lockheed Martin (land systems plus civil and dual use technologies) [142] have an active presence in the UK as do L3-Harris, Northrop Grumman, General Electric, Leidos and others.

Changing defence and acquisition industrial policy

As in many countries, the characteristics of the UK's defence industry reflects that policy stances towards that industry by successive governments and individual procurement choices dating back over decades. During much of the Cold war period, there was an implicit policy to favour UK firms. But from the mid-1980s onwards there was an emphasis of allowing foreign firms to bid in competitive frameworks. Then the Labour Government that came to power in 1998 laid more stress on defence industrial matters and published a detailed Defence Industrial Strategy in 2005 covering multiple sectors. This was implemented only to a limited extent due to financial limitations and by the time the Conservatives-Liberal Democrat coalition came to power in 2010, the global financial crash and the demands of the war in Afghanistan contributed to a change of tone, with the 2012 National Security Through Technology document saying that the default position for the UK would be to buy on a competitive basis from the world market. The UK turned to the US for many Urgent Operational Requirements for Afghanistan including Predator UAVs as well as mine-protected vehicles. There was also a readiness to buy large US aircraft for surveillance, intelligence and heavy lift roles.

However, these commitments evolved alongside a Government requirement in 2015 that the MoD should use its money also to contribute to national prosperity and slowly sectoral commitments to industry emerged. Even from 2007 the Government had accepted the need to provide work to military shipyards in Scotland to prevent the loss of skills and

[141] [How Germany killed the merger of BAE and EADS - BBC News](#)

[142] [About Lockheed Martin UK | Lockheed Martin UK](#)

[143] [The Combat Air Strategy: From Typhoon to 'Tempest'? - House of Commons Library](#)

knowledge in workforces. Most significantly the Combat Air Strategy of 2018 specified that this traditional area of British expertise was to be backed. [143]

The Government committed to the development of a new combat aircraft working with four key partner companies (BAE Systems, Rolls Royce, Leonardo and MBDA).

The Labour Government elected in the summer of 2024 inherited numerous industrial strategy documents from the Conservative covering combat air, shipbuilding, artificial intelligence, land systems and space, with a capstone document in the form of the 2021 Defence Industrial Strategy. These documents contained numerous ambitions and ‘we will’ statements: obviously adding substance by firm commitments to projects is a matter significantly for the future although the GCAP project with Japan and Italy is progressing positively.

In December 2024 the new Government invited contributions from stakeholders and the public when it issued a Statement of Intent about a defence industrial strategy. That document began with a reassertion of the Labour Party’s election manifesto:

The Government’s Manifesto stated that it would “bring forward a defence industrial strategy aligning our security and economic priorities. We will ensure a strong defence sector and resilient supply chains, including steel, across the whole of the UK. We will establish long-term partnerships between business and government, promote innovation, and improve resilience. We will prioritise UK businesses for defence investment and will reform procurement to reduce waste. We will support industry to benefit from export opportunities, in line with a robust arms export regime committed to upholding international law.” [144]

It remains to be seen how the commitment to steel will be implemented because the UK’s civil steel sector had been struggling to be profitable and a key company producing specialist steel for military systems including submarines, Sheffield Forgemasters, had been taken into government ownership by the Conservative government in 2021 as a means of ensuring investment for future development. [145]

The commitment to defence industry was across government with the Modern Industrial Strategy announced at the end of 2024 specifying defence as one of eight key areas of driving growth. This document’s owner was the Department of Business and Trade but also included a Foreword from the Chancellor of the Exchequer (the finance minister in modern language). [146]

[144] [Defence Industrial Strategy - Statement of Intent - GOV.UK](#)

[145] [Sheffield Forgemasters: Ministry of Defence to acquire steel firm - BBC News](#); [Home - Sheffield Forgemasters](#)

[146] [Invest 2035: the UK’s modern industrial strategy - GOV.UK](#)

By 2025 the policy importance attached to the defence industrial sector had not been greater since the end of the Second World War. Defence industrial capabilities were seen as central to military strength and governmental freedom of action and a key element in national prosperity. They were also recognised as part of the glue that holds together the union of England, Northern Ireland, Scotland and Wales. Moreover, this commitment was bipartisan, with Labour building on what its Conservative predecessors had done.

Partnering and collaboration

The UK has sought and continues to seek to strengthen its defence industrial capabilities by a range of techniques, which in a small number of cases included nationalisation. As explained, foreign investment into the UK was also welcome.

Multiple government documents including the 2025 DIS have laid more stress on partnering with industry to develop sound requirements and deliver solutions rather than relying on competitive tendering to deliver solutions to problems specified in the armed services. The RAF seemed to come to terms with this more easily in the GCAP/FCAS programme than did the maritime sector which insisted on a problematic competition for three Fleet Solid Support ships.

Collaborative projects are again being pursued as a means of sharing costs and risks, and gaining access to a wider capital base for development and to a larger market once production is ready. The transnational nature of many companies operating at scale in the UK (not least Airbus, Leonardo, Thales and MBDA) should in principle make collaboration easier. London is looking to strengthen defence industrial cooperation with continental Europe as a whole and with individual countries. The Trinity House agreement with Germany emerged in early 2025 and diplomatic efforts are underway to revitalise the Lancaster House agreement with France.[147] In May 2025 the UK agreed a rather vague but nonetheless positive Security & Defence Partnership Agreement. [148]

Exports

The last and current UK Governments both hope to see a higher volume of exports, accurate data on which is somewhat contested. The British Government's Defence & Security Exports provides figures on export orders[149] whereas SIPRI uses a different way of assessing value and anyway tries to track deliveries.[150]

[147] [UK-Germany Trinity House Agreement on Defence - GOV.UK](#); [RUSI holds Franco-British dialogue on Refreshing the Lancaster House Treaties | Royal United Services Institute](#)

[148] [UK-EU security and defence partnership - GOV.UK](#)

[149] [UK defence and security exports statistics - GOV.UK](#)

[150] [Research - National reports | SIPRI](#)

A further complication is ambiguity about how collaborative projects such as Typhoon should be treated. Historically aerospace products including missiles dominated UK defence export values and that the Middle East was by far the UK's largest market. In October 2025 a UK-led bid to Turkey for 20 Typhoons was successful. However, both the UK's emerging warships, the T.26 multi-role frigate and the Type 31 General Purpose Frigate have won foreign orders.

The T.26 has been bought by Australia, Canada and very significantly Norway. The T.31 has been bought by Poland with likely sales in Indonesia and Denmark.

Looking forward, the Government wants exportability to be taken into account in setting requirements and that defence exports are to be viewed as source of economic benefit and foreign policy utility. Insofar as some have judged requirements setting in the past has been dominated by military services' wish for exquisite equipment, there is intention to end such practice. The GCAP example which stresses the goal of a minimum viable product/minimum viable capability by 2035 is a case where this thinking is reflected as was the specification of the Type 31 frigate as a ship that others might wish to buy. Military concerns about being saddled with inadequate kit for high end operations could be allayed by the intent to build UK systems as 'open' with a capacity for regular affordable upgrades.

Supply chains

Whereas large firms dominate the discourse about 'defence industry', in practice such firms make extensive use of large numbers of suppliers, many of which are small businesses. Some companies in defence supply chains have been there for decades, others are newer entrants, and there is a third group that offer novel attributes and seek access to the defence sector. Some are defence focused, some serve defence and civil markets and some provide essentially commercial components that go into larger systems. There are two industrial bodies that work to act on behalf of defence industry, Aerospace, Defence & Security, which caters for all levels of supply chains, and MAKE UK Defence which promotes the interests of smaller firms in particular. In 2025 that organisation's membership went over 600. At governmental and private sector agendas, concern with the effectiveness, reliability and resilience of supply chains is rising in prominence, with more attention being paid to rare earths and Chinese components in larger systems.

Defence industries of tomorrow?

As this paper was being completed, the Labour Government brought in two initiatives to generate desired but as yet uncertain consequences. The first was the appointment of a National Armaments Director (NAD) with responsibility for almost all defence procurement (excepting the nuclear sector). [151] He had multiple senior functional leads under him which he is meant to formal a single team to deliver multiple government objectives including the development of UK industry, enabling operational independence, boosting UK economic growth, supporting the union of Scotland, Northern Ireland, Wales and England, and of course providing British forces with effective equipment.

The second was a Defence Industrial Strategy that was published in the autumn of 2025.[152] This was a long document of over 100 pages which devoted some attention to sectors and key technologies but which had several other notable features. First, recognising the government position that armed forces are only as strong as the industry behind them, it underlined the far from novel message that government-industry partnering rather than adversarial, transactional relationships should be the way forward. It also stressed the central role of defence contracts to advance UK prosperity and there was particular attention devoted to regions of economic deprivation where defence was either already important and/or could make a new impact. Its sub-heading was 'Making defence an engine for growth'. [153]

Thirdly it stressed its recognition of SMEs as a source of innovation and agility. Including the statement that 'we must place championing, nurturing and sustaining our defence industry at the heart of everything we do within the Ministry of Defence and Government more widely' (p.49), the DIS provided significant direction to the contracted NAD (Rupert Pearce) who took over from the acting NAD (Andy Start) in late October 2023.

Policy is one thing and procurement decisions can be something else: firmer commitments will await the publication of a Defence Investment Plan still in preparation at the time of drafting this report.

An unresolved matter is how to operationalise the concept of giving preference to 'British-based firms'. As the paragraphs above have shown, there are multiple European and US firms operating in the UK with significant numbers of employees who do development and production as well as support work here. Since this is an area that lacks clear boundaries, it may be that the UK should tighten its export control laws so as to have the same control of foreign-owned defence business that the US enjoys. It may also press the government to require greater clarity of the imported content of systems that it claims to be produced in the UK. But this author suspects that many of this issues will lie undisturbed in the MoD

[151] [National Armaments Director to drive forward defence reform and bolster national arsenal - GOV.UK](#)

[152] [Defence Industrial Strategy: Making Defence an Engine for Growth](#)

[153] <https://www.gov.uk/government/publications/defence-industrial-strategy-2025-making-defence-an-engine-for-growth>

and wider Government's 'too difficult' box.

Still unclear is how the UK defence industrial sector will respond to the digital/artificial intelligence changes that are underway, especially in the US. Significant new firms are offering computer-based services and facilities, most of them from across the Atlantic: MS, AWS, Palantir, Anduril are among those banging on the door of the MoD. They have varying links to uncrewed and even autonomous systems that operate on land, in the air and on water. There is space here only to note the issue areas which include the value of what is on offer and the risks of reliance on what is provided.

Also the changes in US politics and policies will be of consequence. In a sentence, will political changes in the US have a sufficient impact on the UK purchase of US systems and technology that US defence major firms opt to develop more capabilities in Europe including the UK? The British intent would be to develop as much as possible capabilities that were beyond at least the legal limits of US Government control.

Conclusion

The future of UK defence industry will also depend on three key areas.

The first is the availability of Government money, with the commitment of the current government to raise defence share of GDP from 2.3% to 3% of GDP by the end of the decade offering some encouragement. What this will mean in cash terms obviously depend on how well or poorly the economy grows. As a rough guide, even with defence having only a static share of GDP, and with a current defence budget of around £60 billion, every 1% of economic growth would add about £600 million to defence spending. American behaviour in February 2025 and afterwards has done much to reinforce British readiness to spend more on defence but the size of the government's annual deficit and the cost of interest charges is delaying significant increases for the time being. As noted, in November 2025 the MoD was still working on its Defence Investment Plan for future years.

The second is the evolution of how the threat situation with regard to Russia evolves, how dangers from the Middle East and militant Islamists increase or recede, and how US expectations evolve. It is not impossible that the US will expect to do much less for Europe but to continue to buy significant quantities of US equipment. If such pressures occur and are not resisted, the American control over UK and indeed European military options will remain in place.

Third and of crucial importance, is how British and indeed European Industries perform on the projects with which they are entrusted. Expertise and motivation, focused on continuous improvement, is needed for governmental and national support for support for defence businesses to be sustained over years. Central to this will be realistic

commitments to deliver projects on time, cost and performance but enhanced reliability and upgradability would also help to build the reputation of UK defence firms at home as well as overseas. The bottom line is that it is decades since defence industry in the UK has had to bear so much responsibility for national defence and security. It is a major responsibility which leaves little room for complacency.

THE PORTUGUESE DEFENCE INDUSTRY: FROM THE RESILIENCE OF THE EMPIRE TO A NEW POLITICAL PRIORITY

João Rosa Dias e Ricardo Pinheiro Alves

Portugal lost its empire in 1975, calling into question a national identity built over 900 years of interventions across the globe. This identity was always based on two dimensions: the continental and the maritime. While the former is due to its belonging to a continent with which Portugal is geographically linked, the latter is the result of a rich history of invasions, discoveries, conquests and navigation, making it different from many other European countries.

The loss of the Empire, the end of the Ultramar War, the social functions reinforced by democracy and a utopian idea of perpetual peace led Portugal, as in other countries, to cease investing sustainably in Defence, destroying part of the wealth and knowledge that the country possessed in this area (Nunes et al, 2023). Although both dimensions remain present in Portugal's identity and interests, the lack of military resources has led to a diminished role alongside the Allies and a progressive weakening of the country's presence in the Atlantic region.

This limited presence has created space and increased dependence on other countries in Europe and the Atlantic, especially NATO and the United States of America, as both the east coast and the south-east of the country need protection, as confirmed by the adoption of the Monroe Doctrine in the recent National Security Strategy (NSS, 2025).

From 2024 onwards, everything changed and defence became a political priority due to the new government's decision to assume greater autonomy and the need to prepare for threats that were already affecting the country's security. The new political priority meant a considerable increase in defence investment and a consistent reversal of a decades-long trend (World Bank, 2025).

Since each country's investment is strongly positively correlated with the size of its domestic defence industry, given that the State is its largest client, this political priority will have a decisive effect on companies and research and innovation centers operating in the defence sector in Portugal.

This article presents evidence on the recent trajectory of the national defence industry and its companies, highlighting areas of comparative advantage relative to other countries. Based on this characterization and the planned investments in defence, it identifies the challenges and opportunities facing the industry and outlines the path to strengthen its role as a source of resilience for national defence.

1. Defence as a new political priority

As with most European countries, Portugal has not invested enough in defence over the last 50 years. The end of the Ultramar War and the independence of the overseas territories explain an initial decline in the level of investment. However, from this point onwards, the reasons for the lack of investment are numerous and common to Western European countries, ranging from the overvaluation of the social pillar of guarantees and rights or the “green” transition to the devaluation of the functions of sovereignty associated with a lack of responsibility based on naive trust in unlimited American protection and, especially after 1990, in a utopia of perpetual peace.

In Portugal, insufficient investment, driven by a lack of accountability in the defence sector and by financial difficulties resulting from excessive growth of the state led to the degradation of infrastructure, the loss of expertise in areas such as ammunition production, and a reduction in military personnel and equipment.

In terms of human resources, in 1974 the Armed Forces had a total of 175,000 men spread across 3 theaters of operations in Africa (Espírito Santo, 2014). Currently, there are about 24,000. The turning point was the suspension of compulsory military service in 1999 (with its effective cessation in 2003), consolidating the transition to fully professional, but much smaller, Armed Forces.

The table shows the evolution of equipment since the beginning of the millennium. Note that the numbers do not convey the level of obsolescence that weapon systems such as main battle tanks, armored vehicles, or anti-aircraft artillery have reached, and that the evolution shown does not correspond to maintenance or increased operational capacity.

Portugal: Military Inventories

	2003	2021	Change
Main Battle Tanks	101	130	28.71%
Armoured Vehicles	522	518	-0.77%
Howitzers	154	44	-71.43%
Short Range Anti-Aircraft	52	52	0.00%
Surface Vessels	42	28	-33.33%
Fixed Wing Aircraft	124	75	-39.52%

Source: Statistical yearly book of the Portuguese Defence and
JANES

The almost universal political choice was to ignore the numerous warnings and threats that became more evident since the beginning of the 21st century. After the attack on the World Trade Centre in New York, Russian aggression became evident in Georgia in 2008 and in Ukraine in 2014. Furthermore, the need for a defence policy that responded to conflicts occurring in different parts of the world – Africa, Asia, America – and to the various threats such as terrorism, piracy, organized crime, migratory pressures or the proliferation of chemical weapons was undervalued in Europe.

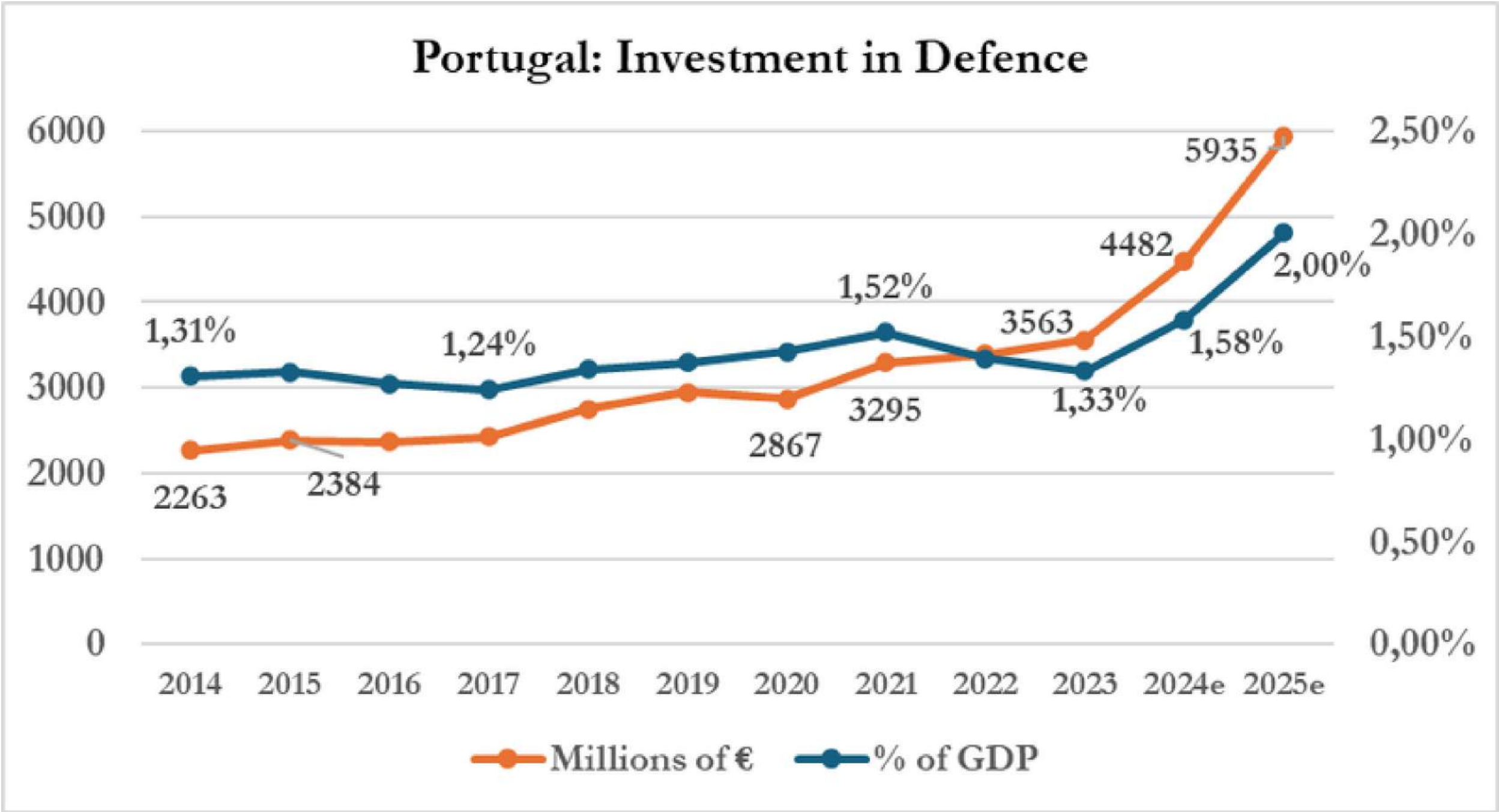
The feeling of security is a priority for human beings. With security, people can focus on building a better life. Defence is one dimension of security and becomes more relevant when threats or a perception of insecurity exists. Defence should have been a priority decades ago, but it wasn't because of a poor choice, with preference given to American protection while criticizing those who protected us.

The signs that defence policy needed to become a priority had been present for over a decade. American pressure on European countries to invest in defence persisted and was much older. In 1951, Dwight Eisenhower, the first NATO Supreme Allied Commander Europe, explained the reason for creating NATO: “If in ten years, all American troops stationed in Europe for national defence purposes have not been returned to the United States, then this whole project will have failed.” It failed in the sense that European countries never assumed, and often downplayed, their responsibilities towards a common enemy, Soviet socialism.

Despite all these reasons, and even with the agreement in Wales in 2014, in which Portugal and other NATO countries committed to investing 2% of GDP, very little has happened. European countries have not invested enough and therefore their resilience in defence is limited (Eastern European countries anticipated investment due to their proximity to Russia).

The graph shows the evolution of defence investment in Portugal since 2014, with its level remaining unchanged until 2023. As the table above shows, the increase in the amount invested is largely attributable to price growth rather than to the military branches' access to additional weapons systems and capabilities. The number of active-duty military personnel declined between 2015 and 2023, from 30,000 to 23,000, an insufficient level relative to the 32,000 considered the minimum necessary by military leaders. Not even the Covid epidemic can be blamed for this development, as Defence showed great resilience at the time and it was in 2021 that the percentage was highest (Pinheiro Alves and Abreu, 2025).

Even with the attempted invasion of the rest of Ukraine in early 2022, the option remained only talk about defence, without any significant practical results. In 2022 and 2023, when the most latent threat could no longer be ignored, there was even an irresponsible reduction in defence investment in Portugal, from 1.52% to 1.33% of GDP. Portugal did the opposite of what it should have done, thereby further degrading its defensive resilience.



Source: NATO (2025)

The absence of a consistent defence policy was a reality until 2024, when there was a political reversal and a new priority was assumed. The turning point came with the change of government and the recognition that the growing proximity to war in strategic terms, in geographical terms and because the range of weapons is increasing, made investment in defence urgent and mandatory for our security. And with effective American pressure – which was not new but finally yielded results after more than 60 years of attempts – that forced European countries, including Portugal, to increase their investment in defence.

Faced with a paradigm shift in international relations, Portugal has once again recognized Defence, in its European and maritime dimensions, as an essential function of sovereignty and has relearned the lessons that History provides about the three types of return that investment in Defence brings: in sovereignty and national independence, in a peaceful future and in the prosperity of the community. The new political priority translated into investment in defence as a response to the human need to feel secure, as a guarantee of sovereignty and peace. Investment in defence was therefore an investment in the security of Portugal and the Portuguese people. But the decision to invest in defence was also a commitment to economic development, as the dual civil and military use that can be made of the creation and application of technology promotes wealth creation. And development is essential for the sustainability of defence, as it is the countries with the most resources that are best able to defend themselves.

The Washington summit in 2024 and the Hague summit in 2025 consolidated the imperative of expanding NATO's military capabilities, establishing a strategic commitment to joint production and strengthening industrial efforts to maintain a technological advantage that guarantees a deterrent effect against the more latent threat from Russia. Allied countries, such as Portugal, belatedly reaffirmed the investment target of 2% of GDP, focusing on critical capabilities such as air defence or unmanned systems, and on annual financial support to Ukraine amounting to €40 billion (Nunes, 2024).

The feeling of insecurity has made investment in defence a priority, and this political choice is clearly evident in the fact that, by 2025, it should reach 2% of GDP, an absolute value of almost €6 billion and a per capita value of USD 27,200, the highest in recent decades (NATO, 2025). This political priority was also confirmed by a reversal in the number of military personnel in Portugal, which has been growing again since then, and by the fact that the Ministry of National Defence's budget was executed at almost 100% in 2024, a radical change from the execution rates seen in previous years.

1. Industry supporting the capacity and resilience of National Defence

Portugal's defence investment aims to strengthen its military capabilities, including the possibility of pre-emptive strikes, and, within this framework, encompasses the economic and technological development of the industry to support military missions. This is essentially because there is a strong positive correlation between defence investment in Portugal and the size of the national defence industry.

The strategic value of the industry lies in its contribution to the capacity and resilience of national defence through the creation of wealth that allows for the financing of increased investment in defence, the production, upgrade and maintenance of weapons systems and military products, and the development and incorporation of new technologies.

The defence industry – companies and research centres – essentially produces for a single customer, but one with two heads: the political powers, who make the final decision on procurement, and the military branches, who are the end users of the equipment and capabilities provided by the industry.

This leads to two consequences: (i) the proximity of industry to the branches is essential for the function of supporting the capacity and resilience of Defence to be effective; (ii) the more developed the industry, the greater and better the support for defence capacity and resilience.

For these reasons, investment in Defence in Portugal is focused on modernizing the armed forces and creating conditions for the growth of the national Defence industry, highlighting (Governo de Portugal, 2025):

- Development of state-of-the-art infrastructure, equipment and technological systems for the Army, Navy and Air Force.
- Strengthening space, cyber defence and emerging threat response capabilities.
- Focus on investments with dual use (civilian and military) and on resilience strategies for crisis situations.
- Stimulating the national defence industry, with a direct impact on the creation of skilled jobs and the generation of added value.

This set of commitments demonstrates a new political stance that prioritizes national defence, the development of human resources, military capacity building, and investment in the growth of an industry that creates wealth and jobs (idD Portugal Defence, 2025).

Companies, Employment and Productivity

The defence industry in Portugal has more than 420 companies and research centres operating in dual use in 45 different sectors, with 60 new companies joining the industry in 2025. Most Portuguese companies are small (62% of the total), with defence being complementary to their core business and having limited weight. They mainly operate as suppliers of components, parts and services for integration into different weapons systems provided by major manufacturers. The support functions they perform make integration into international value chains essential for their business growth. There are also some larger Portuguese companies (12.5% of the total) whose main business is defence. In some cases, they develop, produce, and supply finished products and complete equipment. However, despite their large size nationally, they are only of medium size internationally.

In total, the National Defence industry sells €8.7 billion annually, of which approximately 40% is in defence products and services, and employs 46,000 highly qualified people. Average monthly salaries are €2,038, more than double the average for all national

companies (€999), due to an average yearly productivity per worker of €53.400, almost double the national average (€28,500), highlighting the efficiency and high added value generated by the sector. Human resources have a strong presence of professionals with backgrounds in engineering, mathematics, physics, and other exact sciences, making this area very important for developing their careers in Portugal.

R&D, Innovation and Skilled Human Capital

The growth of the Defence Economy is inseparable from the focus on Innovation and technological development (R&D), with 31 research centres in Portugal. Investment in defence amounted to €587 million in 2024, corresponding to 13% of total national investment. This allocation of capital is reflected in the highly skilled workforce, with the number of people involved in R&D activities representing around 8.8% of the total (if research centres are included), a figure well above the 0.9% average for Portuguese companies. One development that needs to be accelerated in Portuguese industry is greater ease in the transition between technology development and entry into the market to gain production scale and greater competitive capacity.

Exports and Internationalization

Defence companies in Portugal have a strong export focus, with approximately 35% of their sales made abroad, exceeding the national average of 23% of total sales and representing 2.3% of national exports in 2024. This component is crucial for the internationalization of the Portuguese economy, leveraging foreign direct investment, and consolidating Portuguese companies within the global value chains of major weapons systems suppliers.

Export growth remains essential for Portuguese companies to achieve economies of scale, lower unit costs, and higher profit margins. The smaller size of Portuguese companies makes it more difficult, but not impossible, to create the three conditions necessary for success in international markets: the existence of recognised competitive advantages in products or services; financial capacity to respond to increased production and the added risk associated with market diversification; the search for and exploitation of an opportunity that fits in with its development strategy.

Advantages and specialization of the Defence Industry

Given the size of the business fabric, the national industry is unable to manufacture all the equipment needed by the armed forces. For this reason, the development of the defence industry involves the international affirmation of areas of specialisation in order to achieve scale, develop technologies, establish partnerships, control the different stages of the value chains and obtain lower average production costs so as to be able to offer competitive prices and sales conditions.

The most competitive areas in the Portuguese Defence Industry encompass 144 companies, about a third of the total, and are as follows (Pinheiro Alves and Abreu, 2025):

- Computer consulting and programming: Command and Control systems, Space, Simulation, cybersecurity, Oceanography, Infrastructure Protection, etc.
- Maintenance, repair and overhaul: naval, air and land
- Engineering services: design, composite materials, precision mechanics, optics, components for military aeronautics, etc.
- Electrical and electronic equipment: communications, sensors, autonomous power sources and various components
- Textiles, clothing and footwear: uniforms and troop protection
- Unmanned systems in various domains (air, surface, submarine and land)

International competition must be tackled so that Portuguese companies can become more internationalised, create interdependencies with entities in other countries, and specialise in providing more comprehensive and integrated products and services that generate greater added value.

1.Options for the Defence Industry in Portugal

The priority given to Defence from 2024 onwards and the strategic role of Industry in building security capacity and resilience make the promotion of businesses and technological development one of the main lines of policy action in this area. This dual approach follows the NATO structure – Allied Operational Command in Europe and Allied Command for Transformation in the USA – and the national branches – with planning and logistics divisions on the one hand, and technological innovation on the other.

It is within this dual perspective that the Defence policy for industry addresses the three main challenges for building resilience in National Defence and for supporting the military branches in the performance of their missions.

Three challenges

The first and most important challenge is to achieve closer ties between the military and industry. This requires strengthening the link between the needs of the Portuguese military branches and the knowledge and capabilities offered by the national defence industry.

The role of idD Portugal Defence, as a defence policy instrument for the industry, is to link the production of the national industry to the operational capabilities and equipment needs of the military branches, and to link research and development in the industry to

the incorporation of technological innovation in the Armed Forces.

Greater proximity should take advantage of the testing centres and exercises carried out by the branches, such as Repmus and Artex, and should also be extended to NATO, to the operational command in Europe, on the one hand, and to the Transformation Command in Norfolk, USA, which deals with the incorporation of new technologies into the forces of the Alliance countries, on the other.

This approach also presents an opportunity for new companies to enter this area, thereby expanding the supplier base of equipment, services, and new applications and technologies for the Portuguese armed forces and NATO partners.

The second and third challenges also contribute to the first and consist of greater ease in transitioning from a phase of technological research and development to production and sales on a larger scale, and in accessing capital for investment. For this to materialize, companies need capital to invest and to overcome the small size of the domestic market, gaining production scale and increasing their revenues through greater internationalization of their activity.

Three opportunities

These three challenges are associated with three opportunities to build resilience in Defence with the Portuguese industry. The first is the political priority given to the development of capabilities and resilience in National Defence. In practical terms, in addition to the €6 billion investment in 2025 (2% of GDP), a new Military Infrastructure Law and a new Military Programming Law will be presented in 2026, which will finance the implementation of the 20-year plan made by the military branches in 2025, within the framework of coordination between NATO forces. Their values are not yet known, but to reach 3% of GDP in 2029, the total accumulated investment between 2025 and 2029 should be €39 billion. The value will be much higher if the target of 3.5% of GDP is achieved in 2035 and if a further 1.5% of GDP is considered for investment in infrastructure.

Also in this context, by 2030, it is planned to use the SAFE loan of €5.8 billion to acquire weapons systems and capabilities for the armed forces. The investments cover armoured vehicles, tactical vehicles, ships, SAR satellites, ammunition, artillery and unmanned systems, and the loan represents an excellent opportunity for new supplies from the national defence industry.

The other two opportunities result from the growth in defence investment observed in virtually all military segments and in all regions of the world, and especially in allied countries and military forces, given the need for European countries to reduce their dependence on the United States of America. This includes the possibility of integration

into the supply chains of major manufacturers and access to institutional procurement agencies (NCIA, NSPA) and to private financing instruments and international organizations.

The investment made by other countries represents significant growth in a global market that in 2023 was estimated at 2,443 billion USD. In the US, with an estimated annual sales market of USD 943 billion, and in Europe, where the sum of national markets is estimated at USD 588 billion and where Eastern countries are experiencing very rapid growth in spending, there is also the possibility for companies of all sizes to integrate into the supply chains of large international manufacturers (the ten largest companies in the world sell 300 billion USD annually).

The third opportunity reinforces and complements the growth in production scale through internationalization, providing access to the necessary capital for the industry through the current shift in the functioning of the financial system, which indicates that it has finally overcome its prejudices regarding the financing of military production. In addition to institutional and commercial banks, there is a growing presence of private investors – venture capital, private equity – in companies in this area. Furthermore, greater use of financial instruments made available by NATO, the EU, and the European Space Agency is possible (e.g., DIANA - Defence Innovation Accelerator for the North Atlantic, NATO Innovation Fund, European Defence Fund, or the Competitiveness Fund planned for 2028-2034).

Greater access to capital allows investment in emerging areas such as unmanned vehicles, which reduce human risk, have lower production costs than traditional platforms, and integrate applications using artificial intelligence, encrypted communications and quantum node distribution, composite materials, precision mechanics, low-altitude satellite services, or various sensor-based computer applications. The multiplier effect of these investments will increase with the development of products that meet the needs of military forces.

The opportunities for industry, triggered by the prioritization of National Defence, open the way for wealth creation that will finance future increases in Defence investment, for the production, upgrade and maintenance of military equipment and products, and for the development and incorporation of new emerging and dual-use technologies in traditional domains – land, sea and air – in the new operational domain – Space – and in an essential operational area – Cyber Defence.

1.Conclusion: the way forward

In view of the changes taking place in the system of international relations, Portugal, as a sovereign country, cannot continue to disregard its independence and autonomy, and therefore the desire for security is achieved through investment in defence. An

investment in the future that brings a triple return of sovereignty, peace and prosperity.

The increasing proximity to war, both geographically and because the range of weapons is ever greater, makes it imperative that the country be prepared and that investment be based on Portugal's interests, considering its allies in the two dimensions that constitute its identity, the European and the Atlantic.

To strengthen its autonomy, Portugal is creating the conditions and knowledge to advance towards the production of aerial, land-based, and naval platforms, the development of unmanned systems in the air, on land, at sea, and underwater, and the incorporation of disruptive technologies such as Artificial Intelligence, already used in drones, or quantum technology applied to encrypted communications on Earth or in space.

The path forward in policy to promote the Defence industry leverages investments made by the Portuguese State and is based on four main pillars:

- 1 - Direct purchases from Portuguese companies
- 2 - Attracting foreign investment
- 3 - Integrating Portuguese companies into branch acquisitions
- 4 - Meetings between Portuguese companies and major manufacturers

This choice to prioritize defence as a political priority will always depend on the international context and the level of interoperability with partners and between different weapons systems. If today there is a main threat in Eastern Europe, there are also others in the South and Southeast associated with terrorism, organized crime, disorderly migrations, or armed groups that cannot be forgotten or underestimated, as they have been in the last 50 years.

But what is key is that Portugal has as a pillar of its defence an organisation specially created for this purpose, NATO, the only body that is prepared to quickly assume and develop an operational role should any threat to security materialise. For the defence of Portugal, a country where the two dimensions of external relations, continental and maritime, are balanced, both the United Kingdom, an alliance with 650 years of history, and the United States will be fundamental and complement the continental European pillar of NATO.

The US provides essential elements such as the collection and sharing of military information, operational coordination, weapons availability, and the necessary deterrence to guarantee our security, starting with nuclear security. To put it clearly, the American "umbrella" will continue to be necessary, only losing relative importance over time. While NATO has a real operational capability, and therefore Europe will continue to depend on the US for its defence in the next decade, the EU, the European Space Agency, and

other international organizations can complement the institutional security structure, essentially at the financial level, as exemplified by the SAFE program.

For this reason, Portugal's sovereignty and independence depend, first and foremost, on investment and cooperation with other nations within the most relevant defence organization, the Atlantic Alliance. Portugal's security in both of these areas must be fundamentally based on NATO: on the continent, through the European pillar that brings together the United Kingdom, Germany, France, Spain and other countries, and which for years will include the American presence; and at sea, extending NATO's Atlantic dimension (United States and Canada) to Portuguese-speaking countries (CPLP), Brazil, Africa, Latin America and democracies in other parts of the world (Pinheiro Alves, 2025).

In the long term, closer ties with distant countries such as Australia, Japan, South Korea, New Zealand and India could increase the importance of the maritime dimension. The consequence is that Portugal, within its universalist vocation and the limits of its capabilities, will have to strengthen its responsibilities in response to the shift of the centre of the international relations system to the other side of the globe, as is already happening today in the Red Sea in actions to control and protect maritime traffic. The growing rapprochement with countries that share our core values of freedom, the rule of law, democracy and a free market economy will always be a long-term prospect that should not be overlooked.

Portugal is less united with countries like Bulgaria or Estonia than with Brazil or Angola, the United Kingdom or the United States. If there is one thing we can learn from our history, it is that Portugal has always benefited from never putting all its eggs in one basket. Throughout the centuries, its continental dimension has always been balanced with its maritime dimension, and while this was already the case 500 years ago, when communications and contacts were scarce, its importance is much greater in an increasingly interconnected world.

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THE RESURGENCE OF DEFENCE IN SPAIN?

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1. Introduction

In 2014, the Cardiff Agreements were signed within the framework of NATO. These agreements implied an increase in defence effort over a ten-year period, reaching 2% of GDP. However, not all countries honoured their commitments — Spain among them. The reasons for this situation can be found in the differing security perceptions among NATO members, their unshared risks and threats, the attitudes of their societies — particularly in Europe —, and the political positioning of numerous governments that did not regard defence as a priority within their overall policies, often fearing a potential loss of votes resulting from higher defence budgets, among other factors.

Only in a few cases has the need to develop long-term policies and strategies to sustain them been clearly recognised. Unfortunately, this has not been the case in Spain, where the absence of a strategic perspective providing clear direction for state policies has taken its toll on national defence policy. Continuity and coherence stand as fundamental pillars of defence policy in general, and of defence economic policy in particular. This applies both to supply — industrial capabilities — and to demand — defence budgets.

Since 2014, European countries have been under increasing pressure to raise their defence expenditure. The European Union began to develop a more active security and defence policy, attempting to intensify collaboration among member states in the industrial and military domains, though with mixed success. Following the invasion of Ukraine, defence has become central to the political and social debate. To such an extent that the European Commission has relaxed deficit constraints^[154] on Member States and has encouraged improved cooperation and investment in defence capabilities.

^[154] One of the basic factors is that the EU allows countries that request it to deviate from the Stability and Growth Pact to increase defence spending. European Commission (2025).

From the perspective of the defence industry, each country has continued to protect its own interests, and fragmentation has persisted over the years. Only after the outbreak of the war in Ukraine have efforts to “defragment” the European defence industry intensified. The results will not be visible for some years; nonetheless, joint developments are emerging, seemingly driving firms towards mergers and acquisitions (M&A) at the European level, as well as towards greater integration of efforts.

From a strategic standpoint, the increasing risks faced by NATO’s European members can be summarised as a trade-off between the risks and benefits of maintaining a fragmented defence industry versus taking steps toward a single European defence market. As Echevarria (2025) states, “Risk-benefit models thus assess the probability of an action’s success, but they can also assist in identifying the key problems standing in the way of success. By comparison, cost-benefit models weigh an action’s costs against its benefits to determine whether the action is worth pursuing” (p. 21). Ultimately, this represents a step beyond the traditional cost-benefit analysis by incorporating risk assessment — a concept more aligned with military analysis. A combination of economic and military analysis may thus prove useful in guiding decision-making concerning the most probable and suitable trajectory toward a single defence market.

1. Budgetary Chaos and the Partial Solution

In 2014, only three NATO member states reached the 2% defence effort target. The growth up to 2023 was extremely slow, as only ten countries managed to attain that level. By 2024, the number increased to eighteen, and NATO’s estimates for 2025^[155] suggest that all member countries will reach the 2% threshold.

Meanwhile, the European Union shows clearly upward figures^[156], driven on the one hand by its agreements with NATO, and on the other by the war in Ukraine, which has pushed countries towards a rearmament process. However, the Spanish case remains peculiar for two main reasons.

Firstly, Spain’s starting point regarding budgetary effort over recent decades has consistently placed it among the lowest — and often the very last — of the allied countries in this respect. Secondly, the decision to reach the 2% target was largely induced by pressure from NATO, the EU, and the President of the United States, Donald Trump. In fact, at the beginning of 2024, Spain’s defence effort stood at just above 1.2%, far from the agreed target set in 2014.

The key issue, however, lies in whether European countries will be able to maintain sustained budgetary pressure in defence over a long period of time. As the European Commission (2025) states, “Rebuilding European defence requires, as a starting point, a massive investment over a sustained period” (p. 3).

^[155] NATO (2025).

^[156] The correlation between the two institutions, the EU and NATO, is obviously very high in the case of European countries.

In Spain’s case, a decade of investment opportunities has been lost — years that could have been devoted to establishing clear, long-term budgetary and financial strategies. This has also meant losing the opportunity to avoid cyclical investment patterns, maintain a steady trend over time, and reorganise the market — including the industrial sector — as a key component of it.

GRAPH 1 – Defence Expenditure as % of GDP (2015 US\$)



Source: Author’s own elaboration based on NATO data (2025)

In 2025, under the aforementioned pressures, the so-called Industrial and Technological Plan for Security and Defence was proposed, with a total allocation of €10.471 billion. Considering that in 2023 — the last year with approved State General Budgets — the total defence expenditure amounted to €12.306 billion, this plan represents 85% of that budget. Added together, they reach a total of €22.777 billion. However, in its first year, only €3.807 billion were to be invested, resulting in a total of €16.113 billion. Nevertheless, successive meetings of the Council of Ministers have approved investments and expenditures far exceeding that figure, bringing total defence spending to slightly over €25 billion.

According to estimates by Calvo, Fonfría, and Martí (2025), assuming a scenario in which a 2.1% defence effort — as proposed by the government — is achieved by 2028, total expenditure in the final year would surpass €38 billion. The average annual growth rate of defence spending over the period would exceed 26.6%.

Table 1 – Estimated Defence Expenditure in Spain

Year	Total Defence Expendit	Increase vs. 2024 (€ bn)	Defence Expendit ure/GDP	Spanish GDP (€ bn)*	Annual Growth Rate of	Defence Expendit ure/GDP	Year-on-Year Differenc
2024	1.563	–	128%	159.163	–	–	–
2025	2.427	864	149%	163.461	5.530	1.602	864
2026	3.011	1.448	169%	178.172	2.405	1.380	584
2027	3.434	1.871	190%	181.201	1.404	1.213	423
2028	3.881	2.318	210%	184.824	1.303	1.082	448

Source: Calvo, Fonfría, and Martí (2025)

(*) Estimates from 2025 onwards. Data for 2025–2027 based on reports by the Bank of Spain (2025). 2028 estimated by the author, assuming 2% growth.

Note: All figures expressed in 2023 prices.

Obviously, the effort that should have been made over the past decade — and, failing that, over the coming years — has instead been concentrated into a single year. This has led to planning problems of all kinds: financial, human, organisational, and procurement-related, among others. Here emerges the fundamental problem — the absence of a long-term strategy capable of rationalising and guiding these efforts, both at the budgetary and industrial levels.

1.Brussels: The Drive Behind Industrial Policies

The European defence industry is facing an unprecedented situation. On one hand, it must respond to a growing internal demand for materials and systems aimed at enhancing deterrence capabilities. On the other, it must meet Ukraine’s significant defence needs. Finally, it must reduce dependence on the United States (Marsh et al., 2025). In addition, the sector is undergoing a transition towards greater integration — a process that is reshaping its structure and will intensify in the coming years.

Moreover, no EU country is adequately prepared to undertake a productive effort of such magnitude. This situation has led the European Commission to promote the Single Defence Market by stimulating higher defence expenditure and launching various

initiatives designed to foster cooperation among member states — in R&D, as well as in the production, development, and joint acquisition of weapons systems.

To this end, the White Paper on Defence was published in 2025, complementing earlier initiatives such as the Capability Development Plans, the Coordinated Annual Review on Defence (CARD), and Permanent Structured Cooperation (PESCO). It also builds upon EU programmes that fund research and capability development through the European Defence Fund (EDF), and recent regulations such as EDIRPA (European Defence Industry Reinforcement through common Procurement Act) and ASAP (Act in Support of Ammunition Production) , aimed at boosting the production of defence equipment and ammunition.

Lastly, it is worth highlighting the role of the Strategic Compass (2022), which provides greater specificity regarding the capabilities required by the European Union and the plans devised for their acquisition — a key reference for national military capability development strategies. Alongside these initiatives, the SAFE (Security Action For Europe) programme was launched, its main objective being to incentivize the European defence industry.

However, as Hartley (2023) notes, “Europe’s defence problem remains unchanged. It is reflected in ‘too much’ duplication and fragmentation, ‘insufficient’ industrial collaboration, technology gaps with the U.S.A., a failure to exploit scale economies, a need to strengthen the EU Defence Single Market and improve the competitiveness of the European defence industry. There is also a lack of ‘pooling’ of resources, especially in defence R&D: Member States are often unable to afford to fund some defence projects where there are potential benefits of joint funding” (p. 506).

Ultimately, the key issue is whether the set of supranational policies can reverse these problems within a reasonably short time frame or whether, as the same author asserts, “Efficient European defence solutions require a single European state such as a federation” (p. 508).

Until that moment arrives, the relationships among the various actors involved in defence are taking multiple forms and are increasingly aligning with what Marsh et al. (2025) call the European Iron Network. In this regard, the numerous existing links between European defence firms and national governments have relegated national security to a secondary position. Indeed, there appears to be greater emphasis on material instruments or inputs — ships, aircraft, tanks, and so forth — than on the ultimate objective they are meant to serve: the security of each nation and, by extension, of the European Union as a whole.

It is important to underline the informal relationships that exist between public and private actors in policy formulation. These are conceived as networked governance structures, featuring multiple interconnected nodes that respond to highly diverse dynamics — ranging from external pressures on states (for instance, from NATO or the EU), to

geopolitical considerations (such as China–US–Russia relations), or the growing need for strategic autonomy and cooperation within the EU. These relationships are dynamic and evolve as the strategies of the actors themselves shift.

Thus, the relationships between supranational institutions, governments, and companies depend on policy orientations, mergers and acquisitions (M&A) among firms, the level of budgetary stimulus, pressure from leading countries, and proximity to decision-making centres. Consequently, large European defence companies — as well as civilian ones with dual-use products or services — seek to influence political decision-making through lobbying and informal networks.

This situation gives rise to a debate that the European Commission frequently brings to the table: spend more and spend better. Yet, reconciling these two goals is not straightforward (Hartley, 2023). From an economic perspective, the focus should shift from inputs — primarily defence spending — to outputs, namely, the necessary capabilities (air, naval, land, satellite, etc.) required to achieve the desired level of security and conflict prevention.

From an industrial standpoint, stimulating competition generally contributes to better outcomes, as it increases efficiency in capability provision. Similarly, from a military perspective, competition within the armed forces regarding the relative efficiency of different systems in confronting a threat may enhance security. For example, ground-based air defence systems often compete with aerial defence capabilities (Hartley, 2023). Clearly, this opens the possibility of replacing high-cost systems with others offering similar efficiency but at lower cost.

1.The Spanish Defence Industrial Policy

The Defence Industrial Strategy 2023 emphasises on numerous occasions the need to increase international support for the Spanish defence industry — an aspect already highlighted in the 2015 strategy. The continued emphasis of the current strategy on this issue can be attributed to several factors:

- The 2015 strategy was conceived prior to the creation and implementation of various European defence policy instruments and funding mechanisms, which now require certain adjustments. Nevertheless, the section on international support remains essentially similar to that of 2015, with the main difference being a stronger European impetus that demands greater national commitment.
- The results of the policy implemented between 2015 and 2023 have been inadequate, making it necessary to continue strengthening this area.
- Political resistance to increasing the defence budget has been constant over recent decades. Consequently, the “budgetary euphoria” brought about by NATO and EU demands since the war in Ukraine implies that new national resources, alongside

those from NATO and the EU, must be fully leveraged.

However, behind the policy of supporting Spanish companies in the international arena — particularly within Europe, the focus of the 2023 Strategy — lie numerous challenges, essentially stemming from four areas: the market, the political sphere, the institutional dimension, and the business sector.

4.1. Market Structure and Limitations

Market imperfections in the defence sector are abundant. It is, in practice, a planned market on the demand side and an oligopolistic one on the supply side. Ministries of Defence — all of them — function as central planners: they decide what to procure, the budget allocated, procurement methods, and even which firms are eligible to participate in certain tenders.

This setup generates multiple distortions, such as restricted entry, information asymmetry, and barriers preventing new firms from competing with established or national champions. These barriers may take the form of excessive administrative costs that SMEs cannot absorb, or by limiting international competition altogether.

Under these circumstances, resource optimisation is impossible (Keupp, 2021), yet the 2023 Strategy repeatedly stresses this goal. The Ministry of Defence must therefore adopt a proactive policy stance — though without crossing the fine line between protectionism and legitimate industrial support. That line, however, has often been crossed by EU member states, contributing directly to the persistent fragmentation of the European defence market.

4.2. Political and Institutional Constraints

Within the political realm, a major problem in Spain's international defence policy is the lack of a coherent long-term strategy that transcends partisan interests and constitutes a true state policy. The uncritical alignment of Spanish industrial policy with Brussels' directives significantly limits the scope and potential effectiveness of national initiatives. It must be acknowledged, too, that insufficient budgets have clearly constrained policy outcomes.

Time has also been a key factor. The absence of political guidance has delayed decision-making and produced substantial timing mismatches — as occurred in the early implementation years of the CSDP. Even the 2023 Strategy was published late from an industrial policy standpoint, since, by its own admission, the 2015 Strategy should have undergone a major revision in 2021 — the year when the EU's financial perspectives began.

4.3. Bureaucratic and Administrative Weaknesses

The bureaucratic dimension deserves special attention, given its direct influence on the execution of defence industrial policy. The Ministry of Defence — through the Secretaría de Estado de Defensa (Secretary of State for Defence), which oversees the Dirección General de Estrategia e Innovación de la Industria de Defensa (Directorate-General for Strategy and Innovation of the Defence Industry) — is the institution responsible for implementing this policy. It maintains direct contact with both companies and EU bodies on matters concerning funding instruments, new policy orientations, and related initiatives.

Nevertheless, it faces several operational difficulties, including:

- Insufficient staff to meet the growing administrative workload resulting from the EU's expanded defence agenda and the increase in national defence budgets.
- Coordination issues, both horizontal (with other ministries, to ensure policy coherence) and vertical (with firms in the sector). While the latter relationship is generally fluid, it often lacks adequate, continuous, and timely information flows, particularly affecting SMEs and start-ups.
- High staff turnover in Brussels-based positions, especially among military personnel, who rarely serve more than three years in the same post. Given the need for sustained interaction with EU institutions and the complexity of the defence policy ecosystem, this instability wastes institutional knowledge and disrupts continuity in decision-making.
- Limited professional expertise: many policy managers come from military backgrounds without formal training in industrial policy or programme management. Managing both national and European initiatives demands substantial technical experience and familiarity with institutional frameworks — competencies not always present (Villanueva-López, 2023).
- Lack of incentives: unlike in the private sector, the public administration offers no rewards for achieving objectives, diminishing motivation and efficiency (Keupp, 2021).

All these factors contribute to delays in decision-making, reducing the effectiveness of business support and leading to lost opportunities.

4.4. Business Structure and Coordination Challenges

The structure of the Spanish defence market itself imposes rigidities that hinder rational cooperation. Larger, more established firms often dictate the terms of collaboration with smaller ones, thereby extending their market power — even when SMEs bear a heavier workload within joint projects. The resulting imbalance in workload and funding allocation discourages SME and start-up participation in European initiatives.

Coordination among firms is another critical aspect. Sectoral associations typically include some, but not all, companies in the industry. Although they serve as intermediaries between the administration and the firms they represent, their coordinating role often remains secondary, as member firms pursue individual strategies that may diverge from collective positions.

After reviewing the difficulties affecting Spain's defence industrial policy implementation, it becomes evident that the growing role of the European Commission within the European defence ecosystem is reshaping firm behaviour and market structures — particularly in Spain. Overcoming these challenges requires structural reforms in areas such as political prioritisation, personnel, training, management, and the provision of timely, relevant information.

Competition for international and European defence contracts is increasingly fierce — not only for funding but also for early access to information. This environment demands agile, intelligence-based decision-making systems, such as automated search tools, which can provide valuable insights to firms. While such systems do not replace lobbying, they complement it and enhance efficiency.

There are more than 11,000 registered lobbyists in Brussels with the ability to influence EU directives and regulations (Lobby Planet, 2018). Establishing a coordinated Spanish defence industry lobby, in partnership with the Ministry of Defence, could significantly strengthen Spain's position by ensuring coherent representation across industrial segments. The 2023 Strategy, however, lacks clarity regarding the desired positioning of these segments — their priorities, or whether they should pursue more or fewer European projects (EDF, PESCO, etc.). This lack of definition undermines the effectiveness of industrial policy, or rather, of industrial policies, as each market segment (land, naval, space, etc.) has unique characteristics and needs.

Similarly, the 2023 Strategy's proposal to identify Strategic Defence Industrial Capabilities (Capacidades Industriales Estratégicas de la Defensa, CIED) remains at an analytical stage, despite the existence of ample data sources such as the DGAM's Company Register. Such an analysis would provide valuable guidance for industrial policy implementation and the establishment of clear objectives.

As a result of these shortcomings, many Spanish firms apply for European projects merely to participate, without clearly assessing their relevance or managerial capacity. This situation not only wastes resources but also burdens the Ministry of Defence with projects that fail to meet real operational needs.

Additionally, the absence of clear guidelines increases transaction costs (Williamson, 2005), arising from information searches, the lack of structured inter-agent relations (with the Commission, firms, etc.), and insufficient coordination among companies and

institutions. This effectively shifts transaction costs from policymakers to firms, making negotiations with EU entities more complex — a reversal of Rogerson’s (1992) argument on cost-shifting from industry to defence ministries.

While industrial policy inevitably entails implementation costs, these must be minimised and aligned with actual needs. Otherwise, they become sunk costs — unrecoverable and value-neutral. Effective institutional design is therefore essential to ensure that organisational structures match the demands of modern defence industrial policy, something that is currently lacking in Spain.

4.5. Structural Changes in the Spanish Defence Industry (2024–2025)

Between 2024 and 2025, significant changes have occurred in the structure of the Spanish defence industry. The forced increase in defence budgets and the need to compete in Europe against major firms have led to the creation of a national champion: Indra Group has emerged as Spain’s flagship defence company. Notably, it now manages more than €7.5 billion from programmes launched by the Ministry of Defence in 2025, either as the coordinating company or as a participant through temporary business associations (*uniones temporales de empresas*, UTEs).

This represents a major shift in Spain’s defence industrial policy, though one implemented hastily. Since the 2014 Cardiff Agreements with NATO, Spain could have both increased its defence spending and restructured its industrial base to establish a national champion much earlier. In the following years, it became evident that the scale of Spanish defence firms was insufficient to capitalise on the substantial EU resources made available — such as those from the EDF.

Nevertheless, this restructuring raises complex issues that require careful consideration.

- **Competition concerns:** A large proportion of investment resources will inevitably flow to the national champion, potentially reducing market competition if other companies are unable to participate in domestic tenders or if resources are allocated under Article 346 of the Treaty on the Functioning of the European Union to exclude European competitors.
- **Negotiation imbalance:** The Ministry of Defence’s bargaining power may diminish substantially compared with smaller suppliers (SMEs and start-ups), potentially leading to higher procurement costs.
- **Efficiency risks:** Larger firms are typically less agile, and historical trends of project delays and cost overruns suggest that the creation of a national champion may reduce efficiency if not properly managed.

Ultimately, Spain’s industrial policy must carefully manage these dynamics to prevent the problems that a firm of such scale could generate. Lessons from other European countries’ experiences may offer valuable insights for addressing these challenges.

5. Conclusions

The Spanish defence sector finds itself at a critical juncture. After years of insufficient investment, strategic indecision, and institutional inertia, the pressures generated by NATO, the European Union, and the war in Ukraine have finally forced a long-delayed transformation. The increase in defence expenditure, the establishment of a national industrial champion, and the progressive alignment with European defence initiatives collectively mark the beginning of a new phase.

However, this transformation remains fragile and incomplete. The challenges identified throughout this chapter — the lack of long-term strategic vision, bureaucratic inefficiencies, market distortions, and the insufficient integration of small and medium-sized enterprises — continue to hinder the consolidation of a coherent and competitive Spanish defence industry.

Spain's historical budgetary volatility in defence spending has created deep structural imbalances that cannot be corrected through short-term initiatives or one-off financial stimuli. Without a sustained commitment to stability, predictability, and strategic coordination, both at the national and European levels, the current momentum risks dissipating once political priorities shift.

The creation of Indra Group as a national champion represents both an opportunity and a challenge. On the one hand, it provides Spain with the industrial capacity to participate in major European defence projects and to strengthen its strategic autonomy. On the other, it may reduce competition, innovation, and flexibility if its growth is not accompanied by measures to safeguard market diversity and efficiency.

In the European context, Spain must deepen its integration into the evolving Single Defence Market by balancing protection of national interests with genuine cooperation and openness. Supranational policies, such as those promoted by the European Commission through the EDF, EDIRPA, and ASAP, provide significant opportunities, but taking advantage of them requires a coherent, professional, and technically equipped administrative apparatus.

In short, the Spanish defence industry's resurgence depends not merely on higher budgets, but on the capacity to translate those resources into lasting strategic value. This demands effective governance, continuous evaluation of industrial capabilities, and a shared vision that transcends political cycles. Only then can Spain move from being a reactive participant to an active architect of Europe's collective security and industrial autonomy.

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CONCLUSIONS

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The new global disorder caused by the breakdown of the old liberal order places the European Union in a situation of maximum vulnerability. On the one hand, Russia's invasion of Ukraine highlights the growing Russian threat. Putin not only wants to reincorporate into the Russian Federation territories that became independent after the implosion of the Soviet Union, but also intends to return the strategic situation to the end of the Cold War, rebuilding her area of influence around its borders and assuming the role of the dominant European power. To this end, the Kremlin is developing a hybrid war with cyberattacks, disinformation operations, sabotage of critical infrastructure, drone incursions and all kinds of actions in the so-called grey zone.

On the other hand, the Trump administration sees its European partners as a burden that the United States has borne for too long. Europe is no longer a priority for Washington, much more focused on rivalry with China in the Pacific and control of its American hemisphere. Trump wants Europeans to bear the costs and responsibility for their own security. Trump's attempt to annex Greenland and Europe's refusal to get involved in the fight against Iran have further weakened the transatlantic link and called into question NATO's very future. Without US support, it is impossible for Europe to deal with the threat from Russia, at least in the short term.

On Europe's southern flank, threats from terrorism, organised crime, mass immigration, failed states, along with the proliferation of conflicts and the risk of instability also persist. All these threats and risks directly affect European security. The crisis in the Middle East now threatens the supply of vital gas and fuels for the European Union, increases the cost of energy and disrupts supply chains for fertilisers and other essential products for our economies. The long-range missiles developed by Iran could reach European territory, as has already happened with British bases in Cyprus.

Finally, the relationship with China is not without economic, technological and security risks. The invasion of Chinese products such as electric vehicles, solar panels or wind turbines, among many others, provoke the growing deindustrialisation of Europe. China's technological development leaves the European Union out of the race in Artificial Intelligence and other critical technologies. In the cybernetic and cognitive sphere,

Chinese assertiveness is increasing. Europe's growing dependence on rare earths and essential supply chains makes Europe's vulnerability to China ever greater.

To deal with this new strategic scenario, the European Union basically has to do three things. The first is to equip itself with a political capacity as its own strategic actor. The second is to develop a command, communication and intelligence structure that allows it to plan, execute and train multi-domain operations jointly among all partners. Thirdly, it is urgent to provide the European armed forces with a deterrence and combat capacity that they now lack after many years of strategic neglect.

On this last point, the development of the military capabilities necessary to ensure an autonomous defence of the European Union, our defence industry plays a crucial role.

Germany: the European industrial giant is waking up

Germany has a strong industrial sector, but it faces structural bottlenecks, bureaucratic slowness and insufficient production capacity to respond to the new demands arising from the war in Ukraine. The turning point or "Zeitenwende" represents an opportunity for the future development of the sector, overcoming the serious problems inherited from decades of cuts.

Germany was one of the European countries that most intensely squeezed the dividends of peace after the end of the Cold War. Thus, between 1992 and 2021 it experienced a drastic reduction in its military inventories, reaching reductions of more than 90% in essential capabilities, such as tanks or artillery. To give just one example, tanks went from 6,684 in 1992 to 339 in 2021 (−94.93%).

Despite this drastic cut in its military capabilities, its defence industry remains one of the largest in the world: 5.6% of global export share, fifth position in the world, with large companies such as Rheinmetall, Hensoldt, Diehl and RENK very well placed in the European ranking of the sector. However, the German defence industry is still in the recovery phase after decades of disinvestment and precariousness of personnel and supplies.

Currently, German industry generates around 31,000 million euros per year and employs 105,000 workers (2022 data), but it is in a moment of clear expansion. It identifies itself as a critical pillar of the Zeitenwende, but to date it is still "in limited manufacturing mode, not mass production" despite Russia's invasion of Ukraine.

The main difficulties for faster growth, in line with the strategic urgency and the increase in investment in density, lies in excessively slow procurement processes even after the approval of the Bundeswehr Procurement Acceleration Act and other directives such as procurement processes. The application of this new regulation is slow and complex. On

the other hand, there is a perceived lack of budgetary security in the sector: the special defence fund was at risk of being exhausted in 2027 without new measures.

Other significant difficulties include a shortage of skilled labour, a lack of incentives for SMEs to take risks and increase production, and external dependence on critical raw materials for the production of military systems at a time of high geopolitical volatility.

In order to achieve a faster and more coherent development of the German defence industry, aligned with its new security and defence policy and which can contribute to the necessary rearmament not only of Germany but also of the European Union, a transition from a "resilience economy" model to more agile processes is required. with greater investment and European coordination. There is also a problem of scale in its industry, which still has very limited production capacities to meet a growing demand. In this sense, the conversion of other industries with overcapacity, such as the automobile sector, to the defense sector is accelerating the process.

France, a sector on the defensive

France has been the most advanced and autonomous defence industry in the European Union to date. However, at the present time it faces the risk of losing industrial influence in the new world order if it does not accelerate and strengthen its Defense Industrial and Technological Base (BITD), especially in the face of the accelerated growth of competitors such as Germany.

This perception of a potential loss of French competitiveness, especially in the face of the German industrial boom, is increasingly felt both in the political sphere and in the industrial sector itself. It is stressed that French policy must stop being merely declarative and be translated into concrete measures to support the sector.

The current situation of the French defence industry is paradoxical. On the one hand, France has a strong Industrial Base but on the other, there is growing concern about being left behind in the face of the impressive growth of companies such as the German Rheinmetall that in 2024 multiplied its value by four.

France could thus be displaced from its European industrial leadership if it does not react quickly. This would have a significant impact not only in terms of employment, but also on its technological sovereignty and its ability to influence Europe.

To avoid this loss of industrial leadership, France should adopt a more active industrial policy, with specific measures. However, this possibility is limited by a very narrow fiscal margin and its doubts about European projects that could limit its autonomy or call into question its current leadership.

Italy seizes its opportunities

The Italian defence industry is like a highly exporting pyramid, with large leading companies at the top such as Leonardo and Fincantieri and an extensive base of SMEs. The model also has a strong orientation towards international cooperation. However, the sector also has important structural weaknesses such as low private investment in innovation, administrative rigidities, vulnerability of SMEs and shortcomings in areas such as drones and battle tanks.

As a whole, the sector has a significant size, with an annual turnover of 20,000 million euros (2023), 68% of its sales coming from exports and direct employment of 54,000 workers and indirect employment of another 181,000. It also has a "full-spectrum" DTIB, with design authority on helicopters, training aircraft, ships and land vehicles.

Currently, its main industry, Leonardo, is the 13th largest contractor in the world and 3rd in Europe (SIPRI 2023) and is in a phase of international expansion. Fincantieri is the leading shipbuilder, with in-depth cooperation with Naval Group and TKMS.

Italy also participates in major European and international programmes, such as Eurofighter, Eurodrone, Samp-T and the F-35. This latest program has allowed Italy to have the only assembly plant for this aircraft outside the U.S. in Cameri. Italy also participates in a sixth-generation air combat platform project, the GCAP, together with the United Kingdom and Japan, where Leonardo is a Lead System Integrator.

The good prospects of the Italian defence sector of being limited by hostile investment operations in the sector, limited access to credit for its national industries and lack of private investment in risk, the heavy Italian and European bureaucracy and the lack of qualified labour given the scarcity of STEM profiles and rigidity of the labour market. There is also a problem of capacity to meet a growing demand, especially in systems that are intensively demanded in the conflict in Ukraine, such as air defence elements or precision fire in depth.

From a technological point of view, its main weaknesses are the inability to develop battle tanks (the Ariete platform became obsolete) and the weakness in the production of combat drones where the main alternative would be a joint venture with Turkey (Baykar).

In short, revolutionary changes in the sector are not foreseeable, but there are good prospects. Its GCAP combat system could successfully compete with the F-47, especially after the failure of the Franco-German FCAS. The sector is also in a process of consolidation through mergers such as D-Orbit/Planetek or the purchase of IDV by Leonardo. Finally, Italy can acquire a growing role in the consolidation of the European defence sector through Leonardo's cooperation with Rheinmetall, Fincantieri with Naval Group or the success of the MBDA missile consortium, among other initiatives.

Poland: an emerging sector

Poland has become the NATO country that invests the most in defence, boosted by its proximity to the Russian border and the impact of the war in Ukraine. With an expenditure of 4.5% of GDP in 2025, it is carrying out a massive modernisation of its Armed Forces and an unprecedented expansion of its defence industry. The sector grew through large foreign acquisitions, co-production, expansion of factories and recovery of the naval sector. However, there are also important constraints: dependence on imports, low ammunition production capacity and industrial saturation.

Poland leads in defense spending within NATO. The process of modernizing its armed forces is impressive: acquisition of Korean Abrams and K2 battle tanks, F-35 fighter jets, Patriot defense systems, HIMARS rocket batteries, etc. Its Technical Modernisation Plan foresees an investment of €130,000 million between 2021–2035.

This enhancement of its military capabilities is in turn accompanied by an accelerated expansion of its industrial base, with the creation of new companies, new factories and an increase in the capacity of existing ones. International cooperation (the US, the UK, South Korea) is decisive for both processes, military modernization and industrial expansion.

The industry is operating at full capacity, with new investments and orders linked to the war in Ukraine. Its main company, PGZ, is expanding and already ranks 70th in the global listing (Defence News, 2022).

Massive increases in production are being generated. The production of its Grot assault rifle has gone from 17,000 units in 2022 to 100,000 planned in 2026 and the production of the Krab SPH self-propelled howitzer is saturated, which means that it must be complemented with Korean K9s. The shipbuilding sector is being reborn with the Miecznik frigate program, based on British technology and Thales systems. Nitro-Chem has expanded its TNT production capacity, operating 24h/day.

All this progress does not hide the excessive dependence on imports that still persists and that reaches around 70% of its investments. This also creates the existence of a multiplicity of systems (PT-91, Leopard, Abrams, K2) that makes maintenance more expensive and reduces autonomy. Its industrial capacity is still insufficient with the manufacture of Krab completely saturated. There are shortages of ammunition with a production of 30,000–40,000 projectiles/year, an amount that in a high-intensity conflict can be consumed in days and there are finally doubts about the ability to sustain defence spending close to 5% of GDP in the long term.

If anything, Poland seems firmly determined to build one of the largest and most modern armed forces in Europe, with the goal of reaching 300,000 soldiers by 2032. Industrial

expansion will continue at the same time: new ammunition factories, co-production with the US/Korea, naval recovery. The country is also positioned as a regional leader and benchmark in NATO, with a central role in European security. All this constitutes an excellent development opportunity for its defence industry.

United Kingdom: The Return of the Prodigal Son

The British defence industry is highly consolidated, with historical continuity and a strong presence of national companies (BAE Systems, Rolls-Royce) and foreign companies (Leonardo, Airbus, Thales, RTX, Lockheed Martin). The UK maintains key sovereign capabilities in submarines, combat aviation, engines and missiles. The new 2025 industrial strategy prioritises economic prosperity, cooperation with industry, support for SMEs and resilience. Significant challenges remain: external technological dependence, supply chain vulnerability, lack of drone strategy, and budget uncertainty.

The United Kingdom, unlike the rest of the European powers, did not suffer the dismantling of its industrial base after the Second World War. Unlike Germany, Italy and Japan, the United Kingdom did not lose any war that led to the forced dismantling of its defence industrial assets.

A second characteristic of the British defence sector is its strong concentration in a small number of companies, including BAE Systems and Rolls-Royce, which are sole suppliers for critical capabilities and are protected with "golden shares" by the state. However, there is a progressive integration of European and American capital in the sector.

The naval and land sector is supported by BAE Systems, Babcock and the Rheinmetall-BAE alliance that manufactures the Challenger 3 main battle tank and the ve'hi Boxer. Leonardo UK concentrates advanced capabilities in radars and electronics, despite being Italian-owned.

The new Defence Industrial Strategy (2025) boosts export capacity, innovation and public-private cooperation in the sector. The future GCAP air combat system, in cooperation with Italy and Japan, is moving forward with a "minimum viable product/capability by 2035" approach.

Risks to the industrial development of the British defence sector include the absence of an industrial strategy for drones, the risks of US political pressures on acquisitions and technology transfer, vulnerability in critical components and sensitive materials within the supply chain and financial uncertainty, with delays in the 2025 Defence Investment Plan. Looking to the future, the UK will drive growing cooperation with European partners, especially Germany and France, and will continue to develop GCAP as a major technological bet. There will also be a commitment to integrate AI, digitalisation and autonomy, avoiding greater technological dependence.

Spain, in search of a national champion

Spanish industry is in a moment of full restructuring after years of insufficient investment and a weak industrial policy. The attempt to create a "national champion", Indra, not without turbulence, is transforming the sector, although with significant risks to competition and efficiency.

Largely as a result of NATO pressure and to a lesser extent the Spanish position in the war in Ukraine, Spain has begun to increase its investment in defence and a simultaneous transformation of the sector. Our country has already reached 2% of GDP for military spending by 2025, but the Spanish government is reluctant to continue increasing it to the 3.5% set as a common objective at the Alliance's Hague summit.

This restructuring of the sector is also limited by the persistence of structural problems such as the lack of a long-term strategy, administrative rigidities, market fragmentation and poor integration of SMEs.

Between 2024 and 2025 there have been "significant changes" in the industrial structure of the sector in Spain, with Indra managing more than 13,000 million euros in Ministry of Defence programmes awarded in 2025 covering the next decade. Spain is also looking to integrate more into the European market and take advantage of funds such as EDF, EDIRPA and ASAP.

The problem is that this restructuring is generating an oligopolistic market in which, in contrast to planning on the demand side, there is excessive concentration on the supply side. Added to this is a lack of a long-term state strategy, cumbersome bureaucracy and a shortage of personnel, the weakening of the SME fabric due to lack of support and asymmetries vis-à-vis large companies and an absence of strategic industrial capabilities analysis (CIED): the 2023 Strategy announces it but does not develop it.

In relation to the new national champion, there are also some associated risks that we must mention, such as potential less competition in the domestic market, the Ministry's loss of bargaining power against the industrial giant and the risk of inefficiencies due to size: "Larger companies tend to be less agile and sometimes generate delays in projects and cost overruns".

In this situation, the recovery of the sector depends on the convergence of a series of factors, including effective governance, long-term budgetary stability, a greater capacity to integrate SMEs into the sector and the professionalisation of the administration. In short, the "resurgence of the Spanish defence industry depends not only on higher budgets but also on effective governance... and a shared vision that transcends political cycles".

Portugal: specialisation and internationalisation

Portugal has not invested enough in defence over the last 50 years. The end of the Ultramar War and the independence of the overseas territories explain an initial decline in the level of investment. However, from this point onwards, the reasons for the lack of investment are numerous and common to Western European countries, ranging from the overvaluation of the social pillar of guarantees and rights or the “green” transition to the devaluation of the functions of sovereignty associated with a lack of responsibility based on naive trust in unlimited American protection and, especially after 1990, in a utopia of perpetual peace.

Now days the feeling of insecurity has made investment in defence a priority, and this political choice is clearly evident in the fact that, by 2025, it should reach 2% of GDP, an absolute value of almost €6 billion and a per capita value of USD 27,200, the highest in recent decades (NATO, 2025). The Ministry of National Defence's budget was executed at almost 100% in 2024, a radical change from the execution rates seen in previous years.

The defence industry in Portugal has more than 420 companies and research centres operating in dual use in 45 different sectors, with 60 new companies joining the industry in 2025. Most Portuguese companies are small (62% of the total), with defence being complementary to their core business and having limited weight. They mainly operate as suppliers of components, parts and services for integration into different weapons systems provided by major manufacturers. There are also some larger Portuguese companies (12.5% of the total) whose main business is defence. However, despite their large size nationally, they are only of medium size internationally.

In total, the National Defence industry sells €8.7 billion annually, of which approximately 40% is in defence products and services, and employs 46,000 highly qualified people. Defence has a strong export focus, with approximately 35% of their sales made abroad, exceeding the national average of 23% of total sales and representing 2.3% of national exports in 2024.

To strengthen its autonomy, Portugal is creating the conditions and knowledge to advance towards the production of aerial, land-based, and naval platforms, the development of unmanned systems in the air, on land, at sea, and underwater, and the incorporation of disruptive technologies such as Artificial Intelligence, already used in drones, or quantum technology applied to encrypted communications on Earth or in space.

The national industry is unable to manufacture all the equipment needed by the armed forces. For this reason, the development of the defence industry involves the international affirmation of areas of specialisation in order to achieve scale, develop technologies, establish partnerships, control the different stages of the value chains and obtain lower

average production costs so as to be able to offer competitive prices and sales conditions. This includes the possibility of integration into the supply chains of major manufacturers and access to institutional procurement agencies (NCIA, NSPA) and to private financing instruments and international organizations.

In the long term, closer ties with distant countries such as Australia, Japan, South Korea, New Zealand and India could increase the importance of the maritime dimension. The growing rapprochement with countries that share our core values of freedom, the rule of law, democracy and a free market economy will always be a long-term prospect that should not be overlooked.

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