

# Europe's Changing Defence Industry in the of Face of War

April 2023

Research Directors:

Lucy Bather and Matthew Johnson

Contributors:

Senior Analysts: Boyan Tsonev and Lāsma Kokina;

Research Analysts: Albert John Welirang, Carlo Teodoro Da Cas, Christopher Healey, Nathan Alan Lee, Pau Álvarez Aragonès, Raadhika Tandon



# Table of Contents

<b>SECTION 1. FLOWS OF MILITARY EQUIPMENT INTO UKRAINE</b>	<b>4</b>
<b>1.1. BASIC MAPPING</b>	<b>4</b>
<b>1.2. COUNTRIES PROVIDING MOST MILITARY EQUIPMENT</b>	<b>5</b>
<b>1.3. FULFILMENT OF PLEDGES TO UKRAINE</b>	<b>5</b>
<b>1.4. IS MILITARY SUPPORT FROM EUROPE SUFFICIENT?</b>	<b>6</b>
<b>SECTION 2. REGIONAL LANDSCAPE</b>	<b>7</b>
<b>2.1. REGIONAL ACTORS AND BODIES</b>	<b>7</b>
<b>2.2. RELEVANT POLICIES</b>	<b>8</b>
<b>2.3. FUNDING</b>	<b>9</b>
<b>2.4. PRIVATE SECTOR INVESTMENT</b>	<b>12</b>
<b>2.5. R&amp;D</b>	<b>14</b>
<b>SECTION 3. KEY STAKEHOLDERS</b>	<b>17</b>
<b>3.1. KEY PLAYERS WITHIN SUB-SECTORS OF DEFENCE INDUSTRY</b>	<b>17</b>
<b>3.2. MAJOR COMPANIES OF THE DEFENCE INDUSTRY</b>	<b>23</b>
<b>SECTION 4. COUNTRIES TO OBSERVE</b>	<b>27</b>
<b>4.1. POLAND</b>	<b>27</b>
<b>4.2. FRANCE</b>	<b>29</b>
<b>4.3. ITALY</b>	<b>32</b>
<b>4.4. UNITED KINGDOM</b>	<b>34</b>
<b>CONCLUSION</b>	<b>36</b>



# Executive Summary

*Matthew Johnson*

When thousands of kilometres of land and ocean sit between us and conflicts, it can be a natural outcome to not feel the reverberations war can have on others. However, the majority of the world took notice when President Vladimir Putin unveiled Russia's "special military operation" which led to the full-scale invasion we have become all too familiar with. Since the 24 February 2022, the ripple effects of the war went beyond not only the borders of Ukraine but also those of Europe. As countries from across the world began to feel the economic effects, from major supply chain disruptions to the repercussions of Western sanctions against Russia, reasons to end the war sooner rather than later increased. At the same time, while Ukrainians were in dire need of humanitarian aid, their willingness to defend their country meant the need for military aid from other countries would become vital.

The following report breaks down the military assistance governments have provided since the beginning of the invasion. A key aspect of the report analyses how such provisions have also impacted Europe's defence industry. Section 1 provides a clear image of the flows of military equipment that have been going into Ukraine, focusing on major suppliers from within the European Union. Based on data collected by the Kiel Institute of the World Economy, contributions by EU member states (commitments in % of GDP) are found to be widely varied across the board, with Germany, Poland and the Netherlands creating a major disparity in military equipment contributions amounting to 45% (€8 billion worth of weapons) of total commitments by EU member states. The question as to whether current military support from European actors is sufficient is also posed in Section 1.4 which finds contributions of military equipment and the defence industry's production levels of munitions must be increased if any form of victory for Ukraine is to be achieved.

Section 2 analyses in-depth the key regional actors and the policies which have shaped Europe's defence industry. Alongside the key political figures and agencies that continue influence the industry, the report dives into the public defence budgets (e.g., 2% of GDP targets) and the rising trend of funding from the private sector serving to boost small and medium-sized enterprises. Private investors, such as venture capital firms and private equity investors, offer themselves as a critical source of funding to fill the gaps where defence budgets prove unable to provide. The section also draws upon challenges the EU faces, particularly focusing on the lack of R&D defence spending. A critical example being how EU spending in 2019 amounted to only €9 billion which is pale in comparison to the United States' \$80 billion on R&D alone.

The final sections provide a detailed review and analysis of key stakeholders in the defence industry (Section 3) in addition to offering four country case studies: Poland, France, Italy and the UK (Section 4). Both sections serve to complement each other as the former offers an



impressive scope looking into the defence industry companies while the four country case studies each provide an in-depth analysis into each country's defence industry. The countries selected provide interesting contrasts to one another, offering a varied yet informative understanding into the European defence industry.



# Section 1. Flows of Military Equipment into Ukraine

*Boyan Tsonev*

## 1.1. Basic Mapping

According to [compiled data](#) between January 24, 2022 and February 24, 2023, donations to Ukraine spiked in the weeks following the invasion. Thereafter suffering a decline, in some cases severe, during the summer, and then spiked again between October and December 2022. From January 2023, total commitments are once again in decline. Unlike the US, most European countries, and especially the EU as an organisation, have struggled to maintain a steady flow, with large pledges being characterised not by the EU itself, but by cyclical actions of individual governments.

In absolute terms of billions of dollars, the [United States](#) is the largest bilateral supporter of Ukraine, having provided more than [€70 billion](#) until January-February of 2023, with 6% of it being military aid. Meanwhile, the [institutions](#) of the EU have contributed more than €35 billion until February 2023. The EU as an organization has focused on the financial and humanitarian aspects, leaving most of the direct military aid to bilateral actions between its members and Ukraine. However, this has been done for public image reasons, as the financial aid provided by the EU to Ukraine through the European Peace Facility instrument serves to acquire lethal weaponry. Currently, the EU has provided [seven packages](#) with a total worth of €3.6 billion.

On the other hand, bilateral [aid](#) by EU members amounts to €26 billion, with more than half of it being military (€19 billion). Several countries from Central and Eastern Europe stand out in the percentage of bilateral aid as a [share](#) of GDP. As these EU members have less economic power, looking at the bigger picture, the support for Ukraine could be higher if there was political will for it. The aid provided until now pales when compared to other data. The EU has prioritised, and still does, its own problems, having mobilised large [funds](#) for domestic energy subsidies (more than [€600 billion](#)). The gap is more striking when comparing the EU's [pandemic recovery](#) to its support for Ukraine, with the former being 14 times larger. Furthermore, EU [energy payments](#) to Russia between March 2022 and February 2023 amount to around €140 billion. This is more than double of the total help provided to Ukraine to date.

Several European countries have taken advantage of Ukrainian military needs to reinvigorate their stocks through a “[ring exchange](#)”. Poland, Czech Republic Slovakia, Slovenia, or Greece are clear examples. Having sent their Soviet legacy equipment to Ukraine in exchange for western modern replacements, mainly from Germany and the US.



## 1.2. Countries Providing Most Military Equipment

All EU members, except Hungary, have provided some type of material aid to Ukraine, but with disparities. Ireland and Austria have provided only non-lethal aid, while others such as Italy, Czech Republic, and Greece have provided only lethal aid. The rest of the EU has provided both lethal and non-lethal aid. Regarding Hungary, despite its opposition to involve itself in the war in any way, there have been recent [reports](#) of non-material military aid in the form of training for Ukrainian medic personnel.

As of February 2023, Eastern and Central European member countries are among the [top donors](#) of bilateral military aid to Ukraine by [share](#) of GDP. The three Baltic countries and Poland are in the top 5, with their aid ranging from 0.6% to more than 1.0% of their GDP. They are followed by the Netherlands and Czech Republic, among others. Estonia is one of the few whose bilateral aid is almost in its entirety military.

In regard to military bilateral [commitments](#), Germany, Poland and the Netherlands are the top three EU members, with around €8 billion worth of weapons. This figure illustrates the disparity of contribution, as it is 45% of total EU member military commitments. Nonetheless, quantifying the real military aid has its challenges. Not all countries have committed the same amount of weapons, and their cost can influence data. For example, Bulgaria's case is a paradigmatic one as it exemplifies the difficulties that arise when attempting to precisely assess military aid and navigate between official and unofficial data. [Data](#) shows that its military aid for Ukraine amounts to €0.24 billion, however the war has hugely [benefited](#) private brokers and according to [reports](#) and [interviews](#) with both Bulgarian and Ukrainian officials, the country supplied around one-third of the ammunition and up to 40% of the [fuel](#) Ukraine needed during the early stages of the invasion. The value of [munitions](#) and weapons supplied to Ukraine by Bulgaria could [amount](#) to €1 billion. This type of [trend](#) has been observed among other Balkan countries such as Serbia and even Bosnia. [Poland](#) and the [Czech Republic](#) are two of the most prominent European [donors](#) for Ukraine in regard to the provision of heavy weapons, especially Main Battle Tanks and (MBT) and Multiple Launcher Rocket Systems (MLRS). They have provided almost half of the total amount of MBTs to date, some of them [modern](#) soviet-legacy systems [updated](#) closer to NATO standards. They have also offered [repairs](#) for damaged [equipment](#) and their [industries](#) are experiencing a huge benefit that could help in the long term.

## 1.3. Fulfilment of Pledges to Ukraine

If we take into consideration heavy weapons, one year after the war, not all that was promised by the end of 2022 has been provided. Heavy weapons [commitments to](#) Ukraine amount to 504 howitzers (155mm), 89 MLRS, 632 MBTs and more than 50 SAMs. Of this, almost 200 howitzers, 27 MLRS, 257 MBTs and 44 SAMs are still to be delivered. On average, EU



countries have been ready to provide around 6% of their [available stocks](#) of howitzers, MBTs and MLRS. Czech Republic and Denmark pledged and delivered more than 20% of their average heavy weapon stocks. Poland has pledged their 20% and delivered it almost in its entirety and Slovenia has delivered around 12% of the total pledge of heavy weapons. There are small exceptions, however, with examples of many others such as the Netherlands, Germany or Italy having not provided the entirety of the heavy weapons promised.

#### **1.4. Is Military Support from Europe Sufficient?**

In terms of total MBTs, howitzers, and MLRS that have been provided, including Ukrainian pre-war stocks, military aid remains short and represents a small fraction of what Ukraine started the war with. Ukraine's pre-war [stocks](#) were clearly inferior to Russia's, but still quite significant. It had 858 MBTs ready for combat, with more than 1000 in store, 740 howitzers, 354 MLRS and more than 400 SAM systems. For its part, Russia [had](#) more than 3000 MBTs, 2300 howitzers, and roughly more than 1000 MLRS and 1700 SAMs (not all deployed on the Ukrainian theatre, especially SAMs). According to the Dutch investigative portal Oryx, Russian [losses](#) have been abysmal, more than anything on its armoured core. Confirmed Russian MBT visual losses would amount to half of its pre-war combat ready stocks, however, it still enjoys a considerable quantity superiority there as well as in the rest of the fields. On the other hand, Ukrainian [losses](#) are fewer in quantity, but nonetheless significant because the country lacks Russia's soviet-legacy pool, which, nonetheless, is being [drained](#) fast. Ukrainian visual losses amount to more than 480 MBTs, 400 artillery pieces, 40 MLRS and 90 SAMs (among these figures included are the confirmed visual losses of military aid provided after the start of the war). It should be considered that losses on both sides could be somewhat higher, as not every situation where that happens is necessarily recorded.

The capacity and economic consequences from sustaining Ukrainian military needs in the [long term](#) have been put into [question](#) several times. After years of inconsistent funding, supply chain fragility or lack of a common defence market, most of Europe's defence industry has been caught [off guard](#) by the war. The situation regarding something as basic as munition for small arms or artillery is severe, as calls for [long-term rearming](#) plans gain momentum. The US is [increasing](#) the volume of its packages for Ukraine with transports, radars, bridging systems and other support equipment that will be needed the newly formed Ukrainian [brigades](#) that will operate western equipment. Europe must take note of that if it wants to help Ukraine and also boost its own capacity. The recent EU decision to [top up](#) its fund for procuring military aid to Ukraine, with an emphasis on munitions, is significant. The European Defence Agency (EDA) [project](#) aims to both help Ukraine and boost member's stockpiles with a two-year fast track procedure for procuring artillery rounds (155mm) and a seven-year project for multiple types of small arms rounds. The continent is [struggling](#) to keep up with the war of attrition in some areas and, despite the calls for [collective action](#), the challenge for the European defence industry is to ramp up production for a long-term war that could go beyond 2023.



## Section 2. Regional Landscape

*Lucy Bather, Pau Álvarez Aragonès and Nathan Alan Lee*

At the heart of Europe's ability to modernize its defence industry and encourage collective action when it comes to ramping up production are the policies implemented at the regional level. Within Europe measures are established by regional alliances and institutions such as the EU and NATO. With the policies of the latter having a geographical scope that extends beyond Europe, the key focus of this section will be the measures taken by the former.

### 2.1. Regional Actors and Bodies

There are several EU actors that play a significant role in encouraging regional arms procurement and shaping the European defence industry. One primary actor being the [High Representative of the Union for Foreign Affairs and Security Policy](#) (HRVP) which has a key role in integrating the overall direction of the EU in shaping defence policies and coordinating the work of the [European External Action Service](#) (EEAS) on defence matters. The HRVP and the EEAS are the political arm of EU defence procurement.

The European Defence Agency (EDA) is the specialised EU agency that develops the EU's defence capabilities by promoting cooperation and collaboration among member states. It was created in 2004, and aims [to](#) “improve European defence capabilities in the field of crisis management and to sustain the European Security and Defence Policy.” While the HRVP and the EEAS represent the political direction of the EU's position in defence procurement, the EDA embodies the more technical part. The technical expertise is specially based on the development of new defence technologies which private prime contractors of the European defence market assist the EDA on. The EDA [maintains](#) an Overarching Strategic Research Agenda (OSRA) to construct a technological and coordinated response to technical challenges. In doing this, the agency also functions as an oversight body, reviewing expenditure and investment in defence related research, and providing input to the European Defence Fund (EDF). The EDA's Technology & Innovation Directorate is further comprised of two units: the EU-funded Defence Research Unit, which supports EU funded defence research projects, and the Technology and Innovation Unit, which facilitates the work of the Capability Technology Groups (CapTechs) and manages ad-hoc research demands of the Strategic Research Agenda.

The Directorate-General for the [Defence Industry and Space](#) (DG DEFIS) was created in 2021 to lead the European Commission's activities in the defence and space sectors. Some of its tasks were transferred from the Directorate-General for Internal Market, Industry, Entrepreneurship, and SMEs (DG GROW) to streamline operations and develop a more integrated approach to





policy. DG DEFIS works closely with other EU institutions and agencies, as well as with member states and industry stakeholders, to promote the development of a competitive and innovative European defence industry. Its responsibilities include policy development, programme implementation, and external relations, all geared towards supporting EU defence capabilities and autonomy.

### Key Figures

- Josep Borrell is the current head of the EDA in addition to his position as the High Representative of the Union for Foreign Affairs & Security Policy/Vice-President of the European Commission. Borrell has been a significant advocate for supplying Ukraine with arms and further developing the EU defence industry capacity.
- Jiří Šedivý is the Chief Executive of the EDA, a former Defence Minister of the Czech Republic (2006-2007), NATO Assistant Secretary General for Defence Policy and Planning (2007-2010) and Permanent Representative of the Czech Republic to NATO (2012-2019). Šedivý has likewise noted that the war in Ukraine is an opportunity to foster deeper defence ties within the EU.
- Thierry Breton is the current EU Commissioner for the Internal Market, former French Minister of Economy, Finance and Industry (2005-2007) and CEO of several companies including: Atos (2008-2019), France Telecom (2002-2005), and Thomson Multimedia (1997-2002). In line with other key figures, Breton has suggested that the EU take a “war economy” footing when it comes to deterring Russia and supplying Ukraine's effort.
- Timo Pesonen is the current Director-General (DG) in charge of the EDF (2020-present), a former DG for Communication (2015-2019) and for Internal Market, Industry, Entrepreneurship and SMEs (2019). Pesonen has emphasised the need for enhanced EU defence autonomy and resilience in the face of Russian aggression, and the role which DG-DEFIS will have in bridging these gaps.

## 2.2. Relevant Policies

The European Defence Procurement Directive (EDPD) is a set of regulations that aim to harmonise procurement procedures for defence contracts across EU member states. The directive, approved in 2009, aims to increase transparency, competition, and efficiency in defence procurement by creating a single market for defence products within the EU. It also includes provisions for the protection of sensitive information and the promotion of innovation in the defence sector.



The Permanent Structured Cooperation (PESCO) is part of the EU's [Common Security and Defence Policy](#) (CSDP), which was established in 2017 as part of the EU's broader efforts to enhance its capacity for autonomous action in security and defence. The CSDP executes military or civilian missions to promote peace and prevent conflict abroad, however it is also concerned with strengthening collective self-defence. The aim of PESCO is to deepen [defence cooperation](#) among EU member states through a common [legal framework](#) for collaborating on planning, developing, and investing in shared projects.

The [Capacity Development Plan](#) (CDP) of defence is a long-term plan adopted by the European Union approved in 2018 aimed at enhancing the capabilities of member states in the defence sector. It focuses on the four main [areas of capacity development in defence](#): (1) military, (2) civilian, (3) institutional, and (4) industrial. The function of the CDP is based on assisting the EDA in integrating the EU member states' armed forces in readiness and effectiveness, crisis management and peacekeeping operations capacity, as well as the promotion of innovation and competitiveness in the EU defence industry.

The EU's [Strategic Compass](#) is of the bloc's most recent strategies that has been introduced following Russia's invasion of Ukraine. The strategy, which was approved by the Council of the European Union in March 2022, aims to bolster the EU's defence and security policy by 2030. It seeks to enhance military mobility creating of a strong rapid deployment capacity of up to 5,000 troops, strengthen the bloc's intelligence capacities, encourage investment in R&D and strengthen relations with strategic partners such as the EU and NATO. It serves as an updated version of the [EU Global Strategy](#) (EUGS) implemented in 2016.

## 2.3. Funding

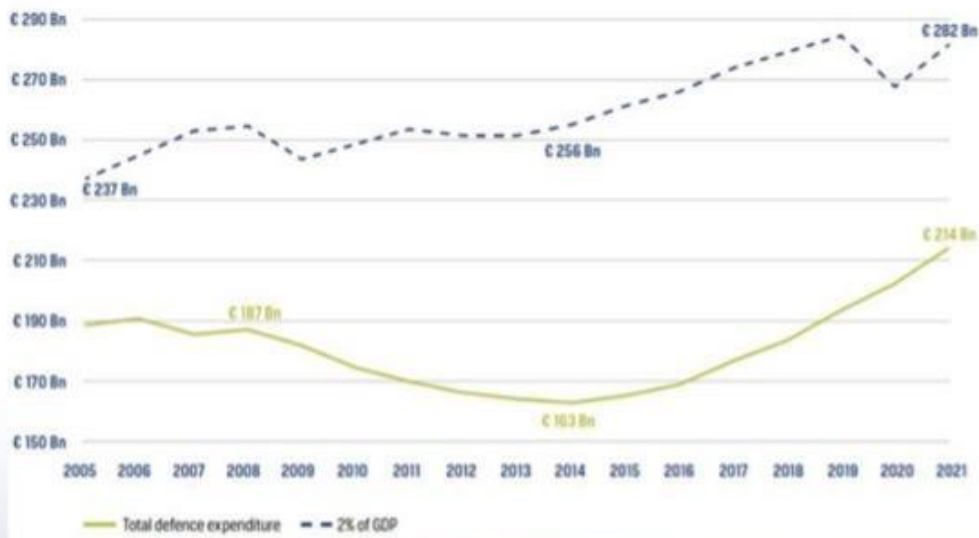
### **Increased spending at the national level**

As the EDA has recognised, following the Russian annexation of Crimea in 2014, there has been a shift in defence spending for many countries. Specifically, European countries are attaching greater importance to the 2% of GDP spent on defence spending requirement as set by NATO considering it the common minimum for advancing defence cooperation.

Across Europe, countries have committed to expanding defence budgets since Russia's invasion of Ukraine in February 2022. Germany, for example, in the days following the invasion, announced a €100 billion [special fund](#) for military equipment modernisation, whereas Poland has pledged to increase spending to 3% of GDP by 2023 and signed this commitment into law through its [Homeland Defence Act](#). A willingness to increase defence spending forms part of a broader trend that extends further back than February 2022. Indeed, defence expenditure grew at a compounded growth rate of 6% between 2015 and 2021 (see graph below). This trend shows that defence expenditure has remained resilient to the economic impact of the COVID-19 pandemic.



### TOTAL DEFENCE EXPENDITURE AND 2% OF GDP GUIDELINE (CONSTANT 2021 PRICES)



Source: European External Action Service

The war in Ukraine, has compelled European countries to approach defence spending with added urgency and momentum. As the EDA noted in its 2022 [Coordinated Annual Review on Defence Report](#) (CARD), the most visible response from member states to the transformed security environment is defence spending increases. Investment has equally been singled out as one of the core pillars of the EU's [Strategic Compass for Security and Defence](#) launched in March 2022 against the backdrop of a too large a gap between the EU's military and civilian capabilities and a desire to strengthen the EU's defence base. What is likely to precipitate as a result is a larger increase in defence spending than may have initially been forecasted. Models constructed by [McKinsey](#) reveal that if Russia had not invaded Ukraine, European defence spending would have grown by 14% between 2021 and 2027. However, with the coming of the invasion, defence expenditure is now expected to increase by between [53 and 65%](#).

The EU's multiannual financial framework (MFF) funds expenditure at the EU level and aims to complement expenditure allocated by national budgets. They are seven-year spending plans, with the current one (2021-2027) having an expenditure of [€1,074.3 billion](#). As budgets can only be revised once every seven years, this remains unaltered since before Russia's invasion in February. Nevertheless, it is important to note that in 2021 the budget for security and defence was significantly reinforced to [€27.5 billion](#), a 22-fold increase in EU investment in defence spending. Furthermore, in December 2022, the council agreed to raise the financial ceiling of the European Peace Facility (EPF) by [€2 billion](#) (in 2018 prices) in 2023. The EPF is an off-budget mechanism to finance the EU's common foreign and security policy actions concerning military and defence matters and has been providing Ukraine with concrete military



support. The fund, which could also see further increases to its ceiling at a later date, has so far delivered [eight support packages](#) to Ukrainian's Armed Forces.

With a larger amount of capital being allocated to defence, European countries are replenishing their military stocks that are coming alarmingly close to thresholds since governments have been engaged in sending military equipment of all forms to Ukraine. In order to satisfy short-term demands, countries have been jumping to spending this money on purchasing non-European [off-the-shelf equipment](#) from countries such as the US, instead of strengthening the capability of domestic industries to manufacture required supplies. For example, one of the first purchases that Germany made after announcing its 2 billion euro defence fund was the [US-made F-35 fighter jet](#). However, greater investment provides European countries with an opportunity to administer the much-needed upgrades to their defence industries which will not only allow for stock to be replenished at home but for the marketability of European equipment to be improved. European investment in the production of the [Next Generation Light-Anti tank Weapon](#), which has been crucial to the Ukrainian's success at resisting Russian forces, constitutes a case in point for the impact that a larger defence expenditure can have on Europe's ability to establish an industrial base that is both robust and competitive.

### **Cooperation in spending at the regional level**

Since Russia's invasion of Ukraine, a willingness amongst individual countries to increase their defence spending has been coupled with improvements relating to cooperation in spending on defence, which has been particularly pushed for by EU policy makers. Finding ways to promote coordination and prevent countries from adopting individualistic approaches when radical changes to defence expenditure are being taken will be advantageous for defence industries across Europe. It will help to drive down costs; avoid duplicative efforts which in turn will relieve pressure on already overserved industries; and improve Europe's chances of establishing a strong and competitive defence industrial base.

At the EU level, policymakers have constructed new frameworks following Russia's invasion of Ukraine to facilitate a more coordinated approach to spending. The European Defence Industry Reinforcement Common Procurement Act (EDIRPA) was initially proposed by the Commission on [19 July 2022](#) and rapidly passed through Parliament, with the Council adopting its general approach on 1 December 2022. It is a '[short term defence procurement instrument](#)' that seeks to encourage EU member states to pursue joint procurement. It involves common procurement of the most urgent and critical defence products and aligns with procurement procedures reflecting the involvement of the EU's Defence and Technological Industrial Base (EDTIB). Worth \$500 million, EU member states will be [eligible](#) for receiving funding if the consortium consists of at least three Member States.

The war in Ukraine has prompted countries in Europe to accelerate their joint procurement efforts. Within the air sector, for example, the [OCCAR](#) (a European collaborative procurement organisation between Belgium, France, Germany, Italy, Spain, and the UK) signed a contract



in February worth €7.1 billion with Airbus Defence and Space as prime contractor for a medium-altitude, long-endurance drone. In addition, [Poland](#) has purchased Italian helicopters and French military observation satellites, whereas Belgium, Bulgaria, Hungary, Poland and Romania are all looking to buy [French-Israeli Rafael Spyder](#) air defence systems.

However, within the EU, doubts remain surrounding individual member states' commitment to joint action and investment and the EU's commitment to facilitating this. Joint purchases, which constituted [18%](#) of all defence investments in 2021, are far from reaching the EDA's modest benchmark of 35%. The EDIRPA has equally been criticised for not being sufficient in the financial support it offers and its lack of [muscularity](#). The [CARD 2022 Report](#) highlighted that cooperation continues to remain 'the exception not the rule' with member states supporting EU defence initiatives on 'an ad-hoc basis'. Concerning EU-NATO joint procurement and establishing them as the prime contractors in the European defence market, both EU Strategic Compass and NATO Strategic Concept have raised the issue of advancing European defence market integration.

The issue lies in the fact that security and defence continue to be viewed through a [national lens](#). Countries prioritise personal incentives and interpret external security threats in differing manners, regardless of whether these threats stem from within the continent or further afield. This thwarts the ability of member states to establish a collaborative approach and align national strategies with bloc-level initiatives. Collaborative procurement equally produces logistical complications. The [Future Combat Air System](#), is an aircraft project involving Germany, France and Spain established to encourage collaborative efforts in strengthening Europe's air capabilities. However, the two main contractors Dassault and Airbus have been [in disagreement](#) over intellectual property and the distribution of work which has slowed down progress.

## 2.4. Private Sector Investment

The European defence industry is characterised by a [highly dispersed structure](#), consisting of a small number of large players and approximately 1,350 small and medium-sized enterprises (SMEs). These first ones are usually called the prime contractors in the defence market.

[Prime contractors](#) are usually the companies that lead, manage and oversee large and often long-term defence projects, with costly infrastructures, due to their size and expertise. They are responsible for the overall design, development, and delivery of defence products and services to their clients, which are often governments or military organisations, or other SMEs. Some of the largest prime contractors in Europe are Airbus Defense and Space, Thales, BAE Systems, Leonardo, and Saab. Prime contractors in the European defence industry work closely with [governments](#) to develop and supply defence systems and equipment. These contractors



often have long-standing relationships with governments and are trusted to deliver high-quality and reliable defence systems.

SMEs play an important role in the European defence market, as they often provide specialised products and services that prime contractors may not offer. SMEs are typically more agile and flexible than larger companies and can quickly respond to changing market needs. They may also work as [subcontractors](#) to prime contractors on larger projects. The European Union has several initiatives aimed at supporting SMEs in the defence industry, including funding programs and procurement policies that encourage the participation of SMEs.

In recent years, there has been a trend towards greater collaboration between European defence contractors, with the aim of pooling resources and expertise to develop advanced military technologies. This has been driven in part by the need to compete with large [US defence contractors](#) and by the increasing complexity of defence systems.

Private sector investment in the European defence industry can come from a variety of sources, including:

- **Venture Capital Firms:** These are firms that provide capital to startups and early-stage companies. In the defence industry, venture capital firms are often focused on funding companies that are developing cutting-edge technologies for military applications.
- **Private Equity Investors:** Private equity investors typically invest in established companies that are looking to grow or restructure. In the defence industry, private equity investors may provide funding for companies that are looking to expand their capabilities or enter new markets.
- **Corporate Investors:** These are companies that invest in other companies for strategic or financial reasons. In the defence industry, corporate investors may be other defence contractors or companies that have complementary capabilities.

The recent reallocation of national defence budgets has prompted European governments to explore alternative sources of financing to support the development of new military technologies. Private investment, including venture capital firms, private equity investors, and corporate investors, is becoming an increasingly significant source of [funding](#) for defence projects due to the potential for high returns and the strategic importance of military technologies. However, this reliance on private funding carries inherent political risks, such as the potential for conflicts of interest when balancing investor demands with national security interests. Additionally, there is a risk that foreign investors may gain access to sensitive military technologies, which could pose a threat to national security.



## 2.5. R&D

There is a growing recognition both at the national and bloc level of the importance of defence R&D that extends beyond Russia's invasion of Ukraine but has become increasingly manifest since. In 2021, R&D investment rose to [€3.6 billion](#), a 41% increase compared to the previous year and almost tripling since 2016. According to the European Commission's 2022 [EU Industrial R&D Investment Scoreboard](#), Europe's industry has rebounded in R&D investments, with a growth of 8.9% in 2021. Nevertheless, it continues to be undermined by market fragmentation and a tendency to prioritise short-term objectives.

### Initiatives and Funding Mechanisms

One of the key mechanisms that has been established for enhancing Europe's R&D efforts is the European Defence Fund (EDF). The EDF is a component of the larger EU Common Security and Defence policy (CSDP). The fund was initially proposed by Jean-Claude Juncker's Commission Presidency in 2016, in the wake of Russia's annexation of Crimea, and was quickly established the following year. The EDF is the culmination of two test programmes: the Preparatory Action on Defence Research (PADR) and the European Industrial Development Programme (EDIDP). The [goal](#) of this relatively new fund is to “compliment and amplify Member State's efforts” and to “promote cooperation among companies and research actors of all sizes and geographic origin in the Union, in research and development of state-of-the-art and interoperable defence technology and equipment.” The fund's budget of close to [€8 billion](#) between 2021 and 2027 is divided into three stages that together support the entire cycle of R&D projects. The first one is research, which will receive €2.7 of the EU budget. The second is development, which the EU will be co-financing alongside EU member states under a total amounting to €5.3 billion. The last stage, acquisition and direct procurement, will be established under a financial toolbox, directly helped with Member States budget. The fund's allocation priorities are informed by input from member States, the European Defence Agency (EDA) and the European External Action Service (EEAS). Governance of the fund falls within the purview of the European Commissioner for the Internal Market under the Directorate-General for Defence Industry and Space (DG-DEFIS).

In July 2022, the EU announced the first [60 collaborative defence R&D projects](#) that had secured financial backing during the first round of funding. These projects included [Airbus' Defence and Space project](#), which will contribute to areas of research and development such as Collaborative Air Combat Standardisation, Enhanced Cockpit, and European Protected Waveform for SatCom. A second round of funding was announced in December 2022.

Numerous EU mechanisms have emerged since Russia invaded Ukraine seeking to bolster R&D efforts. One of the most notable is the [EU Defence Innovation Scheme](#) (EDIS), which was proposed in May 2022. The scheme is a €2 billion package that aims to promote innovation



and entrepreneurship in critical technologies in order to strengthen the strategic advantage of the European defence industry. In May 2022, the EDA equally announced the launch of a Hub for EU Defence Innovation (HEDI), which is to be embedded into the EDA framework and proposed in the Strategic Compass. HEDI's approach is [three-fold](#). Firstly, it seeks to inspire collaborative innovation, secondly, it hopes to facilitate defence innovation across EU member states, and thirdly it will form an EU-wide platform for cooperative design. To maximise efforts and improve efficiency, it will operate in [conjunction](#) with other EU mechanisms, such as the EDIS as well as NATO innovation initiatives, such as the Defence Innovation Accelerator for the North Atlantic (DIANA).

### **Challenges**

When drawing comparisons with other countries, EU spending on defence R&D also appears minimal. In 2019, the EU's [€9 billion investment](#) in defence R&D is minor when compared with the \$80 billion investment by the US. At the national level, [Luxembourg and Germany](#) at the only EU member states that allocate more than 20% of their investments to defence R&D.

Despite a clear understanding from member states and key stakeholders of the importance of R&D for decreasing dependency and improving Europe's competitiveness, Europe's priority has remained to strengthen [conventional capabilities](#), such as stockpiling, and replenishing depleted ammunition stocks. To some extent, this is due to R&D projects taking longer to mature and the immediate tangible benefits they generate being less clear-cut. On the other hand, financing stockpiling and restoring conventional defence capabilities, despite its necessity, also provides instant results and constitutes a more tangible demonstration of mobilisation expected by European countries from overseas allies and domestic populations alike. As the [EDA CARD report from 2022](#) highlighted 'with Europeans eager to show rapid and concrete results, spending efforts appear to insufficiently focus on long-term investments in research and development (R&D) including innovation.'

EU's defence R&D efforts are also thwarted by budgetary procedures and restrictions. As the current EU budget was set in 2021 and outlines expenditure until 2027, the amount of funding allocated to R&D through the EDF was fixed in 2021 and remained unalterable following Russia's invasion of Ukraine. Instead of acquiring a larger contribution from member states, and leaving money made available via the EDF accessible to other R&D projects, policymakers also established that the [key primary source of funding](#) for the EDIS (74%) would be the EDF.

Furthermore, while specialization increases productivity, it can further fragmentation of the EU defence market and undermine collaborative R&D efforts. Specialization can also lead to the creation of silos, where different parts of the economy or different member states focus on their own area of expertise without sufficient consideration of how they fit into the broader EU market. Countries must engage with collaborative frameworks and mechanisms at the regional level to permit the exchange of expertise and knowledge across borders that will help to accelerate progress in R&D.





### **Looking forward**

In the face of war, the EU has demonstrated that it is capable of swiftly establishing frameworks, such as the EDIS and HEDI, to channel more investment into defence R&D and drive innovation. The EU should continue in this manner and seek out further mechanisms that circumvent budgetary restrictions and encourage coordination to ensure that emerging and disruptive technologies are developing at a pace. Such initiatives will improve the continent's preparedness to confront the security and defence challenges of both today and tomorrow; encourage greater multi-sectoral cooperation and integration of the European market; strengthen Europe's technological competitiveness in the defence sector; and enrich the EU's identity as an innovative technological hub.



## Section 3. Key Stakeholders

### 3.1. Key Players within Sub-Sectors of Defence Industry

*Lāsma Kokina*

#### Aerospace and defence

Aerospace defence includes [all measures](#) aimed at nullifying or destroying attacking enemy aircraft and missiles. The European [aeronautics industry](#) develops and manufactures aircrafts, helicopters, drones, aero-engines, and other equipment and systems. In addition, it [includes companies](#) that provide support services, such as maintenance and training, which represent 50% of its annual turnover. Geopolitically, the war between Russia and Ukraine has been a watershed moment as it has revived the [threat of war in Europe](#) almost three decades after Russia's military resurgence. Even after a year, the conflict shows no signs of abating. Thus, the demand for aerospace equipment in Europe is [expected to rise](#), with countries increasing their defence budgets.

The top five aerospace and defence companies in Europe in 2022 by revenue are Airbus SE, ThyssenKrupp AG, BAE Systems plc, Thales SA, and Safran SA aerospace and defence companies in Europe in 2021 by revenue.

#### **Airbus SE**

[Airbus SE](#) is Europe's largest aerospace and second-largest armaments group with around [130,000 employees](#). Airbus SE revenue in 2022 [went up](#) to €58,76 billion from €52,1 billion in 2021, making it the most profitable European company in the aerospace and defence sector. The company offers a [wide range](#) of aerospace products, services, and solutions. It provides tankers, combat aircraft, transport aircraft, and mission aircraft.

After witnessing the destructive effect of Russia's war in Ukraine and the crash of a European satellite launcher, Airbus is calling for a stepped-up [European cooperative effort](#) to ensure the continent's security. Thus, the company is continuously looking for innovative security solutions. In 2021, the European Defence Fund, a component of the European Union's Common Security and Defence Policy, gave Airbus the opportunity to launch two [defence research and development projects](#). They involve building a virtual platform that facilitates collaborative services on the battlefield, increasing interoperability, efficiency, and resiliency. Additionally, the projects will explore and assess the needs of the European armed forces for rotorcraft operations beyond 2030, strengthening Airbus' role as a leader in its subfield.



### **ThyssenKrupp AG**

ThyssenKrupp AG is a German [multinational company](#) specialising in industrial engineering and steel production. It offers a variety of [products and services](#) tailored to the defence industry, including supply chain management services and manufacturing services. The company supplies a complete range of titanium alloys, steel alloys, and aluminium alloys, meeting the needs of military aircraft, weapons systems, and land vehicles. Based on its revenue, it is the second-largest European company in the aerospace and defence sector. In 2022, the company's revenue was €41.1b, [up from](#) €34b in 2021.

### **BAE Systems Plc**

BAE Systems Plc is a British multinational arms, security, and aerospace company. The company [produces](#) weapons and ammunition, motor vehicles, ships and floating structures, and air and spacecraft and related machinery. Similar to the aerospace and defence sector leaders mentioned above, the company experienced a revenue growth in 2022, [going up](#) to €26.4b from €24.2 in 2021. In 2023, the company announced that earnings would [rise again](#) this year as Russia's invasion of Ukraine continues to increase military spending. There are several [drivers](#) to this: governments replenishing stocks, investing in purchases of military equipment, and supporting their allies via military purchases. Thus, defence spending and contracts have surged in response to the war, [boosting the company's share price](#) by 40%.

### **Safran SA**

Safran SA is a French [multinational company](#) that designs, develops, manufactures, and markets various types of equipment, critical software, and spare parts for civil and military aircraft, defence and security equipment, navigation equipment, optronic systems, and avionics, electronic solutions and services. It has become the fourth biggest aerospace and defence company in Europe by revenue, beating Thales SA, which has now moved from the 4th place to the fifth place. Safran was able to significantly increase its revenue in 2022, [going up](#) to €19.04b from 15.1b in 2021.

### **Thales SA**

Thales SA is a French [multinational company](#) that manufactures, markets, and sells electronic equipment and systems for the aeronautics, naval, and defence sectors. The company has many years of experience in [helping governments](#) maintain security by offering services to their armed forces. Additionally, the company offers [digital battlefield solutions](#) to protect cities, states, and infrastructures. In 2022, Thales SA revenue [went up](#) to €17.6b from 16.9b in 2021. It is expected that Thales will [receive an increase in orders](#) from European governments as the conflict in Ukraine progresses. Due to Europe's increasing defence spending, Thales will also [grow its workforce](#) by approximately 5% in 2023.

Overall, we note that all five biggest European aerospace and defence players have profited financially, showing increased revenues in 2022, with the key reason being the war in Ukraine that has resulted in governments increasing their security budgets, along with providing



military aid to Ukraine. Thus, despite the global growth slowdown and rising energy prices, aerospace and defence companies have managed to improve their economic performance.

### **Ammunition**

The term [ammunition](#) refers to any projectile that can be shot, shattered, dropped, or exploded by a weapon or system of weapons. By [product type](#), the European ammunition market includes bullets, aerial bombs, grenades, artillery shells, mortars, and a variety of other items.

As a result of the ongoing conflict with Ukraine, the [demand for ammunition has increased](#) as states increase their defence expenses and provide aid to Ukraine. Due to the use of sophisticated weapons on both sides, NATO countries are supplying Ukraine with large caches of weapons and defence equipment. According to [reports](#), Russia fires approximately 20000 rounds per day, while Ukraine fires between 4000 and 7000 rounds per day, indicating a large demand for ammunition.

BAE Systems plc, Rheinmetall AG, Nexter Group, and Rostec are the [key players](#) serving the ammunition requirements of the European defence forces.

### **BAE Systems plc**

BAE Systems plc has one of the [most advanced ammunition production capabilities](#) in the world. Among its [products](#) are munitions, explosives, gun systems, and artillery systems. Additionally, the company manages and operates [munitions facilities](#) that support critical national capabilities. Given the need in Europe to [re-equip armed forces with ammunition](#) - much of which has been diverted to Ukraine by its allies - BAE is likely to strengthen its position as the leader in the ammunition market sector.

### **Rheinmetall AG**

Rheinmetall AG [continues to expand](#) its position as an important ammunition supplier in Europe. For instance, Rheinmetall and its partner UVision [won an order](#) for HERO loitering munitions in September 2022 from a major European NATO military force. The special force ordered Hero-30 combat and training munitions, a simulator, training courses, and integrated logistics equipment and support.

Rheinmetall is a [global leader](#) in long-range artillery, mortar and infantry systems, specializing in large and medium caliber ammunition. In addition to supplying ammunition for its own cannons, Rheinmetall also [provides ammunition for other manufacturers](#).

Rheinmetall has reported a [13% rise in sales](#) to €6.410bn in fiscal year 2022, compared to €5.658bn in 2021. The highest rise in sales were experienced in company's Vehicle Systems



division and the Weapon and Ammunition division, highlighting Rheinmetall's role as a key player in the ammunition sector.

### **Nexter Group**

Nexter Group is one of the [major players in the ammunition sector](#) in Europe, with the [complete catalogue of munitions](#), and the leading French land defence company. It is part of the [KNDS Group](#), the European leader in [land defence](#). With its expertise in [land defence systems](#), Nexter meets the needs of the French army and other land forces around the world.

Nexter Munitions, [the munitions division](#) of the Nexter Group, specialises in artillery, tank, and medium-calibre ammunition. Furthermore, the company [manufactures](#) warheads, arming safety devices, and pyrotechnic components for missile and torpedo and other applications.

Similar to other companies catering to military needs, Nexter Group has experienced [increased demand due to the war in Ukraine](#). This is both due to increased demand from the European armies and the military aid, including munition, that the French government has ordered to send to Ukraine.

### **Rostec**

The Russian corporation Rostec was founded in 2007 in order to develop, manufacture and export high-tech industrial [products for military and civil purposes](#). The state-owned corporation oversees the [development and production of military technologies](#), which are then put into service on the battlefield through its production facilities. Rostec accounts for nearly half of the [Russia's entire defence procurement plan](#), with an increased production of armoured vehicles and ammunition in response to the Russian invasion of Ukraine. Indeed, in 2023, [Rostec announced](#) that the number of weapons that the company is manufacturing for the Russian army has grown notably - in some cases - 50 times.

In terms of export, Rostec is affected by the [EU's blanket ban](#) on directly or indirectly engaging in any transactions with certain state-owned enterprises. The company is [also sanctioned by Australia](#), Canada, New Zealand, Switzerland, and the United Kingdom. In January 2023, [Rostec reported](#) that, despite the sanctions, its consolidated revenue in 2022 will exceed 2.1 trillion rubles, showing growth, although it is lower than expected. Indeed, the company's [revenue has increased from 2.06 trillion rubles in 2021](#), likely driven by the military supply needs of the Russian state.

### **Armoured Fighting Vehicles**

Armoured fighting vehicles are [heavily armoured vehicles](#) designed to carry infantry sections into close combat with enemy forces. They are typically equipped with light guns and canons that fire missiles to protect them from enemy vehicles. Among the [main types of armoured vehicles](#) are armoured personnel carriers, infantry fighting vehicles, main battle tanks, tactical trucks, and buses. Vehicles of this type either have [heavy caliber guns or transport military](#)



[personnel](#).

The armoured vehicle market is [expected to grow](#) due to increasing military spending. In addition, the demand is fuelled by countries [providing military aid to Ukraine](#), including armoured fighting vehicles. The [European market leaders](#) for armoured fighting vehicles include BAE Systems plc, Rheinmetall AG, Iveco S.p.A, and Nexter Group.

### **BAE Systems plc**

BAE Systems plc design, manufacture, and upgrade a [range of armoured combat vehicle types](#). These include battle tanks, Armadillo armoured fighting vehicles, Howitzers, amphibious vehicles, armoured all-terrain vehicles, and heavy recovery vehicles. The company also produces integrated [vehicle protection systems](#) that are able to detect, track, and defeat threats.

The war in Ukraine and the associated growing importance of armoured combat vehicles has directly benefited BAE Systems combat vehicles business. Indeed, during the war in Ukraine, the company has received combat vehicle orders from national governments, including the [U.S., Sweden, Germany, and the United Kingdom](#). The [orders aim](#) to modernise the countries' national defence equipment, in addition to providing military vehicles to Ukraine.

### **Rheinmetall AG**

Rheinmetall AG manufactures a variety of [armoured fighting vehicles](#), including the RMMV Survivor R armoured-wheeled vehicle and the Pinzgauer is an all-terrain utility vehicle, among others. In addition, the company [manufactures several models of tanks](#), including battle tank Leopard and Challenger 2 tank. In 2022, the company experienced [increased sales of vehicles](#). Due to the current country security developments, the company sees itself in a promising position to play a key role in [increasing defence capabilities](#) in Ukraine's partner countries.

Rheinmetall has also provided a [range of armoured fighting vehicles to Ukraine](#), including Leopard 2 and Challenger tanks, Marder infantry fighting vehicles, and Fuchs armoured transport vehicles. In February, 2023, Rheinmetall started [talks with Ukraine](#) to supply it with its most sophisticated battle tanks and fighting vehicles. In particular, the Ukrainian officials have expressed interest in [obtaining the Lynx and the Panther](#), which are currently the most modern infantry fighting vehicle and battle tank. The company is also planning to [install a facility in Ukraine for assembling the Panther](#) once the war ends.

### **Iveco S.p.A**

Iveco S.p.A is an Italian-French multinational [transport vehicle manufacturing company](#). The company offers wide range of commercial vehicles and [vehicles for defence, civil protection, and specific missions](#). The company has a long tradition of building [armoured vehicles](#). These include armoured antitank vehicles, Mortar Carriers, Armoured Recovery Vehicles, among



others. In addition, the company produces [amphibious armoured vehicles](#).

Similarly to other European defence companies, Iveco experienced [revenue growth in 2022](#), going up to €14.4b - up 14% from 2021. Iveco is one of the companies whose armoured vehicles are [used in the war in Ukraine](#).

In 2023, the company announced a [collaboration with Horiba Mira](#), a British automotive company, to develop autonomous military vehicles, which is likely to further strengthen Iveco's position in the European military vehicle production market.

### **Nexter Group**

Nexter Group is very experienced in [land defence systems design](#), being the manufacturer of a long line of machines such as the LECLERC tank, the JAGUAR combat vehicle, the GRIFFON multi-role armoured vehicle, the Armoured Infantry Combat Vehicle, and the CAESAR Self-Propelled Howitzer.

Just like other companies of similar profile, Nexter has reacted to the security situation in Europe. In 2023, Nexter stated plans to [increase its rates of armoured vehicle production](#). This is likely driven by increased demand from countries that are ramping up their defence budgets and purchasing new military equipment. For example, in December, 2022, the French defence procurement agency [ordered 50 upgraded Leclerc main battle tanks](#) from Nexter.



## 3.2. Major Companies of the Defence Industry

### *Albert Welirang*

For Europe's defence industry a bonanza of record orders have increased their profitability within a short period. The STOXX Europe Total Market Aerospace and Defence [index which tracks the 25 leading defence companies has risen 41%](#) since September 2022. This would spell well for Europe's defence industry which holds [over 27% of the global market share](#), of which France alone holds 11%. Defence firms have continued to play a crucial and significant part in the war, four of which will be briefly investigated: *BAE Systems*, *SAAB AB*, *Thales*, and *Rheinmetall AG*. Tracing the current trajectory of these four European defence firms provides insight into the current impact of the war on defence firms and the wider future of Europe's defence industry. If liberalism (as a political and moral philosophy) and democratic ideals are to thrive and societies rendered safe, nations must be able to defend themselves adequately. Amongst heightened geopolitical instability within Europe, national sovereignty cannot be taken for granted.

#### **BAE Systems**

As Britain's largest defence company, the firm is geopolitically situated to meet the increasing demand for defence equipment sparked by renewed fears of Russian aggression. BAE Systems is capable of exporting from the US, UK, Australia and Sweden to its strategic partners worldwide. Over the years the firm has been involved in a number of strategic programmes such as the Eurofighter Typhoon consortium which is currently in use amongst the British, German, Italian and Spanish air forces. BAE Systems is also a major shareholder in missile-maker MBDA which is also NATO's leading provider of missiles and missile systems. Much of the firm's investment in strategic markets and its broad portfolio of weapons, ammunition, and armour have led to a record [order intake of £37.1 billion in 2022, propelling their order backlog to £58.9 billion](#). Their sales are expected to increase by another 3-5% this year as European budgets are on track to increase significantly.

BAE Systems Hägglunds (subsidiary), one of its more profitable firms, secured a number of contracts in 2022. For example, it received a £1.1 billion contract from the US Department of Defense for another 100 Armoured Multi-Purpose Vehicles (AMPVs) which are set to replace the 200 already in Ukraine. The increasing demand for AMPVS in Ukraine has shed light on the growing importance of armoured combat vehicles in rapidly transport troops to and from the battlefield. The increasing risks of being spotted by unmanned aerial vehicles (UAVs) makes troop movement a priority. In March, just a month after Russia's invasion, Hägglunds received a contract to equip 20 CV90s Main Battle Tanks (MBTs) with Mjolner mortar systems for Sweden, and another £75 million contract to develop new further CV90 variants for the Swedish military. This move alone is [strategically aligned with Sweden's application to NATO](#)





as they are already [on track to spend at least 2% of GDP](#) on defence. In December, Sweden, Germany and Britain signed an agreement to purchase 437 BvS10 all-terrain vehicles which can operate in the harshest environments [possibly for the potential of arctic warfare](#) with Russia. Capable of traversing steep mountains, snow, and ice with an amphibious feature to operate in flooded environments such vehicles would give NATO forces an edge in arctic environments.

## **SAAB AB**

A Swedish based defence company founded in 1937, Saab maintains close partnerships in markets such as Sweden, Australia, US, UK and Germany. The firm hosts a product portfolio which includes advanced fighter Gripen and anti-tank weapons such as the Carl-Gustaf, AT4 and NLAW which are battle-proven on the field in Ukraine. Their effectiveness early on in the war led to what analysts declared to be the [‘death of the tank’](#). The NLAW uniquely utilises an overfly top-attack or direct attack feature capable of destroying some of the most advanced tanks. Saab [recently secured a contract between the UK and Sweden](#) for the delivery of more NLAW and Carl-Gustaf anti-tank weapons. As expected, given the success of Saabs equipment in the battlefield, 2022 marked a strong year for Saab, recording an [order intake of SEK 63 billion with an order backlog of SEK 128 billion](#). Within a two-year period the firm’s earnings per share, SEK (a marker of firm profitability) doubled from 8.01 in 2020 to 16.31 in 2022 mostly driven by geopolitical instability in Europe.

The future of Saab’s business is well positioned as existing markets continue to grow such as the expansion of NATO member states due to future Russian aggression. A key example being the trilateral security agreement, ‘AUKUS’, agreed upon by Australia, Britain and the US. As the security agreement aims to counter future Chinese aggression in the near future, it could potentially expand Saab’s horizons in the long-term. Today, Sweden accounts for 42% of Saab sales whilst the rest of Europe accounts for 19% . But as European defence spending is set to increase, Sweden has committed to spending [2 % of GDP on defence](#) which will improve Saabs current market position. [Poland’s own defence budget is also set to increase to 3% from 2.4%](#) in 2023. To meet demand, Saab is levelling up for long-term production capacity. A manufacturing facility for the Carl-Gustaf M4 weapon system is [set to be opened in India](#). Furthermore, competence hubs have also been established in several markets around the world such as C2 systems in Australia and radar systems in the US. In 2022, Saab spent some [18% of sales on R&D](#) and more than half of Saab’s 19,000 employees are currently engaged in R&D; emphasizing the importance not just of keeping up production levels but also meeting the demands of modern warfare.

## **Thales**

A French-based defence company, Thales is a leader in systems-of-systems integration and an expert on air-defence. The company made strong gains in 2022 with its defence and security



division seeing [an order intake increase of 25%](#) to 13,955 in 2022 from 11,185 in 2021 in addition to a sales increase of 6% in the same period. To keep up with the increasing demand, Thales is scaling up with 14 new site extension projects to be completed by 2024 to prop up engineering and production capacity. Much of Thales' expertise focuses on tackling the increasing digitisation of modern warfare. The use of UAVs for reconnaissance and intelligence gathering makes it impossible to remain hidden as the RUSI have coined there is '[no sanctuary](#)' in modern warfare and survivability must depend wholly on manoeuvrability and speed. The longer a unit stays fixed, the easier it is to be spotted by drones, and a kill chain can be established from identification to striking.

Given the demands of increasing digitisation, Thales is currently [the leading supplier of C4ISTAR systems](#) (command and control, communications, computers, intelligence, surveillance and reconnaissance) to NATO. They provide in-class systems for combat aircraft like the Rafale fighter jet which is the main aircraft of choice for the French air force. Thales also excels in joint systems to help air, land, naval, coalition and special forces relay information and gain mission superiority. The French defence minister Lecornu and his Ukrainian counterpart Reznikov [signed for the delivery of short-range air defence systems](#) including the GM200 radar, C2 centre, radio communications systems and air designators to be sent to Ukraine. The GM200 and other surface radars for example is capable of countering long-range threats from cruise missiles to combat aircraft and drones. It will prove essential to Ukraine's air-defence capabilities which have been battered by Russian strikes on key infrastructure.

### **Rheinmetall AG**

A German-based defence firm, Rheinmetall AG is the leading equipment provider to the German Armed Forces and a supplier of Germany's NATO allies. In 2022, Rheinmetall's [consolidated sales were up 13%](#), mostly driven by its Vehicle Systems Division (21% of total sales) and its Weapon and Ammunition Division (19% of total sales). Rheinmetall's bonanza of sales were driven by two considerations. First, the growing share of sales to NATO states as defence budgets increase in the upcoming years. Germany's own defence budget is set to increase to [€70 billion and €80 billion per year from €50.3 billion in 2022](#). Second, through the rapid need of *modernising* the German armed forces. The state of the German armed forces is far from ready, [radio equipment is 40 years old and just half of its 300 IFV's are operational](#). A €100 billion special fund is set to provide German armed forces with better equipment. Rheinmetall secured a contract worth €42m of new types of 120mm training ammunition for MBTs. Another order was also made to supply 48 airfield tankers to be used at German Luftwaffe airfields. In December, a contract worth [€576m for 30mm munitions of Puma IFVs](#) were secured, indicating a shift to make its 300 IFV's fully operational in the future.

This unique challenge of modernisation is not limited to Germany but its other NATO allies, particularly the Eastern European countries which hope to eventually modernise their Russian-



made equipment to gradually meet NATO standards. Rheinmetall is set to deliver the [first of 209 Lynx IFVs to the Hungarian armed forces](#) and intends to produce the first Hungarian made Lynx IFV by 2023 as it expands its production sites and facilities outside Germany. Rheinmetall also delivered the [Leopard 2A4 MBTs and Buffel armoured recovery vehicles to the Czech Republic](#) which are replacing its own military equipment, many which has already been supplied to Ukraine. Elsewhere around the world, together with BAE Systems, Rheinmetall is [contracted to modernise the British Challenger 2 MBT fleet into Challenger 3's](#). This record number of orders have placed Rheinmetall in a position to expand its production capacities like other defence firms. In November, Rheinmetall acquired Expal Systems a munitions manufacturer to improve the strategic production of ammunition powder. Demand for ammunition, especially in the long-term, is set to only increase. Similar to Thales, Rheinmetall is also investing its own R&D in C4ISTAR. The need for seamless communication and information networks with the potential of AI powered systems will be key for defence in the future. For example, Rheinmetall's Weapon and Ammunition division is developing improvements to current tank weapon performance and range. Furthermore, as lessons from Ukraine on [the importance of artillery](#) come out, Rheinmetall is working on new 155mm weapon systems with firing ranges of at least 80 km providing greater precision and weight reduction. Lastly, Rheinmetall's Electronic Solutions Division is looking to integrate AI systems to reduce the workload of crew in MBTs to push the boundaries of technological advancement.



## Section 4. Countries to Observe

### 4.1. Poland

*Carlo Teodoro Da Cas*

Poland's defence industry like many other ex-Warsaw Pact nations currently finds itself in a state of transition, as old Soviet equipment and protocols are being slowly phased out. Over the past decade, the willingness of the Polish government to carry out this military overhaul has been clear, given that the defence budget has remained steady over the [2% of GDP threshold](#), as advised by NATO. Currently, in 2023, Poland's spending on defence accounts for [around 4% of GDP](#), which equates to around [\\$23 billion](#). This represents a steep increase from the 2022 defence budget of \$14 billion or [2.4% of GDP](#).

When examining key areas of military focus, Poland's production of land systems (ground-based military equipment) is the [leading sector](#) which dominates the national defence market. Companies such as Huta Stalowa Wola, Rosomak S.A., and Bumar-Łabędy are some of the more prominent manufacturers in this field. The aerospace industry is another [significant](#) area of Polish specialisation, as PZL Mielec, WZL2, and WB Electronics play an important role in the production of unmanned aerial vehicles (UAVs) and helicopters. All of the companies mentioned above are part of the Polish Armament Group (PGZ), a government owned holding company that unites all the major Defence firms in the country. Nevertheless, Poland also [imports a great deal](#) of military equipment frequently sourcing foreign-made munitions and fighter aircraft. An example of this may be seen in the recent acquisition of [32 F-35s](#) from the United States. This symbolic purchase is an important step towards achieving the goal of modernising Poland's outdated air force set out in "[Technical Modernization Plan 2020-2035](#)".

To help fund this increase in military spending the central government in Warsaw has created an [Armed Forces Support Fund](#), which is backed by government and treasury-secured bonds issued by the national development bank. This financing strategy is set to provide [\\$6-9 billion](#), which falls short of the overall sum needed to cover the unprecedented hike in defence budget spending. In a bid to make Poland's expansion of its military viable, the Minister of Finance Magdalena Rzeczkowska has emphasised that new military expenditures will be covered to a large extent by [out-of-the-market financing](#). What this means is that Poland is going to seek to share costs with importers by ensuring that long-term loan schemes are included in any future military contracts. These measures will allow Warsaw to [alleviate](#) the financial burden that accompanies the signing of multibillion-dollar military deals.



It is clear that the outbreak of the war in Ukraine has had a profound impact on not only the Polish defence budget but on policy in general. The passing of the [Homeland Defence Act](#) in response to Russia's invasion of Ukraine, which has enabled Poland to dramatically increase military spending, is a testament to the decisive response by the government in Warsaw. This piece of legislation has signalled the start of a policy shift in Poland since rapid military expansion has become the guiding principle of Polish defence strategy. Currently, the focus has veered away from [integrating capabilities](#) with NATO standards, which has long been the cornerstone of defence policy for many ex-Warsaw pact nations. Poland's increased military [cooperation with South Korea](#) embodies this policy shift, as this new non-NATO defence partner will play a crucial role in the expansion and modernisation of the Polish army. Ultimately, Poland is vying to become a European military superpower, as its Deputy Prime Minister Mariusz Blaszczak [recently stated](#) his country is looking to build the most powerful ground force in the NATO alliance.

The catalyst for these policy changes has been the strong threat perception of the Polish population towards a possible Russian invasion of their homeland in the near future. The proximity of the conflict to Poland, which shares a 529 km border with Ukraine has contributed to these fears since the Polish people have been impacted in a unique manner by the war. Having to welcome [1.5 million](#) refugees, the constant air strikes within the [vicinity of the Polish border](#) and the complicated history between Poland and Russia have all helped to create an uneasy environment throughout the country. Due to this, Poland's experience of the conflict has been widely different from the experience of other EU member states, which in some cases have taken a more [detached approach](#) in their defence policy responses. What this shows is that Poland's policy shift has been influenced by a perception of threat at a national level, as this medium-sized European nation has [led](#) rearmament efforts in the region.



## 4.2. France

*Christopher Healey*

Russia's 2014 annexation of Crimea was a critical domino to fall in their path to the full-blown invasion in February 2022. This devastating war has sparked transformations in Europe, from German [Zeitenwende](#) and [divestment of Russian energy](#), to continent-wide [increases in defence spending](#), and while important, still tepid [EU accession talks for Ukraine](#). France—the world's [third-largest arms exporter](#) and one of Europe's wealthiest, most populous, and militarily capable countries—has been no exception to this trend. In the defence realm, France's investment has been significant. In the period of 2024-2030, France will ramp up defence spending by [40% to €413 billion](#) across a range of strategic areas, and its [2023 budget](#) of €43.9 billion marks a 36% increase over the 2017 budget and a 7.4% increase over that of 2022.

While a step in the right direction, France's increased investment does not capture the full story of a [broad failure](#) to synthesise investment and procurement across Europe. This failure weakens Europe's ability to act as a unified military player and deepens its reliance on the United States. However, such reliance is inopportune as the US continues to face rising domestic polarisation alongside the major challenge of managing security concerns in Europe and the issue of Chinese aggression in East Asia. Therefore, France, which views itself as a leader in Europe, must balance its desire for a vibrant national defence industry with the need to enhance European defence as a whole.

Despite failing to meet the 2% NATO threshold of defence spending as a percentage of GDP in 2021 ([1.9%](#)), France had already been one of [Europe's top spenders on defence](#) in terms of gross expenditure in the years leading up to Russia's invasion. Nevertheless, the failure to meet this threshold and President Macron's insistence on [keeping communication lines open](#) with President Putin have exacerbated criticism directed at France for failing to take the Russian threat seriously. France's updated "military programming law" (LPM), which will boost the country's military spending to €413 billion in 2024-2030, and President Macron's recognition that his country must be "[one war ahead](#)" will help to buck—but not eliminate—further criticism.

The notable increase in LPM spending is France's highest since it focused on building a nuclear deterrent in the 1960s and contains [investments](#) targeted toward further nuclear modernization as well as the development of new fighter jets, tanks, and drones. It also [boosts spending](#) on intelligence by 60%, invests in the French navy's [Porte-Avions Nouvelle Génération \(PA NG\) aircraft carrier](#), doubles the number of military reservists to 80,000, reinforces cyber defence, and will develop more remote-controlled weapons. Funding will also focus on [expanding French submarine surveillance capacity](#) to a depth of 6,000 metres (19,685 feet) in order to project military power further and protect critical infrastructure such as undersea cables.



Critically, over the short term, the LPM will allocate funding toward refurbishing existing equipment and replenishing [depleted](#) stocks. According to President Macron's office, as of January 2023, [France has provided Ukraine](#) with 18 Caesar and six TRF1 cannons developed by France's state-owned manufacturer Nexter Systems, two Crotale air defence systems developed by the privately-owned Thales Group, rocket launcher units, anti-tank and anti-air weapons, munitions, protective gear, medical equipment, and military rations. In recent months, France also agreed to send Nexter [AMX-10 RC](#) armoured surveillance and combat vehicles, or "light tanks," to Ukraine. The vehicle, which is closer to that of an armoured car than being a standard tank, was initially designed to support NATO forces against a Soviet invasion. While helpful to Ukraine, the AMX-10 RC lacks the punch of the more powerful Leclerc tanks which France has [hesitated to send](#) over, meaning Ukraine will need to rely on American Abrams, British Challenger, and German Leopard tanks to supplement its Soviet-era tanks currently in use.

The 2023 budget is a microcosm of the 2024-2030 LPM, earmarking funds for a variety of critical areas and technologies. According to [reporting from Defense News](#), the €43.9 billion 2023 budget includes, among other investments, the following:

For the French Army:

- 420 Serval light armoured vehicles
- 8,000 HK416 assault rifles
- 46 satellite communication ground stations for the Syracuse IV satellite
- One lot of medium-range missiles
- 22 next-generation multirole helicopters
- 22 heavy armoured vehicles for special forces

For the French Navy:

- 3 naval counter-UAS devices
- 19 naval SATCOM stations for the Syracuse IV
- One lot of MBDA-built Exocet anti-ship missiles
- One lot of MBDA Aster-30 missiles for use on the FREMM multirole frigates,

For the French Air and Space Force:

- 42 Dassault Rafale fighter aircraft
- One lot of 320 BK 1 NT Aster missiles
- Miscellaneous equipment kits for France's Eurocopter EC 725 Caracal helicopters, and the CN235 and A400M transport aircraft.

The French Ministry of the Armed Forces also plans to perform the first launch of major French defence manufacturer MBDA's next-generation MICA air-to-air missiles, which will equip France's world-class fighter jets. Moreover, €2 billion will be directed toward replenishing



stocks, €5 billion to maintenance, €467 million to new information warfare systems, alongside €702 million and €288 million to the “[new](#)” space and cyber domains, respectively.

While the 2023 budget does move France toward Macron’s desired “war economy,” it is noteworthy that Future Combat Air System (FCAS) and Main Ground Combat System (MCGS) were [omitted](#). The FCAS is a Franco-German-Spanish next-gen fighter aircraft project, and the MCGS a Franco-German tank project. Their omission is noteworthy as they received €282.7 million and €58 million in the 2022 budget, respectively, and they are precisely the projects European countries should be developing given the problem of a fragmented defence landscape mentioned earlier.

Moreover, although France is contributing to cross-European defence initiatives like the [European Defence Fund](#) (EDF), where it is involved in 47 of the 61 projects, the [Fund’s](#) 2023 budget of €8 billion is a drop in the pond compared to Europe’s overall defence needs. In comparison, in the United States, the Biden administration recently proposed spending a [\\$842 billion](#) for defence in 2023 where funding is integrated into unified projects coordinated by the Department of Defence. As Sean Monaghan of the Centre for Strategic and International Studies [pointed out](#) in March of 2023, the increase in national defence spending in European capitals coincides with a decrease in cooperative European spending. This reinforces the fragmented nature of Europe’s defence industry, underscored by a collective action problem. France is right to increase its national defence spending and investment in initiatives like the EDF, but it should not come at the expense of other shared European defence projects like the FCAS and MCGS. To help overcome Europe’s defence dilemma, France should take the lead in deepening the integration of the continent’s defence industries.





### 4.3. Italy

*Raadhika Tandon*

A [frontrunner](#) in the European defence industry, Italy's defence spending continues to increase towards the 2% of GDP spending threshold set by NATO. As of 2021, approximately [1.4% of Italian GDP](#) went towards the defence budget, and as the country continues to move towards modernising its military, [cost levels](#) are expected to rise. Looking to bring in new technologies of warfare and build the future of the Italian defence industry, the Ministry of Defence put forth a project proposal in late 2022 to spend [€75 billion](#) over the next decade, including [€16.62 billion](#) on new weapons and technology, plant renovations, and research and innovation. Money will be allocated to refitting old tanks and weaponised vehicles to extend their life, as well as to improving telecommunications and intelligence tools, including a whole arsenal of drones that range in both size and functionality.

The defence money allocated by the government is split between the Ministry of Economic Development and the Ministry of Defence, with the Ministry of Defence taking charge of procurement in coordination with the armed forces. While Members of Parliament have a voice in the setting and allocation of defence budgets, the government has [the final say](#). The overall budget is broken up into [four categories](#): defence function, which covers personnel, operations, armaments and infrastructure expenses for the Army, Navy and Air Force; security function, which covers the same list of expenses for the Carabinieri; the provisional auxiliary staff pensions for retirement funding; and external functions for expenses such as medical rescue flights, water supplies and combat funds. While a large portion of the defence [budget covers personnel expenses](#), Italy's defence priorities are towards procurement and technological improvement and innovation, as well as extending the use of existing infrastructure.

The Italian response to the invasion has involved a [four-fold change](#) in both defence policy and, by extension, spending. First, there was a denunciation of Russia's attempt to annex Ukrainian territory. Second, several military aid packages, which include training activities with the Ukrainian military, have been dispatched by Rome. Following her ascension to office, Italian Prime Minister Georgia Meloni has reiterated her government's commitment to [increasing military spending](#) with the support of the Italian Parliament, which voted to extend a policy created by her predecessor Mario Draghi to [send military means](#), materials and equipment to the Ukrainian government. Third, Italy has provided financial support for refugees, through humanitarian assistance and resettlement aid and policies. The government also contributed [€500,000](#) to the UN High Commissioner for Human Rights to support the monitoring mission in Ukraine. Fourth, Italy has joined a united Europe to implement EU-level sanctions against Russia as well as to roll out the bloc's defence initiatives.



These changes can be explained both by domestic and European-level factors. The Italian response to the invasion of Ukraine has followed that of Europe as a whole, where there has been a clear and forceful [change of mindset](#) with regard to defence spending and policies. However, a change in the national government from Draghi to Meloni has shifted the politics of Italy further right, which jeopardises any further dramatic changes in defence spending. While Meloni has vowed to continue Draghi's dedicated support of Ukraine, her policies are susceptible to change based on the views of her supporters, which seem to be moving [away from additional military spending](#). Italy is also trying to reach the [NATO GDP spending threshold](#), meaning it will be committing even [more money towards defence](#), something which is likely to go against the will of Meloni's political base.

Italy's threat [perception](#) as well as its [entrenched political ideas](#) of anti-establishment populism means that Italian citizens prefer to see peace rather than justice and increased spending. Government actions that go contrary to these ideas have created [domestic backlash](#), such as widespread peace rallies and media portrayal of the war contributing to rising utility prices in Italy. However, European public opinion remains in favour of Ukraine and helping the country navigate a peaceful end to this war.

The war has helped [bring together](#) both ends of the political spectrum and the overall response to the war has strengthened the idea of the EU held by its citizens. As a result of the wars, the US and EU have also worked together as partners as opposed to allies, elevating the position of both the EU and Italy. Despite national tensions over the best course of action moving forward, Italy has played an important role in establishing this new dynamic between the US and the EU contributed towards the more forceful stance the bloc has been able to take.



## 4.4. United Kingdom

*Matthew Johnson*

Since the war began in February 2022, the United Kingdom has remained active in delivering critical military support to the benefit of Ukraine. While their defence support for Ukraine rests at only [0.26% of GDP](#), the government has committed an estimated [€6.63 billion](#) (estimated USD \$7 billion) in military support alone between January 2022 and February 2023 and is only second to the United States (€43 billion). In looking at the UK's policy on defence support to Ukraine, the government has worked to improve [Ukrainian cyber defences](#) as well as sending a variety of munitions and armoured vehicles, and providing training to Ukrainian soldiers. According to the [Integrated Review Refresh 2023](#), UK's defence spending for 2023 is expected to increase to 2.2% of GDP and "2.29% when including [UK] military support to Ukraine", adding further their future goal of hitting an overall spending target of 2.5% of GDP. Moreover, the UK government announced that they will match the £2.3 billion spent in 2022 on defence support for Ukraine once again in 2023.

In terms of domestic companies, the largest UK defence company, BAE Systems, has seen immense financial gains since Russia's invasion of Ukraine. As noted above in Section 3, BAE Systems is involved in the majority of key sub-sectors: aerospace and defence, munitions, and armoured vehicles. According to their recent [Preliminary Announcement](#) published on 23 February 2023, as a result of increased defence spending in 2022, the company saw a 4.4% increase in sales, going from £21.3 billion in 2021 to £23.3 billion in 2022. However, the company also saw an order intake of £37 billion (£21.4 billion in 2021) and an order backlog of £58.9 billion (£44 billion in 2021). In terms of customer base, the financial report also notes several major defence contracts having been awarded to BAE by the US and UK governments in 2022.

As for military support, the UK government remains focused on the delivery of MLRS and armoured vehicles, in addition to providing critical cyber security defence. In regards to cyber, the UK announced in November 2022 an additional £6 million in funding for the UK Ukraine Cyber Programme, with Foreign Secretary James Cleverly explaining that "support to Ukraine is not limited to military aid – we are drawing on Britain's world-leading expertise to support Ukraine's cyber defences." As for military equipment, in June of last year, the [UK government purchased 20 M109 155mm howitzers](#) from the private Belgian defence company, Flanders Technical Supply, for an undisclosed amount. In January 2023, those same howitzers were [visually confirmed](#) on the battlefield in Ukraine. Between January 2022 and February 2023, data reveals that the UK government has committed to sending **58 155mm howitzers** and has delivered **28** of them while also committing to sending **6 MLRS** and has delivered 3. Moreover, as the UK government had yet to send Ukraine any battle tanks, [Prime Minister Sunak announced](#) in January 2023 a commitment of sending 14 Challenger 2 tanks to Ukraine. As a



result, the British military has provided [several weeks of training for Ukrainian soldiers](#) on the use of the British Challenger 2.

The military assistance provided by the UK government to Ukraine has proven to be of substantial value in the fight against the Russian military. However, it is important to note the unique programme that goes beyond the standard financial and military equipment contributions. Originally introduced as “[Operation ORBITAL](#)” in 2015 following Russia’s annexation of Crimea – was revitalised by Prime Minister Boris Johnson as “[Operation INTERFLEX](#)”. Similar to its predecessor, Interflex maintained the goal of training thousands of Ukrainian soldiers through “British Army expertise, allowing them to accelerate their deployment, rebuild their forces, and scale-up their resistance”. While the programme has seen an estimated [10,000 Ukrainian troops](#) trained for combat between August 2022 and February 2023, the operation was extended in February by Prime Minister Rishi Sunak when it was announced that [a further 20,000 troops](#) will run through the military training in 2023. The initiative highlights how the commitments made by the UK government have gone beyond the standard military equipment support, with Sunak describing it as “a long-term pledge to stand shoulder-to-shoulder with Ukraine for years to come.”

As a result of the increased commitments towards defence spending, not only as a whole but also towards support to Ukraine, the UK government remains a critical actor in the fight against Russia. However, as defence spending has increased, we are also seeing the European defence industry experiencing major gains, with BAE Systems being of primary example in the case of the UK. Moreover, the UK has supported Ukraine by supporting their defence against cyber-attacks as well as ensuring volunteer Ukrainian soldiers receive proper military training for the battlefield provided via Operation Interflex. The impact of the UK government’s actions on the European defence industry is clear where data is most transparent, however, it should also be noted that major actors will continue to benefit in the long-term by the UK’s presence as the government plans to increase defence spending in the future to hit a target of 2.5% of GDP.



## Conclusion

*Lucy Bather*

In February 2022, shocks reverberated through a region more accustomed to integration and peace than war and, in turn, unsettled a European defence industry that had become increasingly idle and neglected by private investors.

War required reaction and many European governments, which faced the two-pronged challenge of militarily supporting Ukraine whilst also strengthening their national defence capabilities, made pledges to drastically increase their defence spending. All EU members, with the exception of Hungary have provided military aid to Ukraine, with donations spiking in the first weeks after the invasion and in November-December 2022. Whilst defence expenditure was predicted to grow 14% between 2021 and 2027 without Russia's invasion, the current war in Ukraine is forecasted to boost growth by between 53% and 65%. National defence spending is supplemented by defence expenditure at the bloc-level.

Increased public expenditure on defence, which in turn has meant new contracts and larger order books for Europe's defence companies, has been combined with more resilient private investor interest in the region's defence sector. Private investment is becoming an increasingly significant source of funding for defence projects due to the potential for high returns and the strategic importance of military technologies. Increases in the share price of major defence companies as well as the STOXX Europe Total Market Aerospace and Defence index highlight greater investor confidence in the industry and its relevance in today's world.

However, whether sufficient funds are flowing into Europe's defence sector remains unclear. Only seven European countries are currently meeting the 2% of GDP target set by NATO member states and, despite the possibility of additional increases of the European Peace Facility's ceiling in the months to come, the funding mechanism is very close to depletion and EU budget commissioners are reluctant to finance military support to Ukraine with EU financial resources. To add to this, the EU's main budgetary framework, the Multiannual Financial Framework, will only be open to revision in 2027. Concerning Ukraine specifically, several pledges that had been made have not been fulfilled within the specified deadline, and unlike the US, the EU is struggling to maintain a steady and consistent flow of military assistance to Ukraine. To compound the issue, European countries, driven by a need to react fast and a desire for quick-fix solutions for strengthening defence capabilities, have allocated a large proportion of funds to purchasing off-the-shelf equipment from abroad leaving Europe's defence market to suffer as a result. Whilst the measures taken by European countries since Russia's invasion of Ukraine should not be downplayed, efforts must be ramped up if Europe is to sustain its support of Ukraine and bolster its defence capabilities in the long term.



Delving deeper than the blanket spending pledges that have been made by many European countries, national responses have differed in their reactions to the war. This is explained by variances in threat perception, a tendency to view security and defence through a national lens, and an EU market that is not empowered but fragmented by specialisation. The case of Poland shows that even the states with more limited resources are prepared to revolutionise their defence industries and take drastic measures to do so, such as signing the strengthening of the Polish Armed Forces into legislation. Europe's military powers, such as France, have made significant pledges to ramp up defence investment due in part to the external expectations that come with its raised status. Italy, whilst being afflicted by political divisions at the domestic level, has also made dramatic changes to its defence policy. Yet, more broadly, the success of Europe's military powers in their roles as leaders to synthesise investment and procurement across Europe has been limited.

A more collaborative approach to military procurement is essential for it will help to drive down costs, avoid duplicative efforts, and will maximise the benefit that can be reaped from larger defence expenditures. European countries have made progress in fostering greater cooperation, which has been particularly advocated for at the bloc level. Numerous mechanisms have emerged since the invasion of the war, such as the EDIRPA and the EDTIB, to encourage and facilitate joint spending and procurement. However, defence policies continue to be implemented nationally and it is questionable if bloc-level mechanisms, as well as joint EU-NATO initiatives, will be adequate for delivering tangible change.

One area that suffers particularly from a lack of cooperation is defence R&D. European investment in defence R&D has been steadily increasing over the past years and distinctive European frameworks, such as the EDF and the EDIS, seek to promote research and innovation in critical defence technologies. However, the funds being allocated to R&D defence investment in Europe are minimal in comparison to those being allocated by allies. R&D has been neglected by European countries with a short-sighted vision that is driving them to prioritise the purchase of off-the-shelf equipment from abroad. Furthermore, fragmentation within the European market is creating issues around ownership and in turn limiting the exchange of knowledge and expertise which R&D efforts would benefit from. Europe must prioritise accelerating the development of emerging and disruptive defence technologies for it is this that will strengthen the region's security and enhance its strategic advantage. Furthermore, amid greater geopolitical turmoil, which is obliging states to rethink their roles within the international order, R&D presents an opportunity for Europe to carve out a role for itself as a pioneer in specific defence technologies and industries.

