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Leading in spending, lagging in innovation: German defence procurement compared to the UK and Poland

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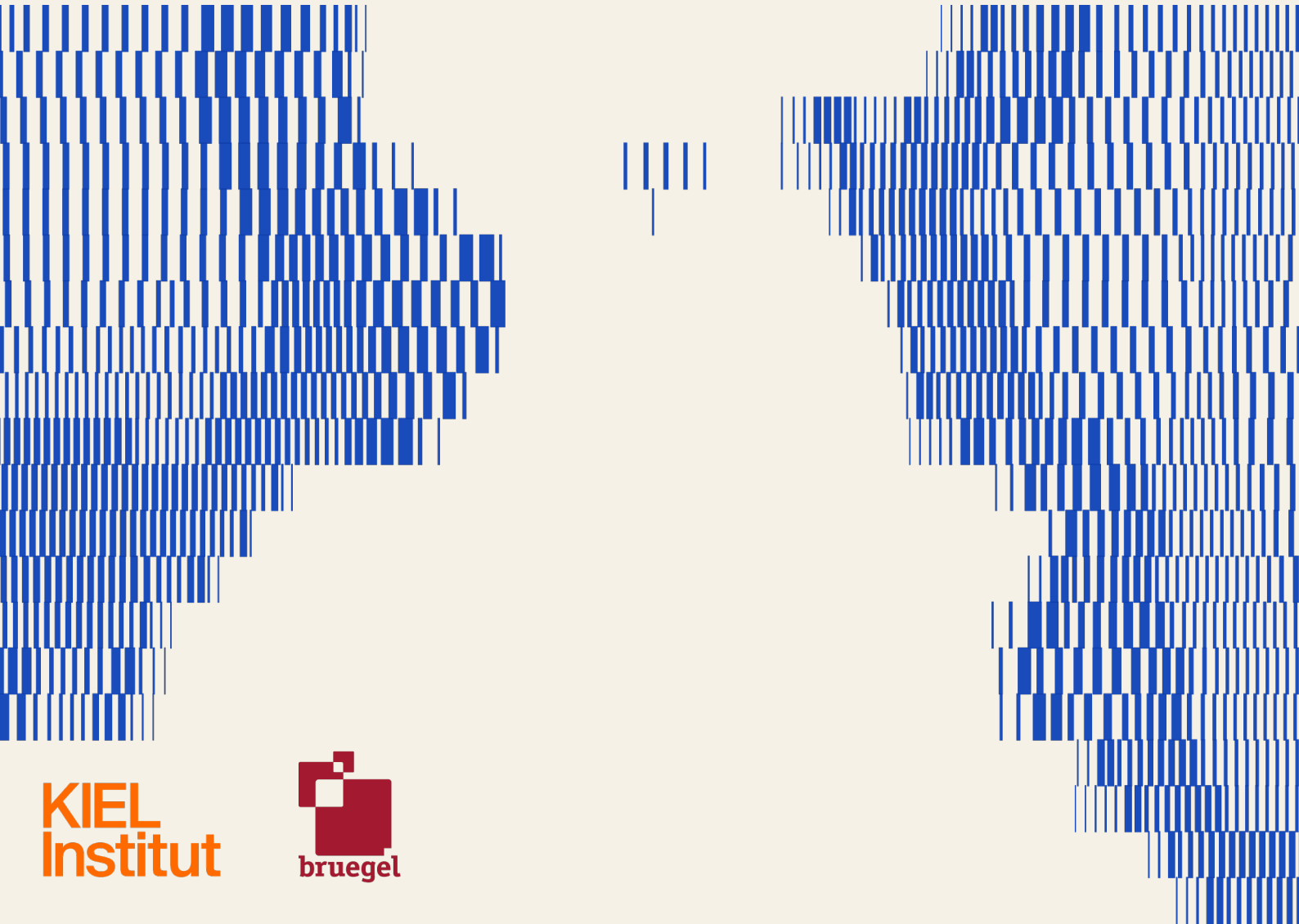

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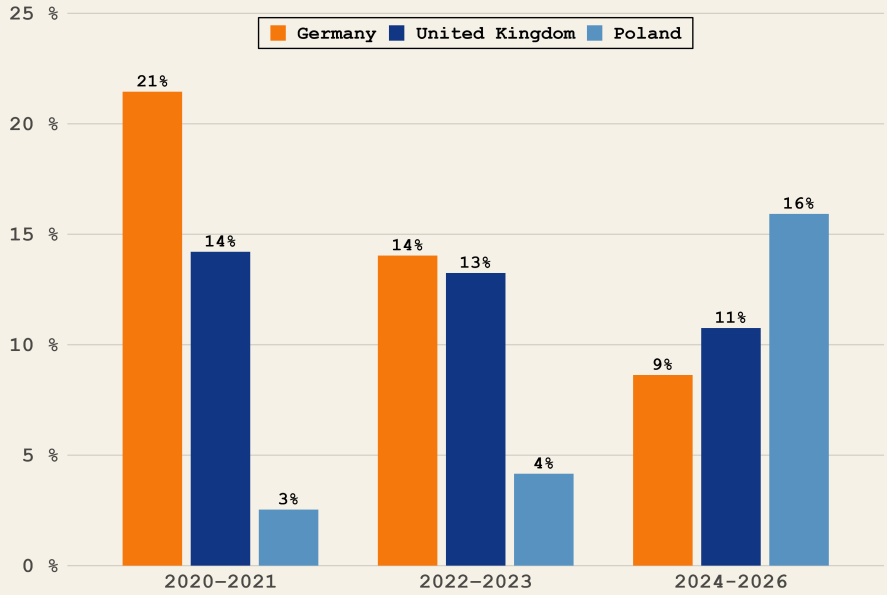
Overview

- This report is built on an update of the Kiel Military Procurement Tracker, covering the UK, Poland and Germany up to January 2026. We show that orders have grown rapidly in frequency, size and number since the start of Russia's full-scale invasion of Ukraine. In 2025, German military procurement reached roughly €85 bn and dominates overall European military procurement, compared with about €25 bn in the UK and €21 bn in Poland. But is Germany also leading in innovation?
- Defence strategies differ across the three countries. Germany's defence strategy is endorsed only by the defence minister and remains disappointing at both the strategic and the military-technological level. Reflections on Germany's contribution to European defence outside a US-led NATO are absent. While only partially public, reflection on lessons from changing warfare are limited and do not translate into a priority strategy. The UK's strategy review as well as Poland's defence strategy each carry the prime minister's backing and argue for lessons from Ukraine to be translated into an ambitious agenda.
- We measure the shift toward the new warfare paradigm in our unique procurement dataset. Based on an LLM-assisted classification of all 736 procurement orders in the dataset, only about 12 % of spending is dedicated to new-paradigm systems. In Germany, absolute spending on this category has stagnated over 2020 to 2026 while its share has fallen distinctively. The UK has raised absolute spending but seen its share stagnate; only Poland has increased both the absolute amount and the share of procurement devoted to new-paradigm equipment.

Trends in new warfare paradigm procurement shares



This figure shows share of procurement (measured in monetary terms) of new paradigm items for each time period and country. The calculations are based on the *Kiel Military Procurement Tracker* and our classifications, as described in 4.1.

- Germany, despite the highest spending levels in Europe, shows the slowest transformation of the three, possibly reflecting the absence of top-level political leadership.

A re-orientation of Germany's procurement strategy is needed to prioritise early technological change. An update of military and training doctrines would be the necessary complement. Failing to learn the lessons may well mean that credible deterrence capabilities are not achieved or at excessively high costs.

- We also show that across all three countries, the data confirm a strong home bias in procurement, with purchases from global suppliers falling sharply in 2025. Genuinely pan-European procurement remains extremely limited, pointing to fragmented industrial bases rather than a coordinated European rearmament effort.
- Moreover, we show that expected delivery timelines at the time of ordering are long: Where final delivery dates are specified, they typically fluctuate between two and four years across all three countries. In Germany, however, a growing share of orders is placed without any reported specified delivery date, a trend not observed in the UK or Poland.

Keywords: Defence, Armament, Weapon industry, Procurement, Germany, Europe, Russia

JEL classification: H41, H56, H57, H60, L64, N44

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1 Introduction

European rearmament remains a key priority given the continued Russian aggression against Ukraine and the emergence of a new war of the US and Israel against Iran. When the full-scale Russian attack against Ukraine occurred in 2022, European armies were weak – 25 years of peace dividend had left substantial gaps in terms of personnel and arms. Since 2022, defence budgets and military procurement have increased substantially. But has rising spending across key European countries actually delivered the right capabilities and done so in the right time frame?

In April 2026, Germany adopted its first military strategy concept document for the Bundeswehr[1]. It builds on NATO capability targets and translates them into national goals, proceeding in three steps. The document sets three timelines. In a first phase until 2029, it seeks to build maximum "Durchhaltefähigkeit" (the capacity to sustain an attack) by relying on existing structures; in a second phase by 2035, it aims to see a major increase in capabilities ("Strukturierter Zuwachs"); and finally, by 2039 it aims for technologically superior capacities ("technologisch überlegenen Streitkräften"). For the coming years, the key focus is the build-up of the number of soldiers combined with the ongoing rearmament plans.

The public document reads unambitious and ill-guided on a geopolitical - strategic level as well as on a military - technological level. First, on the geopolitical-strategic level, it rightly identifies Russia as the main threat, with Russia being mentioned 17 times in the document. However, Germany's strategy is framed as necessary to become a stronger ally to the US and almost exclusively in the context of NATO (with NATO being mentioned 23 times).[2] Little to nothing is said about alliances with European partners and capability gaps that a departing US would leave. European allies such as France are absent in the document, which is surprising at a moment where France has opened up a discussion on a Europeanisation of its nuclear deterrence.[3] Neither the UK nor Poland or the Baltic states (with the exception of Germany's brigade in Lithuania) are mentioned. Military alliances such as the Joint Expeditionary Forces (JEF) are absent as well. On a geopolitical-strategic level, while the document speaks of Germany's new leadership role ("neue europäische Führungsrolle"), it fails to engage with the key militaries of Europe and their strategies. Germany's strategy remains centred on the US and NATO, possibly in the hope that a larger German contribution will resolve transatlantic differences, instead of pro-actively assessing which military gaps a departing US would leave that need to be filled.

Second, on a military-technological level, the document is equally unambitious and contrasts with similar strategy documents of the UK, Poland and the EU. For example, the

[1] in German: https://www.bmvg.de/resource/blob/6093766/01b1718498c25db9010ea13724d7a37a/dl-gesamtkonzeption-der-militaerischen-download-deu-data.pdf;inEnglish:https://www.bmvg.de/resource/blob/6093998/678875025812878cfa657f9801f62ffc/dl-gesamtkonzeption-der-verteidigung-eng-data.pdf

[2] With this framing, Germany remains stuck in the military strategy pursued since the 1950s, in which key capabilities that are necessary for defence remain exclusively in the hands of the US - and that at a moment in which international observers argue that the moral authority of the US is gone. See for example Pisani-Ferry https://www.lemonde.fr/en/opinion/article/2026/05/02/jean-pisani-ferry-the-united-states-has-lost-its-moral-authority-for-good_6753056_23.html

[3] Germany's document mentions nuclear sharing once in the context of NATO and how Germany provides troop under the leadership of the US SACEUR.

UK Strategic Defence Review 2025 shows a substantive doctrinal shift: Already the first paragraph of the introduction, signed by the prime minister, makes explicit reference to how the nature of warfare is transformed in Ukraine.[4] The UK review mentions the concept "autonomous" 27 times, while the German review mentions it only 3 times. It draws ambitious conclusions, emphasizing the integration of conventional forces with digitally-enabled and increasingly autonomous systems such as drones (Ministry of Defence, 2025). Similarly, the European Commission (2025) emphasises the need for disruptive innovation for defence readiness. Meanwhile, the last Polish National Security Strategy was published in 2025,[5] and engages with topics such as artificial intelligence and quantum technologies, however, it is not a military strategy. The new army development programme of Poland reportedly prioritise air and missile defence, expanding ammunition resources, and equipping the army with drones and counter-drone systems, artificial intelligence for the period 2025-39.[6]. It is however not publicly available. Poland's modernisation of armed forces has been strongly promoted by the Prime Minister, who recently called for a "drone armada" to be developed with Ukrainian expertise.[7]

Several countries in Europe have already concretely drawn lessons and reportedly changed priorities. For example, Estonia cancelled a €500 million combat vehicle purchase to switch to drone purchases.[8] Denmark created the Defence Innovation Highway (DIH), a platform for speeding up cooperation in defence innovations between Ukraine and Nordic countries.[9]

In the German strategy document, technological superiority is positioned as a Phase 3 objective (from approximately 2035 to 2039). However, much of NATO communication puts 2029 as the moment of greatest acute risk of Russian aggression against European territory. The German document itself characterises an adversary that will employ artificial intelligence and autonomous unmanned systems without limitation and hesitation ("uneingeschränkt"). It is a positive development that the German document has clearly updated its "Kriegsbild" and names these developments clearly.

The fact that Ukraine has claimed to have just achieved its first autonomous battlefield[10] victory over Russia in the year 2026 and the fact that cheap and mass-produced systems such as Shahed drones have dealt a strategic setback or even defeat to the US in its war against Iran[11] suggests that the speed of modernisation is critical. The relevance of the strategic shift should be immediately obvious for Western European militaries. In fact, in a number of recent war exercises, Ukrainian troops with their modern strategies reportedly devastated existing NATO fighting units.[12]

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[4] "We must recognise the very nature of warfare is being transformed on the battlefields of Ukraine and adapt our armed forces and our industry to lead this innovation."

[5] https://www.gov.pl/web/premier/strategia-bezpieczenstwa-narodowego-rzeczypospolitej-polskiej

[6] https://polska-zbrojna.pl/Mobile/ArticleShow/45423 and https://militarnyi.com/en/news/poland-plans-to-formally-increase-its-army-to-500-000-by-2039/

[7] https://notesfrompoland.com/2026/04/27/poland-announces-plans-for-drone-armada-to-be-developed-with-ukrainian-expertise/

[8] https://news.postimees.ee/8449574/estonia-cancels-500m-combat-vehicle-purchase-boosts-drone-defense

[9] Co-founders: Esben Gadsbøll (Copenhagen, Denmark) and Iryna Supruniuk (Kyiv, Ukraine)

[10] see https://www.bbc.com/news/articles/c9d35v126vyo

[11] https://edition.cnn.com/2026/05/01/world/video/us-military-bases-iran-strikes-images-invs-digvid?utm_source=substack&utm_medium=email

[12] During military exercises with NATO countries in Estonia, a Ukrainian group defeated battle groups of the Alliance. The team played the role of the opposing force and carried out drone attacks. https://theukrainianreview.info/ukrainian-troops-defeated-nato-battle-groups-during-the-military-exercises/ Off the

In addition, European forces suffer from a significant lack of experience and scale. Ukraine currently fields approximately 130 combat brigades, battle-hardened from four years of conflict, and provided with constantly iterated equipment, doctrine, and training suited to the evolving nature of the war. Russia fields roughly similar numbers of combat personnel in Ukraine. In contrast, the major military powers in Europe - the UK, France, Germany, Italy, and Poland - can field approximately 50 combat brigades between them.

Germany's strategy would thus be well-served to focus on modernisation of doctrine, training and procurement. On the training side, a massive increase in the frequency of trainings with Ukrainian type of forces is needed combined with iterative learning between its military forces and the defence industry. On the procurement side, that means including mass-produced systems, greater autonomy, AI-enabled command, and the integration of cheap weapons with high-end platforms central in the purchases of today. The need for a shift is now and not in more than 10 years.

Although not all parts of the strategy are publicly available and therefore a substantial direction of procurement and military planning towards such systems may be scheduled earlier, the publicly available strategy explicitly anticipates these technology upgrades for the period after the most acute window of risk[13]. This lack of coherence may well be a result of Germany's strategic reliance on NATO, which has not yet published an ambitious strategic re-orientation[14], and the US, which has gone to war with Iran without learning the lessons from Ukraine. Overall, while the document engages with the topic of modernisation, it is not clear whether it translates the critical issue into a strategic agenda to make it a core tenet of Germany's military power. Whether or not Germany seriously engages with military modernisation is thus largely an empirical question. To our knowledge, no systematic assessment of changes in procurements of Germany, the UK and Poland has been made. Against this background, this paper updates previous research quantifying the size and the speed of rearmament, focussing on two major dimensions: First, we quantify procurement of new types of disruptive technologies such as autonomous systems, drones, AI-based systems and network-centric platforms in Germany, Poland and the UK using the updated *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026). Second, given the criticality of timely deliveries and the fact that European armed forces do not always publish which of the large procurements of previous years have been actually delivered, we provide data on expected delivery delays at the moment of procurement. The second point is particularly important for those countries that apparently do not know what has already been delivered due to lack of digitalisation of their procurement order flow.[15]

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coast of Portugal, a Ukrainian-led team went up against NATO forces in a naval combat drill targeting ships and ports with naval drones. The Ukrainian "red" team, operating the naval drones, reportedly won in every scenario. https://www.businessinsider.com/ukraine-says-its-team-beat-nato-forces-naval-drone-drills-2026-3

[13] The document does say that it wants to accelerate modernisation but it remains unclear how. "Wo immer möglich, werden bestehende Systeme und Plattformen bereits ab der Phase 1 so ersetzt, Verfahren und Organisation so angepasst, dass militärische Effekte effektiver, mit weniger Personal, schneller und günstiger erzielt werden können"

[14] The last Strategic Concept brief being published in June 2022, after the onset of the Ukraine war but too early to take stock of its lessons.

[15] "»Eine automatisierte, zentrale Auswertung aller Beschaffungsprojekte im Sinne der Fragestellung ist nicht möglich«, erläuterte das Ministerium. Folglich müssten mehrere Tausend Seiten händisch ausgewertet werden. Der Personalaufwand dafür wäre aus Sicht des Ministeriums »nicht absehbar«." cited from https://www.spiegel.de/politik/deutschland/bundeswehr-seit-zeitenwende-rede-ruestungsgueter-fuer-111-milliarden-euro-bestellt-a-8b8b0406-4000-4701-aea6-ae91c2d183a6

Previous research documented that it would take decades for Germany to match Russian military production and that severe gaps in key strategic enablers such as satellites and air defence exist across key European countries (Wolff, Burilkov, et al., 2024; Burilkov et al., 2025). More recent research has increasingly focused on the effectiveness of military spending in achieving military capabilities that ensure effective deterrence. One stream of research focused on military dependence on the US, in particular on US technologies (Mejino-López, Ospital, and Wolff, 2026; Mejino-López and Wolff, 2026), showing that substantial parts of European purchases of high-tech equipment went to the US rather than domestic firms – raising issues of strategic autonomy. Purchases in Europe are also a question of the effects on economic growth given the evidence in Antolin-Diaz and Surico, 2025 showing long-term positive GDP effects of military innovation.

Another strand of research focuses on the defence industrial base on which procurement draws. Kapstein, Ospital, and Wolff, 2026 document a strong reliance on big national champions and argue for a modernisation of procurement processes to allow small and innovative defence companies to access European military procurement, drawing lessons from US procurement reform. Mejino-Lopez and Wolff, 2025 focus on the types of industrial policy and market structures that would be needed to ensure greater scale and scope in the European defence market. Wolff, Steinbach, and Zettelmeyer, 2025 stress the importance of European funding as a way to not only reduce costs per European taxpayer but more importantly as a way to reach critical market size that is needed for European autonomy. Schularick and Binder, 2026 stress the need to review procurement priorities and budget.

The remainder of this report is structured as followed. Section 2 introduces the methodology for compiling the procurement dataset and makes that dataset available. Section 3 shows key charts documenting European military procurement up to January 2026 updating the previous two Kiel reports on European procurement to January 2026 – showing a detailed picture of ongoing military purchases. We also provide estimates of the delivery dates expected at the moment of procurement. Section 4 then provides a methodology for assessing to what extent military purchases have gone to new disruptive military technologies and it presents the results. Have key European military administrations increased their purchases of equipment vital for modern warfare? The final section concludes.

2 Data compilation: methodology

In this section, we build on the key results of Burilkov et al. (2025), and provide the third edition of the *Kiel Military Procurement Tracker*[16]. The *Tracker* is a database of military procurements ordered from January 2020 to January 2026 by Germany, the UK, and Poland, with data in the third edition going up to January 2026.[17] We take official

[16] Available for download at https://www.kielinstitut.de/publications/kiel-military-procurement-tracker-17722

[17] We unfortunately omit France from our discussion in this paper due to incomplete spending data since mid-2025; in the Tracker it remains updated for January 2020 to April 2025, with less detail than the

announcements and press releases from the websites of European ministries of defence to identify individual orders.

Our database tracks information on the item ordered, the company from which it is ordered, number of units ordered, the earliest and latest expected delivery dates, the monetary amount of the order, the budgetary vehicle providing funding, and whether the order is part of a framework agreement. It also records the country in which the headquarters of the company responsible for fulfilling the order is located as well as the physical production or manufacturing country of the order in cases where the information is available. To be as robust as possible, in cases where a domestic company taking an order is a foreign subsidiary, we count them as partnerships with the country of origin of the parent company.

We classify orders into 15 general item types: tanks, armoured vehicles, artillery, ammunition, air defence systems, missiles (further differentiated into land, naval, and air variants), drones, infantry, mines, helicopters, aircraft, naval, modernisation (refers to the improvement of the armed forces as a whole), and other. Each general item type has a subcategory for research and development in that category.

The database only includes items mentioned as military orders or expenses by official government news and press release pages. Orders for which an official source has not been found are completely excluded. Information from government sources forms the basis of the database and carries the most weight and authority in case of discrepancies with other sources. In cases where the government source omits important information pertaining to an order, non-government sources such as company webpages that specifically refer to the order and contain missing details may be used to supplement the official source and fill out the database as much as possible.

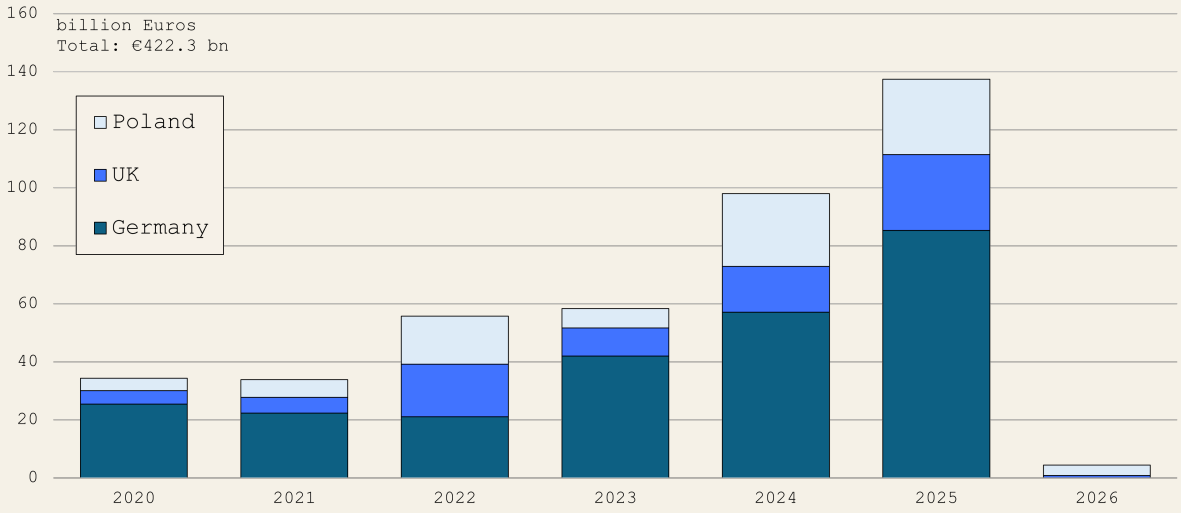
We make no claims regarding the absolute completeness of our data, since this depends only on the orders that featured countries have been obligated to publish, or have otherwise chosen to publish. Nevertheless, Germany has the most complete data relatively speaking, since according to German law, the Bundestag Budget Committee must approve any military procurement over €25 million. The German Ministry of Defence has reported that aggregate procurement in 2025 totalled just over €86 billion (Fleischer, 2025), which compares well with the €85 billion we have recorded. The UK and Poland have no such rules, though still feature fairly regular reporting at a good level of per-order detail.

other countries.

3 European military procurement: how much foreign supply and which delivery delays?

In updating the *Tracker* up to January 2026 we capture a large quantity and total value of new orders across all countries. Figure 1 provides a summary of total annual order value by country from January 2020 to January 2026. We record €422 billion in total across all years for Germany, the UK, and Poland, of which €137 billion was in 2025 alone, the highest year so far and by a significant margin. Of this, €85 billion was by Germany, €26 billion by the UK, and €26 billion by Poland, all records. The number of orders is also at an all-time high, so for all countries, but Germany especially, 2025 was the most active year yet for new military procurements.

Figure 1: Country summary procurement value from January 2020 to January 2026 (billion EUR)



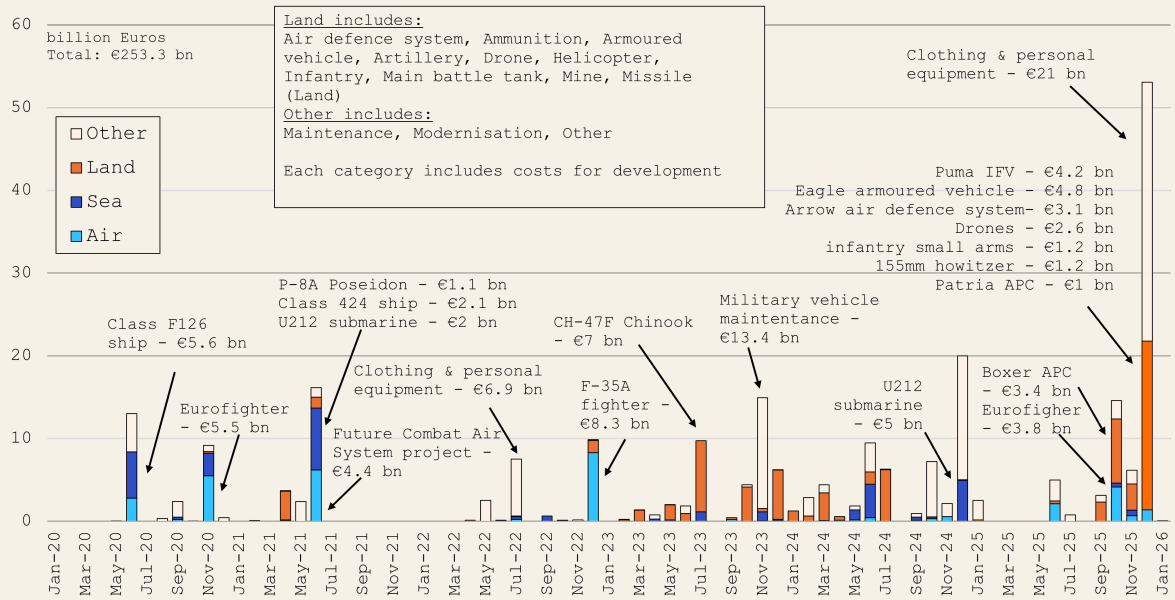
This figure shows the summary of the *Kiel Military Procurement Tracker* for Germany, the UK, and Poland for the years 2020-2026 in € billion. We exclude France because there is not enough monetary data available to make a comparable analysis with the other countries. For all countries, there is no way to verify how much military procurement spending we are missing, and we are not aware of a viable method of benchmarking the data. Hence, our results should be interpreted cautiously and as a lower bound. Source: *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026).

3.1 Germany

Figure 2 provides the details of Germany's order activity from January 2020 to January 2026. As can be seen, the second half of 2025 featured considerable spending by Germany. December 2025 saw the highest total order value ever recorded in one month, at over €53 billion. Remarkably, unlike many previous months with relatively high order value, this was not concentrated in a small number of high-cost items, but came from a multifaceted, high-volume package. Two fifths (€21 billion) of the December order

were for clothing and personal equipment - a purchase heavily critiqued by the German Court of Auditors[18] and Wolff, 2026. The December purchase also included armoured vehicles, air defence systems, drones, infantry small arms, and artillery systems. Other major purchases in late 2025 include €3.8 billion for the latest tranche of 20 Eurofighters, and €3.4 billion for over 200 Boxer APCs, with both orders being placed in October.

Figure 2: Germany total military orders by weapon category, January 2020 - January 2026 (billion EUR)



Germany's total military orders by weapon category (Air, Sea, Land, Other) in € billion over time between January 2020 and January 2026. Source: *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026).

We record over 100 individual products or services procured in the second half of 2025, an exceptional amount comprising nearly one third of total unique procurements since 2020 for Germany. Over 40 items were ordered in the December spending package alone, higher even than the entire year 2020, which, for reference, saw 27 items or services procured for a total cost of €25.4 billion. Of the €222.3 billion German military orders with known origin recorded between January 2020 and January 2026, 55% have been placed with German suppliers, and an additional 30% with German suppliers in partnership with foreign companies (this includes purchases from subsidiaries of foreign companies). Non-European orders comprise 12% of the total, while imports from European but non-German companies account for the remaining 3%.

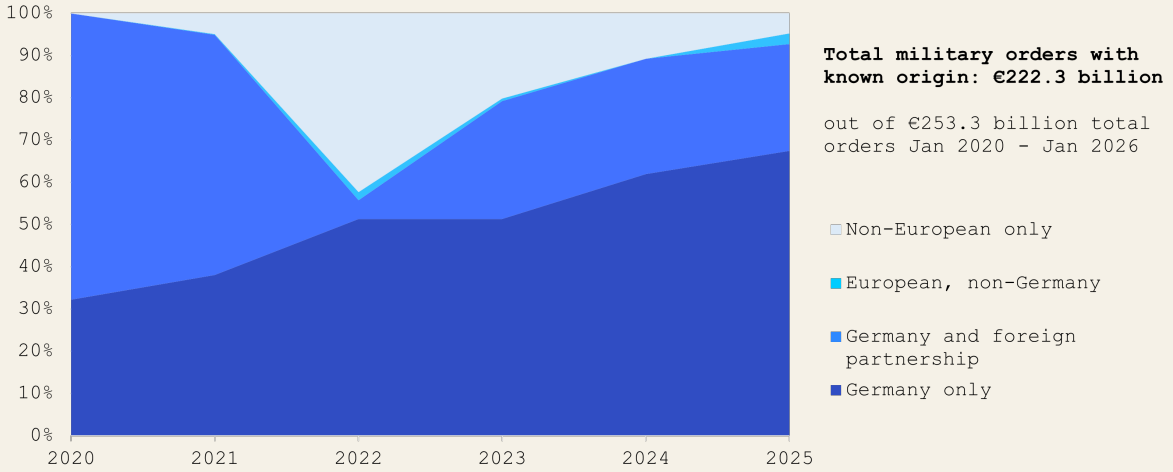
As shown in Figure 3, the share of Germany-only spending has grown each year from one third of total order value in 2020 to two thirds in 2025. Orders to non-European companies prior to the Ukraine war was marginal, but exploded to over 40% of total spending in 2022, and has declined in relative terms each year since then. This reflects a surge in US-only imports of big-ticket items such as F-35s, Chinooks, and Patriot batteries, in an attempt to quickly grow capabilities once the war began. Such extraordinary spending

[18] https://www.politico.eu/wp-content/uploads/2025/12/09/document-2025_12_21.pdf

was primarily funded via the €100 billion *Sondervermögen* (special fund), of which €86 billion is accounted for in the *Tracker*, though by now we consider it fully exhausted.[19]

Importantly, Germany spent virtually no significant amounts during the period on defence products from other European countries, confirming the assessment of Wolff, Steinbach, and Zettelmeyer, 2025 of the absence of a single market. Importantly, as the by-far most sizable purchaser of defence products not engaging in direct cross-border purchases, the development of more integrated market structures is likely going to be difficult.

Figure 3: share of total military orders by country of origin of the company which received the order, January 2020 – January 2026 (% total)



This figure shows the share of Germany's total military orders by country of origin of the company which received the order in € billion over time between January 2020 and January 2026. This figure refers to the country where the headquarters of the company that received the order is located. As such, the location of actual item production and manufacturing may differ. "Germany and foreign partnership" refers to cases where either (a) a German and non-German company jointly receive an order, i.e., they work together on developing and producing an item, or (b) a non-German company receives an order but the item is produced in Germany. We cannot confirm development country for around €31 billion worth of total orders. Source: *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026).

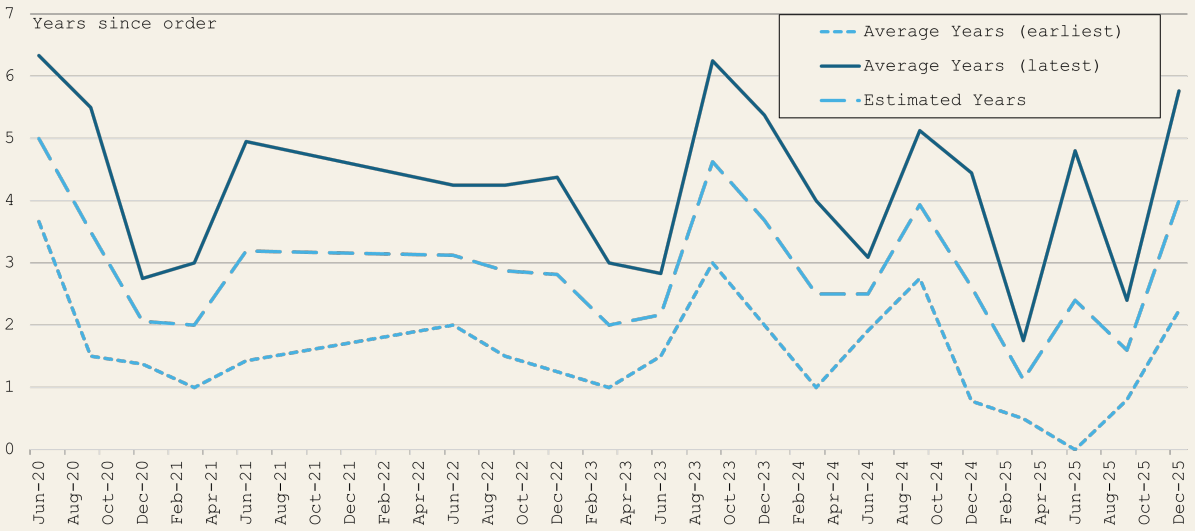
Finally, our dataset allows to track the delivery dates that are expected and reported by the ministry of defence. We report two statistics: first, for those orders for which the data is available, the earliest and latest expected delivery date as well as the average delivery time. Second, we also report the percentage of orders for which no final delivery date is publicly reported. We interpret the second statistic as providing an indication of the uncertainty the ministry has as to when it will receive equipment. Providing these statistics is particularly important at a moment, in which the ministry is procuring a lot, but reportedly is not able to assess what purchased equipment has already been delivered.[20]

Figure 4 shows that average reported delivery times have fluctuated around 2 to 3 years. Full capabilities, in the sense of all ordered items to be expected to have fully arrived,

[19] The remainder we attribute to high-value multi-item orders with no clear single funding source, such as the large packages in 2025 -- for which we have recorded €14 billion spent by the special fund, whereas the Federal Ministry of Defence reports €24 billion (Fleischer, 2025).

[20] https://www.spiegel.de/politik/deutschland/bundeswehr-seit-zeitenwende-rede-ruestungsgueter-fuer-111-milliarden-euro-bestellt-a-8b8b0406-4000-4701-aea6-ae91c2d183a6

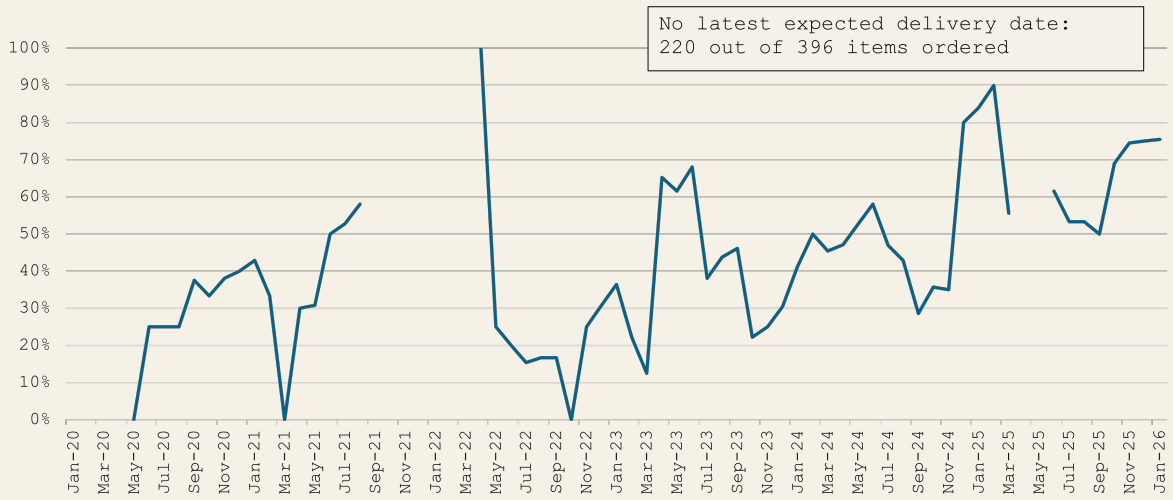
Figure 4: Germany quarterly estimate of the number of years needed to deliver the ordered equipment where available, January 2020 – January 2026 (quarterly average)



Out of the 396 ordered items recorded for the years 2020-2026, 151 have both an earliest and latest expected delivery date. In cases where the order is not an item to be delivered per se (e.g. a maintenance contract), the "delivery date" refers to the expected date where the contractor's obligation to provide a service to the Bundeswehr ends. This figure shows the estimated number of years it takes for an order to be fulfilled after it has been placed as a function of time. It shows the quarterly average years until an earliest expected delivery date and until a latest expected delivery date. We take a further average of these two quarterly values to estimate the average years it takes to fully deliver an item or fulfil an order. Source: *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026).

however, fluctuates around 4-5 years. A military purchase of for example 100 identical pieces of equipment may thus be only fully delivered after 5 years, or after the threat horizon of 2029 identified by NATO. More worryingly, Figure 5 shows that the share of orders, for which **no** final delivery date for all purchased equipment pieces is provided, has been constantly growing - with now around 70% of the orders without final delivery date.

Figure 5: Germany proportion of ordered items without a latest expected delivery date, three-month moving window (January 2020 – January 2026) (3-month moving average)



This figure shows the proportion of ordered items that do not have a latest expected delivery date (220 in total) within a three-month rolling window consisting of each month and the two months prior. These items have either (a) no expected delivery date, or (b) only an earliest expected delivery date. Altogether Germany has ordered 396 items. Source: *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026).

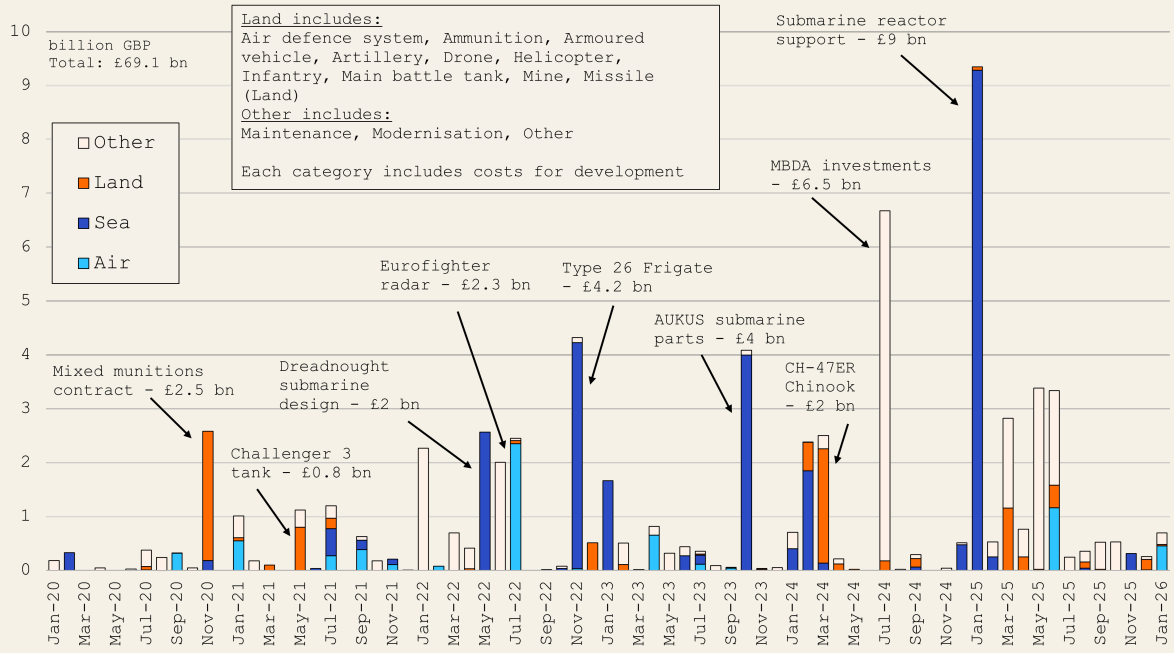
3.2 The United Kingdom

For the UK, as shown in Figure 6, May 2025 saw the purchase of several large contracts such as for equipment trials and testing (£1.5 billion), munitions and energetics investments (£1.5 billion) and operations and command tools (£1 billion). In June 2025, 12 F-35 fighter jets were purchased for a total cost of £960 million. New UK data since then was otherwise relatively low in order value, despite roughly equivalent numbers of individual orders each month on average. Nevertheless, paired with the £9 billion in submarine reactor purchase followed by robust spending from March to June, the total of £23 billion spent in 2025 was the highest recorded yet of any year.

When it comes to the origin of purchases, the UK buys predominantly domestic or from UK firms operating with foreign partnerships (as defined above, this may include subsidiaries of foreign companies producing domestically, Figure 7). As in the case of Germany, there are almost no direct purchases from other European countries. However, contrary to Germany, the UK also does not buy directly from suppliers outside of Europe but rather chooses to establish partnerships, which take a very significant share of the domestic demand.

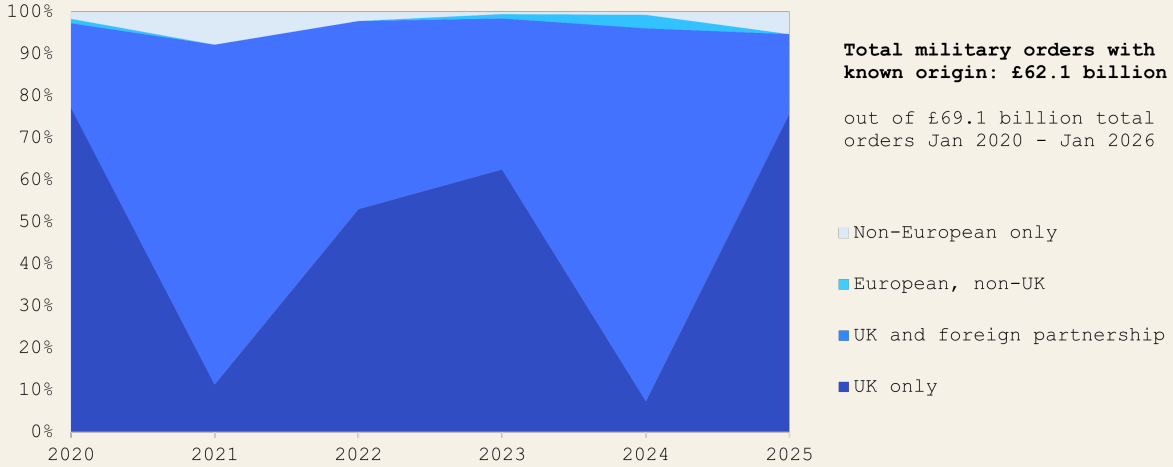
As concerns the expected delivery dates, UK average numbers look quite similar to the German ones, with average years hovering around 2-3 years with some improvements more recently (Figure 8). Contrary to Germany, there is no systematic trend when it comes to the percentage of orders that do not report a final expected delivery date but the average share of orders without delivery delay is also relatively high (Figure 9).

Figure 6: UK total military orders by weapon category, January 2020 - January 2026 (billion GBP)



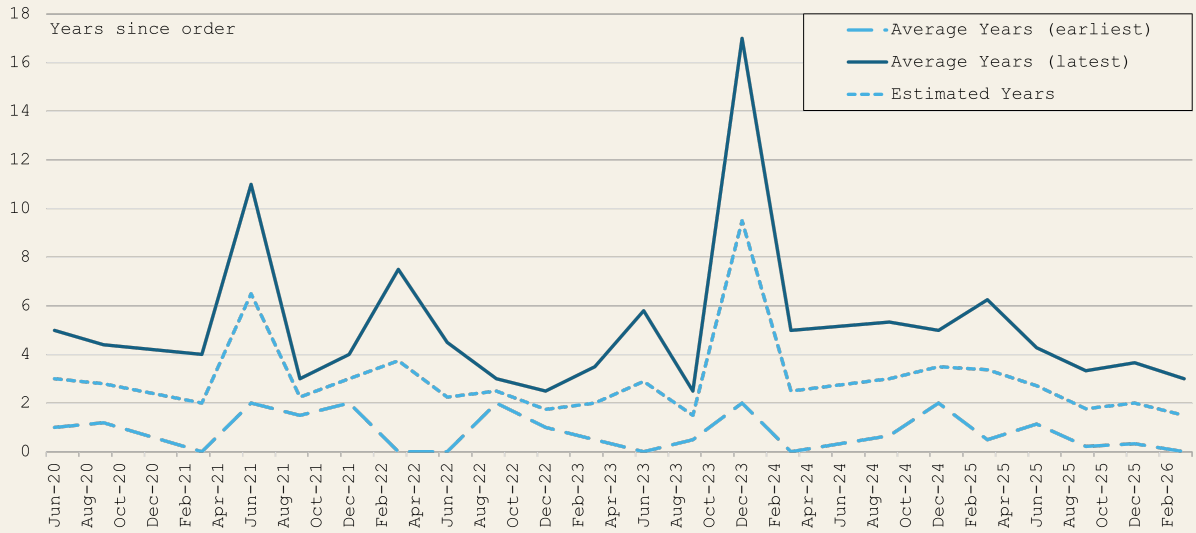
This figure shows the UK's total military orders by weapon category (Air, Sea, Land, Other) in £ billion over time between January 2020 and January 2026. Source: *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026).

Figure 7: UK share of total military orders by country of origin of the company which received the order, January 2020 – January 2026 (% total)



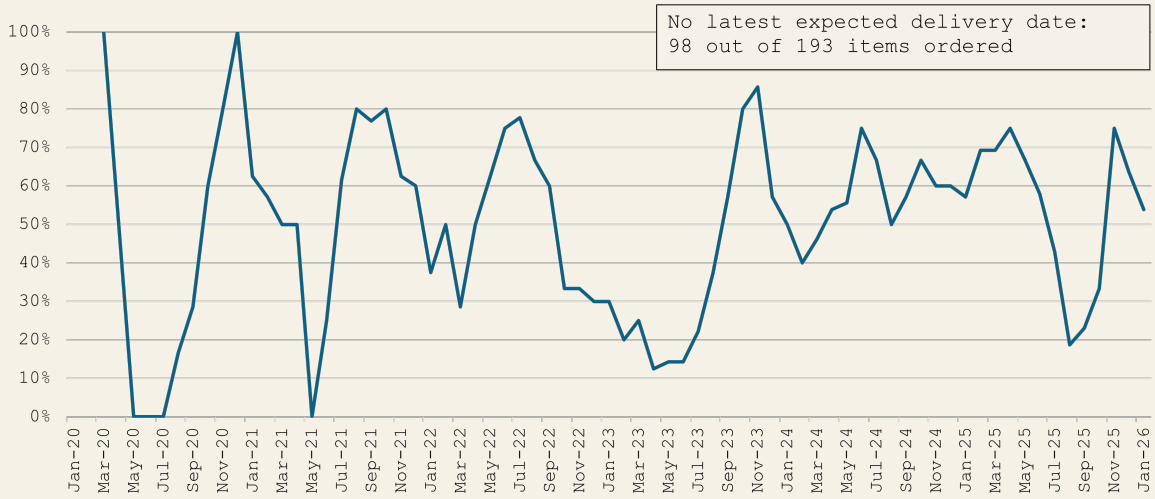
This figure shows the share of the UK's total military orders by country of origin of the company which received the order in £ billion over time between 2020 and 2026. This figure refers to the country where the headquarters of the company that received the order is located. As such, the location of actual item production and manufacturing may differ. "UK and foreign partnership" refers to cases where either (a) a British and non-British company jointly receive an order, i.e., they work together on developing and producing an item, or (b) a non-British company receives an order but the item is produced in the UK. We cannot confirm development country for around £7 billion worth of total orders. Source: *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026).

Figure 8: UK quarterly estimate of the number of years needed to deliver the ordered equipment where available, January 2020 – January 2026 (quarterly average)



Out of the 193 ordered items recorded for the years 2020-2026, 73 have both an earliest and latest expected delivery date. In cases where the order is not an item to be delivered per se (e.g. a maintenance contract), the "delivery date" refers to the expected date where the contractor's obligation to provide a service ends. This figure shows the estimated number of years it takes for an order to be fulfilled after it has been placed as a function of time. It shows the quarterly average years until an earliest expected delivery date and until a latest expected delivery date. We take a further average of these two quarterly values to estimate the average years it takes to fully deliver an item or fulfil an order. Source: *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026).

Figure 9: UK proportion of ordered items without a latest expected delivery date, three-month moving window, January 2020 – January 2026 (3-month moving average)

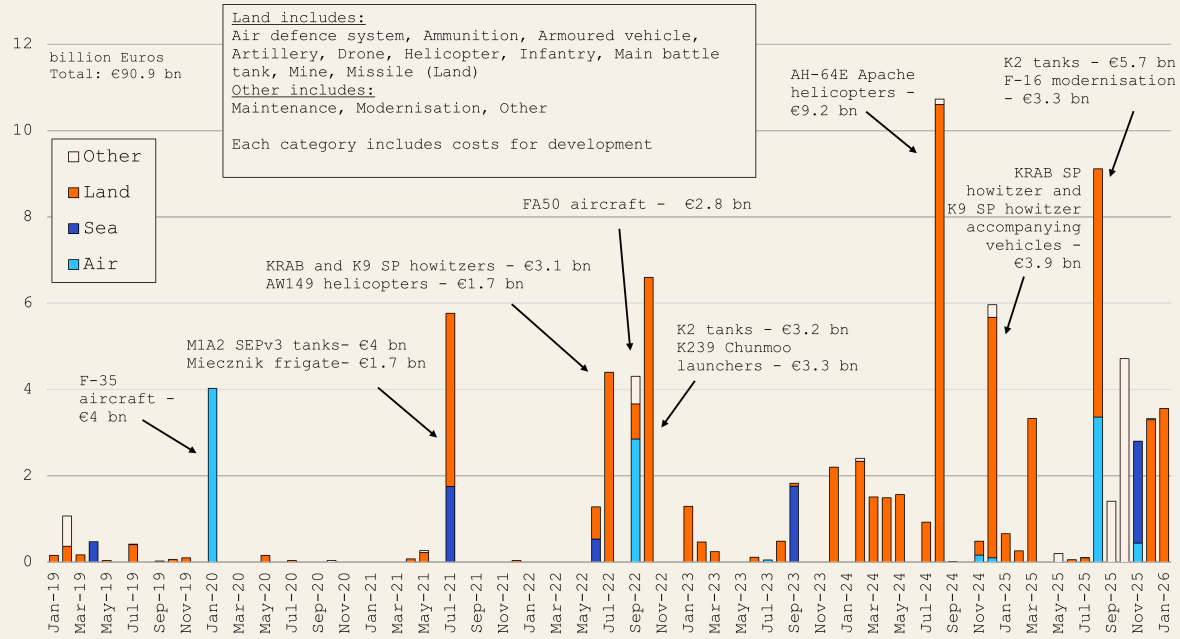


This figure shows the proportion of ordered items that do not have a latest expected delivery date (98 in total) within a three-month rolling window consisting of each month and the two months prior. These items have either (a) no expected delivery date, or (b) only an earliest expected delivery date. Altogether the UK has ordered 193 items. Source: *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026).

3.3 Poland

A number of high-value orders were made by Poland since May 2025 (Figure 10). Among them were another batch of 180 K2 tanks (€5.7 billion) and an F-16 modernisation programme (€3.3 billion) in August 2025, and SAN anti-drone air defence systems (€3.6 billion) in January 2026. Additionally, €4.7 billion was committed in October 2025 for a military fuel pipeline, with the aim to connect Poland to the existing Central European Pipeline System – which currently allows the transfer of strategic fuel reserves between Belgium, France, Germany, Luxembourg and the Netherlands.

Figure 10: Poland total military orders by weapon category, January 2019 - January 2026 (billion EUR)

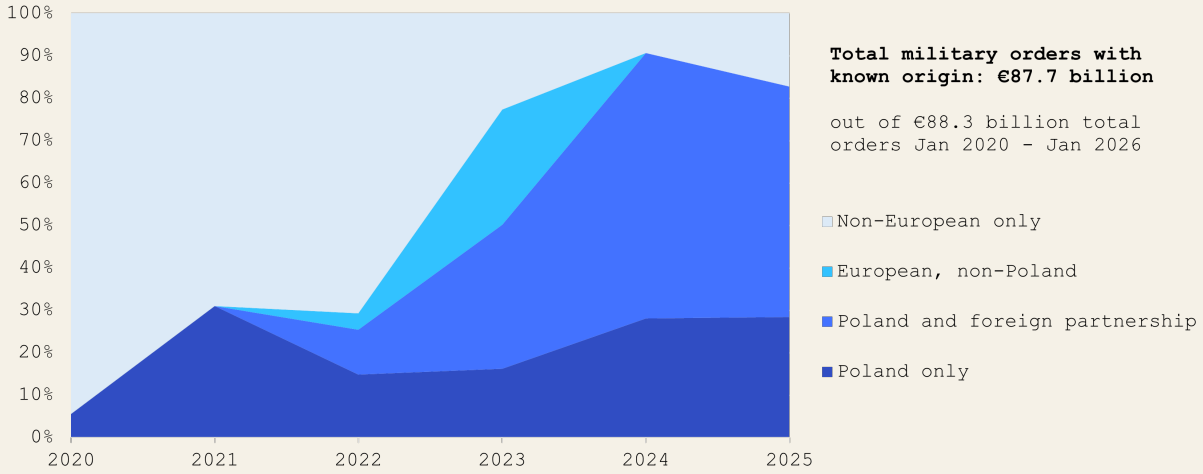


This figure shows Poland's total military orders by weapon category (Air, Sea, Land, Other) in € billion over time between January 2019 and January 2026. Source: *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026).

When it comes to purchases from foreign vs domestic suppliers, Poland has substantially changed its strategy (Figure 11). While from 2020 to 22, Poland placed more than 70% of its orders with foreign suppliers outside of Europe, by 2025, the largest supplier were suppliers working in partnership between foreign and domestic producers. This reflects a deliberate strategy in which Poland required foreign producers to establish production sites in Poland. During 2022-24, Poland also placed some orders in other European countries directly but on the whole, also in Poland the share of spending in the European market is extremely small.

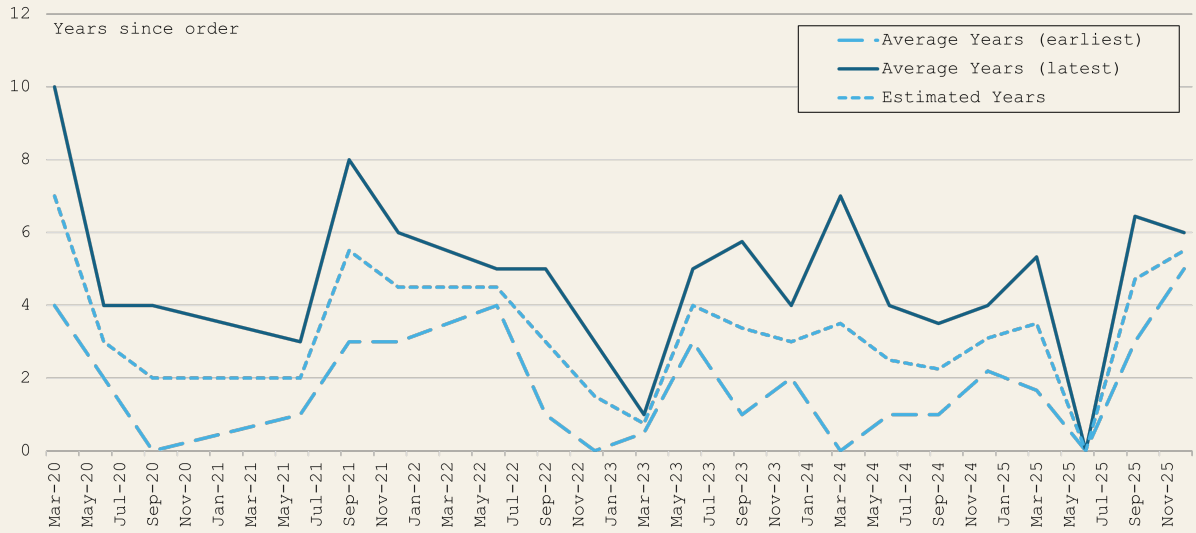
As concerns the expected delivery dates, Polish average numbers look quite similar to the German and UK ones, with average years hovering around 3 years (Figure 12). As in the UK, there is no systematic trend when it comes to the percentage of orders that do not report a final expected delivery date (Figure 13).

Figure 11: Poland share of total military orders by country of origin of the company which received the order, January 2020 – January 2026 (% total)



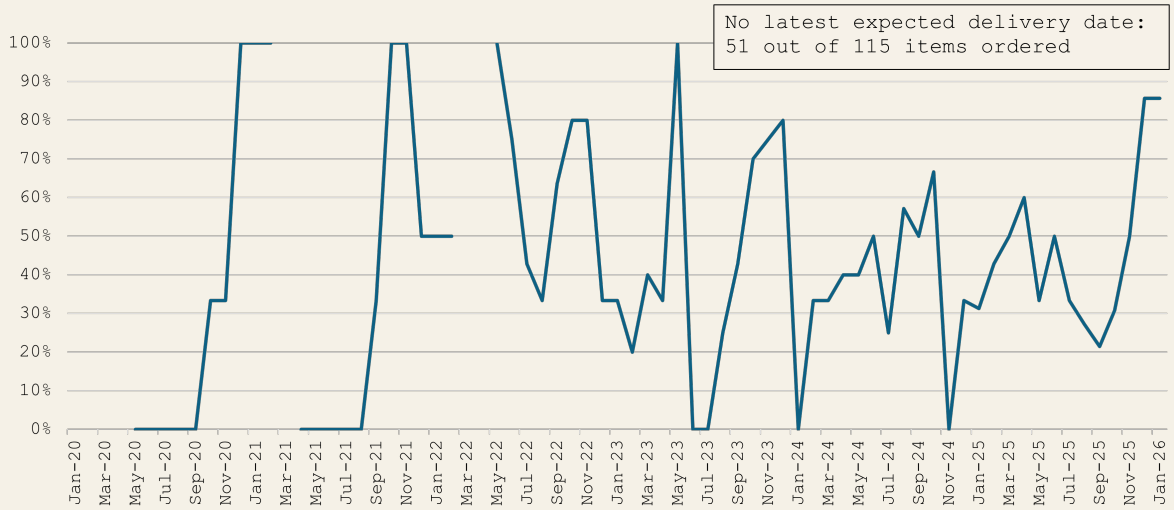
This figure shows the share of Poland's total military orders by country of origin of the company which received the order in € billion over time between 2020 and 2025. This figure refers to the country where the headquarters of the company that received the order is located. As such, the location of actual item production and manufacturing may differ. "Poland and foreign partnership" refers to cases where either (a) a Polish and non-Polish company jointly receive an order, i.e., they work together on developing and producing an item; or (b) a non-Polish company receives an order but the item is produced in Poland. We cannot confirm development country for around €0.6 billion worth of total orders. Source: *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026).

Figure 12: Poland quarterly estimate of the number of years needed to deliver the ordered equipment where available, January 2020 – January 2026 (quarterly average)



Out of the 134 ordered items recorded for the years 2019-2026, 68 have both an earliest and latest expected delivery date. In cases where the order is not an item to be delivered per se (e.g. a maintenance contract), the "delivery date" refers to the expected date where the contractor's obligation to provide a service ends. This figure shows the estimated number of years it takes for an order to be fulfilled after it has been placed as a function of time. It shows the quarterly average years until an earliest expected delivery date and until a latest expected delivery date. We take a further average of these two quarterly values to estimate the average years it takes to fully deliver an item or fulfil an order. Source: *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026).

Figure 13: Poland proportion of ordered items without a latest expected delivery date, three-month moving window, January 2020 – January 2026 (3-month moving average)



This figure shows the proportion of ordered items that do not have a latest expected delivery date (55 in total) within a three-month rolling window consisting of each month and the two months prior. These items have either (a) no expected delivery date, or (b) only an earliest expected delivery date. Altogether Poland has ordered 115 items. Source: *Kiel Military Procurement Tracker* (Wolff, Binder, et al., 2026).

4 European military spending and the warfare paradigm shift

The Russian invasion of Ukraine has not only reshaped Europe's security landscape, but also revealed a fundamental shift in the character of warfare itself. Drone swarms, satellite-based communication and intelligence, AI, network-based warfare, long-range precision strike, and real-time battlefield intelligence have moved from the margins to the centre of modern conflict, exposing the limits of procurement priorities shaped by decades of post-Cold War thinking. The critical question is not only how much European militaries are buying, but *what* they are buying and whether their procurement choices reflect the lessons of Ukraine or the inertia of established acquisition programmes.

To understand procurement priorities, we propose a methodology that classifies each procurement item in our dataset along four categories: *new paradigm* to capture new types of weapon systems and approaches as used in Ukraine and reflected on in the UK defence review; *established* to capture systems that are well established in warfare of the last decades such as platform centric expensive systems, including their modernisation; *communications* to capture purchases and investments into all types of communication systems; and *not applicable* to capture typically spending on bureaucracy, housing and other issues. The following section sets out our methodology in detail before we turn to the comparative analysis of Germany, the United Kingdom, and Poland.

4.1 Methodological approach

To assess how European militaries are equipping themselves for the new character of warfare exemplified by the war in Ukraine, we systematically classify the 736 procurement items recorded in the *Tracker* by warfare paradigm. This typology allows us to ask not merely whether Germany, the United Kingdom, and Poland are spending more, but whether the composition of that spending strikes a credible balance between established conventional capabilities and the new and emerging technologies that have proven decisive on the modern battlefield.

Defining the categories

The central distinction we draw is not between old and new technology, nor between cheap and expensive systems, but between two underlying logics of force generation. The first reflects the procurement priorities that dominated European defence planning in the decades before February 2022: a focus on small numbers of high-end platforms (main battle tanks, manned combat aircraft, frigates) optimised for expeditionary operations and crisis management, with limited stockpiles of munitions, modest investment in ground-based air defence, and communications and command structures designed for relatively permissive environments. The second reflects the lessons that the war in

Ukraine has forced onto the agenda: the decisive role of layered air and missile defence against mass strikes on civilian and military infrastructure; the saturation of the battlefield by uncrewed systems at every altitude and often at low prices (from loitering munitions to long-range strike drones); the centrality of electronic warfare, counter-drone capabilities, and contested spectrum management; the shift toward AI-enabled targeting, autonomous decision support, and manned–unmanned teaming; and the hard requirement for resilient, networked command-and-control able to fuse data across platforms in real time.

On this basis, we define the following categories:

- New paradigm: procurement that reflects the disruptive logic of force generation revealed in Ukraine. This category captures autonomous and semi-autonomous platforms (uncrewed aerial, ground, and surface systems, loitering munitions, MALE drones), manned–unmanned teaming and next-generation combat aircraft programmes designed around networked operations from inception (FCAS, GCAP), AI-enabled decision support and cross-platform real-time data fusion, networked integrated next-generation air and missile defence (e.g., IRIS-T SLM, IBCS), counter-drone systems using novel detection or effect mechanisms, directed energy weapons, strategic-scale or quantum-resistant cybersecurity, and additive manufacturing for military production.
- Established: platform-centric conventional systems, their sustainment, and incremental upgrades that do not introduce autonomy or AI as a core capability. This includes main battle tanks, armoured vehicles, conventional artillery, manned combat aircraft without AI-based target recognition, frigates, ammunition restocks, and precision-guided munitions relying on GPS, laser, or inertial guidance. Advanced but mature platforms such as the F-35 and its weapons integration are coded here, as are conventional air defence procurements (Patriot launchers, PAC-3 missiles, Stinger MANPADS), reflecting their place in the established rather than the disruptive paradigm.
- Communications: systems whose primary function is to move information, together with conventional IT security at tactical and operational scale. This covers soldier radios and personal communications kit, battlefield network infrastructure (e.g., SVFuA, Trinity WAN, TaWAN, D-LBO digitalisation services), tactical data links, SATCOM terminals, ISR satellites such as Tyche and Oberon, and conventional cybersecurity (VPN, firewall, endpoint security). Contract amendments whose deliverable is the integration of communications capabilities onto existing platforms are coded here as well.
- Not applicable: items without direct combat or operational relevance. This residual category captures training, simulators, and testing material; production facilities and equity investments, bases, housing, and infrastructure including base modernisation; food, clothing, and personal protective equipment; rear-area logistics, transport services, and shipping or storage containers; medical facilities and search-and-rescue capabilities; pensions, civilian healthcare, and travel; administrative or basic-research contracts not tied to a specific weapon system.

Classification procedure and validation

Classifications were generated using a large language model (Google Gemini 2.5 Flash). For each procurement item, the model received the associated reports from the Kiel Military Procurement Tracker as its primary input and was prompted to assign one category based on the substantive content of the reported procurement. This approach combines the interpretive capacity needed to assess ambiguous procurement descriptions with the consistency and scale required to process the full dataset systematically. The classification scheme was developed iteratively. We began with an initial coding prompt reflecting the conceptual framework set out above, applied it to all 736 items, and then manually reviewed the LLM's classifications on a random sample of 100. This review surfaced edge cases that informed revisions to both the category definitions and the prompt. We added the hand-classified items, with their corrected labels, as in-context examples in the revised prompt, then re-ran the classification on the full dataset and re-checked a further sample to confirm improved consistency. The final prompt, including the worked examples, is reproduced in Annex A.

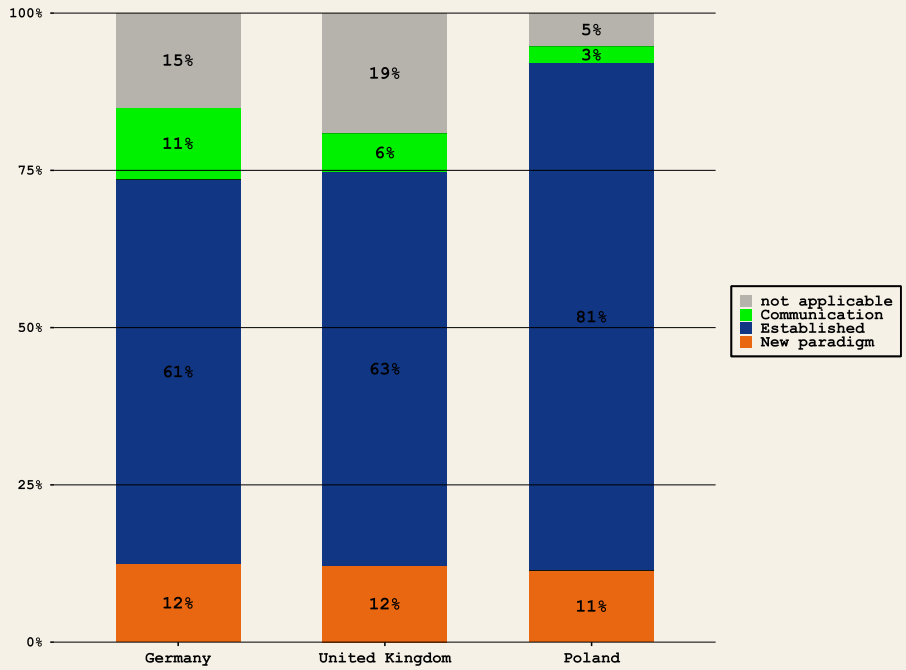
4.2 Taking stock of average military procurement priorities during 2020-26

Applying this classification to the procurement orders tracked across all three countries since 2020, Figure 14 summarises the composition of defence spending by category over the full period. The results are striking in their consistency: despite marked differences in strategic circumstance and declared ambition, Germany, the United Kingdom, and Poland have allocated their defence budgets in broadly similar ways.

Across all three countries, established platform-centric systems dominate defence procurement since 2020. Germany allocates 61% of total order value to such platforms, the United Kingdom 63%, and Poland a striking 81% – the highest share among the three. Poland's figure reflects the sweeping conventional rearmament that has defined its post-2022 posture: large-scale purchases of Abrams tanks, K2 Black Panthers, K9 howitzers, FA-50 and F-35 fighters, and AH-64 Apaches, driven by an acute sense of geographic exposure and a deliberate effort to rebuild mass and conventional deterrence along NATO's eastern flank. Germany and the United Kingdom, by contrast, have spread their platform-centric spending across a broader mix of programmes, including armoured vehicles, fighter aircraft, and air defence systems, though the underlying logic is similar: restoring or upgrading established force structures rather than investing in fundamentally new capabilities.

The second-largest category across all three countries is procurement with no direct combat or operational relevance – clothing, training, infrastructure, and base modernisation. This share is highest in the United Kingdom at 19%, followed by Germany at 15% and Poland at just 5%. The relatively high UK figure may reflect the legacy costs of an ageing estate and years of deferred infrastructure investment, while Poland's low share is

Figure 14: Procurement shares by country



This figure shows the monetary value share of spending in the categories, based on the *Kiel Military Procurement Tracker* and our classifications, as described in 4.1.

consistent with a procurement posture focused almost exclusively on rapidly acquiring frontline combat capability. Communication procurement – encompassing satellite systems, secure networks, and battlefield connectivity – represents 11% of German orders, 6% of UK orders, and 3% of Polish orders. Germany's comparatively high share here reflects several large-scale contracts for military communications infrastructure, though as discussed below, this category remains distinct from the new-paradigm capabilities most directly implicated in the changed character of modern warfare.

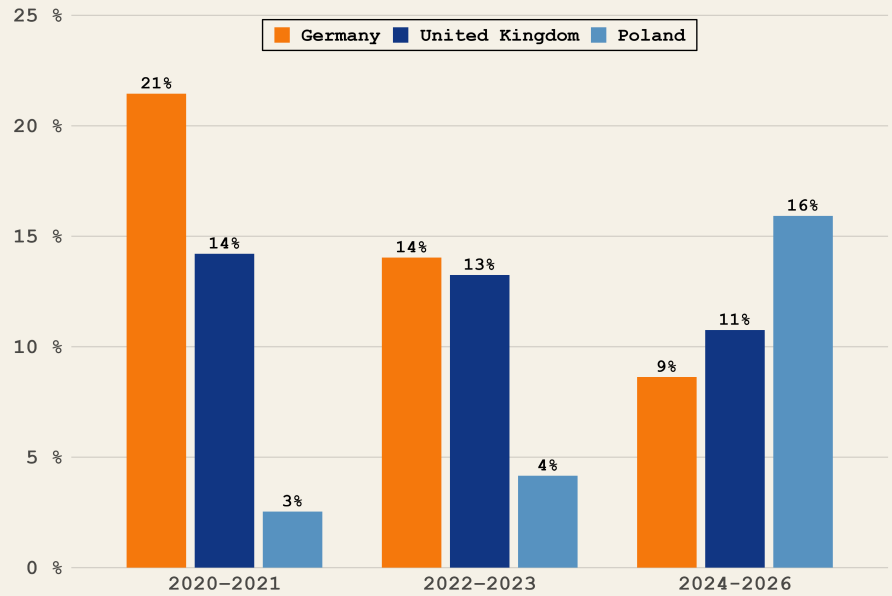
On the dimension that matters most given the lessons of Ukraine, the picture is, on the surface, remarkably uniform. Procurement classified as new paradigm accounts for 12% of total order value in Germany, 12% in the United Kingdom, and 11% in Poland. All three countries arrive at almost exactly the same allocation: roughly one euro in eight directed toward the new capabilities that the war in Ukraine has placed at the centre of modern high-intensity conflict. This surface-level convergence is, however, deceptive. The aggregate shares conceal fundamentally different trajectories over time, and it is in those trends that the most consequential differences between the three countries emerge.

4.3 Diverging priorities on modernisation

The aggregate procurement shares documented in the preceding section obscure a more consequential finding: the trajectories of new-paradigm spending across the three countries are diverging sharply over time (Figure 15). Examining the share of new-paradigm items in total procurement across three two-year windows – the pre-Ukraine war period

(2020–2021), the early war period (2022–2023), and the prolonged war period (2024–2026) – reveals that Germany is moving in the opposite direction from its stated strategic ambitions, the United Kingdom is treading water, and Poland is executing a genuine compositional rebalancing.

Figure 15: Trends in new paradigm procurement shares



This figure shows share of procurement (measured in monetary terms) of new paradigm items for each time period and country. The calculations are based on the *Kiel Military Procurement Tracker* and our classifications, as described in 4.1.

Germany's new-paradigm share has fallen monotonically across the three periods: from 22% in 2020–2021 to 14% in 2022–2023 and to roughly 9% in 2024–2026. This decline reflects that the massive procurement surge has flowed overwhelmingly into established conventional platforms and ammunition restocks. In absolute values, the spending on new paradigm items has been relatively constant, moving from 10 bn during 2020-21 to 12 bn during 2024-26. The Zeitenwende, on this measure, has been a quantitative shock, not a qualitative one: more of the same, ordered (but not delivered) faster.

This finding sits uncomfortably alongside the strategic backdrop set out in section 1. Germany's own strategy explicitly identifies an adversary that will employ artificial intelligence and unmanned autonomous systems, yet it defers technological superiority to Phase 3, from 2035 to 2039 – well beyond the 2029 threat horizon emphasised by NATO. The procurement record we uncover is consistent with an unambitious modernisation timetable. It is plainly inconsistent with the lessons of Ukraine and the Iran war, in which modern, asymmetric warfare capabilities have been central to the successes of Ukraine and Iran.[21] A slow modernisation timetable thus means large vulnerabilities to persist.

The United Kingdom presents an only somewhat more encouraging picture. The new-paradigm share in UK procurement has drifted modestly downward across the three windows, from approximately 13% in 2020–2021 to 12% in 2022–2023 and 11% in 2024–2026.

[21] Iran has been able to successfully hit 16 US bases in the Gulf regions and these bases have become largely unoperational. https://edition.cnn.com/2026/05/01/world/video/us-military-bases-iran-strikes-images-invs-digvid?utm_source=substack&utm_medium=email

However, unlike in Germany, absolute new-paradigm spending has grown substantially, more than doubling between the pre-war and prolonged-war windows, but the conventional and platform-centric base of UK procurement has grown faster, preventing any meaningful compositional rebalancing.

The UK Strategic Defence Review 2025 frames the transformation of warfare in Ukraine as the central organising premise of British defence policy, identifying autonomous systems, AI-enabled capabilities, and uncrewed platforms as the defining technologies of future conflict. On the procurement record, that ambition has not yet translated into a meaningful shift in spending composition that would be visible in the 2024/25 data. Given the urgency of the strategy shift in 2025, we would expect the actual procurement to shift in the 2026 data but up to today, we cannot yet see a strong change in the spending shares.

Poland stands apart from both of its larger Western European partners. Its new-paradigm share has risen from approximately 2% in 2020–2021 to 4% in 2022–2023 and to 16% in 2024–2026, an eightfold increase in relative terms and the only case in our sample in which the compositional shift runs unambiguously toward the technologies the war in Ukraine has foregrounded. Critically, this is not merely a by-product of Poland's record overall defence outlays: new-paradigm procurement has grown faster than the conventional base, representing a deliberate reallocation rather than a proportional scaling. The contrast with Germany and the United Kingdom is instructive. Poland's doctrinal turn can be seen in the establishment of the Unmanned Weapons Systems Component[22] as a separate operational-level branch on 1 January 2025, as well as the the "drone armada" programme announced by Prime Minister Tusk in April 2026[23]. It is recent, but it is visibly reflected in the procurement record. The qualitative composition of Polish procurement in the 2024–2026 window is, on this measure, closer to the lessons of Ukraine than that of either of its larger Western European partners.

Taken together, the three trajectories describe a pattern of strategic divergence that aggregate spending figures obscure. Germany's share is falling behind; the United Kingdom's is broadly flat; Poland's is rising steeply.

4.4 Robustness to alternative definitions of disruptive capability

Any typology of "new paradigm" procurement depends on the underlying military concept. Our baseline classification is built around the lessons of the war in Ukraine: the decisive role of autonomous systems at scale, networked air and missile defence, electronic warfare, and AI-enabled decision support. A different strategic concept would draw the line differently. A force designed for expeditionary operations would weight strategic airlift and long-range strike more heavily, while a force built around a near

[22] https://www.armyrecognition.com/focus-analysis-conflicts/army/armies-in-the-world/poland-leads-europe-into-the-drone-era-with-launch-of-unmanned-weapons-systems-forces

[23] https://notesfrompoland.com/2026/04/27/poland-announces-plans-for-drone-armada-to-be-developed-with-ukrainian-expertise/

threat horizon would discount programmes that cannot deliver capability within that window. To test how sensitive our findings are to where that line is drawn, we re-run the classification under two alternative definitions (Figure 16): one that *broadens* the category to capture high-end networked conventional systems, and one that *narrows* it to the tightly defined set used in the Kiel Policy Brief *Time to spend smart* (Schularick and Binder, 2026).

The first alternative *broadens* the new-paradigm category to include a set of high-end conventional capabilities that, while not autonomous or AI-centric, are widely treated in current European debates as central to a modernised force: ultra-long-range air-to-air missiles such as the European Meteor, airborne early warning and control aircraft such as the Saab GlobalEye, and European-developed integrated air and missile defence systems. The rationale is that these systems, although platform-centric in form, deliver the kind of networked, sensor-rich combat power that the war in Ukraine has shown to be decisive.

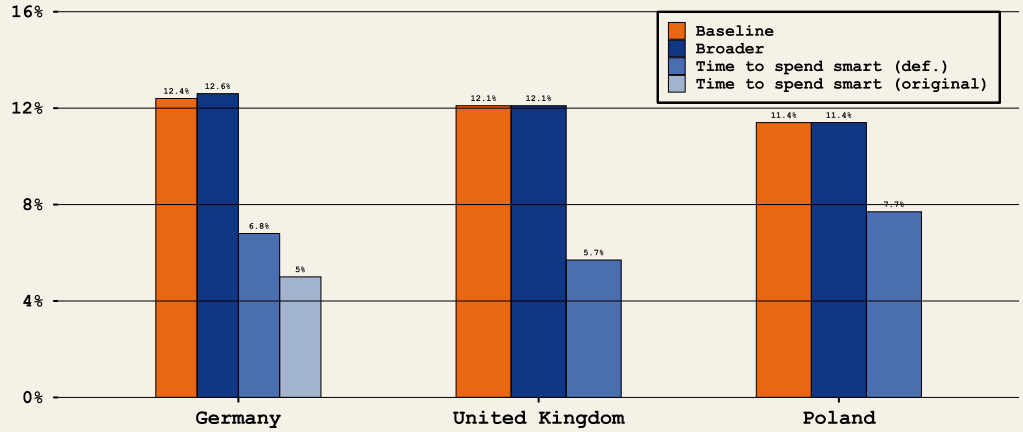
The second alternative *narrows* the category to align with the definition used in the Kiel Policy Brief *Time to spend smart* (Schularick and Binder, 2026). One argument of *Time to spend smart* is that Germany is endowed with abundant capital and technology but scarce personnel, and should therefore pursue a capital- and technology-intensive defence strategy that economises on human inputs by going autonomous. On this basis, the brief restricts "next generation defence capabilities" to autonomous systems, data centres, satellite systems, and modern air defence. Other procurement such as next-generation combat aircraft programmes such as FCAS/GCAP (which include semi-autonomous components), air-to-air missiles for the FCAS, manned-unmanned teaming, battle management system for manned network-based platforms fall outside the category.

One further methodological difference is worth flagging: *Time to spend smart* draws on the German federal budget (Einzelplan 14) and the EUR 100 bn Special Fund, classifying items by budget chapter and designated purpose, whereas our analysis works from contract-level data in the *Kiel Military Procurement Tracker*. Convergence across two genuinely independent data sources is therefore a strong test of the underlying substantive claim.

Two findings stand out. First, the substantive picture is robust to these alternative definitions. Broadening the category to include Meteor-class missiles, AEW&C, and European IAMDS raises the German share marginally to 12.6% from 12.4% and leaves the UK and Polish shares essentially unchanged at 12.1% and 11.4%, respectively. The country ranking and the orders of magnitude documented in section 4.2 are unchanged: Germany and the United Kingdom remain in broadly similar territory, Poland's aggregate share remains close to the others.

Second, the narrower definition brings our German results into close alignment with those of *Time to spend smart* based on a completely different dataset starting from contracts. Schularick and Binder (2026) report that, taken together, new technologies account for only around 5% of Bundeswehr Special Fund spending and forward appropriations. Applying the same restrictive definition to our contract-level Kiel Military Procurement Tracker data yields a comparably low German share of 6.8%, with the United

Figure 16: New-paradigm procurement shares under alternative definitions, 2020--2026



This figure shows the share of procurement (measured in monetary terms) classified as new paradigm under three alternative definitions, for the full 2020–2026 period. The baseline corresponds to the classification described in 4.1. The broader definition additionally includes ultra-long-range air-to-air missiles, airborne early warning and control aircraft, and European-developed integrated air and missile defence systems. The narrower definition (*Time to spend smart (def.)*) restricts the category to autonomous systems, data centres, satellite systems, and modern air defence, following Schularick and Binder (2026). *Time to spend smart (original)* reports the figure for Germany from the original brief, which draws on German federal budget data (Einzelplan 14) rather than the contract-level data of the *Kiel Military Procurement Tracker*.

Kingdom at 5.7% and Poland at 7.7%. This convergence across two independent data sources, federal budget appropriations on one side, publicly reported procurement contracts on the other, and two distinct classification approaches is the strongest available evidence that the finding is not an artefact of either methodology. The remaining gap between our baseline and the narrower variant is accounted for almost entirely by next-generation manned combat aircraft programmes (FCAS, GCAP) and networked battle management systems for manned platforms.

5 Conclusions

European military budgets, in particular that of Germany, have grown rapidly since the start of Russia's full scale invasion of Ukraine in 2022. This report has analysed the changing military strategies of Germany, the UK and Poland. We argue that Germany's strategy is disappointing as regards both, the strategic level as well as at the military-technological level. While there is some limited reflection in military-technological lessons from changing warfare, they do not translate into a priority strategy. The UK strategy review is not only endorsed at the highest political level in contrast to the German one, which is only endorsed by the defence minister. It also boldly endorses lessons from Ukraine and translates them into an ambitious agenda. When it comes to Poland, much is unpublished but the published parts of the strategy also point to an ambitious re-orientation of warfare capabilities.

We updated a unique military procurement database to (a) describe and analyse ongoing rearmament efforts including as concerns the speed of delivery as well as dependencies on foreign suppliers and (b) to assess whether changes in strategy have found their way into changes in procurement towards new warfare paradigms.

Military procurement amounts have increased substantially with the frequency, size and number of orders growing. German military procurement now dominates overall European military procurement with orders worth €85bn in 2025 alone. UK's orders in 2025 stood at 25 billion while Poland's were at 21 billion in 2025. Our data confirm the previous finding of a very strong home bias in military procurement with purchases from global suppliers falling strongly in 2025. Moreover, truly pan-European procurement remains extremely limited in the three countries studied. When it comes to expected delivery timelines at the time of ordering, we show that an increasing number of orders of Germany is done without a final delivery date specified while for those orders for which a date is specified, delivery times fluctuate around 2-4 years. Delivery expectations in the UK and Poland are similar but the share of orders without delivery date is not increasing.

When it comes to the changing warfare paradigm, we define criteria for the classification and prompt an AI to group all of our 736 orders in the dataset into "new paradigm", "established systems", "communication" and "non-applicable". We find that in all three countries, the share of procurement going to the new paradigm is relatively low at around 12 % of total procurement. However, while in Germany, absolute nominal spending numbers have remained constant during 2020-26 and their share in procurement falling massively, in the UK, the absolute spending numbers of the new paradigm have increased substantially, though their share has still been falling. Poland, in contrast, has increased both, the absolute numbers as well as the share of procurement dedicated to the new paradigm equipment, reflecting a bold strategic reorientation.

On the whole, our report shows that military transformation is progressing relatively slowly. In particular in Germany, the transformation is particularly slow. With Germany's spending by far the highest, the lack of strategic reorientation translates into a large substantive problem for Europe as a whole: The country that wants to create the

largest conventional army in Europe may create an army that is ready to fight the fight of yesterday but not of today and tomorrow. A reorientation of the procurement strategy combined with an update of military strategy, training and doctrine appears urgent.

The differences in procurement that we document correlates with a German chancellor that does not appear to exercise top-level political leadership on the modernisation question - in contrast to Poland and the UK, where the respective prime ministers have each called explicitly for modernisation and lessons to be learnt from Ukraine.

References

Antolin-Diaz, Juan and Paolo Surico (July 2025). „The Long-Run Effects of Government Spending“. In: *American Economic Review* 115.7, pp. 2376–2413. DOI: 10.1257/aer.20231278. https://www.aeaweb.org/articles?id=10.1257/aer.20231278.

Burilkov, Alexandr et al. (June 2025). „Fit for War by 2030? European Rearmament Efforts vis-à-vis Russia“. In: Kiel Report 3. Accessed: 2026-03-10. https://www.kielinstitut.de/publications/fit-for-war-by-2030-european-rearmament-efforts-vis-a-vis-russia-18193.

European Commission (Nov. 2025). EU Defence Industry Transformation Roadmap: Unleashing Disruptive Innovation for Defence Readiness. Communication from the Commission to the European Parliament and the Council COM(2025) 845 final. Accessed: 21 April 2026. Brussels: European Commission. https://defence-industry-space.ec.europa.eu/document/download/513de692-d08c-40cc-80c3-cb6611ace178_en?filename=EU-Defence-Industry-Transformation-Roadmap.pdf.

Fleischer, Jörg (Sept. 2025). Etat 2025 markiert historische Wende bei den Verteidigungsausgaben. Accessed: 2026-03-16. https://www.bmvg.de/de/aktuelles/etat-2025-markiert-wende-verteidigungsausgaben-5995182.

Kapstein, Ethan B., Javier Ospital, and Guntram B. Wolff (Mar. 2026). „Reforming European Defence Procurement to Boost Military Innovation and Startups“. In: Policy Brief. Accessed: 2026-03-10. https://www.bruegel.org/policy-brief/reforming-european-defence-procurement-boost-military-innovation-and-startups.

Mejino-Lopez, Juan and Guntram B. Wolff (2025). „Boosting the European Defence Industry in a Hostile World“. In: *Intereconomics: Review of European Economic Policy* 60.1, pp. 34–39. DOI: 10.2478/ie-2025-0007. https://doi.org/10.2478/ie-2025-0007.

Mejino-López, Juan, Javier Ospital, and Guntram B. Wolff (2026). „Pivot to Asia, Europe or the Homeland? 18 Years of US Foreign Military Sales“. In: *Global Policy*. DOI: https://doi.org/10.1111/1758-5899.70136.

Mejino-López, Juan and Guntram B. Wolff (2026). „Europe's Dependence on US Foreign Military Sales“. In: *Defence and Peace Economics*. DOI: https://doi.org/10.1080/10242694.2026.2647243.

Ministry of Defence (2025). The Strategic Defence Review 2025: Making Britain Safer: Secure at Home, Strong Abroad. Policy Paper. Accessed: 21 April 2026. Ministry of Defence, HM Government. https://www.gov.uk/government/publications/the-strategic-defence-review-2025-making-britain-safer-secure-at-home-strong-abroad.

Schularick, Moritz and Johannes Binder (2026). „Time to spend smart“. In: *Kiel Policy Brief* 204. https://www.kielinstitut.de/publications/time-to-spend-smart-19558/.

Wolff, Guntram B. (2026). Why does European rearmament need competition? Bruegel Newsletter. Accessed: 2 May 2026. Bruegel. https://www.bruegel.org/newsletter/why-does-european-rearmament-need-european-competition.

Wolff, Guntram B., Johannes Binder, et al. (May 2026). Kiel Military Procurement Tracker. Dataset. Accessed: 2026-03-10. https://www.kielinstitut.de/publications/kiel-military-procurement-tracker-17722/.

Wolff, Guntram B., Alexandr Burilkov, et al. (2024). „Fit for war in decades: Europe's and Germany's slow rearmament vis-Ã -vis Russia“. In: 1. DOI: None. https://www.kielinstitut.de/publications/fit-for-war-in-decades-europes-and-germanys-slow-rearmament-vis-a-vis-russia-17724/.

Wolff, Guntram B., Armin Steinbach, and Jeromin Zettelmeyer (2025). „The Governance and Funding of European Rearmament“. In: *Intereconomics: Review of European Economic Policy* 60.4, pp. 210–214. DOI: 10.2478/ie-2025-0041. https://doi.org/10.2478/ie-2025-0041.

A Classification Prompt

The following reproduces the substantive classification rules supplied to the language model. The full prompt additionally sets the model's role (a military strategist tasked with categorising European defence procurement), includes a set of worked examples drawn from the hand-classified validation sample to guide the model's treatment of edge cases through in-context learning, and specifies technical instructions governing output format, response length, and confidence reporting. The rules below are the conceptual core on which the classifications rest.

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CLASSIFICATION RULES

Each procurement item must be assigned to exactly one of four categories:
ESTABLISHED, NEW_PARADIGM, COMMUNICATIONS, or NOT_APPLICABLE.


1. ESTABLISHED
Platform-centric conventional systems, their sustainment, and incremental
upgrades that do not introduce AI or autonomy as a core capability.

Includes:
- Legacy platforms and service-life extensions
- Incremental upgrades adding connectivity, sensors, or minor capabilities
- Conventional munitions improvements without autonomous targeting
  (including precision-guided munitions where guidance is GPS, laser, or
  inertial, not AI-based target recognition)
- Centralised, non-networked command structures
- Spare parts, ammunition restocks, and sustainment for systems that would
  themselves be classified ESTABLISHED
- Frontline trucks and frontline combat-support vehicles operating in or
  directly supporting combat zones
- F-35 sustainment, support, and weapons integration (e.g., SPEAR3),
  treated as a mature fifth-generation platform rather than a
  next-generation programme

Examples: tanks, armoured vehicles, conventional artillery, manned fighter
aircraft without AI target recognition, F-35 maintenance contracts, F-35
weapons integration, frontline tactical trucks, Wolf trucks and successors.


2. NEW_PARADIGM
Technologies that change how warfare is conducted, rather than
next generations of existing systems.

Includes:
- AI-enabled systems or autonomous decision support as a core function
- Autonomous or semi-autonomous platforms (UAVs, USVs, UGVs, MALE drones
  such as Heron TP and Eurodrone)
- Manned-unmanned teaming platforms
- Next-generation fighter aircraft programmes designed around MUM-T and
  networked combat from inception (FCAS, GCAP, NGAD-class, and their
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flight-test or component programmes such as Excalibur). Not the F-35.
- Cross-platform real-time data fusion and integrated kill chains (not single-platform sensor fusion, which is ESTABLISHED)
- Integrated, networked air and missile defence command systems with real-time data fusion (e.g., IBCS, Digital Targeting Web)
- Next-generation networked air defence systems (e.g., IRIS-T SLM family), always NEW_PARADIGM, including additional missiles or sustainment of the family
- Counter-drone systems using novel approaches (directed energy, radio-frequency, AI detection)
- Directed energy weapons and cyber-physical systems
- Strategic-scale or novel cybersecurity and encryption (quantum-resistant encryption, national-scale zero-trust architectures, large-scale defence data centres)
- 3D and additive manufacturing for rapid military production

3. COMMUNICATIONS
Systems whose primary function is communication, together with conventional IT security at tactical or operational scale.

Includes:
- Soldier radios, headsets, and personal communication kit
- Battlefield communication network infrastructure (e.g., D-LBO digitalisation services where the deliverable is the network or IT)
- Tactical data links where communication is the primary function
- Conventional VPN, firewall, and endpoint security
- SATCOM terminals where the primary use is communications relay
- ISR satellites (e.g., Tyche, Juno, Oberon), whose primary function is intelligence, surveillance, and reconnaissance data capture and relay

4. NOT_APPLICABLE
Administrative, rear-area logistics, infrastructure, or non-military items with no direct combat or operational relevance.

Includes:
- Training, training material, simulators, and testing material, whether purchased or rented
- Food, clothing, personal protective gear (body armour, helmets, combat clothing), furniture, and office supplies
- Bases, housing, bridges, pipelines, facility overhead, and base modernisation (including nuclear submarine base modernisation)
- Pensions, civilian healthcare, and travel
- Equity investments and production facilities
- Basic materials research and development not tied to a specific weapon system
- Rear-area logistics, transport services (including rail-based logistics contracts and freight services), transport containers, shipping and storage containers, and protected or ballistic containers and shelters used to house IT, command-post, or fire-protection equipment, always NOT_APPLICABLE regardless of frontline deployment, because the

procurement is the container itself, not a combat capability
- Medical facilities and medical support equipment, including frontline-deployable medical units
- Search and rescue services, including submarine rescue systems
- R&D administrative contracts and contract extensions for non-materiel work (e.g., Cyber Innovation Hub administrative extensions)
- Studies and consulting, unless tied to a specific NEW_PARADIGM capability

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