Armament Industry European Research Group

# SECURITY OF SUPPLY AND INTERDEPENDENCY: A NEW APPROACH TO STRATEGIC AUTONOMY AND INDISPENSABILITY

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## ABSTRACT

This paper argues that Europe's renewed focus on defence since Russia's invasion of Ukraine has exposed and, in many cases, extended deep structural dependencies, particularly on the United States. It contends that traditional notions of strategic autonomy are no longer viable in an era defined by complex, globalised and commercially-driven supply chains. Instead, the paper proposes a more pragmatic framework in which autonomy is achieved through the management, rather than elimination, of dependencies. The paper introduces the concept of "strategic indispensability" as a novel way forward. In so doing, the paper calls for Europe to cultivate critical capabilities and leverage asymmetric interdependence to enhance both resilience and influence. Ultimately, the paper argues that European defence policy should shift from a form of reactive dependency to the proactive shaping of interdependencies that align industrial policy, capability development and partnerships to strengthen Europe's position within global defence ecosystems.


**Keywords:** Defence | Europe | Industry | Security of Supply | Interdependence | Strategic Autonomy

Europe's defence awakening since Russia's full-scale invasion of Ukraine has been as much about rediscovering hard power as it has been about confronting the reality of dependency in defence. For decades, European states prioritised efficiency, cost control and the assumption that the most demanding elements of deterrence would be underwritten by the United States (US). As a result, Europeans outsourced a large part of their defence and, with it, they developed a dense web of structural dependencies on the US spanning supply chains, technologies, industrial capacities and operational enablers. In this context, security of supply has moved from a niche technical procurement issue to a central strategic concern for Europe.

Indeed, many states have become aware that security of supply requires having direct control over design and production not only for end-products but also throughout the value chains (black powder, chips, engines, etc.), which have become increasingly internationalised. While a majority of EU Member States, and even the European Commission, had been quite reluctant to accept any kind of European preference, new mechanisms like EDF and EDIP take into consideration the necessity that sponsored projects support and reinforce local content. This poses a major challenge for Europe: how to attain a certain level of strategic autonomy in a context where Europe has actively pursued dependencies in the defence sector.

The main focus of this paper is on how best to develop interdependencies in a strained geopolitical context. We recognise that serious breaches of trust in the transatlantic relationship will require a rebalance away from Europe's dependencies on the US, even if this may take time to achieve. We also acknowledge that Europe will need to continue to develop its own defence industry, especially in key industrial and strategic domains where Europe is overly dependent: long-range strike, missiles, air defence, Intelligence, Surveillance and Reconnaissance (ISR) and more. Such capabilities have become critical for Europe. True, Russia faces its own industrial and military concerns, with its own growing reliance on China, and this means that Russia will struggle to meet its military equipment needs.

However, Europe has a direct interest in maintaining a credible deterrence posture vis-à-vis Russia, despite its structural weaknesses, because Moscow may develop new military production techniques or import more state-of-the-art equipment and technologies from its strategic partners, China and North Korea. Therefore, the overarching and urgent concern is to develop Europe's defence industrial capacity. In this sense, any discussion of strategic autonomy in defence requires a careful balance among short-, medium-, and long-term needs. In the short term, Europe may actually increase its dependence on certain partners, but the medium- and long-term will necessitate a strategy to reduce defence dependencies. Here, it is

also important to recognise that European states are not equal, as they embody different markets and approaches to strategic autonomy.

However, in this paper we want to offer a more pragmatic reading of the concepts of interdependency, autonomy and security of supply. We define autonomy as a means of ensuring the capacity to anticipate, decide and act without restrictions, but we also want to introduce a novel way of thinking about security of supply and dependencies. Indeed, we are used to reading about Europe's dependencies through a fatalistic ethos, but what about the dependencies that new and old allies and partners have on the European defence sector? Can these dependencies serve to increase Europe's autonomy? By flipping the logic of Europe's dependencies, we hope to make the case for a more proactive and less reactive approach to security of supply in defence.

This paper has five main sections. The first section looks at the current state of Europe's dependencies on the US, and we use data to support our conclusions. The second section looks at the evolving nature of strategic autonomy, and it reflects on the intricacies of the modern defence industry. Section three provides a more nuanced understanding of key terms such as interdependence, dependence and cooperation, where we also unpack different interpretations of dependency. Section four introduces the concept of "strategic indispensability" and here we look at how an enhanced European defence industrial base can help sustain global defence supply chains. Finally, the paper concludes with a section on the implications of the concept of strategic indispensability to European defence industrial policy, and we offer some brief policy conclusions.

## EUROPE'S LEVEL OF DEPENDENCY ON THE UNITED STATES

The war in Ukraine has exposed several layers of European dependencies. Europe clearly has an enduring reliance on the US for high-end capabilities. ISR, strategic airlift, missile defence and precision strike remain heavily dependent on US support. This is not only about missing military capabilities but also about a deeply embedded operational reliance, in which European systems rely on US technologies, data infrastructures and command and control (C2). Furthermore, the war has highlighted Europe's industrial constraints. The rapid depletion of ammunition stocks has revealed limited surge capacity in European defence production throughout value chains, particularly for artillery shells and key inputs such as propellants and explosives. Years of underinvestment, fragmented procurement and lean production models have left Europe ill-prepared for sustained, high-intensity conflict. The paradox for Europe is

that it needs more autonomy in defence for its own security, at a time when it is increasingly difficult to achieve in terms of finances and technology.

Of course, dependencies should not be understood purely as a liability. Interdependence can also provide access to resources, scale, innovation and interoperability, particularly within trusted alliances and partnerships. For example, in the immediate aftermath of Russia's invasion of Ukraine, Poland managed to rapidly import howitzers and tanks from South Korea, and Europe imports critical raw materials for defence from partners such as Argentina, Australia, Canada, Chile, Ukraine and more (Beales and Frank, 2025). In this sense, it does not make sense to speak of a fully autarkic European defence sector, as this would be too costly. There will always be dependencies. This is true even for the US, which pursues "friend-shoring" and "reshoring" at the very same time concerning arms production. For example, it is estimated that there was a 6.9% year-on-year increase in the number of Chinese suppliers in the US military aviation supply chain in the financial year 2024, and this was even higher in the nuclear deterrence (a change of 45.5%) and missile defence (a change of 37.4%) supply chains (Govini, 2025). Such dependencies reveal the complex nature of the term: some dependencies are "government-to-government" in nature, as governments rely on finished defence systems or equipment from abroad, whereas other dependencies are at the industry level, with firms being dependent on raw materials or components. Europe experiences dependencies in both of these levels: government and industry.

Of course, Europe's major dependency on defence capabilities is on the US, but Washington has operated a Janus-faced approach to European security. Under President Trump, the US has insisted on Europeans taking on more responsibility for their own conventional defence, and not to automatically rely on US security guarantees, while at the same time continuing to call for Europeans to "Buy American". In a context where the US is engaged in troop drawdowns in Germany, threats to seize Greenland and to leave NATO and the chaos sewn by the war on Iran, Europeans are legitimately seeking to lower their dependencies on the US defence industrial base in favour of European producers and technologies. In any case, there are now growing doubts that the US defence industrial base can sustainably meet the demands of European governments and militaries, especially given that the US war on Iran has severely depleted military stocks, including Patriot missiles (Slattery and Pamuk, 2026). One piece of analysis suggests that it may take the US three or more years to replace its Tomahawk and Patriot missile stocks (Cancian and Park, 2026). Still, such a context has not stopped the US from demanding that Europeans not sever ties with American defence manufacturers.

In February 2026, the US administration began a lobbying effort in advance of the European Commission's revision of the defence procurement Directive. The Trump administration is concerned that any revision of the directive will introduce a "European preference", which they perceive will harm US defence producers. In a February 2026 opinion piece to support their argument, the US Ambassadors to NATO and the EU, Andrew Puzder and Matthew Whitaker, jointly wrote that SAFE and EDIP "restrict market access for American companies. Such exclusionary measures undermine our collective defence by limiting competition, stifling innovation and depriving these companies of the orders they need to maintain production at the levels required to meet our allies' needs" (Pudzer and Whitaker, 2026). With these words, the US make plain that they not only want European allies to spend more on defence, but to do so in a way that favours US industry. This is not a new or surprising approach or tone, although it overlooks how Europeans have already procured more than $4 billion worth of US defence equipment since mid-2025 through the Prioritised Ukraine Requirements List (PURL) (NATO, 2025).

In the same month as this US signalling to Europe, the White House released an Executive Order by President Trump, establishing an "America First" arms transfer strategy. This Order marks a shift in how US arms exports are conceived: no longer primarily instruments of alliance management, but levers of industrial policy designed to expand domestic production capacity, absorb foreign capital and reinforce the resilience of the US defence industrial base (US Government, 2026). By explicitly prioritising partners that invest in their own defence and align with US strategic and economic interests, Washington is effectively restructuring defence cooperation into a more transactional and selective ecosystem, where access to capabilities is conditioned by industrial and financial contributions. These shifting American defence industrial politics raise serious questions for Europe.

Indeed, many European countries had unquestionably supported the idea of a transatlantic arms market, especially because of the strong imbalance in terms of production capacities and technology in favour of the US (Kapstein, 1994). US Customs statistics reveal that European countries not only massively import weapons from the US, but they are also very dependent on American sourcing throughout the arms value chains, as the statistics from the US Customs Bureau reveal. Rather than developing local sourcing, it seemed sensible to rely on already-developed, full-scale production in the US. While imports from European industrial bases represent a marginal additional production input for the American industry (which has been three to four times larger than the European one in the post-Cold War period), these deliveries constitute a vital source for defence inputs for European countries.

Reciprocally, the US has increased its imports from Europe, but mainly for intermediary products that correspond primarily to the work sharing for cooperative programmes (e.g. F-35 aircraft). This is particularly strong for Italy and the United Kingdom (UK) and should become the case for Germany and Poland in the coming years. Even though transatlantic trade could have been considered more balanced in recent years than at the beginning of the century, this global picture hides a strong imbalance. European countries have become second-rank partners that are more and more entangled in the American industrial base. Despite this imbalance, however, American industry would face difficulties if it needed to replace some European suppliers, but it could still overcome this challenge. As in the case of Türkiye being expelled from the F-35 programme in 2019 because it purchased the Russian S-400 missile system, it took the US about three years to fully reallocate the 1,000-plus components and parts produced by Türkiye (US GAO, 2020, and Copp, 2021).

It would be almost impossible for European industry to copy such an approach and cut out American components and technology from European systems, due to Europe's heavy dependence on American sourcing for critical components or subsystems (Foy et al., 2026). This situation would be manageable if and only if it were possible to consider these deliveries as granted. This is no longer the case, and not just because of the mercurial behaviour of the US *vis-à-vis* its allies. Indeed, today the US needs all its industrial capacities for its own armed forces in order, in the short term, to restock inventories after the Iran war, and, in the long term, to prepare for strategic competition with China. In the 1990s and 2000s, the US could offer spare industrial capacities (Kapstein, 1994), but this is no longer the case today as the US defence industrial base is severely constrained (Fein, 2026). This is a dramatic transformation that leaves little to no room for Europeans to rely on the American industrial base. Therefore, it is important to reconsider these dependencies and understand how to deal with them or, at least, face them.

## A MODERN CONCEPT OF AUTONOMY?

In today's defence sector, we are forced to think about security of supply in different ways than in the past. Although debates about autonomy and dependency in defence are often framed as if they were uniquely modern dilemmas, the tension between self-reliance and reliance on others has long been a defining feature of military power.

In the 21st century, the balance between autonomy and dependency has become more complex. This is not simply a function of geopolitics, but of the changing nature of technology and production. Modern defence systems are no longer dictated solely by national markets, but are the outcome of globally distributed supply chains, involving multiple countries, firms and regulatory environments. They are also conditioned by the ability of states to successfully integrate non-defence industrial actors – in areas such as robotics or additive manufacturing – into defence supply chains to unlock innovation and ensure manufacturing ramp-ups (Hader et al., 2026: 32).

A single platform, such as an aircraft, a missile system or a communications network, depends on several components sourced from across the world, including semiconductors, software and specialised materials, notably critical raw materials and chemicals (see Béraud-Sudreau, 2026). These are not easily substitutable inputs, but highly specialised technologies embedded within intricate production ecosystems. What is more, in this era, technological innovation is driven by the civilian sector and large multinational firms operating outside traditional defence frameworks. As a result, dependencies are no longer limited to allies or clearly defined partners; they extend into global markets and, in some cases, into strategic competitors.

Debates about strategic autonomy in Europe and the fierce opposition of American stakeholders against any European preference underline that the lack of clear definitions leads to many misunderstandings. This reflects a binary approach between full openness of the arms market and its total closure (autarky), which does not correspond to both objectives and possibilities for European stakeholders. Historically, some European states had looked for full control over arms production thanks to domestic value chains (Krause, 1992). Nevertheless, this strategy corresponded to the 19th and early 20th centuries; independence is no longer possible due to several evolutions in arms production.

First, major capabilities are characterised by cost escalation regarding complex systems (Kirkpatrick, 2004). Accessing advanced technology to achieve military dominance has pushed the cost of major programmes upward, and most countries cannot afford to support several programmes simultaneously. This means that even an ambitious country must either focus their domestic efforts on a few complex systems or accept sharing these efforts with peers or near-peers for these capabilities.

Second, although military expenditure in Europe increased dramatically after 2022, efforts to pool and share and increase economies of scale had started long before the war. Ironically, however, even with higher expenditures since the 2022 war, most European countries actually have more limited purchasing power than during the Cold War due to the cost escalation of

major capabilities (Kirkpatrick, 2004). Thus, it has been recognised for many decades that it is not possible for Europeans to support several programmes alone at the same time. Since at least the 1970s, international cooperation has been advanced to reach a critical production mass that no single European country can achieve alone.

Third, domestic demand has become insufficient to guarantee a sustainable industrial base, at least for the most ambitious capabilities. Indeed, some countries could develop next-generation capabilities, but it is almost impossible to maintain a vivid and innovative industrial base throughout the lifecycle of these programmes. A stand-alone approach would constitute an illusion, since strategic autonomy would rely on exporting these capabilities, thus exchanging dependency (imported capabilities) for brittleness (export reliance). This is even more the case than before due to the cost escalation of major capabilities. As winning export contracts is far from being granted, it is less and less guaranteed that such a strategy is even enforceable if it was ever the case for the most ambitious capabilities.

Finally, reliance on civilian components and subsystems appears inevitable. Arms production increasingly relies on dual or civilian components and subsystems. The convergence between defence and civilian supply chains constitutes the major evolution of the past decades. Since civilian markets are much larger than military ones and can support more innovation, developing a specific defence supply chain is not economically viable. However, the organisation of civilian value chains is deeply globalised, and we should acknowledge that commercial firms – as well as defence firms – do not always conduct business in line with the operational needs of militaries, as they have their own business strategies in the defence sector.

Europe has become increasingly aware of growing dependencies in key areas of critical technology and raw materials. Modern defence systems rely on semiconductors, rare earths and specialised components that are often sourced from outside Europe, sometimes from geopolitical competitors like China. These dependencies create vulnerabilities not only in times of crisis, but also in an era of increasing economic coercion and technological rivalry. Defence is therefore inseparable from wider global supply chains, where disruption can translate directly into military risk. What is more, there is a dependence on external innovation ecosystems, too. Much of the cutting-edge development in areas such as artificial intelligence (AI) and advanced software is driven by non-European actors such as the United States, China, India, the United Arab Emirates (UAE), South Korea, and Singapore, limiting Europe's control over the technological edge of future capabilities.

The integration of civilian and defence supply chains has blurred the boundaries of what constitutes a "defence" dependency. Microelectronics, rare earths, software and advanced materials are sourced through global markets that no single European state – and arguably not even the European Union as a whole – can fully dominate. Furthermore, the more defence companies depend on civilian components, the more indirect dependencies become at stake, but this is inevitable because civilian components are cheaper and can incorporate more innovation. Even the US is not able to secure a purely domestic supply chain. Since deindustrialisation is a feature of European countries, especially in Western Europe, it is possible to re-shore some production, but it is illusory to expect to have all the value chains on European soil, even less so in one country.

Therefore, it is almost impossible to expect the development of a fully independent defence industrial base. This is even the case for the US, which, in early 2021, under President Biden and before Russia invaded Ukraine, embarked on a friend-shoring and reshoring policy that it has continued to develop (National Academies of Sciences, Engineering and Medicine, 2024). The United States itself may also have understood the limits of a more autarkic approach to defence production. Although the 2026 "America First Arms Transfer Strategy" calls for a supercharging of the US defence industrial base, it also acknowledges the need for allies and partners to continue to acquire US-made weapons systems so that America may produce more in the US defence market (White House, 2026a). This approach was underlined in the 2026 Economic Report by President Trump, when he acknowledged that allies and partners can help create 'a more robust market with higher, more sustained demand for the US defence industrial base (White House, 2026b: 183).

What is crucial for strategic autonomy, however, is the ability to use key capabilities without restriction, which requires control over key parts of the arms industry and value chains. This framing has important implications for how autonomy is understood, and why the European Commission has included the concept of "design authority" in SAFE and the EDIP as a key dimension beyond the localisation of arms production. In a world of complex interdependence, autonomy can no longer mean complete self-sufficiency. As the United States itself has discovered in the area of military-grade aluminium production, chronic underproduction in the US market since 2012 has led to a growing dependence on foreign sources, as close as 50% of imports of aluminium (Bazilian, Matisek and Amoah, 2026). This includes major imports from the United Arab Emirates, which produces the high-quality aluminium needed by US defence manufacturers, but which is located in a major trade choke point: the Strait of Hormuz. In this regard, supply dependencies can be constrained by geopolitical shocks.

Instead, it is better conceived as the ability to manage dependencies and to ensure that critical supply chains are resilient, key technologies remain accessible and that political choices are not unduly constrained by external actors. The challenge is that many of these dependencies are diffuse and opaque, making them harder to identify and mitigate. Moreover, efforts to reduce dependency through reshoring, diversification or industrial policy often come with high economic costs and may themselves create new forms of vulnerability. In this sense, what distinguishes the 21st century is how the pursuit of autonomy becomes less about dominating whole supply chains and more about the control, resilience and adaptability of them.

## DEPENDENCE, INTERDEPENDENCE AND COOPERATION

We need to keep in mind that military capabilities are complex systems, with long value chains involving a large number of suppliers (Gholz, James and Speller, 2018). Two dimensions determine the scope and the sustainability of this *a minima* industrial base. First, a purely domestic approach cannot financially sustain the appropriate scope of competencies that are required to achieve a level of real strategic autonomy. Second, the real challenge is not how to finance the development and production of military capabilities, but how to preserve the resulting industrial base once initial deliveries are achieved.

This is why cooperative programmes have been multiplied since the 1980s in Europe (Bellais and Fiott, 2017). This strategy aims to go beyond critical mass on both the demand and supply sides in order to keep related industrial capacities alive. Ideally, these programmes should result in a specialisation between participating industrial bases and provide sufficient orders throughout the lifecycle of the corresponding programme. However, this change of scale should ideally go hand-in-hand with interdependence across borders. Many cooperative programmes do not, in fact, deliver such benefits because states (and companies) are reluctant to accept such international specialisation (Faure, 2020).

Interdependence seems to contradict the notion of security of supply, which is conceived as the absence of or decrease in *ex ante* dependence. However, there is a need to be more nuanced about this apparent contradiction, because there are different kinds of dependence, with antinomic consequences in reality due to the underlying dynamics.

Interdependence constitutes, in fact, a grey zone. When there is a massive asymmetry between countries, junior partners have no choice but to accept the terms and conditions imposed by the lead country. In this scenario, the lead country has an excessive level of influence over partners. The F-35 programme provides a good illustration. It is different when cooperative programmes take place between peers or near-peers. We can thus distinguish between *de facto* interdependence and *ex voluntate* dependence.

On the one hand, *de facto* dependence can result from off-the-shelf procurement or a large share of imported components. It represents a full level of dependence, since the importing country has no choice but to hope that the exporting country will continue providing weapons or intermediary parts.

On the other hand, *ex voluntate* dependence implies that actors choose a level of dependence in at least two forms. First, a country considers that some capability is not critical or cannot be developed on a purely national basis, and thus it decides to accept dependency on foreign supply, being fully aware of the resulting consequences. Second, a country can join efforts with partner(s) to co-develop its capabilities. In this configuration, the country accepts cross-dependency as a means to achieve its own strategic autonomy. This chosen dependence leads to an interdependence when it is set up between peers or near-peers.

When a country has a limited industrial base, it needs to import a large part of the components needed to produce its domestic capabilities. This is the case, for instance, for Sweden or Türkiye. For example, Sweden has a *de facto* dependence on the United States for the General Electric F404 engine in the Saab JAS 39 Gripen jetfighter, which has already resulted in the United States blocking the export of Gripen to certain countries. In Türkiye's case, it has a *de facto* dependence on the US-licensed LHTEC CTS800 engine for its T-129 ATAK helicopter, which resulted in the past in an inability to export the helicopter to Pakistan. In this context, these countries have to manage their dependencies or accept them.

This is different when interdependence results from a cooperative programme and is explicitly chosen as part of an industrial strategy. When this occurs between peers or near-peers, interdependence gives each participating country a lever over the others, since its own dependence in certain parts is balanced by its control over others. This minimises the risk that one country triggers its lever, as to do so would risk possible retaliation. For example, Sweden has an *ex voluntate* dependence on Norway and the United Kingdom in developing the Archer Artillery System. In Türkiye's case, it has an *ex voluntate* dependence on Italy in the area of drones, where Leonardo and Baykar have chosen, albeit with some constraints, to cooperate with each other.

Paradoxically, *ex voluntate* interdependence constitutes a second-best solution when a largely domestic approach is not feasible or economically sustainable. It can even increase the strategic autonomy of participating countries, because the alternative would be either no solution or a full dependence on off-the-shelf capabilities. This is not to say that interdependence cannot evolve from an *ex voluntate* to a *de facto* form of dependence. Indeed, a relationship can begin with a degree of parity of interdependence, but then become asymmetric, which would mean that a single party becomes dominant in a case of interdependence. This situation can be seen when one party becomes so powerful within a context of interdependence that it can block or impede the political freedom of partners. For interdependence to flourish, this asymmetric dominance needs to be avoided.

The ideal form of dependence is *ex voluntate*, whereby states cooperate for common goods without the impulse to dominate interdependence. For this, each party must continue to benefit from the returns of interdependence while also enjoying its political autonomy. Unfortunately, at present there are few examples in which a truly balanced relationship exists, which does not mean that this is not possible or achievable. In fact, the UK and France have achieved such benefits in the field of cruise missiles. Before the Scalp EG/Storm Shadow, none of these countries was able to design and produce a domestic cruise missile. In joining their efforts, however, they developed such an industrial base rather than relying on American sourcing. Indeed, this choice has resulted in cross-border interdependencies, and the UK and France have thus benefitted from a new level of strategic autonomy (Bellais, 2022).

Thus, interdependence covers several configurations with different consequences in terms of dependence. Since autarky in arms production is impossible, even for the US, the real challenge consists of finding the right balance between local content and dependencies that allows a country to achieve its objectives regarding its strategic autonomy. We recognise that any promotion of an *ex voluntate* form of dependence does not simply apply between Europe and international partners. In fact, we argue that an *ex voluntate* form of dependence is precisely what is required between European states themselves. Indeed, it is not at all obvious today that European countries accept a level of political and industrial dependence on fellow European states or firms. Thus, we reiterate that it is crucial that for any strategy of interdependence on an international basis to succeed, Europeans need to concomitantly increase their own mutual dependence in Europe.

## STRATEGIC INDISPENSABILITY IN DEFENCE

We have already outlined some key attributes for security of supply in the 21st century. If these assumptions are correct, we can further deduce that Europe needs a strategy for simultaneously lowering its own dependencies by boosting its defence sector, while also increasing Europe's indispensability in global defence supply chains. The concept of strategic autonomy has often been criticised for its ambiguity. For decades, European debates on defence industrial policy have been structured around a familiar tension: how to reconcile security of supply (that is, the ability to equip armed forces) with ambitions for strategic autonomy (which implies delays and uncertainties until the domestic defence industry has achieved the appropriate level of maturity). Too often, however, this tension has been interpreted through a narrow lens. One that equates autonomy with independence and dependency with vulnerability. As the previous section showed, binary framings of this nature no longer hold in the present defence economy, which is characterised by complex supply chains, dual-use technologies and deeply embedded industrial interconnections. The pursuit of full-spectrum autarky risks generating inefficiencies, duplication and, ultimately, vulnerabilities.

"Strategic indispensability" offers a possible way to operationalise autonomy, especially now that European defence spending is on the rise. Rather than striving for full autonomy from others, Europe can pursue autonomy in a measured manner by ensuring that its partners have a vested interest in maintaining access to European capabilities and the defence market. In this sense, a Europe that is indispensable to its partners is better positioned to shape decisions and protect its interests. Rather than seeking to eliminate dependencies, the task facing Europe today is how to reshape them in such a way that they can help the defence sector in Europe grow and become a pillar of Europe's global power.

Thus, Europe needs to invest heavily in its defence sector to help move the equation from a *de facto* form of interdependence to an *ex voluntate* one. This needs to be combined with a broader reindustrialisation in Europe that is the *sine qua non* condition to support real security of supply throughout military value chains and provide industrial depth, without which it is not possible to support any military ramp-up in case of conflict. We recognise the magnitude of this task. Indeed, there are several countervailing political and commercial interests for such a holistic approach. Some European countries see the defence industry and broader commercial sector in almost exclusively economic terms, whereas other European countries see such sectors as a core feature of operational independence. And not all defence or commercial firms are created equally or in the same mould; commercial firms have different

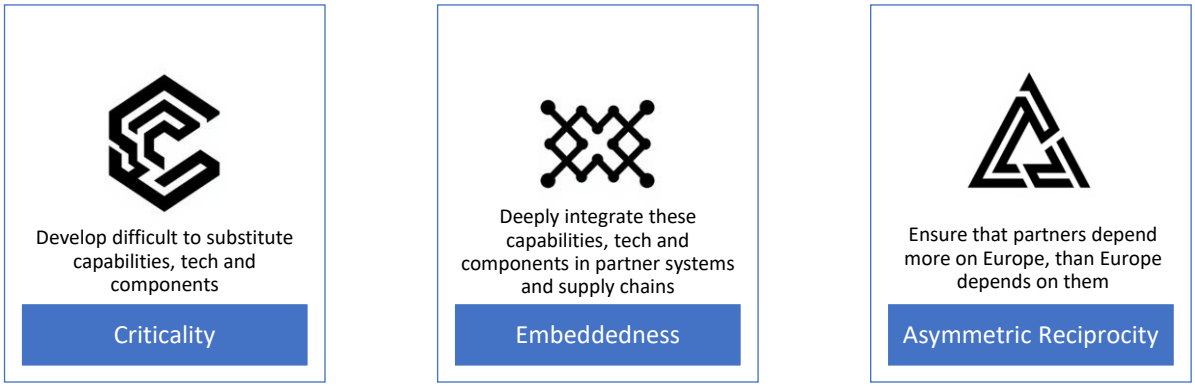
rationales for engaging with governments and the defence sectors. Squaring this circle is not easy, but it is a core task for decision-makers.

At its core, strategic indispensability implies a reversal of perspective: instead of focusing solely on Europe's *de facto* dependencies on external suppliers, it asks how Europe can make its own supply chains and technologies indispensable for partners. In this sense, security of supply is about lowering harmful dependencies while also actively enhancing European leverage over supply chains and partners in a mutually beneficial way. The goal, ultimately, is to create a condition in which external partners depend on European defence industrial capabilities, technologies and/or supply chains to such an extent that disruption of access to Europe would impose high strategic, operational or economic costs on them. In this configuration, Europe is not merely a consumer of security but a provider of critical inputs without which others cannot operate effectively.

We argue that three dimensions underpin the concept of "strategic indispensability":

1) Criticality: Europe must possess capabilities, technologies or components that are difficult for others to substitute in the short to medium term, either for technological grounds (e.g. chips) or as indispensable sourcing (e.g. missile engines).
2) Embeddedness: These capabilities, technologies or components must be deeply integrated into partners' systems, platforms or doctrines, that is, constitute critical parts of the value chain for advanced military capabilities.
3) Asymmetric Reciprocity: While interdependence is mutual, Europe should aim to ensure that its partners' reliance on European inputs in some domains exceeds Europe's reliance on theirs in other domains.

**Figure 1: Strategic Indispensability**



This is not a call for coercive dependency, but for calibrated, balanced *ex voluntate* interdependence that enhances Europe's bargaining power, resilience and strategic relevance. And we should recognise that this is a two-way street, as mutual dependence with partners will also give these partners greater supply security and opportunities for collaboration with the European defence market.

This means that such an approach should be assessed on a case-by-case basis and not in a global manner. The objective should consist of identifying peer or near-peer partners for a given military capability to achieve a co-dependence. The Franco-British partnership on missiles can provide an example (Bellais, 2022). It is not possible to keep dependencies under control in this way on a global basis, especially with the US, due to several asymmetries that result in a systematically unbalanced relationship. A real strategy requires a fine-tuned analysis and targeted policy.

This assessment can be carried out at the national level and the EU level in order to achieve a better collective balance in support of higher European strategic autonomy. It is therefore interesting to understand how each European state understands its own level of dependency and what its own threshold for critical dependencies is. This is certainly a task for future analysis. Additionally, it is important to learn whether European states have set up (or not) a strategy to mitigate the related risks and whether it expects to leverage EU policies to reduce them. There is indeed a co-evolution between the domestic and European levels, which appears critical to overcome challenges that states cannot deal with alone.

For Europe, however, any move towards a concept of "strategic indispensability" requires an alignment of industrial policy, defence planning and external partnerships at both national and EU levels, in coordination with NATO. Europe should identify and invest in potential choke points within defence value chains – segments where control over a specific technology, component or process confers disproportionate influence to external actors. These may include propulsion systems, advanced sensors, encryption technologies, space-based services or specialised materials. Politically, this approach also requires more of a "whole-of-government" approach by the European Commission and other EU bodies, especially among the relevant Directorates-General (Trade, DEFIS, CONNECT, EEAS, etc.). This is even more necessary today, given that the EDIP is focusing on industrial reinforcement actions in areas such as energy and electronics, as well as defence production.

At the same time, Europe must leverage its collective demand. Fragmented procurement has long undermined the competitiveness and scalability of the European Defence Technological and Industrial Base (EDTIB). By aggregating demand through cooperative programmes,

common standards and coordinated acquisition, Europe can create the scale necessary to sustain globally competitive industries. This, in turn, increases the attractiveness of European suppliers to external partners. Here, Europe can shape access to its market and technologies through investment screening, import controls and standard-setting. These tools, if used strategically, can incentivise partners to align with European norms and embed themselves within European-led defence industrial ecosystems.

Europe's current defence revitalisation, which is driven by increased spending at both national and EU levels, offers a window of opportunity to operationalise the concept of "strategic indispensability". Capability development must be prioritised in areas where Europe can realistically achieve leadership or at least critical relevance. This implies a selective approach, focusing resources on domains where Europe already has industrial strengths or technological advantages. Attempting to replicate entire supply chains across all sectors would dilute efforts and undermine competitiveness. Here, though, a fragmented industrial landscape weakens Europe's ability to act as a major, indispensable supplier.

Europe can ensure that its partners become dependent on its defence industrial base in multiple ways. First, there is a need for European technological leadership in niche domains. Rather than competing head-on with larger actors across the entire spectrum of defence capabilities, Europe can focus on specific technologies where it can set the global standard. Once these technologies are embedded in allied systems, switching costs increase, creating durable dependencies. Second, Europe needs to lead on systems integration. Even when components are sourced globally, the entity that controls system integration and defines interfaces wields significant influence. By positioning European firms and institutions as integrators, Europe can anchor value chains around its standards and processes.

Third, Europe needs to master maintenance and lifecycle support. Modern defence systems require long-term support, upgrades and interoperability solutions. By ensuring that such services are provided through European frameworks, partners become tied into enduring relationships that extend beyond initial procurement. Fourth, Europe needs to invest in its defence data and digital ecosystems. As defence becomes increasingly data-driven, control over data infrastructures, software and cybersecurity architectures becomes a source of power. European leadership in secure digital defence ecosystems can create dependencies that are less visible but equally consequential.

"Strategic indispensability" is not without risk, however. Efforts to create dependencies can be perceived as exclusionary or coercive, and they might potentially trigger future countermeasures from partners. Moreover, excessive reliance on specific European suppliers

could create vulnerabilities if not properly managed. To mitigate these risks, Europe must balance assertiveness with openness. Interdependence should be framed as mutually beneficial with partners. To make this strategy work, Europe must also address its manifold governance challenges. Divergent national interests, regulatory fragmentation and industrial competition can undermine Europe's collective efforts. Achieving strategic indispensability will require a degree of political coordination and strategic alignment that has historically been difficult to engineer.

## A DEFENCE INDUSTRIAL STRATEGY FOR AN "INDISPENSABLE POWER"?

Based on the idea of strategic indispensability, there are several consequences and implications for European defence industrial policy more broadly. One implication is how we perceive Europe as a power. Despite Europe's growing defence and role in defending the continent, Europe is not a superpower and, arguably, it is not even a great power, not least because of the weakness of its diplomacy and defence. One way of conceiving of European power today is as a "middle power". European states possess significant economic weight and technological sophistication. Yet in defence and diplomacy, Europe rarely behaves as a unified great power. Instead, fragmentation along national lines dilutes Europe's strategic coherence and limits the effective generation of power. This position is further reinforced by Europe's reliance on external enablers, most notably the US, and by internal asymmetries in industrial capacity and strategic ambition.

Arms production is intimately linked to the emergence of the nation-state in the 17$^{th}$ century. Sovereignty requires independence from any foreign influence, which leads to the development of an autonomous military force and thus domestically-controlled arms production (Krause, 1992). This dynamic resulted in the concept of strategic autonomy in the second half of the 20$^{th}$ century. It led to the simple understanding that autonomy was likened to a ladder, with each rung representing a higher level of autonomy in a quite linear fashion. This interpretation relied on the postulate that arms production was specific and based primarily on a domestic technological and industrial base. Even if strategic autonomy was difficult, lengthy and costly to achieve, it is was considered a necessity. Indeed, France and Sweden achieved this in the 20$^{th}$ century, and South Korea and Türkiye succeeded in implementing this approach in the early 21$^{st}$ century, despite some critical dependencies.

However, many parameters have changed in the meantime, meaning that this binary and linear representation no longer corresponds to the existing environment. Therefore, it would be a mistake to think about strategic autonomy in a 20th-century perspective. These trends are framing how European countries should envision their security of supply. An effective and relevant defence industrial policy cannot consist of progressing towards the top of a ladder, as was the case in the past century, especially for small military powers like European countries. A purely national project is bound to fail in the current context. The stake is no longer how to suppress dependencies through autarky, but how to understand and manage unavoidable dependencies most beneficially. Here, three specific strategies become apparent for European countries: managing the sourcing throughout the supply chain; mastering the end-use of capabilities with design authority; and sharing key programmes.

## CONCLUSION

The question is: how do European countries apprehend these stakes and issues? Indeed, defence industrial policy is sometimes defined more by implicit assumptions rather than an explicit strategy. It continues to rely on logics that no longer correspond to today's industrial and budgetary context. This implies a sort of defence industrial "hysteresis effect", whereby inherited policy approaches, capability priorities and market structures no longer subscribe to today's realities. At the European level, it is important to understand the degree of autonomy, dependence and interdependence that states expect and, if explicitly defined, how they manage this strategy to achieve their objectives in terms of security of supply. In addition, strategic indispensability in defence represents a second-best solution. Even though it is inescapable in certain domains, we can wonder to what extent it is necessary to reduce its scope and, if so, what should be the relevant strategy at both domestic and European levels. In any case, Europe cannot exercise strategic indispensability without developing its own industrial base.

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The Armament Industry European Research Group (Ares Group) is a high-level network of security and defence specialists across Europe. Its aim is to provide a forum to the European armament community, bringing together top defence industrial policy specialists, to encourage fresh strategic thinking in the field, develop innovative policy proposals and conduct studies for public and private actors.