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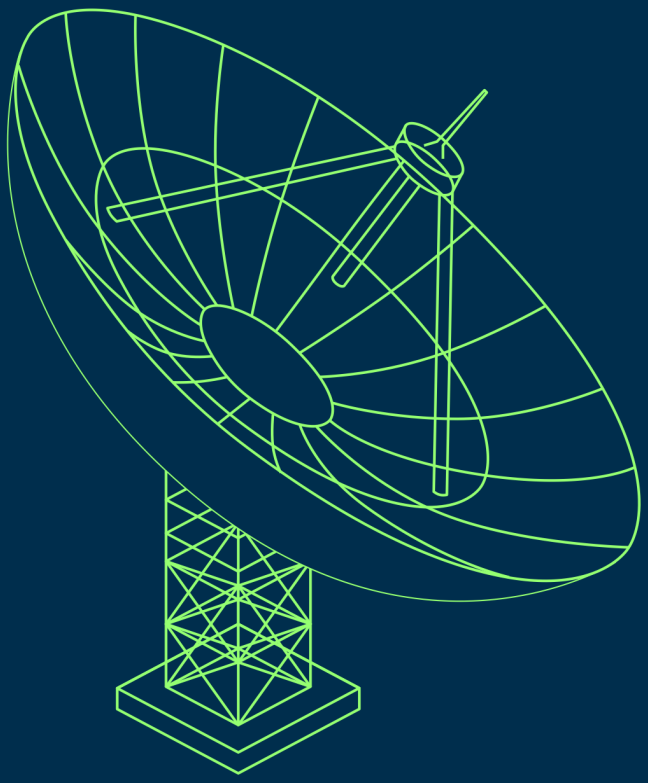

Strategic Digital Security

To Close Its Military Tech Gap, Europe Needs a Binding Defence Technology Union

By Trinabh Banerjee

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In an increasingly unpredictable geopolitical context, Europe can still develop the defence tech it needs for the 21st century and ensure that European defence decisions remain in European hands.

Executive Summary

Defence has become increasingly digitalised, including in the EU, where technology and software form the backbone of modern military operations. Yet European militaries remain dependent on American systems for the vast majority of their digitised military capabilities, from cloud to AI to advanced and networked fighter jets. This locks them into systems they do not fundamentally control and poses grave risks to strategic autonomy. European militaries built on US technology must ultimately account for Washington's interests. While this situation cannot be resolved in the short-term, Europe's reliance on the US for advanced technology in the medium-to-long-term can be alleviated by addressing barriers that impede the development of capable European alternatives, thus giving militaries the choice they need when adopting critical technology in subsequent planning cycles.

This brief proposes changing existing political, economic, and structural incentives to reshape how Europe approaches developing advanced defence technology. The aim is to strengthen member state cooperation and industry in this domain. Establishing a focused and structured European Defence Technology Union (EDTU) would lend political capital to European defence technology autonomy and integrate member-state cooperation around shared goals. The EU should invest more resources in building tailored short-, medium-, and long-term financing packages to unlock the R&D and finance potential of Europe's tech base. Finally, the EU should execute a military technology simplification package to remove unnecessary bureaucratic hurdles that impede fast and effective innovation.

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Key Recommendations

Political Will

1. Establish a European Defence Technology Union (EDTU) as a regulation under 173(3) TFEU to formalise defence technology cooperation between like-minded member states and partners.

2. Empower the European Defense Agency (EDA) or the Commission to lead specific European coordination programmes for short-, medium-, and long-term military technology projects.

Finance

3. Create specific programs designed to leverage finance for R&D in military technology with the stated objective to establish European critical alternatives within 5-10 years.

4. Harness wider financing architectures, including the creation of a European Defence Bank or a specific public-private initiative, to boost available funding for innovative, advanced projects.

Structural Incentives

5. Implement a military technology simplification package by cutting red tape, allowing greater exceptions in EU legislation for military applications, and harmonising technology, testing, and standards for interoperability between member states.

Europe at a Crossroads

When Russia began its full-scale invasion of Ukraine in 2022, it became abundantly clear that Europe was unprepared for war on its borders. Decades of underinvestment in military capabilities suddenly came face-to-face with the realisation that Europe could not meet the very real security challenges facing it. In a geopolitical context where warfare has become increasingly digitalized, Europe lacked the high-tech hardware and software needed for 21st-century warfare. Once aware, the EU and Member States unlocked unprecedented levels of funding for military procurement continent-wide. Yet, from 2022 to 2024, 50.7% of that European military spending went to the US for off-the-shelf hardware and software, including for highly advanced F-35 jets, drones, missiles and software.

> *"European militaries built on US technology must ultimately account for Washington's interests."*

While these initial purchases may have been a pragmatic choice to quickly restock military warehouses, they continued a cycle of technological dependence that has plagued European defence decisions. The EU recognises the geopolitical consequences of this issue. After all, digital sovereignty has been on the Commission's agenda since at least 2019. Nevertheless, the effort has not extended concretely to the military realm. European militaries continue to buy advanced American high-tech because of a lack of European alternatives and few coordinated efforts to vitalise the continent's military tech base.

This dependence poses a significant strategic risk for Europe. Reliance on American hardware, software, and maintenance technology means that decisions over how Europe plans, structures, and uses its own military remain contingent on continued US political support and industrial access. The F-35, widely regarded as the most advanced fifth-generation fighter, illustrates this dependency clearly. While the US denies the existence of any remote "kill switch," European operators remain almost entirely reliant on American support for proprietary maintenance, spare parts, and critical software updates that power their networking and sensor systems. Any restriction of this access, for whatever reason, would significantly degrade performance and operational readiness. In a scenario where European and US security interests diverge, such constraints would limit Europe's ability to act independently.

The development of advanced military tech is not easy, as it is often expensive to develop, test, and deploy, especially at scale. But when Europe uses limited defence budgets to buy foreign technology that makes it dependent, governments reduce incentives to build European alternatives and starve domestic industry, which already needs to overcome fractured markets, market scaling issues, variations in national strategies, and bureaucratic red tape to be successful.

Europe is at a crossroads. It faces a rapidly changing geopolitical landscape and a fundamental reorientation of the US-EU relationship. As the US begins to pull away from Europe, it is clear that Europe needs to stand up for itself. Certainly, Europe can continue to

buy advanced foreign technology. But if Europe is to safeguard its own security convincingly, it needs to develop, build, and deploy its own high-tech military hardware and software. This does not mean shutting out foreign alternatives altogether, nor engaging in protectionism by mandating the use of less capable technologies simply for the sake of buying European. To do so would risk politicising an already tense relationship and leave European security vulnerable at a time when geopolitical uncertainty is growing.

Instead, Europe should focus on addressing barriers that limit the effective development and deployment of sovereign defence technology. Political fragmentation, a huge R&D and finance gap, markets unfit for scale, and a burdensome regulatory framework all work to undermine Europe's ability to keep defence decisions in its own hands. By formalising how Europe cooperates on defence technology development, instituting better R&D funding, and reducing unnecessary market fragmentation, Europe can accelerate toward building the hardware and software alternatives that 21st-century warfare demands while protecting its own security interests.

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Focusing on Defence Technology Cooperation

The EU's project has historically been peace-focused and market-based. As geopolitical conditions shift, however, a different approach is needed to address the structural constraints within its political and economic framework. The Union is not built to generate the full set of conditions necessary for the development of advanced military technology. With 27 member states maintaining distinct procurement systems, defence policies, and strategic priorities, the result is a deeply fragmented market where the high costs of developing advanced capabilities are not matched by sufficient or coordinated demand.

> *"The Union is not built to generate the full set of conditions necessary for the development of advanced military technology."*

Previously, proposals to fix the EU's deficit in defence were met with fears that they would be a distraction or serve as EU overreach, especially given that national security remains a Member State competence. But given the wider strategic consequences of continuing to rely on foreign technology for defence, it is clear that something needs to change. European states should invest political capital to establish a European Defence Technology Union (EDTU), narrowly focused on a 'lab-to-warfighter' or 'research-to-capability' pipeline

approach, maintaining a direct link between development, manufacturing, and deployment of advanced European military technologies, rather than treating these as separate phases owned by different actors with different incentives. An EDTU should be designed and led by participating parties who set out participant competencies preemptively, rather than attempt to do so after the fact. Focusing on key critical military technologies and the bottlenecks preventing their development would further ground the EDTU's mission, making it a model worth implementing to overcome fragmentation, coordination issues, and issues of political will within the EU.

To overcome the unanimity requirements that have constrained PESCO and the non-binding character that has limited the EDA, an EDTU can be established as a regulation under Article 173(3) TFEU, the Treaty's industrial-competitiveness legal basis, decided by qualified majority through the ordinary legislative procedure. This is the same basis that the Council and Parliament used to adopt the European Defence Industry Programme (EDIP) in December 2025. This route requires no treaty ratification and no unanimous Council decision to launch. An EDTU should construct a framework incorporating like-minded EU member states and key partners, including private and academic sectors, whose capabilities can contribute to building critical technology, with participation open to any member state willing to accept the EDTU's milestone commitments, rather than restricted to a closed founding group.

An EDTU would not only demonstrate that demand exists for pan-European high-tech solutions, but also show that this demand can be pooled and bound by enforceable commitments. Existing ad-hoc military cooperation forums, like the 'Coalition of the Willing', E3, JEF, and others, demonstrate that European states can act outside the EU's ordinary institutional channels when the political will exists. Yet the voluntary nature of these forums makes critical long-term commitment vulnerable to domestic politics. Establishing the EDTU under Article 173(3) TFEU would tie participating states to binding obligations and clear delineations of responsibility, anchored in the same performance-based funding logic that the EDIP already applies. Disbursement of EDTU support should be explicitly conditioned on meeting agreed development, manufacturing, and deployment milestones.

> *"The voluntary nature of these forums makes critical long-term commitment vulnerable to domestic politics."*

Separately, the EDA or the Commission, or a separate suitable body, should take primary charge in orchestrating a set of programs to take advantage of the increased military funding already available. Indeed, this should go beyond the current ReArm Europe/Readiness 2030 and beyond EDIP's existing industrial-base mandate, by comprehensively designing a suite of short-, medium- and long-term projects that focus more heavily on developing high-tech military alternatives, particularly in cloud, AI, and military software. These are capabilities for which no existing EU instrument currently carries a narrow, named mandate, and which an EDTU, as a dedicated Article 173(3) programme, would be legally positioned to deliver.

Funding the Change

Beyond political will, Europe also requires a more suitable economic strategy to better deploy R&D funding for critical capability gaps. Current European military-related R&D budgets far trail overall equivalent US spending. Given that Europe already lacks sovereign high-tech military capabilities, the R&D gap only intensifies the issue. Europe has a variety of R&D budgets, both national and EU-led, available. However, these resources need to be better marshalled to focus on developing sovereign military technology capabilities. Instituting a specific program to use this funding to focus on advanced military technologies will not only help close the research gap but also contribute to establishing European advanced capabilities. The goal should be to establish European alternatives within 5-10 years, so that development keeps pace with advances in technology and militaries' procurement strategies can run their course.

The European Defense Fund already provides a framework for a European-led R&D approach. But the ambition should be to tie military, academic, private, and public institutions together, backed by greater economic resources. The push to unlock funding by allowing Horizon Europe to invest in dual-use technologies is a start, but must be explicitly directed toward boosting R&D for critical military technologies. The upcoming budget-enhanced Horizon Europe programmes, and more importantly, the European Competitiveness Fund, should cement these priorities.

"The ambition should be to tie military, academic, private, and public institutions together, backed by greater economic resources."

Europe should also commit to constructing broader financing architectures, through a European Defence Bank or comparable lending and guarantee facility. This would provide a dedicated channel to mobilise long-term capital for Europe's strategic technology base and reduce costs of capital for European critical technology projects that are underfinanced by existing institutions, especially in security-critical technologies and infrastructure-heavy domains like cloud computing. Given its continued reliance on US providers for military applications and the associated data sovereignty and defence autonomy risks, Europe needs alternatives. A facility offering long-term loans, guarantees, and risk-sharing would help crowd-in private capital, de-risk investment, and accelerate opportunities for developing and deploying technologies, especially for key areas like quantum-tech, AI, and space. The facility need not be established from the ground up. Instead, it can leverage existing expertise by folding into the European Investment Bank (EIB) as a defence technology-specific division, whereby the EIB's prohibition on security and defence-related investments is lifted to allow for maximum flexibility and access to financing.

"...Europe needs alternatives."

Changing the Structure

Finally, a military technology simplification package can provide the structural incentives to meaningfully accelerate development and deployment of high-tech capabilities. The sector suffers from a range of structural issues, including fragmented certification schemes preventing continent-wide deployment, duplicate procurement frameworks, and a lack of support for small and medium-sized enterprises (SMEs) that are at the cutting edge of technology development. Cutting red tape, carving out clear military-only exemptions in EU legislation, and harmonising interoperability standards across member states should be priorities for the EU to pursue to help develop a level playing field for advanced technology. This can involve introducing a 'military technology passport' to allow technology developed and deployed in one member state to be automatically approved across the Union, or increased interoperability mandates to allow for greater technological efficiencies. Simplifying regulations would allow SMEs to more effectively compete while encouraging innovation to spread.

Concurrently, the EU should rework the AI Act to reduce its impact on AI military systems. Given the current split in European thinking on AI, the Union would benefit from reworking existing regulations to account for military, dual-use, and fast-developing AI, while proposing shared technical standards to better integrate EU military AI use. These steps will allow for faster sovereign development and accelerate the move toward European-owned defence technologies fit for the 21st century.

About the Author

Based in London and Amsterdam, **Trinabh Banerjee** is a Strategic Digital Security Analyst at Euro Prospects' European Strategic Policy Unit, where he assesses European digital security from a hard security perspective, focusing on military capacity and state-critical systems. A Dutch national, Trinabh holds a BA in Politics & Government from Sciences Po. He is currently pursuing an MA in International Security, specialised in intelligence studies, at Sciences Po alongside an MSc in International Relations at the LSE. His expertise spans security, strategy, European politics, and digital affairs, which he draws together to produce integrated analysis at the intersection of geopolitics and the digital domain. Trinabh is fluent in English, Dutch, and French.

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