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Global supply-chain disruptions and the European defence industry

Europe's rearmament is colliding with a harsher geo-economic reality: tighter Chinese export controls and intensifying US–China competition. Since 2023, Beijing's licensing restrictions on critical raw materials – especially rare earth elements (REEs) – have started to affect European defence supply chains, driving uncertainty, price volatility and longer lead times. While European defence companies report few acute bottlenecks, the real test will come as production scales up. Stockpiles can provide a short-term buffer, but durable resilience will require an industrial policy: pooled demand, offtake, and investment in processing and refining.

- **China's export controls are increasingly constraining Europe's defence ramp-up.** Although Beijing's measures are aimed at US military suppliers, the spillovers are already affecting the European defence industry. The exposure is acute in defence-critical raw materials – notably REEs such as dysprosium, terbium and samarium – that underpin permanent magnets, guidance systems, sensors and other components essential to advanced weapons platforms.
- **Rearmament is accelerating, but supply-chain visibility remains weak.** European defence spending rose by 12.7% in 2025, yet many firms still lack traceability beyond the first tier of their suppliers, raising the risk that current buffers will not hold as rearmament shifts from replenishment to sustained expansion.
- **European defence companies are layering resilience measures, but stockpiling remains the backbone.** Firms are combining diversification, long-term contracting, material substitution, selective vertical integration and recycling, but the core short-term hedge against supply-chain disruptions is still inventory.

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Selected strategies for raw materials supply-chain resilience by European defence companies since 2023



Global supply shocks

Since 2020, Europe's defence industry has repeatedly been exposed to supply shocks. Semiconductor shortages during the COVID-19 pandemic delayed programmes across aircraft, missiles and electronics, while Western sanctions on Russia in 2022 highlighted dependence on titanium, forcing contingency planning around supply-diversification plans. Yet despite these indicators, the defence sector still lacks visibility beyond the first tier of suppliers – especially for critical raw materials embedded deep in components. Trade data remains insufficient to reliably map dependencies and many European defence firms struggle to trace mineral flows across complex, multi-tier value chains.

Russia's full-scale invasion of Ukraine and shifting US defence priorities have triggered a surge in European rearmament and a renewed focus on industrial resilience. In 2025, European defence spending continued to grow, with Germany being a key driver. Yet the effort to scale up production is colliding with a harsher geo-economic environment caused by intensifying US–China tensions and Beijing's increasingly assertive use of export controls. Since 2023, China has tightened licensing restrictions on a range of critical raw materials, including REEs that are embedded across advanced weapons systems. Although these measures are directed at US military suppliers, spillovers are felt across the European defence industry, driving uncertainty, price spikes and longer production timelines.

Europe's rearmament depends on global supply chains in which China retains dominant leverage. The most acute vulnerability lies in heavy REEs essential for precision-guided munitions, aircraft and advanced electronics. China also plays a central role in upstream and midstream supply chains of critical raw materials used in munitions (tungsten), high-strength alloys (manganese), batteries (lithium), and radar and electronic warfare (gallium).

While the impact of China's export controls on civilian supply chains is well known, European defence companies project confidence that near-term disruption is manageable. To date, the sector has reported few acute production bottlenecks. However, whether this will remain the case once Europe's rearmament plans move from replenishment to sustained expansion remains uncertain. Indeed, a spillover effect from supply-chain disruption in the civilian industry is only a matter of time, as the defence industry relies heavily on civilian supply chains. European policymakers will need to consider how to close this vulnerability to avoid major disruptions during industrial build-up.



Government policies on defence supply-chain resilience

To address the multiple challenges emanating from supply-chain shocks and the geo-economic environment, the European Union and the United Kingdom have elevated defence supply chains to a strategic priority and are investing in monitoring, coordination and targeted de-risking.

The UK's new Defence Industrial Strategy contains a Defence Supply Chain Capability Programme to strengthen access to batteries, semiconductors and REEs, while also seeking to improve the Ministry of Defence's capacity to map and manage the emerging industrial ecosystem. This effort sits alongside other nodes – such as the Department for Business and Trade's Supply Chain Centre and the British Geological Survey-led UK Critical Minerals Intelligence Centre – to coordinate and exchange information regularly. Additionally, the UK's Critical Minerals Strategy considers supply chains diversified if no more than 60% of the UK's annual demand for critical minerals in the aggregate is supplied by any one country by 2035.

At the EU level, the 2024 European Defence Industrial Programme (EDIP) introduced 'security-of-supply' measures intended to identify and monitor critical products and industrial capacities across selected defence value chains, and to support coordinated responses to disruptions. The European Commission's defence and economic security initiatives – reinforced by the White Paper for European Defence–Readiness 2030 and the Economic Security Joint Communication – frame critical raw materials and third-country export controls as key vulnerabilities for defence readiness, and emphasise the need to reduce high-risk dependencies, support critical technologies and phase potentially hostile actors out of sensitive supply chains. Moreover, the Critical Raw Materials Act (CRMA) of 2024 set 2030 targets for EU extraction, processing and recycling and caps on excessive third-country dependence, while advancing a pipeline of currently 60 strategic projects in Europe and overseas.

Circularity is prominent in both EU and UK thinking. Recycling and advanced recovery are seen as long-term resilience levers. In fact, the UK expects secondary supply to grow by 2040. Yet defence applications face constraints: recycled inputs often struggle to meet purity and performance requirements for high-precision systems, making circularity a long-term but only partial solution.

Although Brussels and London are wary of directly mimicking the United States' state-financing approach, they are also turning to similar elements such as government-backed capital, equity stakes and strategic stockpiling. For instance, UK Export Finance has widened support for exporters and suppliers in critical-minerals chains, while the European Investment Bank (EIB) has broadened eligibility to support defence and critical raw materials. In 2024, the UK Ministry of Defence acquired a critical semiconductor factory, while in early 2026 the EIB funded the first European gallium production project in Greece. Stockpiling, however, remains largely market led. For instance, Germany and the UK favour industry-driven inventories, arguing they are more flexible and better aligned with commercial realities.

"We have to lower our dependencies from China, but that cannot mean on the other hand that we now have dependencies from the United States."

Lars Klingbeil, German Vice Chancellor and Federal Minister of Finance, February 2026

"Whether on energy or raw materials, defence or digital, Europe has to strive for its independence, and this is our moment to do it."

Ursula von der Leyen, President of the European Commission, October 2025

"Technologies used in energy, electronics and aerospace often depend on the same critical minerals and share interconnected supply chains. For example, rare earth elements are essential for wind turbines and electric vehicles, and for robots and drones."

Fatih Birol, Executive Director of the International Energy Agency (IEA), June 2025



Companies' coping strategies

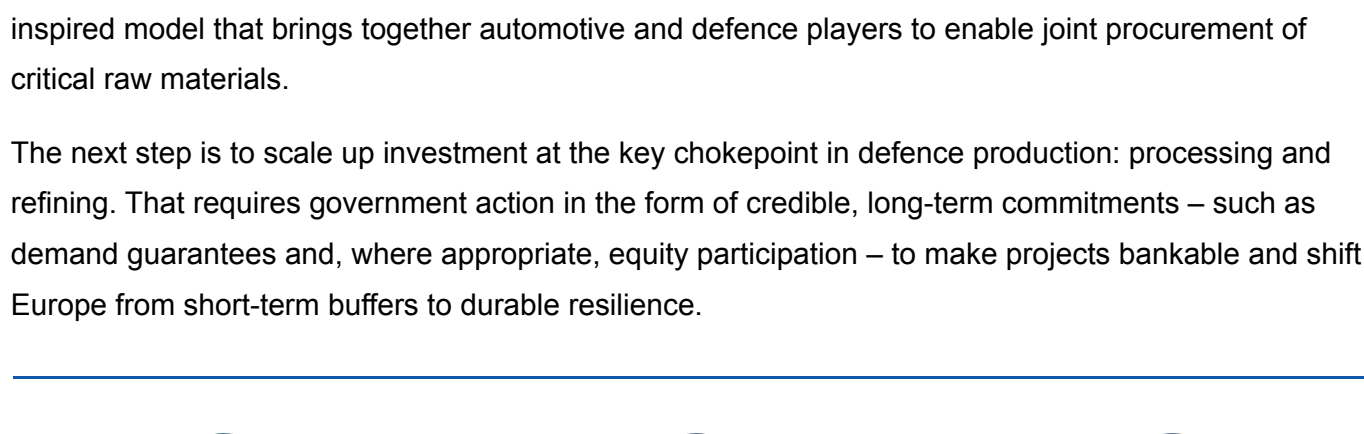
For European defence companies, coping measures span supplier diversification, long-term contracting and price hedging, strategic stockpiling, recycling, material substitution and increased material efficiency, and vertical integration. Firms tend to layer these tools rather than rely on a single measure.

Stockpiling remains the core approach for many large defence firms because it buys time in a volatile market. German company Rheinmetall, for instance, reported that it holds roughly five years' worth of certain raw materials and runs monthly supply-chain stress tests. To help smaller defence firms to build buffers, German policymakers are considering shifting tax liabilities so that firms only pay taxes when materials are processed, rather than when they are purchased.

Supplier diversification is also accelerating, including partnerships beyond Europe. For example, Rheinmetall has signed a memorandum of understanding (MoU) with India's Reliance Defence covering ammunition supply chains, and plans to expand production capacity in India – an attempt to reduce bottlenecks in intermediate goods and to widen access to inputs.

Material substitution and increased material efficiency are another line of effort. BAE Systems, for instance, has invested in new manufacturing methods for next-generation explosives and propellants designed to improve resilience for the UK and its partners. Swedish company Saab has turned to additive manufacturing to reduce waste and strengthen supply-chain resilience. The company recently completed a test flight of a Gripen fighter jet equipped with a 3D-printed replacement hatch.

While vertical integration is less common because of its high costs, this approach is becoming more visible by restructuring and its acute. Rheinmetall, for example, has acquired Hagedorn-NC, a producer of nitrocellulose – a key propellant ingredient – which was previously sourced from China. Finally, recycling is becoming an industrial strategy rather than an environmental, social and governance (ESG) ambition, although defence-grade purity constraints remain. Italian company Leonardo has launched programmes to recover titanium, the UK's Rolls-Royce's Tornado 2 Tempest project demonstrate early attempts to turn legacy components into reusable metal feedstock.



Outlook

Higher input costs and longer lead times are likely to translate into higher prices for military equipment. Europe now faces a two-front resilience challenge: reducing exposure to China while also competing with the US for projects, finance and offtake.

As the EU prepares a new security strategy aimed at stronger deterrence and greater industrial autonomy, addressing vulnerable supply chains of critical raw materials will require more than stockpiling. It is, fundamentally, an industrial policy problem. Europe urgently needs to build synergies between the defence and civilian industrial bases. Defence demand alone is too small to reshape critical-minerals markets, and the EU's fragmented procurement landscape limits demand aggregation and predictability. Mechanisms that pool demand, coordinate offtake and link defence requirements to civilian-scale purchasing would improve the bankability of diversification projects – while supporting Europe's roughly 2,500 defence-relevant small and medium-sized enterprises (SMEs), many of which still operate nationally with limited cross-border coordination. Germany is already exploring a Japan-inspired model that brings together automotive and defence players to enable joint procurement of critical raw materials.

The next step is to scale up investment at the key chokepoint in defence production: processing and refining. That requires government action in the form of credible, long-term commitments – such as demand guarantees and, where appropriate, equity participation – to make projects bankable and shift Europe from short-term buffers to durable resilience.

€1.2 BILLION
INVESTMENT IN CRITICAL RAW MATERIALS BY THE EIB IN 2025

€1 BILLION
GERMANY'S RAW MATERIAL FUND TO INVEST IN MINING, PROCESSING AND RECYCLING PROJECTS AND CREATE NON-CHINESE ALTERNATIVES FOR GERMAN FIRMS

60%
SUCCESS FEATURE SET BY THE UK IN DIVERSIFYING CRITICAL-MINERAL SUPPLY CHAINS

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