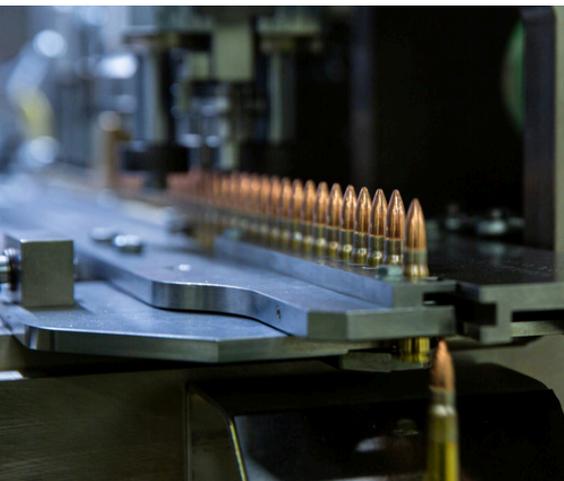


Lead-based small-calibre ammunition is key to Europe's defence readiness



Lead is central to Europe's established small-calibre ammunition production.

Europe's defence readiness depends on established industrial capability, and the lead value chain is key to supporting ammunition production used for military training and active service across Member States.

Europe's defence readiness depends on resilient industrial value chains located within the Union. Ammunition production is not a peripheral activity. It is a foundational requirement for operational preparedness, training continuity and stockpile sustainability.

Small-calibre lead ammunition represents the highest-volume category used by armed forces. It supports daily training and military actions across Member States and ensures interoperability within NATO structures. Sustained readiness requires

continuous and scalable production capacity. Such capacity cannot be improvised during crisis. It must be maintained, technologically advanced and economically viable in peacetime.

The European Union hosts a mature and integrated small-calibre ammunition manufacturing ecosystem. Specialised facilities across several Member States produce cartridge cases, primers, propellants and projectiles, followed by assembly, ballistic validation and military certification. This industrial network operates under harmonised military standards and supports both national defence requirements and allied cooperation. At European level, the sector is represented by [AFEMS](#), which brings together manufacturers operating across the Union and contributes to the stability and competitiveness of the industry.

The sector is characterised by a strong interconnection between civilian and defence production. Civilian markets sustain manufacturing capacity, specialised skills and supply chains across Europe, allowing facilities to maintain active production lines and certified processes over time. This dual structure ensures that industrial capabilities remain operational even during periods of lower defence procurement and enables rapid scaling of production when defence demand increases.

Global competition in the ammunition sector is strong and increasingly concentrated. Maintaining Europe's industrial position requires stability across the entire production chain, from raw materials to certified finished products. Industrial erosion would weaken not only defence preparedness but also Europe's competitiveness in a strategically sensitive market.

Lead remains a central material within Europe's established small-calibre production architecture. Its density enables stable ballistic performance in compact configurations. Its material characteristics ensure predictable and consistent performance across service weapons already deployed throughout the Union. These configurations have been validated through long-standing qualification under NATO and national military standards, supporting interoperability and operational confidence.

European tooling systems, ballistic protocols and certification procedures are engineered around these established specifications. The continuity of this material base supports production efficiency, cost stability and reliability at scale. Material security is therefore directly linked to industrial resilience and defence readiness.

As defence investment increases across Europe, reinforcing domestic ammunition manufacturing becomes a matter of strategic autonomy. The EU has identified ammunition production as a priority area for strengthening industrial responsiveness and capacity within the Union. Ensuring that key input remains available within Europe supports supply security, reduces exposure to external disruption, and sustains high-value industrial capabilities.

The small-calibre ammunition sector anchors specialised SMEs, advanced metallurgy expertise, energetic materials production and certified testing infrastructure. It sustains skilled employment and enables surge capacity when procurement demand rises. If diminished, such ecosystems are complex and time-intensive to rebuild.

Defence readiness, industrial competitiveness and strategic autonomy are interconnected. Maintaining Europe's established small-calibre lead ammunition production capacity supports all three.



Fact file

- NATO STANAG 4608 establishes harmonised “Safety and Suitability for Service (S3)” procedures for ammunition below 12.7 mm, ensuring interoperability across allied forces.
- The EU Regulation on Supporting Ammunition Production (ASAP) reinforces industrial responsiveness and intends to expand ammunition manufacturing capacity within the Union.
- Small-calibre lead ammunition is the highest-volume ammunition category used by armed forces and underpins continuous training and operational preparedness.
- European manufacturers operate integrated production chains within EU territory, from component manufacture to military qualification.

Developed in conjunction with [AFEMS](#), this case study highlights one of the essential industrial uses of lead supporting Europe's defence readiness and manufacturing sovereignty

For Europe's security and industrial
future, lead matters.

