Steel, sensors, and speed: powering Europe's deterrence

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Key Takeaways

- Europe's defence build-up is underpinned by multi-year EU, NATO, and national pledges, creating durable visibility in spending across 2025–2030.
- Rheinmetall, HENSOLDT, and RENK anchor Europe's industrial readiness, addressing ammunition, sensors, and mobility bottlenecks.

Europe's rearmament isn't just about ordering more kit - it's about fixing the bottlenecks that make a credible deterrent possible: ammunition at scale, sensors that see first and systems that keep fleets moving. Three German champions, Rheinmetall, HENSOLDT and RENK, sit at the core of that effort. Together they're rebuilding depth (stocks), sharpening edge (effects) and hardening resilience (uptime and supply chains) across NATO's front line.

Rheinmetall: Europe's arsenal at scale

On 27 August 2025, Rheinmetall opened Europe's largest ammunition factory at Unterlüß. The €500 million site is slated to ramp to around 350,000 155mm shells annually by 2027. Rheinmetall projects around 700,000 shells per year across its network - a cornerstone contribution toward the European Union's (EU) goal of 2 million shells a year. To de-risk propellant and shell supply and shorten logistics tails, Rheinmetall is also localising production across the continent with more than €1 billion in joint venture plans in Bulgaria to produce gunpowder and 155mm shells, as well as a new plant in Romania. These moves spread risk and build sovereign capacity where it's needed most.

What fills those production lines matters too. Beyond shells, Rheinmetall fields a broad effects mix: the Assegai family (High Explosives, smoke/obscurant, illumination/IR illumination, Extended Range options) and Bundeswehr-standard DM121/DM125/SMArt rounds[1] - providing the right product for the mission while keeping logistics interoperable across NATO weaponry.

There is also short-range air defence that's affordable to sustain. Deterrence fails if you can't keep the airspace around depots, columns and cities clean of drones and cruise missiles. Rheinmetall's Skynex and Skyranger 30 systems restore high-volume, low-cost gun-based air defence. Skynex's programmable

35mm AHEAD rounds create a lethal cloud that's far cheaper per shot than missiles - key for sustained operations. A six-figure cartridge order (low triple-digit € millions) in 2024 underlined Europe's demand signal and deliveries of Boxer-mounted Skyranger 30 began with Germany's verification vehicle in early 2025, with series vehicles to follow.

Ukraine's experience has reinforced the concept: cannon-based systems (Gepard's lineage and Skynex's modernised architecture) have proven invaluable in the drone fight and for close-in cruise-missile defence. That real combat feedback loop is driving European buys now.

Rheinmetall is critical for resilience: Mass shell output (and diversified powder supply) closes Europe's most acute readiness gap; gun-based Short-Range Air Defense (SHORAD) restores sustainable air-defence depth for the "everything drone" era; and a varied artillery portfolio ensures effects without bespoke logistics.

Deterrence hinges on what you can detect, track and classify, from low-observable drones to salvos at sea.

HENSOLDT: The eyes and ears of resilience

HENSOLDT's TRML-4D, the beating heart of the IRIS-T SLM air-defence battery, has been fielded at pace for Ukraine and continues to see new orders across Europe[2]. Digital architecture gives fast updates and high-fidelity tracks on tough, low-altitude targets, which is what modern defence needs. At sea, the TRS-4D family equips German Navy surface combatants and will outfit new frigates, with program scope recently expanded. Commonality across land and sea radars simplifies training, spares, and upgrades - classic resilience multipliers.

Air superiority is getting a sensor refresh too. In February 2025, HENSOLDT secured a ~€350 million extension to advance the Eurofighter European Common Radar System, Mark 1 (ECRS Mk1) AESA radar for Germany and Spain, adding capability and laying the path to further evolutions later in the decade. To complement active radars, HENSOLDT's Twinvis passive radar is moving toward certification with Germany's air traffic service (DFS), a dual-use step that signals maturity and opens doors for homeland defence applications. Meanwhile, the SPEXER 2000 3D MkIII ground radar continues to scale production for the drone threat.

HENSOLDT's Kalaetron Attack family brings software-defined, jamming (escort, stand-off, stand-in variants) with multi-target capability, exactly the kind of adaptable Electronic Warfare (EW) Europe needs against learning adversaries.

HENSOLDT is the eyes of resilience: A sensor stack that spans ground-air-sea with common architectures, a credible Counter Unmanned Aircraft Systems (C-UAS) radar line for the saturating drone threat and software-defined EW that updates at the speed of tactics.

RENK: Powering mobility and maritime depth

You can't deter if your fleets can't move or stay up. RENK is Europe's leading supplier of tracked-vehicle transmissions and quiet naval gearboxes, providing the test systems and field services that keep both

ready. RENK's HSWL 354 transmission underpins the Leopard 2 family across 18 countries - Europe's de facto tank. For modern Infantry Fighting Vehicles (IFVs), the HSWL 256 powers Germany's Puma and the UK's Ajax family, translating horsepower into reliable mobility in contested terrain.

On the maritime side, Damen Naval has contracted RENK to supply gearboxes for the Dutch/Belgian Anti-Submarine Warfare frigates, optimised for quiet propulsion. First sets arrive for installation from October 2025, with the first frigate delivery slated for 2028. This is a key anti-sub capability for the North Sea and Greenland–Iceland–UK (GIUK) gap.

Beyond hardware, RENK's RTS test benches (vehicle, drivetrain, hub-loading and mobile diagnostic rigs) allow armies to do reproducible, Original Equipment Manufacturers (OEM)-spec testing away from the proving grounds, cutting downtime and catching failures before they cascade. Lifecycle services (spares, field repair, overhaul) translate directly into higher availability of Europe's tank and IFV fleets. RENK is also positioned in Europe's next-gen heavy armour work via the Main Armoured Tank of Europe (MARTE) initiative, leveraging the Leopard/HSWL experience to accelerate a scalable main battle tank architecture.

Running on RENK creates commonality. Common transmissions and gearboxes simplify spares; test systems and field service raise availability; and quiet propulsion strengthens Europe's Anti-Submarine Warfare (ASW) posture.

The strategic through-line: capacity, commonality, cost

- **Capacity:** Unterlüß and the new regional ammunition JVs are Europe's most concrete answers to the "shell hunger" problem; HENSOLDT's radar lines and RENK's test/service infrastructure similarly scale what matters.
- **Commonality:** TRML-4D/TRS-4D families, Leopard-based transmissions and standardised EW/radar modules keep training, spares, and upgrades manageable across allies.
- **Cost:** Sustained deterrence needs affordable shots and support. Programmable 35mm for Skynex/Skyranger offers low cost per effect; and Rheinmetall's CEO has argued scale should reduce platform costs as Europe moves to serial production.

The procurement horizon reflects that logic: Berlin is preparing large multi-year orders: Eurofighters, thousands of Boxers, more IRIS-T and SkyRanger. With delivery stretching over a decade, the sustained demand gives industry confidence to keep investing in capacity.

Europe's deterrence surge isn't theoretical anymore, It is bending steel, filling depots, wiring sensors and turning wrenches. Rheinmetall, HENSOLDT and RENK are the practical centre of that shift.

Conclusion

Europe's rearmament is no longer theoretical; it is translating into factories, stockpiles, and procurement pipelines that underpin NATO's credibility. For investors, this creates a rare opportunity: predictable capital flows, structural demand across munitions, sensors, and mobility, and industrial champions positioned for growth.

[1] Please note – **DM121/DM125** – German Bundeswehr standard 155mm shells widely used in NATO. **SMArt**: is a sensor fused round that hunts and hits armoured vehicles from above.
[2] TRML-4D — Telefunken Radar Mobil Luftraumüberwachung ("Telefunken mobile airspace-surveillance radar"); "4D" means it measures range, azimuth, elevation and radial velocity (Doppler). It's HENSOLDT's AESA air-surveillance/target-acquisition radar used with IRIS-T SLM batteries.

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