

► WEAPON AND AMMUNITION



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Rheinmetall and MBDA: German laser weapon system close to market readiness

Düsseldorf/Schrobenhausen, 28 October 2025 – Following the successful completion of a one-year trial phase at sea, defence contractors Rheinmetall and MBDA in Germany have transferred a laser demonstrator for the Navy to the Laser Competence Centre at the Technical Centre for Weapons and Ammunition (WTD 91) in Meppen for further testing. This marks a major step in the development of a high-energy laser weapon system for maritime use, and highlights the strong partnership between the two German technology companies.

Based on this, an operational laser weapon system could be available to the German Navy as of 2029, providing a powerful and cost-effective addition to conventional guided missiles.



Thanks to WTD 91's support during the acceptance process, the demonstrator was successfully commissioned at the Laser Competence Centre in Meppen. This represents an important step towards achieving rapid market and operational readiness for a future laser system for the Navy.

The containerised demonstrator has already been successfully tested several times over the course of a year under real operational conditions at sea on board the frigate SACHSEN, proving the system's robustness and performance. With the support of WTD 91 in Meppen, the laser container has now been put into operation for further land-based drone defence testing.

The laser weapon system offers new possibilities for counter-operations against non-cooperative targets. With its ability to precisely and effectively neutralise drones and other small, fast-moving targets, it addresses one of the most pressing challenges of our time. An operational laser weapon system complements cannons and guided missiles, particularly for the defence against drones and drone swarms, as well as for attacking speedboats and, if necessary, guided missiles in the closer and immediate vicinity. In the future, it could also be equipped with greater capabilities and be used to destroy supersonic guided missiles and rockets, as well as mortar and artillery shells. Unique technologies 'designed and made in Germany' ensure precise target detection and tracking, based on years of expertise in optics and sensor technology.

► Key facts

- Laser competence centre in Meppen puts laser weapon system into operation
- Fully operational weapon system possible from 2029
- Effectiveness and precision proven under real operational conditions in over 100 firing tests
- Cutting-edge technology 'Designed and Made in Germany'
- Long-standing successful cooperation between Rheinmetall and MBDA in Germany in the field of laser weapons

► Contact

Oliver Hoffmann
Head of Public Relations
Rheinmetall AG
Tel.: +49-(0)211 473 4748
oliver.hoffmann@rheinmetall.com

Dr. phil. Jan-Phillipp
Weisswange
Deputy Head of Public Relations
Rheinmetall AG
Tel.: +49-(0)211 473 4287
jan-phillipp.weisswange@rheinmetall.com

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The long-standing and successful collaboration between Rheinmetall and MBDA in the field of laser weapons will ensure that this progress will be realised. Since 2019, both companies have been working closely together to develop high-energy laser effectors. The work on the system is divided nearly equally between the two companies. MBDA in Germany is responsible for target detection and tracking, the control console, and connecting the laser weapon demonstrator to the command-and-control system. Rheinmetall's responsibilities however include the aiming system, beam guidance and the demonstrator container, as well as the mechanical and electrical integration of the demonstrator on the deck of the frigate SACHSEN and, ultimately, the high-energy laser source including its peripherals.

Successful tests conducted on the frigate SACHSEN proved the demonstrator's tracking capability, effectiveness and precision under real operational conditions for the first time in Europe, also without using the landscape as beam block ('in front of blue sky'). These tests comprised over 100 live-firing trials and significantly more tracking trials. This technology has proven its high reaction speed and accuracy in combating drones, thereby significantly enhancing the effectiveness of drone defence.