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Heavy metal from Rheinmetall: Main battle tanks for superior battlefield performance

Mechanized forces continue to be an essential element of modern high-mobility warfare. As a leading partner of the world's armed forces, Rheinmetall Defence has been supplying sophisticated combat systems for well over a century. To underscore its leading role in the field of superior combat systems Rheinmetall has developed a Main Battle Tank Advanced technology Demonstrator which is on show at Eurosatory 2016.

The MBT Advanced Technology Demonstrator is deployable for all kind of missions and outstandingly superior in Firepower, Protection and Mobility. It is designed to fulfil all tasks in all thinkable scenarios of modern warfare: high intensity conflicts, peace keeping missions and counterinsurgency/ -terrorism operations, at all climate conditions and is fully night fighting capable. The MBT Advanced Technology Demonstrator is based on a maintained and repaired standard pre-owned MBT Leopard 2 A4, consists partly of different unchanged configurations with new additional integrated upgrades and enhancements.

With the MBT Advanced Technology Demonstrator Rheinmetall offers a comprehensive future concept for main battle tanks – a modular approach capable of meeting the current operational needs of user nations as well as assuring adequate future growth potential.

Revolutionary aspects of the Rheinmetall concept include, in particular, a force protection package, a digital turret concept, a remote weapon station, an auxiliary power unit, climate control as well as an extensive array of reconnaissance systems with a comparatively modest increase in weight. Moreover, an optimized stowage concept keeps alteration of the vehicle's contours to a minimum.

The MBT Advanced technology Demonstrator at a glance:

- Protection concept: Comprehensive protection from all current threats, including RPG 7, landmines, IEDs, bomblets, large-calibre KE ammunition and EO-, IR- and laser-guided weapons.
- Digital turret core system: Fully integrated network capabilities, fully interoperable subsystems and components, with significantly shorter reaction times and smaller additional space requirements.
- Fire control technology: An improved first round hit probability, especially when firing on the move.
- New commander's periscope: Night fighting and observation capabilities, improved range and higher elevation angles (up to 70°).

- Situational awareness system: 360° day and night near-field view of the vehicle's immediate surroundings, with automatic alarm and target-tracking functions.
- Command and control system: New capabilities include real-time blue force tracking and red force visualization, augmented reality and MIP-DEM-based interoperability.
- Commander's brake: A revolutionary innovation that enables the commander to stop the tank in critical situations
- Secondary armament: State-of-the-art remote control weapon station, fully stabilized and flexibly configurable.
- Ammunition: The world's first temperature-independent KE tank round and the latest generation of programmable HE ammunition.
- Climate control: High performance air conditioning coupled with a new insulation concept in the fighting compartment, improved ventilation and thermal protection for the magazine.
- Auxiliary power unit: High electric power generation (17 kW) and optimized intelligent energy balance of the vehicle.
- External two-way communications system: Enables the crew to communicate with people outside of the tank.
- Embedded logistics: Provides comprehensive monitoring of vehicle- and weapon system-relevant logistical data; linked with a central logistical information and evaluation system.
- Weight class: MLC 70

Main battle tank expertise

A weapons system closely associated with the name Rheinmetall, the battle-tested Leopard 2 main battle tank has proven indispensable in recent decades. The company's 120mm smoothbore gun serves as the main armament of the Leopard 2 as well as of the Abrams M1A1 tank in service with many armed forces. Furthermore, Rheinmetall's new programmable 120mm tank round, the HE Temp. DM11, is optimized for the modern battlefield.

Out of the total of 2,125 Leopard 2A4 tanks manufactured, Rheinmetall completely built 977 in Kiel on behalf of the German and Dutch armed forces, making the company a trusted partner for this unique MBT family. Rheinmetall is able to offer full in-service support throughout the system's entire lifecycle, making sure users can obtain everything they need from a single source. Expensive gaps in maintenance are never an issue. Moreover, combat performance upgrades can also be planned and implemented.

Poland has just awarded the Düsseldorf-based Group a contract for overhauling 128 Leopard 2 MBTs. In cooperation with Poland's Polska Grupa Zbrojeniowa (PGZ) and ZM Bumar-Łabędy S.A., Rheinmetall will serve as a strategic partner, supplying crucial key capabilities, including electronics and weapon technology. The project represents roughly €220 million in sales volume for Rheinmetall.

During the course of modernization, the 128 Leopard 2 A4 main battle tanks purchased in 2002 by the Polish Army from surplus Bundeswehr stocks will be upgraded to Leopard 2 PL standard, which corresponds to the German Leopard 2 A5 and A6. The Indonesian Ministry of Defence has contracted with Rheinmetall to supply it with tracked armoured vehicles, logistical support and ammunition. Along with 103 thoroughly overhauled and modernized Leopard 2 main battle tanks, the order encompasses 42 Marder 1A3 infantry fighting vehicles and 11 various armoured recovery and engineering vehicles.

Furthermore, Rheinmetall has modified 42 main battle tanks to meet Canadian Army requirements, enabling their progressive inclusion in existing command structures. Canada also awarded Rheinmetall a contract to convert twelve former Leopard 2 tanks into armoured recovery vehicles.

Rheinmetall manufactures and markets another member of the Leopard 2 family, the Kodiak armoured engineer vehicle, worldwide as part of a consortium with another defence contractor. The Netherlands, Sweden and Switzerland will use the Kodiak to support their Leopard 2 MBTs and to reinforce their previously fielded ARV 3 armoured recovery vehicles, likewise supplied by Rheinmetall.

Finally, Rheinmetall offers simulation and training solutions for the Leopard 2. Indonesia and Canada have awarded Rheinmetall contracts to supply Leopard gunnery skills trainers (LGST) and driving simulators. The LGST is on show at Eurosatory 2016 also.

Outlook

As Europe's largest supplier of systems and equipment for ground forces, Rheinmetall offers a full range of tactical vehicles as well as a unique portfolio of C4I, fire control and reconnaissance systems, weapons and ammunition, and force protection technologies. The Group's core competencies also encompass service and maintenance as well as a wide spectrum of simulation and training systems, including highly advanced major combat training centres.

Deriving from a single source, these capabilities are crucial to the success of upgrade programmes, assuring optimum interplay of the respective components. Rheinmetall maintains an extensive network of international partnerships.

For more information, please contact:

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