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World premiers at Eurosatory 2016: Rheinmetall unveils hard-hitting new solutions for today's armed forces

The shifting geopolitical scene and experience won in recent deployed operations make it clear that hard-hitting, highly mobile, well-trained and well-equipped armed forces continue to be an indispensable tool of security policy. At Eurosatory 2016 – Europe's biggest defence show (13-17 June) – Rheinmetall will be highlighting its role as a high-tech Group dedicated to meeting two of modern humanity's fundamental requirements: security and mobility.

Underscoring its longstanding reputation as a reliable partner to the world's armed forces, at Eurosatory 2016 the Group is unveiling the following products and technologies at the Rheinmetall Pavilion, D211 – D261:

- **Lynx:** a new combat system, heralding the arrival of an innovative new family of tracked vehicles. The world premier takes place at 10 o'clock on 14 June;
- **130mm L/51 tank gun:** an independently developed demonstrator for the main armament of a future generation of main battle tanks;
- **G-BKF:** a protected recovery crane vehicle, developed for the Bundeswehr by Liebherr-Werk Ehingen GmbH; the protected driver's cab and crane compartment both come from Rheinmetall.
- **Remote Controlled Lightweight Missile Mount (RCLM):** a new, extremely lightweight, easy-to-integrate, remotely controlled missile launcher;
- **Skynex:** Rheinmetall's new concept for a fully networked, next-generation ground-based air defence system;
- **Revolver Gun Mark 3:** a new, network-enabled automatic cannon for air defence with a built-in sensor and tracking unit;

Other products on show include:

- **MBT Advanced Technology Demonstrator:** a test bed for exploring the many ways of enhancing the combat performance and operational effectiveness of main battle tanks
- **Puma:** the German Bundeswehr's new infantry fighting vehicle, which is spearheading a new era in mechanized warfare (on view at the PSM GmbH stand, D-270)
- **HX family:** form the core of a global fleet of high-mobility transport vehicles, this military-off-the-shelf product family can be hardened to deal with battlefield threats;

- **RMMV Survivor:** a protected 4x4 vehicle configured for law enforcement operations;
- **Mission Equipment:** sensors, laser light modules and fire control technology for the sensor-to-shooter sequence;
- **Soldier systems:** customized solutions for integrating dismounted combat troops into the network-enabled warfare loop;
- **Weapon and ammunition** competence ranging from infantry weapons to high-energy laser effectors;
- **Airburst technology** for infantry applications, automatic cannon, air defence and main battle tanks;
- **High energy laser effectors:** a versatile, high-precision family of effectors, readily scalable to meet any threat;
- **Training and simulation:** highly realistic, made-to-measure training, ranging from computer-supported learning to live training in combat training centres.

Consisting of three divisions – Vehicle Systems, Electronic Solutions and Weapons and Ammunition – Rheinmetall is one of Europe's leading suppliers of defence technology, enhancing the operational effectiveness of ground forces worldwide.

Vehicle Systems: Centre of excellence for land systems

Formed at the beginning of 2016, the Vehicle Systems division is one of the world's most robust organizations for tactical land mobility. Its product portfolio ranges from trucks and wheeled armoured systems to heavy tracked fighting vehicles.

At Eurosatory the public will get a first look at Rheinmetall's new Lynx combat vehicle, the first of what is intended to be a new family of tracked armoured vehicles. The unveiling takes place on Tuesday, 14 June at 10 o'clock. The Lynx on display is configured as an infantry fighting vehicle.

Just last year, Rheinmetall formally transferred the first Puma infantry fighting vehicle to the Bundeswehr. Developed by an industrial consortium, the Puma is on show at the PSM GmbH stand. The new mainstay of Germany's mechanized infantry units is on the cutting edge in every category, setting the global standard for mobility, force protection, situational awareness, manoeuvrability and lethality. The Puma marks the arrival of a new era in mechanized warfare.

Rheinmetall continues to demonstrate unsurpassed competence in the field of Leopard 2 technology. The Düsseldorf-based Group has carried out overhaul and upgrade programmes for a number of Leopard 2 user nations, and is also supplying several countries with the Bergepanzer 3 armoured recovery vehicle and the Kodiak armoured engineering vehicle, both of which are based on the Leopard 2.

Rheinmetall's MBT Advanced Technology Demonstrator, is also on show at Eurosatory 2016, underscoring the Group's pledge to stay at the forefront of main battle tank design.

Present in Paris, too, is the Boxer multirole wheeled armoured vehicle, likewise the product of a defence consortium. Highly mobile and extremely well protected, the 8x8 platform has proved itself in Bundeswehr operations in Afghanistan. The Boxer's modular architecture, consisting of drive and mission modules, make it the perfect answer for a wide range of operations. A wheeled armoured reconnaissance variant

of the Boxer is Rheinmetall's entry in the Australian "Combat Reconnaissance Vehicle" competition.

Among other products featured at Eurosatory is the protected 4x4 protected AMPV, developed and produced in cooperation with another major defence contractor. Two versions of the vehicle are on display at Eurosatory: the PEGAZ variant proposed for a project of the Polish armed forces; and the RMMV Survivor, configured for a law enforcement role. Nor are the division's logistic vehicles neglected, with an HX 77 and HX 2 both on view. The HX family of military-off-the-shelf vehicles forms the core of a globally deployable fleet of high-mobility trucks that can be hardened if required. Some 10,000 of these vehicles are in service worldwide, which – particularly when it comes to multinational missions – results in major advantages with regard to interoperability and logistics. The HX family encompasses variants ranging in size from 4x4 to 10x10. Cargo carriers, tanker trucks, recovery vehicles, system platforms, folding road and bridge-laying systems – anything is possible. The HX therefore meets all of the requirements for the Bundeswehr's CAT I successor.

Another German defence product celebrating its debut at the Rheinmetall stand is the protected recovery crane vehicle from Liebherr; here Rheinmetall supplies the protected driver's cab and crane compartment.

Its unsurpassed expertise in the field of turret technology rounds out the division's portfolio, as exemplified by products like the Lance turret and the turret structure for the British "Scout" armoured reconnaissance vehicle. Here, too, Rheinmetall continues to demonstrate a clear ability to cooperate at national and international level.

Electronic Solutions

The Electronic Solutions division specializes in air defence systems, soldier systems, command and reconnaissance technology, fire control systems, sensors and naval systems.

Serving customers around the globe, Rheinmetall is a leading supplier of cutting-edge air defence technology. The Group is able to network the most diverse sensors and effectors into highly effective systems. These are able to instantly detect even incoming rockets, artillery and mortar shells (RAM) or very small drones, reliably neutralizing them with maximum economy of force. At Eurosatory 2016, Rheinmetall is presenting Skynex, its new concept for a fully networked, future ground-based air defence system. Also on view for the first time is the remotely controlled, network-capable Oerlikon Revolver Gun Mark 3. Tracking and sensor units such as X-band radar, electro-optical sensors and electronic warfare components can be integrated into the 35mm platform. This enables rapid, autonomous engagement of externally assigned targets.

Likewise celebrating its world premier at the Rheinmetall stand is the Remote Controlled Lightweight Missile Mount, or RCLM. Largely made of carbon, the RCLM can be integrated into practically any military vehicle, and is particularly suitable for launching short-range surface-to-air and ground-to-ground missiles.

Furthermore, Rheinmetall is a major producer of soldier systems, supplying customers with solutions tailored to meet their individual needs. Two outstanding examples are the Future Soldier – Expanded System (IdZ-ES, dubbed "Gladius" by Rheinmetall), which lets the Bundeswehr integrate its infantrymen into the network-

enable warfare loop, and Argus. Currently in the qualification phase, the latter has been selected by the Canadian Forces for the Integrated Soldier Systems Project.

Simulation technology for army, air force, naval and civilian users round out the division's portfolio. Just recently, the Bundeswehr awarded Rheinmetall a contract to modernize the German Army's Combat Training Centre, or GÜZ, which the Group also operates. Soon, troops there will be able to sharpen their urban warfare skills in "Schnöggersburg", an extremely realistic new training environment. At Eurosatory, the Simulation and Training business unit's Leopard Gunnery Skills Trainer forges a link between simulator technology and "Weapons and Ammunition" division.

Equipment such as laser light modules and fire control units round out the division's presence at Eurosatory.

Weapons and Ammunition

The spectrum of products supplied by Rheinmetall's Weapons and Ammunition division ranges from pyrotechnic signal flares to high-energy lasers. Among its key capabilities are infantry ammunition, automatic cannon like the Puma's airburst-capable MK30-2 ABM, the globally acclaimed 120mm smoothbore gun of the Leopard 2, a new family of mortar ammunition as well as artillery rounds and propelling charges.

An excellent example of Rheinmetall's role as a technology driver, the Group's airburst expertise merits special mention. With time-delay 40mm x 53 airburst ammunition (ABM), the round is programmed by an infrared signal from the fire control/aiming unit as it leaves the barrel. The rounds are timed to detonate at an exactly determined distance above the target zone, making them highly effective even when engaging targets concealed behind cover. Rheinmetall uses its proprietary AHEAD airburst technology in the medium-calibre ammunition it manufactures for automatic cannon designed for an air defence role or as the main armament of IFVs. The ABM round is programmed at the muzzle as it leaves the barrel. As opposed to programming during ammunition feeding, this has the advantage of calculating the exact initial velocity of each round fired, which in turn is taken into account when programming the point of detonation. This results in greater probability of a direct hit as well enhanced overall effectiveness. In the case of Rheinmetall's time-delay tank ammunition, programming of the 120mm x 570 HE Temp. DM11 takes place after loading. The system modifications necessary for this (a programming kit) can be easily retrofitted into any main battle tank equipped with a 120mm smoothbore gun and a modern fire control computer.

Rheinmetall is currently working on a number of other forward-looking technologies. On the one hand, plans are well underway to improve the combat effectiveness of the Group's 120mm tank gun; while on the other, work is proceeding on a future generation of 130mm tank main armament. Another exciting example of Rheinmetall's technological leadership are the Group's new high-energy laser (HEL) effectors, which have already been successfully tested on land and maritime platforms. Visitors to Eurosatory 2016 can inspect an HEL effector integrated into the aforementioned Skynex air defence system.

About Rheinmetall

Headquartered in Düsseldorf, publically traded Rheinmetall AG is a leading technology enterprise dedicated to the twin imperatives of security and mobility.

For many decades, Rheinmetall's Defence arm has been a reliable partner to armed forces around the world. One of Europe's foremost suppliers of defence and security solutions, its three divisions – Vehicle Systems, Electronic Solutions und Weapons and Ammunition – help to keep armies, navies and air forces across the globe in fighting trim. In countless categories, Rheinmetall Defence regularly sets new technological standards: from vehicle, force protection and weapon systems to infantry equipment, and from air defence and function sequence networking to electro-optics and simulation. Employing state-of-the-art solutions to give soldiers deployed in harm's that all-important edge – this is the mission of Rheinmetall Defence.

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