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## **35mm Oerlikon gun systems and Ahead ammunition from Rheinmetall: more than a match for contemporary threats**

Deployable on land, at sea or in the air, Rheinmetall automatic cannons, weapon systems and ammunition cover the full gamut of current and foreseeable future threat scenarios. The main product groups are vehicle-mounted weapons, aircraft cannon systems, naval guns and air defence systems, including the accompanying service and practice ammunition in calibres ranging from 20mm to 35mm. At MSPO 2016, Rheinmetall is displaying the Group's globally leading competence in medium calibre as well as in air defence solutions. Visitors to MSPO can take a closer look on Rheinmetall's Oerlikon Millennium Gun and Ahead Airburst ammunition technology.

Each round of Rheinmetall's 35mm x 228 Oerlikon Ahead airburst ammunition contains a lethal payload of heavy metal spin-stabilized subprojectiles, unleashed in the path of an oncoming target at a programmable, predefined point in time. A short burst of Ahead ammunition produces a dense cloud of lethal subprojectiles. These penetrate the outer skin of the target, causing catastrophic damage to its interior.

Ahead airburst ammunition can bring down targets at greater distances with fewer rounds fired, making it a much more cost-effective solution than conventional ammunition. The technology can be used in ammunition ranging in calibre from 30mm to 76mm. Ahead technology is suitable for ground, air force and naval applications. As an alternative option, Ahead rounds can also be fired in non-fused mode, in which they behave like frangible rounds upon impact and are able to penetrate and destroy hard targets very effectively. In effect, Ahead is actually two types of ammunition in one.

Cutaway models of Rheinmetall's Oerlikon Ahead muzzle-integrated programming unit and Ahead ammunition are on show at MSPO 2016.

### **Oerlikon Millennium Gun**

The Oerlikon Millennium Gun which is also shown at Rheinmetall's MSPO stand is just one example for the versatility of Rheinmetall's Oerlikon Ahead ammunition technology. Firstly, the Oerlikon Millennium Gun is an outstanding weapon for use against all types of incoming surface threats. Secondly, it is unsurpassed and proven as an air target effector.

The Rheinmetall Oerlikon Millennium Gun is a state-of-the-art 35mm automatic cannon that is also in-service with the German C-RAM system MANTIS (Modular, Automatic and Network capable Targeting and Interception System). It is characterized by a very high rate of fire (1,000 rounds per minute) as well as extreme precision. It is specifically designed to fire Rheinmetall's pioneering Ahead ammunition. The combination of firepower and precision ensures a high degree of lethality, even when engaging multiple targets at long ranges of engagement. This enables the weapon system to perform a multitude of different tasks:

- Countering aerial threats including incoming surface-to-surface guided missiles at ranges three or four times greater than conventional close-in weapon systems;
- Engaging small surface combatants, meeting the US Navy's performance criteria for neutralizing fast incoming attack craft (FIAC);
- Naval fire support: AHEAD technology or other standard types of 35mm ammunition can be used in this context for suppressing enemy infantry, light armoured vehicles, and onshore installations, enabling the evacuation of friendly forces, for example.

The Oerlikon Millennium Gun can be connected with any modern sensors or integrated into a command and control system, further enhancing the effectiveness of this cutting edge weapon system; or it can be used with additional radar and optronic sensors as an independent CIWS.

Following exhaustive technical, tactical and sea trials, the Royal Danish Navy has chosen the Oerlikon Millennium Gun fore and aft on all of Denmark's most modern surface combatants – its *Absalon*-class Combat/Flexible Support Ships. The system has proven highly effective in active service. Other South American and Eastern Europe Navies also discovered these advantages that accrued and ordered the Oerlikon Millennium Gun to replace 40mm and 57mm main naval guns.

### **Rheinmetall Oerlikon Revolver Gun Mk3**

At Eurosatory 2016 Rheinmetall was unveiling its Oerlikon Revolver Gun Mk 3, a remotely controlled, autonomous, network-capable air defence system. Integrated into the 35mm platform are a tracking/sensor unit with X-band tracking radar and electro-optical sensors as well as electronic warfare components. This enables swift, autonomous engagement of externally assigned targets.

Readying the Oerlikon Revolver Gun Mk3 for action requires just two soldiers. Subsequent operation of the system is unmanned, which also contributes to crew safety.

The Oerlikon Revolver Gun Mk3 can receive and process target data from 2D and 3D search radars. Integrated sensors and a fire control computer give the system an autonomous surveillance and target engagement capability. It can be controlled from a higher-echelon command post or via an operator station to which up to eight guns can be connected.

The tried-and-tested 35mm x 228 automatic cannon delivers compelling firepower and high precision. Coupled with Rheinmetall's proprietary AHEAD airburst technology, the Oerlikon Revolver Gun Mk3 is extremely effective against practically all air and ground targets.

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