

**SURFACE-TO-AIR**

## Rheinmetall displays Mistral launcher for small naval craft

Rheinmetall Defence showed its new Multi-Purpose Navy Launching (MPNL) system at the Euronaval exhibition in Paris on 27-31 October, writes *Miroslav Gyürösi*.

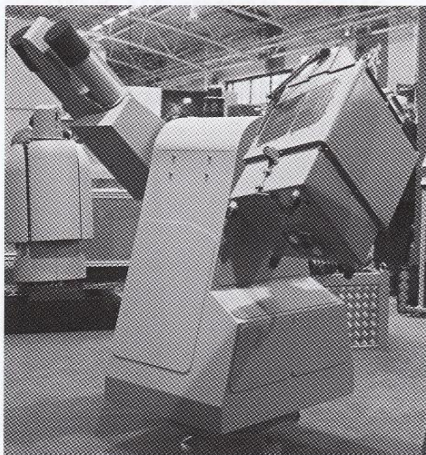
Developed by the C4ISTAR division of Rheinmetall Defence Electronics (RDE) in Bremen to meet a specific requirement from an unidentified customer, the system aims to protect small naval vessels against asymmetric sea-surface threats.

The company started design work in August this year and a prototype is due to be completed by mid-2009. It was able to take advantage of its experience with the ASRAD (Advanced Short Range Air Defence System) and the MLG 27 remote-controlled naval gun mount and to reuse subsystems from both weapons. The electro-optics are those used on the LG 27 gun mount while the servomotors were taken from ASRAD.

A mockup of the MPNL shown at Euronaval was armed with two MBDA Mistral 2 missiles, the weapon requested by the potential user. The high-explosive fragmentation warhead of Mistral 2 weighs 3 kg and is fairly heavy for a surface-to-air missile in this class. The missile's software would need only minimal changes for the surface-to-surface role, an RDE representative told *Jane's*.

The MPNL mounting will be about 1.6 m high without missiles. It can train through a full 360 degrees and requires a clear radius of 1.3 m. The missiles and electro-optics can be trained from -10 to +70 degrees in elevation. System weight without missiles is less than 350 kg.

Other missiles being considered by the company include anti-tank weapons such as the MBDA MILAN and Rafael's Spike series. ●



Miroslav Gyürösi: 1331198

> The planned MPNL launcher carries two ready-to-fire Mistral 2 missiles and an electro-optical housing.

**AIR-TO-SURFACE**

## Lockheed Martin, Raytheon share Paveway II contract

Lockheed Martin and Raytheon have each received a 'split-share' contract to deliver additional Paveway II laser-guided bomb (LGB) GBU-12 kits to the US Air Force (USAF) starting in 2009, writes *Caitlin Harrington*.

The Paveway II is a guidance kit that can be fitted on to a range of existing 'dumb' bombs to improve the accuracy of air-to-ground weapons. The GBU-12 LGB uses the Paveway II guidance kit coupled to a 500 lb (227 kg) Mk 82 freefall bomb.

Each Paveway II guidance kit consists of a computer control group at the front end of the weapon and an air foil group that includes stability fins at the back. When a target is illuminated by a semi-active laser seeker – either airborne or on the ground – guidance canards react to the signals from the bomb's computer and steer the weapon to its target.

The Paveway II LGB GBU-12 has a maximum range of 15 km when released from medium altitude (30,000 ft).

Raytheon has delivered more than 250,000 Paveway II weapons to the United States and to more than 35 allied nations, according to its website.

Lockheed Martin meanwhile, has stated it has already delivered more than 40,000

Paveway II LGB kits to the USAF, US Navy and international customers.

Among the wide variety of US aircraft cleared to carry the Paveway II family of weapons, which also includes the GBU-16, and GBU-10, are the Fairchild A-10 Thunderbolt II attack aircraft; the Rockwell B-1 Lancer and the Boeing B-52 Stratofortress bombers; the Boeing/BAE Systems AV-8B Harrier; the Boeing F-15E Strike Eagle; Lockheed Martin F-16 Falcon; and Boeing F/A-18 Hornet fighter jets.

A Paveway II LGB GBU-12 was reportedly one of two precision-guided weapons dropped from two F-16C fighters on June 7 2006 to destroy a mujahideen safehouse and kill Abu Musab Al Zarqawi, the former head of Al Qaeda in Iraq.

In late 2007 USAF MQ-9 Reaper aerial drones flew their first combat missions over Afghanistan, armed with Paveway II LGB GBU-12s and other weapons.

Among the international aircraft cleared for the Paveway II family are the BAE Systems Harrier and Hawk; the Dassault Mirage F1, Mirage III/5, and Mirage 2000; the Eurofighter Typhoon (Tranche 1, Block 5 and onwards); the IAI Kfir and Kfir 2000; the Panavia Tornado IDS; the Saab JAS 39 Gripen; and the SEPECAT/HAL Jaguar. ●

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## Belarus puts new weaponry on show

A prototype of the unmanned version of Tetraedr's A3 (Anti-air, Anti-armour, Anti-terrorism) multipurpose towed gun/missile system made its delayed debut on 21 October on the final day of the Belarus Armed Forces 'Autumn 2008' exercise which began on 15 October, writes *Miroslav Gyürösi*.

Originally due to be shown at Eurosatory 2008 in June 2008, the system was shown in a display area near the firing range command post of the 174th firing range of the Air Force and Air Defence in Domanovo, where it was inspected by Belarus President Alexander Lukaschenko and other VIP guests. It was armed with four Shturm anti-tank missiles and four Igla surface-to-air missiles.

An alternative tracked version is based on a slightly modified version of the GM-352M1E chassis originally developed by MTZ (Minskiy Traktorniy Zavod) for the Russian Pantsir-S1E system.

A3 units are meant to defend civil, industrial and military assets against air and ground threats ranging from fixed- and rotary-wing



> The Tetraedr A3 unmanned mount was armed with four Shturm anti-tank missiles (left) and four Igla surface-to-air missiles (right).

aircraft, cruise missiles, air-to-surface missiles and guided bombs to infantry fighting vehicles and armoured personnel carriers. ●