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# Defense Update

## EUROSATORY 2012 SHOW LIVE

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## EUROSATORY SHOW PREVIEW

*Defense Update reviews the main themes at the upcoming*

*Eurosatory 2012, the world's largest land warfare expo in Paris*



Eurosatory 2012 – the world's largest defense expo will take place in Paris at the Parc d'Expositions north of Paris, 11-15 June 2012. This year the event hosts over 1,100 exhibitors indoors and outdoors. Many exhibitors are participating in the dynamic live demonstrations while others are grouped in technology clusters, appealing to visitors focused attention.



*M-ATV Tactical Ambulance at Eurosatory 2012 Dynamic Demonstration*

### Eurosatory 2012 Dynamic Demonstration

The Eurosatory 2012 dynamic demonstration is highlighting situations depicting 'real life' scenarios, from asymmetric combat, to law enforcement, crowd dispersal to dealing with hazardous materials and chemical or biological threats. The systems on display include armored vehicles of various types, including the French Renault Trucks Defence VAB 4x4 and American M-ATV armored ambulance from Oshkosh defense. Two types of unmanned vehicles were demonstrated in flight - the IT180 mini-drone from Infotron and HoverEye EX developed by Bertin.

Don't miss the photos  
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## Rheinmetall Defence Displays Two Marder

Main battle tanks and infantry fighting vehicles (IFVs) as well as wheeled armored combat vehicles continue to form the backbone of modern mechanized armed forces. Even in contemporary asymmetric conflicts, their mobility, excellent protection, firepower and C4I capabilities render them invaluable.

Rheinmetall is offering upgrading and modernization of legacy vehicles such as the

### Upgraded Marder APC



Marder, being phased out of German military service, the Marder is now offered overseas, retrofitted to meet the contingencies of modern military operations. Taking two extensively overhauled Marder IFVs as an example, Rheinmetall shows how new protection technologies, improved drives and innovative build-ons based on tried-and-tested platforms can result in new, cost-effective vehicles ranging from armoured personnel carriers to medium-weight main battle tanks. The original overhead turret of the Marder has been changed for the M151 Protector remotely controlled weapon.

The upgraded Marder APC has a ballistic protection comparable to STANAG Level 4+, and mine protection comparable to Level 3a/3b+, bringing the vehicle's weight to 33 tons. The top deck has been lifted, to enable improved ergonomics. The improved Marder uses a 600hp MTU MB883 diesel.

### Marder Mobile Gun System



A different model of the overhauled and enhanced Marder was converted into a 43 ton mobile gun system, mounting a rifled, stabilized 105mm Oto-Melara gun in a new turret.



**Eurosatory Location**

Rheinmetall: EXT Pe6b D210



**ADD-ON ARMOR**  
PROTECTION SYSTEM



**SAMSON**  
**NEW** RWS WITH  
UNDER ARMOR  
RELOADING



**SPIKE FAMILY**  
MULTI-PURPOSE  
NON-LINE-OF-SIGHT  
TACTICAL MISSILES



**DAVID SLING**  
MULTI MISSION  
MULTI PLATFORM  
INTERCEPTOR



**IRON DOME**  
AIR DEFENSE  
AGAINST SHORT  
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## Eurosatory 2012: Renault Offers Multiple VAB Upgrades

Renault Trucks Defense (RTD) is displaying at Eurosatory the VAB Ultima, a highly protected 4x4 version of the armored personnel carrier in service with the French Army for several decades. The French government ordered 290 Ultima units in 2011, and the first 32 are expected to arrive in Afghanistan later this year. Preparing for the Afghan mission, the Ultima received enhanced protection, which includes a belly plate protecting from IEDs, slat grills and a new 'soft skin' protecting from RPGs. The total weight of the VAB Ultima is 15.8 tons, carrying eight troops and two crew members plus 1.8 tons of

payload. The vehicle is also equipped with a Kongsberg M151 Protector remote weapon station and the usual counter-IED jammer kit.

*Renault 4x4 VAB*



While the French Army has opted to modernize its 4x4 VABs with the Ultima model, Renault is offering the VAB Mk3 upgraded model of the 6x6 VAB to export customers. At a gross vehicle weight of 20 tons the VAB Mk3 can carry up to 7.5 tons of payload. Retaining high off-road mobility, the vehicle can be equipped with a number of diesel engines, developing 320, 340 or 400 hp. The vehicle is configured to carry seven troops and three crew members. The basic configuration shown here carries the 25mm light turret from BAE.



**Eurosatory Location**

Renault Defense Trucks EXT P3 Sud

## Plasan Introduces Enhanced FlexFence Capable of Defeating Multiple RPGs

The new 'soft skin' applied to the VAB Ultima vehicle displayed at Renault Trucks Defence's yard is a new RPG protection is believed to be Plasan's FlexFence, adding higher protection from RPGs. While the new protection is also based on 'statistical defeat' of the RPG warhead, Plasan claims that due to the unique composition of FlexFence it defeat RPGs with higher probability than any other statistical armor. Plasan is displaying here the latest version of FlexFence, claimed to be even more effective than the previous version. The new version has recently performed live firing tests, where it repeatedly demonstrated multi-hit capability (stopping several RPGs aimed at the same module).

According to Plasan, the lightweight FlexFence offers the lightest weight counter RPG armor available today. Its durability has been proven in testing in complex terrain, like jungle, thick brush and wooded areas, where other protection concepts such as nets will not survive. The FlexFence is applied over the existing armor, without changing the vehicle's width or silhouette, maintaining the vehicle's ballistic protection while adding counter RPG armor.

*Renault VAB Ultima*



## Oto-Melara Unveils Self Propelled Guns, C-RAM Capability

Oto Melara is launching a wheeled, turreted 155mm 39 Cal. self-propelled gun at Eurosatory 2012. The vehicle, a member of the Centauro family, is characterized by high tactical and strategic mobility and high survivability. The turret comprises the 155/39 mm caliber gun system, equipped with automatic loading system for ammunition and propelling charges that can be operated at any elevation. The cannon can fire standard ammunition or Vulcano guided ammunition. Oto-Melara has already developed a similar cannon mounting the company's 76mm automatic gun, used in air defense and surface attack, firing Vulcano or DART anti-air ammunition.

The company is also unveiling here the Porcupine, a remotely controlled M61A1 Gatling gun coupled with ammunition handling

loader and a stabilized optronic infrared tracking system, providing 24 hour target engagement capability. One Porcupine C-RAM system would typically cover an area of 400x400 meter but additional remote firing units could be added to extend the protected area to defend against higher intensity attacks. A typical unit

configuration would consist of four firing units, one command and control post for target designation and weapon control and 3D radar



*Oto Melara 76mm Automatic Gun*



*Oto Melara's Porcupine*

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# Defense Update

## Eurosatory 2012: Rheinmetall Defence Introduces an Off-Road Pickup Truck

Amarok M, a new pickup truck from Rheinmetall Defence combines good cross-country mobility with comfort and road safety of conventional pickup trucks. Its maximum road speed is 182 km/h. The vehicle is available with 90 to 132 kW engines, and manual or automatic transmission (6 or 8 gears). It has all-wheel drive and off-road ABS and ESP, contributing to high off-road and on-road performance. The vehicle uses a ladder frame with standardized mounting points to make subsequent assembly easier. Amarok M can carry 1.259 ton payload with a double cab or 1.396 tons with a single cab. The vehicle can ford water obstacle 500 mm deep and travel a side slope of 50 degrees.



*Rheinmetall Defence Amarok M*

## Eurosatory 2012: Renault Trucks Defense' Sherpa Displays IMI's Active protection Systems

Renault is displaying at Eurosatory 2012 an armored Sherpa equipped with IMI's Bright Arrow. The system depicts a new configuration for the IMI active protection system, featuring the redesigned PSR-10 APS radar from Rada, integrated with a stereoscopic IR sensor, both feed target data to the Bright Arrow mounted on the vehicle's roof. The launcher also carries a laser countermeasure device, employed as a 'soft kill' active countermeasure against guided missiles fired at the vehicle.



*IMI's Bright Arrow on a Sherpa*

## Eurosatory 2012: Oshkosh Defense Demonstrates MEDEVAC M-ATV

In service with US forces in Afghanistan since 2009, the M-ATV the highly mobile all-protected vehicle is currently fielded in several variants. Oshkosh has received awards to date for nearly 8,700 M-ATVs, including more than 460 SFV variants. The SFV features a modified cargo deck, intended to accept specialized equipment based on each mission's requirements, and larger front windscreens for increased visibility. Oshkosh is displaying the M-ATV the Special Forces Vehicle (SFV) at its booth #J619 in Hall 6.

Another variant, the M-ATV Tactical Ambulance is participating in the live demonstration here at Eurosatory. This M-ATV Tactical Ambulance is built to meet an international need for a more protected battlefield ambulance that can travel more extensively off-road. Oshkosh worked closely with military medical professionals on the vehicle's design and interior layout.



*M-ATV Tactical Ambulance*

## IAI's Green Rock, Black Granit Debut at Eurosatory 2012

IAI is unveiling two multi-sensor systems designed to support battalion level tactical formations, providing timely alerts and warning of imminent attacks with ballistic or direct weapons - mortars, rockets, missiles or snipers and guns. The Green Rock is a compact, mobile mortar and rocket detection, tracking and localization sensor. The system comprises two radar systems, one providing threat search and detection and with the other responsible for target tracking. The system provides warning alerts distributed



directly to the battalion units, as the Green Rock can spot the impact point and firing source with high accuracy, sufficient to enable counter-battery precision fire to stop the enemy firing. The whole sensor is installed on an All Terrain Vehicle (ATV) and is capable to move and deploy with the battalion. Its area coverage is also designed to support the battalion's area of interest.

Black Granite is another tactical sensor designed to support the battalion and below. This sensor is also deployed on light ATV. The sensors included in this kit



are designed for terrain dominance, and include wide area radar surveillance and multi-sensor electro-optical payload, Signal Intelligence (SIGINT) systems designed to operate semi autonomously - all coupled together to perform rapid identification of threats detected by the radar. To provide instant warning of enemy direct fire, guided anti-tank missiles in particular, the Black Granite is fitted with SWIR based Othelo, an advanced electro-optical gunshot detection sensor. Elta plans to complete the development of the two systems and begin testing before the end of 2012.

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## Eurosatory 2012 - Dynamic Demonstration

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*Hovereye EX with M-STAMP Payload*



*M-ATV Tactical Ambulance*



*Infotron IT180 mini-drone*



## Eurosatory 2012 - Outdoor Exhibition



*Oto Melara's 155mm 39 Cal. self-propelled gun*



*Plasan 'FlexFence' on a Sandcat*



*IMI's Bright Arrow on a Sherpa*



*Leopard 2 With RPG Kit*



*Renault VAB Ultima*



*Renault VAB Mk3*