

# Army Guide monthly



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## Exhibitions

### Oshkosh Features TerraMax UGV Technology for Route Clearance, Reconnaissance and Convoy Operations



Oshkosh Defense, LLC, an Oshkosh Corporation company, will feature its TerraMax™ unmanned ground vehicle (UGV) technology equipped on a MRAP All-Terrain Vehicle (M-ATV) during the annual Association for Unmanned Vehicle Systems International's (AUVSI) conference, XPONENTIAL in New Orleans from May 2-5, 2016.

The Oshkosh TerraMax UGV technology delivers both force protection and force multiplier capabilities to the modern battlefield. Vehicles outfitted with the TerraMax system provide a force protection advantage by removing operators from the vehicles entirely, and creating a safe standoff distance from threats such as improvised explosive device (IED) attacks. The TerraMax UGV technology can enable a traditional tactical vehicle, such as the M-ATV or the Family of Medium Tactical Vehicle (FMTV), into a fully integrated autonomous vehicle system that can serve as a force multiplier by enabling a single operator to supervise up to five unmanned vehicles during convoy, reconnaissance and route clearance operations.

“With TerraMax, our military customers can enable traditional light, medium and heavy manned vehicles into UGVs to reduce exposure to threats for troops and minimize the manpower required for logistics operations,” said John Beck, chief unmanned systems engineer for Oshkosh Corporation. “TerraMax UGV is a next-generation battlefield system with an open system architecture to easily integrate additional capabilities on to any tactical vehicle.”

The Oshkosh TerraMax UGV technology has proven capable of being seamlessly integrated into convoy operations during live-force military evaluations and has been tested in virtually every manner of tactical environment. Unlike remote-controlled or tele-operated systems, TerraMax UGVs leverage the latest robotics technology that enables the vehicles to perceive and navigate complex, off-road environments entirely unmanned, with minimal operator supervision. Oshkosh has the engineering, production, installation and support capability to enable the military to quickly transition UGV technology from concept to combat zone.

John Beck will be giving a presentation on the TerraMax UGV technology and its applications at

XPONENTIAL on May 2 at 2:30 pm local time. Oshkosh Defense leadership will be available to discuss Oshkosh TerraMax UGV technology and the company's broad portfolio of vehicles, technologies and services at AUVSI's XPONENTIAL at booth #1663.

## Defence Industry

### Rheinmetall to supply ammunition and accessories for Bundeswehr's Puma infantry fighting vehicle

In the ongoing process of integrating the Puma infantry fighting vehicle into the German armed forces, Rheinmetall has recently booked a series of orders from Germany's Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw). Besides production and delivery of 10,000 rounds of 30mm x 173 calibre armour-piercing ammunition, the Bundeswehr has contracted with Rheinmetall to modify a system gun rest, and to supply it with special tools and spare parts. The orders, placed from February to April, are worth over €12 million in total.

Rheinmetall's Oberndorf unit is in charge of these projects. The former Mauser plant is the birthplace of the Puma's newly developed main armament, the 30mm MK30-2/ABM automatic cannon. The accompanying array of ammunition includes programmable rounds, enabling the Puma to successfully engage a wide spectrum of targets.

Now being fielded by the Bundeswehr, the Puma IFV provides Germany's mechanized infantry forces with a new principal weapons system, one that represents a whole new dimension in international armoured vehicle design. Setting new standards in every relevant capabilities category, the Puma lends itself to a multitude of operational scenarios and can be deployed in all climate zones. Delivery of the 350 IFVs ordered by the Bundeswehr will be complete by 2020.

Rheinmetall Defence produces an exceptionally wide range of weapons and munitions – from medium- and large-calibre products to infantry ammunition, and from pyrotechnics to warheads and propulsion technology for missiles and torpedoes. The spectrum includes medium-calibre automatic cannon for the Eurofighter, naval vessels and infantry fighting vehicles, as well as the 120mm main armament of the Leopard tank, including the accompanying ammunition families.

## Defence Industry

### BAE and VOP CZ Team for the Czech Republic BMP-2 Replacement Programme

BAE Systems and VOP CZ have teamed up to pursue the Czech Republic's BMP-2 Infantry Fighting Vehicle replacement programme. The two companies will combine efforts to deliver the CV90 vehicle for the Czech Land Forces.

The arrangement offers significant long-term industrial cooperation that will benefit VOP CZ and the Czech defence industry.



BAE Systems is the design authority and manufacturing lead for the CV90 Infantry Fighting Vehicle (IFV), one of the most modern IFVs on the market and currently in production.

“BAE Systems is committed to building a strong working partnership with VOP CZ and Czech industry,” Tommy Gustafsson-Rask, president of BAE Systems Högglunds, said. “The agreement with VOP CZ will create a strong team to support the Czech Armed Forces for many years ahead.”

VOP CZ has expertise in design, manufacturing, assembly, and engineering production, and specialises in integrating and supplying modern defence equipment and systems to meet the requirements of the Czech customer.

“The partnership with BAE Systems is a great opportunity for cooperation with one of the biggest defence companies worldwide,” Marek E pok, managing director of VOP CZ, said. “VOP CZ offers the highest level of technology, development and production capacity for this project so we are well positioned to fulfil the needs of the Czech Army. We hope the cooperation grows into a long-term relationship.”

There are more than 1,200 CV90 vehicles on contract for seven user nations globally.

BAE Systems Högglunds has successfully fulfilled all its industrial investment commitments with the nations operating the CV90 platform, using a proven concept to build long-term, mutually beneficial relationships. This well-established industrial model has been implemented in Norway, Finland, Switzerland, the Netherlands and Denmark.

This industrial solution with VOP CZ aims to support job creation and technology transfer. BAE Systems employs an innovative approach toward industrial cooperation, including marketing support to new markets and support to small-to-medium enterprise companies.



allied countries to meet mission demands and threats while forward deployed. Polaris Defense will publicly debut the MRZR-D at the 2016 Special Operations Forces Industry Conference (SOFIC), in Tampa, Fla., May 24-26, and at CANSEC 2016, in Ottawa, Ontario, May 25-26.



To be as expeditionary as the warfighters that use them, MRZR vehicles are V-22 helicopter transportable and can be configured a number of ways, including two-, four- and six-person. The turbo-charged diesel engine in the new MRZR-D has been engineered to meet the performance and physical specs of the original MRZR vehicles. While many key features – like the dimensions, payload, towing, ground clearance, accessories, handling and other features – remain the same, Polaris incorporated feedback from the field in the new product, including updated occupant seating space, ergonomics and sightlines. The MRZR-D also provides increased auxiliary power and greater range, making it even more effective.

“The new turbo diesel powertrain is significant in reducing the logistics burden for select U.S. services and many foreign militaries that have strict requirements for diesel fuel,” said Jed Leonard, senior manager, Polaris Defense. “And as importantly for our military customers, we’ve engineered this diesel powertrain to meet the same mission requirements and extreme off-road performance that Polaris and the MRZR are trusted for in peacetime, security operations, and conventional military missions.”

“Throughout the last three years, we’ve had an open dialogue with Polaris about how we were using the MRZR, and enhancements that would help us complete our missions more effectively. This has been very beneficial to us in the program office and the warfighters as Polaris has incorporated our requests. In the case of the MRZR-D, we suggested changes to improve sightlines and ergonomics which were incorporated,” said Brendon Reedy, LTATV acquisition program manager, PEO-SW/FOSOV, USSOCOM. “It’s nice to see commercial companies such as Polaris continue to invest in the Defense industry and we’re happy those investments have resulted in a turbo-diesel MRZR.”

Production continues for the original gas powertrain MRZR 2 and MRZR 4 under the LTATV program for USSOCOM and other international contracts. Orders for the 4-seat turbo-charged MRZR-D are being accepted now, with production and deliveries also starting this year. The MRZR-D will be in Polaris Defense booth #1735 at SOFIC in Tampa and booth #331 at CANSEC in Ottawa.

Polaris Defense vehicles deliver a coveted

## Defence Industry

### Polaris Defense Unveils Turbo Diesel MRZR

MINNEAPOLIS, MN -- Polaris Defense, a division of Polaris Industries Inc., today announced the addition of a high-performance MRZR turbo diesel (MRZR-D) to its MRZR off-road vehicle lineup. MRZR-Ds have redefined ultralight, off-road mobility for military vehicles and are mission critical for expeditionary forces in the U.S. and more than 20

combination of deployability, versatility and off-road mobility, forged from more than 60 years of off-road vehicle experience that is simply unmatched. From the rugged Sportsman MV 850 to the modular and nimble MRZR, to the trophy truck inspired and ultimate off-road payload capable DAGOR, the enhanced tactical mobility provided by Polaris vehicles gives an advantage back to dismounted troops, allowing formations to move faster, carry more and significantly reduce combat fatigue. And because the vehicles are in service throughout the world, there is a high degree of interoperability and commonality among U.S. and allied forces. An established network of more than 1,400 Polaris dealers and distributors provide military vehicle training, service and support worldwide.



## Contracts

### Thales signs new contract to provide CATHERINE thermal imaging cameras to India



Thales announces the award of a contract by BELTECH to provide CATHERINE thermal imaging cameras for India's T90 battle tanks.

As part of this contract, Thales is doing a transfer of production to integrate 260 compact LWIR[1] thermal imaging (TI) CATHERINE into BELTECH's TI Sights that will be installed on the T90 battle tanks of Indian Army.

The CATHERINE family is the most complete range of cameras available on the world market for target acquisition and weapon engagements by land vehicles. Thermal imagers allow gunners, commanders and land recce observers to see by night and by day in adverse conditions. More than 7000 CATHERINE cameras are in service on-board 30 types of fighting vehicles globally.

The CATHERINE thermal imager is already in service with the Indian Army and this new order consolidates Thales leadership in optronic technologies in India.

The transfer of production of CATHERINE contributes to the "Make in India" policy of the Indian government.

Thales remains at the forefront of supporting its customers everywhere in their defence modernisation.

