

# Army Guide monthly



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## Future Technologies

### UK Defence scientist awarded OBE for front line armour protection work



A UK Ministry of Defence scientist has been awarded an OBE in Her Majesty The Queen's New Year's Honours List, in recognition of his world-leading armour protection work.

Dr Andrew Baxter of the Defence Science and Technology Laboratory (Dstl), based at Porton Down, has been the driving force behind many of the changes in protection delivered to troops in Iraq and Afghanistan.

He has 25-years of service with the Ministry of Defence, ten of which have been in his current role in Dstl's Physical Sciences Department.

During the past year, the 49-year-old from Salisbury in Wiltshire, has played a critical role in developing Foxhound, the Armed Forces' next generation of light protected patrol vehicle (LPPV). Dr Baxter helped set the protection requirements and provided a leading-edge assessment of industry proposals for the project. Working with the preferred bidder, Force Protection Europe, he has helped to guide the design of the vehicle.

The development of Foxhound took place in an incredibly short timeframe – from concept to initial delivery in just 36 months.

Penny Endersby, who leads Dstl's Physical Sciences Department, says Dr Baxter should take much of the credit for the project's success:

"Andrew's outstanding leadership and wealth of knowledge in the armour protection field has helped produce a vehicle which redefines the protection of lightweight vehicles and which will undoubtedly reduce the loss of life or critical injuries to troops on the front line.

"This is an excellent example of how scientific and technological input, working with colleagues across the MOD and in close partnership with industry, produces great results. Andrew is a worthy recipient of this award."

Dr Baxter's technical advice is widely respected across the UK Defence community, as well as by the UK police forces, in his role on the Vehicle Security Advisory Group. His views are also sought by international colleagues, particularly in the US and Australia.

48 civilians have been honoured in the 2012 New Year's Honours list, either for work in the Ministry of Defence or in other aspects of UK Defence, along with 119 UK Service personnel.

## Contracts

### Navistar Defense Receives USD 134M for Fleet Support

WARRENVILLE, Ill. -- Navistar Defense, LLC today announced that it received a \$134 million delivery order for field service representatives (FSRs).

The order from the U.S. Marine Corps Systems Command renews the company's in theater FSR service contract to support International(r) MaxxPro(r) Mine Resistant Ambush Protected (MRAP) vehicles.

"I'm proud to say that Navistar will not sell a truck if we can't support it in theater," said Archie Massicotte, president, Navistar Defense. "Sustainment of our vehicles is key - especially when vehicle lifecycles may run between 15 to 20 years. With our fleet of vehicles now growing beyond 32,000 trucks, fleet support will continue to be a critical piece of our business."

The company currently has more than 600 FSRs in theater and working domestically to support the MaxxPro family of vehicles.

Work conducted under the renewed contract will run through December 2012.

## Contracts

### FMV procures 48 new BvS10 MkIIB armoured all terrain vehicles



FMV has decided to procure 48 BvS10 MkIIB all terrain vehicles from BAE Systems Högglunds in Sweden. The first vehicles will be delivered in the autumn of 2012 to allow them to be ready for international operations in the spring of 2013.

The elapsed time from the start of the project to today's award decision has been less than a year. For such a large procurement, this is considered to be a very short time.

FMV has decided to procure 48 BvS10 MkIIB all terrain vehicles from BAE Systems Högglunds in Sweden. The first vehicles will be delivered in the autumn of 2012 to allow them to be ready for international operations in the spring of 2013.

FMV received two very competitive bids offering two qualified vehicle systems. After evaluating the two bids, including an overall assessment of the two vehicle systems performance, price and life cycle cost, FMV decided to assign the contract to BAE Systems Högglunds and their model BvS10 MkIIB, says Peter Elmlund, Project Manager at FMV. The Swedish Armed Forces have set stringent requirements for the vehicles. They should be able to operate off-road in terrain

characterized by deep snow, mud, mires and sand and also be able to swim across lakes and rivers. At the same time they should protect the personnel and crew against enemy fire and mines. They should also be easy to repair and maintain. All of these requirements we have been evaluated. But also the price issue which of course is important, says Peter Elmlund. The Swedish government decided in 2010 that the new all terrain vehicles should be procured to the Armed Forces. About 30 people at FMV have since then been involved in the project to formulate requirements, review bids, evaluate the price, costs and conditions and to test the two competing vehicles. The decision means that 48 all terrain vehicles will be ordered in the first batch.

The vehicles are configured in four variants:

- Armoured Personnel Carriers (APC) with seating for six fully equipped soldiers plus three crew members, 19 pcs
- Ambulance vehicles with the possibility to carry up to two stretchers, and with seating for two crew members and two paramedics, 10 pcs
- Logistics vehicles with the possibility to carry a 10-foot container or a flatbed, 17 pcs. This variant can also be used to carry the artillery locating radar Arthur or a radio link module. It has a three-person crew
- Command & Control vehicles with seating for four staff personnel, a command & control system, and three crew members, 2 pcs

The first vehicles will be delivered to FMV in the autumn of 2012. They will be handed over to the Armed Forces and be in place for an international mission in Afghanistan during the spring 2013. The cost of the acquisition – a complete system including 48 vehicles and support and training equipment – is approximately around 700 million SEK. The contract also includes options to order additional 127 vehicles divided in three different batches.

#### **Facts about the armoured all terrain vehicle BvS10 MkIIB:**

A tracked all terrain vehicle with articulated steering. The all terrain vehicle has an extremely good off-road mobility. The vehicle can climb a 45 degree slope on a hard surface and has full performance in a 17 degree slope in deep snow. Maximum speed on road is 65 km/h and the swimming capability is 5 km/h.

- Six-cylinder diesel engine of 275 horsepower
- Six-speed automatic transmission
- Length 8.3 m
- Width 2.2 meters
- Height 2.3 m, not including equipment on roof
- Total weight with load up to 15 tonnes
- Crew, 2-3 persons
- Ballistic and mine protection
- Self-protection with remote Weapon station 01 or ring-mounted machine gun

STERLING HEIGHTS -- The U.S. Army TACOM Lifecycle Management Command has awarded General Dynamics Land Systems \$60 million under an existing contract to continue upgrading M1A1 tanks to the M1A2 Systems Enhancement Package (SEP) V2 configuration.



General Dynamics Land Systems is a business unit of General Dynamics. The most technologically advanced digital tank, the M1A2 SEP V2 includes improved color displays, day and night thermal sights, commander remote operated weapon station (CROWS II), a Thermal Management System (TMS) and a tank-infantry phone. The M1A2 SEP V2 maximizes the fighting ability of the tank on today's battlefield while preparing the platform for tomorrow's challenges. The original order was made under a multi-year contract awarded in February 2008, which authorized the upgrade of 435 M1A1 tanks that have been in the Army's inventory for more than 20 years. General Dynamics is continuing the conversion of the tanks in the Army's active component to the M1A2 SEP V2 configuration. Work is expected to be completed by June of 2013 and will be performed by existing employees in Anniston, Ala.; Tallahassee, Fla.; Sterling Heights, Mich.; Lima, Ohio; and Scranton, Pa.

#### **Future Technologies**

##### **Nexter Munitions: Inauguration of a robotised machining facility by the Minister for Defence**

The announced cuts in defence budgets in Europe and the increased competition in our key weapons markets have spurred Nexter Munitions to develop a proactive export strategy.

The company plans to double its export market share within the next five years. This represents 20% of its sales in 2011 and 45% of the current order book.

Multi-year orders provide a favourable framework for ensuring the bedrock of activity and long-term view we need to engage in ambitious projects. The project for investment in a robotised facility for machining and belting of ammunition rounds for the CAESAR artillery system, Nexter Systems' flagship export product, was launched within this framework in September 2010.

This facility, which incorporates the latest technological innovations, will allow Nexter Munitions to increase its competitiveness, reactivity and independence. It will improve Nexter Munitions' market position in manufacturing flare and smoke ordnance in the 155 mm artillery round range, ordered by the French Army under a multi-year contract. It will allow our

#### **Contracts**

##### **General Dynamics Awarded \$60 Million for Abrams Tank Upgrades**



productions to be relocated while maintaining domestic jobs.

It should be noted that this project was awarded to local or regional companies:

- The Socopresses company employing 20 people and based in YtÈvre sur Mehun was responsible for the engineering side.
- The CirmΓ©ca company based in Menetou Salon, the Escofier company in Chalon sur SaΓrne, the Arcom company in ThΓ©nioux and the AxilΓ©ca company in La Chapelle Saint Ursin produced all the equipment.

## Contracts

### Navistar Defense to Provide USD 880M in Upgrades for MRAP Vehicle Fleet



Navistar Defense, LLC received a \$880 million delivery order today to upgrade 2,717 International® MaxxPro® Mine Resistant Ambush Protected (MRAP) vehicles.

The order from the U.S. Marine Corps System Command calls for MaxxPro units to be upgraded with the company's rolling chassis solution. The award also includes engineering changes, supplies and services.

"As Defense budgets are being reduced, it is imperative that we continue to develop economical solutions that repurpose assets while also working to ensure warfighters have access to emerging technologies and capabilities," said Archie Massicotte, president, Navistar Defense. "Our rolling chassis solution allows us to leverage our unique vehicle design and replace an older chassis with a new, highly mobile independent suspension chassis. During all this we keep the armored capsule intact while creating commonality through the entire MaxxPro fleet."

Under the delivery order, MaxxPro vehicles will be retrofitted with new rolling chassis. This enhancement further improves the vehicle's off-road capability with the addition of the DXM™ independent suspension, a MaxxForce® 9.3 engine, 570 amp alternator and driveline.

The company has fielded nearly 9,000 MaxxPro vehicles and continues to anticipate needed vehicle capabilities and enhancements for its entire fleet of 32,000 vehicles.

"As the operational tempo continues to impact the Army's truck fleet, we will continue to leverage our commercial infrastructure to sustain the fleet through maintenance, repair and rebuild activities," said Massicotte.

Work will begin at the company's West Point, Miss., assembly facility in January 2012 and is scheduled for completion in October 2013.

In addition to rolling chassis, Navistar is also considering new vehicle options. In October, the company unveiled its new International® Saratoga™ light tactical vehicle, which Navistar has been testing for the last year at its own expense.

## Contracts

### ManTech Awarded USD 507M to Continue Sustainment of US Military's MRAP Vehicles

ManTech International Corporation has been awarded a contract modification by the U.S. Army's TACOM Contracting Center to continue providing logistics sustainment and support for the U.S. Military's MRAP FoV.

The award is valued at \$100.8 million for the initial two month period of performance and includes eight additional one-month options valued at \$406 million if all options are exercised, for a total award value of \$506.8 million.

Under this contract ManTech provides rapid assessment and repair of battle-damaged MRAP FoV systems, immediate repair of mechanical failures, and technology insertion, system integration, upgrades, and modification services to enhance and sustain fleet operational readiness. Specific to the Route Clearance Vehicle fleet ManTech manages supply and transportation support to include performing demand analysis, warehouse operations, management and reporting of logistics data, and redistribution of material to right size the repair parts levels at each of the repair locations. Work is being performed in Afghanistan, Kuwait and at locations throughout the U.S. and OCONUS as required.

The U.S. Army TACOM Life Cycle Management Command, in partnership with the Army's Program Executive Offices, is one of the Army's largest weapon systems research, development and sustainment organizations. Its mission is to develop, acquire, field and sustain soldier and ground systems for the warfighter through the integration of effective and timely acquisition, logistics and cutting-edge technology.

"The MRAP FoV program is an important component of the Army's effort to protect its personnel," said Louis M. Addeo, president and chief operating officer of ManTech's Technical Services Group. "ManTech is honored to continue helping in this significant endeavor."

"We are proud to continue our support to the MRAP program," added Kevin C. Cody, business unit president of ManTech's Systems Sustainment and Integrated Logistics business unit. "We value the significance this program has to the safety of our nation's warfighters."

**Contracts**

**BAE Systems Wins BJ65m Swedish All-Terrain Vehicle Contract**



Γ-RNSKΓ-LDSVIK, Sweden -- BAE Systems has been awarded a contract from the Swedish Defence Materiel Administration, FMV, to supply 48 of its go-anywhere BvS10 armored all-terrain vehicles and an extensive initial support package.

The contract follows the down-select of the BvS10 on 5 Jan and is worth BJ65m (\$100m). It provides options for an additional 127 vehicles and an even more comprehensive sustainment package which could include in-theatre support. This would more than triple the overall value.

The BvS10 was selected for the program following a competition launched in June 2011. Contract-specific features include enhanced crew ergonomics and protection, integration of the Protector remote weapon station, radio and battlefield management systems. Smoke grenade launchers will also be fitted to give 360 degrees coverage around the vehicle.

"We made an overall assessment of the two competing vehicles' performance, price, life support costs and also assessed the bidders' ability to deliver in accordance with the requirements," said Brigadier General Anders Carell, Head of FMV's land systems procurement command. "The outcome of our assessment was very clearly in favor of BAE Systems and BvS10."

The 48 BvS10s will be delivered in troop carrier, command vehicle, ambulance and logistic carrier variants. They will be manufactured in the newly-refurbished production facility in Γ-rnskΓ-lldsvik with first deliveries in October 2012 and the final vehicle to be delivered in November 2013.

"The contract from FMV is further proof of the superior capabilities that the versatile BvS10 provides," says BAE Systems Vehicles' Managing Director Jan SI¶lderstr¶m. "Thanks to our recently refurbished manufacturing plant, we can provide the BvS10 within a short delivery time frame and at a very competitive price. This will now provide the Swedish Armed Forces with an ideal combination of mobility and protection."

Sweden will join the UK, the Netherlands and France in operating the BvS10. More than 10,000 of the earlier, smaller BV206 family of vehicles have been sold around the world.



**Contracts**

**BAE Systems Receives \$313 Million Contract for Continued Research and Development of PIM**



ARLINGTON, Virginia -- BAE Systems received a \$313 million contract modification for additional engineering design, logistics development and test evaluation support to complete the Engineering and Manufacturing Development phase of the U.S. Army's Paladin Integrated Management (PIM) program. PIM is the latest howitzer in the M109 family of vehicles.

"The PIM program will ensure that the self-propelled howitzer fleet is sustainable in the long term and provides significant growth potential for our customer," said Joe McCarthy, vice president and general manager of Combat Vehicles at BAE Systems. "Since we built and delivered the seven PIM prototype vehicles last year, we have completed all contractor tests, as well as Phase One of the Army's Developmental Test. The additional funding that we are receiving through this contract will allow us to support the remainder of the Army's rigorous test program and complete the production planning efforts in support of the low-rate initial production decision."

BAE Systems was awarded a \$63.9 million research and development contract in August 2009 to produce five Self Propelled Howitzers and two Carrier, Ammunition, Tracked vehicles. The seven prototypes were delivered to the U.S. Army, on schedule, in May 2011.

Work under this contract will be performed at various BAE Systems facilities, including: York Pennsylvania; Johnson City, New York; Minneapolis, Minnesota; Santa Clara, California and Sterling Heights, Michigan. The contract was awarded by U.S. Army TACOM and is expected to begin in February 2012 with anticipated completion in January 2015.

The Paladin Integrated Management howitzer uses the existing main armament and cab structure of a Paladin M109A6 and replaces unique vehicle chassis components with modern components common to the Bradley family of vehicles incorporated in an improved and more survivable chassis structure. PIM incorporates a state-of-the-art "digital backbone" and power generation capability and integrates electric elevation and traverse drives, electric rammer and digital fire control system. The upgrade of the PIM ensures commonality with existing systems in the Heavy Brigade Combat Team, and reduces its logistical footprint and operational sustainability costs by replacing obsolete components.

PIM is equipped with the company's enhanced on-board power management capability, representing the first implementation of the U.S. Army's On Board Power Management requirement. BAE Systems' enhanced on-board power management solution will double the electrical power of most military vehicles, producing 70KW, significantly increasing the mission effectiveness of ground forces in theatre.



### Defence Industry

## U.S. Army Awards Bridge Contract to Oshkosh Defense for Heavy Vehicle Fleet



OSHKOSH, Wis. -- The U.S. Army has awarded Oshkosh Defense, a division of Oshkosh Corporation, a bridge contract to continue production and support of the Family of Heavy Tactical Vehicles (FHTV). Under this extended contract, the government can place orders through October 2013 and Oshkosh Defense can deliver through September 2014. The first order under the bridge contract was awarded on Dec. 21, 2011.

The Oshkosh FHTV includes the Heavy Expanded Mobility Tactical Truck (HEMTT), Heavy Equipment Transporter (HET) and Palletized Load System (PLS). Army and National Guard soldiers have relied on these vehicles in Iraq and Afghanistan, and in other missions around the world, to safely haul heavy payloads in challenging terrain and extreme conditions.

“The FHTV’s proven performance, particularly during its extensive use in two operational theaters during the last 10 years, has enabled successful logistics operations while protecting soldiers,” said Mike Ivy, vice president and general manager of Army Programs for Oshkosh Defense. “The success of the FHTV program is the result of close and continuous collaboration with our Army customer. We appreciate the opportunity to insert the latest automotive and survivability technologies into these trucks and to join soldiers, first in Iraq and now in Afghanistan, sustaining fleets in the most demanding circumstances.”

The HEMTT A4 is the backbone of the Army’s logistics and resupply fleet. It has a 13-ton payload capacity and is available in multiple variants for a wide range of operations. The PLS supports the Army’s distribution and resupply system, transporting ammunition and other critical supplies needed in battle. The HET is designed to rapidly transport battle tanks, fighting and recovery vehicles, armored vehicles, and construction equipment, as well as their crews, so they arrive in mission-ready condition.

Oshkosh has been producing heavy-payload vehicles

for the Army for more than 35 years, beginning with the HET M911 in 1976. The latest configurations of the FHTV vehicles include air-conditioned and armor-ready cabs, electrical upgrades, and anti-lock braking to keep soldiers safe and on the move in severe environments. Oshkosh most recently worked with the Army to develop and begin producing underbody improvement kits for FHTV trucks. These kits provide enhanced protection against ever-evolving improvised explosive device (IED) threats.

To date, Oshkosh has produced more than 58,000 FHTV trucks and trailers for the Army. Oshkosh also has remanufactured more than 11,000 FHTV trucks, delivering the vehicles in zero-miles / zero-hours condition for significantly less than the cost of a new vehicle.

The first order under the FHTV bridge contract includes more than 20 HEMTT Light Equipment Transporters (LET), more than 10 PLS A1 trucks and more than 10 PLS A1 trailers. The order is valued at more than \$11 million. Work under the order is scheduled to be completed in December 2013.



### Defence Industry

## Renault to supply Sherpa trucks for French armed forces



Renault Trucks Defense (RTD) has been awarded a contract to supply Sherpa Medium trucks used to refuel the French armed forces' aircraft.

The trucks will be able to refuel all types of aircraft including unmanned aerial vehicles (UAVs) in rough terrain because of their mobility. The contract, awarded by the French Armed Forces Fuel Service (SEA), is in response to a bid submitted by the company for the air-transportable multipurpose tactical tanker-truck (CCPTA) tender floated in November 2011.

The contract includes the supply of 30 vehicles and an option for an additional 20 trucks, and the qualification phase will be conducted in 2012, followed by deliveries in 2013. The Sherpa Medium is a family of 6x6 and 4x4 tactical trucks with a tank capacity of 5m<sup>3</sup>, which is sufficient to refuel all types of aircraft, including Eurocopter Cougar and Tiger attack helicopters as well as UAVs.

The truck is fully air-transportable by Lockheed C-130 Hercules and A400M aircraft and offers outstanding strategic and tactical mobility to military units operating under extreme conditions worldwide, according to RTD.



The vehicle is capable of transporting up to 12t of payload off-road and can also be configured as a shelter carrier, troop transporter, tanker, wrecker and weapon system carrier.

The vehicle features a roof-mounted weapon system for ballistic protection and is armoured to counter diverse threats including kinetic projectiles, splinters, mines and improvised explosive devices (IEDs). The French Army already uses the truck as an ammunition-carrier platform for the Caesar artillery system and also as a self-propelled howitzer fitted with a 155mm gun.



## Exhibitions

### Navistar's Continental Mixers Offers Industry's Most Comprehensive Line-Up of Integrated Mixer Bodies, Truck Chassis

LAS VEGAS -- At this week's World of Concrete trade show, Navistar's Continental Mixers, LLC continued its commitment to the construction segment with the industry's most diversified, integrated mixer truck product line-up and an array of innovative service solutions that deliver real results to a customer's bottom line.

"In just two short years, Continental Mixers has made tremendous progress to meet the diverse needs of ready-mix customers with the most extensive line-up of fully integrated mixer products in the industry," said Steve Guillaume, general manager, Continental Mixers. "With a comprehensive dealer support network, customer-focused service offerings and innovative cement suspension technologies, Continental Mixers continues to raise the bar for concrete producers."

#### Continental Mixers Front Discharge Mixer

Following last year's announcement of a new front discharge mixer product offering, Navistar engineers completed extensive product test and validation processes to ensure the highest levels of quality, reliability and durability. Fully integrated with International® truck chassis components and MaxxForce® brand big bore diesel engines, the new Continental Mixers front discharge mixer is ready for customer orders.

"Our launch of an integrated front discharge mixer is yet another step for Continental Mixers to provide a complete portfolio of product solutions for our customers," added Guillaume. "By integrating the chassis and powertrain from our commercial vehicles we're able to offer a machine with unparalleled performance, reliability, and durability backed by an expansive network that understands how to support both mixers and vocational chassis."

The new Continental Mixers front discharge mixers offer fully integrated MaxxForce 13 big bore power with up to 430 horsepower. In addition, the new front discharge mixer incorporates a new drum design for best-in-class charge and discharge and is Truck Mixer Manufacturer's Bureau (TMMB) certified.

Utilizing MaxxForce Advanced EGR emissions technology, these front discharge mixers will deliver a significant weight advantage with no need for liquid urea tanks or SCR aftertreatment offered by competitive products. The front discharge mixer will be sold and serviced through Continental Mixers dealers who will also provide parts support and unparalleled chassis service expertise.

#### New, Lightweight Integrated Mixer

Continental Mixers also showcased an all-new lightweight integrated mixer which utilizes a proprietary high-strength steel specifically formulated for concrete mixers. This new design will deliver a nearly 2,000-pound weight savings versus comparably spec'd steel mixers.

"With this lightweight mixer, we are changing the weight game in the mixer business," added Guillaume. "We've developed a product that provides our customers with significant weight savings in a 10.5 yard mixer, while maintaining all the benefits of a conventional steel mixer."

These new lightweight mixers include the optional ZF gearbox which integrates the hydraulic pump in the gearbox housing. In addition, multiple barrel sizes are available to meet customer requirements. The new lightweight mixers are available on both International WorkStar® and International® PayStar® chassis.

#### Trailer Mixer

Continental Mixers is also launching a new trailer mixer in the summer of 2012. This mixer is designed for 9.5-12 cubic meter applications and can also utilize Continental Mixers new lightweight components. The mixer is integrated with the International WorkStar® tractor to provide an integrated mixer solution that is delivered, warranted, and serviced through one network. The new Continental trailer mixer features a low center of gravity to prevent spillage going over inclines and a hopper height equal to conventional mixers. In addition, the new trailer mixer touts Continental Mixers' high performance load charging and discharging as well as wireless controls and Navistar's integrated Diamond Logic Builder™ for ease in body installations and outfitting.

#### Comprehensive Customer Support

Continental Mixers goes above and beyond with an unprecedented level of customer and product support, boasting 29 dedicated dealers and 118 locations across the United States and Canada in addition to four dealers serving the Latin American market. The Continental Mixers dealer network is extensively trained in sales and service capabilities for mixers, commercial chassis, and diesel engines while also offering all-makes parts support for these products. Continental Mixers dealers demonstrate a commitment to the ready-mix industry with state-of-the-art, world class facilities, extended hours for parts and service, and mobile service trucks.

Through the integrated service support tools available through OnCommand™ by Navistar, Continental Mixers dealers offer an innovative preventative maintenance program that allows customers to align preventative

maintenance schedules for both mixer and chassis to reduce downtime and improve productivity.

Along with the lightweight, integrated mixer, Navistar also is showcasing an integrated product including a Continental Mixer integrated with the International WorkStar chassis and MaxxForce Engine.

This product is now available in a Bridgesaver application and utilizes Navistar's Diamond Logic® electronic control system with a number of versatile features such as directional drum control, drum stop warning, and automated chute lock. These features are also a part of the factory warranty. Additional feature development includes the release of Bridgesaver control and auto drum speed control.

### **Licensing Opportunities for SuperSlurry® Liquefied Cement Suspension Technology**

Beyond its complete line-up of integrated mixers, Continental Mixers also highlighted its SuperSlurry® cement stabilization technology and the availability of licensing opportunities. SuperSlurry is designed to transform cement stabilization into a clean and precise liquid application versus historical applications of dry cement and lime. It can be used in conjunction with full-depth reclamation to provide a more cost effective and durable sub-base for roads and parking lots.

The new SuperSlurry technology delivers a number of unique benefits, including reduced fuel consumption and equipment emissions, reusable materials, reduced material clean up, and the elimination of airborne particles during application.

"Our SuperSlurry technology offers customers an environmentally superior alternative to conventional stabilization methods while providing customers with significant cost savings," Guillaume added.

Through SuperSlurry licensing agreements, licensees gain access to SuperSlurry proprietary cement stabilization technology, Add Mix, SuperSlurry mixer production equipment and slurry distribution systems that could be added to existing mixers.



## **Contracts**

### **Military Equipment From Bumar To India**



On 17th January 2012, a contract with an Indian company of BEML Limited to deliver 204 WZT-3 Armoured Recovery Vehicles (Wozy Zabezpieczenia Technicznego WZT-3) was signed.

High quality, of the equipment offered by Bumar Group, as well as high level of cooperation with the Indian partner allowed to sign the fourth contract

between Bumar and BEML Limited to deliver armoured recovery vehicles. Polish party has already supplied 352 WZT-3 vehicles.

BEML Limited is a public company, controlled by Ministry of Defence of India. It was established in 1964 and 61% of its shares belong to Minister of Defence.

In October of 2011 BEML Limited was appointed by Ministry of Defence of India as the main supplier of WZT-3 vehicles.

Indian market is strategic for Bumar, which further emphasises the importance of the signed contract, as well as long-term and well-established cooperation with BEML Limited.

The contract, apart from the delivery of 204 WZT-3 vehicles itself, also includes within its scope a package of technical support, final assembly, receipt procedures, testing of completed vehicles, as well as technical assistance, which aims to provide BEML with capacity to produce selected components in their own plants. It is so called "indianization process", therefore local production, in which BEML Limited will be the contractor.

The level of the aforementioned "indianization" is critical to the value of the contract, which will go directly to Bumar. The final value of the contract will be adequate to the size of the transfer of technology and the level of involvement of Indian local industry in implementing the contract. The aggregate value of supplies for the Indian Army reaches USD 275 Mio. Indian components participation is provided at 35%.



It is a sensible example of "win-to-win" philosophy, according to which both Polish and Indian parties will benefit.

ZakE,ady Mechaniczne Bumar-EĜabD™dy – main contractor – will provide the first batch (8 units) of the WZT-3 vehicles to India in the first quarter of this year. The contract gives plants in Gliwice –in which restructuring process was carried out – stability in every area of activity and structure of the company. This applies both to economic and technical development stability, as well as production area.

The contract will be carried out in batches in accordance with the approved schedule. Its completion is scheduled for the end of 2014.

During signing of the contract to deliver WZT-3 vehicles, an agreement was also signed concerning technology and research cooperation to work out the Indian version of armoured recovery vehicles on the chassis of ARJUN Indian tank, which is the solution to the Indian industry in the area of basic tanks of the third generation.





## Contracts

### Navistar Defense to Provide \$110 Million In Enhancements to MaxxPro Vehicle Fleet



LISLE, Ill. -- Navistar Defense, LLC received a \$110 million delivery order today to provide 650 independent suspension kits for International® MaxxPro® Plus Mine Resistant Ambush Protected (MRAP) vehicles. The U.S. Marine Corps System Command order will enhance the mobility and survivability of earlier MaxxPro vehicles with the addition of the DXM independent suspension kits.

"We are proud to offer economical enhancements to improve mobility and survivability of fielded units," said Archie Massicotte, president, Navistar Defense. "Our ability to jointly create and rapidly integrate new components, sub assemblies and rolling chassis off commercially-based platforms creates value for the military acquisition community. Integrating proven commercial components into the MaxxPro fleet results in an overall lower cost of ownership for the government and ultimately the taxpayer."

Fielded in 2008, MaxxPro Plus units have been deployed in Iraq and Afghanistan and have performed admirably in austere conditions. The current upgrades will increase the capability of this proven platform.

This award complements the 2,717 MaxxPro rolling chassis upgrade order Navistar received earlier this month. The combination of these two awards ensures commonality and mobility within the MaxxPro fleet.

Installation of these kits will be performed at the MRAP Sustainment Facility in Kuwait. Work will begin in August 2012 and is expected to be completed by the end of October 2012.

## Defence Industry

### BAE Systems Receives Orders Totalling \$148.2 Million for Continued Work on Caiman Multi Theater Vehicles



SEALY, Texas -- BAE Systems has received three

delivery orders from the U.S. Marine Corps, totalling more than \$148 million, for continued support of Caiman Multi Theater Vehicles (MTV).

Work on these orders includes:

- Providing 371 Caiman MTV rolling chassis with conversion kits, and adaptable Underbody Survivability Kits
- Providing Continental United States Integration and enhancements of 1,040 Caiman MTVs
- Procuring kits for a series of enhancements to the Caiman MTV

"These orders will continue the cost-effective upgrading of currently fielded Caiman vehicles. The upgrades provide an unparalleled combination of adaptable, high-level protection and vehicle cross-country agility, while retaining the Caiman's ability to carry 11 combat personnel effectively," said Chris Chambers, vice president and general manager of Tactical Wheeled Vehicles for BAE Systems. "The lessons we've learned from our current integration of Caiman vehicles in Kuwait will allow us to quickly and efficiently return the vehicles, with significant enhancements, to our troops."

Work on all three orders will be performed at the BAE Systems Sealy, Texas facility. The orders were awarded by the U.S. Marine Corps System Command and deliveries are planned to continue into 2013.

Caiman MTV provides an effective combination of interior capacity, tactical mobility, operator comfort and survivability. Caiman MTV achieves greater survivability through an enhanced monolithic floor, a strengthened chassis frame and highly effective blast absorbing seats. The vehicle's improved mobility is achieved with a greater vehicle track width, a strong independent suspension and an upgraded powertrain.

## Future Technologies

### US Army Drives Ahead With JLTV Program



A Request for Proposal was issued by the U.S. Army for the Engineering and Manufacturing Development phase of the Joint Light Tactical Vehicle program.

The Joint Light Tactical Vehicle, or JLTV, family will balance critical weight and transportability constraints within performance, protection, and payload requirements -- all while ensuring an affordable solution for the Army and U.S. Marine Corps.

"Both the Army and the U.S. Marine Corps have identified critical capability gaps in their respective light

tactical vehicle fleets. JLTV is the most cost-effective program to meet capability gaps for the light tactical vehicles with the most demanding missions," said Kevin M. Fahey, Program Executive Officer for Combat Support and Combat Service Support, known as PEO CS&CSS.

JLTV is a major Army-Marine Corps acquisition program for a new generation wheeled vehicle that will replace a portion of the services' Humvee fleet. The program's aim is to develop a new multi-mission light vehicle family with superior crew protection and performance compared to the Humvees.

"The Technology Development phase for this program did exactly what it was intended to do -- provide the basis for the cost-informed trades that resulted in a common Army and Marine Corps requirement. It serves as a model for how the services looking forward should operate in a cost-constrained budget environment," said William E. Taylor, Program Executive Officer Land Systems Marine Corps.

In the spring of 2011, JLTV successfully completed a 27-month Technology Development, or TD, phase -- satisfying its intended purpose of demonstrating the integration of mature technologies as a complete system and providing the Army and the Marine Corps with an assessment of the technical, performance cost and schedule risks relevant to entering the Engineering and Manufacturing Development, or EMD, Phase.

"The TD phase gave the Army and USMC exactly the kind of information we needed concur on a common base requirement, a streamlined acquisition schedule and a competitive process to ensure JLTV remains affordable," said Col. David Bassett, project manager for Tactical Vehicles.

Following submission of proposals, the Government will convene a source selection evaluation board, comprised of subject matter experts from across the Department of Defense, to review the industry proposals. The Army intends to award up to three contracts during the summer for the EMD phase for the delivery of 22 prototype vehicles per contract. Additional deliverables include ballistic structures, armor coupons, additional test assets, contractor furnished kits, trailers and data requirements.

The refined 27-month acquisition strategy is designed to put a premium on driving down costs, reducing risk and getting vehicles into the hands of warfighters quickly. The JLTV EMD contract period of performance for contractors is 27-months, while the full EMD phase will last for 33-months as the program offices ensures JLTV moves successfully from Milestone B to Milestone C.

