

# Army Guide monthly



## # 4 (55) April 2009

- **Meggitt Wins Further Abrams Tank Cooling Contract**
- **Navistar Finalizes U.K. Deal to Provide Afghan-Specific Tactical Support Vehicle**
- **Force Protection Joint Venture Awarded \$122.6 Million Wolfhound Contract by United Kingdom MoD**
- **Hungarian Military Orders Force Protection Cougar Vehicles**
- **Oshkosh Receives \$122 Million Order to Provide TAK-4 Independent Suspension System for MRAPs**
- **Iveco Defence Vehicles Exhibits Its Protected Vehicle Range at IDET 2009**
- **Slovenia Considers Cancellation of Patria Vehicle Deal**
- **Elbit Systems Awarded First Contract to Supply the Brazilian Army with Unmanned Turrets**
- **BAE Systems Awarded \$23.8 Million For Caiman MRAP Parts And Support**
- **BAE Systems delivers 500th M777 Howitzer to US Forces**
- **Oshkosh Defense Receives Orders for Armor Installation, Vehicle Components**
- **Oshkosh M-ATV Surpasses 3,000 Miles of On- and Off-Road Testing**
- **200 new armoured vehicles for front line operations**
- **Turkey buys 36 LEGUAN bridge laying armoured vehicles**
- **Smiths Detection Announces Global Release of New Personal Chemical Alarm Device**
- **Order for 15 ARAVIS@s**
- **ST Engineering`s Land Systems Arm Secures EUR 8 Million 40mm Ammunition Export Contract**

## Contracts

### Meggitt Wins Further Abrams Tank Cooling Contract



Meggitt Defense Systems has won a \$35.7 million contract modification of a multi-year contract for M1A2SEP Abrams thermal management systems from General Dynamics.

An additional modification valued at \$6.5 million was awarded for the reset of 180 thermal management systems from vehicles returning from combat operations overseas.

The thermal management system, which includes vapour system compression and air handling units, should be delivered between April 2009 and April 2013 to support the US Army's fleet modernisation.

Meggitt's thermal management system delivers 7kW of critical cooling for the Abrams main battle tank crew and electronics, providing comfort for the crew and enhancing the reliability of the vehicle's suite of sophisticated electronic systems. Meggitt Defense Systems developed the innovative and patent-protected system under contract from General Dynamics and has delivered over 1,300 systems, including spares, support and reset since 2000.

Dr Roger Brum, President of Meggitt Defense Systems commented: "Our team has worked closely with General Dynamics to bring the highest reliability, best value product to our ultimate customer, the US Army. We are proud that these high standards continued to be reflected in these additional contract awards."

The work will be carried out at the Meggitt Defense Systems facility in Irvine, California.

## Defence Industry

### Navistar Finalizes U.K. Deal to Provide Afghan-Specific Tactical Support Vehicle



WARRENVILLE, Ill. -- Responding to evolving threats in Afghanistan, the U.K. Ministry of Defence has finalized a deal with Navistar Defense, LLC for the purchase of 262 tactical wheeled vehicles and parts and support for an estimated value of \$180 million USD.

The International® MXT™ based units were procured through the U.K.'s Tactical Support Vehicle (TSV) program and are named the Husky. The lighter and more mobile vehicles are designed to navigate the rough Afghan terrain, while offering added protection from ballistics fire, mines and Improvised Explosive Devices (IEDs).

The Husky, which is the medium TSV variant, will be procured for Afghanistan missions in three vehicle types: patrol, ambulance and command vehicle. The vehicle is designed to fill a gap that exists between the smaller traditional armored 4x4's that may be payload challenged, and the larger class of Mine Resistant Ambush Protected (MRAP) vehicles that may be mobility restrained for certain mission requirements. Navistar is responsible for delivering a fully integrated, mission-ready vehicle and has contracted U.K.-based Dytecnica to integrate TSV Husky units with U.K. specific communications and other systems. The company is also teamed with Plasan, which will provide the survivability solution for the vehicle.

"Navistar leverages its existing assets to effectively aid allied forces in staying ahead of evolving threats," said Archie Massicotte, president, Navistar Defense. "Our flexible MXT platform paired with Navistar's 100 years of manufacturing, engineering and sustainment expertise allow us to rapidly modify and deliver vehicles. By working with Dytecnica and Plasan, we also continue to expand our offerings to provide enhanced throughput and quality."

Assembly of the TSV Husky units will occur at the company's West Point, Miss., assembly plant, which has produced approximately 6,000 International MaxxPro® MRAP vehicles. TSV Husky units will be powered by MaxxForce® D 6.0 L V8 engines. Deliveries are scheduled to begin in the second half of the 2009 calendar year.

"It is an honor to provide TSV Husky units to one of our country's closest allies," said Massicotte. "Navistar is dedicated to supporting the United Kingdom and other NATO countries and we will continue to respond to allied urgent requirements."

The TSV contract award follows Navistar's selection in October as one of nine finalists to compete to replace the U.K.'s light tactical wheeled vehicle fleet in the highly-competitive Operational Utility Vehicle Systems (OUVS) program. Navistar will provide MXT-based vehicles for testing and trials in 2009 to replace a portion of the army's fleet, which includes Land Rover, Wolf, Reynolds Boughton RB-44 and Pinzgauer vehicles.

## Contracts

### Force Protection Joint Venture Awarded \$122.6 Million Wolfhound Contract by United Kingdom MoD

Force Protection, Inc. and NP Aerospace Limited, a subsidiary of The Morgan Crucible Company plc today jointly announced an award for 97 Wolfhound heavy tactical support vehicles including spares and

support by the United Kingdom Ministry of Defence (UK MoD). The approximate total value of the contract is \$122.6 million.



Based on the successful Cougar/Mastiff vehicle platform, the Wolfhound provides survivable logistics support capability essential for mobile operations. It is a multi-mission adaptable platform that can be configured to address a wide range of support tasks. The award was made to a new Force Protection and NP Aerospace 50-50 joint venture, Integrated Survivability Technologies Limited (IST).

The establishment of IST is intended to provide a single point of contact and design authority for future Force Protection business in the United Kingdom, including new projects, fleet upgrades and logistics support. The Wolfhound award represents the first direct sale to an overseas government of a Force Protection product. All previous Force Protection product orders for non-United States governments have been awarded through the United States Foreign Military Sales (FMS) program.

Michael Moody, Force Protection's Chief Executive Officer, said, "We have established this partnership in the United Kingdom as the base for growing our business with the United Kingdom Ministry of Defence. We are confident that this new IST joint venture will provide maximum benefits and flexibility to our customer and the war fighter while providing Force Protection with important experience internationally in direct commercial contracts."

Force Protection currently supplies mine resistant ambush protected vehicles to the UK MoD, which to date has ordered a total of 447 Force Protection Cougar Mastiff 6x6 and Ridgback 4x4 vehicles. The Cougar Mastiff vehicle has been in service with British forces since 2007. In addition, 14 Force Protection Buffalo route clearance vehicles have also been ordered by the UK MoD. NP Aerospace has been carrying out the integration work on Mastiff and Ridgback vehicles in the United Kingdom.

Mike Linton, Managing Director of IST and previously Operations Director of NP Aerospace, said, "Force Protection and NP Aerospace have been working successfully to bring these vitally important vehicles into theatre. Our new, integrated operation here in the UK will bring tangible benefits in terms of an enhanced ability to tailor our vehicle solutions to customer needs. A direct commercial relationship with the companies working on the integration of Force Protection vehicles will also result in more efficient development and production programs, saving the customer both time and money."

## Contracts

### Hungarian Military Orders Force Protection Cougar Vehicles



Force Protection, Inc. announced that the Hungarian Ministry of Defence has ordered three Cougar vehicles. The contract calls for delivery of vehicles, spare parts and training by June 2009. The value of the award totals \$1.3 million.

"We are extremely pleased to provide the battle proven Cougar to the Hungarian Ministry of Defence. Cougar's reputation for providing survivability to its occupants is certainly world renowned. This award is important to Force Protection in that part of our long term strategy is to continue to grow our customer base. This award further demonstrates our capability to enter into commercial agreements with appropriate foreign governments," said Michael Moody, Chief Executive Officer of Force Protection.

## Contracts

### Oshkosh Receives \$122 Million Order to Provide TAK-4 Independent Suspension System for MRAPs



OSHKOSH, Wis. -- Oshkosh Corporation announced today that its Defense business received a \$122 million order to supply its TAK-4® independent suspension system for Mine Resistant Ambush Protected (MRAP) vehicles.

The supply order was issued by Force Protection Incorporated (FPI) as a result of a contract action from the MRAP Joint Program Office (JPO). The order will equip MRAP 4x4 and 6x6 axle configuration vehicles with the Oshkosh® TAK-4 system for improved off-road mobility.

Under the purchase order, Oshkosh will provide the military with its patented TAK-4 independent suspension upgrade kits for installation on existing MRAP vehicles. This same innovative Oshkosh independent suspension system is featured on over 10,000 Medium Tactical Vehicle Replacement (MTVR) chassis for the U.S. Marine Corps. The MTVR is renowned for its survivability and off-road capability in severe environments, including conducting missions on

Afghanistan's rugged terrain while maintaining high readiness rates.

“The Oshkosh TAK-4 system has undergone more than 400,000 miles of government durability testing and will significantly improve the off-road mobility of MRAP vehicles. We are proud that our suspension system has been recognized for its strength and durability, while enhancing vehicle mobility in the toughest terrain,” said Robert Bohn, Oshkosh Corporation chairman and chief executive officer. “We are committed to providing our military customers with the most advanced vehicles and technologies to best serve the Warfighters in the field.”

The Department of Defense is continuing to evaluate the Oshkosh TAK-4 system for suitability on additional MRAP models. The Nevada Automotive Test Center (NATC) and MRAP JPO tested early-fielded MRAPs upgraded with TAK-4 and determined the enhancement significantly improved the vehicle's mobility. Based on this successful testing, Oshkosh worked with FPI to develop a field installable kit to upgrade the vehicle.

#### About Oshkosh Defense

Oshkosh Defense, a division of Oshkosh Corporation, is an industry-leading global designer and manufacturer of tactical military trucks and armored wheeled vehicles, delivering a full product line of conventional and hybrid vehicles, advanced armor options, proprietary suspensions and vehicles with payloads that can exceed 70 tons. Oshkosh Defense provides a global service and supply network including full life-cycle support and remanufacturing, and its vehicles are recognized the world over for superior performance, reliability and protection. For more information, visit [www.oshkoshdefense.com](http://www.oshkoshdefense.com).

#### About Oshkosh Corporation

Oshkosh Corporation is a leading designer, manufacturer and marketer of a broad range of specialty access equipment, commercial, fire & emergency and military vehicles and vehicle bodies. Oshkosh Corp. manufactures, distributes and services products under the brands of Oshkosh®, JLG®, Pierce®, McNeilus®, Medtec®, Jerr-Dan®, BAI®, Oshkosh Specialty Vehicles, Frontline™, SMIT™, Geesink™, Norba™, Kiggen™, CON-E-CO®, London® and IMT®. Oshkosh products are valued worldwide in businesses where high quality, superior performance, rugged reliability and long-term value are paramount. For more information, log on to [www.oshkoshcorporation.com](http://www.oshkoshcorporation.com).

### Exhibitions

#### Iveco Defence Vehicles Exhibits Its Protected Vehicle Range at IDET 2009 □

Iveco Defence Vehicles will be exhibiting at IDET 2009 to be held in Brno from 5th to 7th May 2009.

The company's stand will feature the latest range of state of the art vehicles specifically designed to meet the demands of the defence and homeland security sectors.

Iveco Defence Vehicles, specialists in both military and civil defences vehicles, will exhibit a selection of its most recent vehicle developments, including the fully developed prototype of IVECO's new amphibious armoured personnel carrier SUPERAV APC 8x8 and the new IVECO 4x4 Tactical Truck. Two variants of the well regarded Light Multirole Vehicle (LMV), now sold to 8 European countries, will be displayed, as will a Massif 4x4, the new IVECO



light vehicle.

#### SUPERAV APC 8x8

Benefiting from Iveco's extensive development work in the area of crew and vehicle survivability, the SUPERAV 8x8 Armoured Personnel Carrier features a unique combination of performance, payload and protection.

Designed for sea operation in Sea State 2 and beyond, the new SUPERAV 8x8 is a medium weight vehicle capable of maintaining its amphibious capability even at high protection levels. A 500HP engine coupled to an automatic gearbox, a twin-shaft driveline design and fully independent suspension give it impressive mobility on any terrain. It can carry up to 12 dismounts plus the driver, and features advanced protection against direct fire, shell splinters, landmines and IEDs.

While the detailed technical specification of the vehicle will be unveiled later this year, it is anticipated that the SUPERAV 8x8 will be developed into a family including all of the normal combat support variants.

#### !4x4 Tactical Truck - M170.33WM

The IVECO M170.33WM is part of the range of tactical trucks, which also includes 6x6 and 8x8 models. As with the entire range, the M170.33WM can be equipped with a new generation of add on armour kit, achieving a unique combination of performance, payload and protection to support military operations in the most hostile environmental and operational conditions.

Designed to incorporate class leading tactical mobility with high maximum road speed, the LMV features outstanding protection against mine, IED and ballistic attack, with a focus on delivering crew survivability. The inherently stealthy design ensures low probability of detection from optical, thermal imaging or radar sensors.

The LMV has been selected for front line duties by the Italian, British, Spanish, Norwegian, Belgian, Croatian, Czech Republic and Austrian forces.

#### Massif 4x4

The 4x4 light vehicle Massif is suitable for a wide variety of roles including patrolling, command, reconnaissance, logistics, transport and artillery tractor.



Massif's drive train includes the FPT (Fiat Powertrain Technologies) 3.0 litre 16valve four cylinder Diesel engine at power ratings of 107 kW or 130 kW, with the ZF 6S400 overdrive transmission coupled to the 2 speed transfer box.

IVECO Defence Vehicles is renowned for the application of advanced automotive innovations and leading edge protection solutions to purpose-built designs, resulting in a full range of trucks, armoured, protected and multirole vehicles.

IVECO Defence Vehicles' plant is situated in Bolzano in Northern Italy, the site of the factory originally housing Lancia's military vehicle plant founded in 1937. The company has developed an exceptional international network delivering technical and commercial expertise at a worldwide level.

IVECO Defence Vehicles boasts a dedicated research and development organisation, whilst also benefiting from Iveco's corporate engineering resources, having available a pool of vehicle expert engineers in the IVECO HQ in Torino. The marketing, production and after-sales organisation are also based within the Bolzano Facility. Supporting these activities is an additional factory, based in Vittorio Veneto, a centre of excellence for protection. In recent years, IVECO Defence Vehicles has focused on meeting the demands both of its domestic Italian market and of export customers.

The company's success in this latter area in particular has been dramatic, with export sales growing from 20% of the total in the mid 90s to a figure of 70% today. More than 30,000 IVECO vehicles are now in military service worldwide.



### Defence Industry

## Slovenia Considers Cancellation of Patria Vehicle Deal



Slovenia's Minister of Economics and Minister of the Environment have called for the cancellation of a deal to buy Finnish-made Patria armoured vehicles for the country's armed forces.

The ministers told the Slovenian newspaper Delo that the government is considering the initiative.

The ministers have pointed to problems involving the quality and delivery of the 13 first transport vehicles, which were to have been delivered by the end of last year. However, they did not pass the quality tests, and have not reached Slovenia.

Patria told YLE on Thursday that it was unaware of any plans by the Slovenian government to cancel the deal.

Patria and Slovenia signed a deal in 2006 on the delivery of 135 vehicles for a price of 280 million euros.

Environment Minister Karl Erjavec was the Minister of Defence at the time of the deal, and both he and the present Minister of Economics Matej Lahovnik told Delo that they want to cancel the order. Slovenia's current defence minister could not be reached for comment.

The deal has been the topic of police inquiries in both countries over suspicions of bribery.



### Defence Industry

## Elbit Systems Awarded First Contract to Supply the Brazilian Army with Unmanned Turrets



Haifa, Israel, -- Elbit Systems Ltd. announced it was awarded a contract for the supply of unmanned turrets to the Brazilian Army Ground Forces, to be installed on the 6X6 Armored Personnel Carrier (APC).

Elbit Systems was selected as a result of a competition including leading global manufacturers in the field.

The contract amount of the first phase of this program is not material to Elbit Systems, however, the overall potential of the Brazilian Army Ground Forces' multi-year program, which is anticipated to include additional unmanned turrets, is significant.

Elbit Systems' unmanned turret is a complete system, incorporating an automatic cannon up to 30mm, a coaxial machine gun 7.62 mm, a Laser Warning System (LWS), commander panoramic sights and smoke grenade launchers. In addition to the aforementioned elements, Elbit Systems' unmanned turret combines fully stabilized dual axes and an automatic target tracker.

The unmanned turret functions remotely and

electrically, operated from within the crew compartment without exposure to external hazards. The system features proprietary Elbit Systems' technology and represents a step function advance in response to asymmetric warfare challenges. The unique design is based on extensive battlefield experience in full scale and low intensity conflicts, and attests to Elbit Systems' leadership in the field of turret and fire control systems.

Bezhael (Butzi) Machlis, General Manager of Elbit Systems Land and C4I - Tadiran, said: "We consider Brazil an important market and believe that this initial contract will lead to further cooperation in the future. Elbit Systems offers unique unmanned turret solutions, a central feature in today's modern urban battlefield. Our leadership in the field is based on our systems' extensive operational experience, including under newly emerging threats and non-conventional challenges."



### Contracts

#### BAE Systems Awarded \$23.8 Million For Caiman MRAP Parts And Support



HOUSTON, Texas -- BAE Systems received a contract modification worth \$23.8 million for replacement and spare parts, instructor and maintenance support and other services for Caiman Mine Resistant Ambush Protected (MRAP) vehicles.

Replacement and spare parts include improved front seats, electrical connectors for towing and to retrofit door assist system safety strips on the Caiman vehicles. Spare and replacement parts deliveries will be completed through January 2010 and will help the Army units in Iraq maintain the estimated 2,850 Caimans. The contract also covers Caiman instructor and maintenance support services through September 2009.

"This contract will help keep vehicles in operating condition, which is essential to saving soldiers' lives and supporting the success of the military mission in Iraq," said Bruce Harrison, vice president of Product Support for BAE Systems in Houston, Texas. "We can continue to provide the parts, and instructors and maintenance support to our soldiers through our Forward Support Representatives and wherever and whenever the Army needs it."

The Caiman MRAP was designed in 2006 to fill the Department of Defense's urgent need for vehicles to protect U.S. troops from roadside bombs, rocket propelled grenades and explosively formed projectiles. In 22 months of production, 2,868 Caimans were built. Caiman is one of the U.S. Army's MRAPs operating in Iraq, boasts a 94 percent operational readiness rate and

has helped soldiers survive roadside bomb attacks on numerous occasions.

BAE Systems employs more than 2,700 people in Sealy and Houston, Texas and has nearly 900,000 square feet of manufacturing, storage and office space on approximately 200 acres. The Sealy facility has a long history with wheeled vehicle products and has established itself as a world-class designer, volume manufacturer and through-life supporter of high-quality, best value, military tactical trucks and wheeled vehicle systems with payload capacities from 2.5 to 18 tons. Today, BAE Systems' Global Tactical Systems is the exclusive manufacturer of the Family of Medium Tactical Vehicles and is the producer of three Mine Resistant Ambush Protected variants, the Caiman, the RG33 and the RG31.



### Contracts

#### BAE Systems delivers 500th M777 Howitzer to US Forces



BARROW, UK -- BAE Systems workers today celebrated delivery of the 500th M777 howitzer to the US military.

Weighing in at less than 4200kg, the revolutionary M777 is the world's first artillery weapon to make widespread use of titanium and aluminum alloys, resulting in a howitzer which is half the weight of conventional 155mm systems.

BAE Systems Global Combat Systems' facility at Barrow-in-Furness is responsible for the prime contract management of the M777 programme, including direct customer liaison and acceptance of the weapon system in the US, control of the UK and US supply chain, engineering design authority and manufacturing and assembly of the complex titanium structures and associated recoil components. Final integration and test of the weapon system is undertaken at its Hattiesburg plant in Mississippi.

US Army officer Colonel James Matties congratulated workers on building a "superb" gun and told them it was doing a "magnificent job" in support of operations in Iraq and Afghanistan.

The total number of orders for the gun currently stands

at 737 in a programme worth over J1bn since it began in the mid-90s.

"This is a landmark day for a transatlantic programme which has hit every milestone along the way," said BAE Systems' Artillery Programmes Director Ian McMillan. "M777 follows two other Anglo-U.S. weapon success stories - the 105mm Light Gun and the 81mm mortar are both British BAE Systems designs which have been adopted by the U.S."

Canada has a potential requirement for an additional 25 howitzers. Australia has also registered official interest in a purchase and other nations are assessing the weapon system.

Most of the 500 M777s have been delivered to the U.S. Army and U.S. Marine Corps. Canada also has 12 M777 howitzers in service with the Royal Horse Artillery. Both nations' services operate M777s in Afghanistan, providing fire support to coalition forces. The gun is known by local insurgents as the 'Desert Dragon'.

Its ability to be airlifted to remote positions by helicopter gives the system enormous operational flexibility and makes it ideal for a challenging environment like Afghanistan.

BAE Systems also provides support, training, maintenance and spares for the guns currently in service. The M777 effort is managed by the Light Weight 155mm Joint Program office at Picatinny Arsenal, New Jersey.

#### Some M777 facts:

The M777 can fire the "smart" Excalibur round, co-developed by Global Combat Systems up to 40 km (25m) accurately enough to target individual rooms within a building, reducing the chance of innocent casualties and allowing supporting fire to be brought down much closer to friendly troops.

It can hurl a standard 43.5 kg shell almost 30 km (21 miles) at 2.5 times the speed of sound. The projectile takes just over a minute to fly this distance and reaches a maximum height of 12km. The shell reaches its maximum speed of 2900 kph (1800mph) by the time it exits the muzzle of the gun.

The energy released firing at maximum range is 40 MJ which is the equivalent of accelerating 55 family cars to 45mph in just 12 thousandths of a second.

The internal cannon peak pressure during firing reach 60,000 pounds per square inch.

The wind speed, meteorological conditions and even the earth's rotation all have to be taken into account for accurate targeting.

The gun remains stable when firing, despite its light weight, by being "out of balance" - the barrel is mounted low and forward to prevent the gun overturning when it is fired.

OSHKOSH, Wis. — Oshkosh Defense, a division of Oshkosh Corporation, has received separate orders from the Marine Corps System Command (MARCORSYSCOM) and the Defense Logistics Agency (DLA) potentially totaling more than \$21 million for armor installation and military vehicle components.

Under the delivery order with MARCORSYSCOM, Oshkosh will install more than 440 reducible-height armor kits on cargo, dump and tractor variants of the Medium Tactical Vehicle Replacement (MTVR) and armor kits on MTVR wrecker variants. The total value of this award is more than \$10 million and work is expected to be completed by May 31, 2010.

The Oshkosh MTVR is an all-terrain, multipurpose logistics vehicle used by the Marines and Navy Seabees. Oshkosh offers several variants for the transportation of troops, materials or equipment. The vehicle features an off-road 7.1-ton payload capacity and an on-road 15-ton payload capacity.

The contract with the DLA is for axle assemblies for the Heavy Expanded Mobility Tactical Truck (HEMTT). The minimum order amount under this contract exceeds \$700,000 with a five-year maximum of more than \$11 million. Oshkosh Defense provides aftermarket service, repair and parts distribution to its customers around the world. With factory-trained technicians, Web-based parts support and service centers worldwide, customers are covered 24/7 whether their vehicles are in the field or in garrison.

#### Defence Industry

### Oshkosh M-ATV Surpasses 3,000 Miles of On- and Off-Road Testing



OSHKOSH, Wis. — Oshkosh Defense, a division of Oshkosh Corporation (NYSE:OSK), announced today its MRAP All Terrain Vehicle (M-ATV) has successfully undergone more than 3,000 miles of durability testing, including more than 1,000 miles of accelerated off-road testing.

Oshkosh Defense is conducting the testing at the Nevada Automotive Test Center independent of current government testing.

"We are putting the Oshkosh M-ATV to the test in on- and off-road environments using our own time and resources to ensure it is the best vehicle for the Warfighter," said Andy Hove, Oshkosh Corporation executive vice president and president, Defense. "This vehicle features mission-proven components and

#### Contracts

### Oshkosh Defense Receives Orders for Armor Installation, Vehicle Components

technologies, including our TAK-4® independent suspension system, and can go the distance in even the most difficult terrains."

Oshkosh Defense delivered two production-ready vehicles on Feb. 23 for government testing and will deliver three additional vehicles for further testing if awarded an Indefinite Delivery/Indefinite Quantity contract. Oshkosh is performing 10,000 miles of independent testing to assure that its M-ATV is ready for the rough Afghanistan terrain and to identify further enhancements to the vehicle. Company testing will continue through the pre-contract award phase.

The Oshkosh TAK-4 independent suspension system, featured on more than 10,000 Medium Tactical Vehicle Replacements (MTVR) used by the U.S. Marine Corps, provides the M-ATV with superior off-road mobility for the rugged and mountainous terrain encountered in places like Afghanistan. Oshkosh Defense recently received a \$122 million order to supply its TAK-4 system for Mine Resistant Ambush or Protected (MRAP) vehicles to improve off-road mobility.

The Oshkosh M-ATV is delivered with the survivability, mobility, mission-proven and production-ready solutions required for Afghanistan. The vehicle is based on the combat-proven Oshkosh MTVR chassis, which has been successfully operating for many years in the most difficult off-road missions in Iraq, Afghanistan and around the world. It features a combat-tested armor system from Plasan North America for superior crew protection.

terrain of Afghanistan.

Both vehicles have been bought as part of the J700m Protected Patrol Vehicles package unveiled by the Secretary of State for Defence, John Hutton, last October.

Minister for Defence Equipment and Support, Quentin Davies, announced the contract during a Supacat vehicle drive day at the Long Valley Test Ground in Aldershot yesterday, 21 April 2009. He said:

"These impressive vehicles will give our troops increased protection on front line operations and with their purchase we are showing our commitment to provide our Service personnel with the very best equipment we possibly can.

"This contract comes as our newest armoured vehicles, Mastiff 2 and Ridgback, go to Afghanistan for the first time, underlining our ability to deliver kit quickly to where it is needed."

Jackal 2 will have a 6.7-litre engine giving it a top speed of 80 miles per hour (129km/h) on roads and 55mph (89km/h) cross-country.



Supacat, based at Dunkswell, Devon, will be the prime contractor and will be responsible for design, development, prototyping, integration and overall programme management.

Babcock will be responsible for detailed production planning, purchasing and manufacture at their Devonport dockyard facility.

Supacat Managing Director Nick Ames said:

"This alliance will help to ensure that our Armed Forces receive the best possible equipment within the shortest possible timescale. The enhanced Jackal 2 and Coyote Tactical Support Vehicle (Light) will increase troops' protection and their operational effectiveness. We are extremely pleased that we can help in this way."

Babcock's Equipment Solutions Managing Director Roger Gillespie added:

"We have previously worked closely with Supacat in delivering more than 200 Jackals to the MOD and this contract will further demonstrate that this method of design, production and delivery is the best for MOD's needs."

Jackal 2 and Coyote are scheduled to be delivered to the MOD from summer 2009 onwards. The vehicles are expected to support operations in Afghanistan from the autumn.

## Contracts

### 200 new armoured vehicles for front line operations



A fleet of nearly 200 new armoured vehicles to support front line troops on operations has now been ordered by the MOD, it was announced yesterday, Tuesday 21 April 2009.

The J74m order for around 110 enhanced Jackal 2 vehicles and more than 70 Coyote Tactical Support Vehicles has been awarded to vehicle manufacturer Supacat, which has formed an alliance with Babcock.

The enhanced Jackal 2 features improved manoeuvrability and reliability, and will be able to carry three crew members; one more than its predecessor.

The Coyote Tactical Support Vehicle is based on a 6x6 derivative of the Jackal and will support the go-anywhere, high mobility Jackals across the harsh



**Defence Industry**

**Turkey buys 36 LEGUAN bridge laying armoured vehicles**



Munich -- The Federal Republic of Germany and the Republic of Turkey agreed in November 2008 that the Turkish Armed Forces will buy 36 bridge laying armoured vehicles of the LEGUAN type, which is based on the LEOPARD 1.

Krauss-Maffei Wegmann GmbH & Co. KG (KMW) will supply the systems as part of an engagement letter. The final negotiations are currently under way between KMW and the Federal Office of Defence Technology and Procurement (BWB). All expectations are that the contract will be signed soon.

Within the programme, the Turkish Armed Forces will manufacture and assemble substantial parts of the systems itself in Turkey. The joint project underscores the close German-Turkish cooperation in the field of armoured vehicles and family vehicles.

**International deployments for bridge system**

The LEGUAN bridge laying armoured vehicle can be controlled by only one person with the hatch closed and install a load category MLC 80 bridge that is 26 metres long in approximately five minutes using an electronic control system. KMW has already produced the LEGUAN bridge-layer on the basis of the LEOPARD 1 or LEOPARD 2 battle tank for the Norwegian, Greek, Belgian and Finnish armed forces. The bridge-laying system can, however, also be mounted on other used or new battle tank chassis. For example, it is in use on the chassis of the Polish PT91, the American M1 "Wolverine" and the M47/M60 in Spain. But the bridge can also be laid by wheeled vehicles, such as the MAN 8x8 and the 10x10 vehicle from Finnish company SISU. With the aid of additional pontoons, the LEGUAN can also be used to construct ferries of various load categories, and if necessary link them together to form floating bridges.



vapour warning device. The new detector offers real-time, nerve, blood, blister and choking agent detection at, or immediately below, dangerous concentration levels. The LCD 3.3 will now be available to American, European, Middle Eastern, African and Asian markets.

The detector's unique identification capabilities provide new levels of mission intelligence on chemical warfare exposure. These enable troops and emergency responders to mitigate chemical incidents in military and civilian attacks more quickly. The device also records and stores key data for post-mission analysis.

Mal Maginnis, President, Global Military and Emergency Response for Smiths Detection, said: "Our primary objective is to anticipate market demands and provide the best equipment for military and emergency responders. The LCD 3.3 is the most advanced chemical agent detector of its kind the world over, representing another milestone for Smiths Detection."

Using proven IMS technology, the LCD 3.3 features a non-radioactive source to identify unknown substances. The sophisticated system has been sufficiently ruggedized for both military and emergency responder use.

Rod Wilson, Director of Marketing for Smiths Detection Global Military and Emergency Response said: "Advancements to the LCD 3.3 such as its identification capability are important factors that will continue to make the product series both versatile and a universal standard for armed forces and civilian protection globally."



**Defence Industry**

**Order for 15 ARAVIS®s**



Herve Morin, the Minister for Defence, is pleased about the order for 15 ARAVIS® armoured vehicles placed as part of the defence section of the economy stimulation plan.

**Defence Industry**

**Smiths Detection Announces Global Release of New Personal Chemical Alarm Device**

LCD 3.3™ Enables Lab Quality Chemical Warfare Agent Identification in the Field for Soldiers and Emergency Responders.

Smiths Detection today announces the global launch of the newest model in its Lightweight Chemical Detector series, the LCD 3.3, an individual hazardous

That section of the economy stimulation plan amounts to 2.4 billion euros and will be used, among other things, towards a 10% increase in funds dedicated to equipment purchase in 2009.

The Delegation Generale pour l'Armement (DGA – French Procurement Agency) advised NEXTER Systems of the contract on April 16, 2009. The purchase will provide the French Army with highly protected vehicles for reconnaissance assignments on potentially mined routes. The ARAVIS®s will go to the Engineers unit,

which escorts BUFFALO and SOUVIM vehicles specialised in improvised explosive device prevention (IED) tasks in Afghanistan.

The ARAVIS® is a 12.5-ton, air-transportable 4WD vehicle with a high level of combined protection against mines and improvised explosive devices (IED). It can carry as many as 7 Engineers unit personnel. Since it may have to counter-attack in unsafe area, it has a remote-controlled weapon station with a 12.7 mm machine gun similar to the VAB TOPs used in Afghanistan since the beginning of the year. For its reconnaissance tasks, the ARAVIS® has, in addition to the turret cameras, peripheral cameras showing the nearby environment around the vehicle.

The first vehicles will be delivered by NEXTER Systems to the DGA at the end of 2009. Users and personnel in charge of maintaining the ARAVIS®s will be trained upon the delivery of the first vehicles.

AME is a wholly-owned subsidiary of ST Kinetics, the leading supplier of 40mm grenade munitions in the world. ST Kinetics is the land systems and specialty vehicles arm of ST Engineering.

ST Engineering is an integrated engineering group providing solutions and services in the aerospace, electronics, land systems and marine sectors. Headquartered in Singapore, the Group reported revenue of \$5.34b in FY2008 and ranks among the largest companies listed on the Singapore Exchange. ST Engineering has more than 19,000 employees worldwide, and over 100 subsidiaries and associated companies in 24 countries and 42 cities.

---

## Contracts

### ST Engineering `s Land Systems Arm Secures EUR 8 Million 40mm Ammunition Export Contract

SINGAPORE -- Singapore Technologies Engineering Ltd (ST Engineering) today announced that its land systems arm, Singapore Technologies Kinetics Ltd (ST Kinetics), has been awarded a contract worth about EUR 8 million (about S\$15.6m) by the Swedish Defence Materiel Administration, Forsvarets Materielverk (FMV), for the supply of 40mm ammunition. The contract was signed with Advanced Material Engineering Pte. Ltd. (AME), a subsidiary of ST Kinetics. Delivery is planned to take place in 2H2009.

ST Kinetics has been supplying 40mm munitions to FMV since 1999. The latest order includes 40mm Low Velocity High Explosive Dual Purpose Self-Destruct (LV HEDP-SD) and Target Practice ammunition, as well as High Velocity High Explosive Dual Purpose Self-Destruct (HV HEDP-SD) and Target Practice rounds.

ST Kinetics is today the world's leading provider of 40mm grenade solutions offering various 40mm grenade launcher weapon systems and an unparalleled range of 40mm ammunition including high and low velocity, high explosive, enhanced blast, self-destruct, air bursting, surveillance, insensitive and less-than-lethal rounds. Last year, ST Kinetics announced two 40mm ammunition contracts from UK MoD worth a total of about S\$120m.

"We are delighted that the Swedish Armed Forces has once again shown their confidence in our 40mm solutions through the award of this ammunition contract amidst strong competition. As a leading Total 40mm Solutions provider, we will continue to innovate and deliver quality solutions for esteemed customers like FMV," said SEW Chee Jhuen, President, ST Kinetics.

This contract is not expected to have any material impact on the consolidated net tangible assets per share and earnings per share of ST Engineering for the current financial year.