

# Army Guide monthly



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## Contracts

### BAE Systems Receives J24M UK Order For New BvS10 Viking



ORNSKOLDSVIK, Sweden -- BAE Systems has been awarded a contract by the UK Ministry of Defence (MoD) for an improved version of its go-anywhere BvS10 Viking armoured vehicle.

The company will deliver 24 of the vehicles, known as the BvS10 Viking Mark II, to the MoD in early 2010 so that they can be deployed to Afghanistan in the spring of 2010. The contract, worth up to J24m, includes fitting a range of urgent operational requirement modifications for service in Afghanistan. Twenty-two of the vehicles will be the troop-carrying variant and two will be in command vehicle configuration.

Lessons learned from operations in Afghanistan have resulted in several improvements including levels of protection, a larger and more powerful engine, and a bigger alternator which gives more electrical power. The steering unit has also been improved along with uprated suspension and brakes. The Mk II still retains the same load-carrying capacity as the original vehicle. The modifications are based on experience gained from more than 25 years of articulated vehicle design and production in Ornskoldsvik.

The UK MoD has already bought 166 Vikings. Approximately 50 vehicles have been used in Afghanistan by the Royal Marines and other units, where their flexibility and mobility are much appreciated.

The BvS10 MkII is also a prime contender for the French VHM requirement for 129 vehicles. A contract in France is expected to be announced at the end of the year.

requirement for 100 vehicles was met on September 22, more than one week earlier than required.

Oshkosh Corporation is responding to an urgent call from the U.S. Armed Services for the accelerated delivery of M-ATVs for operations in Afghanistan. Since receiving the first order on June 30, 2009, Oshkosh has delivered ahead of schedule each month, enabling the MRAP Joint Program Office to fly M-ATVs to Afghanistan earlier than initial estimates. Oshkosh's manufacturing facilities have available production capacity for all current and potential military vehicle programs, including the U.S. Army's Family of Medium Tactical Vehicles (FMTV), as well as any production surges.

"The M-ATV program was fast-moving from its inception, and we are answering the Warfighter's need for this advanced vehicle by providing the government with a rapid delivery schedule," said Charlie Szews, president and chief operating officer of Oshkosh Corporation. "Oshkosh's robust manufacturing capabilities, proven experience and highly skilled workforce have helped set the company apart as a leading and reliable supplier of the M-ATV, as well as other medium- and heavy-payload tactical wheeled vehicles for the U.S. military."

Oshkosh uses an advanced integrated assembly line and has simultaneously produced as many as 10 vehicle models with 29 variations. Design innovations, assembly process improvements and lean manufacturing fuel continuous quality improvement at the company's facilities.

To date, the company has received orders valued at \$2.3 billion for 4,296 M-ATVs, including initial spare parts and support services. The U.S. military flew the first M-ATVs to Afghanistan at the end of September.

The Oshkosh® M-ATV uses the advanced Oshkosh TAK-4® independent suspension system for superior mobility, including a 70 percent off-road profile capability and 16 inches of wheel travel. The TAK-4 system, which has undergone more than 400,000 miles of government testing, is featured on more than 10,000 Medium Tactical Vehicle Replacements (MTVR) used by the U.S. Marine Corps and Navy Seabees, and is being retrofitted on more than 2,400 legacy MRAPs for improved mobility in Afghanistan. The system is also used on the Army's next-generation Palletized Load System (PLS) and the Marine Corps' Logistics Vehicle System Replacement (LVS).

Oshkosh Defense teamed with Plasan North America to provide an advanced armor solution for the M-ATV. Plasan also developed the armor system used on more than 5,000 legacy MRAPs and thousands of Oshkosh MTVR Armored Cabs already in theater.

Oshkosh Defense is the leading manufacturer of both medium and heavy tactical wheeled vehicles in the U.S. defense industry. More than 67,000 military-class vehicles have been produced in the company's manufacturing facilities.

## Defence Industry

### Oshkosh Exceeds M-ATV Delivery Schedule for Third Consecutive Month



OSHKOSH, Wis. — Oshkosh Corporation announced today that for the third consecutive month, it has exceeded its contract delivery requirements for MRAP All Terrain Vehicles (M-ATV). The September M-ATV delivery

**Exhibitions**

**Codan introduces new Commander system**



Washington, DC (AUSA, Booth #4345) -- Codan (ASX-CDA) announced the general availability of the Codan MRZ Commander system. The announcement was made at the Association of the United States Army (AUSA) trade show in Washington, DC. □

The Codan MRZ Commander system is an innovative rapidly-deployable communications systems designed to support robust high-frequency (HF) voice and data communications for a wide range of platform needs including headquarters, mobile and ground applications.

“Protection and security operations around the globe have evolved modern doctrine to engage ground threats imposed by insurgent forces and the types of weapons utilized within these hostile theatres.” said Andrew Sheppard, vice president and general manager, Military and Security Division, Codan U.S. Inc. “The MRZ Commander system addresses these types of threats by providing rapid, real-time Command & Control (C2) communications to extend radius of operation for deployed operations.”

The MRZ Commander system provides a fully ruggedized 125-Watt HF radio housed inside a standard ‘Pelican’ case, and is the first battery-operated, high-power, light-weight HF system in the world. The MRZ Commander system is self contained and easily configured for operation – an operator simply connects the MRZ Commander system to power and antennas, and communicates. The MRZ incorporates a unique capability that enables rapid installation and transfer between static and ground-based platforms to mobile with the ability to operate from a standard vehicle 12-V accessory interface.

Weighing only 50 lbs including batteries, the MRZ is easily carried onto an aircraft and provides a global interface to both DC (9-36V) and AC (100-240V, 50-60-Hz). Included in the MRZ package are lithium-ion rechargeable batteries which provide additional flexibility and the ability to operate up to 6-hours off one charge. With compliance to MIL-STD-188-141B ALE (JITC Certified), FED-STD-1045 ALE/CALM, STANAG-4539, MIL-STD-110B data (with modem), the

MRZ Commander system supports frequency hopping, and communications security options.

The MRZ Commander system announcement follows the launch in September 2009 of the Codan MRX Headquarters system. Both systems allow communicators to quickly and easily consolidate encryption, frequency, modes of operation, and procedures to successfully ‘cross-pollinate’ radio networks.



**Exhibitions**

**International Armoured Vehicles - February 1 - 5, 2010 - Excel Centre The Docklands, London, UK**

International Armoured Vehicles (formally Light and Medium Armoured Vehicles) is the largest armoured vehicle event in Europe, attracting over 450 delegates from across the globe.

The 2009 conference saw military and industry decision makers gather from 41 different nations including a number who have never attended the event before - Brazil, Croatia, Greece, India, Portugal, Serbia, Thailand and Ukraine.

The conference series has, over the last 8 years, provided a mix of strategic, tactical and operational insights from international military, government and industry representatives - all aimed at enhancing armoured vehicle capabilities to ensure the ultimate customer, the soldier, is supported in operations. The 2010 agenda will tackle a number of challenges including protected mobility, integrated survivability, fleet management, vehicle maintenance, vehicle electronics, simulation & training, investment decision-making, procuring off-the-shelf and life-extension programmes.

The 2010 event - now encompassing the full spectrum of capabilities across light, medium and heavy vehicles - will feature keynote addresses, operational case studies, interactive discussions and technology demonstrations that promise to deliver you with the right balance of learning and networking opportunities.

"An excellent opportunity to get an insight into improvement and development of AFVs in modern Armies" - Manik Trivedi, GSO-1, WE15, WE Dte, IHQ of MoD Indian Army "Great subjects and presenters" - Jose Wancelotti, Technical Specialist, Brazilian Army "A high profile audience and relevant agenda was matched to offer a learning experience of note" - Cobus van der Merwe, Senior Business Development Executive, Saab Avitronics



**Contracts**

**BAE Systems Receives \$63.9 Million U.S. Army Contract for Prototype Paladin Integrated Management Vehicles**

YORK, Pennsylvania -- BAE Systems has been

awarded a contract from the U.S. Army Tank Automotive & Armaments Command for the procurement and fabrication of five prototype M109A6 Paladin Integrated Management (PIM) self-propelled howitzer vehicles and two prototype M992A2 Field Artillery Ammunition Support Vehicles (FAASV).



The total contract value is \$63.9 million.

"The Paladin provides critical fire support for soldiers in the Heavy Brigade Combat Team," said Joe McCarthy, vice president and general manager, Heavy Brigade Combat Team (HBCT) Systems for BAE Systems. "The PIM program will ensure that this essential fire support system remains sustainable through its projected life beyond the year 2050."

The Paladin PIM uses the existing M109A6 main armament and cab structure while replacing outmoded chassis components with up-to-date components from the Bradley Combat Systems to increase sustainability and commonality across the HBCTs. Paladin PIM incorporates a state-of-the-art "digital backbone" and robust power generation capability. PIM also integrates electric elevation and traverse drives, electric rammer and a digital fire control system. The M992A2 FAASV provides armor protected ammunition delivery for the M109A6 Paladin.

Design and engineering analysis work for the vehicle structure, automotive systems and electric and vehicle electronics will be performed at BAE Systems facilities in Pennsylvania, California, New York, Minnesota and Michigan as well as U.S government facilities at the Army Research and Development Center in Picatinny, New Jersey. The remanufacture program for the Paladin fleet will be performed in partnership with the Anniston Army Depot and at BAE Systems facilities in York, Pennsylvania and Elgin, Oklahoma.

The M109A6 PIM is supported by the Army as a vital technology enhancement program to sustain the M109 Family of Vehicles well into the future, and maintain the combat capability of the HBCT.



## Exhibitions

### General Dynamics and KMW display DONAR autonomous, remotely operated artillery system at AUSA 2009

Washington D.C. -- General Dynamics European Land Systems, Vienna, and Krauss-Maffei Wegmann (KMW), Munich, are presenting the autonomous and remotely operated DONAR prototype at the 2009 AUSA Annual Meeting and Exposition.

The DONAR is a new world-class, self-propelled, tracked, airborne-capable, fully automated self-propelled howitzer (155/52 cal.) featuring operation by a two-man crew (driver + commander), all-terrain mobility, long range and precise firing capability. The mission spectrum of the DONAR ranges from classic artillery fire support missions to active field protection and is designed to replace legacy systems (e.g. M-109, AS90, K9, etc.) in service with modern armies. The system addresses the growing need for precise indirect fire capabilities that can augment or even replace close-air-support operations previously conducted by costly fixed- or rotary-wing aircraft.



John C. Ulrich, president of General Dynamics European Land Systems, and Frank Haun, president and CEO of KMW, said, "Our companies are proud to present this common project at the 2009 AUSA Annual Meeting and Exposition after its unveiling in Europe back in 2008. Since then our engineers have continued to develop, test and enhance the DONAR's capabilities. As a result of this joint effort we show now an advanced system ready to meet the present and future requirements of Field Artillery all across the mission spectrum."

DONAR provides capabilities that will change conventional artillery doctrine by reducing crew and logistics requirements, and providing for autonomous operations. The prototype displayed at the AUSA Meeting and Exposition, Washington D.C., has already undergone rigorous mobility and fire trials at the test facility of the German procurement agency BWB (Bundesamt für Wehrtechnik und Beschaffung), including Smart Camp Defence trials.

#### Unique system features: one solution

DONAR possesses multiple features that are unique to the worldwide artillery community.

**Air transportability** - The total systems weighs less than 32 metric tons, allowing it to be transported in the future Transport Aircraft A400M or similar aircraft with payload capacities in this class.

**Autonomous operation** - The completely remotely operated artillery module is equipped with a 155mm (52 cal.) cannon, giving it the advanced fire power of a PzH2000. DONAR's maximum range amounts to more than 56 kilometers (vlap). Its on-board ammunition supply includes 30 fuzed 155 mm shells and a corresponding number of charge modules. Despite a marked reduction in weight and size, the gun module is operational without any additional stabilization and provides a 360-degree azimuth range. In addition, the autonomous system character of DONAR allows a consistent step toward networked, centralised command

and control (network centric warfare).

High mobility & survivability - The system possesses the high mobility of an Infantry Fighting Vehicle, derived from an artillery-version ASCOD 2 chasis. Separated from the automatic gun module, a crew of only two soldiers (driver and commander) operate the system from a highly protected driver cabin, increasing survivability and allowing for extremely rapid fire and movement manoeuvres. The system's survivability is enhanced by both its low silhouette and from the cabin's protection against ballistic impact and shell fragments from artillery and mortar ammunition – the cabin meets a very high NATO protection standard.

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## Defence Industry

### Tatra's Proven Chassis and Suspension Systems to Complement Navistar Capabilities

WARRENVILLE, Ill. -- Navistar Defense, LLC and Tatra, a.s., a heavy-duty truck manufacturer located in Koprivnice, Czech Republic, have signed an agreement to jointly develop, produce and market new military tactical off-road trucks.

The new vehicle will utilize Navistar engines and other components in addition to Tatra's proven backbone-tube chassis design and independent suspension system. Tatra's chassis concept was originally developed in 1923 and today uses swinging half-axles for exceptional off-road mobility and added resistance against chassis wear and tear.

"We believe the Tatra chassis is the most capable off-road suspension system available anywhere in the world," said Archie Massicotte, president, Navistar Defense. "By joining with Tatra, the team is positioned well to compete for new vehicle programs with U.S. and Allied Forces. Upcoming opportunities include the Israel Medium Tactical Truck (MTT) and Canada 10 x 10 wrecker programs."

Under the agreement, a Navistar and Tatra branded truck will be marketed under Navistar Defense in all North American markets including the United States military and Foreign Military Sales financed by the United States government. Tatra will also source parts and components through Navistar's global parts and support network for Tatra trucks delivered in markets outside of North America.

"We are tremendously excited about this strategic alliance with Navistar Defense," said Ronald Adams, board of directors' chairman and CEO, Tatra. "Navistar is a great company with a proven track record of success and a very fine team of professionals covering all disciplines of the truck business."

Tatra and Navistar Defense have also agreed to market and sell new Navistar-Tatra trucks in their respective existing markets around the world. Navistar will manufacture vehicles developed under the alliance.

#### Tatra, a.s.

Tatra, a.s., located in Koprivnice, Czech Republic, is a

long-time manufacturer of heavy-duty, all-wheel-drive, off-road trucks and chassis-cabs. The company's integrated line of commercial and special vehicles can perform in off-road environments as well as on both paved and unpaved roads.

#### About Navistar

Navistar International Corporation (NYSE: NAV) is a holding company whose subsidiaries and affiliates produce International® brand commercial and military trucks, MaxxForce® brand diesel engines, IC Bus™ brand school and commercial buses, Monaco RV brands of recreational vehicles, and Workhorse® brand chassis for motor homes and step vans. It also is a private-label designer and manufacturer of diesel engines for the pickup truck, van and SUV markets. The company also provides truck and diesel engine service parts. Another affiliate offers financing services. Additional information is available at [www.Navistar.com/newsroom](http://www.Navistar.com/newsroom).

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## Defence Industry

### BAE Systems Awarded U.S. Army AMCOM Contract for Up-Armored HIMARS Cabs



HOUSTON, Texas -- BAE Systems announced today the award of a \$13.97 million contract from the Army Aviation and Missile Life Cycle Management Command (AMCOM), to manufacture 64 Increased Crew Protection (ICP) cab upgrade kits for the High Mobility Artillery Rocket System (HIMARS).

The contract also includes 65 cab up-armor applique kits and spares.

The ICP cabs and applique kits will replace unarmored cabs on Army and U.S. Marine Corps HIMARS vehicles, and they will be produced and completed in Sealy, Texas by October 2010. It is based on the combat proven Family of Medium Tactical Vehicles (FMTV) built by BAE Systems. Serving as the common manufacturer for the FMTV and HIMARS system chassis, BAE Systems offers the Army and Marine Corps the ability to apply technology, parts commonality and lessons learned across the two platforms.

"This cab provides a new level of crew protection for soldiers and Marines and ensures they maintain a high level of tactical mobility," said Dennis Morris, president of Global Tactical Systems, BAE Systems. "This upgrade represents BAE Systems' support of the HIMARS program and our ability to modernize and upgrade the existing HIMARS fleet."

A unique design to BAE Systems, the HIMARS ICP cab is armored and has more than 40 enhancements from

previous cab designs to make it the safest, most reliable chassis available for HIMARS crews. The ICP is designed to protect its crew from ballistic attack, mine blast, foreign object debris, and the fumes associated with rocket launch. Key enhancements include: improved crew survivability, hatch and door ergonomics, cab entry and exit, pressurization and water entry sealing. Composite materials were used to meet mission essential transportability requirements.

BAE Systems has produced the HIMARS platform since its introduction in 2003. HIMARS is a rocket and missile carrier that accommodates the entire family of Multiple Launch Rocket System (MLRS) munitions, including all variants of the Guided MLRS rocket and Army Tactical Missile System missiles.

## Defence Industry

### Alcoa Defense to Supply Aluminum Armor Kits to AM General

WASHINGTON -- Alcoa announced today that it will supply aluminum armor kit components for AM General's Expanded Capacity High Mobility Multipurpose Wheeled Vehicles (HMMWV ECV). The aluminum kits increase vehicle occupant protection while improving the vehicle's mobility, dependability and performance.

"We look forward to strengthening our relationship with AM General by delivering innovative armor solutions for this critical program," said David Dobson, president, Alcoa Defense. "Alcoa supported AM General in the design of the original all-aluminum HMMWV more than 30 years ago, and we are excited to make the latest generation HMMWV ECV lighter, faster and stronger. We continue to help them maximize light alloys while ensuring that their structures can be manufactured easily and cost effectively."

Produced by Alcoa Transportation Products' facility in Auburn, Ind., the strong, light weight aluminum castings that form the backbone of the four armor kit components are machined and assembled by Alcoa before AM General installs them in the HMMWV ECV.

"Our Transportation Products business established an excellent reputation for innovation and quality in the automotive industry and we are proud to now use that expertise to build stronger, safer structures that help protect those serving in the Armed Forces," said Scott R. Kerns, vice president and general manager, Alcoa Transportation Products.

Alcoa Defense partners with industry leaders to design systems and materials that increase the speed, reach, agility and survivability of today's and tomorrow's strategic platforms. Through an unmatched combination of defense and commercial engineering, Alcoa delivers multi-product, lightweight and cost-effective solutions for programs ranging from the F35 Joint Strike Fighter to the M777 Howitzer to armored tactical and fighting vehicles.

## Defence Industry

### Device leverages the Google™ Android mobile platform for warfighter use

WASHINGTON -- Raytheon Company is debuting at the 2009 Association of the U.S. Army Annual Meeting and Exposition a breakthrough mobile device for faster intelligence sharing.

The Raytheon Android Tactical System (RATS) delivers multimedia content faster and in less time to warfighters. Using RATS will provide them with a common mobile device that now can be used on the battlefield.

"RATS provides our U.S. military forces with a last mile of connectivity for delivering images and full motion video to our warfighters," said Mark Bigham, vice president of Raytheon's Defense and Civil Mission Solutions. "Utilizing existing technologies provides developers the ability to focus on requirements that our warfighters need now."

The RATS device disseminates vital intelligence data via the Distributed Common Ground System (DCGS) Intelligence Backbone (DIB) architecture system. Information is instantly viewed on the DIB and searchable to mobile device users and other users. Raytheon has demonstrated how the device provides the warfighter the ability to make decisions in seconds and minutes, rather than hours.

Raytheon is developing applications or "widgets" for intelligence collection and analysis to be used on the Google Android, such as license plate reading, streaming video camera feeds and biometric collection (facial recognition, for example). These applications will enhance warfighters' safety by providing tactical alerts based on the intelligence collected.

Bigham added, "We are providing an innovative technology that is available in the commercial market and applying it to warfighter needs."

Raytheon Intelligence and Information Systems is a leading provider of intelligence and information solutions, specializing in ground processing, unmanned ground systems, cybersecurity operations, homeland security and other markets to resolve the most complex problems for customers worldwide. IIS had 2008 revenues of \$3.1 billion and employs more than 9,000 engineering and technical professionals worldwide.

Raytheon Company, with 2008 sales of \$23.2 billion, is a technology and innovation leader specializing in defense, homeland security and other government markets throughout the world. With a history of innovation spanning 87 years, Raytheon provides state-of-the-art electronics, mission systems integration and other capabilities in the areas of sensing; effects; and command, control, communications and intelligence systems, as well as a broad range of mission support services. With headquarters in Waltham, Mass., Raytheon employs 73,000 people worldwide.

**Contracts**

**General Dynamics Awarded Contract for Stryker Production**



STERLING HEIGHTS, Mich. -- The U.S. Army TACOM Lifecycle Management Command has awarded General Dynamics Land Systems a \$647 million contract for 352 Stryker vehicles.

Work will be performed in Anniston, Ala.; Sterling Heights, Mich.; Lima, Ohio; and London, Ontario, Canada. Vehicle deliveries will begin in July 2010.

This award continues vehicle production under the Stryker program, which was initially awarded to a General Dynamics team in 2000. To date, General Dynamics has delivered 2,988 vehicles and trained 18,438 soldiers in their operation.

The U.S. Army has seven Stryker Brigade Combat Teams, three of which are deployed in combat zones: two in Iraq and one in Afghanistan.

Stryker Brigade Combat Teams have operated with “historically high” mission availability rates in Iraq since October 2003, demonstrating the value of a force that can move rapidly as a cohesive and networked combined-arms combat team. Stryker vehicles have logged a total of more than 24 million miles during twelve rotations at an average sustainment cost of \$14 per mile.

Stryker is a family of eight-wheel drive combat vehicles that can travel at speeds in excess of 60 mph on highways, with a range of 312 miles. It is the Army’s highest-priority production combat vehicle program and the centerpiece of the ongoing Army Transformation. Stryker operates with the latest C4ISR equipment and an integrated armor package protecting soldiers against improvised explosive devices, rocket propelled grenades, and a variety of infantry weapons.



NATO, it represents an important strategic breakthrough. Moreover, the company hopes that success here will lend added impetus to other projects now underway in Hungary.

Rheinmetall has supplied comparable systems to the armies of Greece, Sweden and Spain, where they have proved highly effective. Iniochos is a family of tactical command and control systems designed for use at various echelons and in various platforms – e.g. tactical operations centres, vehicles and at individual soldier level. Systematic adherence to NATO interoperability standards characterizes every aspect of the system, greatly facilitating international peace enforcement operations, etc. This standardized system is able to provide coalition troops from several nations with a Common Relevant Operational Picture (CROP).

The first phase of the framework contract envisages equipping an entire battalion with Iniochos application software. It also entails adapting existing radio equipment to create a communications network and supplying a tool for producing cartographic data. For training purposes, systems will be supplied to two bases, and instruction provided to administrators, trainers and troops. Under the framework contract, additional equipment and services can be purchased until every unit in the Hungarian Army is equipped with the new technology.

Rheinmetall Defence supplies a wide array of defence electronics systems and software. The company's Defence Electronics division plans, develops and produces products and system solutions in close cooperation with military customers around the globe.

The range of products and services extends from reconnaissance and fire control systems to C4I technology for various echelons and scenarios. Their inclusion in a network-based environment can be tested for customers under highly realistic conditions in the company's high-tech Concept Development & Experimentation environment. Networking also constitutes an important part of the international Future Soldier programme, in which Rheinmetall Defence plays a central role. On behalf of the German Bundeswehr, for example, Rheinmetall Defence is currently developing IdZ-ES, an expanded version of its system for equipping future infantryman.



**Defence Industry**

**Rheinmetall Defence to equip Hungarian Army with command and control systems**

The Hungarian Army has contracted with Rheinmetall Defence to supply it with tactical command and control systems. The company has signed a five year-framework contract with the procurement agency of the Hungarian Ministry of Defence.

Thanks to its Iniochos product line, Rheinmetall was able to overcome stiff international competition. The first order of its kind from an eastern European member of

**Contracts**

**ST Engineering Wins US\$500m US Army Automatic Test Systems Contract**

Singapore -- ST Engineering's US subsidiary, VT Miltope, announced that it has won a US\$500m contract (about S\$710m) to supply the At Platform Automatic Test Systems (APATS) Maintenance Support Device - Version 3 (MSD-V3) system, comprising rugged laptops, test equipment and instruments, to the US Army.

The five-year Indefinite Delivery Indefinite Quantity (IDIQ) contract was awarded by the Test, Measurement, and Diagnostic Equipment (TMDE) Product Directorate

of the US Army. This IDIQ contract allows the US Army the flexibility to acquire items defined in the contract, within stated limits, over the five-year period. Teamed with our subcontractor, Science and Engineering Services, Inc. (SESI), VT Miltope is expected to perform 70% of the programme and SESI the remaining 30%. VT Miltope will supply the MSD-V3, based on the TSC V3-GM45 Rugged Convertible Laptop Computer, the next generation of its TSC-750 computer. The TSC-750M is a militarised laptop designed and qualified to withstand the harshest tactical environment for computer systems and is being used in forward areas under extreme weather and handling conditions.

More than 40,000 of the TSC-750-based MSDs have previously been supplied to the US Army. Many of these systems are already successfully deployed with US troops in active missions. In the five production programme years (2010-2014) of MSD-V3, the US Army may order up to 39,460 MSD-V3 Kits, 12,500 ICE Test Adapter Kits, and peripheral accessory hardware such as PC cards and cables.

The MSD is used by the US Army for at-platform diagnostics and maintenance on its weapon systems, generators, aviation, missile, wheeled and tracked vehicles. It is the Army's standard TMDE for all tactical at-platform maintenance applications. MSD-V3 is a rugged, compact, lightweight, portable general-purpose automatic tester used to verify the operational status of systems, isolate failures and assist in the repair. Additionally, the MSD-V3 facilitates the uploading and verification of software to restore as well as provide new software to weapons.

"The MSD-V3 award affirms VT Miltope's commitment to providing US Army soldiers in the field with robust computing capabilities that work in the toughest tactical environments. MSD-V2 has proven its ability to perform its mission and survive the rigours of multiple deployments without degradation. This award demonstrates VT Miltope's continued support of the US Army in tactical computer systems and logistics as well as our constant commitment to the entire test and diagnostic community." ~ Brigadier General (US Army, Ret) Tom DICKINSON, President and CEO, VT Miltope

The 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.

## Defence Industry

### First Oshkosh LVSR Deployed to Afghanistan In Support of U.S. Marine Corps

OSHKOSH, Wis. — Oshkosh Defense, a division of Oshkosh Corporation, announced today that the first Logistics Vehicle System Replacement (LVSR) has been deployed with the U.S. Marine Corps in Afghanistan, with two additional vehicles set to be delivered later in October.

All three vehicles being delivered are cargo variants. Oshkosh is also sending two Field Service Representatives (FSR) to Afghanistan this month to provide support services for LVSR users.



The heavy-payload LVSR, which arrived in Afghanistan in September, is a next-generation replacement for the LVS and features survivability, mobility and performance improvements. The vehicle uses the industry-leading Oshkosh® TAK-4® independent suspension system and mechanical rear-steer technology to provide superior mobility on demanding off-road terrain and unimproved roads. The LVSR also features factory-installed armor as part of its crew cab and is designed to accept an add-on armor kit for increased protection.

"The fielding of this vehicle in Afghanistan is a significant milestone for both the U.S. Marine Corps and Oshkosh Defense," said Andy Hove, Oshkosh Corporation executive vice president and president, Defense. "The LVSR expands on the capabilities of the LVS, which has been an integral part of the Marine Corps fleet for nearly 25 years, to negotiate and overcome the most challenging environments, including those found in Afghanistan."

The LVSR features an on-road payload capacity of 22.5 tons and an off-road payload capacity of 16.5 tons. The LVSR uses a single-source lubrication system for simplified maintenance and has a 600-horsepower C15 engine. The vehicle also uses Oshkosh's Command Zone embedded diagnostics to monitor major vehicle systems, including the engine, transmission and brakes. Vehicle service and support is streamlined by the parts and maintenance commonality the LVSR shares with more than 10,000 fielded Oshkosh Medium Tactical Vehicle Replacements (MTVR).

Oshkosh won the competitively bid indefinite delivery/indefinite quantity contract for the LVSR in June 2006. The contract has a value of \$740.2 million based on a production quantity of 1,592 vehicles.

Oshkosh's fully trained FSRs go where the military goes and provide a full range of in-field support services, including training, maintenance support, and repair and supply services. They are stationed around the world, including in Iraq, Kuwait and Afghanistan, and also provide a direct link to Oshkosh and its parts network.

Oshkosh Defense is a leading manufacturer of both medium and heavy tactical wheeled vehicles in the U.S. defense industry. More than 67,000 military-class vehicles have been produced in the company's manufacturing facilities.



## Defence Industry

### Australian Government Approves \$493 Million Procurement Project for M777A2 155mm Howitzers



The Australian Minister for Defence, Senator John Faulkner, today announced that the Government has given Second Pass Approval for a \$493 million project to provide the next generation artillery system for the Australian Army.

Senator Faulkner said the first phase of Land 17 (the Artillery Replacement Project) will provide the Army with four batteries of 35 M777A2 155mm Lightweight Towed Howitzers.

"The Lightweight Towed Howitzer is the most advanced towed artillery system available in the world. It is air-portable under CH-47 Chinook helicopters and can provide a weight of fire not previously available to rapidly deployed forces," Senator Faulkner said.

"The second phase of the artillery enhancement will include the procurement of a self propelled artillery system, which will be capable of providing fire support to highly mobile mechanised forces.

The artillery system will be further enhanced through the future acquisition of a digital terminal control system for the tactical control of artillery, naval and close air support fires by forward observers and joint terminal attack controllers. This element of the project will be considered by Government in the second half of 2010," said Senator Faulkner.

Senator Faulkner said these are high priority acquisitions which will provide improved protection and precision firepower to Australian soldiers, allowing missions to be carried out more efficiently, safely and effectively.



## Defence Industry

### Future military technologies showcased

A selection of the latest air and land unmanned vehicles and weapon sights technologies currently being tested and evaluated for future operational use has been unveiled to MOD employees.

Military and civilian personnel at Defence Equipment and Support (DE&S) in Bristol were recently treated to a

demonstration of various items which could improve the capability of UK troops in theatre.



Amongst the items the personnel saw was a small hand-held wheeled robot equipped with real-time cameras that can be thrown into a building to show troops what is inside.

The personnel were also shown an easy to launch, remote-controlled, four-rotor-headed helicopter, complete with surveillance equipment, sending real-time images back to a wristwatch monitor or to specially modified goggles; and clip-on lightweight thermal weapon sights for spotting targets at night.

Major General Alan Macklin, Head of the Programmes and Technology Group at DE&S, said

"It is vital that UK forces keep their technological edge on the battlefield.



"We work with industry to see how we can best pull through the innovative technologies available, develop them and then put them into the hands of the soldiers, sailors and airmen on the front line in the form of useable equipment."

Maj Gen Macklin continued:

"Keeping the technological edge is critical to campaign success and by focusing investment on new and novel technologies we can ensure we keep ahead of the threat.

"If you look at the equipment soldiers are using today compared to five years ago, it is completely different and that is down to us investing in innovation and developing technology for military use."

Based at MOD Abbey Wood, the Defence Equipment and Support mission is to equip and support operations now and in the future.

Part of that commitment is to continually investigate new technology and concepts in order to ensure that

innovative ideas are exploited to deliver new equipment to the front line as quickly as possible.

## Exhibitions

### Iveco to showcase vehicle technology at the International Armoured Vehicles Event 2010



With sales to a succession of European nations and delivery of more than 1000 units against existing contracts, LMV is now well established as the light protected vehicle of choice for a wide variety of users.

The International Armoured Vehicles Event 2010 (1-5 February 2010) offers Iveco Defence Vehicles the opportunity to acquaint both existing customers and other visitors with more recent developments on this outstanding combat proven design. This builds on our stand at DSEI 2009, where three variants were shown to provide some idea of the different configurations which are available and to provoke feedback and comment. Besides the standard short wheel base 4 man cab Italian Army version, a two man chassis cab on a long wheel base was on display, demonstrating the versatility of the design and showing the ease with which it can be reconfigured to carry a shelter or a weapon system.

Of greatest interest, perhaps was the special forces version produced in collaboration with Ricardo. This three seater open top vehicle features a 12.7mm ring mount over the rear seat, besides a commander's machine gun. Offering exceptional mobility which, owing to its origins as a protected vehicle, has not been compromised by the necessity of adding armour, the vehicle provides a level of mine blast and ballistic protection far superior to similar vehicles which are currently deployed. Although in this case the vehicle is an adaptation from a standard short wheelbase vehicle, prototypes are also being developed on the long wheelbase chassis, providing greater capacity and payload. A number of countries have already expressed interest in the SF variant and it is anticipated that deliveries will start in 2010.

At the International Armoured Vehicles Event 2010 it is intended to display the LMV for the first time in its latest guise as a protected utility vehicle, particularly well suited to the UK's OUVS requirement, and to other similar applications. In this configuration, the vehicle shows the longer, roomier cab and long wheelbase which have been developed to accommodate the user's increasing demands for additional payload and capacity. The vehicle has a loadbed capable of accepting two

NATO pallets and can carry a full load without adversely affecting the formidable levels of mobility which have been so appreciated on operations. GVW has now been raised to 7.5 tonnes, allowing higher levels of protection and payload than are seen on Panther and the earlier versions of the vehicle. With a further improved electrical and power distribution system, the platform is also being used to demonstrate a number of innovations developed by our partner companies, including IBM and Selex' which indicate a potential way ahead to meet the requirement for improved situational awareness and a common systems architecture. The result is a mature, proven design which meets both the MoD's declared requirements and its systems architecture aspirations.

The International Armoured Vehicles Event 2010 provides an excellent opportunity for delegates to view the innovations which have been put in place on this vehicle, showing the flexibility of the design and its ability to adapt to meet a host of different requirements.

## Defence Industry

### Thor Global Defense Group MKV-NV NEMESIS .50BMG - A Bold Step Forward In .50 Caliber Sniper Systems



The similarity of weapon platforms has muddled the current market with a great deal of confusion as to what differences may be inherent in certain designs that might provide a better purchase and drive quality results.

A new .50 BMG rifle may be a dime a dozen with the current market and new companies forming every day, but every so often, something fresh, unique and exciting comes along.

THOR Global Defense Group has proudly unveiled the MKV-NV C (Mark five NV Charlie) "Nemesis" Series rifle. For the first time available in the United States, THOR has worked closely with Swiss arms company A.M.S.D. to produce this excellent new platform.

The Nemesis MKV-NV is designed with the needs for modular configurations as well as the highly mobile shooter's needs in mind. Produced with extreme attention to detail, every rifle features a folding buttstock with adjustable cheek piece, multiple rails for mounting a variety of devices, easily detachable barrel - available in various lengths, sling attachments and an effective brake. Standard magazine capacity is 5 rounds of .50BMG

ammunition.



“We [THOR] hope to achieve wider acceptance for military and law enforcement applications” says Marcus Phillips, Import/Export Director for THOR “there’s definitely a market for a quality, accurate system, and I feel that this platform is capable of catering to the needs currently out there.” In addition to sales, THOR staff offers complete training on this, and other weapon systems – from general familiarization to overall full-armorer certification.



THOR Global Defense Group was created to meet the increasing demand for advanced weapon platforms, security services, and training. THOR aids clients with high standards and special needs both domestic and abroad – and is able to handle all aspects of security in a highly effective manner.

### Defence Industry

## Plasan Announces Delivery of 1,000 Armor Kits

BENNINGTON, Vermont -- Plasan, a global leader in the field of combat-proven survivability and armor solutions for vehicles, airborne platforms and personal protection, today announced the delivery of 1,000 armor kits for the U.S. Army's MRAP All Terrain Vehicles (M-ATV) as a subcontractor to Wisconsin-based Oshkosh Corporation.

Today's delivery meets the latest production milestone in the contract awarded by U.S. Department of Defense to produce 5,219 M-ATVs for deployment in Afghanistan.

Arik Einhorn, Plasan's M-ATV Program Manager, said: "Plasan has set an all-time delivery record of 1000 armor kits. We attribute this achievement to the application of our Kitted Hull design concept, our solid supply chain of U.S. subcontractors, and the progressive manufacturing capabilities of our Bennington facility.

Plasan employees continue to work very hard to meet this ambitious production schedule and maintain our focus on the warfighter. Plasan remains fully committed to meeting our production milestones. We are proud to meet yet another deadline on this crucial project."

Plasan credits this rapid delivery capacity to the application of its modular Kitted Hull concept. Under this concept, developed by Plasan, all armor parts and components are sent to the vehicle's manufacturer where they are applied to the vehicle at the assembly line, thereby allowing for future upgrades and more efficient manufacture. The Kitted Hull concept enables manufacturers to better use subcontractors for the rapid and cost-effective assembly of armored vehicles, responding quickly to increases in production volume as the needs of the end-users change.

Plasan combines innovative survivability engineering and design with advanced armor materials development. Its unique development process is based on continuous interaction between the R&D and the Design & Prototyping departments. During this process, Plasan combines computer-generated analysis and simulations with real-time calibration and ballistic test data. The effective combination of test and simulation data enables improved simulation accuracy and performance, resulting in the optimal survivability solution.

As a global company with locations in Israel, North America and Europe, Plasan is a worldwide market leader. Plasan's production capabilities are complemented by a comprehensive supply chain that encompasses suppliers of materials, equipment and solutions in strategic locations worldwide. This extensive network enables the production capacity flexibility necessary to expand or reduce production volumes according to demand.

### Exhibitions

## FN Infantry Weapons on Display at DEFENSE & SECURITY 2009 in Bangkok

FN Herstal, a world leader in small arms manufacture, will exhibit its infantry product line at DEFENSE & SECURITY 2009, Bangkok, from 4 through to 7 November 2009 (Booth no. G27-G31).

For the first time in Asia, FN Herstal will display its SCAR™ family including a 5.56x45mm NATO rifle called SCAR™-L ("Light"), a 7.62x51mm NATO rifle called SCAR™-H ("Heavy") and an enhanced grenade launcher module called FN40GL™.

Both rifles feature high commonality of parts and identical ergonomics. They are designed to receive two barrels -- either CQC or standard -- that are easily and quickly interchangeable by the individual operator in just a few minutes allowing for rapid reconfiguration of the rifle for a variety of operational roles. The SCAR™ rifle is completely ambidextrous and features multiple integral Picatinny type mounting rails and a telescopic, folding buttstock with adjustable cheekpiece.

The 40mm LV FN40GL™ launcher can be quickly

mounted underneath either the SCAR™-L or SCAR™ H, or it may be configured as a stand-alone launcher with a telescopic buttstock. Like the SCAR™ rifle, the grenade launcher is a completely ambidextrous and ergonomic design. It features Picatinny type rails for add-on sights and a forward opening for extraction and automatic ejection of the grenade case, as well as a side opening for long grenades and easy chamber inspection.

The SCAR™ family, developed by FN Herstal, has been fully tested and approved by the U.S. Special Operations Command (USSOCOM). The SCAR has generated significant interest around the world and is currently in field testing with many operators including Special Forces units.

In addition to the SCAR™ line, FN Herstal will also exhibit its other infantry weapons, such as the MINIMI and MAG machine guns, the F2000 assault rifle, the P90® submachine gun and Five-seven® Tactical pistol both chambered in 5.7x28mm caliber, as well as the FN303 less lethal launcher.

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### Contracts

#### Oshkosh Corporation Awarded Contracts to Support M-ATVs in Afghanistan

OSHKOSH, Wis. -- Oshkosh Corporation, announced today that through its Defense division, it has received two contracts valued at more than \$28 million for spare parts and support of its MRAP All Terrain Vehicles (M-ATV) in Afghanistan.

The contracts include a \$16 million order from the U.S. Defense Logistics Agency (DLA) for spare parts and a \$12 million order for aftermarket support from the U.S. Army Tank-automotive and Armaments Command Life Cycle Management Command (TACOM LCMC).

“Oshkosh Corporation’s broad range of offerings, including our parts supply network and fully trained field service team, will provide our Armed Forces with an unparalleled level of support,” said Robert G. Bohn, Oshkosh Corporation chairman and chief executive officer. “Our in theater M-ATV service and support will help ensure these highly mobile vehicles operate at full capability in very challenging conditions.”

Under the contract, Oshkosh Defense will provide M-ATV spare parts to the DLA to be used as in the field replacements after the parts delivered with the vehicles have been consumed. These parts will ship without delay as vehicles arrive to maintain optimal readiness rates.

Additionally, Oshkosh field service representatives (FSR) will support the M-ATV program in-theater through September 2010. Oshkosh Defense provides the complete spectrum of service and support to the M-ATV fleet in the Afghan theater. Building on its experience from Operation Iraqi Freedom, Oshkosh FSRs can operate service facilities on any of the forward operating bases that might require more support than internal assets can provide.

Oshkosh will complete production of the current M-ATV contract, valued at more than \$2.7 billion, for

5,219 vehicles in March 2010. The company has delivered ahead of schedule each month since the contract award on June 30, 2009, and expects to ramp production up to 1,000 vehicles per month in December. The first Oshkosh M-ATVs were delivered to Afghanistan on Oct. 1, 2009, just three months after Oshkosh was awarded the M-ATV contract.

Oshkosh Defense teamed with Plasan North America to provide an advanced armor solution for the M-ATV. Plasan also developed the armor system used on more than 5,000 legacy MRAPs and thousands of Oshkosh Armored Cab MTRVs already in theater.

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### Contracts

#### Sagem named prime contractor for Phoenix 2010, program to test future land combat systems

French defense procurement agency DGA has chosen Sagem (Safran group) as prime contractor for the Phoenix 2010 program, involving technical and operational tests to improve the efficiency of the French army’s future combat systems.

The contract is worth over 10 million Euros and is being conducted with the Land & Joint Systems division of Thales as co-contractor. Phoenix 2010 is a follow-on to the Phoenix 2007 and 2008 programs, for which Sagem was already the industrial coordinator.

The Phoenix 2010 program will kick off in the second half of 2010. Running for a period of 18 months, it will organize and carry out field demonstrations in specific areas, using hardware and software from Sagem and its partners, optimized for these trials. The tests themselves will be prepared and performed in conjunction with the DGA and the French army.

These tests aim to demonstrate new capabilities in close combat: tracking friend/foe positions, the robustness of tactical communications, continuity between mounted and dismounted phases, surveillance and air-land support.

Phoenix 2010 is designed to support the transformation of the French army to integrate network-centered operations, and the development of the associated technologies. Covering the regiment, company and platoon levels (joint services tactical group and subgroup / GTIA and SGTIA, in the French army), Phoenix 2010 will contribute to preparations for “Operation Scorpion”, a comprehensive initiative to support the army’s transformation.

The results generated by Phoenix 2010 could also lead to the acquisition of new equipment for integration in the army’s combat platforms to enhance their operational capabilities.

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### Contracts

#### Kassel -- On 28 October 2009, Krauss-Maffei Wegmann (KMW) handed over the first of 220 LEOPARD 1A5 main

## **battle tanks to the Brazilian army at the company's site in Kassel, Germany.**



Kassel -- On 28 October 2009, Krauss-Maffei Wegmann (KMW) handed over the first of 220 LEOPARD 1A5 main battle tanks to the Brazilian army at the company's site in Kassel, Germany.

The tanks come from the reserve stocks of the German army and have been overhauled and modernised since the start of this year. Delivery of all the systems is scheduled by 2012.

Brazil purchased the main battle tanks in the context of a government-to-government agreement with Germany. The Federal Office of Defence Technology and Procurement in its turn commissioned KMW at the end of December 2008 as the general contractor to overhaul the tanks and to develop and install specific Brazilian sub-systems. In addition the contract scope provides the South American country with training equipment, simulators, driver training vehicles and local technical support.

The LEOPARD 1 was introduced to the German Army in 1965. The last main battle tank of this type was decommissioned in Germany in 2003. Irrespective of this, the system is still considered to be a technological leader in its class. It has undergone multiple combat-improvement programs and is in use with countries such as Belgium, Chile, Greece, Italy and Turkey.

