

# Army Guide monthly



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## Army

**12 M1A1 Abrams tanks arrive in Iraq**

BAGHDAD -- Another batch of 12 M1A1 Abrams tanks purchased by the government of Iraq from the United States arrived on Dec. 22 at Umm Qasr. Once the tanks are deprocessed, this will total 63 tanks integrated into the Iraqi Army.

The tanks will be transitioned to the Iraqis at the Bismaya Combat Training Center, said Army Lt. Col. Tom Bentzel, the Iraq foreign military sales director with Project Manager Heavy Brigade Combat Team. Once fielded, he said, the Iraqi Army is expected to integrate the tanks into the 9th Iraqi Army Mechanized Division, located in central Iraq.

"The delivery of these tanks is a significant milestone which begins to establish Iraq's conventional defensive capabilities," said United States Forces - Iraq Deputy Commanding General for Advising and Training U.S. Army Lt. Gen. Michael D. Barbero. "A secure and stable Iraq that has the capability to defend its sovereignty will be a stabilizing influence in the region."

The Iraqi Army and U.S. Army have been working together since 2009 to familiarize Iraqi tank crew members with the Abrams tank in anticipation of an expected arrival of 140 total tanks- 65 crews are already trained. Iraqi crew members are also scheduled to receive a new equipment training package in conjunction with the fielding of the tanks.

The government of Iraq purchased the equipment under a Foreign Military Sales agreement with the United States government. "We are proud to deliver the best tank in the world to our Iraqi counterparts," Bentzel said.

On December 10, 2008, the Defense Security Cooperation Agency notified Congress of the sale under the Foreign Military Sales Program to the Government of Iraq. The case was for the procurement and upgrade of 140 M1A1 Abrams tanks modified and upgraded to the M1A1M Abrams configuration as well as associated equipment and services.

USD\$138 million contract to General Dynamics Land Systems-Canada for 82 Light Armored Vehicles (LAVs) for a Foreign Military Sale (FMS).

Vehicle deliveries will begin in January 2012. General Dynamics Land Systems, the Canadian company's parent corporation, is a business unit of General Dynamics.

The contract was signed through the Canadian Commercial Corporation, a Crown Agency of the Canadian Government.

Dr. Sridhar Sridharan, senior vice-president of General Dynamics Land Systems-Canada, said, "This order underscores the continued relevance of these proven combat vehicles in modern military forces. We are pleased to be working once again with TACOM in support of their Foreign Military Sales program."

Vehicles provided under this contract will be the LAV II version - a 300 horsepower 8x8 vehicle with a gross vehicle weight of up to 32,000 lbs (14,500 kg). The vehicles will be produced in four different variants.

## Contracts

**iRobot Announces \$13.9 M Contract for SUGVs**

Bedford, Mass. -- iRobot Corp., a leader in delivering robotic technology-based solutions, today announced that the Brigade Combat Team Modernization (BCTM) Increment 1 production purchase contract has been finalized for a firm fixed price value of \$13.9 million.

The contract calls for iRobot to deliver 45 Small Unmanned Ground Vehicles (SUGVs) as part of the Army's low-rate initial production contract for the first brigade set of BCTM Increment 1 capabilities. To date, 30 SUGVs have been delivered, with the remaining 15 to be delivered in January 2011. The purchase contract also includes training, field service support and spares.

"We are pleased to be delivering these SUGVs so that the Army can continue its verification testing for the BCTM program," said Robert Moses, president of iRobot's Government and Industrial Robots division. "Unmanned ground vehicles have proven their worth on the battlefield, and we believe that SUGV is an incredibly important piece of technology for the Army moving forward."

SUGV is a smaller and lighter version of the combat-proven PackBot. It is designed to give warfighters real-time awareness of critical situations and to allow them to complete missions from safe standoff

**GD Awarded \$138 M for Light Armored Vehicles**

London, Ontario, Canada -- The U.S. Army TACOM Life Cycle Management Command has awarded a

distances. It is ideal for dangerous reconnaissance missions such as entering buildings, caves and tunnels.

iRobot and Boeing developed the SUGV family of vehicles under a strategic alliance that began in 2007 as part of the Army's BCTM program.



## Contracts

### BAE Systems to Provide Bradley Engineering Upgrades Under \$34 Million Contract with U.S. Army

SANTA CLARA, California -- BAE Systems has received a \$34 million contract modification in support of engineering enhancements and technological updates for the Bradley Fighting Vehicle, one of the strongest vehicles in the Army in providing protection and safety to soldiers.

"This work demonstrates the importance of supporting life cycle management and why we significantly invest in our Readiness and Sustainment capabilities," said Joe McCarthy, vice president and general manager of the Heavy Brigade Combat Team for BAE Systems. "Bradleys are high performing, survivable vehicles and these types of engineering enhancements keep them operating to their maximum potential for our soldiers."

Bradley Combat Systems continue to provide outstanding survivability, mobility and lethality to U.S. soldiers in combat. The battle-proven Bradley fulfills five critical mission roles - infantry fighting vehicle, cavalry fighting vehicle, fire support vehicle, command vehicles and engineer squad vehicle - for the U.S. Army's Heavy Brigade Combat Teams.

The engineering enhancements under the contract award include:

- Improved digital architecture
- Embedded maintenance training
- Integrated survivability improvements

The majority of the work will be performed at the BAE Systems operations in Santa Clara, California and is anticipated to be completed in December 2011.

This contract modification was awarded by the U.S. Army TACOM Life Cycle Management Command.



## Defence Industry

### Elbit Systems` Brazilian Subsidiary, Aeroeletronica, Awarded a Framework Contract Valued at up to \$260 Million to Supply 30mm Unmanned Turrets to the Brazilian Army



Haifa, Israel -- Elbit Systems Ltd. ("Elbit Systems") announced that its Brazilian subsidiary, Aeroeletronica Ltda. ("AEL") was awarded a framework contract, valued at up to 440 million Brazilian Reals (approximately \$260 million) for the supply of UT30 BR 30 mm Unmanned Turrets to the Brazilian Army's Land Forces, as part of the Guarani Project.

This award follows an award of a contract to Elbit Systems in 2009 to supply several Unmanned Turrets in an open tender in which leading global manufacturers took part.

The contract calls for Elbit Systems' UT30 BR to be installed onboard a few hundred of Iveco 6X6 APCs, according to a schedule and a multi-year funding profile to be defined by the parties.

Joseph Ackerman, President and CEO of Elbit Systems, commented: "We are honored to have been awarded this significant contract by the Brazilian Ministry of Defense/Brazilian Army, a highly valued customer. The award is a major milestone for AEL in our continuing process to enhance local Brazilian capabilities and technologies. Winning such a prestigious project attests to our leadership in the field of innovative land solutions, and we hope other customers will follow, both in Latin America and throughout the world".



## Defence Industry

### QinetiQ`s Gunfire Detection System is US Military Solution of Choice

Reston, VA -- QinetiQ North America today announced that the U.S. Army and the U.S. Marine Corps have selected SWATS(r) (Shoulder-Worn Acoustic Targeting System) as their solution of choice for individual gunfire detection systems. In use today in Afghanistan and Iraq, SWATS is quickly becoming the global standard for wearable gunfire detection.

The U.S. Army selected SWATS for its Individual Gunfire Detection System (IGDS) program with an initial order for 13,500 units under an IDIQ contract for up to 30,000 units and training support. The U.S. Marine Corps also selected SWATS for its Man Wearable Gunfire Detection System (MWGDS) program with an order for over 900 units and training support. In addition to the U.S. military, SWATS has also been deployed with allied forces.

SWATS can detect the origin of incoming fire in less than one second to minimize casualties and help defeat unseen threats. QinetiQ North America developed SWATS in response to concerns about the high toll of small arms fire on military forces.

The system offers proven in-theater performance in a convenient, lightweight product that meets the highest military standards for rugged equipment. Weighing less than one pound and customizable to support diverse languages and military tactics, SWATS is a versatile solution for any combat force anywhere in the world.

"The ability to locate the source of incoming fire is essential for any combat mission," said Technology

Solutions Group President JD Crouch. "SWATS is the latest technology available in the QinetiQ suite of proven survivability products and solutions designed to protect military forces."



### Defence Industry

#### Renault Trucks Defense Receive New Orders from Indonesia



Renault Trucks Defense has signed two contracts with PT PINDAD (Persero) to supply vehicles type Sherpa light Scout and powerpacks kits fitted on the Panser, for the needs of Indonesian Armed Forces.

Renault Trucks Defense will provide to PT Pindad, a state Indonesian company supplier of equipment, the first units of Sherpa Light Scout with hard top cargo. The Indonesian Armed Forces has chosen the Sherpa light as recon vehicles to accompany the armoured Panser 6x6. Renault Trucks Defense will supply 12 units of powerpacks VAB 320 (engine, transmission, cooling system, drop box) to equip the Panser vehicles. Two years ago, Renault Trucks Defense sold 150 powerpacks to PT PINDAD.



### Defence Industry

#### Oshkosh Defense to Provide Additional M-ATV Protection Kits

OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation (NYSE:OSK), will deliver 800 protection kits for the MRAP All-Terrain Vehicle (M-ATV) following an order from the U.S. Army TACOM Life Cycle Management Command (LCMC).

"These protection kits are part of our ongoing work with the military to deliver exceptional M-ATV survivability against evolving threats on the modern battlefield," said Charlie Szews, Oshkosh Corporation president and chief executive officer. "The rapid production and delivery of these kits is the result of a close collaboration with our customer and our shared commitment to the Warfighters. Oshkosh is dedicated to supporting those who serve with world-class protection and mobility solutions."

The M-ATV is produced with factory-installed armor and also can accept add-on armor and protection kits. The vehicle's modular design allows bolt-on armor to be installed or repaired in the field. Using the Oshkosh TAK-4® independent suspension system, the M-ATV

can incorporate add-on protection kits while maintaining its full payload capacity of 4,000 pounds and a 70 percent off-road profile capability.

Oshkosh produces the M-ATV base, as well as tactical ambulance and Special Forces Vehicle (SFV) variants, for the U.S. military. The company has received awards to date for nearly 8,400 M-ATVs, as well as spare parts kits, upgrade kits and aftermarket support. Deliveries under this order are scheduled to be completed in summer 2011. The order has a ceiling price of \$80 million.



### Future Technologies

#### Successful demonstration of MAPS Mutual Active Protection System



Diehl BGT Defence successfully demonstrated the MAPS Active Vehicle Protection System on November 10 and 11, 2010, at the Federal Armed Forces Technical Centre WTD 91 Meppen, Germany.

The test campaign was witnessed by numerous representatives of the German Bundeswehr as well as military officials of allied armed forces and both national and international industry representatives.

During the test campaign, the MAPS Active Protection System, mounted on a FUCHS transport vehicle, defeated incoming anti-tank rockets and guided missiles including advanced models with tandem warheads. MAPS includes active and passive sensors for situational awareness, threat detection and fire control as well as highly agile interceptors (blast effectors) which destroyed all anti-tank weapons at safe distance from the defended vehicle. In addition to effective vehicle protection, MAPS accurately localizes enemy firing positions enabling rapid and precise counterstrikes by the armoured vehicle thus actively countering repeated attacks.



### Robots

#### Exoskeleton Enhances Warfighter Strength, Reduces Injury

San Antonio, USA -- American Warfighter can easily lift up to 200 pounds and significantly reduce knee and back injuries with emerging technology on display this week in the Army Strong Zone at the U.S. Army All-American Bowl.

The Human Universal Load Carriage, called HULC, is an anthropomorphic exoskeleton developed by Lockheed

Martin in coordination with the Natick Soldier Research, Development and Engineering Center, a research element of the U.S. Army Research, Development and Engineering Command.



"This is a robot that you can wear. When you move, it moves, and it will do everything you do," said Keith Maxwell, business development manager for Lockheed Martin. Maxwell modeled the HULC, demonstrating its capabilities during opening day of the Army Tech Zone adjacent the Alamodome, site of Saturday's high school All-American Bowl.

The HULC is designed to mirror a Soldier's body and support the lifting of loads up to 200 pounds. It enables rapid movement and preserves combat mobility while reducing combat fatigue.

"We started looking at the causes of injuries in the field and found 53 percent of all combat injuries were back injuries. So we took the initiative to look for ways to solve these problems. We came up with the HULC," Maxwell explained.

The HULC has gone through a complete redesign the past 18 months. It is currently being tested and evaluated at the RDECOM research center in Natick, Mass. Field tests for the HULC are scheduled for the end of the summer by both the Army and Marine Corps.

"This is absolutely focused on the American Warfighter and all of the jobs he or she will have to do. We've conducted user juries with the Army and Marine Corps to get feedback. Many of the suggestions, such as a longer-living battery, were implemented as a result of feedback from Soldiers," said Maxwell.

"When I first saw it, I thought it looked just like RoboCop. It's amazing to see how technology has advanced and helps every one of our Soldiers. It is like seeing the future right in front of me," said Antonio Villanueva, Jr., a visitor to the Army Tech Zone from San Antonio, exclaimed.

"I can only imagine how much weight Soldiers have to carry and it seems like this will be able to help. This will magnify human strength while they work on the battlefield. It looks to me like it may even be effective in the everyday workforce. It is remarkable to think about what they may have coming in the future," Jesse Villanueva, Antonio's brother, added.

## Robots

### TiaLinx, Inc. Announces Launch of the Cougar10-L All-Terrain Mini-Robot with Sense-Through-the-Wall Imager



NEWPORT BEACH, Calif. -- TiaLinx, Inc., a developer of miniaturized mm-wave radars with integrated radio and antenna arrays, today announced the launch of the Cougar10-L.

The all-terrain mini-robot system is capable of performing dual functions as Sense-Through-the-Wall Imager as well as an underground UXO and cavity detection unit controlled at an extended standoff distance.

The lightweight and agile mini-robot with tractable arm can be integrated with TiaLinx's variety of ultra-wideband (UWB), multi-Gigahertz RF sensors for extended standoff surveillance of a premise for moving objects as well as scanning for underground objects. TiaLinx's UWB RF Imaging development was sponsored by a SBIR Phase II from the Army's PEO AMMO, PM-CCS.

Through a software-controlled interface which is integrated into a laptop, Cougar10-L can be remotely guided at lengthened ranges to perform mission-critical tasks. Integrated multiple cameras allow day and night visibility of a premise under surveillance for enhanced situational awareness.

The RF Scanner is mounted on a lightweight arm and transmits wideband signals that are directional and can penetrate reinforced concrete wall at an extended range. In the receiver, a signal detector circuit is employed to capture the reflections from targets. Amplitude and delay information are then processed in an integrated signal processor.

"TiaLinx's Cougar10-L solution addresses two distinct functions: scanning and imaging concealed objects behind a barrier vertically as well as horizontally," commented Dr. Fred Mohamadi, Founder and CEO of TiaLinx. "The disruptive Sense-Through-the-Wall imaging technology from TiaLinx has been integrated with an easy-to-carry, lightweight mini-robot to operate at standoff, hence keeping the operator out of harm's way. The remote wired or wireless real-time imaging minimizes the Sense-to-Reaction time significantly. Cougar10-L is available for rapid fielding and it costs a fraction of the systems from other suppliers that have limited functionality designed for horizontal-only flat surfaces. Further modifications are ongoing to provide remote sensing of movements in multi-story buildings."

**Army**

**Iveco supplies military vehicles to the French armed forces**



Torino -- Iveco, a Fiat Industrial group company, in association with the French company Soframe - a subsidiary of the Alsatian Lohr Group - has been awarded a contract to supply multi-purpose military vehicles to the French armed forces.

The tender invitation was issued in 2007 by the Division of General Armaments (DGA), a part of the French Ministry of Defence.

The contract includes an initial supply of 200 vehicles worth around €160 million. This is part of a supply contract with optional subsequent releases of up to 2400 further units for a total of around €800 million.

The 8x8 special high-mobility military vehicles are supplied by Astra, a part of Iveco Defence Vehicles, the specialist company that provides tactical defence vehicles in a wide range of configurations, also specialising in the design and production of off-road construction and mining vehicles.

The vehicles intended for the French army, supplied with a partially armoured driver's cab, various types of demountable hook-lift body work, trailer towing and cranes for the recovery of military vehicles, ensures maximum crew protection with excellent operational flexibility and carrying capacity. The delivery will include maintenance and supply of spare parts.

The body and chassis equipment will be manufactured and assembled in France by Soframe, part of the Alsatian Lohr Group. The vehicle specification includes FPT Industrial Cursor engines, also produced in France, along with other high value components of French origin.

The contract, the result of the tender issued by the DGA in 2007 resulting in the selection of Iveco and Soframe, whose bid was rated as the best in technical and economic terms, represents the most complex and wide ranging contract in Europe in this sector in 2010 and among the largest awarded by the DGA.

With this important supply contract, Iveco, together with its partners of excellence, is consolidating its European market leadership in the military sector, to which it has always offered innovative solutions both for the vehicle and its advanced technologies applied to the specific military components, such as driver's cab protection and service and maintenance provisions, essential for vehicles supplied to this important sector, responding fully to the needs and requirements of the French armed forces.

The Fiat Industrial Group in France employs around 6,500 people and has a turnover of around €4 billion.

Iveco, in particular, is present with its commercial and service network dedicated to freight transport road vehicles in France along with the main offices and other establishments associated with Iveco Irisbus, the Iveco company that manufactures urban and inter-city buses and coaches. The country is also active through Camiva, a specialist company active in fire appliances as part of Iveco Magirus. All heavy-duty Fiat Powertrain Industrial Cursor engines are also produced in France, for both vehicles and stationary applications.



**Defence Industry**

**KONGSBERG logs increased scope of CROWS II framework agreement with the US Army**



KONGSBERG has signed a contract with the US Army increasing the existing CROWS II framework agreement with NOK 451 million (\$77.08 million) for purchase of spare parts.

KONGSBERG has also received purchase orders for spares and repairs valued NOK 364 million.

CROWS is a joint acquisition program for weapon stations for the US Army's vehicle programs. A common solution will result in substantial efficiency gains in respect of protection, training, support and further development.

The initial CROWS II framework agreement was disclosed on 22 August 2007.

The PROTECTOR Weapon Control System protects military troops by allowing the vehicle's weapons to be operated from a protected position inside the vehicle.



**Contracts**

**Renault Trucks Defense Receive New Orders for Syracuse Programme**



Versailles -- Renault Trucks Defense has signed with Thales a contract for supplying 21 units of vehicles type Premium, Midlum and Sherpa Light

carrier dedicated to the tactical stations of the Syracuse III military satellite communications program.

In 2009 Renault Trucks Defense has already sold 33 units of Sherpa light carriers. These new vehicles will be delivered in 2011.

## Contracts

### Harris Receives \$11 Million Order From USAF and U.S. DoD for Falcon III Handheld and Vehicular Tactical Radio Systems

ROCHESTER, NY -- Harris Corporation, an international communications and information technology company, has received an \$11 million order to provide the U.S. Air Force and the U.S. Department of Defense (DoD) with Falcon III multiband handheld radios and vehicular amplifier systems.

The U.S. Air Force is acquiring the Harris Falcon III AN/PRC-152(C) multiband, multimission handheld radios to provide line-of-sight and beyond-line-of-sight tactical communications. The AN/PRC-152(C) is the most widely fielded NSA Type-1 certified, JTRS SCA-certified handheld radio, with more than 130,000 units deployed worldwide.

The DoD also is acquiring Harris Falcon III AN/PRC-110 systems for use in multiple variants of the Mine Resistant Ambush Protected (MRAP) vehicles. The AN/VRC-110 is an amplifier adapter that includes two AN/PRC-152(C) radios, which serve as handheld transceivers.

"We continue to deliver Falcon III radios to the Air Force and provide airmen with secure tactical communications, which is vital to success in a wide range of mission areas," said Brendan O'Connell, president, U.S. Department of Defense business, Harris RF Communications. "The AN/PRC-152(C) and its vehicular adapter are also widely deployed by all branches of the U.S. Department of Defense and key U.S. allies. The AN/VRC-110 is installed in the majority of the DoD's MRAP vehicle fleet, providing both line-of-sight and beyond-line-of-sight communications."

The Air Force and DoD are acquiring the AN/PRC-152(C) radios and AN/VRC-110 systems via the Consolidated Single-Channel Handheld Radio (CSCHR) contract through the Joint Program Executive Office for the Joint Tactical Radio System (JTRS). The AN/PRC-152(C) was developed using the JTRS Enterprise Business Model (EBM). The EBM encourages companies to develop next-generation solutions in tactical communications using their own investment capital to integrate JTRS waveform software. In doing so, the EBM stimulates competition, increases innovation, and reduces costs through software re-use.

## Future Technologies

### Advanced Defense Vehicle Systems Withdraws from Ground Combat Vehicle Program Competition

Lake Orion, MI -- Advanced Defense Vehicle Systems (ADVS) has recently decided to withdraw as a competitor for the Army's Ground Combat Vehicle (GCV) Program.

The GCV Program is the Army's initiative to develop an armored vehicle that will improve survivability and increase fighting capability beyond that of the current arsenal. Under the current program, the contracting efforts have been divided into three stages. The first stage will not require producing a prototype demonstration vehicle and, in fact, the Army will wait a total of seven years to field a weapon system.

After reviewing the Army's continuing GCV strategy, ADVS has decided to withdraw from the competition. According to ADVS' CEO, James LeBlanc, Sr., "This drawn-out Army process does not fit with ADVS' rapid development and fielding capabilities." For the initial development stage, the Army is willing to spend up to \$450 million per contract awarded; which could total up to \$1.35 billion. ADVS has shown with similar combat armored vehicles for foreign military use and with other major weapon system contracts that they can design, develop, integrate, prototype and field such an advanced system in one to two years. ADVS focuses on survivable vehicles that meet customer requirements to rigid specifications at a reasonable development cost, to be fielded rapidly and to protect the soldiers today and in the future. Just recently, ADVS delivered the first production of the ADVS 6x6x6 Desert Chameleon armored personnel carriers to the Kuwait Ministry of Interior (KMOI). ADVS began discussions with the KMOI in 2007 to design a security vehicle that is able to meet their specific mobility, survivability, and performance requirements and customer budget. ADVS designed, manufactured, tested, and completed the vehicles for delivery by fall 2010, a less-than three-year full development to production timeline duration.

While ADVS supports the Army's concept, they encourage the U.S. Department of Defense to review the ADVS strategies and past performance and consider ways of developing and fielding vehicles quicker and more economically. Such a rapid process is counter to the current GCV strategy; though supportive of the philosophy of Secretary of Defense, Robert Gates.

## Defence Industry

### Rheinmetall and the Dutch Army conclude framework ammunition supply agreement

The Rheinmetall Group of Dusseldorf, Germany, has concluded a framework agreement with the Royal Dutch Armed Forces to supply the Netherlands with a wide array of different ammunition types.

Order volume could reach Euro 200 million over a ten-year timeframe.



The anticipated order volume over a 10-year period is Euro 200 million.

Under the agreement, the Royal Dutch Armed Forces have already placed an initial order in 2010 for modular propelling charges for the PzH 2000 self-propelled howitzer.

This far-reaching agreement reinforces Rheinmetall's position as a leading supplier of large- and medium-calibre weapons and ammunition for NATO member countries and other friendly nations.

The Dutch Army already relies on Rheinmetall for nearly all its ammunition needs, including practice and service ammunition in multiple calibres. This long-term framework agreement provides the Dutch military with assured access at short notice to a comprehensive range of top quality ammunition, while simultaneously contributing to simplified procurement flows.

Built on mutual trust, the new framework contract symbolizes the longstanding relationship between Rheinmetall and the Royal Dutch Armed Forces, and lays the groundwork for an enduring intensification of cooperation that benefits both parties.

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### Future Technologies

#### Boeing and SAIC Submit Revised Ground Combat Vehicle Proposal to US Army

ST. LOUIS -- The Boeing Company has teamed with Science Applications International Corporation (SAIC) to submit a revised proposal for the technology development phase of the U.S. Army's Ground Combat Vehicle (GCV) program.

The team originally submitted a proposal in May, but the initial Request for Proposal was rescinded and a second request was issued in November.

The SAIC-led GCV team, known as Team Full Spectrum, remains intact from its original proposal effort. SAIC will be the prime contractor, with Boeing, Krauss-Maffei Wegmann and Rheinmetall Defence as subcontractors. The team's offering draws on experience gained from the Puma and Manned Ground Vehicle programs and will be built in the United States with a team of experienced American small- and mid-tier supplier businesses.

"Team Full Spectrum has again put together an exceptional proposal to answer the Army's requirement for a modern infantry fighting vehicle," said Charles Toups, vice president and general manager of Boeing Network and Tactical Systems. "We have focused on the four key elements the Army has emphasized – capacity

for a nine-soldier dismounted squad; a schedule that will allow production in seven years; force protection; and full-spectrum operations from civil relief through full combat operations. Our proposal offers mature technology for unequaled capability at the lowest possible risk."

The team's focus is to provide a solution that balances the technology the customer requires with the speed it needs to meet operational goals.

"Our offering is designed to protect soldiers by decreasing their burden of mechanical tasks so they can concentrate on accomplishing their mission," said Deb Alderson, SAIC group president. "In addition, our team's high technical readiness levels will help us meet the Army's timeline."

The GCV program will replace aging fighting vehicles currently in the Army's inventory with a single platform capable of carrying an entire squad and protecting that squad from improvised explosive devices and other threats of modern warfare. The Army will award up to three technology demonstration contracts worth approximately \$450 million each, with a 24-month time frame for development. The contract awards are expected in the second quarter of this year.

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### Future Technologies

#### BAE Systems-Northrop Grumman Team Submit Bid For An Affordable, High-Performing Ground Combat Vehicle Solution

ARLINGTON, Virginia -- The BAE Systems-Northrop Grumman team submitted a proposal for a U.S. Army Ground Combat Vehicle (GCV) that emphasizes affordability, performance and future scalability.

"Our proposal delivers an affordable, high-performing infantry fighting vehicle built from the ground-up that satisfies the needs of our soldiers today and has room for technological growth in the years ahead," said Mark Signorelli, vice president and general manager of Ground Combat Vehicle at BAE Systems.

The BAE Systems-Northrop Grumman GCV offering will be the first combat vehicle designed from the ground-up to meet the current IED-threat environment. The team offering brings more affordability, survivability, mobility and versatility to the Army and is scalable to the level of protection required for a variety of operations.

The team's hybrid electric drive propulsion system builds on decades of industry development, production and support in a wide range of applications. It allows the BAE Systems-Northrop Grumman GCV to offer exceptional force protection and mobility in a lower weight vehicle while provisioning for growth in power requirements as new technologies are matured and integrated into the platform. Hybrid electric drive enables GCV to meet the demands of current operations while providing a robust platform for future technology



integration and growth at low risk and cost.

"Northrop Grumman is proud to be a part of the BAE Systems GCV team. Together, we have designed an infantry fighting vehicle that will meet or exceed the stringent GCV requirements," said Joe G. Taylor, Jr., Northrop Grumman Information Systems' vice president for Ground Combat Systems.

The BAE Systems-Northrop Grumman Ground Combat Vehicle team includes: QinetiQ North America, iRobot Corporation, MTU and Saft. As the prime contractor, BAE Systems will lead the overall program management, systems integration, vehicle design, structure and logistical support as well as readiness and sustainment of the platform. Northrop Grumman will serve as the C4ISR lead. QinetiQ North America will provide the electric drive propulsion system or E-X-Drive™ for Ground Combat Vehicle. The E-X-Drive is the key component of the hybrid electric drive system. iRobot will serve as the unmanned ground vehicle integrator and enhance the capability to detect pedestrians and obstacles of interest. MTU will provide the engine and power generation for GCV and Saft will provide the battery and energy storage system.

The GCV program is a development effort headed by the U.S. Army to develop the first combat vehicle designed from the ground-up to operate in an IED-threat environment.



### Defence Industry

#### FN Herstal wins French competition for 7.62 Machine Guns

The French DGA (Direction Generale de l'Armement) has selected the MAG machine gun manufactured by Belgium-based FN Herstal to replace its existing AN F1 machine guns.

The DGA confirmed this decision on December 15, 2010 as a result of an international competition.

The FN MAG machine guns will be mounted on the existing vehicles within the French army. Transformation kits will be supplied as part of the contract to enable rapid conversion into dismounted weapons.

The contract includes the manufacture and supply of more than 10,000 MAG machine guns (7.62x51mm NATO caliber) over a period of several years.

An order for the first 500 units has already been placed by the DGA for delivery in 2011.



### Defence Industry

#### General Dynamics Awarded \$44 Million for Saudi Tank Work

STERLING HEIGHTS, Mich. -- General Dynamics Land Systems, a business unit of General Dynamics, was recently awarded two contracts worth \$44 million for the Kingdom of Saudi Arabia's tank program.

The contracts were awarded by the U.S. Army

TACOM Lifecycle Management Command on behalf of the Royal Saudi Land Forces. This work is part of a plan by the Kingdom of Saudi Arabia to upgrade its entire fleet of 314 tanks.



The first contract of \$37.1 million is to provide materials and labor for the conversion of 42 M1A2 tanks to an M1A2S configuration for the Kingdom.

The M1A2S will possess defined capabilities that increase lethality while limiting obsolescence. The conversion work will be performed by current employees at the Joint Systems Manufacturing Center in Lima, Ohio, with an estimated completion date of September 20, 2012.

The second contract, worth \$6.9 million, will provide the tools and equipment needed to outfit a production facility in Saudi Arabia for future conversion of M1A2 tanks to the M1A2S version. Work will be performed in Sterling Heights, Mich., with an estimated completion date of August 1, 2012.

These contracts extend work started in 2008 to design, develop, convert, implement and test a hybrid configuration of the M1A1, M1A2 and M1A2 System Enhancement Package (SEP) tank variants for the Kingdom of Saudi Arabia.



### Defence Industry

#### New combat armour for Australian soldiers comes off ADA production line



The first batch of the new Tiered Body Armour System (TBAS) for Australian soldiers in Afghanistan has come off the production line at Australian Defence Apparel (ADA) in Bendigo, creating an extra 50 local jobs.

Minister for Defence Materiel Jason Clare inspected the production line in Bendigo today.

"The new body armour system is lighter, fits better, is

more comfortable and provides more mobility than the existing body armour our troops use," Mr Clare said.

"At the moment our soldiers in Afghanistan wear either the Modular Combat Body Armour System (MCBAS) or the Eagle Marine body armour.

"MCBAS body armour is very effective, but it's heavy. It was designed for conditions in Iraq where troops weren't regularly required to patrol on foot.

"In Afghanistan the feedback from troops was it made it difficult to move around and do their job, so Defence made an urgent purchase of the lighter Eagle Marine body armour last year from the United States.

"The new TBAS is lighter than both. It also allows troops to insert different types of ballistic plates in the vest depending on their mission.

"Because it is Australian-made and we own the design we can also make adjustments and improvements at any time to suit the needs of our troops."

Mr Clare said Defence was planning for soldiers from Mentoring Task Force 3 to train in this body armour in April as part of their Mission Rehearsal Exercises and deploy with it when they head to Afghanistan later this year.

"ADA will produce around 1,600 tiered body armour systems over the next few months," Mr Clare said.

"Over the past 18 months TBAS has been tested and evaluated by Special Forces, Navy clearance divers and soldiers from the 1st Brigade in Darwin, 3RAR in Sydney and 2 RAR in Townsville.

"They told us this was the body armour they want to wear in Afghanistan.

"They said it integrates better with their combat equipment and provides much greater freedom of movement, especially around their shoulders. This enables soldiers to get into better firing positions and manoeuvre more freely on the battlefield.

"The protection of our frontline troops is our top priority. That's why Defence and ADA have developed, tested and produced this new body armour.

"The workers here at ADA can be very proud of the work they are doing. It could save a soldier's life."

Mr Clare said ADA had a long and proud history of involvement with the Australian Defence Force.

"They first started making uniforms for the Defence Force here in 1912," Mr Clare said.

"For almost a century ADA has been supporting Australian troops and local jobs."

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## Defence Industry

### SAIC-led Industry Team Continues to Pursue Ground Combat Vehicle Program

MCLEAN, Va. -- Science Applications International Corporation (SAIC) announced today it will continue to lead a team pursuing the U.S. Army's Ground Combat Vehicle (GCV) program.

The SAIC-led team submitted a revised proposal for the technology development phase of the Infantry Fighting Vehicle (IFV) being developed under the GCV

effort to the U.S. government. The team originally submitted a proposal in May 2010, but the initial Request for Proposal was rescinded by the Army, and a second RFP issued in November 2010.



"GCV is of vital importance to our nation as it will be the first combat vehicle designed to be adaptable to the full range of military operations, while protecting our soldiers from current and emerging threats," said Deborah Alderson, SAIC group president. "Our offer continues to focus on delivering a newer, highly survivable, more lethal, off-road IFV than previous offerings we know of."

SAIC's Team Full Spectrum consists of three large enterprises – The Boeing Company, Krauss-Maffei Wegmann (KMW), and Rheinmetall Defence (RMD). The team, called Team Full Spectrum, is proposing a vehicle it believes is well-positioned to meet the Army's accelerated development needs because of its MGV and Puma heritage. The Puma is the only production-ready IFV designed from the ground up since Sept. 11, 2001, and incorporates the lessons of the wars in Iraq and Afghanistan. The team will also incorporate lessons learned from the Future Combat Systems Manned Ground Vehicle effort.

"Our offering is designed, first and foremost, to protect our Soldiers, to unburden them from mechanical tasks with the latest technology thus allowing concentration on the cognitive, and to empower them to accomplish their mission," said Alderson. "In addition, high technical readiness levels will help meet the Army's timeline of delivering the first vehicle in 7 years."

The U.S. Army's Ground Combat Vehicle program is part of a holistic Army plan to modernize its combat vehicle fleet.

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## Future Technologies

### Esri UK led industry team demonstrates joined up geospatial and intel capability to counter IED threat

A team of leading defence industry companies, led by geospatial capabilities specialist, Esri UK, has developed an interoperability exercise demonstrating how a joined up approach to exploiting multiple intelligence sources can be used to better inform decision making, and help protect British troops against the threat of IEDs (Improvised Explosive Devices).

The interoperability exercise was unveiled today, 25 January 2011, at the Defence Geospatial Intelligence 2011 Conference in London. The team comprises Esri

UK, BAE GXP, ITT Envi, i2, Cobham MMI, Systematic and IHS Jane's. Satellite imagery for the exercise was supplied by DigitalGlobe.

The use of IEDs accounts for the highest percentage of coalition and civilian casualties in current operations in Afghanistan. In response the volume of data being captured has increased from a growing range of diverse sources, including human intelligence from patrols and other sources, imagery intelligence from satellite and aerial reconnaissance and signals and sensor intelligence. Much of this information is captured using different platforms and systems, often in different formats.

"The challenge is to bring this mass of data together so that it can be effectively exploited to support the full spectrum of operations and to save lives", said Nick Rigby, Non Executive Director, Esri UK. "The good news is that whatever the source, all this information has a place and time, so can be geographically referenced".

The exercise shows how a Geographic Information Systems (GIS), such as Esri's ArcGIS system, allows these multiple intelligence feeds to be brought together, analysed by different parties, and the results overlaid onto maps and imagery that can be shared at many levels. This is used to assist decision making at each stage, from Orientation, to Analysis, Planning and Action to Post Operational Review. Areas supported include intelligence gathering, threat assessment, mission planning and rehearsal, patrol route planning, operational tasking and post action network disruption assessment.

"As part of Esri UK's long term commitment to its UK MoD customer, we took the initiative to bring together best of breed providers to address this challenge and demonstrate how more can be achieved with available technology" said Nick Rigby.



## Exhibitions

### Iveco Defence Vehicles at IAV



After another year of intensive development of its extensive product range, Iveco Defence Vehicles is exhibiting at the IAV show at Excel, with a focus this year on the innovations which have been implemented both on existing platforms and on newly released vehicles, such as the 8 x 8 Amphibious SUPERAV, and the 4 x 4 MPV.

One of the key considerations which has informed Iveco's development programme in recent years is the increasing requirement of users to have vehicles which are effective not only in a specific environment (be it North West Europe or Afghanistan), but which can

operate across a whole range of scenarios. This philosophy is outlined in the press release below.

### The Pressing Need for Multi-role Vehicles

The deployment of increasing numbers of mine protected vehicles to operations in Afghanistan highlights a pressing problem for those nations which are trying to optimise the equipment used by their forces. As became evident first in Iraq and subsequently in Afghanistan, vehicles designed to operate in a conventional war in North West Europe have serious limitations when operating in asymmetric warfare against an agile enemy whose weapon of choice is the IED. This is not to say that the use of IEDs and booby trap devices is anything new; rather, it is a recognition that, in conventional warfare, such tactics tended to be used as an adjunct to combat operations rather than a substitute for them. Thus, when a vehicle was likely to meet such threats only occasionally during its service life, relatively little design effort was committed to protect against attacks of this sort. The focus for vehicles designed for conventional war-fighting was far more on ballistic protection, with mine and lateral blast attacks tending to receive less attention.

As the threat spectrum changes, so the design imperatives alter, and there is little doubt that, in the case of Afghanistan, the attacker has proved able to adapt faster than vehicle designers. By operating inside the vehicle design cycle, he is able to keep on the front foot, leaving the designer to react, rather than being able to take the initiative. This in turn leads to the development of bespoke vehicle designs, driven by the demands of a particular operational environment. Such designs may be highly effective in their designed operational envelope, but they will tend to be procured in relatively small numbers, with a consequently high unit cost. Critically, such theatre specific designs are likely to be of only limited use in an operational role other than that for which they were designed. By way of example, the majority of MRAP type vehicles tend to be large, heavy and with a high ground clearance in order to maximise their blast protection. When deployed on operations where mobility and terrain accessibility are at a premium, a vehicle with such characteristics is very unlikely to perform well, with its compromised mobility tending to channel it onto routes where it is vulnerable to ballistic attack. In consequence, much of the investment in theatre specific equipment will bear little fruit when the aim is to equip an agile and versatile army capable of a wide range of operations.

In order to address this problem, Iveco Defence Vehicles has focused on the development of families of multi-role vehicles which are capable of being adapted to meet the needs both of conventional warfare, and of asymmetric operations. The optimum design compromise can only be achieved by having, from the outset, a good idea of the overall mission spectrum which a platform may be required to undertake, and then to design a base vehicle which can be readily adapted to meet those roles, whilst reducing as far as possible the effects of design compromise on the platform's discreet

performance in each role.

In order to do this, the design team identifies from the outset the payload, survivability, mobility, capacity and, where relevant, firepower characteristics of each potential role. This then allows the identification of trade space between each role to enable the base vehicle design to be optimised. Much depends on accurate predictions of likely role requirements, and here the designer is, to a degree, at the mercy of the customer, as each will have their own idea of what is required. It is at this point that the likely gross vehicle weight will be identified, as well as key drivers such as the protection scheme and the required mobility level.

An outstanding example of this concept in action is Iveco's Light Multirole Vehicle. Here, the design team were given the brief to develop a vehicle which would be capable of providing differing levels of protection depending on the tactical situation. Thus, if the vehicle was required to operate in a low risk area with a maximum payload, integral composite armour panels in the doors and body panels could be substituted with lighter panels better tuned to the threat. By contrast, in high threat areas, the highest levels of ballistic and mine protection could be provided. On the original short wheel base version, this modular approach has been extended to such other areas as the rear load pod and the crew cell roof. It has now been extended further by the development of the vehicle design to encompass a long wheel base model, with both short (two man) and extended cabs, providing greater capacity. At the same time, the vehicle's ballistic protection levels have been maintained, whilst its GVW has increased and its kerb weight has been driven down, increasing payload. Anti-mine protection has undergone a significant uplift, reflecting its increasing use as a patrol vehicle in theatre, and many theatre specific modifications have been undertaken. As a result, a vehicle originally designed primarily for a command and liaison role on a conventional battlefield has become a highly capable patrol vehicle in a very different operational environment. This is the strength of the multi-role vehicle concept in action.

A similar approach has been adopted for the second family of multirole vehicles developed by Iveco - the 4 x 4 and 6 x 6 Medium Protected Vehicle. Developed in conjunction with KMW, MPV is based on the proven commercial heavy duty Trakker truck chassis and, at a GVW of between 18-25 tonnes, fills the capability gap between the 8x8 Centauro family and LMV. It was quickly established during feasibility work that the Trakker chassis offered an optimum combination of durability, mobility, payload and performance to accommodate the needs of each of the foreseen roles. KMW's innovative top hamper design comprises an integrated protected driver's compartment and mission module together with an unprotected stowage area to the rear of the vehicle. The large stand-off achieved by using a truck

chassis, together with a robust mission module design, ensures that the vehicle provides outstanding anti-mine

protection, whilst the top hamper can be readily configured to a variety of specialist roles, including route reconnaissance, IED disposal, ambulance, EW, command post, communications vehicle or personnel carrier.

Although different in design concept to the LMV, MPV is underpinned by the same multi-role philosophy, with its emphasis on designing vehicles with utility across a large spectrum of operational environments. With defence budgets under pressure and commitments increasing, the use of such multi-purpose vehicles is key to the maintenance of an effective military capability across the spectrum of conflict.



## Defence Industry

### 2,000th U.S. Army Vehicle Refurbished In-Theater by Oshkosh Defense

OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation, commemorated its refurbishment of the 2,000th U.S. Army vehicle in the Theater-Provided Equipment Refurbishment (TPER) program.

Oshkosh collaborates with the U.S. military on the TPER program, which eliminates the cost of shipping vehicles to the U.S. for repairs and returns the trucks to soldiers stationed in-theater more quickly.

“Many of the heavy and line-haul trucks that come to this facility have seen almost a decade of rugged, in-theater use,” said Mike Ivy, vice president and general manager of Army Programs for Oshkosh Defense. “The TPER program allows us to significantly reduce the cost of refurbishing the Army’s vehicles, and cuts maintenance cycle time by at least 60 days compared to U.S.-based repairs – more quickly getting the trucks back out where they are needed. The 2,000th truck that we’re delivering to the Army today represents the success of this program and our combined commitment to supporting Soldiers as close to point of use as possible.”

Oshkosh executives and Army officials gathered at Oshkosh’s Defense Logistics Center in Kuwait to celebrate the milestone and pay tribute to Oshkosh employees, as well as the U.S. Army staff, who support the TPER program. An Oshkosh Heavy Equipment Transporter (HET), part of the Army’s Family of Heavy Tactical Vehicles (FHTV), was the 2,000th refurbished vehicle.

The TPER program restores battle-damaged and heavily worn vehicles from the Army’s FHTV and

line-haul fleets to the military's strict equipment-readiness standards so they can be returned to the field. The military departments involved in the TPER program include TACOM Life Cycle Management Command (LCMC), the Defense Logistics Agency (DLA), and the Defense Contract Management Agency (DCMA).

The DCMA and Oshkosh's quality-assurance offices work together to ensure vehicles are restored to full mission-capable operability. The Kuwait facility sees as many as 60-65 vehicles a month that need anywhere from 300-1,000 replacement parts. To meet these requirements, Oshkosh collaborates extensively with TACOM and DLA to maintain a multifaceted supply-chain management approach.

Oshkosh Defense provides aftermarket service and support with a full life-cycle approach. The company has led customer service projects at more than 100 locations globally, including in-theater. These efforts, along with factory-trained field service representatives (FSRs) and Web-based parts support ensure customers can access service, repair and parts distribution in every corner of the globe, at any time of day. More than 700 Oshkosh service personnel are currently deployed across the U.S. and abroad, including more than 280 FSRs in Afghanistan.



### Training And Simulators

#### **Lockheed Martin Simulation, Training & Support is being awarded a \$7,360,467 modification to a cost plus fixed-fee contract**

This award is for the National Cyber Range (NCR) program.

The contractor will build on the preliminary design created in Phase I and tasks that have been accomplished in Phase II to date. At the completion of the revised Phase II program, the contractor will demonstrate the capabilities of the flexible automated Cyber Test Range NCR. The Phase I and Revised Phase II deliverables including the Concept of Operations and the Detailed Engineering Plan (DEP) are the basis of the revised Phase II effort. Work will be performed in Orlando, Fla. (69.810 percent); Cherry Hill, N.J. (16.262 percent); Princeton, N.J. (4.073 percent); Columbia, Md. (0.120 percent); Albuquerque, N.M. (1.033 percent); San Antonio, Texas (0.002 percent); Washington, D.C., (8.700 percent). The work is expected to be completed July 7, 2011. The Defense Advanced Research Projects Agency is the contracting activity.



### Defence Industry

#### **BAE Systems to Provide Thermal Weapon Sights to Canadian Army**

LEXINGTON, Massachusetts -- BAE Systems will

provide Canadian soldiers with thermal weapon sights that improve their situational awareness and survivability.

Rheinmetall Canada Inc., a provider of the Rheinmetall Defence Group's range of products in Canada, will integrate BAE Systems' uncooled thermal weapon sights with the 40mm grenade launcher's fire control system as part of the Canadian Army's Close Area Suppression Weapon System (CASW). BAE Systems' thermal sights will enhance weapon functionality and mission effectiveness by allowing for targeting independent of darkness and common battlefield obscurants.

"BAE Systems understands Rheinmetall Canada's urgent need to deliver Close Area Suppression Weapon Systems to the Canadian Department of National Defense in support of their soldiers' operational needs," said Dennis Long, program manager for BAE Systems. "Our sights provide a tremendous day and night advantage in detecting, observing, and engaging the enemy. Simply put, they help soldiers achieve their missions and return home safely."

The company now provides thermal weapon sights to eight countries. The U.S. Army recently awarded BAE Systems a \$123 million contract for continued production of thermal weapon sights. That order - the most recent under a five-year, indefinite-delivery/indefinite-quantity contract - increases BAE Systems' total thermal weapon sight contract value to more than \$1 billion since 2004.

BAE Systems has delivered more than 91,000 thermal weapon sights to support operations of the U.S. Army and its allies in Iraq and Afghanistan.

The company produces light, medium, and heavy thermal weapon sights using the company's MicroIR uncooled infrared sensor technology to generate superior infrared imagery without the need for bulky, power-consuming cryogenic cooling equipment. BAE Systems has completed rigorous field testing of its thermal sites, demonstrating their ability to withstand harsh battlefield environments.

BAE Systems has operated in Canada since 2000. The company has a strong track record in delivering economic benefit by partnering with domestic industries and delivering on offset commitments.



### Defence Industry

#### **EFV Prototypes Successfully Complete Tests, Exceed Threshold by 90 Percent**

STERLING HEIGHTS, Mich. -- The U.S. Marine Corps' latest-generation Expeditionary Fighting Vehicle (EFV) prototypes have completed the required 500-hour reliability growth test at the Marine Corps' Amphibious Vehicle Test Branch, Marine Corps Base Camp Pendleton, Calif., demonstrating reliability that exceeds the testing threshold by 90 percent.

The raw score performance of the vehicles in the reliability testing is 31.2 hours mean time between

operational mission failure, nearly double the 16.4- hour performance required for test success. In addition, vehicle operational readiness rates steadily remained at 97 percent throughout testing.



General Dynamics delivered seven new prototype vehicles to the Marine Corps in 2010. Reliability growth testing began in October 2010. The vehicles' performance indicates the program is on track to successfully complete the System Development and Demonstration-2 phase.

All reported preliminary failures are low-consequence issues, a tribute to the rigor and commitment of the EFV team, and the most significant aspect of this testing. No systems redesign work is required as a result of test findings.

These indicate significant endorsement of the "design for reliability" concept and processes, as well as the General Dynamics Land Systems team's capabilities and discipline.

The EFV program is Earned Value Management System (EVMS) certified. EVMS measures actual performance of work scope and the associated cost and schedule versus an agreed-to baseline plan, while using disciplined means of baseline change control for documenting any changes to the agreed baseline plan. EVMS is a best-practice standard, required by the Office of Management and Budget and the Federal Acquisition Regulation.

The Expeditionary Fighting Vehicle is the U.S. Marine Corps' next-generation amphibious combat vehicle. It features superior water speeds of up to 25 knots, and an operating sea range of 56 nautical miles. On land, the EFV travels at speeds of up to 42 mph and has an operational range of 300 miles.

The fully stabilized Mk 46 weapons station significantly bolsters lethality, and the EFV's blast protection is far superior to the current system. EFV's Command Variant represents a major leap in command and control on the move and situational awareness.

## Contracts

### U.S. Army Awards Raytheon \$51.5 Million Contract for Improved Explosive Device Defeat System

INDIANAPOLIS, Jan. -- The U.S. Army has awarded Raytheon Company a \$51.5 million firm-fixed-price contract to produce a system to defeat improvised explosive devices.

Work will be performed at the Raytheon Technical Services Company LLC site in Indianapolis. Further details will not be made public.

Raytheon Company, with 2009 sales of \$25 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 88 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 75,000 people worldwide.

## Exhibitions

### CDS Defence Support at International Armoured Vehicles exhibition

CDS Defence Support will have an exhibition stand (stand nr 563) at International Armoured Vehicles, Excel London on 8-9 February 2011.

Visitors will be able to find out more about the cost effective, mission-critical engineering support services that CDS provides to Prime Contractors, the Government and internationally.

"We employ hand-picked, highly qualified and vetted ex- military personnel giving us the capability to support major military equipment programmes, both for long term projects and Urgent Operational Requirements," said CDS Defence Support Director, Richard Bradley.

CDS specialisms include bid support, technical publications, Integrated Logistic Support (ILS), training, information assurance and safety and risk consultancy. The company works to all military standards.

"CDS can provide bespoke project teams to be based on clients' premises or any location worldwide," added Mr Bradley.

The company is a Ministry of Defence approved supplier under the FATS/3 contract and operates BSI certified quality and information security management systems.

Over the past 40 years CDS has specialised in the provision of Integrated Logistics Support (ILS), technical documentation and safety consultancy to organisations in the UK Defence Sector.

CDS has extensive experience of providing support services for a variety of armoured vehicle platforms such as: Mastiff; Wolfhound; Vixen Plus; R-WMIK and Foxhound.

"We hope that IAV will offer us an opportunity to demonstrate our innovative approach, speed to delivery and expertise in the armoured vehicles sector, to a diverse range of organisations looking to improve their support experience and effectiveness," said Mr Bradley.

## Future Technologies

### SELEX Galileo receives EUR 5.3M export order for acoustic weapon location systems

SELEX Galileo, a Finmeccanica Company, has been awarded a contract for EUR 5.3M to supply 2 further Hostile Artillery Location (HALO) systems to an existing non-NATO export customer. More than 25 HALO systems have been sold to customers around the world to date.

HALO is an acoustic weapon locating system. It detects sound waves generated by gun or mortar fire and other explosions and uses data processing techniques to accurately determine the location of enemy weapons. The systems provide troops with timely information on where the enemy is firing from, and data precise enough to engage the threat without risking harm to civilian populations.

Colin Horner, VP land systems at SELEX Galileo said "This follow-on order reinforces HALO's position as the world's leading acoustic weapon location system. HALO's proven track-record of high performance and reliability makes it the clear choice for armed forces deployed on global operations".

HALO systems are in service with six major armed forces internationally including the UK, US and Canada. The systems are used daily on current operations and have shown to be extremely resilient even in extreme temperatures well outside the original specification of the system.



## Defence Industry

### Skydex Expands Convoy Decking Protection for Thousands of Oshkosh M-ATVs Deployed in Afghanistan



Centennial, CO -- In a multi-million dollar deal with Oshkosh Defense, SKYDEX Technologies, Inc. will deliver additional blast-mitigating decking for 2,875 Oshkosh M-ATVs specially designed to handle the rugged terrain in Afghanistan.

Oshkosh has made SKYDEX convoy decking a standard part of the new M-ATV's rear section since production began in 2009. Oshkosh has now ordered additional decking to outfit the driver, gunner and commander sections in the front of the vehicle. Deliveries will begin in March and continue throughout 2011. "IED (improvised explosive device) blasts in Afghanistan are at record levels - and they are responsible for most of the casualties in Afghanistan," said SKYDEX President and CEO Mike Buchen. "So SKYDEX is proud to be making a growing contribution

to protecting American soldiers in combat there."

The SKYDEX Convoy Deck has already been installed in thousands of Mine Resistant Ambush Protected (MRAP) vehicles in Afghanistan and Iraq, including the Buffalo and Cougar, both manufactured by Force Protection. Last month, General Dynamics Land Systems - Canada ordered SKYDEX's patented blast-mitigating decking for 550 of its Stryker M-ATVs now in service in Afghanistan.

Independent testing demonstrates that SKYDEX blast-mitigating technology greatly reduces the threat of lower leg injuries by diminishing the force of an IED blast reaching personnel aboard an armored vehicle. That testing was done according to NATO's STANAG 4569 protection standards and thresholds. It shows that at a typical blast force of 12 meters per second, personnel aboard an armored vehicle without the SKYDEX Convoy Deck face a 100 percent chance of injury. Adding the SKYDEX decking drastically reduces the chance of injury to about 10 percent. STANAG 4569 is a NATO Standardization Agreement covering the standards for "Protection Levels for Occupants of Logistic and Light Armored Vehicles." Those standards cover strikes from kinetic energy, artillery and IED blasts.

The importance and value of the SKYDEX Convoy Deck was underscored recently in a Safety of Use Message issued to units in the field in Afghanistan by the Joint Program Office for MRAP, after that office received reports that some soldiers were removing the SKYDEX protective flooring from their vehicles to create additional space for gear inside the crew compartment. "Some soldiers in Afghanistan may be jeopardizing their safety by removing an important piece of safety equipment," Nathaniel Parady of the Joint Programs Office wrote recently in Knowledge - Official Safety Magazine of the U.S. Army. "(Soldiers are being urged) to leave the floor coverings in place. In vehicle-level blast testing, the floor coverings have proven to reduce the risk of lower leg fractures by absorbing blast waves and lessening the pressure transmitted into the body. Removing the floor coverings can reduce a crewmember's ability to survive the blast."

The Safety of Use Message stated clearly that an armored vehicle is not mission capable unless its blast-mitigating decking is in place.



## Exhibitions

### Oshkosh To Display M-ATV Vehicle At International Armoured Vehicles

LONDON, UK -- Industry-leading global designer and manufacturer of tactical military trucks and armoured wheeled vehicles, Oshkosh Defence will be showcasing their M-ATV vehicle capabilities at International Armoured Vehicles Exhibition, taking place on the 7th to the 11th February, at the ExCel Centre, London.

As calls from across the globe cry out for improved equipment to be provided to troops in Afghanistan,

Oshkosh have released the latest addition to the M-ATV family of armoured vehicles with deliveries scheduled to take place in May 2011, and orders of collective ceiling price of hitting nearly \$55 million.

Oshkosh will be exhibiting the new M-ATV SFV, designed to support the most challenging tactical operations in rugged and mountainous off-road environments. It's proven for harsh terrains, proven to save lives & proven to accomplish missions. Oshkosh developers have ensured that alterations carried out are specific to the needs of U.S Special Forces, including a modified cargo deck, intended to accept specialized equipment based on each mission's requirements, and larger front windscreens for increased visibility.

The exhibition, which is taking place alongside the main conference at International Armoured Vehicles, is attracting a huge amount of interest from the defence community, with over 100 exhibitors signed up already. Oshkosh will be joined by an array of the biggest names with vehicle manufacturers including Force Protection, Paramount Group, Iveco Defence Vehicles, and Nexter.

At a time when military, political and industrial imperatives come to the fore, International Armoured Vehicles is an event that is pertinent to Armoured Vehicle Community.



## US Army Releases 2011 Tactical Wheeled Vehicle Strategy



Washington -- The Department of the Army today released its Fiscal Year 2011 Tactical Wheeled Vehicle strategy, defining how the Army will modernize and sustain its tactical wheeled vehicle fleets through Fiscal Year 2025.

This comprehensive strategy represents the culmination of nearly four years of study and analysis on the Army's TWV fleet of Light, Medium, Heavy and Mine Resistant Ambush Protected tactical vehicles. The Army will use this strategy to sustain a TWV fleet with the required capabilities and the appropriate size and cost for environments of today and the future.

The Army's primary goal is to ensure that Soldiers have the correct tactical vehicles that provide appropriate levels of protection for whatever missions they perform. The Army will accomplish this by focusing procurement on fleets which incorporate additional armor protection.

Furthermore, the Army will leverage the Army Force Generation equipping process to maximize use of armored vehicles in deploying forces, in prepositioned

stocks and in training sets to ensure that Soldiers are highly proficient in the equipment they will use to perform their missions.

The strategy emphasizes the integration of the Mine Resistant Ambush Protected family of vehicles into the Army force structure and the Army's continued support for the development and procurement of the Joint Light Tactical Vehicle. The Army will selectively modernize elements of its Light Tactical Vehicle fleet with Joint Light Tactical Vehicles to provide vehicles with the proper balance of performance, payload and protection provided to Soldiers.



## Defence Industry

### Saab receives order for weapon-locating system from South Korea



Defence and security company Saab has received an order for weapon locating system ARTHUR from LIG Nex1 which is the prime contractor towards Defence Acquisition Program Administration, Republic of Korea. The order is worth SEK 450 million (\$69.4 million).

“We are delighted to have received this important additional order from South Korea that further proves our customer's confidence in the capabilities of our weapon locating system ARTHUR, says Micael Johansson, Senior Vice President and Head of Saab's business area Electronic Defence Systems.

ARTHUR is a stand alone C-band medium-range weapon-locating system that detects and locates enemy fire. It utilises a passive phased-array antenna technology for optimised battlefield performance. The technology provides the perfect balance between mobility, range, accuracy, ECCM (Electronic counter-countermeasures), operational availability and operational cost.

The ARTHUR system is widely used by demanding customers around the world. Examples of customers are Czech Republic, Denmark, Greece, Norway, Spain, Sweden and UK. More than 60 ARTHUR units have been sold and their availability is well proven from thousands of hours' operation. The first ARTHUR order from South Korea came in 2007.

The system is developed by Saab in Gothenburg, Sweden. The main part of the production for this program will be done at LIG Nex1 under a localisation agreement between Saab and LIG.

LIG Nex1 Co. Ltd. develops and produces a wide

## Army



range of advanced precision electronic systems including missile, underwater weapon systems, radars, electronic warfare, avionics, tactical communication systems, fire control systems, naval combat systems, and electro-optics. The company was founded in 1976 and is based in Seoul, South Korea.



### Contracts

#### KONGSBERG Receives US Army Order for Additional CROWS II Weapon Stations

KONGSBERG has booked an order valued at NOK 152 million (\$26.3 million) to the CROWS II program.

The CROWS II order with the US Army is for spare parts and is part of the increased CROWS II frame contract disclosed on 14 January 2011. The initial CROWS II framework agreement was disclosed on 22 August 2007.

CROWS is a joint acquisition program for weapon stations for the US Army's vehicle programs. A common solution will result in substantial efficiency gains in respect of protection, training, support and further development.



### Defence Industry

#### Lockheed Martin Receives \$139 Million Contract for High Mobility Artillery Rocket System



DALLAS, TX -- Lockheed Martin has received a \$139.6 million contract to provide 44 combat-proven High Mobility Artillery Rocket Systems (HIMARS) to the U.S. Army.

This order will increase the Army's HIMARS launcher fleet to 375, with deliveries continuing through January 2013. Work on the contract will be performed at the company's facilities in Camden, AR, and Grand Prairie, TX.

"HIMARS brings soldiers an agile, responsive and accurate delivery system of extremely precise fires," said Col. David J. Rice, U.S. Army program manager for Precision Fires, Rocket and Missile Systems. "HIMARS continues to impress everybody with its performance and versatility, the system is reliable, robust and exceptionally effective in theater."

The system can accommodate a six-pack of Guided MLRS rockets or one Army Tactical Missile System missile. HIMARS, a highly mobile artillery rocket system based on the Army's FMTV five-ton truck, is designed to launch the entire MLRS Family of Munitions.

"Half of the more than 1,900 Guided Multiple Launch Rocket System (MLRS) rockets expended by the U.S. Army and Marine Corps in Iraq and Afghanistan have been fired from HIMARS," said Scott Arnold, vice president for Precision Fires at Lockheed Martin Missiles and Fire Control. "HIMARS has proven itself to soldiers to be highly reliable and relevant in today's battlefield, and its operational readiness rate continues to exceed requirements, a testament to the quality of the system."

HIMARS is designed to enable troops to engage and defeat artillery, air defense concentrations, trucks, light armor and personnel carriers, as well as support troop and supply concentrations, HIMARS can move away from the area at high speed following missile launch, well before enemy forces are able to locate the launch site. The U.S. Army and Marines operate HIMARS, as do several international allies.

Because of its C-130 transportability, HIMARS can be deployed into areas previously inaccessible to heavier launchers and provides a force multiplier to the modular brigade. It also incorporates the self-loading, autonomous features that have made MLRS the premier rocket artillery system in the world. The HIMARS fire control system, electronics and communications units are interchangeable with the existing MLRS M270A1 launcher, and the crew and training are the same. HIMARS is a crucial component in today's military theaters of operation.

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 132,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The Corporation's 2010 sales from continuing operations were \$45.8 billion.

