

# Army Guide monthly



## # 2 (65) February 2010

- **Elbit Systems Will Showcase A Broad Array Of Capabilities Demonstrating Full System Interoperability At DEFEXPO 2010**
- **Oshkosh Defense to Introduce M-ATV to European Market at International Armoured Vehicles Exhibition**
- **Plasan Delivers 25 SandCats Vehicles to Bulgaria**
- **GD UK Successfully Tests ASCOD SV Armour System**
- **Protonex Awarded US\$1.49 Million Contract Extension by US Army**
- **CAE Awarded Military Contracts Valued at More Than C\$58 M**
- **First French Army simulator network achieved over distance**
- **Saab Logs Order from the Norwegian Army for Training System**
- **EODT awarded Mobile Teams Mine Clearance contract in support of US Forces, Afghanistan**
- **Oshkosh Defense Receives \$84 Million Award for M-ATV Armor Kits**
- **BAE Systems Awarded U.S. Army TACOM Contract to Reset M113 Vehicles**
- **Afghan Minister of Transport and Civil Aviation to Discuss Issues and Projects of His Ministry in Summit**
- **U.S. Army Awards General Dynamics \$253 Million for Stryker Logistic Support**
- **MTL Group wins EEF National Manufacturing Award**
- **KMW inaugurates new production facility in the Netherlands**
- **Oshkosh Defense Receives \$158 Million Order for U.S. Marine Corps Heavy Fleet**
- **BAE Systems Receives Contract to Provide MCTAGS Turret Assemblies**
- **Lockheed Martin Awarded \$30.8 Million to Develop Next Phase of National Cyber Range**

## Exhibitions

## Elbit Systems Will Showcase A Broad Array Of Capabilities Demonstrating Full System Interoperability At DEFEXPO 2010

The interoperability will be demonstrated via a multimedia presentation depicting an operational scenario in which Elbit Systems' communications, UAS, observation, reconnaissance and target designation solutions interact and play integral roles.

Elbit Systems will be presenting at the upcoming DEFEXPO 2010 (booth 18.17 G, Israel Pavilion, Hall 18, ground floor) a broad array of capabilities demonstrating full system interoperability, which will be demonstrated via a multimedia presentation.

The presentation, "Networking in Action" will feature real life combat situations and demonstrate how the systems' interoperability, in offensive operations on enemy territory, enables achievement of crucial objectives. The presentation will allow viewers to experience dynamic combat experiences and missions with dramatic special effects replicating how the systems work in fully realistic views. Like previous Elbit Systems' presentations which have won prestigious international awards for their innovative approach, this one promises to be just as memorable and exciting.

### The following systems will be featured in the multimedia presentation:

#### Skylark® I-LE

This new model Skylark® unmanned aircraft system is based on the vast experience accumulated by Skylark® I in thousands of hours in operational flight in various war zones (Iraq and Afghanistan). In addition to major improvements implemented, based on extensive operational experience, Skylark® I-LE has been upgraded to offer longer endurance of up to three hours and enhanced robustness, two crucial features that ensure overall improved operational performance.

In December 2008 the Israeli Defence Ministry selected Elbit Systems to equip the IDF battalion-level with the Skylark® I-LE for all Ground Forces, including training and logistics support.

Skylark® I-LE will be presented in real-size in the Elbit Systems booth.

#### BRO@DNET Wireless Point to Multi Point broadband WiMAX - based communications system

This complete turnkey, network based communications system expands the concept of "Network-Centric Warfare" (NCW) solutions. Based on wireless broadband WiMAX technology to deliver long range, high-capacity broadband IP based data, video and voice telecommunications, the Bro@dnet system enables all combat units and commands to use a single Internet network that includes all battlefield information. Israel's Ministry of Defence selected the Bro@dnet system solution for all the branches of the Israel Defence Forces.

#### ELSAT2000 - Tactical, Full Military Standardized Satellite Communication on-the-Move

#### \_(SOTM)\_ Solution



ELSAT2000 is the first tactical, full military standardized satellite communication on-the-move (SOTM) solution, allowing low visibility profile and high data rate broadband capabilities. Elbit Systems developed a low profile SOTM antenna that provides broadband communication anywhere, anytime, supported by a unique modem technology for the SOTM communication.

ELSAT2000 will be presented in real-size in the Elbit Systems booth.

#### \_TMR - Tactical Multimedia Router

A military grade, triple-play secured IP routing solution for mobile & deployed command posts and armored command vehicles, TMR is designed to disseminate voice, data and video over narrowband and broadband Mobile Ad-hoc Networks (MANET).

TMR will be presented in real-size in the Elbit Systems booth.

#### \_SDR-7200 - Software Defined Radio

SDR-7200 enables the reception and transmission of live video feeds via simultaneous voice and data operation, on a single network of only 25Khz bandwidth at VHF frequency band with data transfer rates of up to 115.2 Kbps.

SDR-7200 allows true command on move with data communication of several Mb/s across various band widths.

SDR-7200 will be presented in real-size in the Elbit Systems booth.

MaXess® - Elbit Systems' advanced broadband Military Wireless LAN supporting live video transmission and reception, MaXess® is based on advanced ad-hoc networking protocols, enabling the land warrior to efficiently close the sensor to shooter loop.

VIC-500 Digital Intercom for tanks and other military vehicles is a digital wireless intercom system that links the on-board crew members among themselves as well as with the external world. With this system, each crew member can dismount the vehicle and move on foot unencumbered to a distances of up to 800 meters from the vehicle, while remaining in touch with all of the other mounted or dismounted crew members as well as with other forces and radio stations. The VIC-500's unique full-duplex conference communicating capability allows two crew members to speak simultaneously, while an unlimited number of personnel listen in, improving coordination and reducing operational errors.

VIC-500 will be presented in real-size in the Elbit

Systems booth.

DASH - Display and Sight Helmet System□□

DASH enables pilots to aim their weapons simply by looking at the target. DASH measures the pilot's Line-Of-Sights (LOS) relative to the aircraft, and transfers its information to other aircraft systems. Aircraft, sensors, avionics and weapons are thus enslaved to the target. DASH is adaptable to any fighter/attack aircraft and will accommodate advanced missiles and smart weapon lock-on envelopes.

Night flight capabilities are provided with the new DASH inherent dual visor capability and the DASH-Night helmet which benefits from all DASH features even in harsh weather conditions, and receives all flight information, targets and data for true 24/7 operation. There are over 1000 helmets and 750 systems operational on 4 continents and onboard numerous different platforms.

PLDR II - Portable Lightweight Designator / Rangefinder

The PLDR-II system is a lightweight, man-portable, cutting edge laser designation and targeting system that permits war-fighters to rapidly bring effective fire to bear on hostile targets.

PLDR II will be presented in real-size in the Elbit Systems booth.

CORAL-LS - Hand-held 3-5  $\mu$ m FPA Thermal Imaging Camera, based on the proven CORAL, the CORAL-LS is a Thermal Imaging Camera with integral 1.06 $\mu$ m imaging capability, incorporating a See Spot Camera. Lightweight, compact and equipped with a continuous zoom, the camera is suitable for close air support and forward observers, night sight laser designator units and ground.

CORAL-LS will be presented in real-size in the Elbit Systems booth.

**The following will be demonstrated in the Elbit Systems booth:**



Dominator® Integrated Infantry Combat System  
- Detects, Delivers,  
Decides, Disseminates.

Dominator® empowers infantry units with full situational awareness, networking them into integrated information systems. When using Dominator® every soldier is a sensor and platform. Land warriors can send and receive information in real time, view up-to-the-minute situation pictures (terrain, enemy and own forces) on personal displays as well as live video

from different sensors, and transmit images and positions back to command posts and headquarters.

Some of the Dominator® systems for the infantry soldier will be presented in real-size in the Elbit Systems booth.

CORAL-CR - Hand-held 3-5  $\mu$ m FPA Thermal Imaging Camera with continuous optical zoom and the addition of an integral digital compass, GPS receiver and a laser rangefinder, CORAL-CR's light weight, ruggedized construction and excellent picture quality are well suited for security and perimeter defence target acquisition missions. CORAL CR can also function as a night sight for medium range weapon systems or night binocular for light patrol boats and MBT/AFV commanders.

CORAL-CR will be presented in real-size in the Elbit Systems booth.

LILY is a new family of lightweight Thermal Imaging Weapon Sights (TWS) designed for use by individual infantry soldiers, which provide significant advantages for operations in total darkness and in even the most difficult environmental conditions.

LILY will be presented in real-size in the Elbit Systems booth.

**The following systems and solutions for Armored Fighting Vehicles (AFVs) will be highlighted at the Company booth:**

Full Gun Electronic Suite for Artillery (GES)

GES is a solution suitable for old and new types of guns which includes Elbit Systems' Enhanced Tactical Computer (ETC) and COMBAT, Artillery C4I and Fire Control Application. It controls all guns' electronic components: Integrated Navigation System, Gun Auto Laying Drive, Laser Range Finder, Vision Devices and interface to radios and ACCCS (Artillery Command Control and Communications System).

Weapon Integrated Battle Management System (WIN BMS)



An essential add-on to virtually any combat vehicle's mounted sensor or weapon system, forming well-coordinated battle teams that perform their tasks with optimum speed and precision. WINBMS supports the full spectrum of battalion-and-below tactical units requirements meeting their operational needs, including direct fire engagement and troops maneuvering, indirect fire support, intelligence and logistics. In addition to its combat networking capabilities, this integrating "super" system provides commanders and crewmen with simplified operational man-machine interface, enhanced



situational awareness and data communication capabilities.

#### Laser Warning System (E-LWS)

Offers a variety of advanced LWS tailored to fit any customer's needs. These systems can detect, categorize and pinpoint laser and IR sources including laser rangefinders, laser designators, beam rider transmitters, IR illuminators and trainers. To deal with future threats Elbit Systems has made it possible to combine detecting capabilities of a variety of RF transmitters into its LWS products. Elbit Systems' LWS is immune to reflections from nearby objects, gun firing, lightning, fires, explosions and on-board laser operation. The LWS can be installed at field level as stand-alone or integrated systems. No armor machining is required for installation.



### Exhibitions

#### **Oshkosh Defense to Introduce M-ATV to European Market at International Armoured Vehicles Exhibition**



OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation, will be featuring the MRAP All-Terrain Vehicle (M-ATV) in its European debut at the International Armoured Vehicle Exhibition 2010, which is taking place Feb. 2-3 at the ExCel Centre in London.

Also on display at the Oshkosh booth (#268 in halls S4/S5) will be the company's protected, multi-role SandCat vehicle.

The M-ATV is now operational in Afghanistan and was designed to provide exceptional protection and superior mobility for operations on the country's rugged, mountainous terrain and unimproved road networks. Oshkosh Defense has received orders from the U.S. military to produce 6,619 M-ATVs and has ramped up production to more than 1,000 vehicles per month in response to an urgent need for the vehicle.

"The M-ATV's introduction to Europe will provide an excellent opportunity for international militaries to get a good look at this high-performance vehicle and learn more about how it can enhance the capabilities of their fleets," said Andy Hove, Oshkosh Corporation executive vice president and president, Defense. "It is a well-protected and highly mobile vehicle that was designed to thrive in combat operations in the harshest cross-country environments."

The M-ATV uses the Oshkosh-patented TAK-4® independent suspension system to achieve a 70 percent off-road profile capability and 16 inches of independent

wheel travel. The TAK-4 system has undergone more than 500,000 miles of government testing and also is featured on more than 10,000 Oshkosh Medium Tactical Vehicle Replacements (MTVR), as well as the company's Logistics Vehicle System Replacement (LVS) and Palletized Load System (PLS) A1. The system also is being retrofitted on more than 2,400 legacy MRAPs for improved mobility in Afghanistan.

The M-ATV has a payload capacity of 4,000 pounds and seats five (four passengers and a gunner). The vehicle uses a Caterpillar C7 370-horsepower engine and an Allison 3500 SP transmission, and has a maximum speed of 65 miles per hour. Its two-channel central tire inflation system has four terrain settings, which the vehicle can switch to automatically, and includes an integrated driveline lock control system. Run-flat tires allow the M-ATV to travel a significant distance at a high speed on flat tires.

The SandCat is a protected, multi-role vehicle with a modular armor system that can be customized to meet the payload needs and threat levels of varying operations, including military, law enforcement, homeland security, peacekeeping, disaster aid and security. The vehicle is available in utility and transport variants, which carry four to eight people, as well as the Special Operations Vehicle (SOV) variant. The SandCat SOV was designed for special forces units that need an open, highly maneuverable and well-protected vehicle for operations in remote locations.

Protection features include a high-energy absorbing belly deflector, ballistic steel roof, collapsible seat base and suspended seats. Armor sections made from metal composites provide protection from multiple hits and are integrated into the vehicle's design to allow for a higher payload capacity than a standard vehicle its size. The SandCat boasts a 325-horsepower engine, has a maximum speed of 75 miles per hour and features exceptional maneuverability. The vehicle is built around commercial off-the-shelf (COTS) components to maximize ease of maintenance and repairs globally.

Both the M-ATV and SandCat feature advanced armor solutions from Plasan North America and Plasan Sasa, Ltd. 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 is offering an M-ATV variant and the SandCat with JLG Australia and Plasan Sasa, Ltd. for the Australian Department of Defence's Land 121 "Overlander" Phase 4 program. An M-ATV variant also is being offered for the Tactical Armoured Patrol Vehicle (TAPV) program in Canada.



### Contracts

#### **Plasan Delivers 25 SandCats Vehicles to Bulgaria**

SASA, Israel -- Plasan, a global leader in survivability and combat-proven armor solutions for vehicles, airborne platforms and personal protection, announces the delivery of 25 SandCat

vehicles in cooperation with Oshkosh Defense, for the Bulgarian Ministry of Defense. Plasan was awarded this contract December 2008.



During a visit to Israel earlier this month, Bulgarian Prime Minister Boyko Borisov and Bulgarian Minister of Defence Nikolay Mladenov examined the SandCat up close, followed by meetings with their Israeli counterparts: Benjamin Netanyahu and Ehud Barak.

Mr. Yaron Roded, Director for Marketing and Business Development at Plasan, comments: "The SandCat design fits perfectly into today's peacekeeping and HLS tasks, taking into account the emerging threats while maintaining the required flexibility for off-road and on-road mission profile which are so essential for many armies, police, and SWAT teams world-wide."

Earlier this month, Plasan welcomed Israeli Minister of Defense Ehud Barak to its facilities in Kibbutz Sasa. This visit marks an additional award to deliver 79 SandCats specifically designed for the Israeli Border Police Patrol; a contract valued at \$14 million. As opposed to vehicles currently in use by IDF (Israeli Defense Forces) such as the Armored HMMWV'e (190hp), Up-armored Storm Jeep (180hp) and Armored Land-rover "David" (122hp) the SandCat is equipped with a 6.4L, V8 Turbo Diesel engine with 350hp output capable to reach a maximum speed of 130km/h.

The SandCat is based on an upgraded commercial off-the-shelf Ford F-Series 4x4 chassis, adapted by Oshkosh Defense for military use and fitted with Plasan advanced Metal Composite & Ceramics Composite armor. The SandCat provides a high level of protection for the crew while maintaining excellent maneuverability capabilities.

The SandCat design is state-of-the-art in all aspects: exterior design, choice of materials, ergonomics, integration of advanced electronic systems, NBC safety systems, suspended/collapsible seats are part of the Blast mitigation system and the advanced composite materials against IEDs and road side bombs are providing high level of crew survivability.

The ASCOD SV system design withstood a number of attacks from the latest mine threats in its base configuration. The system also enables enhanced levels of blast protection to be fitted, enabling protection against greater threats and providing the Army with the ability to adapt rapidly to evolving operational scenario.



Commenting on the successful mine blast test, Steve Rowbotham, General Dynamics UK Vice President, Advanced Projects and Technologies said, "This mine blast trial is a key milestone in demonstrating that ASCOD SV is the right answer for FRES SV. In addition to offering tonnes of capability and growth potential over the next 30 years, General Dynamics UK has demonstrated this week that ASCOD SV offers tonnes more protection to British military personnel today and in the future."

Mine threats are regularly encountered by Allied forces on current operations in Afghanistan, sometimes with devastating effect to vehicles and their occupants. This specific testing of the high levels of integrated survivability of ASCOD SV provides exacting evidence of the vehicles ability to afford maximum protection to the vehicle occupants.

These successful mine blast tests come only a month after the successful firing of the mandated CT40 Case Telescopic Weapon System by turret provider Lockheed Martin INSYS. In addition to the MoD benefiting significantly from the commonality between the FRES SV Scout and Warrior programmes provided by Lockheed Martin's turret, the FRES SV crew will benefit from having the maximum space to do their job while ensuring maximum protection, thanks to an innovative turret ring configuration and other features.

General Dynamics UK President and Managing Director, Sandy Wilson added: "We invested in these trials because protection is the essence of modern warfare. This proven solution, built into ASCOD SV from the start, will ensure that FRES SV delivers exceptional levels of protection to British soldiers from day one."

## Defence Industry

### GD UK Successfully Tests ASCOD SV Armour System

London -- General Dynamics UK has this week completed a series of demanding trials at the higher test levels required by the FRES SV programme to demonstrate that its ASCOD SV contender is already capable of delivering new levels of protection to British military personnel.

## Future Technologies

### Protonex Awarded US\$1.49 Million Contract Extension by US Army

Protonex Technology Corporation has announced that it has received an incremental US\$1.49 million contract award from the U.S. Army CECOM to deliver additional advanced portable battery

charger / APU fuel cell products.

This follows the US Army CECOM's decision to exercise an option in its original contract with the Company which was announced on 20 January 2010.

This award increases the total funded value of the overall contract to \$3.34 million and additional options remain within the contract which, if awarded, could increase the total value of the contract to \$6.4 million.

Under the terms of this eight-month, phase two program, Protonex is expected to deliver 30 additional portable battery charger / APU products to the U.S. Army for field use. The M250-CX units will include all of the next-generation improvements developed during the phase one program, which include increased power output, further integrated battery management and charging capabilities, additional ruggedisation and reduced overall size and weight.

## Training And Simulators

### CAE Awarded Military Contracts Valued at More Than C\$58 M

Montreal -- CAE today announced a series of military contracts valued at more than C\$58 million. Included in this total are several contracts to support the German armed forces with a range of simulator upgrades and training support services.

"CAE GmbH has a well-established presence in Germany and a long history of supporting the German military with world-class simulation solutions and training services," said Martin Gagne, CAE's Group President, Military Products, Training and Services. "CAE's global footprint combined with our extensive portfolio of products and services positions CAE well as militaries extend their use of modelling and simulation to support analysis, training and operations."

Germany's procurement office BWB (Bundesamt für Wehrtechnik und Beschaffung) has contracted CAE to provide a range of on-site training support services for flight simulation equipment. CAE's annual maintenance and logistics support contracts with the German Armed Forces cover a range of flight simulators, including those for the Tornado and Eurofighter multi-role-combat aircraft. CAE provides services at several sites in Germany and the United States to maintain almost every flight simulator in service with the German Armed Forces.

CAE has also been awarded a contract to perform significant upgrades on the German Air Force Tornado full-mission simulators. CAE will integrate its CAE STRIVE-Radar simulation software into the Tornado simulators to enable the German Air Force to perform additional training tasks in the full-mission simulators, including air-to-air radar, ground mapping radar, and terrain following radar functionalities.

## Training And Simulators

### First French Army simulator network achieved over distance

Thales has completed a successful simulator network between the French Army simulation facilities in Le Luc (EALAT army aviation training centre) and Canjuers (1st armoured regiment) for the first time.

The objective was to verify the added value of networked multi-site simulation and how this capability could be implemented on a routine basis to support training and operational preparedness, as well as specific preparations for deployment to remote theatres.

The scenario involved three exercises that tied together the EDITH helicopter crew tactical trainer platform at Le Luc and the Leclerc main battle tank crew simulators at Canjuers. The exercise comprised a patrol of two Tiger helicopters and an armoured platoon of three Leclerc MBTs and three VBL light armoured vehicles. A Thales team of high-level experts coordinated the simultaneous operation of these sophisticated technologies.

The exercise was conducted within a very short timeframe to minimise disruption to normal instruction programmes at the two training centres. After the exercise, the simulators were immediately made available again to users, with regular instruction programmes able to continue as scheduled.

This exercise showed how remote simulation facilities can be coupled in a distributed multi-site network configuration to enable different elements with different operational functions to cooperate in a combined forces exercise.

Feedback from the users involved and observers from infantry and artillery academies was particularly positive. This first exercise was used to...

- Propose descriptions of network configurations for virtual distributed simulation exercises, in accordance with the types of units under instruction
- Define the associated organisation and assess the timeframes needed to plan and conduct this type of exercise
- Identify requirements for regular combined forces training in terms of execution (detachment of combined forces)
- Envisage the use of this type of capability for doctrine-related studies, in particular as part of the Scorpion programme

Through this exercise, Thales has demonstrated its ability to add considerable value for military training establishments as they prepare units for operational engagements in a combined or joint forces context. This capability will be further optimised with the addition of specially adapted databases, designed to allow units to train collectively in readiness for the theatre of operations.



## Training And Simulators

### Saab Logs Order from the Norwegian Army for Training System



Saab has received an order for a training system to the Norwegian Armed Forces with a total value of MSEK 69 (euro6.76 million).

The order is part of the system for supporting the training of units and soldiers which has been operational for several years. The Norwegian Army is working to create a realistic training environment which offers an accurate picture of the reality that soldiers will face during missions where the reality is different to that in Nordic countries.

#### Extended training capacity

The order includes simulators for tanks and small arms, increased capacity for communication systems plus a targeting system that can be used with more than 40 different vehicle systems, facilities and constructions.

"Norway is one of our biggest customers for training systems. The order is a confirmation that our systems provide good training value for the customer. This order extends the Norwegian Army's training capacity, and adds new features and capabilities," says Claes-Peter Cederluf, Marketing Manager at Training and Simulations.

## Contracts

### EODT awarded Mobile Teams Mine Clearance contract in support of US Forces, Afghanistan

EOD Technology, Inc. (EODT) will support the US Forces in Afghanistan by providing mine and battle area clearance services by mobile teams under a contract with an estimated ceiling value of \$60 million awarded by the US Army Engineering and Support Center, Huntsville (USAESCH).

Under this contract, EODT will provide clearance of munitions and explosives of concern (MEC) including landmines, and munitions material potentially presenting an explosive hazard (MPPEH) throughout Afghanistan as directed by USAESCH.

"EODT is pleased to support the US Forces and USAESCH by providing mine clearance services under this contract," said EODT president and CEO Matt Kaye. "Having operated in this high-profile region since 2004, we understand what it takes to be successful and are confident we will accomplish the mission."

EODT is accredited by the United Nations Mine Action Center Afghanistan (UNMACA) and licensed to

perform Explosive Ordnance Disposal, Mine Action, and Battle Area Clearance in Afghanistan. EODT has provided mine action, security services, and expeditionary services in Afghanistan since beginning operations there in 2004.

## Contracts

### Oshkosh Defense Receives \$84 Million Award for M-ATV Armor Kits

OSHKOSH, Wis. -- Oshkosh Corporation announced today that its Defense division received an award valued at more than \$84 million from the U.S. Army Tank-automotive and Armaments Command Life Cycle Management Command (TACOM LCMC) to supply more than 625 add-on armor kits for the MRAP All Terrain Vehicle (M-ATV).

Under the delivery order, Oshkosh will provide explosively formed penetrator (EFP) protection kits for the M-ATV. Delivery of the kits is expected to begin in April 2010 and be completed by the end of August 2010. The Oshkosh-supplied kits will include EFP armor, base door armor and a door-assist mechanism. To date, Oshkosh has received awards valued at more than \$4 billion to deliver 6,619 M-ATVs, as well as spare parts kits and aftermarket in-theater support.

The advanced armor system solution for the base Oshkosh M-ATV, prior to installation of EFP kits, has been battle-tested on more than 5,000 legacy MRAPs and thousands of Oshkosh® Medium Tactical Vehicle Replacement (MTVR) Armored Cabs already in theater. Incorporation of the Oshkosh-patented TAK-4® independent suspension system allows the M-ATV to accept add-on armor while maintaining its agile maneuverability and a full payload capacity of up to 4,000 pounds.

In addition to exceptional survivability, the M-ATV delivers superior off-road mobility for Afghanistan's harsh mountainous terrain and unimproved roads. The TAK-4 system, which has undergone more than 500,000 miles of government testing, gives the vehicle a 70 percent off-road profile capability and 16 inches of independent wheel travel to overcome obstacles and rugged environments.

Existing Oshkosh facilities have the capacity, highly skilled workforce and proven manufacturing capability to deliver this M-ATV order and all other Defense program orders, including the U.S. Army's Family of Medium Tactical Vehicles (FMTV), as well as any surges in production.

## Contracts

### BAE Systems Awarded U.S. Army TACOM Contract to Reset M113 Vehicles

ANNISTON, Ala. -- BAE Systems received a \$32 million contract modification from the U.S. Army TACOM Life Cycle Management command to reset 417 M113 vehicles, one of the most widely used

combat vehicles in the world.



The refurbishment of the M113 vehicles will include replacing old and damaged equipment with updated components, restoring the vehicles to pre-combat condition.

“The M113 plays a significant role in both urban combat and peacekeeping roles for militaries of at least 44 countries around the world,” said Joe McCarthy, vice president and general manager of Heavy Brigade Combat Team Systems for BAE Systems. “Replacing war torn equipment and providing our customers with the modern systems they need to work on the battlefield is absolutely crucial to the militaries worldwide that use this vehicle.”

The M113 is part of the largest family of armored tracked vehicles in the world and includes more than 80,000 vehicles worldwide with 40 variants. It can transport 12 troops plus a driver and is capable of amphibious operation, extended cross-country travel over rough terrain and high-speed operation on improved roads and highways.

Work on the vehicles will take place at the BAE Systems' Anniston, Alabama facility by the existing workforce and is expected to be complete by December 2010.



## Exhibitions

### Afghan Minister of Transport and Civil Aviation to Discuss Issues and Projects of His Ministry in Summit



Washington, D.C. -- New-Fields Exhibitions, Inc., organizers of the 2nd Afghanistan Aviation and Defense Summit (2nd AADS), announced today that His Excellency Dr. Raz Mohammad Alami, Afghanistan's Minister of Transport and Civil Aviation, will address delegates of the summit that will be held on March 25-26, 2010 in Washington, D.C.

As head of the Afghanistan's Ministry of Transport and Civil Aviation (MoTCA), Dr. Alami will brief summit delegates of the ministry's strategies in working

with international partners and donors for the rehabilitation, organization and management of the Afghan airspace.

MoTCA's strategies are designed to transfer the airspace authority and responsibility from the International Security Assistance Force to the Afghan government. The ministry's role is crucial to Afghanistan's nation-building as its projects are critical to linking inaccessible parts of the country, ensuring remote communities have access to public services.

Dr. Alami joins other high-ranking officials who are engaged in the rehabilitation of Afghanistan at 2nd AADS.

#### Other confirmed speakers include:

- HE Engr. Mohammad Ibrahim Azhar, Deputy Minister, Ministry of Counter Narcotics
- Major General Wakil Ahmed Akbari, Inspector General, Ministry of Interior
- Sayed Aman Sadaat, Deputy Chief of Border Police of Afghanistan, Ministry of Interior
- Saeed Nizam Uddin, Chief of Staff to the Deputy Security Minister, Ministry of Interior
- Dr. Yakub Rassuli, President, Kabul International Airport
- Haleem Wahidi, Director of Counter Narcotics Trust Fund/GPI, Ministry of Counter Narcotics

2nd AADS is the event where delegates will get to aid in the recovery process of Afghanistan and to help in the effective implementation of the country's development programs.

They will meet officials from international government security and defense agencies, senior industry executives from defense companies, prime contractors for Afghan projects, senior directors, and government advisors.

Attendees will also hear summit speakers present on the strategic challenges in Afghanistan, how to win Afghans' hearts and minds, as well as building security and stability across the nation.

Exclusive One-to-One Meetings with Afghan officials and panel presenters will also provide attendees with insights and analysis of the current challenges facing Afghanistan's aviation, security and defense.



## Contracts

### U.S. Army Awards General Dynamics \$253 Million for Stryker Logistic Support

STERLING HEIGHTS, Mich. -- The U.S. Army TACOM Lifecycle Management Command recently awarded General Dynamics Land Systems, a business unit of General Dynamics, \$253 million for contractor logistics support of the Stryker family of combat vehicles.

Logistics support, vehicle resets and upgrades are a continuing portion of General Dynamics' combat systems-related business.

The contract, awarded January 28, 2010, funds contractor support of U.S. Army Stryker Brigade Combat Teams in the United States and overseas, including:



ordering spare parts, managing a spare-parts warehouse, worldwide distribution of repair parts and completing maintenance services on the Stryker vehicle fleet. Work will be performed by existing General Dynamics employees in Alaska, Hawaii, Michigan, Pennsylvania, Texas, Washington, and overseas in Afghanistan, Germany, Iraq and Kuwait. The period of performance is March 1, 2010 through February 28, 2011.

General Dynamics, headquartered in Falls Church, Virginia, employs approximately 91,700 people worldwide. The company is a market leader in business aviation; land and expeditionary combat systems, armaments and munitions; shipbuilding and marine systems; and information systems and technologies.

## Exhibitions

### MTL Group wins EEF National Manufacturing Award



Sheffield-based contract manufacturing specialist MTL Group has once again triumphed at the EEF Future Manufacturing Awards this time picking up the Westfield Health National Business Growth Award.

The EEF Future Manufacturing Awards celebrate the achievements of companies and individuals that are showing exactly what UK manufacturing can be – innovative, mould-breaking and ultimately a successful engine for growth in the UK economy.

MTL Group was awarded the North East & Yorkshire Region Business Growth Award back in November 2009 and has now won the National Business Growth Award thanks to investments in marketing, machinery and skills which have doubled sales in the last three years and driven exports up by 700 per cent.

In 2006 exports were a fringe activity for the Sheffield-based contract manufacturing specialist. Today they represent a significant share of the company's burgeoning turnover.

The management team freely admits that moving into foreign markets meant moving out of its comfort zone. But the plan they developed – ambitious, bold and focused – has delivered beyond even their expectations and ensured MTL Group's success both abroad and at home.

"Our people are the face of MTL and it's critical that customers trust their integrity and ability" says Managing Director Dr Henry Shirman "We've also recognised that, sometimes, you just have to 'speak their language'; so

we've recruited employees with the language skills of our major customers".

In the final quarter of 2009 MTL received visits from several blue-chip European manufacturers keen to work with them and the level of overseas enquiries is according to Henry Shirman "Stronger than it's ever been"

The 'Westfield Health National Business Growth Award' was officially presented to MTL Group at the Dorchester Hotel, London by Westfield Health's Jill Davies and the BBC's Declan Curry on 3rd February, 2010.

## Defence Industry

### KMW inaugurates new production facility in the Netherlands

Helmond -- The new production facility of KMW subsidiary Dutch Defense Vehicle Systems (DDVS) has been officially opened today in Helmond, near Eindhoven (NL).

Attendees included the official patron of the ceremony, State Secretary Jack de Vries on behalf of the Dutch Ministry of Defense, and guests from the political, industrial, and military domains. By founding this new production facility for military vehicle components and creating one of the most advanced competence centres for welding technologies in Europe, KMW underscores its commitment to the Dutch market and the strong will to cross-border cooperation.

"With the opening of our Dutch production site we are passing another milestone of our cooperation strategy for the European Defense Market", says Frank Haun, CEO of KMW.

Under the Dutch flag of its DDVS subsidiary, Europe's leader in protected wheeled and tracked vehicles will produce all hulls and several mission modules for the German-Dutch BOXER vehicle program. In total, the two states have ordered 472 of the highly protected, 8-wheeled vehicles. Furthermore, the Dutch FENNEK reconnaissance vehicles will be provided logistical service and maintenance in Helmond as well.

The 100% KMW subsidiary has been founded in 2005 and was assigned with the assembly of the Dutch vehicles from the German- Dutch FENNEK program. Due to the consequent development of the 2 site, several additional business activities have been generated in Helmond, leading to the creation of a new production facility. The DDVS has thus become the most important competence centre for military land systems in the Netherlands and is building on a wide network of certified suppliers and research institutes complemented by the extensive system know-how of its parent company.

## Defence Industry

### Oshkosh Defense Receives \$158 Million Order for U.S. Marine Corps Heavy Fleet



OSHKOSH, Wis. -- Oshkosh Corporation today announced that its Defense Division received a delivery order to an existing contract valued at more than \$158 million from the U.S. Marine Corps Systems Command (MARCORSYSCOM) for more than 400 Logistics Vehicle System Replacements (LVS).

The order brings the total number of LVSs under contract to nearly 1,300. With this latest order, LVS production and delivery is extended into July 2011. More than 385 MKR18 cargo variants will be produced under the order. The remaining variants will be MKR16 tractors.

"The Oshkosh® LVS is among the world's most advanced logistics platforms and offers the U.S. Marine Corps a technologically sophisticated, heavy-payload vehicle to answer the call in even the most arduous conditions," said Andy Hove, Oshkosh Corporation executive vice president and president, Defense. "The vehicle's off-road capabilities only make it more versatile when transporting heavy equipment, fuel and other supplies to the front line."

The Oshkosh LVS vehicle is equipped with the Oshkosh Command Zone™ embedded diagnostics system and the company's patented TAK-4® independent suspension system for superior off-road mobility in the most severe environments. The LVS comes in three variants – cargo, wrecker and fifth-wheel – and features an on-road payload capacity of 22.5 tons and an off-road payload capacity of 16.5 tons. The first LVSs started arriving in Afghanistan in September 2009.

Oshkosh has the available capacity, highly skilled workforce and proven manufacturing capability to deliver this order and vehicles for all other Marine Corps and Defense programs, including the MRAP All-Terrain Vehicle (M-ATV) and the U.S. Army's Family of Medium Tactical Vehicles (FMTV), as well as any surges in production.

Shield (MCTAGS) Turret Assemblies. The Turret Assemblies facilitate the mounting and operation of the MCTAGS, which are used to protect service members in close urban environments.



This delivery order is a modification to a previously awarded contract to provide MCTAGS Turret Assemblies, and accessory kits to the USMC over a three-year period. This modification brings the total amount awarded to date to \$85 million.

"BAE Systems' MCTAGS enable direct vision, situational awareness and target acquisition for vehicle gunners, commanders, and drivers while under armor protection," said Mark Signorelli, vice president of New Vehicles and Amphibious Systems for BAE Systems. "To date, more than 6,000 MCTAGS kits have been installed on various military vehicles to provide added protection for the men and women in uniform."

The MCTAGS kits are compatible with various gun mounts and protection is provided from direct small arms fire and IED fragments. Both products are installed at the unit level and use existing mounting provisions.

Work under the delivery order will begin immediately at BAE Systems facilities in York, Pennsylvania, Santa Clara, California and Fairfield, Ohio and is expected to be complete in June 2010. The contract is managed by the Marine Corps Systems Command (MARCORSYSCOM).

BAE Systems' TAGS units have been configured for a wide range of vehicles, including Bradley, M1 Abrams, M113, HMMWV, Medium Tactical Vehicle Replacement, Logistics Vehicle System, Assault Amphibious Vehicle - Personnel and for the Stryker Common Ballistic Shield.

#### About BAE Systems

BAE Systems is the premier global defense, security and aerospace company delivering a full range of products and services for air, land and naval forces, as well as advanced electronics, security, information technology solutions and customer support services. With approximately 105,000 employees worldwide, BAE Systems' sales exceeded \$18.5 billion (US \$34.4 billion) in 2008.



## Contracts

### BAE Systems Receives Contract to Provide MCTAGS Turret Assemblies

SANTA CLARA, California -- BAE Systems has received a \$10.7 million delivery order to provide 1,197 Marine Corps Transparent Armored Gun

## Future Technologies

### Lockheed Martin Awarded \$30.8 Million to Develop Next Phase of National Cyber Range

ORLANDO, Fla. -- Lockheed Martin was awarded a \$30.8 million contract for Phase II of the Defense Advanced Research Projects Agency (DARPA)

National Cyber Range (NCR) program.

It follows completion of a \$5.4 million contract for the initial development phase of the NCR awarded in early 2009. DARPA's NCR is part of the Comprehensive National Cybersecurity Initiative, a major government-wide effort to increase the nation's defenses against electronic attack.

In Phase I of the NCR program, DARPA and its industry team created initial conceptual designs, concepts of operation, and detailed engineering and system demonstration plans. In Phase II, DARPA will work with Lockheed Martin and the Johns Hopkins University - Applied Physics Laboratory to build and evaluate prototype ranges and their corresponding technology. The NCR will support large-scale cyber testing, providing fully automated range management and test management suites to assess and validate leap-ahead cyber research technologies and systems, and to help DARPA identify new research directions.

Lockheed Martin Simulation, Training & Support will lead a team of experienced cyber technologists from across the Corporation, including talent from Lockheed Martin Advanced Technology Laboratories and Lockheed Martin Information Systems & Global Services.

"Our nation needs to accelerate the development and deployment of highly effective cyber weapons and defenses to secure our homeland and sustain our military advantage," said Debra Palmer, vice president of STS Enterprise Logistics Solutions. "The Flexible Adaptive Cyber Technology Range Initial Operating Capability we are developing under NCR Phase II will provide DARPA a robust demonstrator of how of high fidelity, automated test technology will enable leap ahead advances in cyber security and cyber warfare capabilities to address a critical global security challenge."

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 140,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The Corporation reported 2009 sales of \$45.2 billion.

## Contracts

### Finmeccanica reaches the amount of \$100 million in U.S. military orders



Finmeccanica, through his company DRS Technologies, Inc., have reached \$100 million in U.S. military orders for infrared Driver's Vision Enhancers (DVEs).

The delivery orders have been placed against a September 2009 contract awarded by the U.S. Army Communications and Electronics Command (CECOM) at Fort Monmouth, NJ - a DVE Family of Systems (FOS) contract covering orders from the U.S. Army, Navy, Marine Corps, Air Force and Special Operations Command.

Among the products ordered by these groups are complete DVE systems for combat and tactical wheeled vehicles, as well as spare integration kits, sensor modules, displays, and various other system components. Deliveries began in November and extend through September 2010.

With 40,000 units already purchased since 2004 for deployment on vehicles such as Abrams tanks, Bradley Fighting Vehicles, Strykers, MRAPs, Amphibious Assault Vehicles, and HMMWVs, DRS DVEs use advanced infrared-imaging technology to help operators maneuver in severely degraded visual conditions - at night, and through smoke, fog, sand and other battlefield obscurants. In addition, the units provide advanced situational awareness helping users detect, avoid and neutralize possible threats.

DRS Technologies, headquartered in Parsippany, NJ, is a leading supplier of integrated products, services and support to military forces, intelligence agencies and prime contractors worldwide.

## Contracts

### Oshkosh Defense Awarded \$5 Million FHTV Delivery Order

OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation, has been awarded a delivery order valued at more than \$5 million from the U.S. Army Tank-automotive and Armaments Command Life Cycle Management Command (TACOM LCMC) to produce more than 15 next-generation Heavy Expanded Mobility Tactical Trucks (HEMTT).

The order was issued under the Army's Family of Heavy Tactical Vehicles (FHTV) III contract.

The variants included in the order are M985A4 guided missile transporters (GMT), as well as M977A4 electrical power plant (EPP) and large repair parts transporter (LRPT) cargo trucks. Production is expected to begin in July 2010 and be completed in September 2010. The GMT variant is designed to deliver and load four guided missiles to the launcher using an integrated crane. The EPP cargo truck includes a chassis-mounted electrical power plant, and the LRPT cargo truck is used to store or transport heavy repair parts.

The Oshkosh® HEMTT's 13-ton payload and off-road capabilities make this vehicle the backbone of the U.S. Army's logistics fleet. HEMTT A4 improvements include: a more powerful drivetrain; improved suspension; a fully air-conditioned and armor-ready cab;



and other structural changes to make in-the-field installation of add-on armor quicker and easier. The HEMTT A4 is built with maximum common parts across its variants.

Oshkosh has produced more than 70,000 military-class vehicles at its facilities, including more than 30,000 FHTVs. Oshkosh has the available capacity, highly skilled workforce and proven manufacturing capability to deliver this FHTV order and other vehicle orders for all Army and Defense programs, including the MRAP All Terrain Vehicle (M-ATV) and Family of Medium Tactical Vehicles (FMTV), as well as any surges in production.



## Exhibitions

### BAE Systems at DefExpo - a towering display of artillery power



New Delhi, India -- Two of the world's most powerful howitzers will dominate the BAE Systems' presence at DefExpo in Delhi starting Feb 15th.

The BAE Systems FH77 B05 towed howitzer, and M777, the ultra light howitzer, will both be part of BAE Systems' biggest ever presence at DefExpo.

BAE Systems will be co-located with Defence Land Systems India, the Mahindra and BAE Systems joint venture company which will soon be up and running.

Andrew Gallagher, President BAE Systems India said: "BAE Systems' commitment to the development of a long term domestic business in India, with a full range of skills and capabilities, is unmatched. We firmly support the Indian Government's aim of procuring 70% of defence equipment domestically and see the establishment of Defence Land Systems India as a major contribution towards this objective."

M777, the world's lightest 155mm howitzer, will grace the BAE Systems stand. Next to the M777, on the Defence Land Systems India stand, will be the FH77 B05. This is the significantly upgraded and more powerful big brother of the FH77 B02 in service with the Indian Army, which performed so admirably during the Kargil conflict.

The BAE Systems FH77 B05 is bidding for the Indian Army requirement for towed 52cal 155mm howitzers.

Trials with the India Army are due to start after DefExpo. The new upgraded howitzer, FH77 B05, has all round greater performance including increased range over the 39cal FH77 B02. It is intended that Defence Land Systems India would have a significant and increasing role in the production of FH77 B05, toward the intended goal of Defence Land Systems India becoming an artillery centre of excellence in India.

The M777 ultra light weight howitzer is now in the Foreign Military Sales (FMS) process for a possible FMS purchase between the US and Indian Governments. M777 is, by some considerable margin, the lightest 155mm howitzer in the world, and the only one proven in battle. BAE Systems stands ready to support both governments in a possible FMS purchase.

DefExpo will also see the launch of the MPVI (Mine Protected Vehicle India). A mine protected vehicle specifically designed for Indian conditions - the vehicle will make its first public appearance at the show on Defence Land Systems India's stand. The result of collaboration between Mahindra and BAE Systems, MPVI brings battle proven life saving vehicle protection technology to India in an affordable package, based on an indigenously assembled chassis and drive train. MPVI will be built at Defence Land Systems India's Faridabad manufacturing facility.

The UK's new tactical communications system, Falcon, will also be on display. Falcon will enter service with the British Army and Royal Air Force this year and is the world's first tactical comms system based on an all IP (Internet Protocol) open architecture. FALCON provides secure deployable broadband voice, data and video, delivering the core of Network Enabled Capability. FALCON interoperates with all NATO systems, enabling better information sharing and exploitation, improving military commanders' awareness and decision-making, and ultimately mission success. BAE Systems intends to use elements of what has been produced for Falcon in the bid for the Indian Army's Tactical Communications System programme.

Anjani and BAE Systems recently announced a new partnership that will see the two companies collaborate to produce survivability and protection equipment for soldiers and vehicles in India. Anjani and BAE Systems will be displaying these capabilities on their stands. Anjani is bidding for the Central Reserve Police Force's (CRPF) requirement for 59,000 bullet proof vests. If successful the vests will be produced by Anjani in India using BAE Systems' Tensylon technology. The Tensylon ballistic material, made from high performance polyethylene fibre, provides superior performance and a lighter-weight, cost-effective solution.

DefExpo also sees the India launch of BAE Systems' on-board power management system, which more than doubles the electrical power output of military vehicles to increase mission effectiveness. The system also provides power that can be exported from the vehicle during natural disasters and to support facilities and equipment such as field hospitals, command centres, and water purification systems.

BAE Systems will also be showcasing a whole range of products, including infantry fighting vehicles, high mobility vehicles, unmanned autonomous systems, protection equipment, and helmet mounted display technology.

### Training And Simulators

## General Dynamics Awarded \$387 Million Training Support Contract by the U.S. Army

FAIRFAX, Va. -- General Dynamics Information Technology, a business unit of General Dynamics (NYSE: GD), has been awarded a contract for Constructive Training Systems support by the U.S. Army's Program Executive Office for Simulation, Training and Instrumentation (PEO STRI).

The total potential value of this single-award, five-year Indefinite Delivery/Indefinite Quantity (ID/IQ) contract is \$387 million if all options are exercised. The initial award value is \$56 million for the base year.

Under the contract, General Dynamics will provide technical, management and professional engineering support services for the procurement and fielding of Constructive Training Systems (CTS). Services to be performed consist of engineering, integration, exercise and experimentation support, gaming, materiel purchases, maintenance, supply support and post-fielding support to PEO STRI and the Project Manager for Constructive Simulations (PM ConSim). The work will be managed in the Orlando, Fla., area.

"This award continues General Dynamics' long-standing relationship with PEO STRI, enabling the PM ConSim to execute its mission of acquiring, fielding and sustaining the constructive simulations used to support the Army's command and staff training requirements," said Zannie Smith, senior vice president of General Dynamics Information Technology's Army Solutions Division. "Our extensive knowledge of customer requirements and proven performance will allow the flexibility and quick response to dynamic program changes to achieve mission fulfillment."

The programs supported through the contract include the Joint Land Component Constructive Training Capability, Battle Command Training Center Equipment Support, Combined Arms Command and Control Upgrade System, Training and Doctrine Command, and Common Battle Command Simulation Equipment.

The U.S. Army PEO STRI provides life-cycle support for the Army's most advanced training systems around the world and places the power of simulation into the hands of warfighters.

As a trusted systems integrator for more than 50 years, General Dynamics Information Technology provides information technology (IT), systems engineering, professional services and simulation and training to customers in the defense, intelligence, homeland security, health, federal civilian government and commercial sectors. With approximately 17,000

professionals worldwide, the company manages large-scale, mission-critical IT programs delivering IT services and enterprise solutions.

### Defence Industry

## Missile maker Raytheon bidding for tank upgrade in India

New Delhi -- Raytheon Co, the world's biggest missile maker, said on Friday it and partner Larsen & Toubro have bid for the contract to upgrade 1,000 T-72 battle tanks in India.

Defence ministry officials said the government was looking to spend at least \$100 million in upgrading the tanks, which India bought from Russia three decades ago.

"The upgrade will increase the lethality of the T-72 tanks," Fritz Treyz, vice president, Raytheon (India operations), told Reuters.

Raytheon has a tie-up with engineering and construction firm Larsen & Toubro in India.

The upgrades will include weapons and computer systems and enhance its operation by night.

India, one of the world's biggest arms importers, wants to spend \$50 billion buying and upgrading weapons over the next five years.

Treyz said Raytheon will also launch the "fish hawk", an anti-submarine warfare weapon system next week in India.

### Robots

## Autonomous Solutions to Develop 3D Visualization System for MTRS Talon

LOGAN, UT -- Autonomous Solutions today announced it has begun a program with the EOD Robotics Group at ARDEC (Picatinny Arsenal, NJ) to transition its real-time 3D visualization technology to the MTRS Talon.

This suite of sensors and software enables an EOD technician to have a real time 3D 'bird's-eye' view of the target environment and the robot's position in it. The resulting enhanced situational awareness will enable users to more easily and quickly perform complex driving and manipulation tasks.

The underlying technology was developed by Autonomous Solutions under contract with NAVJEDTECHDIV using the iRobot Packbot as the initial development platform. The technique fuses 3D point cloud data from stereovision, lasers, or other 3D sensors, with 2D camera images to create a textured '3D photograph' -- almost like having a CAD model of the world, viewable from any angle. As the robot moves through its environment, 3D data is stitched together to create a 3D map of the robot's route. The resulting world model can be used for situational awareness, for measuring objects and distances in the world, and for enabling manipulation and navigational autonomy.

Autonomous Solutions will develop its implementation for the Talon robot with the help of engineers at the ARDEC EOD Robotics Group, who have developed their own interface to the base platform. The resulting retrofit package will have a minimal impact on the base platform. It will feature low power consumption, low weight, and minimal logistics footprint. Its use will result in no loss of current functionality, and it will be easily installed in the field.

"It's an important part of ASI's mission to transition the results of our research projects into products that can help soldiers in the field. Our intent is to be in a position to offer a cost-effective retrofit package for the Talon robot by the end of the year", said Mel Torrie, CEO of Autonomous Solutions.

#### **About Autonomous Solutions, Inc.**

Autonomous Solutions is a market leader in vehicle automation, multi-vehicle command and control, and SAE-JAUS implementation. ASI has successfully delivered hundreds of unmanned vehicle systems on nearly 50 different types of vehicle platforms for both military and commercial applications on vehicles ranging from 2 lbs to 300 tons.

### **Training And Simulators**

#### **Northrop Grumman Awarded Contract to Provide Rate Sensor Assemblies for the M1A1 Abrams Tank**

WOODLAND HILLS, Calif. -- Northrop Grumman Corporation has been selected by General Dynamics Land Systems to supply LRS-2000 Rate Sensor Assembly units for the Stabilized Commander's Weapon Station (SCWS) on the U.S. Army M1A1 Abrams tank.

The firm, fixed-price contract is valued at \$18 million.

The Northrop Grumman LRS-2000 is a two-axis rate sensor developed specifically to support gun and turret stabilization applications with low random drift and high reliability. Based on Northrop Grumman's G-2000 dynamically-tuned gyroscope, it functions as part of a larger system that provides added protection from enemy gunfire or improvised explosive devices for the urban warfighter by allowing soldiers to fire the tank's machine gun from inside the tank.

"The LRS-2000 Rate Sensor Assembly offers the high performance needed for the SCWS program at a reasonable cost," said Gorik Hossepian, vice president of navigation and positioning systems for Northrop Grumman's Navigation Systems Division. "It will help to increase soldier safety and effectiveness in urban areas where attacks can come from many directions."

The LRS-2000 is currently in production with deliveries beginning in 2010. It features a robust design that meets or exceeds all of the M1A1 Abrams tank requirements. A key component of the LRS-2000, the G-2000 gyroscope provides high accuracy stabilization capabilities in a small package. Its accuracy is enhanced by a servo-electronics card that is specifically tailored to

maximize the performance of the two axis gyroscope.

The G-2000 gyroscope has been in production since 1992 and more than 35,000 units have been delivered for a variety of military and commercial applications. It is the smallest dynamically-tuned gyroscope in production and offers high performance, small size, low cost and excellent reliability.

General Dynamics is the prime contractor for the SCWS program under a contract with the U.S. Army Tank and Automotive Command.

Northrop Grumman Corporation is a leading global security company whose 120,000 employees provide innovative systems, products, and solutions in aerospace, electronics, information systems, shipbuilding and technical services to government and commercial customers worldwide.

### **Defence Industry**

#### **Boeing Submits Proposal for US Army Ground-Vehicle Support**

ST. LOUIS -- The Boeing Company announced that it has submitted a proposal to the Defense Logistics Agency (DLA) to provide supply chain services to the U.S. Army for ground vehicle support at Army depots in Anniston, Ala., and Red River, Texas.

The eight-year, \$193 million contract award is expected to be announced this summer.

"Our proposal offers a best-value supply chain solution to the Defense Logistics Agency that will provide fast, reliable services at a consistently high quality," said Jason Frei, Boeing program manager of Land & Maritime DLA Support Programs. "Boeing has long been a leader in the aviation supply chain market, and we are committed to demonstrating our innovative capabilities to our land and maritime customers."

Boeing submitted its proposal through DLA's Industrial Product-Support Vendor (IPV) program, which provides maintenance and reset for ground-vehicle fleets. The IPV program works to create partnerships between government and industry to capitalize on the strengths of the supply chain to increase both supply availability and parts reliability. Boeing is seeking to provide inventory management, requirements forecasting, parts and technical support for the Army IPV program.

A unit of The Boeing Company, Boeing Defense, Space & Security is one of the world's largest defense, space and security businesses specializing in innovative and capabilities-driven customer solutions, and the world's largest and most versatile manufacturer of military aircraft. Headquartered in St. Louis, Boeing Defense, Space & Security is a \$34 billion business with 68,000 employees worldwide.

### **Defence Industry**

#### **Raytheon Teams With Larsen & Toubro on India Tank Upgrade Proposal**



NEW DELHI -- Raytheon Company and Larsen & Toubro Limited (L&T) have submitted an L&T-led proposal to upgrade Indian Army T-72 tanks.

The announcement was made Tuesday at DEFEXPO India 2010 in New Delhi.

Under the proposal, Raytheon will provide infrared imaging sights and electronics to improve target accuracy and increase overall system lethality of T-72 tank battalions. Raytheon has provided more than 20,000 thermal sights in 15 countries.

"Through collaboration with L&T on this important proposal for the Indian Army, we have confirmed the very complementary capabilities leveraged across our companies," said Fritz Treyz, vice president, Raytheon Network Centric Systems India Operations. "Together, we are exploring other opportunities to provide net-centric modernization defense solutions to meet growing demands in India and the global marketplace."

L&T brings a successful track record developing fire control systems across multiple weapon systems for land, naval and air defense applications. With customer support, L&T will perform the final integration of fire control system and sensors on the T-72 tanks.

"L&T is the only Indian company in the private sector that is leading a team for the T-72 upgrade program. The L&T and Raytheon combination has what it takes to deliver on such an important program," said M. V. Kotwal, senior executive vice president and member of the L&T board of directors. "This will lead to new joint opportunities in the Indian and global defense markets."

Larsen & Toubro is an \$8.5 billion technology, engineering and construction group with global operations. It is one of the largest and most respected companies in India's private sector.

A strong, customer-focused approach and the constant quest for top-class quality have enabled L&T to attain and sustain leadership in its major lines of business for more than seven decades.

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.

Corps Systems Command will include the DXM™ independent suspension solution.



"The threats that our warfighters face continue to change every day and we understand the urgency needed to rapidly engineer and deliver new Dash vehicles to defeat emerging threats," said Archie Massicotte, president, Navistar Defense. "We are constantly looking at enhancements across our vehicle portfolio to provide warfighters with the most advanced equipment."

Under the new contract, MaxxPro Dash vehicles will incorporate the DXM™ independent suspension solution provided by Hendrickson Truck Suspension Systems and AxleTech International. This vehicle upgrade further improves the vehicle's off-road capabilities, which is vital given Afghanistan's lack of road infrastructure.

"After conducting an extensive trade study, we selected a no-compromises suspension system for our MaxxPro," said Massicotte. "The design also minimizes the effort needed to integrate the system onto existing vehicles, which will accelerate the delivery of this important modification should the Army be interested in retrofitting our MaxxPro and 7000 Series fleets."

Since May 2007, Navistar has received orders for a total of 7,494 MaxxPro MRAP vehicles to help combat improvised explosive devices (IEDs) and other threats. In late 2008, the company modified its design for added mobility and produced the MaxxPro Dash MRAP variant. The addition of an independent suspension solution further improves mobility and is one of several capability insertions that will be incorporated into the next 1,050 MaxxPro Dash units. Navistar also has provided more than 8,100 International® 7000 Series vehicles to the Afghan National Army and Afghan National Police.

Navistar will conduct work at its Garland, Texas, and West Point, Miss., assembly plants. Deliveries will begin in April and will be completed by the summer of 2010. Parts are not included in the contract.

Navistar International Corporation 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).

## Defence Industry

### Navistar Defense Awarded \$752 Million Contract for MaxxPro Dash MRAP Vehicles

WARRENVILLE, Ill., -- Navistar Defense, LLC today was awarded a contract for \$752 million to provide 1,050 enhanced International® MaxxPro® Dash Mine Resistant Ambush Protected (MRAP) vehicles. Vehicles under the award from the U.S. Marine

## Robots

**iRobot Delivers 3,000th PackBot Tactical Mobile Robot**

BEDFORD, Mass. -- iRobot Corp. announced that it has delivered its 3,000th PackBot tactical mobile robot. First introduced in 2002, the iRobot PackBot allows warfighters and public safety professionals to investigate suspicious objects and other dangerous scenarios from a safe standoff distance.

"While this is an important milestone for iRobot, it also speaks volumes about the growing need for this technology on today's battlefield," said Joe Dyer, president of iRobot Government and Industrial Robots. "The investigation and disposal of improvised explosive devices (IEDs), route clearance and reconnaissance all pose significant risks to our troops. These are, in fact, great jobs for a robot." Dyer continued: "PackBot is battle-tested and is being used in an even wider variety of missions every day. Most importantly, it keeps our troops safe. This drives iRobot to continue enhancing its capabilities and to develop the next generation of robot technology."

The iRobot PackBot has several modular configurations for a broad range of infantry support and Explosive Ordnance Disposal (EOD) missions. The robot uses commercial off-the-shelf (COTS) cameras and sensors that stream video, audio and data back to the operator. The iRobot PackBot also features a game-style hand controller for faster training and easier operation in the field.

"We at the Robotic Systems Joint Project Office (RSJPO) are proud to be working with iRobot to provide our warfighters with the tools they need to accomplish their missions and return home safely," stated Lieutenant Colonel David Thompson, project manager, Robotic Systems Joint Project Office. "We appreciate the hard work of all our industry partners in providing the warfighter with these critical tools to extend the capabilities of our warfighters and allow them to better perform dangerous missions."

"This milestone is a testament to the superb dedication and service iRobot and all our industry partners are providing, and I expect many more milestones like this as our use of unmanned ground systems increases," added Major Kevin Schrock, assistant product manager for the iRobot 510 FasTac at the RSJPO. "We look forward to continuing to work with our industry partners to enhance robotics capabilities to meet the evolving needs of the warfighter."

## Defence Industry

**Lockheed Martin Completes Production Of Its First Two JLTV Technology Development Vehicles Ahead Of Schedule**

Owego, N.Y. -- Lockheed Martin has completed, ahead of schedule, production of its first two Joint Light Tactical Vehicles (JLTV), both new six-passenger Infantry Carrier variants.

The vehicles will be delivered to the U.S. Army and U.S. Marine Corps for a year-long testing period as part of the Technology Development (TD) phase of the JLTV program.

As part of the 27-month TD contract awarded in October 2008, Lockheed Martin will deliver multiple JLTV variants and trailers to the Army and Marine Corps for the testing program, scheduled to begin in April of this year. The testing will be conducted primarily at Aberdeen Test Center, MD, and Yuma Test Center in Yuma, AZ.

"Successfully completing production of our first two TD vehicles ahead of schedule is a major achievement for our program," said Steve Ramsey, vice president of Ground Vehicles at Lockheed Martin. "The team's tireless efforts to design, assemble and test our previous six operational prototypes culminated in the production of technology development vehicles that are mature, low-risk and thoroughly tested."

In addition to the TD vehicles, the Lockheed Martin JLTV team has produced multiple test vehicles. The team's current JLTV family of vehicles includes five prototypes, all of which are in system test and have accumulated more than 70,000 combined miles:

- The original Infantry Carrier JLTV Category B model, designed for troop transportation;
- The Utility Vehicle Light Category C model, designed with a focus on payload;
- The General Purpose Mobility Category A model, designed for logistical support;
- The second variant of the Utility Vehicle Light Category C model; and
- The Command and Control on the Move Category B model. This vehicle is scheduled to make its public debut at the Association of the United States Army Winter Symposium in February 2010.

"We are confident that we'll continue to remain on schedule and deliver a high-quality family of vehicles that meet all transportability requirements by air, land and sea," Ramsey added. "We look forward to final delivery to the U.S. Army and Marine Corps this spring

and having our vehicles rigorously tested."

The Lockheed Martin-led JLTV Team includes leaders in their respective fields. Lockheed Martin serves as the prime contractor and design agent, providing advanced systems, systems engineering, platform and components integration, design expertise, and program and supply chain management. The BAE Systems Global Tactical Systems and Security & Survivability Systems businesses are providing production facilities for high volume assembly, and advanced armor solutions for protection. Alcoa Defense is supplying materials experience, design services and aluminum components that give the vehicle its structural strength at reduced weight. JWF – Defense Systems is offering state-of-the-art machining and cost-effective fabrication.

## Defence Industry

### GD Reveals Future Potential for ASCOD SV FRES Vehicle



London, UK -- General Dynamics UK has announced that its ASCOD SV candidate for the FRES Specialist Vehicle programme offers the option of early delivery for the heaviest direct fire variants, as a result of its weight capability and turret design.

Chief Engineer John Abunassar said: "From day one, ASCOD SV offers full operation at 42 tonnes. This means it can carry a 120mm gun easily without compromising armour or performance. Our design for a large turret ring is an advantage for the soldiers inside that opens up the flexible option of an early path to the heaviest FRES SV vehicles."

ASCOD SV is capable of full operation at 42 tonnes. This performance is based on the technical maturity of the engine and transmission, which enable tremendous through-life growth. This is a significant advantage for the programme, which is founded on a Common Base Platform to satisfy the full FRES SV fleet of 1200-plus vehicles, including the heavy weight Direct Fire and bridge-layer.

The first FRES SV variants include the Scout, for which ASCOD SV has a turret designed to maximise space for soldiers inside. The large turret-ring diameter of 1.7m is wider than older vehicles such as Warrior, and the design increases space further by placing the main ammunition feed under armour outside the turret crew compartment. This gives soldiers considerable room for modern display screens, comfort for long periods inside the turret and ease of movement, even wearing full body armour and future wearable systems. With the need for

military electronics ever-expanding on operations, the turret allows significant room for new systems to be fitted without compromising the design of the vehicle.

ASCOD SV is designed to offer the option of an early, low-risk path to a Direct Fire variant. General Dynamics has already fitted earlier variants of ASCOD in Europe for heavy direct fire roles. ASCOD SV's large turret diameter is designed to be expanded to 2.1m, easily carrying, for example, a 120mm gun on a 1.9m turret ring. The vehicle's 42-tonne capability allows it to carry such a gun at this higher weight without compromising full performance or its ability to carry the full FRES armour.

The turret design combines with the high power-distribution capability of the General Dynamics open Electronic Architecture, which allows new-generation systems to be plugged in as required and power generation to be expanded.

## Contracts

### General Dynamics to Supply 250 RG-31 MRAP Vehicles to the U.S. Defense Department



LONDON, Ontario, Canada -- U.S. Marine Corps Systems Command (MCSC) has awarded General Dynamics Land Systems-Canada a \$227.4 million delivery order to produce 250 RG-31 Mk5E vehicles for its Mine Resistant Ambush Protected (MRAP) vehicle program.

General Dynamics Land Systems, the Canadian company's parent corporation, is a business unit of General Dynamics.

Vehicle production will occur at BAE Systems Land Systems OMC of Benoni, South Africa. Deliveries will be completed by October 2010.

This contract is in addition to the 1,402 RG-31 Mk5 vehicles already supplied by General Dynamics under the MRAP program. Separately, an additional 584 RG-31s were previously ordered by the U.S. Army TACOM Life Cycle Management Command for route-clearance vehicles.

"We appreciate the confidence that the U.S. military has in the RG-31 vehicle, as they conduct their missions in a dangerous and uncertain environment," said Dr. Sridhar Sridharan, senior vice-president of General Dynamics Land Systems-Canada. "We are pleased to have the opportunity to once again assist in protecting the lives of U.S. soldiers."

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



Canadian Government.

## Defence Industry

### Australian Forces to Receive Improved Firepower with Saab's Carl Gustaf Anti-armour Weapon



Greg Combet, Minister for Defence Personnel, Materiel and Science today announced improved firepower for the ADF with contracts being signed for a new anti-armour weapon capability.

"Defence has contracted SAAB Bofors Dynamics for the supply of the M3 84mm Carl Gustaf anti-armour support weapon," Mr Combet said.

"These new weapons provide an increased direct fire support capability and will be employed by the Infantry, Special Forces and RAAF Airfield Defence Guards.

"Soldiers will appreciate the weight savings afforded by the M3 Carl Gustaf anti-armour weapon.

"The value of the contract with SAAB Bofors Dynamics is approximately \$10.5m which includes the supply of weapons, spares and documentation to support the system," Mr Combet said.

In addition, Mr Combet announced the contract with BAE Systems Australia to supply the enhanced sighting system for the newly acquired M3 84mm Carl Gustaf anti-armour weapon.

"The value of the contract with BAE Systems Australia is approximately \$16m which includes the supply of sighting systems, spares, documentation and three years of support for the system," Mr Combet said.

"The enhanced sighting system includes thermal technology which provides the ADF with an increased direct-fire support capability when used with the M3 84mm Carl Gustaf anti-armour weapon.

"Furthermore, the new sight will also now permit engagements during day, night and adverse conditions," Mr Combet said.

## Contracts

### Bushmaster Single Cab Utility Selected for Next Stage of Vehicles Program

Thales Australia's Bushmaster family of vehicles has received another boost, with the Single Cab Utility downselected for the Department of Defence's LAND 121 Phase 3 program.

LAND 121 Phase 3 will replace a fleet of over 2,000 Australian Defence Force field vehicles and trailers with

new vehicles procured across the program's Medium Heavy Capability component.



Thales Australia's Bushmaster Single Cab Utility has been downselected for the next stage of the tender evaluation process in the mediumweight category.

Chris Jenkins, Thales Australia's Managing Director, said the decision reflected the high level of industry capability, protected mobility vehicles expertise and customer knowledge available in Australia.

"The Bushmaster has been a very successful vehicle on operations, and we expect the Single Cab Utility to follow in this tradition. The successful development of the Single Cab Utility is a reflection on the extensive local expertise available to the ADF. We have worked closely with the customer for many years developing solutions that meet their unique operational requirements.

"This partnership has proven very successful, not only in terms of the creation of a sustainable local long-term relationship but also, most importantly, in protecting the lives of servicemen and women on operations."

The Single Cab Utility is a cab chassis 4 x 4 protected logistics vehicle. It can carry a 5,000 kg load on its 9.4m<sup>2</sup> tray, while providing crew with the protection, mobility and combat flexibility to fulfil their mission in the most hostile environments.

The Single Cab Utility uses the same monocoque v-shaped hull as the combat-proven Bushmaster to provide protection against mine blast and IEDs. This technology is enhanced by upgradeable ballistic protection options for the crew cabin.

## Contracts

### Oshkosh Defense Awarded \$24 Million for M-ATV Upgrade Kits

OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation, announced it has received two awards valued at more than \$24 million from the U.S. Army Tank-automotive and Armaments Command Life Cycle Management Command (TACOM LCMC) for MRAP All-Terrain Vehicle (M-ATV) kits for the support of communication equipment and electrical system upgrades.

The combined undefinitized orders consist of more than 2,090 upgrade kits for the vehicles.

The kits will support the installation of Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) suites composed of electronic equipment such as communications hardware, jammer systems, tracking

technology and driver vision enhancement. The kits also will support the addition of “silent watch” capability, which allows the M-ATV to operate C4ISR equipment for extended periods of time with reduced noise and heat signatures from the vehicle.

“The C4ISR technology and silent watch capability that these kits support will further enhance the M-ATV’s effectiveness in combat operations in Afghanistan,” said Andy Hove, Oshkosh Corporation executive vice president and president, Defense. “Our advanced manufacturing capabilities, highly skilled workforce and available capacity ensure these upgrades can be completed without impacting our continued rapid delivery of any of our military vehicles under contract.”

Since January 2010, Oshkosh has been incorporating the M-ATV upgrades into the production process at both its M-ATV production facilities, Oshkosh and the Space and Naval Warfare Systems Command will install the upgrade kits on vehicles already built.

Oshkosh has exceeded the accelerated M-ATV delivery schedule for seven consecutive months. To date, the aggregate amount of awards Oshkosh has received for 6,619 M-ATVs, upgrade kits, spare parts kits and aftermarket support is valued at more than \$4 billion. Existing Oshkosh manufacturing facilities have available production capacity for these M-ATV orders and all other Defense programs, including the U.S. Army’s Family of Medium Tactical Vehicles (FMTV), as well as any surges in production.

The Oshkosh® M-ATV uses the Oshkosh-patented TAK-4® independent suspension system for superior mobility in harsh environments, including 16 inches of independent wheel travel and a 70 percent off-road profile capability. The TAK-4 system has undergone more than 500,000 miles of government testing and is being retrofitted on more than 2,400 legacy MRAPs for improved mobility in Afghanistan. The TAK-4 system is featured on more than 10,000 Medium Tactical Vehicle Replacements (MTVR), used by the U.S. Marine Corps and Navy Seabees, as well as on the Army’s next-generation Palletized Load System (PLS) and the Marine Corps’ Logistics Vehicle System Replacement (LVSR).



## Defence Industry

### TERRIER Engineer vehicle passes two key milestones



Newcastle, United Kingdom. -- The BAE Systems’ programme to deliver 60 TERRIER™ vehicles to the British Army has taken two important steps

forward.

Manufacture of the first TERRIER production hull began on 27 January at the company’s Newcastle plant. In a ceremony attended by senior staff from both the MoD Combat Wheels Group and BAE Systems’ suppliers; visitors saw machining operations on the first side plate commence.

Attendees at the production launch ceremony were able to see first hand the J2m investment in process and machinery which has been put in place to support Terrier production. Both have been completely overhauled to improve build efficiency and maximise build quality, following lessons learnt from production of the heavier Titan and Trojan engineer vehicles, and the mine-protected Panther command and liaison vehicle which was recently delivered to Afghanistan.

The first TERRIER hull will be used in mine blast trials to demonstrate improved protection levels introduced by modifications resulting from experience gained on other vehicles during operations in Iraq and Afghanistan. The complete hull will be available for trials towards the end of this year. Assembly, integration and test of the first production vehicle is scheduled to commence in the first half of 2011.

Another important TERRIER development milestone was successfully completed in December 2009 after two demonstrator vehicles finished a comprehensive performance trial designed to demonstrate reliability growth. This two-month assessment consisted of a range of typical battlefield missions, including:

- Travelling 3300km, split between road, track and cross country going
- Excavating 135 pits for Warrior infantry fighting vehicles
- Digging 39 pits for AS 90 self-propelled howitzers
- Moving 15,500 tonnes of spoil
- Operating the vehicles remotely via a remote control system and radio link
- Completing a range of route clearance and denial operations and placement of ditch-crossing fascines

BAE Systems TERRIER team leader Paul Dale explained, “Our goal with these trials is to provide the Ministry of Defence with confidence that TERRIER is on track to meet the exacting reliability levels prescribed for the vehicle.”

Following a detailed review of the trial results and subsequent reliability case report, the MoD has concluded that the trial has been successful and the programme should continue to the next phase of reliability growth, which is to demonstrate compliance with the full contractual reliability requirement.

Group Captain Paul Ridge, the leader of the Manoeuvre Support Team responsible for the Terrier project, added “The successful completion of the mid-point reliability trials and the start of first production hull are significant milestone achievements for both BAE Systems and MoD. While there remain challenges ahead of us, both teams are committed to building on the momentum and recent successes to deliver world class capability and reliability for the Royal Engineers”.

Paul Dale concluded: “The reliability targets set within

the TERRIER contract represent a significant increase over the reliability requirements associated with Armoured Fighting Vehicles currently in service with the British Army. In successfully completing the performance trial, TERRIER has demonstrated a step improvement in reliability beyond that seen during the early phases of the programme.”

### Defence Industry

#### Anti-terror buggy unveiled by Metaltech in India



The battery operated, two million rupee (\$45,000) Anti-Terrorist Assault Cart (Atac) is said to resemble a bullet-proof golf buggy with firing ports.

It has been specially designed to transport two armed security personnel during or after terror attacks.

- Provides Level III protection to occupants
- Designed to carry 2 fully geared armed personnel
- Can accommodate extra ammunition
- Role in narrow corridors and inside built up areas with terrorist threat eminent
- Functions silently being battery operated
- Can be utilized for retrieving casualty
- Bullet proof glass on windows
- Provides firing ports as essentially required
- Floor to withstand 36 grenade splinters

### Defence Industry

#### HF Manpack Military Tactical Transceiver Codan 2110M, NATO Standard



Codan 2110M HF Manpack Military Tactical Transceiver are all purpose, fully self contained manpack radios. They are designed to meet your long distance and remote communications needs while on the move, and can quickly be deployed.

The 2110M features frequency hopping that assures your communications remain private. Transceiver has NATO NSN 5820-99-602-7549

Codan have gone to great lengths to ensure our manpacks are extremely light, rugged, comfortable to carry, and packed with easy to use features. They are ideal for all types of terrain and weather conditions. With a range of antennas, backpacks and battery types, the 2110M can be configured to suit your mission.

#### Built to last

Codan radios are famous for their ruggedness and reliability, and the 2110M is no exception. They are the most rugged radios we've ever built and comply with the toughest environmental standards including MIL-STD-810F. The radio and battery compartment are completely waterproofed and can be fully immersed.

#### Intelligent battery management

A radio's battery management system and mission life lie at the heart of successful portable communications. That's why Codan's 2110M delivers the lowest current consumption available so you can operate continuously on a single battery charge for many days. Our Intelligent Battery Management System cleverly monitors and displays the battery capacity and condition, and also protects the battery by preventing it from being overcharged. Battery protection reduces your ongoing costs by extending battery life even further and removes the need to carry extra batteries.

#### Communications made easy



The 2110M shares a common friendly user-interface with Codan's NGT series transceivers, which minimises training time and expenses. They operate seamlessly with our NGT series, plus other commercial and military grade radios.

Our manpack radios also feature a fully integrated fast antenna tuner that automatically selects tuning modes, antenna types and initiates the tuning cycle. With Codan's large and clear operating display, self-test capabilities, and advanced calling facilities, the 2110M is easy to operate and maintain for any user.

#### Superior support



Codan 2110M is backed by a renowned worldwide support network and an industry leading three year warranty.

### Key Features



### True Manpack

- Lightweight, rugged and waterproof design for voice and data communications
- Operate for many days on a single battery charge

### Excellent Radio Performance and Features

- User-friendly interface, large and clear operating display, and internal front panel speaker
- Easy one key access to primary or preconfigured functions
- Advanced calling facilities:
  - o Selective call
  - o Phone call
  - o Message call
  - o GPS Position calls
    - o Over-The-Air remote disable and configuration capabilities
- Interoperable with other commercial radios
- Interoperable with military grade radios
- FED-STD-1045 ALE option, plus Codan's advanced ALE (CALM)
- MIL-STD-188-141B ALE
- Integrated fast automatic antenna tuner
- DSP Noise Reduction - Easitalk®
- High quality, integrated Voice Encryptor option for secure communications
- Integrated GPS Receiver option

### Low Cost of Ownership

- Up to 50 hours battery life, plus Intelligent Battery Management System for low operational costs
- Software update capability to protect your investment
- Easy to use, minimum training required

### No Risk!

- Codan's renowned reliability, worldwide support and three year warranty

### Worldwide industry standards and advanced ALE

The 2110M Transceiver fully complies with a large number of international standards including CE, FCC and NTIA radio type approvals, MIL-STD-810F environmental standards, FED-STD-1045 ALE, and JITC certified MIL-STD-188-141B ALE. The 2110M

also complies with MIL-STD-188-141B ALE. In addition, Codan's advanced ALE technology (CALM) outperforms conventional ALE systems with a faster scan rate and 24 hour based Link Quality Analysis, which automatically selects a suitable channel from the moment the radios are switched on and reduces sounding activity.

### Protect your communications and your investment

With Codan's internal SAFE voice encryption option and frequency hopping, the 2110M Transceiver ensures sensitive information is communicated in confidence. The 2110M can also accommodate new capabilities and support future upgrades, ensuring you'll always get the most from your investment.

### Contracts

### GD Awarded \$29 M for RG-31 MRAP Independent Suspension Kits

London, Ontario, Canada -- U.S. Marine Corps Systems Command (MCSC) has awarded General Dynamics Land Systems-Canada a USD\$29.2 million delivery order to supply 127 independent suspension kits for its Mine Resistant Ambush Protected (MRAP) vehicle program.

General Dynamics Land Systems, the Canadian company's parent corporation, is a business unit of General Dynamics.

The TAK-4 independent suspensions, produced by Oshkosh, will be installed in-theatre on to previously delivered RG-31Mk5EM vehicles to enhance their ride quality and robustness.

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

### Defence Industry

### J4.5M BAE Systems Test Rig Will Speed FRES scout and Warrior Upgrade



LEICESTER, United Kingdom -- BAE Systems has begun building work on a new test rig designed to reduce cost, risk and timescales on the UK Ministry of Defence's two most important programmes for the British Army.

The J4.5m Turret Test Rig (TTR) will mimic field testing of turrets for FRES Scout and Warrior upgrade by subjecting them to "shake, rattle and roll" tests under

extremes of temperature. It will be able to take a turret through a 20-year life-span in 12-18 months.

The facility is closely modelled on BAE Systems' Mission Equipment Vibration Table (MEVT) in Minneapolis, built for the US FCS programme. Until now this was unique.

The vibration created by tracked vehicles makes attaining good reliability very challenging, particularly for electronic components. Testing in the field, while necessary, is time-consuming, expensive and inefficient.

Systems modelling and analysis manager Vince Whelan has relocated from Minneapolis where he worked on the MEVT to commission and use the new facility. He explains:

"The TTR will replace a large proportion of field trials with testing under tightly-controlled conditions. We will be able to begin these trials much earlier in the development process so that field trials become a matter of verification rather than investigation. We will also be able to test and iron out any snags in suppliers' equipment earlier.

"Having the TTR where the design team is based will help us pinpoint – and therefore solve – the source of any problems much more quickly and easily, so that we and the MoD can have confidence in meeting their demanding reliability targets."

The rig was ordered four months ago and the facility is expected to be commissioned in September this year and will sit alongside the Systems Integration Facility which is already being heavily used for work on FRES and Warrior upgrade.

BAE Systems FRES director Mike Duckworth explains the continued investment in Leicester: "As armoured vehicles become more complex, the value and the battle-winning advantage lies more and more with their sophisticated electronic systems. We are investing in Leicester as part of our business transformation to create a centre of excellence for these new technologies so that we can develop, integrate and bring them into service as efficiently as possible."

#### About BAE Systems

BAE Systems is a global defence, security and aerospace company with approximately 107,000 employees worldwide. The Company delivers a full range of products and services for air, land and naval forces, as well as advanced electronics, security, information technology solutions and customer support services. In 2009 BAE Systems reported sales of J22.4 billion (US\$ 36.2 billion).

to supply more than 35 next-generation Heavy Expanded Mobility Tactical Trucks (HEMTT) to the Army Reserve.

The variants included in the order include M984A4 wreckers and M1120A4 load handling systems (LHS). Production is expected to begin in September 2010 and be completed in June 2011. The order was issued under the Army's Family of Heavy Tactical Vehicles (FHTV) III contract.

The Oshkosh® HEMTT's 13-ton payload and off-road capabilities make this vehicle the backbone of the U.S. Army's logistics fleet. HEMTT A4 improvements include: a more powerful drivetrain; improved suspension; a fully air-conditioned and armor-ready cab; and other structural changes to make in-the-field installation of add-on armor quicker and easier. The HEMTT A4 is built with maximum common parts across its variants.

Oshkosh has produced more than 70,000 military-class vehicles at its facilities, including more than 30,000 FHTVs. Oshkosh has the available capacity, highly skilled workforce and proven manufacturing capability to deliver this FHTV order and other vehicle orders for all Army and Defense programs, including the MRAP All Terrain Vehicle (M-ATV) and Family of Medium Tactical Vehicles (FMTV), as well as any surges in production.



#### Army

### U.S. Army Surges CROWS Weapons Stations to Afghanistan



PICATINNY ARSENAL, N.J. -- With the surge to Afghanistan underway, thousands of advanced CROWS weapon systems are taking flight to support U.S. Army forces in theater.

The CROWS systems mount what is essentially a small turret on top of Army combat vehicles that provides soldiers the ability to employ their machine guns while using a control grip and video monitor from inside the protection of an armored vehicle. In response, PEO Soldier's PM Soldier Weapons office is ramping up its stateside logistics support and is in the process of establishing three new support sites in Afghanistan to manage the fielding, soldier training, and sustainment of the XM153 Common Remotely Operated Weapons Station (CROWS) systems.

"We are embedding the new CROWS support sites with units that are farther afield," said Lt. Col. Michael

#### Contracts

### Oshkosh Defense Receives \$13 Million Delivery Order to Supply HEMTT A4s to Army Reserve

OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation, has been awarded a delivery order valued at more than \$13 million from the U.S. Army Tank-automotive and Armaments Command Life Cycle Management Command (TACOM LCMC)

Ascura, Product Manager Crew-Served Weapons. "Our new sites will put the support closer to the units that need it and reduce system down time. We fielded one new site this month, and will bring two more online by April in Afghanistan."

The complexity of the fielding is magnified by the sheer number of vehicles and vehicle variants that are now employing CROWS; including MRAPS, HMMWVs, RG31A1 route clearing vehicle, the Buffalo EOD vehicle, the new MATVs, and others. Each of these vehicles require customized vehicle integration kits to bring the units online.

Maj. Michael Pottratz, Assistant Product Manager for Crew-Served Weapons, manages the logistical support of the entire system. To accomplish his mission, Maj. Pottratz has devised a "building in a box" concept that enables the Field Service Representatives (FSR) that staff the support sites to independently set up sites in a matter of days. All they need is a piece of real estate and some fuel.

"We wanted to put together a custom kit for our Field Service Reps that enables them to get operational as soon as possible," said Maj. Pottratz. "All the components necessary to establish the support site come in a single container: tools, equipment, computers, classroom space and materials, generators, air conditioners, even a Gator ATV. Our FSRs can provide CROWS support within 48 hours after offloading."

Once operational, FSRs begin comprehensive, hands-on training sessions with soldiers. Lt. Col. Ascura recommends that every member of a unit receives training on the system, not just operators. CROWS training provides leaders with critical knowledge on how best to employ CROWS to support a diverse set of missions. With its day and night cameras, CROWS provides target identification and surveillance capabilities that are well beyond what small unit leaders have had previously.

"Soldiers learn how they can turn 'area weapons,' such as the M2 machine gun, into precision engagement weapons," said Lt. Col. Ascura. "Beyond the guns, leaders begin to think about how to integrate the system capabilities into their tactics. In the past, soldiers had to perform the same functions with the naked eye from an exposed position in the turret. Thanks to CROWS, those days are coming to an end."

## Contracts

### BAE Systems Receives \$74 Million Contract to Buy Parts in Preparation for Bradley Reset

YORK, Pa. -- BAE Systems was awarded a contract for \$74 million by the U.S. Army Tank-Automotive Command, Life Cycle Management Command to purchase long-lead items in preparation for the reset of 101 Bradley Operation Desert Storm Situational Awareness (ODS SA) vehicles.

Under this contract, BAE Systems will procure 101

kits of 43 long-lead items and additional parts for the reset of Bradley ODS SA vehicles. The company will use the acquired items in restoring the Bradley's to pre-combat condition and upgrading them to the improved situational awareness capability.



"The restoration of the Bradley sustains its life and provides a reliable and efficient vehicle for our war fighters as they complete their missions," said Joe McCarthy, vice president and general manager of the Heavy Brigade Combat Team System for BAE Systems. "The procurement of these essential parts will help to ensure that we provide the best possible modernized vehicle to our customer."

Bradley Combat Systems continues to provide outstanding survivability, mobility and lethality to U.S. soldiers in close-combat urban situations as well as in open-combat. The Bradley fulfills five critical mission roles - infantry fighting vehicle, cavalry fighting vehicle, fire support vehicle, battle command vehicle and engineer squad vehicle - for the Army's Heavy Brigade Combat Team.

BAE Systems manufactures Bradley Combat Systems, which are part of the U.S. Combat Systems line of business. U.S. Combat Systems is a modern, efficient, full-spectrum developer, integrator and supplier of survivable, lethal ground and naval combat platforms. U.S. Combat Systems is a main supplier to the U.S. Army's Heavy Brigade Combat Team, an integral developer of mine-protected and future combat vehicles, and a top producer of naval guns and missile launchers.

## Contracts

### Force Protection Receives Order for Cougar Mastiff Vehicles



Force Protection, Inc., a leading designer, developer and manufacturer of survivability solutions and provider of total life cycle support for those products, announced that it has received an order for 23 Cougar Mastiff Explosive Ordnance Disposal (EOD) variants to be delivered to the United Kingdom via a Foreign Military Sales (FMS) contract from Marine Corps Systems Command.



The undefinitized contract has a value not to exceed \$16.1 million.

The work will be performed in Ladson, SC and is expected to be completed prior to April, 2010. The first 5 Mastiff EOD vehicles were delivered on February 8th, 2010, 20 days after contract award due to long lead funding previously received towards work on the contract.

Michael Moody, Chief Executive Officer of Force Protection, commented, "We are delighted with the Cougar Mastiff's performance with the United Kingdom's forces. The Mastiff has proven time and again to be a life saver and an excellent value for our customer. These EOD Mastiffs will enable bomb disposal units in the current theater of operations to perform their missions safely and effectively. We thank our United Kingdom customer for their continued confidence in our products and we look forward to continuing to build on our strong relationships with the Ministry of Defence to meet other current and future survivability needs for British forces."

## Contracts

### BAE Systems Receives \$90.6 Million Order for Mine Resistant Ambush Protected Special Operations Vehicles



YORK, Pennsylvania -- BAE Systems has received a delivery order from the U.S. Marine Corps Systems Command worth up to \$90.6 million to provide 58 U.S. Special Operations Command (SOCOM) Mine Resistant Ambush Protected (MRAP) vehicles.

The U.S. SOCOM vehicle is one of several MRAP variants based on the RG33 family of vehicles.

"These vehicles have been in service with our forces in Iraq providing survivability against improvised explosive devices (IEDs), medium machine gun or small arms fire and mine blast protection," said Mark Signorelli, vice president and general manager of New Vehicles and Amphibious Systems for BAE Systems. "The entire RG33 team is proud to be able to provide these highly survivable vehicles to support our troops."

Work on the delivery order will be performed by the existing workforce and will begin immediately at BAE Systems facilities in York, Pennsylvania and Aiken, South Carolina; with assistance from Letterkenny Army Depot (LEAD) and Spartan Motors Chassis' facility in Charlotte, Michigan.

Under a Public/Private Partnership Agreement, BAE Systems will work with LEAD to deliver the vehicles. Vehicle hull production will occur at BAE Systems' York, Pennsylvania facility while final assembly, integration, and test will occur at the depot in Chambersburg, Pennsylvania. Deliveries are scheduled to begin in September 2010 and run through December 2010.

## About BAE Systems

BAE Systems is a global defense, security and aerospace company with approximately 107,000 employees worldwide. The Company delivers a full range of products and services for air, land and naval forces, as well as advanced electronics, security, information technology solutions and customer support services. In 2009 BAE Systems reported sales of J22.4 billion (US\$ 36.2 billion).

## Exhibitions

### Navistar Defense Showcases MaxxPro Dash With DXM Independent Suspension at AUSA



FORT LAUDERDALE, Fla., -- Navistar Defense, LLC today will showcase its enhanced International® MaxxPro® Dash Mine Resistant Ambush Protected (MRAP) vehicle with DXM™ independent suspension for attendees at the 2010 Association of the United States Army (AUSA) Winter Symposium and Exposition.

"The Dash with DXM independent suspension demonstrates our work in improved performance as we continue to bring our significant design force to bear on product improvements for our warfighters," said Regis Luther, vice president, military products and initiatives. "We are also focused on the swift delivery of this capability and have designed kits and rolling chassis to quickly retrofit the remainder of the MaxxPro and 7000 Series fleets if needed."

The enhanced MaxxPro Dash with DXM independent suspension offers added mobility for off-road travel while still providing warfighters with Category I MRAP survivability protection. A number of other added features that are included on the enhanced Dash include insulation and door upgrades, as well as an inclinometer, which acts as a level and measures side slope during vehicle operation.

The DXM independent suspension solution is provided by Hendrickson Truck Suspension Systems and AxleTech International. Navistar selected this no-compromises suspension system after conducting an

extensive trade study. The DXM design also minimizes the effort needed to integrate the system onto existing MaxxPro and 7000 Series vehicles should the military be interested in retrofitting the company's fleets.

On February 16, Navistar received an order for 1,050 Dash vehicles, bringing the company's total MRAP orders to 7,494. Navistar also has provided more than 8,100 International® 7000 Series vehicles to the Afghan National Army and Afghan National Police. These vehicles can also be upgraded with the DXM independent suspension.

## Robots

### Northrop Grumman Remotec Delivers Heavy-Duty Robot to Los Angeles Police Department

CLINTON, Tenn. -- Northrop Grumman Corporation subsidiary Remotec Inc. and its partner Autonomous Solutions Inc. have delivered a stronger, heavier and more capable robot to the Los Angeles Police Department, allowing officers to perform more missions more safely.

The Caterpillar TL1255 Telehandler can be operated remotely from a distance of up to one mile, has a forward reach of more than 40 feet, an extension height of 50 feet, and a lift capacity of 12,000 pounds. Armed with these new capabilities, first responders and special weapons and tactics teams (SWAT) can more effectively respond to emergency situations, including explosive ordnance disposal, hazardous material response (HAZMAT) and port security.

The Telehandler is Remotec's first offering from a new heavy-duty line of roboticized construction-grade equipment.

"Remotec is delivering innovative, integrated solutions that reduce the dangers of dealing with some of the most serious threats facing first responders, enabling them to keep that danger at a distance," said Mike Knopp, president of Remotec Inc. "With the delivery of the robotic Telehandler, we've reached an important milestone for Remotec and our customers: We can now offer them an additional class of unmanned ground vehicles designed to meet new and emerging threats head on."

For more than 20 years, Remotec has been keeping danger at a distance by providing rugged and dependable hazardous duty robotics for military, explosive ordnance demolition, HAZMAT, law enforcement, SWAT and other first responder applications worldwide. Remotec is based in Clinton, Tenn., and is the largest provider of robots to the first responder market.

Autonomous Solutions Inc. is a market leader in vehicle automation, multi-vehicle command and control, and the Society of Automotive Engineers Joint Architecture for Unmanned Systems implementation.

Northrop Grumman Corporation is a leading global security company whose 120,000 employees provide innovative systems, products, and solutions in aerospace,

electronics, information systems, shipbuilding and technical services to government and commercial customers worldwide.

## Exhibitions

### Force Protection, Inc. to Debut Joint All-Terrain Modular Mobility Asset (JAMMA) Vehicle



Ladson, S.C. -- Force Protection, Inc., a leading American designer, developer and manufacturer of survivability solutions, will debut the Joint All-Terrain Modular Mobility Asset (JAMMA) vehicle at the Association of the United States Army (AUSA) Institute of Land Warfare's Winter Symposium in Ft. Lauderdale, Fla., February 24-26, 2010 at booth #109.

JAMMA is the only armor-ready, four-occupant, hybrid, high-performance off-road vehicle that can be transported inside the V-22 Osprey helicopter. It is equipped to handle high speeds during extreme off-roading, on highways and through urban terrain. JAMMA is also capable of rapidly adapting to and being armored for specific mission profiles such as reconnaissance, rescue/recovery, med-evac and mobile security.

"We believe there is an ongoing need for our U.S. troops and allied forces to have access to lighter, highly mobile vehicles," said Michael Moody, Chairman and CEO of Force Protection, Inc. "The JAMMA vehicle has been designed from the ground up to be the new standard in light tactical vehicles and its light weight, high strength structure provides a wealth of multi-role mission configurations for its end-users. The JAMMA represents a different type of survivability solution focused on speed, mobility and concealment."

JAMMA satisfies the requirements of special operations user groups. It has optimized rollover protection and features an attachment system with threat-specific armor that can be easily attached or removed in virtually any environment. The vehicle includes stadium seating that protects the driver while allowing 360-degree return fire and features a state-of-the-art hybrid engine that optimizes vehicle efficiency and generates 22kw continuous exportable power.

Force Protection, in collaboration with Raydon Corp., a global leader in simulation products and solutions, will also showcase Raydon's Buffalo MPCV simulator. This training system instructs war fighters on how to visually detect IEDs and interrogate them using the Buffalo's

unique interrogation arm/crane. This training system will help war fighters improve their route clearance skills, learn the latest tactics, techniques, and procedures for route clearance. The Buffalo crewmembers view the virtual battlefield through four 40-inch LCD monitors. With a 180 degree field of view (FOV) from an elevated seating position crews can detect IEDs and interrogate suspected IEDs with the hand held controls for the interrogation arm/crane. Crews are able to get an up close look at the suspected IED with a camera with zoom lens and maneuverable spotlights which enable crews to provide their night missions successfully.

"Force Protection has been instrumental in getting MRAP vehicles to our war fighter in Iraq and Afghanistan and there is no doubt they have been invaluable in the fight. We are very excited to be showcasing our Buffalo training system (MPCV) alongside Force Protection at Winter AUSA. Training our troops on route clearance best practices and preparing them to use MRAPs before they deploy is essential to mission success." said Mike Vollmar, CEO, Raydon Corporation.

Michael Moody continued, "Having Raydon's Buffalo simulator along with the JAMMA at AUSA Winter gives us the opportunity to showcase different types of survivability solutions to potential customers. We are pleased to have Raydon Corporation join in our AUSA Winter demonstrations."

The company's booth will also feature an interactive touch-screen video wall that provides detailed information regarding its full range of survivability solutions, including an overview of its Total Life Cycle Support services, as well as information regarding Force Protection, Inc.'s products and employees who are working to save heroes lives around the world.

For more information or to schedule an appointment with a Force Protection, Inc. representative, please visit booth #109.



## Defence Industry

### Plasan Announces Delivery of 5000 M-ATV 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 that it has delivered 5000 armor kits for the U.S. Army's MRAP All Terrain Vehicles (M-ATV) as a subcontractor to Wisconsin-based Oshkosh Defense.

Since the beginning of the contract in July 2009, Plasan has met all of its delivery milestones for 7 consecutive months.

Mr. Dan Ziv, President and CEO of Plasan, says: "We are proud of our continued success in meeting this ambitious production schedule. Plasan continues to work with our local subcontractors to meet the growing demand for M-ATVs and exceed our own high expectations of protecting warfighters. As soldiers building for soldiers, Plasan understands the vital need for armor solutions."

On June 30 2009, the U.S. Department of Defense awarded a \$1.05 billion contract awarded to a team led by Wisconsin-based Oshkosh Corporation and Plasan North America to produce 2,244 M-ATVs for deployment in Afghanistan. Since that time, additional orders for M-ATV armor kits have grown on a monthly basis. In August, Plasan won an additional contract for the delivery of 1,700 armor kits as an Oshkosh subcontractor. These orders were supplemented with additional contracts for 352 armor kits in September, 923 in October, 1000 in November, 400 in December 2009, 600 in January and a most recent addition of 1,460 armor kits in February 2010. The U.S. Department of Defense has contracted Oshkosh and Plasan to produce a total of 8,079 M-ATVs to protect troops serving in Afghanistan.

Plasan credits this rapid delivery capacity to the application of its modular Kitted Hull concept. Under this concept, developed by Plasan, the armor parts can be produced in parallel at multiple locations allowing the flexibility to increase and decrease capacity in minimum risk. In addition this form of work leverages the OEM capability for assembly and allows it better control on the process - the parts and components are sent to the vehicle's manufacturer where they are applied to the vehicle at the assembly line. Kitted Hull technology enables cost-effective assembly of armored vehicles, responding quickly to increases in production volume as the needs of the end-users change.

Plasan uses subcontractors capable of manufacturing the highest-quality composite components that conform to Plasan's exacting specifications. Plasan makes advance preparations with subcontractors to anticipate surges in demand and tight manufacturing schedules. Through its partnerships with subcontractors, Plasan is able to provide survivability solutions that are scalable, with the ability to respond to changing threats as they emerge.



## Defence Industry

### Revolutionary CTAI Weapon System to start qualification

BOURGES, France -- A revolutionary new weapon system for the British and French armies has been given a major boost with the signing on the 8th of February of an 111m contract with the French and UK ministries of defence.

Under the contract, CTA International, an Anglo-French joint venture between BAE Systems and



Nexter Systems, will begin qualification in early 2011 of cannon and ammunition for the Warrior Capability Sustainment Programme (WCSP), the Scout reconnaissance vehicle for the British Army and the future recce vehicle for the French Army.



Qualification is a rigorous process designed to prove that a weapon system is safe, effective and reliable. Both the gun and ammunition will be subjected to freezing, baking, extremes of humidity and a series of "shake, rattle and roll" trials to demonstrate that they will operate under every foreseeable circumstance. While the system has been passed for manned firing and considerable data has already been collected, these trials will formally pass the system for use by the British and French armies.

While CTAI's 40mm Cased Telescoped Cannon and Ammunition (CTCA) was mandated for WCSP and the Scout vehicle by the UK Ministry of Defence in March 2008, the turrets and Scout chassis will be selected through competition.

The UK and French ministries of defence have already agreed a Government to Government Technical Arrangement for a jointly-funded qualification programme which will require some 15,000 rounds. The final ammunition requirements will be defined once the prime contractors are announced in the next few weeks.

The next step will be the negotiation for the series production of the CT cannon. BAE Systems Global Combat Systems - Munitions (GCSM), under a licence granted by CTAI, recently submitted a proposal to UK MoD for the production of series ammunition through the existing MASS munitions supply contract for the UK MoD. A licence will also be granted to Nexter Munitions for the provision of series ammunition for the French DGA.

### Background information

The 40mm CTCA system's ease of use, ability to fire accurately on the move, versatility and much-increased punch will give a major firepower boost to the British and French Armies.

The 40mm high explosive round has more than three times the explosive power of the 30mm Rarden currently fitted to Warrior and the Scimitar Vehicle which Scout will replace, while its armour-piercing projectile will penetrate more than 140mm of steel armour.

The weapon system's innovative design takes conventional cannon and ammunition technology but packages it in a novel space-saving way, by putting the projectile inside its case and packing the propellant around it - "cased telescoped".

This halves the length of the round and improves the

volumetric efficiency by 30 percent for a given level of performance. The CT cannon occupy the space of a conventional 25mm weapon inside a turret while giving the performance of a 45-50mm system.

Ammunition is introduced to the gun, not by a conventional breach from the rear, but from a static ammunition feeder into a rotating breech via a hollow trunnion. This design allows the breech to be well forward of the crew, giving much better communications and "fightability" for vehicle crews.

The cylindrical ammunition is also much easier to stow and handle by automated systems. Reliability is increased by eliminating more than half a conventional cannon's most unreliable parts.



### Defence Industry

## Harris Corporation Receives \$78 Million HF Radio Systems Order For Next-Generation MRAP Vehicles



ROCHESTER, NY -- Harris Corporation, an international communications and information technology company, has received an order valued at \$78 million to provide additional Falcon II AN/VRC-104 high-frequency tactical radio systems for use in U.S. Department of Defense (DoD) Mine Resistant Ambush Protected All-Terrain Vehicles (M-ATVs).

This order was placed by the U.S. Marine Corps Systems Command on behalf of the DoD's Joint MRAP program.

"Harris continues to provide the most reliable and secure beyond line-of-sight radio technology to this critically important program," said Steve Marschilok, president, Department of Defense business, Harris RF Communications. "Our radios deliver life-saving communication capabilities in the most dangerous of missions for all types of MRAP vehicles. We are providing ongoing support for this program with our high-performance tactical radios and unmatched customer service."

The AN/VRC-104 is a vehicular transceiver/amplifier that includes the AN/PRC-150(C), a Type-1 high-frequency manpack radio. Harris HF radios are in widespread use by all branches of the U.S. Department of Defense and allies around the world.



---

## Contracts

### Boeing Receives Army Production Contract for BCTM Increment 1

St. Louis -- Boeing today announced that it received a contract from the U.S. Army on Feb. 24 for low-rate initial production of the initial brigade set of Brigade Combat Team Modernization (BCTM) Increment 1 capabilities.

Under the \$138 million, fixed-price contract, a team led by Boeing with support from Science Applications International Corp. (SAIC) will equip the first Infantry Brigade Combat Team with these networked capabilities, along with associated system engineering and program management support.

"These capabilities are needed today by soldiers conducting combat operations in Afghanistan and elsewhere," said Gregg Martin, Boeing Network & Tactical Systems vice president and BCTM program manager. "We are excited to begin production and look forward to working with our Army customer to get these capabilities, which reflect lessons learned from current operations, into the hands of soldiers as soon as possible."

As the prime contractor, Boeing is responsible for the development and production of BCTM Increment 1. Low-rate initial production will allow for the capabilities to be fielded to the 3rd Brigade Combat Team of the 1st Armored Division for initial operational test and evaluation beginning in 2011.

The contract award follows a successful production review by the Defense Acquisition Board in December.

A key element of BCTM, Increment 1 will provide soldiers with enhanced intelligence, surveillance, and reconnaissance capabilities, as well as increased survivability and lethality. The capabilities that will be produced under this contract award include:

- Small Unmanned Ground Vehicle: a robotic system capable of reconnaissance missions in dangerous or difficult situations such as entering buildings, caves and tunnels
  - Class I Unmanned Air Vehicle (UAV): a small, soldier-operated UAV that can hover for reconnaissance and surveillance while providing target acquisition
  - Unattended Ground Sensors: multi-mode surveillance sensors for target detection, location and classification, with an imaging capability for identification
  - Network Integration Kit: an integrated computer system that hosts the latest communications and radio systems and battle command software, providing the initial network connectivity needed to transfer sensor and communication data.
- 