

# Army Guide monthly



## # 8 (71) August 2010

- First Oshkosh Defense Vehicles to Enter Iraqi Fleet
- Force Protection Receives \$19.9 M Field Service Awards
- Lockheed Martin Receives \$71M Production Contract From General Dynamics for WIN-T
- BAE Systems Receives Contract Modifications Totaling \$170 Million to Support Special Operations MRAP Vehicle Program
- BAE Systems Receives \$9.6 Million Order for MOLLE Equipment from Defense Logistics Agency
- Textron Marine & Land Systems Awarded Contract Option for 73 Additional M1117 and M1200 Armored Vehicles
- Metal Storm Awarded Volume Weapons Production Contract
- KONGSBERG Logs CROWS Contract Worth NOK 515 Million
- BAE Systems Secures \$21 Million Follow-on Order for New Armor Kits
- iRobot Receives \$20.3 Million Order from NAVSEA for 125 PackBot MRTS Robots
- BAE Systems Awarded \$23 Million For Work On Bradley and M113 Vehicles
- Elbit Systems Launches Two New Robots, Creating a VIPeR Family
- Lockheed Martin Signs License Agreement with Ceradyne, Inc., For Tekshield™ Advanced Lightweight Ceramic Armor
- Cubic to Provide Soldier-Friendly Training System for Tactical Vehicles
- Digital Microwave Radio
- KONGSBERG Secures Contract with Norway and Sweden for common Artillery Fire System ODIN
- Raytheon Awarded \$90 Million First Task Order Under Battle Command Development Contract

## Defence Industry

## Dynamics for WIN-T

## First Oshkosh Defense Vehicles to Enter Iraqi Fleet

OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation (NYSE:OSK), announced today its first ever order for vehicles to the Iraqi Armed Forces. The inaugural order is for 60 Heavy Equipment Transporter Systems (HETS), which includes the Oshkosh® HET vehicle and a trailer.

Oshkosh also will provide operator training, spare parts and manuals.

“Oshkosh Defense is committed to helping international militaries become more independent by supplying vehicles that increase their mission and logistics support capabilities,” said Ron Ziebell, Oshkosh Defense vice president and general manager, International Programs. “We look forward to working with the Iraqi Armed Forces as they strive to improve security within the region.”

The Oshkosh HET is designed to rapidly transport M1A1 Main Battle tanks, armored vehicles and self-propelled guns, as well as a six-person crew, so the vehicles and soldiers arrive in mission-ready condition.

The contract, valued at more than \$40 million, was received through the U.S. Army TACOM Life Cycle Management Command (LCMC). Work under the contract is expected to be completed in May 2011.

The HET is part of the company’s line of international vehicles and technologies designed to meet a variety of logistical and operational needs around the world.



GAITHERSBURG, Md. -- Brigade combat teams maneuvering across wide geographic areas will soon be linked with commanders and the Global Information Grid through an on-the-move broadband networking capability.

As part of Warfighter Information Network-Tactical (WIN-T) Increment 2, General Dynamics awarded Lockheed Martin (NYSE: LMT) a contract to provide communications hardware and equipment for the transmission subsystem. The transmission subsystem provides the foundation for the network's dynamic capability to transfer data over a highly dispersed, non-contiguous area. This contract award is valued at \$71 million; this is the first part of a multiple year contract expected to be approximately \$400 million in total value.

WIN-T will provide the high-capacity network backbone that will link warfighters across the battlefield. The next iteration of WIN-T, Increment 2, will equip tactical commanders' vehicles with on-the-move broadband communications, enabling them to see and command the battlespace wherever the mission demands.

"We are one step closer to helping warfighters stay connected to the systems they need while moving on the battlefield," said Jim Quinn, Vice President with Lockheed Martin's Information Systems & Global Solutions-Defense. "The equipment being produced will help provide a clear operational picture for theater combatant commanders by keeping mobile forces connected, communicating and synchronized."

Under this contract, Lockheed Martin's team will produce tactical communications equipment that will be incorporated into a variety of combat vehicle platforms. Equipment produced will include Transmission Subsystem radios, modems, antennas and mast systems. The team will also contribute in the development and delivery of training courses to signal operators as WIN-T Increment 2 is fielded.

Lockheed Martin is teamed with General Dynamics (Prime), BAE Systems, Harris Corporation, and L-3 Communications on the WIN-T program.

## Contracts

## Force Protection Receives \$19.9 M Field Service Awards

Force Protection Industries, Inc., a wholly-owned subsidiary of Force Protection Inc., a leading designer, developer and manufacturer of survivability solutions and provider of total life cycle support for those products, today announced that it has received firm fixed price modifications to existing contract M67854-07-C-5031 with a total value of approximately \$19.9 million for continuing field service support work in Afghanistan, Kuwait and the continental United States.

All work under these modifications is expected to be complete in August, 2011.

Randy Hutcherson, Chief Operating Officer for Force Protection Industries, Inc., said, "These awards allow us to continue the important upgrade and sustainment work on the installed Cougar fleet in the Middle East. The vehicle's capabilities are significantly enhanced for the harsh conditions in Afghanistan through the completion of this work."

## Contracts

## Lockheed Martin Receives \$71M Production Contract From General

## Defence Industry

## BAE Systems Receives Contract Modifications Totaling \$170 Million to Support Special Operations MRAP Vehicle Program

YORK, Pa. -- BAE Systems has received delivery orders from the U.S. Marine Corps Systems Command worth \$170 million to produce 32 U.S. Special Operations Command (SOCOM) Armored Utility Vehicles (AUV) and provide major upgrades to existing vehicles.



The U.S. SOCOM AUV is one of several Mine Resistant Ambush Protected (MRAP) variants based on the RG33 family of vehicles.

To date, BAE Systems has produced nearly 350 SOCOM MRAP vehicles. In total, BAE Systems has produced more than 6,400 MRAP vehicles to support urgent needs in Iraq and Afghanistan and through nearly \$5 billion in contract awards for the production and service of MRAP vehicles to date.

Upgrades will be performed on nearly 250 SOCOM vehicles to incorporate new independent suspension systems and other design improvements to ensure superior mobility and performance over rocky and steep terrain. This works demonstrates how BAE Systems' support and service capabilities are meeting the current and future requirements to protect troops during combat missions.

"Upgrading the vehicles will provide our forces with the latest vehicle enhancements," said Ann Hoholick, vice president and general manager of New Vehicles and Amphibious Systems for BAE Systems. "We will produce 32 new vehicles with the improvements already built-in, so the entire fleet of SOCOM vehicles will be fully modernized and upgraded."

The MRAP SOCOM vehicles are comprised of several unique features designed to meet the robust requirements of the Special Operations Command, including a remote weapon station, swing arm mount and a rear door assist.

Production preparations for the new vehicles is beginning at BAE Systems facilities in York, Pennsylvania; Fairfield, Ohio; and Aiken, South Carolina, and at Spartan Motors Chassis' facility in Charlotte, Michigan. Deliveries are scheduled to begin in March 2011 and run through July 2011.

BAE Systems has built more than 2,200 RG33 MRAP vehicles to date that incorporate eight different variants, all of which have been successfully fielded in combat zones across the globe. The unique adaptability of the base vehicle's design has allowed for variants to include a Heavy Armored Ground Ambulance and an Armored Utility Vehicle.



## Contracts

### BAE Systems Receives \$9.6 Million Order for MOLLE Equipment from Defense Logistics Agency



PHOENIX -- BAE Systems has been awarded a \$9.6 million follow-on order from the Defense Logistics Agency (DLA) to produce Modular Lightweight Load Carrying Equipment (MOLLE).

The MOLLE system is comprised of a variety of load carrying equipment including vests, backpacks, pouches, pockets and hydration systems. MOLLE is the primary field equipment system developed by and for the U.S. Army and is configurable for specific mission requirements.

"MOLLE provides soldiers with more options over former systems," said Greg Kraak, Director of Military Programs for BAE Systems' Personnel Protection Systems business. "Soldiers can configure the removable pockets and pouches according to their preference; and the overall MOLLE system provides comfort to the user with its heavily padded shoulder straps and adjustable waist and shoulder belts designed to accommodate various torso sizes."

The \$9.6 million order is the first follow-on order against a \$131 million second year option that DLA exercised in May of this year. The original three-year contract was awarded in 2008, and has a potential total value of \$374 million.

Since the program's inception, BAE Systems has delivered more than two million MOLLE sets to support American servicemen and women throughout the world.

MOLLE production will take place at BAE Systems' facilities located in McKee, Kentucky and Jessup, Pennsylvania.

BAE Systems is a leading provider of soldier protective and load carriage equipment in the United States, producing a significant portion of the nation's body armor, tactical vests, combat helmets and load carrying systems. Not only is the company focused on the design, development and production of leading edge survivability products, its integration of advanced materials into manufacturing, rigorous product testing, and field trials support the company's focus on the men and women who serve in the armed forces.





## Contracts

## Textron Marine & Land Systems Awarded Contract Option for 73 Additional M1117 and M1200 Armored Vehicles



NEW ORLEANS -- Textron Marine & Land Systems, an operating unit of Textron Systems, a Textron Inc. company, today announced a firm-fixed-price contract award from the U.S. Army Tank-automotive and Armaments Command (TACOM) for additional M1117 Armored Security Vehicles (ASV) and M1200 Armored Knights.

The award, valued at \$49,808,772, exercises options for 52 M1117 ASVs, 21 M1200 Armored Knights, and 12 special tool sets with Textron Marine & Land Systems. Work is to be performed in the New Orleans area, with an estimated completion date of February, 2012.

"The ASV provides the highest level of mobility and survivability to successfully carry out a wide range of combat mission roles for the U.S. Army in Iraq and Afghanistan," said Textron Marine & Land Systems General Manager Tom Walmsley. "Our team is continually working to build the best military vehicle possible to protect the warfighters serving our country."

The ASV is a 4X4 wheeled armored vehicle that offers significant crew protection through the employment of multiple layers of armor, defending against small arms fire, artillery projectile fragments, Improvised Explosive Devices (IEDs) and land mines. The ASV possesses superior mobility, agility, handling and ride quality through the utilization of a four-wheel independent suspension system.

The ASV has maintained exceptional operational readiness and combat availability rates over the life of the U.S. Army program as vehicles log more than 30,000 miles per year in combat operations. Textron Marine & Land Systems has achieved more than 58 consecutive months of on-time delivery to the U.S. Army on the ASV program, and has delivered more than 2,700 ASVs to the U.S. Army to-date.

The ASV family of vehicles performs a wide variety of missions including scout, infantry personnel carrier, reconnaissance, command and control and maintenance. U.S. Army ASV missions include operations with the Military Police, convoy protection, perimeter security, as well as Field Artillery Combat Observation and Lasing Teams (COLT) with the M1200 ASV configuration.

## Defence Industry

## Metal Storm Awarded Volume Weapons Production Contract

Brisbane, Australia -- Defence technology specialist Metal Storm announces it has been awarded a major production contract to supply 500 MAUL(tm) weapons and 50,000 rounds of non-lethal ammunition.

The contract, valued at US\$3,365,000, has been placed by the Correctional Service of Papua New Guinea and was signed by the Minister of Correctional Service, the Honourable Tony Aimo MP and the Acting Correctional Service Commissioner Mr Henry Wavik. MAUL(tm) weapons will be deployed to Correctional Service Officers in charge of security at prison facilities throughout the country, providing non-lethal response capabilities that can be lifted to immediate lethal response if necessary.

The Minister, the Honourable Tony Aimo MP said that PNG Correctional Service sees the capacity of MAUL(tm) to deliver a rapid and escalating response as exactly what is necessary for security in PNG prisons.

"PNG is delighted to be able to source weapons at the leading edge of shotgun technology and we hope in due course to have about 1500 of these weapons in service", the Minister said. He expects ratification of the urgent purchase through the usual government protocols shortly, and the first 50 weapons to be delivered by February 2011.

Metal Storm CEO, Dr Lee Finniear, said the production contract was a watershed for the Company after many years of research, development and testing.

"This order for a significant number of weapons and substantial quantities of ammunition is an important milestone in the Company's commercial development" said Dr Finniear. "We see this application for MAUL(tm) as absolutely what it was designed to deliver, being a lightweight, semi-automatic non-lethal weapon that can be rapidly scaled to lethal force if necessary".

"MAUL(tm) also has the advantage for PNG that if weapons fall into unauthorised hands they cannot be used with conventional ammunition purchased illegally. This supports Government initiatives to stem the flow of illegal weapons in PNG".

"This initial order for 500 MAUL(tm) weapons, is for a single organisation within Papua New Guinea. Looking at the number of similar organisations worldwide, it clearly indicates that the global market potential for MAUL(tm) is very large", he said.

Metal Storm Chairman Mr Terry O'Dwyer said that the production contract came at an ideal time for the Company.

"International interest in our weapon systems is building rapidly" he said, "as our marketing continues, the Company expects to identify opportunities of a similar or larger size over the coming months."

**Contracts**

**KONGSBERG Logs CROWS Contract Worth NOK 515 Million**



KONGSBERG has booked an order valued at NOK 515 million (\$86 million, €65 million) from the US Army.

The order is part of the increase of the Common Remotely Operated Weapon Stations (CROWS) framework agreement for up to 10,349 systems signed in December 2009.

The initial CROWS II framework agreement was disclosed to the Oslo Stock Exchange on 22 August 2007.

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



critical vehicles which help save the lives of U.S. troops deployed in Afghanistan and Iraq.”

Under the agreement, BAE Systems will produce armor panels for the M1117 ASV, which is a turreted, lightly armored, all-wheel drive combat vehicle often used by U.S. Military Police and convoy security units. The company is also building armor kits for the M1200 Armored Knight, which is an ASV variant equipped with a laser guided sensor package, allowing for precise laser targeting of ground and air delivered munitions.

The BAE Systems' applique armor panels will be installed at TM&LS, and then the armored ASVs will be delivered to the U.S. Army Tank-automotive and Armaments Command (TACOM).

Work on the order will begin immediately at BAE Systems' facilities in Phoenix, Arizona, with final deliveries expected to be completed by spring 2011.

BAE Systems is a leading provider of soldier protective and load carriage equipment in the United States, producing a significant portion of the nation's body armor, tactical vests, combat helmets and load carrying systems. Not only is the company focused on the design, development and production of leading edge survivability products, its integration of advanced materials into manufacturing, rigorous product testing, and field trials support the company's focus on the men and women who serve in the armed forces.



**Contracts**

**BAE Systems Secures \$21 Million Follow-on Order for New Armor Kits**



CINCINNATI, Ohio -- BAE Systems has been awarded a \$21 million order from Textron Marine and Land Systems (TM&LS) to build and deliver more than 420 armor protection kits for Armored Security Vehicles (ASV).

This is a follow-on order to a contract for ASV armor panels valued at \$10.5 million that BAE Systems announced in March of this year.

Through its long-standing relationship with TM&LS, BAE Systems has produced more than 2,500 armor kits for the highly maneuverable, four-wheel drive ASV.

“This follow-on order underscores BAE Systems position as a leader in innovative armoring technologies,” said Don Dutton, Vice President of Platform Survivability for BAE Systems. “It's reassuring to know that our ASV armor kits will continue to play a vital role in the protection of these mission

**Contracts**

**iRobot Receives \$20.3 Million Order from NAVSEA for 125 PackBot MRTS Robots**



BEDFORD, Mass. -- iRobot Corp., a leader in delivering robotic technology-based solutions, today announced that it has received a \$20.3 million order from the Naval Sea Systems Command (NAVSEA).

The order has been issued as a standalone contract. It calls for the delivery of 125 PackBot Man Transportable Robotic System (MTRS) robots, spare parts and repairs. The PackBot MTRS is modeled after the iRobot 510 PackBot.

The iRobot 510 PackBot is one of the most successful battle-tested robots in the world. The robots are currently being used by warfighters in Iraq and Afghanistan to conduct dangerous missions from safe distances. The 510 PackBot can be used to identify and neutralize roadside bombs, car bombs and other improvised explosive

devices (IEDs). It is also ideal for other missions, including reconnaissance and route clearance.

“Robots have consistently proven their worth on the battlefield,” said Joe Dyer, president of iRobot’s Government and Industrial Robots division. “As roadside bombs and similar devices remain a constant threat in Iraq and Afghanistan, it is crucial that we continue outfitting our troops with tools to ensure they stay as safe as possible. The iRobot PackBot is saving lives, and we are honored to be providing this technology to the military.”

iRobot has delivered more than 3,500 unmanned ground vehicles to the military and public safety organizations worldwide.



## Defence Industry

### BAE Systems Awarded \$23 Million For Work On Bradley and M113 Vehicles



ARLINGTON, Virginia -- BAE Systems has been awarded \$23 million in various contract modifications for work on the Bradley and M113 vehicles.

“The recent Bradley and M113 awards will help to ensure that these proven vehicles will continue supporting our troops for years to come,” said Joe McCarthy, vice president and general manager of the Heavy Brigade Combat Team at BAE Systems. “Both platforms have a long history of effectively performing for our men and women in uniform during combat missions overseas and play key roles on the Heavy Brigade Combat Team.”

This contract has a variety of work directives, including the installation of Bradley Urban Survivability Kits (BUSK) III, which include a series of rapid development survivability improvements specifically designed for today’s urban battlefield. Some of the new developments under BUSK III include:

- Emergency egress improvements to allow soldiers to lower the ramp on the vehicle
- Advanced survivability seat to provide energy absorbing seats and foot rests
- A turret advanced survivability system to provide enhanced protection against IEDs for the gunner and commander positions

Other work directives under this contract include Bradley field service support, and integration of the mission support system (MSS) for the M113A3 ambulance.

This work demonstrates how BAE Systems' support

and service capabilities are meeting the current and future requirements to protect troops during combat missions.

Bradley Combat Systems continue to provide outstanding survivability, mobility and lethality to U.S. soldiers in close-combat urban situation 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 Teams.

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 extended cross-country travel over rough terrain and high-speed operation on improved roads and highways.

BAE Systems designs, manufactures and supports Bradley Combat Systems and the M113 through its U.S. Combat Systems 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 also a main supplier to the U.S. Army’s Heavy Brigade Combat Teams, an integral developer of mine-protected and future combat vehicles and a top producer of naval guns and missile launchers.



## Robots

### Elbit Systems Launches Two New Robots, Creating a VIPeR Family



The VIPeR family can save warriors’ lives in various combat missions and scenarios.

During Elbit Systems' latest exhibition displaying advanced land and C4I solutions, the Company launched two new members of the VIPeR family of intelligent and portable robots: Mini-VIPeR and Maxi-VIPeR, which join the combat-proven VIPeR robot, already operational in the Israel Defense Forces under the Hebrew name "Pazit."

Building on Elbit Systems' extensive experience and know-how in the unmanned systems field, and using a common control system, the robots feature intuitive operation and enable real-time reconnaissance, in addition to arena clearing, in-building mapping, decoy and screening functions.

The Mini-VIPeR robot is an extremely light-weight one-person portable system (weighing approximately 3.5



kg), equipped with advanced sensors that allow full operation in various adverse terrains, as well as allowing ground forces to survey structures before entering by literally throwing the robot through the window or into a dark tunnel.

The larger compact robot, Maxi-VIPeR, allows the disarming of explosives and handling radioactive materials using its robotic arm and the various advanced sensors.

Designed to reduce the danger to the dismounted force during different phases of combat, the VIPeR family of robots can take on many of the challenges faced by land warriors engaged in today's low intensity conflicts (LIC). Portable and highly mobile, the robots are configurable for multiple types of missions by add-on sensors, modules and payloads, tailored to specific tasks.

---

### Future Technologies

#### Lockheed Martin Signs License Agreement with Ceradyne, Inc., For TekShield™ Advanced Lightweight Ceramic Armor

DALLAS and COSTA MESA, CA -- Lockheed Martin has signed a nonexclusive licensing agreement with Ceradyne, Inc., for the development, manufacture and application of the Lockheed Martin-developed TekShield™ lightweight, opaque ceramic armor.

TekShield can protect Soldiers against coupled threat effects common in today's urban tactical environments, such as a bomb blasts followed by a swarm of projectiles or armor-piercing sniper fire. The system's unique ceramic design represents a new generation of protection that is affordable, lightweight and superior to legacy ceramic armor.

"TekShield has been tested against a variety of ballistic threats, from hand grenades to bomb blasts, and this level of vehicle protection has never been delivered in such a lightweight design," said Reggie Grant, director for Advanced Programs at Lockheed Martin Missiles and Fire Control. "Combining Lockheed Martin's systems integration experience with Ceradyne's knowledge of ceramics will more quickly deliver lightweight, affordable ceramic vehicle armor to the Warfighters who need it most."

"Lockheed Martin's initial development of TekShield has opened a new path for applying ceramic armor to tactical vehicles," said Marc King, president of Ceradyne Armor Systems. "TekShield combined with Ceradyne's expertise in lightweight ceramic armor applications and designs will create a new class of lightweight armor to better support the expeditionary requirements of our tactical vehicle fleet."

TekShield armor technology can easily scale to meet specific threats, from small caliber rifles and mid-range cannons to IEDs and other explosive devices. Unlike other armor products, TekShield can be developed for opaque, transparent and semi-reactive applications, depending on customer needs.

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 136,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The Corporation's 2009 sales from continuing operations were \$44.5 billion.

Ceradyne develops manufactures and markets advanced technical ceramic products and components for defense, industrial, automotive/diesel and commercial applications.

---

### Training And Simulators

#### Cubic to Provide Soldier-Friendly Training System for Tactical Vehicles

San Diego, CA. -- Cubic Defense Applications, the defense systems unit of Cubic Corporation, will provide an easy-to-use laser-based combat training system for U.S. Army tactical vehicles under a new indefinite delivery/indefinite quantity (ID/IQ) contract from the Army's Program Executive Office for Simulation, Training and Instrumentation (PEO STRI).

The contract includes four option years and has a potential value of more than \$100 million. Deliveries of the new system will commence in July 2011.

Cubic's winning system includes user-friendly features designed to appeal to today's smart phone and tech-savvy soldiers. Called the Tactical Vehicle System (TVS), the system includes an intuitive Cubic-developed application to greatly simplify installation and operation by using advanced wireless devices instead of traditional cables with embedded laser detectors.

Michael Martin, Cubic project engineer for TVS, said the Army's need for ease of use and efficiency drove Cubic's design of the new system.

"You've got to consider who the intended users are: It's your 20-something soldier," Martin said. "We designed this system to address both Army and soldier preferences by including intuitive consumer features like touch screens, graphics and Wi-Fi communications."

---

### Defence Industry

#### Digital Microwave Radio

AT Electronic and Communication International Ltd., is pleased to announce the new Hiperion family of Digital Microwave Radio (DMR) communications products.

Using "State of the Art" technology and advanced modulation techniques, Hiperion supports data rates from 2 Mbps to 600 Mbps and is suited to Telecommunications, Government Infrastructure, Military and Security service customers.

The Hiperion range of Licensed Point-to-Point Links is made up of two product groups – 1. Premier and 2. Value. The Premier has a comprehensive feature set and is fully software configurable. The "Value" range is for

users who want economical yet functional solutions.

In both groups, Hiperion boasts outstanding performance, value and long service life and has been designed using environmentally friendly engineering principles. The product range is fully RoHS compliant, using Lead Free solder for all internal connections. Power consumption is also exceptionally low.

The low power consumption, long life, exceptionally high MTBF (Exceeding 75 Years!) and spectrally efficient modulation schemes, resulting in reduced license fees, means that the Hiperion family of products guarantees the end user a very low cost of ownership over the life of the communications facility.



## Contracts

### KONGSBERG Secures Contract with Norway and Sweden for common Artillery Fire System ODIN



KONGSBERG has signed a contract with the Norwegian (FLO) and Swedish (FMV) Defence Forces for adaptation and delivery of ODIN Fire Support System for the Artillery.

The contract is part of the Norwegian – Swedish Artillery cooperation where ODIN Fire Support System will be the common system for the ARCHER artillery platforms. ODIN manages the Artillery's operations through the chain of command and integrates observations instruments, communication solutions, command posts and guns.

This contract is a continuation of an earlier signed agreement this year with the Norwegian Defence Forces. The total scope for KONGSBERG is MNOK 96, scheduled for delivery over a two-year period.



## Contracts

### Raytheon Awarded \$90 Million First Task Order Under Battle Command Development Contract

WASHINGTON -- Raytheon Company was awarded a task order for total logistics support of the Battle Command Sustainment Support System (BCS3) under the Battle Command Development indefinite-delivery, indefinite-quantity contract.

This program includes an 11-month base period and two 12-month option periods through March 2013. The contract value is approximately \$90 million if all options

are exercised.

"This important win establishes Raytheon as an IDIQ leader and positions our team for a wide range of task order awards across all the Battle Command Development program domains," said Andy Zogg, Raytheon Network Centric Systems vice president of Command and Control Systems.

BCS3 is a logistics command and control system designed to improve situational awareness and the speed of decision-making for warfighters. It fuses information needed to define the Logistics Common Operating Picture in a tactical environment. BCS3 provides a visual map of crucial sustainment information for warfighters.

Raytheon, with the support of its teammates Tapestry Solutions, INTECON and Software Professional Solutions, will supply necessary field support, help desk, system and server maintenance, and training to users fielded at locations around the globe.



## Contracts

### Boeing Subsidiary Tapestry Wins \$79 Million US Army Logistics Support Contract

SAN DIEGO, Calif. -- Boeing today announced that its wholly owned subsidiary Tapestry Solutions has received a contract to provide field engineering services in support of development, operations and training for the U.S. Army's Battle Command Sustainment Support System (BCS3) Total Logistics Support program.

The three-year contract, valued at up to \$79 million, was awarded to Tapestry by prime contractor Raytheon Network Centric Systems of Fort Wayne, Ind.

Tapestry will provide software upgrades, field services, 24/7 help-desk support and training for BCS3, a logistics command-and-control tool that provides information via Web services to commanders and warfighters in the field. BCS3 was developed by Tapestry for the Army and is currently used in Iraq, Kuwait, Afghanistan, Europe and the United States.

"Our long-standing relationship with the U.S. Army and firsthand product knowledge will reduce software development time to improve the system's functionality and provide faster fielding of system updates," said Mike Spencer, Tapestry Solutions senior director of Business Development. "In addition, our field service engineers will use their extensive experience with BCS3 live operations to enhance the realism of BCS3 simulations and other training tools."

Tapestry also will facilitate a seamless, phased movement of the BCS3 enterprise production and test server environments to new facilities.

"With the award of this contract, Tapestry remains at the forefront of Battle Command programs, allowing us to continue to set the standard for delivering outstanding field support and training to the warfighter," said Russ Clark, Tapestry Solutions senior director of Operations, Training and Support. "This contract is an example of the trust and confidence our customers have in our proven



technology and applied expertise to support them at home and abroad."

Boeing's Tapestry Solutions is a leading innovator of custom software development, training, consulting and support services to the U.S. military, civil government and the private sector. Tapestry specializes in Logistics Command and Control (LogC2) and cutting-edge modeling and simulation solutions.

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.



### Contracts

## General Dynamics to Supply 24 Light Armored Vehicles to the U.S. Marine Corps



LONDON, Ontario, Canada -- General Dynamics Land Systems-Canada has been awarded a \$35.5 million contract to produce 24 Light Armored Vehicles (LAV-A2) in various configurations for the United States Marine Corps.

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

The LAV-A2 is a mobile, agile and survivable system for conducting offensive and defensive operations in support of the Marine Air-Ground Task Force. The eight-wheeled amphibious vehicle is equipped with enhanced armor protection and an automatic fire-suppression system for crew protection, as well as a robust suspension for mobility.

Vehicle production will be performed at the General Dynamics Land Systems-Canada operations in London, Ontario, and will be completed by April 2012. In total, 207 LAV-A2 vehicles have been ordered by the Marine Corps since 2007. Nearly 800 units of an earlier version of the Light Armored Vehicle entered service with the Marine Corps in the 1980s and continue operational employment today.

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



### Defence Industry

## Unlicensed Wi Fi Digital Microwave Radio

AT Electronic and Communication International Ltd., is pleased to announce the introduction of the new Hiperion family of Unlicensed Wi-Fi Digital Microwave Radio (DMR) communications products.

The product family, using "State of the Art" technology and advanced OFDM modulation techniques, supports data rates to 4.2 Gbps and is made up of Access Controllers, Wireless Access Points and Antenna systems.

This new product family has not only been designed to offer outstanding performance, value and long life, but has also been designed to be mindful of the environment. The product range is fully RoHS compliant, using Lead Free solder for all internal connections. Power consumption is also exceptionally low.

The low power consumption, long life, exceptionally high MTBF and spectrally efficient modulation schemes, means that the Hiperion family of products guarantees the end user the lowest cost of ownership over the life of the communications facility.



### Robots

## 'Flying Robot' pilot helps find IEDs in Helmand



Lance Corporal Rob McInerney is currently working at the forefront of counter-IED operations in Afghanistan piloting the 'Flying Robot', which is part of the Talisman counter-IED system.

Talisman has been designed to provide an increased level of assurance along routes throughout the region. It consists of a suite of cutting-edge equipment, including armoured vehicles, optical cameras and remote-controlled vehicles.

This life-saving equipment is being used to support combat logistic patrols, which can comprise several hundred vehicles and trek through the country delivering vital supplies to bases for the troops on the front line.

Lance Corporal Rob McInerney, aged 26, serves with 15 Field Support Squadron, part of 21 Engineer Regiment - the first troops to use the new system on the ground in Afghanistan. See Related News.

His role is to pilot the MAV (Micro Air Vehicle), otherwise known as the 'Flying Robot' or 'T-Hawk':

"The MAV is a great piece of kit and complements the rest of the equipment," he said. "The MAV has two cameras which feed information back to a laptop so that the commander is then better placed to make decisions.



"We have been involved in a few contacts on a couple of the operations that we have been on, which made the day interesting! The most satisfying part of the tour for me is when we get the guys to their destination safely; after all, that is the aim of our job!"

Lance Corporal McInerney has been with 15 Field Support Squadron, based in Ripon, North Yorkshire, since they re-rolled from a Field Support Squadron in which he was a plant operator:

"It has been good to learn something new but I am looking forward to getting back to plant," he said.

He is also looking forward to getting back to the UK to see his fiancée, Laura, and his daughter, Anna, who is only five months old:

"She was born two weeks before I came out here so it will be amazing to see the difference in her now," he added.



Lance Corporal McInerney has two other brothers serving in the Army. One is serving with the Royal Signals and the other is due to deploy on operations quite soon. He said:

"My brother Dave, who is in 9 Para[chute] Squadron, Royal Engineers, is due to deploy to Afghanistan on the next tour and I wish him good luck."

### Talisman

Talisman is a suite of vehicles, operated by the Royal Engineers, that clears routes of IEDs and mines. It was bought as an Urgent Operational Requirement worth more than £180m.

Each Talisman system consists of:

- a Mastiff 2 protected patrol vehicle

- a Buffalo mine protected vehicle, with a rummaging arm
- a JCB high mobility engineer excavator
- a Micro Air Vehicle
- a Talon tracked, remote-controlled robot.

### Contracts

#### Patria wins the Swedish armoured wheeled vehicle contract



The Swedish Defence Materiel Administration (FMV) has today announced that the contract for 113 armoured vehicles goes to Patria.

The contract includes an option for another 113 vehicles. The value of the deal is approximately SEK 2.5 billion.

- I am very pleased that the FMV has found our AMV vehicle to meet best their requirements. We offer the Swedish soldiers a safe and field-proven vehicle which can be of vital importance in the extreme conditions the soldiers operate. At the same time we offer Sweden a true Nordic solution as well as 100% offset. Since the operating principle of Patria is strongly networked this contract is significant to our co-operators in Finland and abroad – especially in Sweden where Patria has also had a long cooperation in the area of the armoured military vehicle supply. Patria's focus on its key competencies will be also strengthened further since the final assembly of AMVs will take place in Finland, states Mr Seppo Seppälä, President of Patria Land & Armament Oy.

The 113 vehicles ordered by the FMV will be delivered by the end of 2013 for making it possible the Swedish Army to have the operating capability with them during 2014.

Patria AMV was launched in 2004. Until today Patria has contracts for some 1300 vehicles with among others Finland and Poland.

Patria is a defence, security and aerospace group with international operations delivering its customers competitive solutions based on own specialist know-how and partnerships. Patria is owned by the State of Finland and the European Aeronautic Defence and Space Company EADS N.V.

### Defence Industry

#### Lockheed Martin Advanced Technology Center Demonstrates Versatile Advanced Monitoring System (VAMS) For Perimeter Security

PALO ALTO, Calif. -- Scientists and engineers at the Lockheed Martin Space Systems Company's (LMSSC) Advanced Technology Center (ATC) have demonstrated an innovative perimeter security system for government and commercial applications.

VAMS uses commercial off-the-shelf hardware and software from Intellex of Santa Clara, Calif., with proprietary Lockheed Martin-developed elements that include modified firmware, modified interrogation protocols, new detection and tracking algorithms, and real-time operator response.

"We developed this system in response to needs articulated by the US Government," said Dr. Vibeke Libby, principal scientist at the ATC and inventor of VAMS. "Our goal was to create a robust and versatile system that offers an affordable solution to new challenges for perimeter security. Our close partnership with Intellex is ideal. We have been able to combine our companies' proprietary technologies resulting in an unprecedented range of new capabilities. For example, VAMS will detect stationary objects, single or multiple intruders, air-dropped items, left-behind items, and even intruders who vault perimeter fences or drop by parachute. As an intrusion is detected, a camera is automatically cued and pointed at the intrusion coordinates for operator alarm and verification."

"The Advanced Technology Center at Lockheed Martin has developed a truly innovative security application that leverages the unique capabilities of Intellex's new XC3 products," said Peter Mehring, president and CEO of Intellex. "It has been a pleasure to work with Dr. Libby and her team, as their development fully realized the potential of the XC3's robust RF capabilities, which include 100-meter response range while adhering to the new ISO 18000-6 Class 3 Standard."

Due to a complex mix of possible emergencies, including terrorist attacks, accidents, and natural disasters, security protection of borders and critical infrastructures is a major imperative for the US Government. Increased security can be achieved through a layered approach of prevention, protection and preparedness. The VAMS security system provides one such layer.

The automated wireless VAMS alarm system can be rapidly deployed as a stand-alone long-life, greater than two years, battery-supported security system. It comprises a field of sensors that exchange information with a power source. The signal quality is persistent and predictable in an unperturbed environment and when perturbed convincingly produces a recognizable signature.

By exploiting Commercial Off-The-Shelf (COTS) technology from Intellex, VAMS is able to achieve a high level of security by providing volumetric protection at a competitive performance to cost ratio. The system is extremely difficult to spoof or defeat, unlike fence-based security systems, which can be circumvented by jumping, bridging, or digging. VAMS can detect intrusions in three dimensions as well as accurately

locate moving and stationary objects. The long-life sensors can be placed anywhere in the field with little or no geometrical constraints.

A human intruder will affect one or more communication channels in the vicinity of an intrusion point. An object or a human does not need to be in the direct communication path to affect the communication of a sensor. In fact, the disturbance is likely to affect several sensors in a protected area to varying degrees dependent on the relative position of intruder and sensors. This variation is used to determine the number of intrusions and their location.

VAMS can also be used indoors. Testing has confirmed that the system can detect nightly movements, room entries, including small robotic devices, and left behind items in should-be-closed areas. In protection of a soldiers' camp, sensors can be placed in a 325-foot radius around the antennas. As movements take place, the sensors report the movement to the camp command center. For other applications, the detection range can be extended by increasing the antenna output power above the one-watt required for FCC compliance.

In a field demonstration, the RF system integrated seamlessly with a field camera with slew and zoom capability. The demonstration showed that data can be analyzed in real-time and alarms issued only 1-2 seconds after an intrusion was initiated. In a control room-like setting, the participants could follow the activities in the field, switch to manual mode for intrusion verification, and check system status.

VAMS can detect both stationary and slow moving persons regardless of clothing or protective gear. Compared to current security systems, the VAMS-camera combination can detect and verify intrusions designed to spoof traditional technologies, like motion, infrared, pressure, or security cameras. VAMS therefore poses a serious challenge to sophisticated intruders.



## Contracts

### DRS Receives Phase II Contract From USMC for Initial Production of On-Board Vehicle Power (OBVP) Generation Kits

Parsippany, N.J. -- DRS Technologies, Inc. announces the award of a Phase II contract for On-Board Vehicle Power for fifteen Hybrid Electric High Mobility Multi-Purpose Wheeled Vehicles (HMMWVs).

This award is the result of a down-select by the United States Marine Corps (USMC) from two competing designs.

DRS provided a preliminary product sample and a first article test vehicle for a side-by-side technology assessment by the Marine Corps at Aberdeen Proving Grounds, Aberdeen Maryland.

Delivery of Phase II initial production units is scheduled for February 2011.

Each HMMWV will now have the capability of



producing more than 30kW of electrical power through an advanced generator system that is embedded within the HMMWV's existing transmission.

The OBVP will provide the USMC an enhanced mobile electric power generation capability with minimal impact to vehicle mobility or payload.

It will also increase the Marines' flexibility during deployment in the field by providing an efficient source of clean power anywhere the vehicle can travel.

Gary Smith, vice president and general manager of DRS Test and Energy Management: "DRS listened to the evolving requirements of the Marine Corps and military customers and responded with an integrated solution that uses power products from DRS companies in Huntsville, AL, Fitchburg, MA, and Bridgeport, CT to develop DRS' On-Board Vehicle Power system.

LTG Jerry Sinn, U.S. Army, (Ret.) president of DRS Tactical Systems Group: "This solution demonstrates the potential for radical improvements in power generation for today's modern warfighter. This is truly a milestone for DRS' power team."



## Defence Industry

### Supacat completes the 7th SPV400 Lightweight Protected Patrol Vehicle



Supacat has recently completed the 7th all-new, all-British Supacat SPV400, which is Supacat's offering to win a UK Ministry of Defence BJ200 million Urgent Operational Requirement for a Light Protected Patrol Vehicle (LPPV) to replace the Snatch Land Rover.

#### Supacat completes the 7th SPV400 Lightweight Protected Patrol Vehicle

Following completion, the vehicle was delivered to the MoD in order for trials to be conducted prior to the announcement of preferred bidder, expected to be made soon.

Supacat's rapid development of the SPV400 has seen all 7 vehicles built since December 2009. Vehicle 1 was blast tested in December 2009, vehicles 2&3 were delivered to the MoD for evaluation in January 2010 and were subsequently subjected to further trials by the MoD in April. Vehicles 4, 5 and 6 were blast tested in May, June and July respectively. Concurrently, vehicle 2 has been running back to back round the clock trials in operational conditions and vehicle 1 has been subjected to a demanding static four-poster rig test returning some impressive accelerated reliability results against repeated

battlefield missions. Subsequently, vehicle 7 has been built to the very latest configuration and has had all of the upgrades and improvements incorporated as a result of the lesson learned throughout the development period. As a result, this vehicle is close to production standard.

"We are very proud of the progress we have made throughout this demanding development programme. Supacat has a reputation for being agile and for possessing the ability to deliver quality solutions in exceedingly short timescales; our development of SPV400 has clearly underwritten that reputation. SPV400's design maturity is now advanced and this latest vehicle is already demonstrating that by delivering improved capability and reliability on trial", said Nick Ames, Managing Director, Supacat Ltd. "The Supacat/NP Aerospace team believe it offers the best and a British solution – the SPV400. Its selection for LPPV would strengthen the UK's innovation and engineering skills base and support manufacturing jobs, sustaining between 1000 and 1200 jobs throughout the UK. The SPV400 is an entirely British Export and will have a potentially huge international market should it succeed in the LPPV competition".

Purpose designed to protect British troops from the threat of Improvised Explosive Devices in Afghanistan and perform patrol tasks in areas inaccessible to heavier vehicles, the Supacat SPV400 offers unprecedented levels of mobility and protection. This combination breaks new ground in military vehicle technology for a light patrol vehicle in the 7.5 ton class. Carrying a crew of six (2 +4), the SPV400 combines an integrated blast and ballistic protection system, including a protected all composite crew pod and V-shaped hull. On the desert plain it can reach speeds up to 80mph, comparable to the Supacat designed 'Jackal'.

Over 90% of the SPV400 is UK sourced with a 30 strong supply chain stretching from Darlington, where Cummins UK produce the engine, down to Devon, where the SPV400 is designed by Supacat. Half of the key suppliers are concentrated in the West Midlands around NP Aerospace's Coventry production facility where the SPV400 will be built. They include GKN Aerospace and GKN Driveline, Pailton Engineering, CSES Engineering, Park Sheetmetal Ltd, Garforth & Goodman, Christy Hydraulics, Dana UK Axles, AFS Ltd, Lighting Aerospace.

Supacat and NP Aerospace, are respectively world leaders in high mobility, all terrain vehicles and in composite armour protection systems. NP Aerospace designed the SPV400's composite crew pod and protection system with access to the UK's classified armour technology. The materials used offer protection from a range of threats and at much lower weight than a traditional steel design.

Both have significant experience in working with the British Army, with Supacat currently supplying the Jackal and Coyote vehicles while NP Aerospace integrates and supplies the Mastiff, Ridgback and Wolfhound vehicles.



**Contracts**

**U.S. Army Acquires First Next-Generation Cargo Vehicles from Oshkosh Defense**



OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation, has delivered its first next-generation Palletized Load Systems (PLS) to the U.S. Army. The new PLS model, known as the PLS A1, features design improvements creating a more secure and robust vehicle for logistics missions that face increased combat exposure.

“Working closely with our Army customer, Oshkosh has improved the PLS to provide our troops increased protection and mobility demanded in today’s critical distribution and resupply missions,” said Mike Ivy, vice president and general manager of Army Programs for Oshkosh Defense. “The military can only move as fast as its supplies. Improved armor, common with the proven armor solution on the HEMTT A4, and enhanced off-road capabilities will better protect logistics missions from blasts and other threats. PLS A1 updates make a good truck even better and will secure the vehicle’s role in Army logistics operations for many years to come.”

The vehicle, developed to load and unload a variety of heavy-payload cargo, now features a Long Term Armor Strategy (LTAS)-compliant cab, a 600-horsepower engine and a six-speed transmission. It also uses the Oshkosh-patented TAK-4® independent suspension on the front axle positions, which provides greater off-road mobility and enhances protection in harsh terrain, like Afghanistan.

The initial deliveries of 11 vehicles are part of an order for more than 725 PLS vehicles issued under the U.S. Army’s existing Family of Heavy Tactical Vehicles (FHTV) contract. Production for this order is scheduled to be completed in September 2011.

The PLS is the backbone of the Army's distribution and resupply system. Built to carry ammunition and other critical supplies needed in battle, the PLS has proven its ability in front-line resupply missions in Bosnia, Kosovo, Iraq and Afghanistan. Together, the PLS truck and trailer form a complete system that reduces the need for forklifts or other material-handling equipment. They both carry a demountable cargo bed, also known as a flatrack, which features a 16.5-ton payload capacity. The PLS is a part of the Army’s Family of Heavy Tactical Vehicles (FHTV), produced by Oshkosh, which also includes the Heavy Expanded Mobility Tactical Truck (HEMTT A4) and the Heavy Equipment Transporter (HET A1). Oshkosh works with

armed forces to deliver world-class vehicles that are built to withstand harsh combat conditions and overcome challenging terrain.



**Defence Industry**

**Northrop Grumman Awarded Contract to Provide Encryption Devices for FBCB2-Blue Force Tracking**

CARSON, Calif. -- The U.S. Army has awarded Northrop Grumman Corporation a contract to provide encryption devices that will upgrade communications security of the Force XXI Battle Command Brigade and Below (FBCB2)-Blue Force Tracking (BFT) network, allowing warfighters to more broadly share critical information.

FBCB2-BFT is the key situational awareness and command-and-control system used by U.S. and coalition forces. To date, more than 85,000 FBCB2-BFT systems have been deployed worldwide.

Under the five-year indefinite delivery/indefinite quantity contract potentially worth \$300 million, Northrop Grumman will supply Programmable In-Line Encryption Devices (PIED) for installation in FBCB2-BFT platforms and network operations centers worldwide. The U.S. Army Communications-Electronics Command Contracting Center at Aberdeen Proving Ground, Md., awarded an initial delivery order of \$18 million on April 16.

The PIED, which is certified by the National Security Agency, will provide vital security to the network by encrypting sensitive data. The PIED software is fully interoperable with the Joint Capability Release (JCR) -- the next version of FBCB2 software developed by Northrop Grumman -- and is designed to support both the currently fielded network and the next-generation BFT-2 network.

"The success of the FBCB2 program in combat operations has increased warfighter demand for the network and the information it can bring to the soldier. The enhancements and expanded interoperability of JCR and BFT-2 will bring even more opportunities for exchanging real-time information with our troops, making the need to secure that information and protect those soldiers increasingly imperative," said Joe G. Taylor, Jr., vice president of the Ground Combat Systems operating unit of Northrop Grumman's Information Systems sector.

"The PIED provides an important and vital component to that protection, and the development and future fielding of the PIED with our teammate, Harris Corporation, represents a significant next step for Blue Force Tracking and the future Joint Battle Command Platform."

Harris Corporation, Rochester, N.Y., is Northrop Grumman's partner in the development and manufacture of the PIED, which is based on Harris' KGV-72 solution. The PIEDs will be manufactured at the Harris facility in Rochester. Program and inventory management will be conducted at Northrop Grumman's facility in Carson,

Calif.

---

## Defence Industry

### Lockheed Martin Delivers First Two Upgraded Light Armored Vehicle Command and Control Platforms



OWEGO, NY -- Lockheed Martin has delivered the first two of 52 upgraded Command and Control variants of the Light Armored Vehicle (LAV) to the U.S. Marine Corps.

The upgraded platforms were signed over to the customer in an acceptance ceremony on August 10.

The upgraded LAV Command and Control (C2) variant is a mobile command center providing advanced communication capabilities to Marines in the field, improving their battlefield knowledge and situational awareness.

“This highly integrated vehicle incorporates proven technology to give Marines a technically advanced capability that’s also low risk and affordable,” said Steve Ramsey, vice president of Ground Vehicles at Lockheed Martin. “While we are obviously pleased by meeting the first delivery milestone, we’re much more proud of the teamwork we’ve established with our Marine Corps customer. The power of this relationship fuels Lockheed Martin’s focus on mission success.”

The contract to produce 52 upgraded LAV C2 platforms was awarded to Lockheed Martin in December 2009. The legacy LAV C2 platforms are provided to Lockheed Martin by the U.S. Marine Corps. Equipment integrated by Lockheed Martin includes an advanced communications suite, improved automated workstations and command systems. Production is currently planned to be completed over the next two years.

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 136,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The Corporation’s 2009 sales from continuing operations were \$44.5 billion.

---

## Defence Industry

### Force Protection Receives \$14.5 Million Award for Field Service Support

LADSON, S.C. -- Force Protection Industries, Inc., a

wholly-owned subsidiary of Force Protection Inc., a leading designer, developer and manufacturer of survivability solutions and provider of total life cycle support for those products, today announced that it has received a firm fixed price modification to existing contract M67854-07-D-5031 with a total value of approximately \$14.5 million for continuing Field Service Representative (“FSR”) support work and Standard Consumable Kits to support Operations at Vehicle Support Facility-Afghanistan and conduct general maintenance.



All work under this modification is expected to be complete by July, 2011.

Randy Hutcherson, Chief Operating Officer for Force Protection Industries, Inc., said, “Maintaining the installed Cougar fleet of vehicles is very critical to current operations. We are proud of the performance of the vehicles in the field and appreciate the continued trust and confidence our customer places in us to perform vital field service support in Afghanistan.”

---

## Exhibitions

### Oshkosh Defense Demonstrates Advanced Vehicles and Technologies at U.S. National Guard Conference

OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation (NYSE:OSK), is supporting the U.S. National Guard’s broad mission with a diverse demonstration of technologies and vehicles at the 132nd National Guard Association of the United States` (NGAUS) 2010 General Conference and Exhibition at the Austin Convention Center, Austin, Texas.

The company will exhibit a U.S. Army Family of Medium Tactical Vehicles (FMTV) dump truck variant, a Pierce Manufacturing Inc. mobile command vehicle and a SandCat™ Tactical Protector Vehicle.

“It is important that the men and women serving in the National Guard have modern, highly protected dual-use systems to support their combat missions, national security operations, disaster relief and a variety of other deployments,” said Mike Ivy, Oshkosh Defense vice president and general manager, Army Programs. “Our advanced vehicle platforms give the National Guard the tactical capabilities they need, whether they’re serving on the frontlines overseas or conducting missions at home.”

Oshkosh also provides comprehensive, world-class vehicle training to National Guard units through the Oshkosh Product Training Center. Certified Oshkosh instructors train National Guard members in operation, vehicle maintenance and repairs. Training is offered at



Oshkosh's Wisconsin campus or via mobile training teams at unit bases across the U.S. and abroad. "Mobile training has proven very successful as it allows National Guard soldiers to train according to their units' schedules – in a real-world environment with real-world constraints," Ivy said.

The FMTV 10-ton dump truck replaces obsolete and maintenance-intensive vehicles currently in the fleet. It can perform local and line haul, unit mobility, unit resupply and other missions in combat, combat-support and combat-service-support units. It is rapidly deployable worldwide and operates on primary and secondary roads, trails and cross-country terrain, in all environmental conditions.

Pierce mobile command vehicles are used for a wide variety of applications, including incident command and consequence management. They are highly customized to meet specific customer requirements. A wide array of features include audio and video equipment such as multi-band radio interoperability, cell and satellite telephone capability, digital and infrared cameras, along with galleys and slideouts to maximize working space within the vehicle. Pierce is a division of Oshkosh Corporation and is North America's leading fire and rescue apparatus manufacturer.

The protected and highly maneuverable Oshkosh SandCat can be configured to fulfill a variety of roles in a vast array of missions. It is tailored to meet each operational environment to provide the perfect balance of mission performance, protection and payload.

Oshkosh is exhibiting Aug. 21-23 in booth #1513 at the 132nd NGAUS General Conference & Exhibition in Austin, Texas.

will be performed primarily in Afghanistan with additional work in Kuwait and home stations in the United States. All work under this modification is expected to be complete by February, 2011.

Randy Hutcherson, Chief Operating Officer for Force Protection Industries, Inc., said, "We are pleased to provide these seat upgrades to enhance the already significant survivability of the Cougar vehicle. This award represents an important milestone in our ongoing upgrade, sustainment and modernization efforts. As we continue to develop additional survivability enhancements we will work with our customers to implement those enhancements on our installed fleet of vehicles."



## Defence Industry

### Patria and Croatian MoD agree on Amendment to Armoured Wheeled Vehicle contract



Patria and the Ministry of Defence (MoD) of the Republic of Croatia signed an Amendment related to the manufacturing and delivery contract of 126 Patria AMV 8x8 wheeled armoured vehicles on July 2010.

The negotiations were started on the Croatian MoD's initiative due to the financial reasons.

According to the amendment the number of vehicles remains unchanged and the deliveries will be completed by the end of 2012. The vehicle versions were updated to match the current requirements of the Ministry of Defence.

Majority of the vehicles will be manufactured in Croatia by Patria's local consortium partner Duro Dakovic Special Vehicles (DDSV). The new revised contract also strengthens financial capabilities of DDSV in this program.

In addition to the initial batch of 6 vehicles manufactured in Finland Patria has completed the transfer of technology to DDSV. DDSV has already locally manufactured the first 9 Patria AMV 8x8 basic vehicles.

"Patria is very pleased that the amendment negotiations were concluded in good cooperation and understanding with all parties. This new amendment further strengthens Patria's leading position as the supplier of armoured wheeled vehicles but also opens possibilities for future business opportunities with our Croatian partner", states Mr Seppo Seppälä, President of Patria Land & Armament Oy.



## Contracts

### Force Protection Receives \$64.1 Million Award for Additional Vehicle Modernization



Force Protection Industries, Inc., a wholly-owned subsidiary of Force Protection Inc., a leading designer, developer and manufacturer of survivability solutions and provider of total life cycle support for those products, today announced that it has received a modification to existing contract M67854-07-D-5031 with an approximate value of \$64.1 million for seat survivability upgrade kits for 1,946 Mine Resistant Ambush Protected Category I Cougar vehicles.

The modification is subject to definitization. Work

**Defence Industry**

**U.S. Marines Corps to Receive Vision Enhancement Systems for its Armored Combat Earthmover from DRS Defense Solutions for \$18 Million**



BETHESDA, MD -- DRS Defense Solutions announced it has received an order valued at \$18 million to provide the U.S. Marine Corps with Vision Enhancement Systems (VES) for its M9 Armored Combat Earthmover (ACE).

DRS Sensor and Targeting Systems (S&TS), a DRS Defense Solutions company, received the new order for the systems from Marine Corps Systems Command (MARCORSYSCOM) located in Quantico, VA.

First deliveries are set to begin in November 2010 and are expected to continue through April 2012. S&TS had previously delivered five VES for the M9 ACE to MARCORSYSCOM for evaluation and vehicle integration. The units will be manufactured at S&TS in Cypress, CA

The Vision Enhancement System couples proven Driver's Vision Enhancer (DVE) technology with daylight television cameras to give full day/night situational awareness. This allows users to conduct their missions while remaining safely under armor.

The M9 Armored Combat Earthmover is a highly mobile armored vehicle that provides combat engineer support to front-line forces. Its tasks include eliminating enemy obstacles, maintenance/repair of roads and supply routes, and construction of fighting positions.

Bob Viviano, vice president and general manager, DRS Sensors and Targeting Systems, said: "We are dedicated to equipping our warfighters with sensor systems that provide situational awareness for enhanced mission success while reducing their exposure to enemy fire."



**Contracts**

**GD Canada to Supply Smart Displays for US Army MRAP Vehicles**

Ottawa -- General Dynamics Canada received an order to supply more than 1,000 Smart Display Units (SDU) for installation in U.S. Army Mine Resistant Ambush Protected (MRAP) vehicles.

The order represents the first use of General Dynamics Canada's technology on the MRAP platform, expanding the reach of the company's comprehensive suite of vehicle electronics currently embedded in the majority of the U.S. armoured vehicle fleet.

The MRAP vehicles' command, control, communications and computer, intelligence, surveillance and reconnaissance (C4ISR) capabilities are being upgraded to support future growth and improve operational capability for the crews. General Dynamics Canada will provide the SD7310, its latest-generation smart display designed specifically for on-the-move operation in armoured fighting and tactical vehicles. The SD7310 integrates a 10.4" ruggedized computer and high-resolution touch-screen display into a single device, eliminating the need for a separate and dedicated computer processing unit. It is ideally suited to address the critical size, weight and power, and cost (SWAP-C) requirements of space-constrained vehicle platforms.

"The migration to next generation smart displays on combat vehicles provides warfighters with increased operational capability and improves their ability to communicate on the battlefield," said David Ibbetson, general manager of General Dynamics Canada. "Establishing this footprint on MRAP is strategically important to General Dynamics Canada and the future of our vehicle electronics business."



**Contracts**

**General Dynamics Awarded \$48 Million by U.S. Army for Reactive Armor Side Skirt Tiles**



CHARLOTTE, N.C. -- The U.S. Army, Army Contracting Command, Joint Munitions and Lethality, in Picatinny, N.J., has awarded General Dynamics Armament and Technical Products an order valued at approximately \$48 million to produce reactive armor side skirt tiles for the Bradley Fighting Vehicle System.

Deliveries are expected to begin in February 2011 and be completed in September 2011. General Dynamics Armament and Technical Products is a business unit of General Dynamics.

The reactive armor system is composed of tiles that fasten to the exterior of a vehicle, allowing it to better withstand direct hits from a variety of anti-armor munitions.

Production work will be performed at the General Dynamics facility in McHenry, Miss., and the program will be managed from General Dynamics' Burlington Technology Center in Vermont. A strategic partner, Rafael Advanced Defense Systems Ltd., Ordnance and Protection Division, will share the production workload in Haifa, Israel.

"Our reactive armor technology adds a valuable level of vehicle protection against shaped-charge threats and explosively-formed projectiles," said Russ Klein, vice president and general manager of weapon systems for General Dynamics Armament and Technical Products. "Designed specifically for the U.S. Army's Bradley Fighting Vehicle, reactive armor prevents severe damage to combat vehicles in Iraq, and more importantly saves lives."

In addition to manufacturing the reactive armor tiles for the Bradley Fighting Vehicle, General Dynamics provides complete assembly, integration and storage capabilities for the U.S. Army's reactive armor tile program.

resulting in streamlined maintenance, training, sustainment and overall cost efficiency for the U.S. Army.

Oshkosh also provides support services and training through the contract, which runs through fiscal 2013 and could include an estimated 23,000 trucks and trailers.

## Army

### Army Adjusts Ground Combat Vehicle Program Acquisition Strategy



Following a comprehensive review of its Ground Combat Vehicle program, the Army today announced that it has cancelled the original contract solicitation and will issue a revised Request for Proposals (RFP) that will better ensure an achievable, affordable and timely infantry fighting vehicle.

The review was conducted by both the Army and Office of Secretary of Defense, Acquisition, Technology and Logistics (OSD (AT&L)) as part of a continuing effort to ensure that all Army acquisitions effectively and affordably meet the needs of our soldiers. The contract cancellation was made at the earliest stage of the acquisition process, resulting in up to a six month delay of the program, which will best ensure the long-term success of the Ground Combat Vehicle program by better aligning vehicle capabilities with the anticipated needs of future combat operations.

In May 2010, the Army partnered with OSD (AT&L) to conduct a thorough study of the Ground Combat Vehicle program, referred to as a Red Team analysis. The Red Team review recommended that the Army prioritize the planned vehicle's capabilities to meet achievable goals within the program's acquisition schedule. This holistic review included an examination of vehicle capabilities, operational needs, the acquisition strategy, program schedule and technology readiness.

In conjunction with the Red Team recommendations, the Army determined that it must revise the acquisition strategy to rely on mature technologies in order to reduce significant developmental risk over a seven year schedule following the initial contract award. The refined RFP will result in a vehicle that provides soldiers with critical armored protection in the modern combat environment.

Based on these recommendations, the Army, in consultation with OSD (AT&L), determined that withdrawing and revising the RFP was the most prudent

## Contracts

### U.S. Army Orders 1,100 Oshkosh Defense Vehicles to Support the National Guard and Reserve



OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation, announced today it has received a delivery order modification from the U.S. Army TACOM Life Cycle Management Command (LCMC) to supply more than 1,100 trucks and trailers to the National Guard and Reserve as part of the U.S. Army's Family of Medium Tactical Vehicles (FMTV) fleet.

"This award demonstrates the government's confidence in the Oshkosh FMTV program," said Mike Ivy, vice president and general manager of Army Programs for Oshkosh Defense. "Every truck delivery is important. We are especially pleased to support the men and women of the National Guard and Reserve. We are anxious to do all we can to help modernize these important components of our national security."

Deliveries for this latest award, valued at more than \$180 million, will remain on the original contract timeline and be completed by April 2012. The award includes three FMTV truck variants and two different trailers, which will be produced at the company's facilities in Wisconsin.

The five-year FMTV contract awarded to Oshkosh Defense is for the production of an estimated 23,000 trucks and trailers, as well as support services and training through fiscal 2013. The government has exercised contracts for more than 7,300 trucks and trailers to-date. The FMTV is a series of 17 models ranging from 2.5-ton to 10-ton payloads. Vehicles feature a parts commonality of more than 80 percent,



means of ensuring long-term programmatic success. Details of the specific RFP changes are still being finalized. The Army anticipates issuing the new solicitation within the next 60 days.

## Robots

### Boeing Teams with Bolduc to Build Unmanned Ground Vehicle Conversion Kits

HUNTSVILLE, Ala. -- The Boeing Company has teamed with Bolduc Technology Group, LLC to design, develop, integrate, test, manufacture and sustain agnostic autonomous-navigation kits for ground vehicles.

The kits would enable human-driven vehicles to be converted into autonomous or remotely operated vehicles for commercial or military use.

Boeing, the prime contractor, will offer its experience in ground robotics, autonomy and combat systems to domestic and international customers with existing and emerging mission needs for unmanned ground vehicle technology.

Bolduc will provide its proven highway safety-tested Advanced Electronic Vehicle Interface Technology (AEVIT) "drive-by-wire" remotely piloted vehicle (RPV) system. AEVIT RPV is based on the AEVIT platform, which has been in production for more than 20 years. The system replicates a vehicle's mechanical and electrical systems through the use of intelligent drive modules that command electromechanical servos and electrical switches to control driving functions. The AEVIT RPV technology eliminates the need for a human driver.

"Boeing looks forward to extending our existing relationship with Bolduc into a broader strategic teaming agreement," said Bob DaLee, Robotics program manager for Boeing's Huntsville-based Network and Tactical Systems (N&TS) division. "Our ground vehicle autonomy kit technology enables dull, dirty and dangerous missions such as convoys, route clearance, reconnaissance and perimeter control to be performed with either remotely operated or supervised autonomous control."

"Teaming with Bolduc gives Boeing an opportunity to offer potential customers the tools to handle a variety of dangerous situations without putting their people at risk," said Bill Boggs, director, N&TS Global Forces and Robotics. "Together, we can offer the latest technology, coupled with proven experience from both companies."

"Integrating the commercially available AEVIT RPV platform with Boeing's command and control capabilities to support unmanned ground control operations is a natural fit for our product and will potentially save lives when used in hostile environments," said Scott Bolduc, president and CEO of Bolduc Technology Group. "Teaming with Boeing will position both companies to be at the forefront of delivering a highly effective solution to the

marketplace."

Bolduc Technology Group is the worldwide leader in the design, development and manufacture of highly sophisticated drive-by-wire driving controls. Headquartered in Augusta, Maine, Bolduc Technology Group has installed its civilian and commercial products in thousands of vehicles for more than 20 years.

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

### U.S. Military Continues Oshkosh Defense Field Support for M-ATV



OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation (NYSE:OSK), announced today it has received an award to provide continued aftermarket support for MRAP All Terrain Vehicles (M-ATV) in the U.S and Afghanistan.

More than 55 fully-trained Oshkosh field service representatives (FSR) will provide in-theater and U.S.-based M-ATV support for the U.S. Army, Marine Corps, Navy and Air Force for another year. The FSRs will support the Armed Forces, as directed, with vehicle maintenance, operation, diagnostics and training.

"As warfighters continue to receive Oshkosh-built M-ATVs in Afghanistan, our service representatives are needed on the ground to support the program in multiple capacities," said Ken Juergens, Oshkosh Defense vice president and general manager, Joint Programs. "As a result of this award, Oshkosh M-ATV experts and aftermarket-support FSRs are available to the Armed Forces for another year – most having worked with this platform since the first M-ATVs rolled off our lines last July. Our service team's mission is ensuring that the M-ATV vehicles and those operating them are ready for any mission."

Embedded directly in support of military units, Oshkosh FSRs provide onsite technical assistance, ensure proper maintenance procedures, correctly identify parts and provide troubleshooting techniques and maintenance training to troops.

"With decades of support to the military, Oshkosh knows that properly maintained vehicle fleets have

higher readiness rates and reduced life-cycle costs," Juergens said. "The urgent need for the M-ATV required that training be completed simultaneously with vehicle maintenance training so our FSRs are working side-by-side with the Warfighter to maintain mission-ready fleets for the more than 5,000 M-ATVs in-theater."

The company also received an aftermarket order for more than 290 explosively formed penetrator (EFP) protection kits. The EFP kits are scheduled to be delivered in the second quarter of fiscal year 2011. The FSRs are expected to support the Armed Forces from September 2010 through September 2011. Together, the combined awards from the U.S. Army TACOM Life Cycle Management Command (LCMC) are valued at more than \$58 million. The Oshkosh M-ATV was designed to provide superior off-road mobility for harsh mountainous terrain and unimproved road networks in places like Afghanistan. Oshkosh has received awards to date for 8,083 M-ATVs, as well as spare parts kits, upgrade kits and aftermarket support.



management, while Babcock takes responsibility for detailed production planning, purchasing and manufacture at its Devonport factory.

Perfect partnership has been the key for the project co-ordinators at Defence Equipment & Support (DE&S). Alan Stephen, DE&S' high mobility transport vehicle project manager, said:

"The success of the Jackal programme has been grounded on a combined effort between the project team and industry, who have shown great will to achieve and the ability to take risk to continue delivery.

"My team is thoroughly committed to achieving the best solution for the soldier on the ground, as early as possible, as economically as possible.

"We can't rest on our laurels though, and are continually examining ways of making an excellent vehicle even better. Regular good communications direct with theatre and excellent backbriefs from returning brigades assist in identifying where we should be looking at improvements.



## Jackal keeps proving its worth in Afghanistan



When purchase of the latest batch of Jackal vehicles was announced at Defence Equipment & Support's Defence Vehicle Dynamics event in June 2010 it took the number of Jackal vehicles procured for UK forces to more than 500.

The announcement, by Defence Equipment, Support and Technology Minister Peter Luff, to procure another 140 of the 2A version of the weapons-mounted patrol vehicle at a cost of BJ45m was another vote of confidence in a vehicle which has enabled British patrols to keep in touch with the enemy, often in the toughest of Afghan terrain. Around 40 of the Jackal 2As are due to be delivered this month.

Jackal is the best known of the high mobility transporter vehicles delivered by Babcock over the last few years. The original contract to produce the vehicles was signed as an Urgent Operational Requirement in 2007. The contract has since delivered with huge success.

Jackal vehicles are produced by Babcock under an alliance with Supacat, the prime contractor and design authority. Supacat is responsible for design, development, prototyping, integration and programme

## Army

"Of course it does help motivation that it's a very well-liked vehicle which has delivered an important capability to Operation HERRICK."

The vehicles are built by a team of up to 130 Babcock employees working on the Devonport pulse production line, along with a smaller project management team of 25.

The pulse production line involves dividing the total manufacturing activity into a series of 12 equally balanced packages or 'cells', and the vehicle is physically moved, or 'pulsed', from one area assembly to the next on a daily basis.

Application of a 'lean' philosophy has identified and eliminated any non-value-adding activities, and serves to ensure that the demanding delivery schedules and critical quality and reliability requirements are met.

This is coupled with highly effective supply chain management to reduce lead times, ensure quality and reliability, manage obsolescence, and ultimately drive down the cost of construction and ownership. Production runs at a rate of one vehicle a day.

Babcock Land Systems Director, Chris Dunn, said:

"The Jackal vehicle has been a resounding success, having proved its versatility; combining speed and manoeuvrability with unparalleled cross-country performance over Afghanistan's harsh terrain.

"We are delighted to be working in alliance with Supacat to deliver these vehicles reliably and consistently within the shortest possible timescales.

"Further, we have established Babcock as a company

that can be relied upon to deliver vehicles of exceptional quality at record pace and, being OEM [Original Equipment Manufacture] independent, we are also talking to other vehicle designers about building their vehicles for upcoming programmes in the UK and abroad."



### Jackal - the story so far...

- In service are three Army variants based on the high mobility transporter - the 4x4 Jackal in three variants (1, 2 and 2A), the 6x6 Coyote and the 6x6 MEP (Military Enhancement Programme) vehicle.
- The MEP was procured as the base vehicle for the Soothsayer programme, which was cancelled in 2009 - 35 vehicles were produced.
- The first Jackal contract was placed on 28 July 2007, and the first vehicles entered service in November 2007 - vehicles were in theatre in early 2008.
- Follow-on buys occurred in 2008 to bring the total to more than 200.
- On 9 April 2008, the contract was signed for more than 100 more Jackals - these were at the Jackal 2 build standard and entered service in August 2009.
- On 12 May 2010, a contract was signed for around 140 Jackal vehicles, at the Jackal 2A build standard.
- Approximate contract value of the various buys is BJ174m for Jackal 1 and BJ45m for Jackal 2A.
- More than 70 Coyote vehicles have been built - the Coyote is the light vehicle in the Tactical Support Vehicle family and entered service in August 2009.
- The Jackal 2 contract and the Coyote contract were awarded together, with the number of vehicles changing during the buy - the combined value of the two contracts is BJ140m.

was awarded on July 30. One bid was solicited with one bid received, the notice said.

## Contracts

### U.S. Army Selects Raytheon for Next-Generation Excalibur Ib Program

TUCSON, Ariz. -- Raytheon Company has won the competition for the next phase of Excalibur Ib and has been awarded a \$23 million U.S. Army contract to finalize the next-generation 155 mm precision-guided projectile's design. Delivery of the Excalibur Ib rounds is projected to occur in 2012.

Based on the combat-proven Excalibur Ia, Excalibur Ib uses GPS technology to provide a first round, fire-for-effect, precision capability that limits collateral damage. Whether "danger close" or across a valley, Excalibur projectiles give warfighters life-saving options.

"Raytheon's Excalibur Ib design will give our warfighters a pinpoint precision capability that will limit collateral damage while protecting the brigade combat teams," said Dr. Taylor Lawrence, Raytheon Missile Systems president. "Excalibur Ib is an affordable, reliable solution to the U.S. Army's need for precision artillery fire."

The Excalibur Ib program met the U.S. Army's cost reduction goals and increased its reliability by using fewer parts and simpler manufacturing.

"With more than 100 successful test flights during its development, Raytheon's Excalibur Ib team demonstrated the unwavering reliability and robust capability of its design," said Jim Riley, Raytheon's vice president of Land Combat.

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.

The U.S. Army recently reduced the production numbers of the Excalibur precision-guided projectile from 30,000 to 6,264 projectiles, which caused the program to enter a Nunn-McCurdy unit cost breach. While the reduced production numbers drive up the cost of the round for that lower quantity, the Excalibur Ib program still represents value and provides cost-savings to the U.S. Army over time. Even with the current Nunn-McCurdy breach, the U.S. Army is procuring a lower-cost round (Excalibur Ib) without sacrificing performance.

The Excalibur Ib contract is in two parts over 22 months with a total contract value of \$60 million. Part 1 covers finalizing the design, and part 2 is for design qualification.

## Defence Industry

### U.S. to Supply 2,526 Humvees to Afghanistan Forces



AM General, LLC, was awarded a U.S. Army contract valued at \$619 million for 2,526 High Mobility Multipurpose Wheeled Vehicles, or Humvees, for the Afghan police force and National Guard, according to the U.S. Defense Department.

The Pentagon's daily contract digest said work is to be performed in South Bend, Indiana, with a projected completion date of December 31, 2013, . The contract



## Defence Industry

### Textron Marine & Land Systems Selected for Canadian Tactical Armored Patrol Vehicle Competition

NEW ORLEANS -- Textron Marine & Land Systems, an operating unit of Textron Systems, a Textron Inc. company, today announced it has been selected by the Government of Canada, through the Solicitation of Interest and Qualification process, to participate in the competition to be selected to submit a proposal to provide its Tactical Armored Patrol Vehicle (TAPV).

Textron Marine & Land Systems plans to offer a 4x4 wheeled armored vehicle specifically engineered and designed to provide survivability, mobility and versatility in full spectrum operations over the toughest of landscapes. The comprehensive, modern design is aimed at shielding troops from roadside bombs and blasts while providing large power reserves for future electronics enhancements with an ergonomically designed interior for optimum comfort and payload. The vehicle has been tested extensively to confirm ballistic, mine blast, mobility and reliability levels that meet or exceed the Canadian TAPV requirements.

"Our team has been working diligently to develop and test this modern combat vehicle for the Canadian military to achieve the highest possible level of crew protection while maintaining the mobility and reliability of our combat-proven Armored Security Vehicle," said Textron Marine & Land Systems General Manager Tom Walmsley. "We are offering the Canadian military the ultimate balance of survivability, mobility and lethality in a modern, ergonomically designed platform. It is a cost effective game-changing solution for Canada's national security requirements for the next 25 years."



including a variety of simulated mine and IED attacks. During each of these tests Ocelot has demonstrated improved survivability performance, fully meeting Force Protection Europe's programme development expectations for this vehicle.

Key to Ocelot's unique, modular design is the ability to easily repair the vehicle, following a blast, even in the austere confines of a forward operating base. One Ocelot pod has already undergone ten blast trials and established how easily it can be repaired - at low cost - and how quickly it can be back in service. The design has also confirmed the potential for significant through life cost savings on the vehicle because it does not include sacrificial elements as part of its protection package.

"We are delighted with the progress that is being made on the Ocelot development programme. The blast tests are just one of the areas that we have been testing, others have included manoeuvrability and cross country ability/off road agility and in all of these the vehicle has performed magnificently," said David Hind, Managing Director of Force Protection Europe. "The progress that the engineers not only from Force Protection Europe and our partners Ricardo plc but also our supply chain, are making is awe inspiring and shows real commitment to provide a truly fit-for-purpose, high mobility, protected solution ready to be put in service with armed forces worldwide."

Force Protection Europe has used its own facilities to provide a quick turnaround on the results, giving the programme team the widest flexibility. The facilities use the latest telemetry and high speed technology to capture data.

Ocelot has the flexibility to perform a range of roles including patrol, fire support and protected logistics. Innovative features include role-specific pods which can be fitted quickly to the core automotive armoured V-shaped hull in the field. The armoured hull houses the main fuel tank, drive line, batteries and generator as well as the powerpack, which includes the engine, gearbox, auxiliary fuel tank and associated ECUs (electronic control units). The vehicle has been designed from the outset to be easily repaired and maintainable in the austere environment of a forward operating base. Commercial off the shelf (COTS) components have been used to ensure maximum availability of spares worldwide.

Designed for exceptional manoeuvrability, Ocelot is equally effective in the tight confines of built-up urban areas and for tactical manoeuvre on difficult terrain typically found on current operations in Afghanistan.

The excellence of Force Protection's survivability technologies are amply demonstrated by the performance of the company's Mastiff and Ridgback Mine Resistant Ambush Protected (MRAP) vehicles. The Cougar vehicles upon which they are based are recognised around the world as offering the highest levels of survivability.



## Defence Industry

### Ocelot Successfully Completes its 41st Blast Test



Ocelot, a cutting edge light protected patrol vehicle, has successfully completed its 41st blast test Force Protection Europe announced today with the latest results demonstrating not only the integrity of the vehicle but also its modularity and ease of repair.

The British designed and engineered solution has undergone a range of tests in the last twelve months