

# Army Guide monthly



## # 4 (79) April 2011

- **DURO DAKOVIC Holding d.d. and Patria signed a Memorandum of Understanding**
- **BAE Systems to Integrate Caterpillar CX Series Transmissions into its HybriDrive® Parallel System for Heavy-duty Trucks**
- **The KVHV DSP-3000 Family of Fiber Optic Gyros**
- **New International Contracts of Uralvagonzavod**
- **iRobot to Deliver More Small Unmanned Ground Vehicles (SUGVs) to the U.S. Army**
- **General Dynamics Delivers EAGLE BAT Vehicles to Bundeswehr**
- **Elbit Systems Awarded a Contract to Supply Soltam's Artillery Systems**
- **Sisu Defence Oy delivered the 1st batch of air defence system vehicles**
- **U.S. Army Orders Oshkosh Defense Heavy Equipment Transporters**
- **iRobot Develops 110 FirstLook, a Small, Light, Throwable Robot**
- **Force Protection Receives \$46.6 Million Award for Delivery of 40 Buffalo Vehicles**
- **Oshkosh Defense to Provide HEMTT Underbody Armor Kits, LVSRs to Support Recovery Missions**
- **DRS Technologies Receives \$20.3 Million Follow-On Order for Long Range Advanced Scout Surveillance Systems Sub-Assemblies (LRAS3)**
- **KMW delivers first rocket launcher MARS II to German artillery school**
- **MPs Test Drive New Armored Security Vehicles**
- **Oshkosh Defense Introduces SandCat Tactical Protector Vehicle in Latin America at LAAD 2011**
- **German Army Orders 39 Additional DINGO 2 Armoured Patrol Vehicles**

## Defence Industry

### DURO DAKOVIC Holding d.d. and Patria signed a Memorandum of Understanding

DURO DAKOVIC Holding d.d. (DDH) and Patria have on 29 March 2011 signed a Memorandum of Understanding confirming their intention to agree upon common efforts in sales of Patria AMV vehicles to case-by-case selected third countries. DDH as a group would have a significant role in the production of sold vehicles.

The potential customer countries will be identified during the envisaged co-operation.

The operative contract on delivery of armoured wheeled vehicles to the Ministry of Defence of the Republic of Croatia is in full serial production at DURO DAKOVIC Specijalna vozila d.d. (DDSV), a subsidiary of DDH who has received all needed technology from Patria. DDSV has delivered over 20 armoured wheeled vehicles made in Croatia.

“Patria is very pleased with the performance of DDSV’s serial production and this Memorandum of Understanding is a natural continuation of the relationship. Patria believes that new armoured wheeled vehicle market potential could be covered and won together with DDH supported by the Republic of Croatia. The Memorandum of Understanding will strengthen Patria’s leading position as the supplier of armoured wheeled vehicles on international market”, states Mr. Seppo Seppälä, President of Patria Land Systems.

Patria Land Systems is a part of the Patria Group, which 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.



## Future Technologies

### BAE Systems to Integrate Caterpillar CX Series Transmissions into its HybriDrive® Parallel System for Heavy-duty Trucks



JOHNSON CITY, New York — BAE Systems and Caterpillar Inc. have signed a joint development agreement to collaborate on a parallel hybrid propulsion system for heavy-duty trucks. Under the agreement, BAE Systems will integrate Caterpillar CX Series Transmissions into its HybriDrive® parallel propulsion system, recently launched at the National Truck Equipment Association Work Truck Show.

“Through this alliance, our transmission will become an integral part of BAE Systems’ new HybriDrive parallel system,” said Jeff Pohl, Hauling & OEM Drivetrains Product Manager for Caterpillar. “Our driveline expertise, including planetary automatic transmission expertise, combined with BAE Systems’ proven hybrid technology, will result in a seamlessly integrated product that meets performance and efficiency demands of vehicles that operate in diverse duty cycles.”

BAE Systems is a leading developer and producer of hybrid electric propulsion and power management systems for heavy-duty vehicles. The company’s HybriDrive series propulsion system—currently in service on more than 3,000 transit buses in cities around the world—meets the demands of urban transit duty cycles, which require low average speeds and frequent stop-and-go operation. The HybriDrive parallel system is designed to address the needs of vehicles with duty cycles that require higher operating speeds and less frequent stops.

With more than 200 million miles of revenue service, more than 10 million gallons of diesel fuel saved, and more than 100,000 tons of carbon dioxide emissions prevented, the market-leading HybriDrive series system has proven itself to be one of the most efficient hybrid electric systems for the transit bus sector and has provided significant environmental benefits.

“We have been diligently pursuing strategic alliances to further emphasize our HybriDrive parallel system’s advantages and discriminators beyond its superior fuel efficiency, driveability and emissions reductions,” said Steve Trichka, general manager of power and energy management for BAE Systems. “This agreement brings two industry leaders together to develop a product that will surpass marketplace expectations for cost, performance and support.”

The Cat CX family of transmissions delivers reliable performance, rugged durability, fuel economy and Cat product support necessary for on- and off-highway applications. Caterpillar designs and manufactures integrated powertrain systems that maximize vehicles’ versatility and transmission performance.

HybriDrive series and parallel systems both use simplified and proven components and controls to deliver their capabilities. While the series system does not use a transmission, the HybriDrive parallel system is based on a single electric machine, integrated between the engine and the transmission. The system can be installed with minimal impact to the vehicle, and enhances propulsion through an optimized blending of internal combustion engine power and electric power. The system’s energy management and control capabilities ensure all energy flow—such as propulsion and recuperation—occurs in the most efficient fashion, resulting in lower fuel consumption and reduced emissions.

The HybriDrive parallel system’s supplemental power and torque ratings range from 95 horsepower (hp) to 145 hp and torque of 300 lbs-ft to 400 lbs-ft respectively. The system is designed to support large-bore, heavy-duty

power plants, ranging from 350 hp to 600 hp, with associated torque ratings of 750 lbs-ft to 2,150 lbs-ft.

The HybriDrive parallel system, in final stages of development, will see its first road trials this spring and is expected to be deployed in markets around the world in 2012.



### Contracts

## The KVHV DSP-3000 Family of Fiber Optic Gyros



MIDDLETOWN, RI -- KVH Industries, Inc. is pleased to announce the expansion of its national sales force with the addition of Global Technical Sales and its subsidiary, Strategic Technical Sales, as sales representatives for its fiber optic gyro (FOG) products.

### KVH Adds New U.S. Manufacturer's Sales Reps for Fiber Optic Gyros

Charlie Fisher, president of Fort Worth, TX-based Global Technical Sales, will represent KVH and its FOGs and FOG-based systems in the states of Texas and Louisiana. Dave Simon, president of Long Beach, CA-based Strategic Technical Sales, will serve as the KVH FOG product representative in the states of California, Arizona, and Oregon. Fisher and Simon offer prospective customers an in-depth understanding of FOGs and FOG-based systems, and are a great additional resource for existing and potential customers of KVH's products.

Jay Napoli, KVH's Vice President of FOG and OEM Sales, said, "The addition of Dave and Charlie to our network of sales representatives for FOGs and FOG-based systems enables us to expand our presence in key commercial markets in the west and southwest." He continued, "Both of these professionals will be invaluable as KVH continues to build its customer base focused on applications like gimballed cameras, equipment payload stabilization, unmanned aerial vehicles and remotely operated vehicles."

KVH's military and commercial fiber optic gyro resource pages offer additional details regarding KVH's fiber optic gyro solutions. KVH's fiber optic guidance and sensor systems are used in an array of commercial and defense-related stabilization, navigation, autonomous vehicle, and precision guidance applications.

### About KVH Industries, Inc.

KVH Industries is a leading manufacturer of solutions that provide global high-speed Internet, television and voice services via satellite to mobile users at sea, on land, and in the air. KVH is also a premier manufacturer of

high performance sensors and integrated inertial systems for defense and commercial guidance and stabilization applications. The company is based in Middletown, RI, with facilities in Illinois, Denmark, Norway, and Singapore.



### Defence Industry

## New International Contracts of Uralvagonzavod



In the framework of the programme of visit of HVF Avadi plant executives' delegation to Russia negotiations on agreement and signing of contractual documents on component parts supplies in 2011-2012 in accordance with inquiries of the Indian side took place on the territory of FGUP "Rosoboronexport" on 23-24 March 2011.

On 25 March 2011 executives of OJSC "RPC "URALVAGONZAVOD" headed by Oleg Sienko, CEO, held a meeting with the Indian delegation. Issues concerning cooperation on T-90 project were discussed during the meeting.

The Indian delegation was headed by Mutnury Satyanarayana Rao, CEO of HVF Avadi.

### Background Information

An interstate contract on transfer of the licence for manufacturing T-72M1 was signed in 1983. Over the 1984 to 1990 period major units (hulls and turrets, gear boxes) were mastered. Through 1986 to 1988 semi knock-down product supplies were carried out. Complete Knock Down supplies were complemented by training of customer's specialists.

The first unit of T-72M1 made of Indian and Soviet component parts was produced on 15 January 1988.

During the period from 1986 to 1990 the new tank producing plant of HVF was built upon the project of Leningrad Institute in Avadi, India next to the old plant which used to produce VIJAYANTA.

At the end of the 90s on the basis of cutting-edge construction and engineering technologies the new tank T-90C was created. Characteristic features of the new tank included power pack with diesel 1000 h.p., improved undercarriage, fire control system with thermal imaging sight and unique combat properties.

Three units of this model of different configurations successfully passed the test under severe natural climatic conditions in India, which proved their superiority over comparable western armoured vehicles and earned recognition by foreign experts.

The thorough work reached its heights in 2001 when a

major contract was concluded with the Indian Ministry of Defence.

During the period of October 2002 to September 2003 supplies of equipment and tooling necessary for T-90C assembly as well as licence technical documentation were carried out. Under the circumstances technical assistance was provided to HIV Avadi plant as well as to other Indian facilities.

At present Russian experts provide assistance in licenced semi knock-down production of T-90C and warranty period maintenance in the field.



## Robots

### iRobot to Deliver More Small Unmanned Ground Vehicles (SUGVs) to the U.S. Army

BEDFORD, Mass. -- iRobot Corp., a leader in delivering robotic technology-based solutions, announced that the U.S. Army plans to procure two additional low-rate initial production brigade sets of model 320 SUGVs.

The Defense Acquisition Board formalized its approval to purchase additional SUGVs under the Brigade Combat Team Modernization (BCTM) program in February. It allows for the delivery of 76 total SUGVs for two additional infantry brigade sets. iRobot has already delivered 45 SUGVs as part of the Army's low-rate initial production contract for the first brigade set of BCTM Increment 1 capabilities.

iRobot also continues to develop the follow-on variant of the SUGV for the BCTM program. This SUGV variant will provide enhanced processing, sensor and communication capabilities and is expected to be available in the 2012 timeframe.

"We are pleased that the U.S. Army has announced its intent to procure two more brigade sets of SUGV," said Robert Moses, president of iRobot's Government and Industrial Robots division. "It's a testament to the positive feedback we have received about SUGV since being fielded. These robots are meeting Army requirements and performing as expected on the battlefield."

iRobot and Boeing teamed to develop the SUGV, a smaller and lighter version of the combat-proven PackBot. It gives warfighters real-time awareness of critical situations and allows them to complete dangerous missions from safe standoff distances.



## Defence Industry

### General Dynamics Delivers EAGLE BAT Vehicles to Bundeswehr

On 15 March 2011, in the presence of high-ranking representatives, General Dynamics European Land Systems delivered 20 EAGLE BAT (protected ambulance) vehicles to the Bundesamt für Wehrtechnik und Beschaffung and subsequently to the Medical Service of the Bundeswehr on the

Medical training regiment's premises in Feldkirchen/Niederbayern.



The vehicles were developed, tested and manufactured on a tight, 14-month timeline in close cooperation between General Dynamics European Land Systems-Mowag, General Dynamics European Land Systems-Germany and other German companies following an October 2009 contract award.

The BWB selected the EAGLE IV in 2008 for the "GFF Klasse 2" public procurement program for protected Command and Function vehicles following 2 years of intensive evaluation. As a result of its high protection level, agility and tactical mobility as well as its outstanding reliability and availability, the EAGLE IV is the ideal vehicle for the entire mission spectrum of this class of vehicles.

The EAGLE BAT accommodates an emergency doctor, rescue assistant and a driver/paramedic and allows patient transport and emergency treatment while protecting occupants from ballistic threats, mines and improvised explosive devices. As part of orders for 473 EAGLE GFF2 vehicles, General Dynamics European Land Systems entered a contract with the BWB for the delivery of 20 protected EAGLE BAT (Protected Ambulance) in October 2009. These vehicles will replace existing unprotected vehicles of the Bundeswehr, thus considerably increasing the security of German soldiers on missions abroad. BWB has ordered 473 EAGLE IV vehicles in all.

Achieving the tight delivery schedule was made possible by closely coordinated measures in the manufacturing process and excellent cooperation of the participating companies and authorities within the framework of the CPM Integrated Project Management process. Among the milestones achieved were the following:

- Increasing the permissible total weight (GVW) to 9.5t and carrying out driving tests, bench tests and climatic testing in cooperation with the Military Vehicle Test Center WTD 41 in Trier, Germany
- Design and engineering of the BAT add-on kit by Cassidian Friedrichshafen
- Construction of a 1:1 wooden model of the protected BAT cabin and checking the handling of the BAT add-on kit by the Medical Service of the Bundeswehr (SanABw)
- Making a crash test model for 10g crash tests to check the safe integration of the BAT add-on kit
- Production of a test vehicle to verify protection levels and execution of ballistic, mine and IED protection tests by the Military Vehicle Test Center

- WTD 91 in Meppen
- Production of two pre-series vehicles for homologation
- Vehicle operator training at GDELS-Mowag in Kreuzlingen
- Manufacture of series vehicles by GDELS as well as their delivery to BWB

These orders document the close partnership with the BWB and the Bundeswehr as key customer of General Dynamics European Land Systems and underline the international success of the highly protected EAGLE.

#### Facts about the EAGLE

The EAGLE sets the standard for highly protected wheeled vehicles in the weight class of up to 9.5 tons. It has a length of 5.40 m, a height of 2.4 m and a width of 2.16 m. The EAGLE reaches a top speed of 110 km/h on the road and manages gradients of up to 60%. The 245 hp turbocharged diesel engine, in connection with an Allison 5-speed automatic transmission, the unique DeDion axle system with the patented roll stabilizer, the tire pressure control system and the permanent all-wheel drive, give the EAGLE superior on-road and off-road mobility. Thanks to the modular protection system, the EAGLE offers a very high level of protection against ballistic threats, mines, and improvised explosive devices (IEDs). Furthermore, the vehicle is equipped with an NBC overpressure system.



allowing us to provide our customers with complete unique solutions, from artillery platforms, to target acquisition systems, through to advanced command and control solutions that connect all of the systems". Machlis added: "Our integrative solution, combining Soltam's artillery systems and our range of advanced electronic capabilities, provides a cutting-edge operational solution suitable for the growing trend of a transition to wheeled mobile platforms for artillery".



#### Defence Industry

### Sisu Defence Oy delivered the 1st batch of air defence system vehicles



Supplier of military trucks, Sisu Defence Oy, has delivered the 1st batch of Sisu 8x8 and Sisu 4x4 off-road military trucks to be used in the Finnish Defence Forces' new NASAMS FIN air defence system.

#### Contracts

### Elbit Systems Awarded a Contract to Supply Soltam's Artillery Systems



Elbit Systems Ltd. announced today that it was awarded a contract to supply self-propelled artillery and accompanying systems to an African country.

The contract, valued at approximately \$24 million, will be performed over the next two years. This is the first contract announcement regarding Soltam Systems Ltd. since its recent acquisition by Elbit Systems.

The contract calls for the supply of a complete solution, including Soltam's ATMOS self-propelled artillery, command stations, observation and target acquisition systems, as well as fire control and command and control systems. In addition, Elbit Systems will manage the training and maintenance during the project's duration.

Bezalel Machlis, Elbit Systems' Executive Vice President and General Manager – Land and C4I Division, commented: "This new contract highlights the high synergetic value within our various land activities,

Trucks in question were delivered to Norway's premier supplier for defence and aerospace-related systems, Kongsberg Defence & Aerospace AS, who is engaged in a turnkey delivery of NASAMS FIN air defence system ordered by Materiel Command of Finnish Army.

- This vehicle delivery is an important milestone in the NASAMS FIN delivery project, says Engineer in charge, Erik Godstad, Kongsberg Defence & Aerospace AS.
- Delivered Sisu trucks suit very well for NASAMS air defence system. Certain additional features required by the system have been implemented to the trucks during manufacturing with great flexibility, and in agreed schedule, Mr. Godstad continues.

Heavy-duty four-axle Sisu 8x8 off-road trucks shall be used in the subsystems forming the NASAMS FIN air defence system. These trucks are equipped with Multilift hook-lifts integrated to truck frame, and with cargo platforms suitable to be operated with a hook-lift.

Delivery includes also Sisu 4x4 off-road trucks to

serve, for example, in logistics and support functions of the air defence system.

Value of the truck deliveries all together is approximately EUR 17 Million. The deliveries shall continue through 2014.

Turn-key supplier of the NASAMS FIN, Kongsberg Defence & Aerospace AS, belongs to an international, knowledge-based KONGSBERG group that supplies high-technology systems and solutions to customers engaged in the oil and gas industry, the merchant marine, and the defence and aerospace industries. In 2009, KONGSBERG had a turnover of NOK 13.8 billion and 5 423 employees in more than 25 countries. Sisu Defence Oy has agreed about marketing related co-operation with Kongsberg Defence & Aerospace AS.

- We strongly believe that the ongoing co-operation with KONGSBERG advances our foray to offer also other Sisu military trucks to wider international market, says Jyri Ahonen, Managing Director of Sisu Defence Oy.



### Defence Industry

#### U.S. Army Orders Oshkosh Defense Heavy Equipment Transporters



OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation (NYSE:OSK), will deliver more than 270 Heavy Equipment Transporters (HET) A1 vehicles following a delivery order from the U.S. Army TACOM Life Cycle Management Command (LCMC).

The Oshkosh Heavy Equipment Transporter (HET) is designed to rapidly transport battle tanks, fighting and recovery vehicles, armored vehicles and construction equipment, as well as their crews, so they arrive in mission-ready condition. The latest Oshkosh HET A1 configuration includes increased protection, horsepower, higher capacity front suspension, standard air conditioning, electrical upgrades and improved diagnostics.

“The first HET A1 rolled off our lines last December,”

said Mike Ivy, vice president and general manager of Army Programs for Oshkosh Defense. “We worked closely with the Army on these improvements to the HET to provide increased mobility, ride quality and reduce maintenance and repair costs, and we’re pleased to get this newest configuration out to soldiers in the field.”

HET A1 trucks are often paired with the M1000 heavy-duty trailer to haul the M1A1/M1A2 (Abrams) tank. The HET is a part of the Army’s Family of Heavy Tactical Vehicles, produced by Oshkosh Defense, which also includes the Heavy Expanded Mobility Tactical Truck (HEMTT) and the Palletized Load System (PLS).

Vehicle production and delivery is scheduled to be completed in September 2012. The order is valued at more than \$119 million.



### Robots

#### iRobot Develops 110 FirstLook, a Small, Light, Throwable Robot



BEDFORD, Mass. -- iRobot Corp., a leader in delivering robotic technology-based solutions, has unveiled pre-production prototypes of the iRobot 110 FirstLook unmanned ground vehicle (UGV).

A small, light and throwable robot, 110 FirstLook provides hasty situational awareness, performs persistent observation and investigates confined spaces. The robot weighs less than five pounds and is 10 inches long, making it ideal for building clearing, raids and other close-in scenarios.

“FirstLook is going to be a very important tool for warfighters and first responders,” said Robert Moses, president of iRobot’s Government and Industrial Robots division. “Given its small size, ruggedness and state-of-the-art capabilities, the robot is ideal for a range of infantry missions and special operations.”

110 FirstLook survives 15-foot drops onto concrete and is waterproof to three feet. The robot climbs steps, overcomes curbs and other obstacles, turns in place and self-rights when flipped over.

With four built-in cameras and two-way audio communication, 110 FirstLook provides multi-direction situational awareness. It also has digital mesh networking capabilities, allowing multiple robots to relay radio communications over greater distances. 110 FirstLook uses a wrist-mounted, touchscreen operator control unit (OCU) with a built-in radio.

Over the next several months, iRobot will demonstrate 110 FirstLook for military and law enforcement personnel. The robot will be available for delivery to customers in 2012.



### Defence Industry

## Force Protection Receives \$46.6 Million Award for Delivery of 40 Buffalo Vehicles



LADSON, S.C. -- Force Protection Industries, Inc., a Force Protection Inc., group company, today announced that it has received contract M67854-11-C-5063 from the United States Marine Corps Systems Command with an approximate value of \$46.6 million. The award is a Foreign Military Sale (FMS) for 40 Program of Record (POR) Buffalo Mine Protected Clearance Vehicles (MPCV).

All work under this contract will be performed in Ladson, SC and is expected to be completed by September 30, 2011.

Randy Hutcherson, Chief Operating Officer for Force Protection Industries, Inc., said, "The demand for Buffalo continues to be solid due to its effectiveness as the premier route clearance vehicle available today. Buffalos have saved untold numbers of lives over the last several years in combat operations in Iraq and Afghanistan. We are extremely proud to provide these vehicles to conduct the critical work of clearing the way for coalition troops in harm's way."

Separately, Force Protection Industries, Inc. was awarded on March 30, 2011 a firm fixed price modification to existing contract M67854-07-D-5031 for approximately \$11.4 million for a 10-month renewal of 46 field service representatives to install liner blanket kits, modernization safety kits, and conduct general maintenance work on the Cougar Mine Resistant Ambush Protected (MRAP) vehicle fleet supporting Operation Enduring Freedom and Operation New Dawn. All work will be performed in Afghanistan and Iraq, and will be completed by Dec. 31, 2011.



### Defence Industry

## Oshkosh Defense to Provide HEMTT Underbody Armor Kits, LVSRs to Support Recovery Missions

OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation, will deliver more than 400

underbody armor protection kits for the Heavy Expanded Mobility Tactical Truck (HEMTT) A4 vehicles following its first order for the armor from the U.S. Army TACOM Life Cycle Management Command (LCMC).

The armor was developed in response to an urgent need in the field to increase protection for HEMTT wreckers and Light Equipment Transporters (LET) recovering Mine-Resistant Ambush Protected (MRAP) vehicles in Afghanistan's challenging terrain. Additionally, more than 15 uparmored Logistics Vehicle System Replacement (LVSR) wreckers were ordered by the Marine Corps Systems Command (MARCORSYSCOM) to protect Marines recovering MRAPs in theater.

"Delivering this new line of protection kits is part of our ongoing work to ensure that the workhorse of the Army's heavy tactical truck recovery fleet, the HEMTT A4 wrecker, protects those serving on the battlefield," said Mike Ivy, vice president and general manager of Army Programs for Oshkosh Defense. "Closely collaborating with the Army, we produced and delivered the armor upgrades rapidly to meet the threats that soldiers face in Afghanistan."

The HEMTT A4 is compliant with the Army's Long-Term Armor Strategy (LTAS). It is produced with factory-installed armor and can also readily accept add-on armor to raise protection levels. The HEMTT platform's 13-ton payload and off-road capabilities make it the backbone of the U.S. Army's logistics fleet. The wrecker variant, capable of recovering vehicles weighing in excess of 50 tons, offers heavy-duty power and extreme performance for the most challenging recovery missions.

The LVSR wrecker is able to flat tow 55 tons, and lift and tow 48 tons. It is equipped with the Oshkosh Command Zone™ embedded diagnostics system to provide real-time performance feedback on vital vehicle information and uses the company's patented TAK-4® independent suspension system for superior off-road mobility. LVSRs have been operating in Afghanistan since September 2009.

Deliveries of the HEMTT underbody kits for the TACOM order are scheduled to be completed in July 2011. The order is valued at more than \$26 million. Deliveries of the LVSRs are scheduled to take place between June and September 2011. The MARCORSYSCOM order is valued at approximately \$12 million.



### Defence Industry

## DRS Technologies Receives \$20.3 Million Follow-On Order for Long Range Advanced Scout Surveillance Systems Sub-Assemblies (LRAS3)

PARSIPPANY, N.J. -- DRS Technologies, Inc., a Finmeccanica Company, announced it has received a follow-on order valued at \$20.3 million for critical Long Range Advanced Scout Surveillance System

(LRAS3) sub-assemblies.



(GMLRS) edition.



LRAS3 is a multi-sensor infrared system that enables real-time detection, recognition, identification and geo-location of distant targets. Used by Army Scouts on Stryker and HMMWV platforms for conducting reconnaissance and surveillance tasks, LRAS3 provides the capability to observe and report on enemy activity while remaining outside of the enemy's acquisition and fire ranges – a crucial improvement over previous generations of this technology.

The \$20.3 million order was issued by Raytheon Network Centric Systems, McKinney, Texas, the LRAS3 program's prime contractor and final integrator. It is the third order this business has placed against this multi-year contract awarded to DRS in 2008.

Under the terms of the contract, DRS will provide key LRAS3 sub-assemblies such as Integrated Optical Benches (IOBs), Telescope/Afocals, Vehicle Mounted Yokes (VMYs), and Stovepipes. The work will be performed by the Melbourne, Florida operation of DRS Technologies' Reconnaissance, Surveillance & Target Acquisition (RSTA) business group. Deliveries have commenced and will continue through September of 2011.

"We're proud to make key contributions to this outstanding technology," said RSTA President Terry Murphy. "It enables Scouts to carry out their vital and inherently dangerous reconnaissance and surveillance missions while staying out of harm's way, thus improving our armed forces' success on the battlefield."

### About DRS Technologies

DRS Technologies, headquartered in Parsippany, NJ, is a leading supplier of integrated products, services and support to military forces, intelligence agencies and prime contractors worldwide. The company is a wholly owned subsidiary of Finmeccanica S.p.A. (FNC.MI) which employs more than 75,000 people worldwide.

Krauss-Maffei Wegmann (KMW) thereby delivered a fully modernised combat system with an increased combat efficacy just 2Bj years after the signing of the pre-series-contract in December 2008.

„With the rocket launcher MARS II and the guided artillery rocket GMLRS UNITARY we now have an efficient means with the necessary precision and outstanding range, which finally allows us to complete the tasks assigned to us under almost any condition and that with the desired effect.“, said Brigadier General Heribert Hupka, commander of the artillery school and General of the artillery troops in Germany.

### Highest performance for the mission

More than 2.300 implemented new parts, 300 metres of integrated wiring per vehicle for a fully electric drive and a quality inspection covering more than 450 hours per launching system are not only stand for a guaranteed sustainability, but also ensure an unmatched functionality and targeting precision on missions. The rocket launcher MARS II with the guided artillery rocket GMLRS UNITARY thereby offers a device that combines highest precision and maximum range. With the delivery of the first rocket launcher the schooling will commence immediately at the artillery school. After the completion of final tests within the scope of a field test the system is due for compliance testing next month at the White Sands Missile Range in the southern USA

### MARS II – a success story in artillery

The rocket launcher MARS is in service with the artillery troop for over 25 years now. Conceptualised and optimised for the combating of large surface area targets under cold war circumstances, it was adapted to the considerably changed requirements of current as well as future threat scenarios and subsequently upgraded. Today, it takes effect on targets faster and more accurately than ever before – and will be an efficient partner in general or functional gunfights in future conflict scenarios within the framework of network-centric warfare.

## Defence Industry

### KMW delivers first rocket launcher MARS II to German artillery school

Idar-Oberstein -- In the presence of the vice president of the Federal Office for Defence Technology and Procurement, Reinhard SchΓjtte, the artillery school in Idar Oberstein, Germany, received its first MARS II rocket launching system in the Guided Multiple-Launch Rocket System

## Army

### MPs Test Drive New Armored Security Vehicles

Joint Base Lewis-McChord, Wash. -- Faster and lighter than a Stryker. More protected than a humvee. A smoother ride than a Mine-Resistant Armor-Protected vehicle. More suppressive firepower than all three.

Soldiers of 4th Brigade, 2nd Infantry Division's



Military Police platoon trained on their new M-1117 Armored Security Vehicles, or ASVs, for two weeks, and tested them on ranges here, Monday and Tuesday.



The brigade is one of the only units on JBLM to have the turreted, all-wheel drive vehicle introduced more than a decade ago.

Both the 3rd and 4th brigades of the 2nd Inf. Div. have six of the multi-layer armor vehicles that provide ballistic, blast and overhead protection.

"We did our training with the (3rd Bde., 2nd Inf. Div.) MPs and trained side by side with them," said Spc. Anthony Keeton, a 4th Bde. military policeman.

Because 4th Brigade's Soldiers weren't licensed on or issued the ASVs yet, Raider Brigade Soldiers trained in 3rd Bde., 2nd Inf. Div. vehicles. Keeton, reflected on how his sister brigade recently began forming its MP platoon last fall.

"I think it's a little bit significant because we were the first MPs to be (assigned) to a Stryker brigade and now they're falling in under a Stryker brigade, so it's a new experience for them," Keeton said.

After classroom instruction, the 4th Bde. MPs learned how to start the vehicle and decipher the driver's panel, then apply what they had learned in the vehicle.

"What we did in the classroom was supported by our hands-on training," Keeton said.

Soldiers learned the responsibilities of the driver, tactical commander and gunner, and how cross training is important during operations, Keeton said.

"Just because I'm TC-ing the vehicle, I also know the driver's responsibilities. I also know gunner's responsibilities, because you never know what's going to happen and if you're going to have to step in," he said.

For Sgt. Geoffrey Hillers, who rode in Strykers throughout his 2009-2010 Iraq deployment with the unit, the jury is still out on the ASVs.

"Right now I'm kind of up in the air about it," Hillers said. "I think I just need a little more time to get used to it since we've only been learning it for about a week and a half."

After familiarizing themselves with Strykers during the year in Iraq, switching to a new vehicle is going to take time.

"It's different. It's going to take a lot of work and a lot of repetition to start getting used to the weapons systems or the vehicle itself," Hillers said.

Another MP, Spc. Kyle Zimmerman, prefers the more spacious Stryker over the four-seat ASV, humvees and the sometimes bumpy ride of an MRAP.

In at least one scenario, however, he said he'd rather

be TC-ing inside his new vehicle.

"Let's say our convoy takes an IED followed by an ambush. This would be a great vehicle to go ahead and cover that downed vehicle, lay down some suppressing fire power while the vehicle's recovered," he said. "That's one of the functions as an MP - security for convoys and such."

The impressive firepower of the vehicle is part of its appeal to the MPs.

During the range portion of training, Soldiers fired both the MK-19 40mm grenade machine gun and the M-48 .50-caliber machine gun mounted on top of the ASVs.

Zimmerman, Hillers, and Keeton agreed that ranges are necessary when learning how to use the new vehicles.

"It's a good chance for them to get hands on the weapon and actually fire it," said Zimmerman, who noted that most of his peers haven't fired either gun since basic training.

With the vehicle's firepower, mobility and protection capabilities, it is another combat multiplier for the brigade.



## Exhibitions

### Oshkosh Defense Introduces SandCat Tactical Protector Vehicle in Latin America at LAAD 2011



OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation (NYSE:OSK), will showcase the SandCat Tactical Protector Vehicle (TPV) in Latin America for the first time at LAAD Defence & Security 2011, April 12-15 in Rio de Janeiro, Brazil. The SandCat TPV, part of Oshkosh's light-payload vehicle portfolio, offers Latin American countries a protected, highly maneuverable vehicle for use in law enforcement, border patrol and security operations, among others.

"The SandCat TPV can provide security forces with swift mobility and optimal protection, whether used in combating crime in tightly confined urban areas or patrolling borders in remote, off-road landscapes," said Serge Buchakjian, senior vice president and general manager of International Programs for Oshkosh Defense. "Our company has more than 90 years of experience designing, manufacturing and sustaining world-class vehicles for governments and militaries around the world, and we can capitalize on this experience to help meet security needs in Latin America. In our inaugural LAAD exhibit, we are pleased to showcase the Oshkosh SandCat TPV, a top-of-the-line vehicle built to defend

## Defence Industry

## German Army Orders 39 Additional DINGO 2 Armoured Patrol Vehicles



Munich/Koblenz -- Krauss-Maffei Wegmann (KMW) has received an order for the assembly and delivery of 39 DINGO 2 in its most modern version, the DINGO 2 GE from the Federal Office for Defence and Procurement (BWB) in Koblenz.

The vice president of the BWB, Reinhard SchGjtte, and KMW COO JGjrgen Weber, signed a corresponding contract in Koblenz today. KMW will deliver the vehicles to the army by November 2011. Shortly after they will be at the disposal of the Bundeswehr in Afghanistan. „With a repeated order such as this one, the German Army emphasizes its trust in Krauss-Maffei Wegmann as a trustworthy partner which reacts quickly, flexibly and reliably to the demands of its customers.“, said JGjrgen Weber after the signing of the contract.

Meanwhile, almost 1000 DINGOs in different versions, from ambulances over NBC reconnaissance vehicles and mobile command posts to reconnaissance and patrol vehicles, are in service with six European nations. The high level of protection has proven its worth during numerous terrorist assaults and has steadily protected the lives of the crew. The vehicles ordered offer the soldiers of the German Army the best protection available as well as highest mobility and vehicle payload, even under extreme conditions. In order to be able to respond quickly and flexibly to changed demands on missions, the DINGO 2 will also come equipped with a light remote weapon station (RWS) of the type FLW 100/FLW 200. The vehicle crew is thereby capable of operating the weapon station precisely and effectively from within the protected interior of the vehicle, even at high speeds or in rough terrain. An exterior identifying feature of the recently ordered DINGOs is the new hardtop at the rear of the vehicle, which replaces the common canvas cover of the storage space.



## Defence Industry

## Rheinmetall wins important Bundeswehr force protection orders

Germany`s Federal Agency for Defence Technology and Procurement (BWB) has contracted with Rheinmetall to supply the Bundeswehr with innovative force protection technology, which will soon be providing German troops deployed in Afghanistan with even greater security. The total volume of the two individual contracts, both of

passengers from dangerous threats in a wide range of environments.”

Oshkosh Defense uses a collaborative, integrated approach to meet customers` needs, from vehicle design and production to training and aftermarket sustainment. The company has produced more than 85,000 military-class trucks and trailers, with vehicle payloads that cover the complete light-to-heavy spectrum. Oshkosh vehicles have been proven on severe off-road terrain and against a variety of modern threats, including use by militaries, special forces units and government agencies around the world. Oshkosh`s advanced technologies deliver capabilities such as extensive off-road mobility, exportable power, autonomous operation and integrated on-board diagnostics.

Oshkosh`s aftermarket solutions cover the complete spectrum of vehicle life-cycle support, including training services, instruction manuals, maintenance and repairs, parts supply, and fleet restoration services. Oshkosh Field Service Representatives (FSR) travel globally to ensure vehicles and personnel are at peak operational readiness. The company`s robust operator and maintenance training services provide systems-level expertise on the platforms and technologies they support, with classes offered at the Oshkosh Product Training Center, regional service centers around the world or in-theater. Additionally, Oshkosh`s parts-supply network is available 24/7 to provide instant access to spare and repair parts for all vehicle makes and models.

The SandCat TPV is part of the Oshkosh SandCat family of vehicles and can be configured to meet individual performance, protection and payload needs. The vehicle`s armor system can be customized based on the threat level and mission profile. Seating capacity can be adjusted to accommodate four to nine passengers. The vehicle also can be equipped with standard or customized storage, and is typically integrated with a wide array of weapons and communications systems. The SandCat TPV`s compact design, combined with an 18-inch vertical step capability and 42-foot curb-to-curb turning circle, enables mobility in both tight urban settings and rugged rural landscapes.

The SandCat family of vehicles also includes the base vehicle, Special Operations Vehicle (SOV) and Mine-Resistant Light Patrol Vehicle (M-LPV). These variants are based on the same lightweight, highly maneuverable platform for eased maintenance and repairs worldwide. Oshkosh has received orders for the SandCat from Mexico, Sweden, Bulgaria, Canada, Nigeria and Israel.



which were issued in response to an immediate operational requirement of the Bundeswehr, amounts to around 24 million Euros.



First, Rheinmetall will thoroughly modernize four Buffel/Buffalo armored recovery vehicles to provide their crews with effective protection against ballistic threats, landmines and improvised explosive devices; the latter pose a particularly serious danger to ISAF forces in Afghanistan.

At the same time, Rheinmetall has been tasked with providing a pioneering high-tech system for reliably detecting mines and booby traps buried in the soil which will enhance the security of frequently travelled routes as well as protecting convoys. In future, remote control systems will be used for this hazardous task, enabling soldiers to remain in protected vehicles outside the danger zone.

### "German Route Clearing Package" – a high-tech system of systems

By the end of 2011, Rheinmetall will supply the Bundeswehr with seven systems as part of the German Route Clearing Package (GRCP). A complete system consists of four vehicles, including one for detection and one for clearing explosive devices, as well as a command vehicle and transport vehicle.

In the GRCP 'system of systems', Rheinmetall's remote control Wiesel ('weasel'), equipped with a newly developed built-in dual sensor with ground penetration radar and a metal detector, will take on the task of detecting mines and IEDs concealed on roads and in open terrain.

The Fuchs/Fox 1A8 armored transport vehicle will serve as a highly mobile, well protected mobile command post, equipped with workstations for operating the remote control systems as well as systems for evaluating signals from the dual sensor.

Ordered separately, the remote control "MiniMinewolf", which is already in service with the Swiss Army, will be used for neutralizing hazardous unexploded ordnance. Depending on the mission requirements, the 6-ton vehicle can be equipped with a robot arm, mine plough or bulldozer blade. An integrated video system enables the crew onboard the Fuchs/Fox command vehicle to monitor operations at all times.

Made by Rheinmetall MAN Military Vehicles (RMMV), "Multi FSA" logistics vehicles will serve as the GRCP system's transport vehicles.

Moreover, Rheinmetall is currently developing a manipulator arm for conducting high-precision bomb disposal operations. With an operating reach of over ten metres and a heavy carrying capacity, it will enable verification and disposal of suspicious objects from a

safe standoff.

### Additional protection package for the Buffel/Buffalo armored recovery vehicle

The modernization of the BPz 3 Buffel/Buffalo armored recovery vehicle includes optimization of its ballistic protection features, crucial for safeguarding the crew from rocket-propelled grenades and light antitank weapons. Furthermore, the floor of the hull is to be reinforced with additional anti-mine protection to shield the crew from blasts occurring under the vehicle, while the vehicle's flanks will be fitted with special protection elements to attenuate the blast wave caused by roadside bombs.

The extensive overhaul of the Buffel/Buffalo also involves modernizing the vehicle's C4I systems and improving its ergonomics.

These armored recovery vehicles, which are mounted on a Leopard 2 tank chassis, are above all required for deployment in Afghanistan where they will be used for recovering and towing tracked vehicles. The heaviest tracked vehicles currently fielded by the Bundeswehr in Afghanistan are the Marder 1A5 infantry fighting vehicle and the PzH 2000 self-propelled howitzer.

Rheinmetall has already carried out comparable modernization work on Buffel/Buffalo armored recovery vehicles belonging to the Canadian armed forces. Their high level of protection has proven highly effective even in extreme situations.



## Defence Industry

### Textron Marine & Land Systems Awarded Contract Option for 88 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 88 M1117 Armored Security Vehicles (ASV) and M1200 Armored Knight vehicles.

The award, valued at \$64,332,732, exercises options for 37 M1117 ASVs, 51 M1200 Armored Knights and associated support equipment. The work will be performed through the end of 2012 at Textron Marine & Land Systems' facilities in the New Orleans area.

"The ASV is a versatile platform that continues to deliver exceptional mobility, reliability and survivability enabling the U.S. Army to carry out a wide range of combat mission roles," said Textron Marine & Land

Systems Senior Vice President and General Manager Tom Walmsley. "For more than 12 years our team has worked hard to consistently deliver ASV products, in a variety of configurations, which provide our soldiers exceptional levels of security and protection."

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. It also uses a four-wheel independent suspension system to deliver superior mobility, agility, handling, and ride quality. The ASV has maintained exceptional operational readiness and combat availability rates over the life of the U.S. Army program.

Textron Marine & Land Systems also has achieved 66 consecutive months of on-time delivery to the U.S. Army on the ASV program, and has delivered a total of 2,777 ASVs and 314 Armored Knight vehicles 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 Armored Knight configuration.



## Defence Industry

### Iveco presents new Special Forces LMV



Iveco Defence Vehicles is building on the remarkable commercial and operational success of its Light Multirole Vehicle (LMV) to develop a version dedicated to Special Forces operations.

Currently deployed in Afghanistan by seven different nations, the LMV is well regarded by its users, and its high levels of protection and mobility have already saved numerous lives.

The decision to develop a Special Forces variant was supported by a number of SF units, enabling their specific operational requirements to be taken into consideration from the design phase. The result is a robust, mobile adaptable platform which is well placed to meet the demands of SF missions. After presenting a first prototype at IDET 2009 and DVD 2009, Iveco will now display the latest version of its SF LMV at IDET 2011.

The new model features the same well-proven drive

train and running gear of the standard version, although its armoured cab has been stripped down to a minimum, providing optimum situational awareness and enabling rapid dismount. The vehicle benefits from the proven LMV chassis which ensures logistic commonality for those armies which already deploy the standard LMV. The 140 kW engine provides a power-to-weight ratio of about 20 kW/t and is coupled to a six speed automatic gearbox with hydro-dynamic coupling converter and transfer-box. The low profile of the rear of the vehicle allows unrestricted visibility and allows the use of weapons -over a 360 degree arc.

- On and off road mobility: LMV was specifically designed to provide the user with outstanding mobility and terrain accessibility. To this end, the vehicle incorporates design features such as independent suspension, central tyre inflation and ABS. This meets the key requirement for special operations teams of maintaining mobility in the most demanding conditions. On road, the LMV can reach over 110 km/h.
- Payload: The kerb weight of the SF vehicle, in the proposed configuration with several optional included, is 5,100 kg, providing an impressive mission payload of some 2,000 kgs. The vehicle features a low set, open rear cargo compartment which can be adapted to different layouts depending on the user's specifications. Additional fuel or water tanks are present, as well as stowage solutions for individual equipment and weapon systems that can be adapted case by case.
- Ballistic Protection: The doors and the armoured glass in the windscreen provide a tunable level of ballistic protection, readily upgradable with add-on armour packs. To maximise payload and mobility, the base SF vehicle is only fitted with a light anti-mine plate, while additional protection can be installed if required.
- Crew safety and comfort: The crew is protected by a tubular frame roll-bar. Up to five crew can be carried, with the configuration of the seats being flexible. Typically a seat looking towards the rear is mounted, in order to provide observation and covering fire in the rear arc.
- Transportability: Currently the windscreen can be lowered, although the central roll-bar is fixed. A collapsible roll bar is under development which will allow the vehicle's height to be minimized for air transport. In the reduced width configuration, the SF version of the LMV fits inside the CH-47 Chinook helicopter, and will be transportable in all tactical transport aircraft.
- Weapon system: Iveco has teamed up with a specialist weapon mount supplier to develop weapon supports and other mission specific features. The roll-bar is equipped with a weapon ring allowing the use of 7,62 mm or 12.7 mm machine gun and 40 mm automatic grenade launcher. A larger ring mount, equipped with a suitable platform for the gunner, is under development.

The SF LMV, which is already under evaluation by Special Forces from different countries, demonstrates Iveco DV's capacity to understand and meet the customers' requirements through a continuous

programme of development and innovation.

The new LMV Special Forces will be displayed at IDET 2011, to be held in Brno from 10th to 13th May 2011.



### Defence Industry

## The first batch of BTR-4 APCs is shipped to Iraq



The State-owned Enterprise Kharkiv Morozov Machine Building Design Bureau shipped to its customer (the Ministry of Defence of the Republic of Iraq) the first batch of the BTR-4 armoured personnel carriers.

This batch consists of 26 vehicles. Also shipped to the customer were truck-based mobile maintenance workshops and simulators intended for training crews. All these products were tested and accepted by the customer representatives in March this year.

The main contractor under this contract is the State-owned Enterprise Kharkiv Morozov Machine Building Design Bureau (KMDB). The sub-contractors of KMDB include State-owned Enterprise Kharkiv Engine Design Bureau, State Enterprise Malyshev Plant, and other enterprises Ukrainian defence-related enterprises.



### Defence Industry

## French Army selects Thales to provide support for most of its radio-controlled IED jammers

Thales has been selected by the French Army to assure through-life support of a sizeable proportion of its radio-controlled IED jammers deployed in external theatres of operation.

This contract confirms Thales's positioning as a key

and unifying player within European industry, in the field of providing services to the armed forces. In particular, Thales benefits from its expertise in the management of complex supply chains and its capacity to work alongside these forces, into theatres of operation.

Roadside bombs, known as Improvised Explosive Devices (IED) constitute a major threat in current conflicts: they kill or injure thousands of soldiers each year. Vehicles equipped with electronic defence systems can prevent these bombs from exploding when triggered remotely. Consequently, the smooth functioning of these defence systems represents an issue of vital importance.

This is the context in which SIMMT has selected Thales to maintain a significant proportion of the radio-controlled IED jammers deployed by the French Army in foreign operations. Several contracts, including one awarded to Thales, provide for 400 jammers produced by various manufacturers to be maintained, for a 5-year period.

This service comprises two main components.

Firstly, Thales provides operational support for the forces present in theatres of operation, via the presence of its qualified staff in theatre. This training, which lasts for one year, is intended to develop the operators' technical skills, and make them more self-reliant vis-a-vis their equipment, so that they can carry out advanced maintenance tasks themselves.

Secondly, Thales provides an end-to-end procurement and logistics service for jammer sub- $\pi$  assemblies between France and any external operations zones in which the country's armed services are involved. This service provides guaranteed availability of equipment in any situation.

"Combating the threat of IEDs is a key priority for the forces present in theatre. Several hundred attacks happen monthly, especially in Afghanistan", explains Laurent Maury, Thales Vice-President, in charge of Customer Support and Services activities. "Via this support services contract, Thales is actively collaborating with the forces present in external theatres of operation, by making its logistics resources and technical skills available to them, to whatever extent is required."



### Defence Industry

## BAE Systems Improving Soldier Survivability With \$62 Million Bradley Contract



ARLINGTON, Virginia -- BAE Systems is helping to protect soldiers on the front line through a \$62 million contract modification to provide energy absorbing seats, laser designation and other

important survivability enhancements for the Bradley Fighting Vehicle, which is already one of the most survivable vehicles currently in battle.

“While many of us will never experience the threat of an explosive device on our way to work, there are thousands of soldiers that encounter such threats each day on the battlefield,” said Joe McCarthy, vice president and general manager of the Heavy Brigade Combat Team at BAE Systems. “Fully understanding and assessing the needs of our men and women in uniform is critical and extremely important to us.”

The contract includes several work directives and additional survivability improvements. Some of the enhancements include:

- Energy absorbing seats and foot rests that limit blast effects transmitted through the vehicle floor
- Gunner and commander position protection against mine and improvised explosive devices
- Field service representative support
- Vehicle software upgrades
- Target location extension
- Laser designation
- Enhanced armor protection
- Emergency ramp release that provides escape capability by lowering the ramp on a battle damaged vehicle

The work under this contract modification will take place at various military installations in the United States as well as in Iraq and Kuwait. The work will begin in March 2011 and is anticipated to be completed in December 2011.

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

Bradley Fighting Vehicle continues to provide outstanding survivability, mobility and lethality to U.S. soldiers in various combat situations. The Bradley fulfills five critical mission roles – infantry fighting vehicle, cavalry fighting vehicle, fire support vehicle, command vehicle and engineer squad vehicle – for the U.S. Army’s Heavy Brigade Combat Team.

### Contracts

#### iRobot Announces \$7.6 million SUGV Order from the U.S. Army



BEDFORD, Mass. -- iRobot Corp., a leader in delivering robotic technology-based solutions, has received a \$7.6 million order from the U.S. Army Contracting Command-Warren, Michigan, for 50 of its 310 SUGV (Small Unmanned Ground Vehicle) tactical mobile robots and spare parts.

The order was issued under a new indefinite delivery/indefinite quantity contract that allows for an initial delivery of 50 robots.

310 SUGV gathers situational awareness in dangerous conditions while keeping warfighters out of harm’s way. The robotic system weighs about 35 pounds, making it ideal for dismounted mobile operations. While 310 SUGV has been used in theater primarily by explosive ordnance disposal teams, the robots in this order will also be used by combat engineers and Marines.

“310 SUGV has proven its worth as a man-portable, rugged and easy-to-use robot. As a result of ongoing positive user feedback and its success on the battlefield, 310 SUGV will now be used to perform an even wider variety of missions,” said Robert Moses, president of iRobot’s Government and Industrial Robots division. “iRobot is honored to provide more of these life-saving robots for our troops.”

iRobot and Boeing developed the SUGV family of vehicles under a strategic alliance that began in 2007.

### Contracts

#### Force Protection Receives \$27.4 Million Contract for Delivery of 47 Mastiffs to the U.K.



LADSON, S.C. -- Force Protection Industries, Inc., a FORCE PROTECTION INC. group company, today announced it has received a \$27.4 million sub-contract from Integrated Survivability Technologies Limited (“IST”) for the delivery of 47 Cougar Mastiff vehicles to the United Kingdom Ministry of Defence (“U.K. MoD”).

IST is a joint venture between Force Protection Europe Limited, a subsidiary of Force Protection Industries, Inc., and NP Aerospace Limited, a subsidiary of The Morgan Crucible Company plc. Work under this sub-contract will be performed in Ladson, South Carolina, and is scheduled to be completed by December 31, 2011.

Randy Hutcherson, Chief Operating Officer for Force Protection, commented, “The performance of the Cougar Mastiff continues to be outstanding. This additional order demonstrates that the Mastiff remains a proven life saver for British troops. The installed fleet of Cougar vehicle variants in the United Kingdom is growing and we remain pleased that the U.K. MoD continues to view Force Protection as an important partner in sustaining its military needs.”

**Defence Industry**

**BAE Systems Receives \$56 Million In Orders For Thermal Weapon Sights**

LEXINGTON, Massachusetts -- BAE Systems will provide thermal weapon sights to the U.S. Army under a \$56 million contract that continues production of the widely-used sights that improve situational awareness and survivability for men and women in combat.

The second-generation thermal sights give soldiers a tremendous day/night advantage to detect, observe and engage the enemy on today's battlefield by providing imagery independent of darkness, smoke and other common battlefield obscurants. Under the contract, BAE Systems will provide light, medium and heavy variants for use on individual and crew served weapons.

"BAE Systems is the world's number one provider of thermal sights, giving men and women serving in harm's way the ability to see through obscured visibility conditions, day or night," said Barry Yeadon, director of thermal weapon sight programs for BAE Systems in Lexington, Massachusetts.

The company now provides thermal weapon sights to the U.S. and several other countries. This order is the most recent under a five-year indefinite-delivery/indefinite-quantity contract administered by the Army's Research and Development Command Acquisition Center. A previous award increased BAE Systems' total thermal weapon sight contract value to more than \$1 billion since 2004.

To date, BAE Systems has delivered more than 94,000 sights to meet Army fielding requirements to support operations in Iraq and Afghanistan.

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



The team currently consists of BAE Systems, Navistar Defense and Meritor Defense (formerly ArvinMeritor).

Northrop Grumman will serve as the C4ISR (command, control, communications, computers, intelligence, surveillance and reconnaissance) lead, responsible for the integration of command and control hardware and software, computers and communications equipment, sensors and sensor suites for intelligence gathering and force protection. By applying Northrop Grumman and BAE Systems' substantial domain expertise, the team will develop a net-ready, open architecture system, allowing the warfighter to configure the JLTV platform rapidly and inexpensively for current and future mission needs.

"Our decision to team with one of the world's leaders in C4ISR recognizes the growing importance of situational awareness, information sharing, and command and control on the battlefield, both for vehicles and dismounted soldiers," said Ann Hoholick, vice president and general manager of amphibious and new programs at BAE Systems. "Northrop Grumman will help us ensure that we provide the kind of scalable solutions the military needs, at an affordable price."

"We are proud to join the BAE Systems JLTV team and bring our expertise in advanced tactical, networked C4ISR to make a strong team even stronger," said Joe G. Taylor, Jr., Northrop Grumman Information Systems' vice president for Ground Combat Systems. "With the combined capability of this team, we'll deliver proven, low-risk solutions and the vehicle for soldiers and Marines with the best payload, protection and performance that industry can offer."

The BAE Systems team is currently participating in the Technology Development phase of the JLTV program and plans to compete for the next phase of the program, Engineering and Manufacturing Development (EMD). The Army has announced plans to award up to two contracts for the EMD phase, which is currently scheduled for the beginning of 2012.



**Defence Industry**

**HF VHF UHF High Speed Modem (AT-HSDM)**

**Defence Industry**

**BAE Systems Adds Northrop Grumman to its JLTV Team**



ARLINGTON, Virginia – BAE Systems announced today it has added Northrop Grumman Corporation to its Joint Light Tactical Vehicle (JLTV) team.



Specialist supplier of Tactical Communications Systems, AT Electronic and Communication International, has recently released the AT-HSDM High Speed Radio Data Modem.

The AT-HSDM is a cost optimised radio modem for HF/VHF/UHF mobile station use. Its small size provides Email, GPS position reporting and telemetry/control

functionality. The AT-HSDM configurable and customisable to suit a wide variety of applications.

The core hardware of the AT-HSDM is a micro-computer with display driver and USB Connection which allows connection to a Display and Keyboard/Mouse for user input and software information. With a wide range of displays and input devices available on the market – a highly customised solution can configure for all types of mobile applications. Networking functionality via WLAN and Ethernet gives a wide range of application flexibility E.g. Email and Messaging. These can interoperate with standard computer systems such as desktop and laptop PCs using the HF/VHF/UHF radio link connected to the AT-HSDM Radio Data Modem.

The AT-HSDM has standard RS-232 and Ethernet ports which can be used for Telemetry and Remote Control applications over HF/VHF/UHF Links

For secure applications such as military the AT-HSDM supports the following protocols, STANAG 4285, STANAG 4539, STANAG 5066 – NATO compliant and Mil-Std 188-141A ALE. AES 256 and 3DES Encryption is provide to secure transmitted data.

Applications available include;

- Email over radio links with Email Server software
- GPS Service with client software (Situational Awareness and tracking)
- Data Modem service with data interface server (File transfer and telemetry)
- Custom application support with API for local development by systems integrators using Windows 7 Development Platform

The AT-HSDM can be interfaced with a wide variety of HF/VHF and UHF transceiver to provide a comprehensive array of solutions for voice/data radio networks.

For comprehensive product information – please visit this link

[http://hf-ssb-transceiver.at-communication.com/en/at/at\\_hsdm\\_hf-vhf-high-speed-data-modem.html](http://hf-ssb-transceiver.at-communication.com/en/at/at_hsdm_hf-vhf-high-speed-data-modem.html)

