Army Guide monthly

5 (56) May 2009

- Oshkosh Receives Preliminary M-ATV Contract, Advances to Final Military Testing Phase
- Program to Introduce New Threat Detection, Countermeasure Capabilities
- Navistar Defense to Deliver Next Three Test Vehicles for M-ATV Program
- SAIC Awarded $11 Million Contract by Defense Advanced Projects Agency, Microsystems Technology Office
- Force Dynamics, LLC Selected To Continue in M-ATV Competition
- BAE Systems Awarded Contracts For Two Versions Of M-ATV
- New BOXER development and series production contracts
- General Dynamics Awarded $37 Million by U.S. Army for Abrams Tank System Technical Support
- iRobot Announces $16.8 Million Order from the U.S. Army
- BAE Systems Awarded $81.4 Million For M88A2 Hercules Vehicles
- Modified Panthers Take a Bow In Afghan Theatre
- Elbit Systems U.S. Subsidiary Awarded Contract with Potential of up to $197.2 Million to Provide Mortar Fire Control Systems Integration to U.S Army
- Elbit Systems Awarded 25 Million Euros Contract To Supply Austrian Army With 12.7 mm Weapon Stations
- KMW supplies new MUNGO NC Recce
- Oshkosh Defense Awarded $40 Million Delivery Order for New and Recapitalized HEMTT A4s
- BAE Systems Wins $601 Million Bradley Fighting Vehicles Contract
- Future Combat Systems Program Completes System of Systems Design Review

www.army-guide.com

Defence Industry

Oshkosh Receives Preliminary M-ATV Contract, Advances to Final Military Testing Phase

OSHKOSH, Wis. -— Oshkosh Corporation announced today it was awarded an indefinite delivery/indefinite quantity (IDIQ) contract with the U.S. Army Tank-automotive and Armaments Command (TACOM) for the purchase of three additional production-ready Oshkosh® MRAP All Terrain Vehicles (M-ATV) for further military testing. The contract is the same one from which the government could now award Oshkosh full production of an anticipated 2,080 – 10,000 M-ATVs for production later this year.

The contract was awarded following the completion of successful military testing on two production-ready Oshkosh M-ATVs that were delivered to Aberdeen Proving Grounds on Feb. 23 and met the government's initial design requirements.

"As confirmed by this announcement, the Oshkosh M-ATV is a very capable vehicle to take our troops wherever the mission requires," said Robert G. Bohn, Oshkosh Corporation chairman and chief executive officer. "The military needs a vehicle that delivers superior crew protection and thrives in rugged off-road terrain, and our vehicle is designed for exactly that."

The Oshkosh M-ATV takes advantage of the company's TAK-4® independent suspension system, which is featured on more than 10,000 Medium Tactical Vehicle Replacement (MTVR) chassis for the U.S. Marine Corps. Oshkosh Corporation was also recently awarded a contract to add TAK-4 suspensions to more than 1,500 current MRAP vehicles. The Oshkosh TAK-4 independent suspension is the only off-road, battle-tested independent suspension system currently used by U.S. forces for this vehicle class. In addition to providing superior off-road mobility, TAK-4 provides better ride quality off-road than straight-axle vehicles.

Oshkosh Defense delivers the M-ATV with the survivability, mobility, mission-proven and production-ready solutions required for Afghanistan. The vehicle is based on the combat-proven Oshkosh MTVR chassis, which has been successfully operating for many years in the most difficult off-road missions in Iraq, Afghanistan and around the world. It also features a combat-tested armor system from Plasan North America for superior crew protection.

About Oshkosh Defense

Oshkosh Defense, a division of Oshkosh Corporation, is an industry-leading global designer and manufacturer of tactical military trucks and armored wheeled vehicles, delivering a full product line of conventional and hybrid vehicles, advanced armor options, proprietary suspensions and vehicles with payloads that can exceed 70 tons. Oshkosh Defense provides a global service and supply network including full life-cycle support and remanufacturing, and its vehicles are recognized the world over for superior performance, reliability and protection. For more information, visit www.oshkoshdefense.com.

About Oshkosh Corporation

Oshkosh Corporation is a leading designer, manufacturer and marketer of a broad range of specialty access equipment, commercial, fire & emergency and military vehicles and vehicle bodies. Oshkosh Corporation manufactures, distributes and services products under the brands of Oshkosh®, JLG®, Pierce®, McNeilus®, Medtec®, Jerr-Dan®, BAI™, Oshkosh Specialty Vehicles, Frontline™, SMIT™, Geesink™, Norba™, Kiggen™, CON-E-CO®, London® and IMT®. The Oshkosh brands are valued worldwide in businesses where high quality, superior performance, rugged reliability and long-term value are paramount. For more information, log on to www.oshkoshcorporation.com.

Future Technologies

Program to Introduce New Threat Detection, Countermeasure Capabilities

WASHINGTON -- A lot of questions are likely to rush through your head when you're out on the battlefield and the enemy projectiles come flying. The Defense Advanced Research Project Agency is making big strides on a program to respond with life-saving speed and accuracy.

The goal of DARPA's CROSSHAIRS – or Counter Rocket-Propelled Grenade and Shooter System with Highly Accurate Immediate Responses -- program is to develop a threat detection and countermeasure system for light tactical vehicles, program manager Karen Wood explained.

As envisioned, Wood said, CROSSHAIRS will be able to detect and locate enemy shooters firing threats ranging from bullets to rocket-propelled grenades to anti-tank guided missiles to direct-fired mortars. In addition, it will engage the shooters and notify other friendly forces of the threat.

"In an engagement, what am I worried about?" Wood asked. "The first thing I have got to know is what is coming at me. So the CROSSHAIRS system has to be able to identify the threat coming in."

Next, Wood said, "I need to know, 'Is it going to hit me or not?' So CROSSHAIRS has to be able to track whatever is coming in."

"The third thing you want is to know where that shooter is so you can retaliate or put down suppressive fire" or take some other action, she said. "Then lastly, if something like an RPG is coming in, can I have

self-protection?" she asked. "Do I have an active protection system to help me with vehicle survivability?"

CROSSHAIRS aims to do all this, then share details about the attack and the enemy's precise location with other friendly forces.

"I can seamlessly network that information to other vehicles in my convoy and let them know there is a shooter here," Wood said. "That way, if I am busy with survivability, they can do the retaliatory fire or respond to the shooter."

The CROSSHAIRS program builds on another DARPA effort: the Boomerang II acoustic gunshot detection system. This vehicle-mounted anti-sniper system "listens" for a bullet's shockwave and muzzle blast and transmits the shooter's location to the vehicle crew – all in less than a second.

The Army ordered about 8,000 Boomerang systems, and about half of them already have been deployed to the combat theater, Wood said.

But test results during earlier stages of the CROSSHAIRS program determined that radars are the best way to detect larger projectiles. The contractor ultimately selected came up with a system Wood said was "head and shoulders above the rest" in successfully identifying the type and source of incoming fire.

The "Cross-Cue" sensor system combines low-cost radar and acoustics technology with signal processing.

The CROSSHAIRS system marries the two sensor technologies to respond to a full array of threats. "Now we have the Boomerang for gunshots and the Cross-Cue radar solution for everything else." Wood said.

The CROSSHAIRS program got a shot in the arm when the Army's Rapid Equipping Force agreed to team with DARPA to apply the technology to the Vanguard vehicle it was developing. In December, DARPA engineers took CROSSHAIRS' dual detection systems, along with its networking piece, and automatic weapon "slew-to-cue" capability and put the system through the paces at the Redstone Technical Test Center in northern Alabama.

"We don't make it easy for these contractors," Wood said. CROSSHAIRS had to stand up to gunshots, RPG rounds and machine-gun fire, all coming from different sources and often all at once. And as it responded, it simultaneously networked the information to another vehicle, which demonstrated an automatic weapon slew-to-cue to the shooter location based on the information received from the vehicle under fire.

Even Wood was surprised at the results. "The system really kind of hit a home run," she said. "Very rarely do you get to go before your director and say, 'We met all the objectives we were going after in this phase of the program.'"

The program, now in its final phase, then turned to developing an active protection system for CROSSHAIRS. The engineers faced two major challenges, Wood said. The system had to be affordable enough to deploy on light, tactical vehicles, and deployable in a way that didn't cause additional collateral damage.

"We are not gong to be spraying shrapnel or blowing something up at a distance, because innocents could get killed," she said.

After exploring numerous options, the DARPA team ultimately settled on another system their agency had initiated: the Iron Curtain. This system, mounted on the roof of a Humvee, defeats incoming projectiles using a shoot-down system to dud the round before it strikes the vehicle.

Because Iron Curtain shoots directly down from the rooftop and engages the incoming round just inches away from the vehicle, it causes little or no collateral damage, Wood said.

Wood explained how the integrated CROSSHAIRS system works. The radar detects and tracks the incoming round. An embedded optical sensor gives a profile of the round. "Based on a lot of shots, we know exactly where to hit that RPG to make it dud," she said.

Meanwhile, the vehicle crew is able to monitor the process, seamlessly networking the shooter's location and threat type to other friendly forces.

"It's quite amazing what we have done," Wood said of the system. "We are just marching on, developing these capabilities and hoping it is going to save soldiers' and Marines' lives."

If the program gets adopted by the services, as Wood said she fully expects, she said it will bring tremendous additional capabilities to warfighters.

"I've got the best job in the whole world," she said. "It's incredibly rewarding to have things go out that you know are going to protect our men and women."

With two nephews in the military, one who has seen combat in Iraq and a niece who will be deployed at the end of the year, Wood takes the mission personally.

"If there's anything I can do to help the warfighter, I'm all about it," she said. "It's very rewarding, and it's very satisfying."

Defence Industry

Navistar Defense to Deliver Next Three Test Vehicles for M-ATV Program

WARRENVILLE, Ill. -- Navistar Defense, LLC today received a contract to deliver three test units for the next round in the U.S. Army's Mine Resistant Ambush Protected (MRAP) All Terrain Vehicle (M-ATV) program. It is anticipated that production awards for the program could total volumes between 2,080 and 10,000 units.

Navistar remains dedicated to the rapid delivery of these vehicles and stands ready to immediately begin

producing large quantities of M-ATV units upon the Government's direction.

"Navistar's participation in the M-ATV program is a privilege," said Archie Massicotte, president, Navistar Defense. "We are dedicated to the warfighters and we will work with the military to ensure those in Afghanistan receive the very best vehicles as quickly as possible."

With more than 100 years of manufacturing and engineering experience, Navistar is able to rapidly start up new vehicle production to support those serving in harm's way. Since 2007, Navistar has delivered more than 6,000 MRAP vehicles and has also responded to evolving in-theater threats by modifying its design to produce six MRAP variants, each with significant armoring design changes, during the first 18 months of the program. In February, the military celebrated the fielding of its 10,000th MRAP unit.

"Navistar has long been designing its commercial work trucks, in mass quantities, on a per-customer basis as its core business," said Massicotte. "Designing products for the military is no different."

Navistar International Corporation is a holding company whose wholly-owned subsidiaries produce International® brand commercial and military trucks, MaxxForce® brand diesel engines, IC Bus brand school and commercial buses, and Workhorse® brand chassis for motor homes and step vans. It also is a private-label designer and manufacturer of diesel engines for the pickup truck, van and SUV markets. The company also provides truck and diesel engine parts and service. Another affiliate offers financing services.

Future Technologies

SAIC Awarded $11 Million Contract by Defense Advanced Projects Agency, Microsystems Technology Office

Science Applications International Corporation announced it has been awarded a prime contract by the Defense Advanced Research Projects Agency (DARPA), Microsystems Technology Office (MTO) to provide research and development services leading to the delivery of prototype terahertz-frequency, high-power amplifiers.

The multiple-award contract has a two year base period of performance, two one-year options and a total value for SAIC of more than $11 million if all options are exercised. Work will be performed in Washington, D.C. and other team member locations.

DARPA's MTO leads research in integrated microsystems to enable revolutionary performance and functionality for future Department of Defense systems. Future military and aerospace applications that operate at terahertz frequencies will need greatly improved terahertz transmitter and receiver technologies to be effective. Achieving the level of circuit technology integration necessary to enable practical terahertz systems will require new methods for integrating devices into compact circuits. Under the contract, SAIC will develop prototype terahertz amplifiers that will help enable follow-on development of new military and dual use systems for imaging, communications, and other applications. In addition, SAIC will provide specialized design and analysis-support services using state-of-the-art simulation and design codes for system components including the electron gun, circuit, and collector.

"SAIC is drawing on its well established capabilities in high-power, high-frequency electronics," said John Fratamico, SAIC senior vice president and business unit general manager. "To develop the technological innovations required to meet the high performance requirements DARPA has established for this project, we have formed a team of leading industrial, government, and university researchers that will design, fabricate, test, and deliver the terahertz-band amplifiers."

Defence Industry

Force Dynamics, LLC Selected To Continue in M-ATV Competition

Ladson, SC -- Force Dynamics, LLC, a joint venture between Force Protection, Inc. and General Dynamics Land Systems, has been awarded an indefinite-delivery, indefinite-quantity (IDIQ) contract for the M-ATV Cheetah, a lightweight, high-mobility vehicle, by the U.S. Army Tank-Automotive and Armaments Command's (TACOM) Mine Resistant Ambush Protected All Terrain Vehicle (M-ATV) program.

The IDIQ contract includes an initial order for three vehicles for testing and evaluation and it enables Force Dynamics to compete for future M-ATV vehicle orders.

Previously, Force Dynamics delivered two Production Representative Vehicles (PRVs) to undergo initial survivability and mobility screening as part of the M-ATV solicitation. During this new phase of the evaluation, Force Dynamics will deliver additional PRVs for continued testing.

TACOM has indicated that if an M-ATV vehicle submission can meet all of the inspection requirements, survivability threshold and mobility tests that the vehicle will be given a "fair opportunity" for selection for a production delivery order.

Damon Walsh, executive vice president and managing director of Force Dynamics, commented "We are very pleased that the Cheetah has been selected to continue to compete for this important and urgently needed program. This is a strong validation of the M-ATV Cheetah's high level of mobility, combined with MRAP-I level protection. We believe that the M-ATV Cheetah provides the war fighter with the highest level of performance. In

order to be as prepared as possible, Force Dynamics has already initiated production of the M-ATV Cheetah. We are fully ready to respond to the customer's demand for these critical vehicles."

Mike Cannon, chairman of the board of Force Dynamics and vice president, Ground Combat Systems, at General Dynamics Land Systems, commented "This is an important milestone for Force Dynamics in the M-ATV competition. Our submission offers superior mobility and survivability, and the complementary strengths of this partnership offer the best in production capability, service and support, and research and development."

"Our M-ATV effort is backed by world-class manufacturing abilities and logistical support that will allow us to successfully deliver on the aggressive procurement schedule outlined by TACOM and to provide total lifecycle support for the vehicle," Cannon said.

The Force Dynamics joint venture is supplemented by a cohesive partnership of world-class OEMs and an award under this program would create and sustain thousands of skilled employment opportunities in several states, including South Carolina, North Carolina, Alabama and Michigan.

Force Protection and General Dynamics Land Systems, a business unit of General Dynamics, have successfully delivered more than 3,000 Cougar MRAP vehicles to the customer.

About Force Protection, Inc.

Force Protection, Inc. is a leading American designer, developer and manufacturer of survivability solutions, predominantly ballistic- and blast-protected wheeled vehicles currently deployed by the U.S. military and its allies to support armed forces and security personnel in conflict zones. Force Protection's specialty vehicles, the Cougar, the Buffalo and the Cheetah, are designed specifically for reconnaissance and urban operations and to protect their occupants from landmines, hostile fire, and improvised explosive devices (IEDs, commonly referred to as roadside bombs). Force Protection also is the developer and manufacturer of ForceArmor™, an armor package providing superior protection against explosively formed projectiles (EFPs), now available for a wide range of tactical-wheeled vehicles. Force Protection is one of the original developers and primary providers of vehicles for the U.S. military's Mine Resistant Ambush Protected, or MRAP, vehicle program. For more information about Force Protection and its vehicles, visit www.forceprotection.net.

About General Dynamics Corp.

General Dynamics, headquartered in Falls Church, Va., employs approximately 92,900 people worldwide. The company is a market leader in business aviation; land and expeditionary combat systems, armaments and munitions; shipbuilding and marine systems; and information systems and technologies. More information about the company is available on the Internet at www.generaldynamics.com.

Force Protection, Inc. Safe Harbor Language

This press release contains forward looking statements that are not historical facts, including statements about our beliefs and expectations. These statements are based on beliefs and assumptions of Force Protection's management, and on information currently available to management. Forward-looking statements speak only as of the date they are made, and we undertake no obligation to update any of them publicly in light of new information or future events. A number of important factors could cause actual results to differ materially from those contained in any forward-looking statements. Examples of these factors include, but are not limited to, the ultimate selection of Force Dynamics under the M-ATV Program, our ability to fulfill any order for the M-ATV Cheetah on a timely basis, our ability to effectively manage the risks in our business, the reaction of the marketplace to the foregoing and other risk factors and cautionary statements listed in the Company's periodic reports filed with the Securities and Exchange Commission, including the risks set forth in the Company's 2008 Annual Report on Form 10-K for the year ended December 31, 2008.

BAE Systems Awarded Contracts For Two Versions Of M-ATV

ARLINGTON, Virginia -- BAE Systems has been awarded contracts to provide the military with two versions of a new armored all-terrain vehicle, designed specifically for use by U.S. forces in the rugged terrain of Afghanistan.

Under this award, the company will produce three more test vehicles of each version to undergo additional survivability and mobility testing.

The vehicles, called MRAP All-Terrain Vehicles or M-ATVs, are lighter, more mobile versions of the Mine Resistant Ambush Protected (MRAP) vehicles now used in Iraq. MRAPs have been successful at protecting troops from roadside bombs, explosively formed projectiles, and rocket-propelled grenades when using appliqиd armor.

One version of the vehicle is produced by the company's Global Tactical Systems (GTS) business and the other from its U.S. Combat Systems (USCS) business.

"We combined the industry's best in a vehicle that is survivable, mobile and dependable for use in Afghanistan," said Regis Luther, vice president of Light Tactical Vehicles for the GTS line of business. The GTS M-ATV will be produced at BAE Systems facilities in Sealy, Texas and Cincinnati, Ohio, as well as other partner facilities.

"Our lightweight M-ATV provides MRAP protection and better mobility than Humvees," said Greg Mole, director of MRAP programs. He said the company is prepared to deliver vehicles 30 days after receiving orders. BAE Systems facilities in York, Pennsylvania and Aiken, South Carolina and partner facilities in

central Michigan are prepared to rapidly field the vehicles.

About BAE Systems

BAE Systems is the premier global defense, security and aerospace company delivering a full range of products and services for air, land and naval forces, as well as advanced electronics, security, information technology solutions and customer support services. With approximately 105,000 employees worldwide, BAE Systems' sales exceeded J18.5 billion (US $34.4 billion) in 2008.

Contracts

New BOXER development and series production contracts

New versions of the BOXER development and series production contracts are in place. The OCCAR-EA Deputy Director and the Managing Directors of ARTEC, Stefan Lischka and Karl-Ulrich Zulauf, signed the contracts on 30 April, the Birthday of The Netherland's Queen Beatrix, known as "Koninginnendag".

The new contract amendments are necessary due to changes in homologation requirements, changes of vehicle interior due to latest developments in other national programmes and changes in qualification procedures that are more focused on the quality of the series vehicles than was the case on the prototypes.

The contracted changes have already been introduced into the series production, with the first drive module hulls and mission modules for the vehicles now on the assembly line of Krauss-Maffei Wegmann (KMW).

The programme is on track for the Roll-Out of the first BOXER series vehicles on 10 September 2009 at KMW facilities in Munich.

Contracts

General Dynamics Awarded $37 Million by U.S. Army for Abrams Tank System Technical Support

STERLING HEIGHTS, Mich. -- General Dynamics Land Systems, a business unit of General Dynamics, has been awarded a $37 million contract by the U.S. Army TACOM Life Cycle Management Command for Abrams Tank System Technical Support (STS).

The award will fund engineering studies on Abrams main battle tanks to identify improvements and replace obsolete parts to maintain the tanks at high operational readiness rates. The work will be performed by existing General Dynamics Land Systems employees in Sterling Heights, Mich. Work is expected to be completed by December 31, 2011.

General Dynamics, headquartered in Falls Church, Virginia, employs approximately 92,900 people worldwide. The company is a market leader in business aviation; land and expeditionary combat systems, armaments and munitions; shipbuilding and marine systems; and information systems and technologies.

Robots

iRobot Announces $16.8 Million Order from the U.S. Army

BEDFORD, Mass., -- iRobot Corp. announced that it has received an order totaling $16.8 million from the U.S. Army Program Executive Office for Simulation, Training, and Instrumentation (PEO STRI).

This order marks the first purchase of iRobot's advanced PackBot 510 series under an existing $200 million Indefinite Delivery/Indefinite Quantity (IDIQ) contract. The PackBot 510 series provides the Army with advanced robotic capabilities that surpass those of the battle-tested PackBot 500.

This is the sixth order under the IDIQ contract. The current total contract value now stands at approximately $22 million. This order includes the delivery of 125 PackBot 510 with EOD Kit robots.

The PackBot 510 with EOD Kit has advanced vision and surveillance capabilities. It easily adapts to different Improvised Explosive Device (IED) missions including check points, inspections, and route clearance. The robot provides soldiers with a tool to identify and dispose of IEDs, roadside bombs, and other unexploded ordnance while keeping them at safe distances. Additionally, the PackBot 510 provides improved lift and manipulation capabilities, greater speed, military-standard batteries, a hardened laptop with game-style hand controller, and a variety of other upgrades that enhance its mission effectiveness.

"The PackBot 510 provides a new level of capability and modularity in support of the warfighter," said Joe Dyer, president of iRobot Government and Industrial Robots. "These robots are battle-tested and are saving lives by giving our troops separation from many of the dangers found on the battlefield. The PackBot 510 builds on the tradition of the PackBot 500."

iRobot has delivered more than 2,400 PackBot robots that make a difference every day by conducting dangerous missions that keep warfighters out of harm's way.

About iRobot Corp.

iRobot designs and builds robots that make a difference. The company's home robots help people with smarter ways to clean, and its government and industrial robots protect those in harm's way. iRobot's consumer

and military robots feature iRobot AWARE™ robot intelligence systems, proprietary technology incorporating advanced concepts in navigation, mobility, manipulation and artificial intelligence. For more information about iRobot, please visit www.irobot.com.

Contracts

BAE Systems Awarded $81.4 Million For M88A2 Hercules Vehicles

YORK, Pennsylvania –- BAE Systems has been awarded an $81.4 million contract to produce 39 M88A2 HERCULES recovery vehicles and spare parts for the U.S. Army.

"HERCULES continues to provide unmatched capabilities to our troops" said Joe McCarthy, vice president and general manager, Heavy Brigade Combat Team Systems at BAE Systems. "This contract brings value to our employees as it extends the current M88A2 production work at BAE Systems and our suppliers across the U.S."

Work under the contract will be completed by the existing workforce at BAE Systems and is expected to be completed by May 2012.

The contract contains options for the U.S. Army to purchase up to 81 additional vehicles and the U.S. Marine Corps to purchase an additional 10 vehicles, as well as six sets of spare parts.

This award brings the total value of contracts BAE Systems has been awarded on HERCULES to $1.4 billion. To date 231 HERCULES vehicles have been fielded against a total U.S. Army requirement of 607 vehicles. A total of 69 have been fielded to the U.S. Marine Corps, which has pure fleeted to the M88A2 configuration, plus an additional 114 vehicles to four allied nations – Egypt, Kuwait, Thailand and Australia.

HERCULES provides unparalleled capability for recovering today's 70-ton combat vehicles including the M1A1, M1A2, Leopard, bridging systems and other medium weight vehicles and answers the need for cost-effective, self-supporting heavy recovery performance. Key upgrades from the M88A1 include improved power-assisted braking, steering, electrical system and increased engine horsepower and additional armor protection, providing soldiers and Marines with 25 percent more towing muscle, 40 percent more lifting strength and 55 percent more winching power in meeting any mission requirement.

The contracts are managed by the Army's TACOM Life Cycle Management Command.

About BAE Systems

BAE Systems is the premier global defense, security and aerospace company delivering a full range of products and services for air, land and naval forces, as well as advanced electronics, security, information technology solutions and customer support services. With approximately 105,000 employees worldwide, BAE Systems' sales exceeded J18.5 billion (US $34.4 billion) in 2008.

Defence Industry

Modified Panthers Take a Bow In Afghan Theatre

NEWCASTLE, United Kingdom -- The first batches of the new Panther mine-protected command and liaison vehicles modified to meet exacting British Army standards by BAE Systems have been completed on schedule and begun front line duty in Afghanistan.

The vehicles, customised to Theatre Entry Standard (TES), will have over a dozen changes to fit them for current operations, including larger roof hatches, a rear view camera, protected engine compartment, new rear cargo pod and electronic devices to counter improvised explosive devices.

Most of the modifications were carried out at BAE Systems Global Combat Systems' Newcastle production plant. Three BAE Systems engineers have been completing the TES upgrades in Afghanistan to speed introduction to service.

Panther successfully passed its final reliability test at the end of March. To complete this In-Service Reliability Demonstration (ISRD), three vehicles completed 56 battlefield missions over a six-month period, covering 28,000 kilometres on the demanding terrain of Bovington Army Camp in Dorset.

Panther has a number of design features to provide crew protection against mine blast and other attacks, including a sandwich-construction underhull, sacrificial front and rear ends and wheels set well away from the crew compartment.

The TES Panther has also been modified to a four-seat configuration, with the Bowman digital communication system installed between the rear two seats.

In addition to the TES modifications fitted to a proportion of the fleet, all Panthers have about a hundred further changes to the Iveco base vehicle.

A total of 401 Panthers are scheduled to be integrated

at Newcastle by this summer; of those, 326 are fitted with the remotely-operated 7.62mm Selex Galileo Enforcer self-defence weapon and surveillance and target acquisition system. The remaining 75 are "fitted for but not with" the system. Most Panthers are being issued to the British Army where they will carry out up to 15 roles. Some will also go to the Royal Air Force Regiment.

In April 2008 the UK MoD awarded BAE Systems Global Combat Systems a J28 million contract to guarantee spares availability and reduce cost of ownership to the UK MoD for a five-year period. Under it, BAE Systems is required to provide 90 per cent availability of spare parts plus technical support to field units.

The initial 21-month baselining contract will collect key data on cost and reliability when the vehicle is deployed in UK and overseas to determine operating cost and support requirements for Phase 2. The arrangement could be extended to cover through-life support.

Panther is the first British Army front line vehicle to feature a health and usage monitoring system (HUMS). The data gathered will help to increase vehicle availability and reduce support costs.

Defence Industry

Elbit Systems U.S. Subsidiary Awarded Contract with Potential of up to $197.2 Million to Provide Mortar Fire Control Systems Integration to U.S Army

Haifa, Israel -- Elbit Systems Ltd. announced today that its wholly owned U.S. subsidiary, Elbit Systems of America was awarded a contract from the U.S. Army for the Mortar Fire Control (MFC) Systems Integration program.

The contract is a hybrid Indefinite Delivery /Indefinite Quantity-Time and Materials (ID/IQ-T&M) type contract, which provides for orders up to $197.5 million amount over a five-year period. The initial order under the contract is valued at approximately $22 million and is expected shortly. Under the contract, Elbit Systems of America will perform systems integration, development, production, fielding and support of the U.S. Army's Mortar Ballistic Computer and various types of Mortar Fire Control Systems. Work on this program will be performed in Fort Worth, Texas and by several subcontractors across the United States.

Raanan Horowitz, president and chief executive officer of Elbit Systems of America stated, "We are excited to be chosen by the U.S. Army for this important program. We bring to this effort a wide breadth of fire control systems experience as well as the potential for making future improvements and adding operational capabilities. Elbit Systems of America will be providing the Army with mortar fire control systems that increase accuracy and timely fires, and will do so while improving supply chain responsiveness and affordability."

About Elbit Systems

Elbit Systems Ltd. is an international defense electronics company engaged in a wide range of defense-related programs throughout the world. The Company, which includes Elbit Systems and its subsidiaries, operates in the areas of aerospace, land and naval systems, command, control, communications, computers, intelligence surveillance and reconnaissance ("C4ISR"), unmanned air vehicle (UAV) systems, advanced electro-optics, electro-optic space systems, EW suites, airborne warning systems, ELINT systems, data links and military communications systems and radios. The Company also focuses on the upgrading of existing military platforms and developing new technologies for defense, homeland security and commercial aviation applications.

Defence Industry

Elbit Systems Awarded 25 Million Euros Contract To Supply Austrian Army With 12.7 mm Weapon Stations

Haifa, Israel -- Elbit Systems Ltd. announced it has been awarded a contract valued at €25 million to supply the Austrian Army with Elbit Systems' new 12.7mm unmanned Electrically Remote Controlled Weapon Stations. The systems will be delivered over the course of the next four years.

The contract for the Austrian Army was signed between Elbit Systems and IVECO S.p.A., a subsidiary of the Fiat Group, prime contractor for the program. The Weapon Stations provided by Elbit Systems will be integrated into IVECO Defence Vehicles' Light Multi-role Vehicles (LMV) 4X4.

Besides the day and night detection systems - Elbit

Systems' weapon stations include a Multi Threat Detection System (MTDS), capable of detecting, categorizing and pinpointing Laser, Radar and RF Sources. The MTDS provides a solution to threats caused by a variety of sources, from beam rider missiles and ground designators to laser guided bombs and missiles.

The new weapon station is based on Elbit Systems' expertise and combat proven fire control systems, drive systems and electro-optic systems.

The weapon station is perfectly suited for Light Multi-role Vehicles, enhancing the vehicles' capabilities by adding both sensors and firepower, with little increase in overall percentage of vehicle weight.

Bezhalel (Butzi) Machlis, General Manager of Elbit Systems Land and C4I Tadiran, said: "We are proud to have been selected to take part in this important project for the Austrian Armed Forces. Elbit Systems' co-operation with IVECO Defence Vehicles reflects the level of recognition we have achieved with our customers and international partners. The selection of our systems constitutes a breakthrough in an emerging international market emanating from a shift in the modern battlefield."

About Elbit Systems

Elbit Systems Ltd. is an international defense electronics company engaged in a wide range of defense-related programs throughout the world. The Company, which includes Elbit Systems and its subsidiaries, operates in the areas of aerospace, land and naval systems, command, control, communications, computers, intelligence surveillance and reconnaissance ("C4ISR"), unmanned air vehicle (UAV) systems, advanced electro-optics, electro-optic space systems, EW suites, airborne warning systems, ELINT systems, data links and military communications systems and radios. The Company also focuses on the upgrading of existing military platforms and developing new technologies for defense, homeland security and commercial aviation applications.

Contracts

KMW supplies new MUNGO NC Recce

Munich -- The Federal Office of Defence Technology and Procurement (BWB) has commissioned Krauss-Maffei Wegmann (KMW) to supply a light, air-portable reconnaissance vehicle for nuclear and chemical threats, in the form of the new MUNGO NC Recce.

To this end, KMW will initially produce a reconnaissance vehicle which will start trials at the start of 2010. There are plans for a total of 25 of the MUNGO NC Recce in series production.

The armoured wheeled vehicle has a three-man crew (commander, driver, reconnaissance technician). From the spacious, open-plan and completely protected cabin they can use lightweight NC reconnaissance equipment to detect and identify threats from nuclear and chemical warfare agents or comparable industrial potential risks. The crew does not have to leave the vehicle to achieve this.

When the crew detects a threat from nuclear or chemical warfare agents they attach markers to the ground by means of another system, thus warning following troop formations of the danger in question. The crew can also use their systems to collect all the relevant meteorological data. For communication the MUNGO NC Recce is linked to the army's command, control and information system (FuInfoSys Heer).

As a result of its compact external dimensions and low weight, the MUNGO NC Recce is air-portable in a CH-53 transport helicopter, for example. That makes it particularly suitable for deployment with air assault forces. In C130 and A400M military transport aircraft it is actually possible to transport up to three vehicles at once.

With its all-wheel drive, its high top speed and its tight turning circle, the MUNGO NC Recce is extremely mobile. In combination with its enhanced level of protection, the vehicle thus offers ideal driving capabilities both on and off-road. The dimensions of the MUNGO NC Recce also make it suitable for use on narrow tracks.

Contracts

Oshkosh Defense Awarded $40 Million Delivery Order for New and Recapitalized HEMTT A4s

OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation, has been awarded a $40 million delivery order with the U.S. Army

Tank-automotive and Armaments Command Life Cycle Management Command (TACOM LCMC) for more than 130 additional next-generation Heavy Expanded Mobility Tactical Trucks (HEMTT).

Under the delivery order, Oshkosh Defense will manufacture and deliver more than 125 new vehicles and three recapitalized vehicles. The delivery order was issued under the Family of Heavy Tactical Vehicles (FHTV) contract.

“The durable and well-protected HEMTT is a battle-tested vehicle that the Army has come to know it can depend on for any operation and in any environment,” said Andy Hove, Oshkosh Corporation executive vice president and president, Defense. “These new HEMTT A4 vehicles will only further improve the ability of our soldiers to quickly and reliably carry out a wide variety of logistics missions.”

This next-generation vehicle incorporates a fully air-conditioned and armor-ready cab, more powerful drivetrain, improved suspension, safety improvements, and other structural changes. The Oshkosh® HEMTT A4s are long term armor strategy (LTAS) compliant and come off the assembly line fitted with upgraded suspensions and integral (“A” kit) armor. They also will be ready to receive an add-on (“B” kit) armor appliqй that can be quickly and easily installed in the field.

Through Oshkosh’s remanufacturing and recapitalization services, heavily used vehicles are returned to Oshkosh, stripped to their frame rails, completely rebuilt to like-new condition and upgraded to the new A4 configuration. Recapitalized vehicles are considered to have zero miles and zero hours, at a significantly reduced cost compared to a new vehicle. These vehicles are put through the same road tests, performance tests and inspection procedures as new vehicles before being delivered with the same bumper-to-bumper warranty provided for new HEMTTs.

The Oshkosh HEMTT’s 13-ton payload and off-road capabilities make it the backbone of the U.S. Army’s logistics fleet. Since its introduction in 1985, the HEMTT has helped keep the Army on the move during major conflicts such as Operations Desert Storm and Iraqi Freedom.

About Oshkosh Defense

Oshkosh Defense, a division of Oshkosh Corporation, is an industry-leading global designer and manufacturer of tactical military trucks and armored wheeled vehicles, delivering a full product line of conventional and hybrid vehicles, advanced armor options, proprietary suspensions and vehicles with payloads that can exceed 70 tons. Oshkosh Defense provides a global service and supply network including full life-cycle support and remanufacturing, and its vehicles are recognized the world over for superior performance, reliability and protection. For more information, visit www.oshkoshdefense.com.

BAE Systems Wins $601 Million Bradley Fighting Vehicles Contract

ARLINGTON, Virginia -- The U.S. Army has awarded BAE Systems a contract for $601 million to refurbish some of its heavy infantry vehicles.

Through a public-private partnership with the Army's Red River Army Depot, BAE Systems will repair and upgrade 606 Bradley Fighting Vehicles. This process, known in the military as reset, mitigates the effect of combat use, replaces battle damaged vehicles and provides the military with vehicles in pre-deployment conditions.

"The Bradley plays an integral role in the Army's Heavy Brigade Combat Teams," said Joe McCarthy, vice president and general manager, HBCT Systems. "By resetting these vehicles to pre-deployment condition, we will make sure that our troops are able to continue to execute the mission."

Under this award, BAE Systems will reset 346 Bradley A3 vehicles, 141 A2 ODS vehicles and 119 A2 ODS SA vehicles. Initial disassembly and subsystem rebuild will be performed at the Red River Army Depot, with final disassembly and structural modifications completed by BAE Systems in Fayette County, Pennsylvania. Final assembly, integration and testing will be conducted at the company's facility in York, Pennsylvania.

During final assembly in York, Bradley vehicles will also be equipped with upgrades including Improvised Explosive Device Armor, Bradley Urban Survivability Kits and other engineering changes designed to improve protection for soldiers.

"I am pleased to learn that the Army continues to turn to the Commonwealth to repair and upgrade the Bradley Fighting Vehicle," said Sen. Arlen Specter, D-PA. "This contract award is a testament to the skilled men and women employed at the York and Fayette BAE Systems facilities and will be a strong boon to their economies by sustaining hundreds of high-paying jobs."

Work on the contract will begin immediately and BAE Systems will start to deliver completed vehicles to the military this summer, with final deliveries expected to be completed by March 2010.

The contract is managed by the Army's TACOM Life Cycle Management Command.

Bradley Combat Systems continue to provide outstanding survivability, mobility and lethality to U.S. soldiers in close-combat urban situations as well as in open-combat. The Bradley fulfills five critical mission roles - infantry fighting vehicle, cavalry fighting vehicle,

fire support vehicle, battle command vehicle and engineer squad vehicle - for the Army's Heavy Brigade Combat Teams.

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

Future Technologies

Future Combat Systems Program Completes System of Systems Design Review

ST. LOUIS -- Boeing and Science Applications International Corp. announced today that the Future Combat Systems (FCS) program last week successfully completed its System of Systems Preliminary Design Review (SoS PDR).

The SoS PDR is the most comprehensive review of the program to date. It validated that the designs for all FCS systems and subsystems, including the network, sensors, weapons and manned and unmanned vehicles, meet current requirements and will function as an integrated system of systems. The review proved that a family of networked systems will provide greater combat capabilities, including enhanced intelligence, surveillance, and reconnaissance capabilities, across the full spectrum of conflict.

The review involved representatives from the U.S. Army, Boeing, SAIC, industry partners and other government agencies. It was conducted from May 11-14 at the Boeing facility in St. Louis.

"This review marks a major milestone for the program," said Gregg Martin, Boeing vice president and FCS program manager. "It represents an end-to-end assessment that the program is meeting the Army's mission needs. This accomplishment was made possible by the hard work and dedication of the thousands of people who are part of the FCS team. We look forward to building on the substantial investments and progress made to date on the program in support of the Army's full spectrum modernization objectives."

SAIC Senior Vice President and FCS Deputy Program Manager Dan Zanini noted: "Every system already has a functioning prototype undergoing test and evaluation, which greatly reduces risk for the balance of the program."

The SoS PDR brought together the preliminary designs and architecture of the FCS brigade to assess them at an integrated level. In addition, the performance of the brigade design was compared with Army requirements.

"Our combined team -- Army, Boeing-SAIC and our industry partners -- has done an incredible job preparing for and completing this milestone," said John Elbon, Boeing vice president and head of FCS Systems of Systems Integration. "It's amazing to see the capabilities the networked brigade brings to the warfighter."

The SoS PDR is one of a number of major milestones scheduled for the program this year, which include a Defense Acquisition Board review and the Limited User Test of early FCS "Spin Out" capabilities later this summer. The FCS team remains committed to executing the program to the Army's plan and delivering these critical technologies to soldiers as soon as possible. This includes an acceleration and expansion of the FCS Spin Out effort to all Army Brigade Combat Teams over the next 15 years.

SAIC is scientific, engineering and technology applications company. Its approximately 45,000 employees serve customers in the U.S. Department of Defense, the intelligence community, the U.S. Department of Homeland Security, other U.S. Government civil agencies and selected commercial markets. SAIC had annual revenues of $10.1 billion for its fiscal year that ended January 31, 2009.

A unit of The Boeing Company, Boeing Integrated Defense Systems is one of the world's largest space and defense 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 Integrated Defense Systems is a $32 billion business with 70,000 employees worldwide.

Defence Industry

Oshkosh Defense Awarded $28 Million Delivery Order to Provide HEMTTs, PLS Trailers to Army Reserve, Marine Corps

OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation, has been awarded a delivery order with the U.S. Army Tank-automotive and Armaments Command Life Cycle Management Command (TACOM LCMC) to provide more than 70 next-generation Heavy Expanded Mobility Tactical Trucks (HEMTT) and more than 60 Palletized Load System Trailers (PLST) to the U.S. Army Reserve and Marine Corps.

The delivery order, valued at more than $28 million, was issued under the Family of Heavy Tactical Vehicles (FHTV) contract. The HEMTT A4 variants included in the delivery order are the M1120A4 Load Handling System (LHS) and M978A4 fuel tanker. The Army Reserve will receive the HEMTT A4s and more than 30 PLSTs. The Marine Corps will receive 30 PLSTs, which will be integrated with the Logistics Vehicle System Replacement (LVSR) to maximize payload capabilities and is PLST compatible.

The Oshkosh® HEMTT 13-ton payload and off-road capabilities make it the backbone of the U.S. Army's logistics fleet. The next-generation vehicle incorporates a fully air-conditioned and armor-ready cab, more powerful drivetrain, improved suspension, safety

improvements, and other upgrades.

"Oshkosh is proud of its long-standing support of the U.S. Army Reserve. These modern, high-performance vehicles will help bolster the Army Reserve's transportation and supply system operations that are vital to supporting our troops in the field," said Andy Hove, Oshkosh Corporation executive vice president and president, Defense. "The HEMTT and PLS are combat-proven vehicles that our soldiers have come to rely on to keep the mission moving."

The HEMTT A4s are long term armor strategy (LTAS) compliant and come off the assembly line fitted with upgraded suspensions and integral ("A" kit) armor. They also will be ready to receive an add-on ("B" kit) armor appliqий that can be quickly and easily installed in the field.

The PLST is part of the PLS system designed to meet the U.S. Army's distribution and resupply needs in even the most challenging military missions. The PLST also is compatible with the HEMTT LHS vehicle and forms a system that doubles the payload capability of the vehicle in a single transportation mission, reducing the logistics footprint on the battlefield.

About Oshkosh Defense

Oshkosh Defense, a division of Oshkosh Corporation, is an industry-leading global designer and manufacturer of tactical military trucks and armored wheeled vehicles, delivering a full product line of conventional and hybrid vehicles, advanced armor options, proprietary suspensions and vehicles with payloads that can exceed 70 tons. Oshkosh Defense provides a global service and supply network including full life-cycle support and remanufacturing, and its vehicles are recognized the world over for superior performance, reliability and protection. For more information, visit www.oshkoshdefense.com.

Training And Simulators

QinetiQ wins contract to deliver pre deployment training to armed forces

RAF pilots will train alongside British Army forward air controllers and artillery personnel prior to deployment to the front line thanks to a contract just awarded by the MOD that covers the provision and running of a bespoke multi-million pound training facility at RAF Waddington.

The Distributed Synthetic Air Land Training (DSALT) contract is worth J26m over the next four years. Under the contract sponsored by the RAF, QinetiQ as the project lead, and Boeing will together provide around 44 weeks access to specialist synthetic training facilities each year. The primary users will be HQ level fire planning cells and fire support teams, who act as the eyes and ears on the front line for artillery batteries plus the RAF pilots that will be operating alongside them in the region and engaged in ground attack missions. By working together they will safely experience the complexities of controlling aircraft, artillery and other assets, all in fast-moving situations.

"With recent technological advancements we are now able to deliver synthetic training that realistically simulates actual engagement situations and until now troops probably only experienced many of these only when they reached the front line," explained Jon Saltmarsh, QinetiQ's programme director for the project. "This helps ensure our forces are better trained, minimising the risks both to them and civilians in complex urban environments like Iraq and Afghanistan."

"A real benefit of this form of training is that ground forces gain an understanding of the pilot's perspective of a mission and vice versa," he added. "This means that communications between all parties are improved, operations run more smoothly and there's less chance of error."

QinetiQ is responsible for ensuring the facility meets technical specification and delivering the ongoing customer requirements. Initially this involves ruggedising a capability demonstrator that has already successfully proven the concept to the MOD into a robust training system. Boeing will be responsible for the day-to-day operation of the training systems used for planning and for delivery of the post-exercise review, while the RAF supported by Inzpire, (acting as consultants to the UK military), will provide personnel with recent in-theatre experience to take on various key roles within the exercises.

"Boeing and QinetiQ continue to develop an appropriate, robust, rugged and reliable training facility that will meet UK forces' needs for integrated land air training now and into the future," concluded George German, DSALT programme manager for Boeing.

The DSALT facility is a key element of the Air Battlespace Training Centre, a partnership between RAF and industry to improve the training of UK frontline forces. The DSALT facility can also be linked to a variety of other simulated or live air, land or maritime assets to further enhance the training. The possibility also exists to develop deployed training facilities elsewhere in

the UK or overseas, thereby increasing the value and availability of this specialised training.

Defence Industry

Major Thai arms purchases put on hold

All arms procurement projects with tied-over budgets will be shelved in the wake of deep defence budget cuts which are also prompting the armed forces to resort to training on simulators, army chief Anupong Paojinda says.

Of the proposed military spending cuts amounting to 19 billion baht, the army's budget for the 2010 fiscal year will be slashed by 10 billion baht, Gen Anupong said yesterday.

The armed forces face heavy cuts after the country's revenue collections fell short of target. The government also needs to raise funds to finance economic stimulus schemes.

Gen Anupong said the cuts would result in the army freezing the 3.89-billion-baht purchase of another lot of 89 armoured personnel carriers from Ukraine.

The army also would be forced to switch to computer-simulated command post exercises instead of field training exercises, he said.

The army understood the government's need to save money and would try its best to comply.

"When it comes to budget cuts, the military is the first to bear the brunt. People will be affected if the budgets of agencies which have a direct impact on people are slashed," the army chief said.

"We will find measures to maintain our armaments and conduct command post exercises."

It had been anticipated for some time that the economic contraction would bite into the defence budget. But the extent of the cut, especially to the army's budget, had been unclear until now.

Some critics have expressed concern that the delayed procurement of some vital armaments could undermine national defence at a time when existing weaponry is becoming outdated and needs to be decommissioned.

The air force, for example, has decided to stall the purchase of six more Swedish-made Gripen jet fighters.

The air force has already bought six Gripens worth 19 billion baht with the planes due for delivery next year. The air force needs the other six Gripens to complete a fleet of 12 that will replace its ageing F-5 fighters scheduled to be decommissioned in 2011.

Meanwhile, a source at the Royal Thai Armed Forces headquarters said the military had sought a special allocation of 809 million baht to procure new anti-riot gear.

The military has been increasingly active in crowd-control operations and is short of equipment.

The proposed budget was floated after soldiers were deployed to assist police in dispersing red shirt protesters during the Songkran rioting.

Gen Anupong said about 20,000 troops were deployed but the equipment was good for only 900 soldiers.He also suggested that the government set aside funds to procure standard anti-riot gear if it required crowd control services from the armed forces. The military recently discussed the political situation and agreed more street protests could be expected.

If the military was to take charge of crowd control, particularly security preparations for the Asean summit in October, standardised anti-riot gear should be provided, the source said.

The proposed budget is for procurement of anti-riot and crowd control gear to accommodate 9,000 personnel - or about 60 companies of troops.

Of the budget, 67 million baht is earmarked to buy rubber bullets, 74 million baht for pepper spray, 169 million baht for tear gas grenades and launchers, 218 million baht for protective masks, and 174 million baht for anti-riot suits.

The rest is for helmets (33 million baht), transparent shields (39 million baht), electric batons (92.7 million baht), wooden batons (8 million baht) and protective gloves (8 million baht).

Defence Industry

Indian Army Gets its First Armoured Regiment of MBT Arjun

After 35 years of troubled development, India's indigenously-designed Arjun tank has finally entered regimental service with the Indian Army.

History of sorts was made today as the Indian Army proudly equipped itself with the first Armoured Regiment of indigenously built Main Battle Tank, Arjun. The development marks the fruition of 35 years of research in self-reliance by dedicated Indian scientists against all odds.

16 tanks (cumulative 45 Arjun tanks) were handed over to Lt. Gen. D. Bhardwaj, DGMF, towards formation of the 1st Arjun regiment by Shri S. Chandrasekar, Addl. DGOF (AV) and flagged-off by Dr. A. Sivathanu Pillai, Chief Controller, Research & Development &

Distinguished Scientist, DRDO, at a function in Avadi today.

MBT Arjun is the state-of-art main battle tank designed and developed by Combat Vehicles Research and Development Establishment (CVRDE), Avadi along with other DRDO and industrial partners.

MBT Arjun is provided with excellent mobility, superior fire power and protection and the features are quite comparable to contemporary world tanks. The Kanchan armour, hydro-pneumatic suspension, armament system, Integrated Fire Detection & Suppression System, system engineering and system integration of complex weapon platforms are some of the significant indigenous technologies of Arjun, developed by DRDO labs.

Initially, 12 prototypes were developed during 1983 to 1990 and they were subjected to field trials of more than 20,000 kms and 1100 rounds. Based on user feedback 15 pre-production vehicles were developed during 1990 to 1995 and they were subjected to field trials of more than 70,000 kms and 8,000 rounds.

After the satisfactory trials, Army placed an indent initially for 15 limited series production in Nov 1997 and cumulatively 124 in Mar 2000. The development of Arjun was carried out in a number of stages and evaluation through extensive field trials. After satisfactory performance, Army placed an indent for the full complement of 124 MBT Arjun in Mar 2000.

As there was a long gap from the R&D phase to production phase from 1993 to 2000, problems related to re-establishing production lines and vendor sources and resolving overseas issues like technology denial in view of Pokhran testing, change over and mergers of OEMS for the critical items, delayed initial commencement of production.

In order to meet the production requirement, additional infrastructure facilities and machine tools were established at HVF, Avadi and Ordnance Factory, Medak. However, the first pilot batch of production tanks was handed over to Army on 7th August 2004 in the presence of the then Defence Minister Shri. Pranab Mukherjee.

During subsequent production, Army insisted upon the demonstration of medium fording capabilities of MBT Arjun. Both CVRDE and HVF continuously worked on war footing, to meet the stringent requirement of medium fording to a height of 2.1m in water with preparation time of 30 minutes as retro-fitment solution and demonstrated successfully to Defence Minister Shri A. K. Antony and other dignitaries on 2nd July 2007.

Subsequently, the production tanks were incorporated with all medium fording modifications and the next batch of nine tanks were handed over by Sep 2007.

Meanwhile, Army carried out the Accelerated Usage Cum Reliability Trials (AUCRT) in 5 phases on two tanks from Nov 2007 to Aug 2008 covering more than 8000 km and 800 rounds of firing in each tank. AUCRT is required for assessing the spares requirement for the entire life of the tank besides evaluation of reliability of tank.

Each phase consists of 1000kms run and 100EFC (Approx. 160 rounds of APFSDS and HESH – primary and secondary rounds) over a temperature range of -5° to 50° C. One of the main issues during AUCRT trials was the failure of the bearings of transmission of M/s RENK, Germany, due to rise in lube oil temperature. However, this was immediately solved by modifying the software during AUCRT itself and the efficacy of the software was proved for more than 4000kms.

However a comprehensive solution of modifying the bearing assembly by providing a special coating was carried out to take care of the temperature problem and the retrofit of bearing assembly being carried out in all the tanks.

The outcome of AUCRT trials raised the confidence levels of the users over the reliability and endurance of MBT Arjun and they confirmed that the overall performance of the MBT Arjun during the stringent AUCRT trials was satisfactory and cleared the production tanks with minor modifications suggested during AUCRT, for induction. Both CVRDE and HVF along with DGQA agencies worked out methodologies to introduce all AUCRT modifications within shortest time frame and the next batch of 17 tanks were handed over to Army by 3rd March 2009.

As suggested by Army after AUCRT trials, Arjun tanks were subjected to rigorous trials and assessment by a third party audit (an internationally reputed tank manufacturer). After the extensive evaluation, the reputed tank manufacturer confirmed that the MBT Arjun is an excellent tank with very good mobility and fire power characteristics suitable for Indian desert. They also added inputs such as quality auditing, production procedures and refined calibration procedures for further enhancing the performance of MBT Arjun.

DRDO will be incorporating all these inputs in the next regiment of 62 tanks for handing over to Army before March 2010 as desired by the Army.

The regiment of 45 tanks will be subjected to a conversion training and field practice for a period of 3 months. Thereafter, the Army is planning to conduct a comparative trial with T-90 tanks in Oct/Nov 2009 to assess the operational deployment role of the tanks.

The present batch of 124 tanks will be delivered by Mar 2010.

Defence Industry

General Dynamics Armament and Technical Products to provide Stryker vehicles with reactive armor

CHARLOTTE, N.C. -- General Dynamics Land Systems-Canada has awarded General Dynamics Armament and Technical Products a contract valued at more than $150 million to qualify and produce reactive armor tile sets for the Stryker family of vehicles. Deliveries are expected to begin in March 2010.

General Dynamics Land Systems is the original equipment manufacturer of the Stryker vehicle. All three

companies are units of General Dynamics.

General Dynamics' reactive armor system comprises tiles that fasten to the exterior of the Stryker family of vehicles, allowing it to better withstand hits from a variety of anti-armor munitions.

"Our reactive armor technology is light-weight and provides an increased level of equipment and troop protection against shape-charged threats, including rocket-propelled grenades or RPGs," said Russ Klein, vice president and general manager of weapon systems for General Dynamics Armament and Technical Products. "We are proud to work with our General Dynamics' teammates to provide potentially life-saving technologies to U.S. servicemen and women."

Work will be performed at the General Dynamics' facility in Camden, Ark., and will create 20 new jobs at the Camden facility in January 2010. Program management will take place in General Dynamics' Burlington Technology Center in Vermont. As a strategic partner, RAFAEL Armament Development Authority Ltd., Ordnance Systems Division, will share the production workload in Haifa, Israel.

In support of this new contract, the Arkansas Economic Development Commission awarded General Dynamics a grant to offset costs incurred in purchasing production-related equipment. The grant provided the company with an opportunity to streamline production efforts, as well as create local jobs.

Defence Industry

Spain to buy 300 new 8x8 armoured vehicles

The Spanish Ministry of Defense has recently released a Request for Information (RFI) addressing companies interested in producing the new 8x8 armoured vehicles for the Spanish Armed Forces. The RFI's deadline is scheduled for August 15, 2009.

MoD officials said that a contract for delivery of 300 vehicles by 2016 is to be signed in June 2010 following the evaluation of the submitted proposals.

The RFI has been issued by Spain's procurement agency, General Directorate of Armament and Material (DGAM), and published on the agency's website. Yet, the document does not include any specifications on the financial provisions of the programme.

The decision of the DGAM to publish the RFI on its website without placing additional advertisements about the programme indicates that the government is open to all proposals. According to different sources, about half a dozen contractors may participate in this tender, which had been asked for by the MoD in a request for a proposal last week. The list of possible international competitors for this programme includes the Italian Iveco-Oto Melara consortium offering the Super AV or Freccia, the German ARTEC-Consortium with Krauss-Maffei Wegmann supplying the Boxer vehicle, French Nexter with its VBCI, Finnish Patria with the AMV, and British/Swedish Bae Systems-Hдgglunds offering the SEP. Other possible participants in this tender include Thales Australia with their Bushmaster vehicle as well as the Spanish-Swiss Santa Bбrbara Sistemas/ Mowag manufacturing the Piranha IV/V.

The DGAM states that the purpose of the RFI is "to gather information on 8 x 8 armoured vehicles that are available on the market for reference in a future acquisition programme which Spain will hopefully launch." The DGAM explains that in a first phase, as many as 300 units of the new vehicles will have to be delivered between 2012 and 2016. Before the end of 2014, a minimum of 40 vehicles should be delivered in order to ensure the program's "initial operating capability", including deployment to operations abroad in 2014.

Furthermore, the RFI specifies that the awarded company will have to establish a plan to develop industrial cooperation opportunities in Spain and collaboration with national companies in the defence sector with the bodies and units of Army logistics.

The Spanish department of Defence said in a statement that the Armed Forces need to have "a family of wheeled multipurpose medium weight armoured vehicles with a high levels of protection and mobility". These vehicles will take part in the "Vehнculo blindado de Ruedas" (VBR) of the Spanish Army. The vehicles should have a high capacity for survival of the personnel and crew, while retaining sufficient internal volume and significant load capacity, according to the document. Beyond that, the MoD is looking for vehicles with a reduced need for logistic resources and low costs of service.

The vehicle will be acquired in three versions in the first phase of the programme, known as Personnel Carriers (Porta personal - VPP), Cavalry Exploration (Exploraciyn de caballerна -VEC), and Command Vehicles (Puesto de mando - VPC). However, the vehicle must also be modular, open to allow the incorporation of technological innovations that may be considered necessary.

According to the announced programme schedule, the MoD will await the Industry's answer for the RFI until August 2009. The evaluation of supplies and vehicles should be completed by December 2009 with a request for combining supply with price (RFQ) by January 2010, with a final contract signed by June 2010.

Defence Industry

Oshkosh Defense Submits Proposal for FMTV Program

OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation, today submitted its proposal for the Family of Medium Tactical Vehicles (FMTV) A1P2 competitive rebuy program to the U.S. Army Tank-automotive and Armaments Command Life Cycle Management Command (TACOM LCMC).

Oshkosh Defense is a proven industry leader in the design and manufacturing of medium and heavy military vehicles, and has the expertise, production capabilities and proven experience to deliver the FMTV on time and within budget. If chosen, almost 90 percent of Oshkosh Defense suppliers for existing vehicle fleets for the military would be common with the FMTV vehicles, allowing for a seamless integration of the additional manufacturing.

"Oshkosh is confident that we have given the U.S. Army a credible, competitive and low-risk proposal for the FMTV program," said Andy Hove, Oshkosh Corporation executive vice president and president, Defense. "We already produce similar military-grade medium trucks, work with most of the key FMTV suppliers, and have proven capabilities for engineering, manufacturing and aftermarket support."

With available production capacity at its facilities, Oshkosh Defense can deliver the FMTV vehicles to the government's specification ahead of the proposed schedule. The company's robust manufacturing capabilities ensure it can fully comply with existing and proposed vehicle programs, in addition to the FMTV schedule. To meet the Army's needs, the company has proceeded with a number of pre-contract production efforts, including the design of a Long Term Armor Strategy (LTAS)-compliant cab, which will be completed prior to a contract award at no cost to the government.

Oshkosh Defense is a leading manufacturer of medium and heavy vehicles for the U.S. military. More than 10,000 Medium Tactical Vehicle Replacements (MTVR) have been produced and delivered to the Department of Defense, with many already in service in Iraq and Afghanistan. It has also produced and delivered more than 30,000 Heavy Expanded Mobility Tactical Trucks (HEMTT), Palletized Load Systems (PLS) and Heavy Equipment Transporters (HET) under Family of Heavy Tactical Vehicles (FHTV) contracts.

Oshkosh Defense is also a leader in technology innovation for military vehicles. The company's renowned TAK-4® independent suspension has undergone more than 400,000 miles of government testing and provides a 70 percent off-road profile for the MTVR. Additionally, more than 1,500 TAK-4 suspension kits are being produced for an urgent need to retrofit current MRAP (Mine Resistant Ambush Protected) vehicles to improve their off-road capabilities.

The company is also a pioneer in fully autonomous vehicle technology, having developed the TerraMax™ autonomous vehicle for three DARPA Grand Challenge events and most recently the R-MTVR (Roboticized MTVR) vehicle in conjunction with the Naval Warfare Surface Center. Oshkosh's Command Zone™ electronics system provides on-board vehicle diagnostic/prognostic capabilities, and the company's ProPulse® diesel- and hybrid-electric drive technologies, used on the advanced HEMTT A3 and MTVR, are proven power and "green" energy enhancements now available to the tactical vehicle fleet.

About Oshkosh Defense

Oshkosh Defense, a division of Oshkosh Corporation, is an industry-leading global designer and manufacturer of tactical military trucks and armored wheeled vehicles, delivering a full product line of conventional and hybrid vehicles, advanced armor options, proprietary suspensions and vehicles with payloads that can exceed 70 tons. Oshkosh Defense provides a global service and supply network including full life-cycle support and remanufacturing, and its vehicles are recognized the world over for superior performance, reliability and protection. For more information, visit www.oshkoshdefense.com.

About Oshkosh Corporation

Oshkosh Corporation is a leading designer, manufacturer and marketer of a broad range of specialty access equipment, commercial, fire & emergency and military vehicles and vehicle bodies. Oshkosh Corp. manufactures, distributes and services products under the brands of Oshkosh®, JLG®, Pierce®, McNeilus®, Medtec®, Jerr-Dan®, BAI®, Oshkosh Specialty Vehicles, Frontline™, SMIT™, Geesink™, Norba™, Kiggen™, CON-E-CO®, London® and IMT®. Oshkosh products are valued worldwide in businesses where high quality, superior performance, rugged reliability and long-term value are paramount. For more information, log on to www.oshkoshcorporation.com.

Defence Industry

Afghanistan Terrain Requires Versatile M-ATV Solution – Oshkosh Defense Answers the Call

OSHKOSH, Wis. -- The combination of harsh, mountainous off-road environments and dispersed combat situations in Afghanistan resulted in the U.S. Armed Forces' urgent-need requirement for the MRAP All Terrain Vehicle (M-ATV), a new class of vehicle. Oshkosh Defense, a division of Oshkosh Corporation), developed its M-ATV with Plasan North America to meet these specific challenges and allow soldiers and Marines to take the fight to the enemy in even the most difficult terrain.

"Our customer asked the industry to find a way to take

the current MRAP levels of protection and put them into a system that has far more off-road capability," said Andy Hove, Oshkosh Corporation executive vice president and president, Defense. "Oshkosh is a world leader in highly mobile off-road systems. We have teamed with Plasan who is a world leader in protection systems to meet that urgent request."

To succeed in Afghanistan's battlefields, any vehicle must be survivable and all-terrain capable. The Oshkosh M-ATV provides:

- The survivability of MRAPs, including protection from explosively formed penetrators (EFP) and rocket-propelled grenades (RPG).

Oshkosh joined forces with Plasan to deliver a battle-tested armor system for its M-ATV. Plasan contributed the armor used on more than 5,000 MRAPs and thousands of Armored Cab Medium Tactical Vehicle Replacements (MTVR) fielded in Iraq and Afghanistan. Oshkosh's M-ATV armor is based on an advanced armor solution that has been government tested and received an "excellent/low-risk" evaluation. In addition, Plasan has independently performed material-coupon and mine-blast tests to support the M-ATV survivability system.

- A lighter, more maneuverable and off-road capable alternative to current MRAPs used in the Iraq and Afghanistan theaters of operation.

The Oshkosh M-ATV features the company's TAK-4® independent suspension system as a base platform to provide a vehicle with a 70 percent off-road mission profile. The Oshkosh M-ATV's 16-inch wheel travel and enhanced load-carrying capabilities provide a distinct advantage by allowing Oshkosh's vehicle to excel in off-road environments. While the TAK-4 suspension serves more than 10,000 Oshkosh MTVRs, the company recently received a contract to equip another manufacturer's fielded MRAPs with the advanced TAK-4 suspension system.

Because of the military's urgent need, between 2,080 – 10,000 M-ATVs will have to be delivered in a timely manner to help support combat operations. Oshkosh has the facilities, experience and capacity to deliver M-ATV vehicles on time and in the quantities needed. Oshkosh was the first manufacturer to deliver its production-representative vehicles to the Aberdeen Proving Grounds for both phases of government testing. The company also has independently conducted more than 6,500 miles of testing to provide the best vehicle possible.

Oshkosh Defense delivers its M-ATV with the survivability, mobility, mission-proven and production-ready solutions required for Afghanistan. Oshkosh's mature M-ATV design is based on the combat-proven Oshkosh MTVR chassis, which has been successfully operating for years in the most difficult off-road missions in Iraq, Afghanistan and around the world.

About Oshkosh Defense

Oshkosh Defense, a division of Oshkosh Corporation, is an industry-leading global designer and manufacturer of tactical military trucks and armored wheeled vehicles, delivering a full product line of conventional and hybrid vehicles, advanced armor options, proprietary suspensions and vehicles with payloads that can exceed 70 tons. Oshkosh Defense provides a global service and supply network including full life-cycle support and remanufacturing, and its vehicles are recognized the world over for superior performance, reliability and protection. For more information, visit www.oshkoshdefense.com.

About Oshkosh Corporation

Oshkosh Corporation is a leading designer, manufacturer and marketer of a broad range of specialty access equipment, commercial, fire & emergency and military vehicles and vehicle bodies. Oshkosh Corp. manufactures, distributes and services products under the brands of Oshkosh®, JLG®, Pierce®, McNeilus®, Medtec®, Jerr-Dan®, BAI®, Oshkosh Specialty Vehicles, Frontline™, SMIT™, Geesink™, Norba™, Kiggen™, CON-E-CO®, London® and IMT®. Oshkosh products are valued worldwide in businesses where high quality, superior performance, rugged reliability and long-term value are paramount. For more information, log on to www.oshkoshcorporation.com.

Defence Industry

US and Canada buys further Bae System build M777 howitzer

Hattiesburg, MS -- BAE Systems has received orders worth around $118 million (J70m) for 63 more M777 howitzers, taking the order total to exactly 800 guns.

The U.S. is buying 38 guns for the Marines and Army while Canada is acquiring 25 more through the US Foreign Military Sales program to add to the 12 it already has in service.

BAE Systems Global Combat Systems' facility at Hattiesburg, Mississipi is responsible for final integration and test of the weapon system. The prime contract management of the M777 program and manufacture and assembly of the complex titanium structures and associated recoil components are undertaken at Barrow-in-Furness in the United Kingdom.

Global Combat Systems has also received a $3M contract to 'reset' 33 US howitzers returning from

operations in Afghanistan. This refurbishment work will be undertaken at the Hattiesburg facility.

Global Combat Systems' Artillery Programmes Director Ian McMillan commented on the gun acquisition and reset contracts:

"The purchase of additional howitzers is further endorsement of M777 and we expect more orders through 2009. We are also looking forward to establishing long-term partnering arrangements with U.S. Government military depots to undertake future reset and overhaul activities."

Weighing in at less than 4200kg, the revolutionary M777 is the world's first artillery weapon to make widespread use of titanium and aluminum alloys, resulting in a howitzer which is half the weight of conventional 155mm systems.

Both the U.S. and Canada operate M777s in Afghanistan, providing fire support to coalition forces. Its ability to be airlifted to remote positions by helicopter gives the system enormous operational flexibility and makes it ideal for a challenging environment like Afghanistan.

The M777 can fire the "smart" Excalibur round, co-developed by Global Combat Systems up to 40 km (25m) accurately enough to target individual rooms within a building, reducing the chance of innocent casualties and allowing supporting fire to be brought down much closer to friendly troops.

The M777 effort is managed by the Light Weight 155mm Joint Program office at Picatinny Arsenal, New Jersey.