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Defence Industry

Thales UK develops upgraded Gunners Sight

Working in conjunction with the Ministry of Defence Technology Development Programme Thales UK has developed a dual axis stabilised Gunner's sight as part of the Manned Turret Integration Programme (MTIP).

The current Thales UK STAG Fire Control sight, fitted in the WARRIOR Armoured Infantry Fighting Vehicle (AIFV) and the SCIMITAR Reconnaissance Vehicle, is stabilised in one axis only and while this assists viewing and identification on the move it does not provide a "fire on the move" capability. The new dual axis sight in combination with the CTA International (CTAI) stabilised two man turret will provide this much needed capability.

One of the aims of the MTIP is to de-risk the integration of the CTAI weapons system and the Thales UK Battle Group Thermal Imaging (BGTI) sighting and navigation system using the CTAI 40mm turret as the demonstrator platform. To this end Thales UK has been working closely with CTAI to develop a solution that will incorporate a significant level of system integration and be ready for extensive trials in mid 2006, including demonstration of the "fire on the move" capability.

The upgraded STAG FC gunner's sight has been completed on schedule and delivered to CTAI for integration into the turret prior to installation on a WARRIOR vehicle and the start of the demonstration trials at the Army's trials and development unit at Warminster. The MTIP results will provide a valuable input into the overall WARRIOR Lethality Improvement Programme (WLIP), which aims to replace the existing non-stabilised 30mm Rarden cannon with a more capable turret.

This new development, which will be incorporated in the BGTI gunner sight, provides Thales UK with an enhanced capability to offer its growing number of export customers now seeking a "fire on the move" capability. Karen Oddey, Managing Director of Thales UK's land and joint systems business said: "the high level of commonality of the new sight with the in service BGTI Gunner's sight provides our customers with an effective low risk solution".

The STAG Gunner sight family now offers a choice of capability ranging from the unstabilised version to single or dual axis stabilisation depending on the customer's requirements.

Defence Industry

USMC Light Armoured Vehicle to be equipped with Thales Lasers

Thales UK has been awarded a J6.4M contract by Raytheon for the provision of 416 Eye Safe Laser Day Elbow's (ESLDE) Laser Rangefinders for the United States Marine Corps (USMC) Improved Thermal Sighting System (ITSS) programme.

The ITSS programme is part of the USMC Light Armoured Vehicle (LAV) Life Extension Programme, which comprises of a second generation thermal infrared sensor, laser rangefinder and computerised fire control system and will provide the USMC with extended far target location and an improved identification capability.

The Thales ESLDE Laser Rangefinder has an integrated direct view optical channel and optional video channel that has been specifically designed for use as part of the LAV periscopic sighting system. A version of this is already in service with the UK MoD for the Battle Group Thermal Imaging programme and has also been selected by General Dynamics for the Australian and New Zealand Light Armoured Vehicle Programmes

Karen Oddey, Managing Director of Thales UK's land and joint systems business said, "This order builds on the now worldwide success of this product and represents another major opportunity for Thales in the United States."

Contracts

U.S. Army Awards General Dynamics Contract for Mortar Weapon Systems

ST. PETERSBURG, Fla. – The U.S. Army TACOM-ARDEC, Picatinny, New Jersey, has awarded General Dynamics Ordnance and Tactical Systems, a business unit of General Dynamics, a $19.4 million base contract, with up to four option years for the production of Mortar Weapons Systems.

Acting as the system prime contractor, General Dynamics will acquire, stage and field M120 120mm Ground Mounted Mortars, M121 120mm Carrier Mounted Mortars, M313 120mm Mortar Sub-caliber Training Inserts, M224 60mm Mortar Systems, and M252 81mm Mortar Systems.

Defence Industry

Belgium Selects the PIRANHA III for its Armoured Infantry Vehicle (AIV) Programme

BRUSSELS, Belgium -- the Belgian Government announced that the MOWAG Piranha IIIC had been selected from five candidates for the delivery of up to 242 vehicles and related logistics support, with a total contract value of over $604 million (euro 500 million), for the Belgian Army`s Armoured Infantry Vehicle Program.

This sales success in Belgium represents the largest single order ever awarded from a European NATO member in the history of the Swiss technology-based company. Deliveries will commence in 2007 and will extend to 2015 for the total quantity including options.

In July 2005 the Belgian Ministry of Defence had announced the procurement Program for new Armoured Infantry Vehicle (AIV). This Program sets a corner stone to transform the Belgian Army into a lighter, more deployable, lethal, survivable, and sustainable force. Key requirements for the AIV included on- and off road mobility, crew comfort and safety, vehicle versatility, a high level of protection for the vehicle crews against mines and ballistic weapons, and integration of various weapon stations-, electronic warning and communication systems. With the worldwide operating Piranha IIIC 8x8, the technology-based company from Kreuzlingen, Switzerland offers a proven product, which fulfils this high-ranking requirement of protection, mobility, and mission flexibility.

Main vehicle sub-systems include the CMI 90mm Turret, the ELBIT 30mm Overhead Weapon Station, the FN Herstal ARROWS 12,7mm Overhead Weapon Station, all with OIP electro-optical aiming Systems, the THALES Belgium Communication System, Threat detection Systems for Lasers and Small Arms (OIP) and the Pearson Surface Mine Plough and Dozer Blade. A main focus was paid by MOWAG to offer a product with high commonality and compatibility within the AIV fleet itself, other vehicles of the Belgium Army and NATO countries. Piranha III 8x8 vehicles are in series production since 1997 and continuously developed to include the most modern technology available on the market.

A vast number of specific vehicle variants based on the Piranha III 8x8 have already been built for various customers including NATO and European Countries USA, Canada, Denmark, Spain, Ireland, Sweden and Switzerland including the variants specified by the Belgium customer thus giving the Piranha solution offered a very high production readiness. The 242 Piranha IIIC 8x8 will be delivered in seven variants to solve specific operational tasks: APC, C30 , Direct Fire Capability, Command Post, Engineering, Ambulance and Recovery. MOWAG`s CEO, Simon Honess stated: “We are extremely proud to have received this most significant award which we believe reflects the careful attention we paid to the requirements of the Belgian Army and to the Belgian national and regional objectives for industry and commerce, together with the capability and value for money represented by Piranha and its system support.

This now gives us the opportunity to serve the Belgian Army in a long term relationship, and together with the main Belgian Suppliers CMI, OIP, FN, THALES and other industrial team members, to generate industrial benefit across the diverse Belgian industrial base. This contract will also add further to the quantity of the latest specification of Piranha III vehicles in service with EU and NATO forces world wide, and will strengthen our market position.” Delivery of the first 138 vehicles to the Belgian Army will take place from 2007 to 2012. Optional second and third batch vehicles would be delivered from 2012 to 2015.

Initial vehicles, MOWAG Driveline and Suspension systems and other components will be manufactured at MOWAG in Kreuzlingen, Switzerland with the follow-on hull welding and vehicle assembly being conducted at the facilities of the MOWAG partners Jonckheere and CMI in Belgium. The MOWAG proposal further includes a comprehensive Industrial Benefit Programme worth 100% of the contract value in Belgian value added combining direct work, semi direct effort as well as a significant commitment to other industrial sectors through indirect benefits. The program is proportionally balanced between Flemish and Wallonian companies and will span over the next 12 years.

More than 3000 Piranha III based vehicles are in service with or in production for NATO and European countries Denmark, Spain, USA, Canada, Ireland, Sweden and Switzerland. The “Piranha Group Europe” was formed in 2005 and it is anticipated that Belgium will now join this group as a future user of the Piranha vehicle.

Future Technologies

Raytheon's Quick Kill Achieves a First; Decimates 'Enemy' RPG in Test with Precision Launched Munition

MCKINNEY, Texas, -- Raytheon Company's new Quick Kill System is the first active protection system (APS) to destroy a rocket propelled grenade (RPG) at close range, using a precision launched warhead with a focused blast.

The successful test occurred at a New Mexico Institute of Mining and Technology test center Feb. 7, 2006.

Quick Kill is a new "hit avoidance" system designed by Raytheon to protect combat vehicles and their warfighters from enemy fire. It destroys enemy weapons with speed, surgical accuracy and minimal collateral damage. The system is capable of instantly engaging projectiles fired from any location around or above the vehicle.

The test featured an RPG launched at close range, simulating an engagement of a Stryker combat vehicle equipped with Raytheon's Quick Kill system. The Quick Kill's active electronically scanned array radar detected and tracked the RPG and -- after computing its speed, trajectory and intercept point -- cued the precision-launched weapon to counterattack and destroy the RPG with its focused blast warhead. The weapon performed a vertical "soft launch," pitched over,

accelerated to the point of intercept, fired its warhead and destroyed the RPG in mid-air. All of this occurred in the proverbial blink of an eye.

Raytheon's approach to this technological breakthrough is equivalent to firing a weapon around a corner and hitting another weapon, while both speed through the air at hundreds of meters per second. Raytheon is the first company to develop and then prove this concept of engagement by successfully intercepting an RPG at close range.

"Quick Kill's speed, precision and effectiveness are truly amazing," said Glynn Raymer, vice president of Raytheon Combat Systems. "It offers our current force warfighters a level of battlefield protection that no one has ever seen before."

"We wanted to prove the APS technology as quickly as possible and accelerate its fielding to warfighters," said Johnny Garrett, director of Raytheon Integrated Systems. "Using our own money, Raytheon took Quick Kill from concept to reality in fewer than six months."

Defence Industry

Six FOX NBC reconnaissance vehicles go to the Netherlands - State-of-the-art NBC detection technology from Rheinmetall

Rheinmetall Landsysteme has just delivered six highly advanced FOX NBC reconnaissance vehicles to the Dutch armed forces. In a ceremony at Rheinmetall Landsysteme GmbH's Kassel plant on January 25, 2006, Cees van der Knaap, the Dutch Deputy Minister of Defence, was presented with a symbolic key to the vehicles ahead of their official transfer to the NBC Reconnaissance Company of the Dutch armed forces.

Headquartered in Kiel, Rheinmetall Landsysteme GmbH is an internationally leading maker of tracked and wheeled armoured vehicles as well as the world's top supplier of military systems for detecting nuclear, biological and chemical contamination. The company is a subsidiary of the Rheinmetall Group of Dьsseldorf.

Ordered at the end of 2003, these new FOX vehicles give the NBC reconnaissance units of the Dutch armed forces a NBC detection capability that places them at the global cutting edge.

The NBC variant of Rheinmetall's tried-and-tested FOX has proved invaluable in crisis regions around the globe. So far, the company has made more than 260 NBC-RS FOX vehicles, nearly half of which are in service with the US armed forces; other NBC-RS FOX user nations include Germany, Norway, the United Kingdom and Saudi Arabia. In March 2005, the United Arab Emirates placed an order for 32 systems as well, which will be delivered over the next four years. The systems ordered by the UAE will be the first to be able to confirm unequivocally the presence of biological warfare agents and other biological contaminants.

Packed with advanced equipment, the NBC-RS FOX is based on the highly mobile FOX armoured transport vehicle, some 1,200 of which have already been built. Thanks to its highly integrated sensor and analysis systems, it is capable of detecting a diverse array of nuclear and chemical hazards, enabling swift protective countermeasures to be taken.

Rheinmetall Landsysteme has also developed a mobile field laboratory for the German Bundeswehr, which can be rapidly deployed by road, rail, sea or air. During numerous operations both at home and abroad, this NBC field laboratory has proved to be a very efficient tool for identifying all types of NBC warfare agents as well as conventional pollutants. The system is currently being introduced into the Swedish armed forces as well.

In the civil defence domain, Rheinmetall Landsysteme has thus far supplied 372 NBC detection vehicles to German fire brigades. They make an important contribution to overall preparedness, providing Germany's civilian population with the best possible protection from threats of this kind.

Contracts

Force Protection, Inc. Confirms $21 Million Contract for Buffalo Armored Vehicles

LADSON, S.C., The U.S. Army has issued an initial order to Force Protection, Inc. for approximately 19 Buffalo mine clearance vehicles to be used in Iraq and Afghanistan, the company announced today. The order for vehicles, training and field support is the first given under a procurement contract and is worth an estimated $21 million.

"We are encouraged by this order and the fact that it has come so quickly after the procurement contract was announced," said Force Protection CEO Gordon McGilton. "This is a clear indicator that the critical need for the Buffalo continues to increase, and we will

respond accordingly by delivering the first vehicles to the Army in the next 30 days."

The Buffalo was first deployed with the Army Corps of Engineers in 2003. This is the first time, however, that the Army's Tank-automotive and Armaments Command in Warren, Michigan has placed an order.

"Force Protection has the necessary infrastructure in place to meet customer requirements for both the Buffalo and Cougar series," said McGilton. "The processes and resources are unique to each vehicle. We will be able to maximize already-existing Buffalo production cells while moving forward on expansion of multiple Cougar production lines. These distinctions are necessary due to the dramatically larger market represented by Cougar and its multiple configurations."

Since its inception in 1997, Force Protection has become the nation's leading center for research against IEDs and blast protection technology.

Contracts

Lockheed Martin Awarded $9 Million to Build U.S. Army Technology Demonstration Vehicle

OWEGO, NY -- Lockheed Martin has been awarded a $9 million contract to build a technology demonstration vehicle for the second phase of the U.S. Army's Future Tactical Truck System Advanced Concept Technology Demonstration (FTTS ACTD).

Under the contract, Lockheed Martin will build an LM4x4 FTTS utility vehicle for delivery to the Army later this fall. The truck will then undergo a Platform Systems Demonstration and a Military User Assessment. The results of these evaluations will be used to refine the requirements for the next generation of tactical wheeled vehicles.

"The ACTD's second phase is an important step in developing the requirements for safer and more survivable vehicles for our warfighters," said Louis J. De Santis, vice president and general manager, Integrated Products, at Lockheed Martin Systems Integration - Owego. "We look forward to working with the Army to build a technology demonstration truck that will help the service refine the requirements for the 40,000-plus vehicles that will eventually replace the Humvee."

Lockheed Martin was selected to build the demonstration vehicle because of its performance in the ACTD's initial modeling and simulation phase, which concluded in September. During that phase, the LM4x4 FTTS utility vehicle design was able to demonstrate several important features, including improved survivability and safety, enhanced vehicle reliability, maintainability and range, and robust digital network capabilities.

The FTTS award comes less than two weeks after Lockheed Martin UK Holdings Limited, a subsidiary of Lockheed Martin, announced that it had acquired HMT Vehicles Limited, a United Kingdom-based developer of designs for military vehicles. Lockheed Martin plans on incorporating HMT's designs into its U.S. programs such as the Army's FTTS.

Defence Industry

ESG Software Solution Enables Integrated Maintenance of German Army's Material Inventory

From now on, the Bundeswehr will be able to manage its material inventory in a more efficient and cost-effective manner.

The N-CORE system was officially put into operation today (Friday 27th Jan 06). This software solution was developed by the Munich-based systems and software specialist ESG Elektroniksystem- und Logistik-GmbH.

The introduction of N-CORE is a milestone of the modernisation of the Bundeswehr's cataloguing system. The new system replaces the existing ILIMS system, which has been in use since the 1970s. N-CORE stands for "NATO Codification System Repository". The new ESG solution will enable all NATO codification tasks, including international data exchange, to be carried out efficiently and conveniently.

Technical Background: In all member states of the NATO alliance, every article is assigned a 13-digit supply number on the basis of which the article can be clearly identified. The alliance's inventory covers goods such as weapons, machines, office equipment and clothing. N-CORE has a certified interface for integrating the SAP R/3 ERP system, enabling the entire material inventory to be controlled in an integrated manner. Users of N-CORE be-nefit from a considerable increase in the quality, productivity and cost-effectiveness of codification.

The official commissioning was carried out by the staff from the relevant department in the Bundeswehr's Logistics Office (Logistikamt) in Sankt Augustin, Germany. Brigadegeneral Berthold Buchholz, the head of the Logistics Office, got things started with the first supply number created using N-CORE.

The ESG development N-CORE has become the world's leading commercial tool for NATO codification. Along with the Bundeswehr, the armies of Denmark, Greece, the Netherlands, Slovenia, Austria, Turkey and Hungary now also use this system.

Defence Industry

BAE SYSTEMS Delivers 1,000 Transparent Armored Gun Shields For HMMWVs Under A U.S. Army TACOM Contract

SANTA CLARA, Calif. – BAE Systems has delivered the first 1,000 Transparent Armored Gun Shields (TAGS) to U.S. Army troops in Iraq under a contract worth up to $4.7 million from the U.S. Army's Tank-automotive and Armaments Command (TACOM).

The contract, awarded in November 2005, called for the delivery of the kits for installation on M1114 High Mobility Multipurpose Wheeled Vehicles (HMMWV) by January 2006.

"Our TAGS units provide an additional level of protection from small arms fire and IED fragments," said Paul Para, BAE Systems' program manager. "TAGS enables direct vision, situational awareness and target acquisition for the gunner."

BAE Systems TAGS units have been configured for a wide range of vehicles, including Bradley, M1 Abrams, M113, HMMWV, and for the Stryker Common Ballistic Shield. TAGS units are particularly effective in close-combat urban environments.

Contracts

General Dynamics Awarded $289 Million for IED Electronic Counter Measure Systems

CHARLOTTE, N.C. -- General Dynamics Armament and Technical Products has been awarded a $289 million contract from the U.S. Marine Corps Systems Command (Quantico, Va.) to develop, design, integrate, produce and install Remote Controlled Improvised Explosive Device (RCIED) Electronic Counter Measure systems.

The indefinite-delivery/indefinite-quantity contract also funds logistic, technical and field service support for the high-powered RCIED jamming systems in support of the Global War on Terrorism. General Dynamics Armament and Technical Products is a business unit of General Dynamics.

Work will be performed in Burlington, Vt. (23 percent); Hanahan, S.C. (22 percent); and Sterling Heights, Mich. (7 percent). Canada-based subcontractor Med-Eng Systems will be responsible for 48 percent of work, with a significant portion being performed in Wisconsin. Work is expected to be completed by July 2006.

Defence Industry

Raytheon Demonstrates New Mobile Networking Capabilities

MCKINNEY, Texas -- During recent field exercises at Ft. Benning, Ga., Raytheon Company successfully demonstrated critical new mobile ad-hoc networking (MANET) capabilities - improvements in a network's ability to establish itself, in its ability to heal itself through data rate adaptation, and in its ability to fully integrate operations with legacy communications equipment via the network.

All three improvements support network-centric operations by assuring that soldiers have seamless communications.

Raytheon, in partnership with the Defense Advanced Research Projects Agency's Advanced Technology Office, developed these capabilities as part of the Future Combat Systems Communications (FCS C) program. They provide a MANET system designed to enable ground and airborne on-the-move (OTM) and on-the-halt network centric operations. The new MANET capabilities overcome current problems that soldiers encounter with long-range, mobile, networked communication and the ability to work with legacy radio systems.

Raytheon's self-forming communications solution establishes autonomous networks OTM and in real-time-from the moment that soldiers turn on their radios. Today, establishing network connections can take hours, and maintaining those connections at long distance can be very difficult.

Lt. Col. (P) Dion King, deputy program manager, Stryker Brigade Combat Team Combat, said, "The current networks in the field are not self-forming and need considerable effort to set up. Furthermore, when changes are needed, such as when units are shuffled or task organized, you have to go through all this again, which means more time, manpower and frustration."

The self-healing adaptive data rate technology solution allows soldiers to move in and out of a network without disrupting it. The solution continuously maximizes the data rate through the network based upon the quality of the link. This enables a network to be available and to remain connected across larger distances.

The interoperability milestone, a key attribute of FCS C, co-developed by Raytheon and CenGen, Inc., was demonstrated through a Transformational Communications Architecture offering interoperability among various current and future communications systems. These include the Command Post of the Future, Voice-Over-Internet-Protocol, the ITT Soldier Radio, the Enhanced Position Location Reporting Systems, HAVEQUICK I/II (PRC-117), the Single Channel Ground and Airborne Radio System and the High Frequency MAN-PACK Radio. The FCS C system supports both current and legacy radio systems without physical changes to those systems, while providing an interoperable bridge to the next generation of Wideband Networking Waveform-like networks.

"A major priority of the Joint Tactical Radio Systems program is to bring MANET to the tactical edge of the battlefield," said Jerry Powlen, vice president of Raytheon Integrated Communication Systems. "We understand how critically important this is to mission execution, and we can provide that capability today."

Contracts

Elbit Systems Wins $32 Million Contract to Supply Unmanned Turret Systems, Fire Control Systems and Additional Land Systems to Portuguese Army

Haifa, Israel -- Elbit Systems Ltd. signed a contract in the amount of approximately $32 million to supply Unmanned Turret Systems, Fire Control Systems and additional Land Systems to the Portuguese Army.

The contract to supply the various systems was signed with STEYR, Austria, a member of the General Dynamics European Land Combat Systems Group, prime contractor of the program. The Unmanned Turret systems and the other items to be provided by Elbit Systems will be integrated into PANDUR II 8X8 light wheeled armored vehicles manufactured by STEYR and will facilitate rapid force mobility and deployment of the Portuguese army.

Elbit Systems offers a unique solution in the area of Unmanned Turrets, which is perceived as a significant element of the modern urban battlefield. New threats and unconventional challenges have spurred military forces worldwide to equip for urban warfare and low-intensity conflicts. Today's advanced ground forces are opting for wheeled, armored vehicles, characterized by speed, mobility and lightweight, assuring rapid mobility and deployment.

This contract win is significant since the program demonstrates Elbit Systems' capability to provide a completely integrated configuration for fighting/ patrol/surveillance vehicles, including Unmanned Turrets equipped with missiles, automatic 120 mm mortars, fire control and threat detection systems.

Joseph Ackerman, President and CEO of Elbit Systems said: "Elbit Systems Unmanned Turrets are based on extensive battlefield experience in various types of conflicts. The selection of our systems for this project attests to Elbit

Systems' leadership in the field of Turret and Fire Control systems. The system was developed to fully comply with NATO and U.S. military requirements and is a true step function in response to asymmetric warfare challenges."

Ackerman added that this contract follows Elbit Systems' recent announcement of its being chosen to cooperate with the Swiss company Mowag to supply 30 mm Unmanned Turrets systems to be mounted on Piranha III vehicles, for the Belgian armored infantry vehicle program. "Elbit Systems", he concluded, "views the contract awarded by the Portuguese Army as a springboard to potential future business in this fast-growing market".

Elbit Systems' Unmanned Turret is a dual-axis stabilized system for 25 or 30 mm cannons. Among its outstanding design features are a very low silhouette, lightweight and a fold-down position assuring the critical advantage of transportability in C-130 aircraft. System installation requires no internal volume or deck penetration thus preserving the internal vehicle configuration and the required number of crew members. All weapon functions are remotely and electrically operated from within the crew compartment without exposure to external threats.

Defence Industry

Turkey invites new bids for tanks

Undersecretariate for Defence Industry (SSM) of Turkey, being responsible for defence procurement in this country, officially invited bids for Turkish Main Battle Tank.

Earlier in 2000 this country already carried out tender trials of tanks. At that time four countries – Germany, Ukraine, USA and France – took part in it. And practically all, except Ukraine, offered their equipment with substantial license restrictions. Final decision regarding the winner has not been taken.

Basic difference of the new tender is that the main goal of Turkey is to establish their own armoured industry with complete closed cycle inside the country.

So far the tender participants are not yet known. Although it is clear that electronics for the Turkish tank will be supplied by Aselsan, weapon and ammunition – by MKEK. Specially established consortium B.O.F., incorporating such Turkish companies as BMC, OTOKAR and FNSS, will be the project integrator.

As a temporary measure, designed to ensure defensive potential of the country for the coming years, modernisation of M-60 tanks with participation of Israeli industry started in Turkey in 2005. Totally 170 tanks are to be modernised at the cost of 688 million USD.

Defence Industry

NetFires LLC Successfully Completes Second Significant Program Milestone: Preliminary Design Review for NLOS-LS Container Launch Unit

TUCSON, Ariz., -- The NetFires Limited Liability Company (LLC), composed of Raytheon Missile Systems and Lockheed Martin Missiles and Fire Control, successfully passed the Preliminary Design Review

(PDR) for the Non Line-of-Sight-Launch System (NLOS-LS) Container Launch Unit (CLU).

This represents the accomplishment of another significant milestone in meeting the design and performance parameters of the NLOS-LS system, supporting the Army's FCS Spin Out 1 and the Navy's Littoral Combat Ship, Flight Zero requirements. The successful accomplishment of the CLU PDR provides the Army and Navy a "systems level perspective" of NLOS-LS, a joint Army/Navy program currently in the system development and demonstration (SDD) phase. Work under this contract began in 2004.

The NLOS-LS CLU is being co-developed by Raytheon and Lockheed Martin and their component suppliers.

"The CLU PDR was completed on schedule and reflects a dedicated team effort," said Ric Magness of Lockheed Martin, president of the NetFires LLC, and Scott Speet of Raytheon, executive vice president of the NetFires LLC, in a joint statement. "Our team worked hard to meet this critical milestone, and the results reflect what we can accomplish when our two companies come together under the NetFires LLC."

NLOS-LS, which was developed under a Defense Advanced Research Projects Agency (DARPA) program called NetFires, successfully conducted numerous flight tests from the CLU during the DARPA program. That program focused on innovative design and performance of missiles launched from a compact, networked, self-contained, platform-independent launcher. The demonstrated flight successes from the CLU during the DARPA program supported transition to the Army SDD and the decision by the Army to accelerate fielding of the NLOS- LS PAM (Precision Attack Missile) and CLU.

"We're very pleased with the manner in which the NLOS-LS team worked to reach PDR," said Col. Doug Dever, the Army's NLOS-LS program manager. "They have demonstrated a preliminary design that meets all design and performance requirements for the Container Launch Unit."

The NLOS-LS system consists of Raytheon's PAM, Lockheed Martin's Loitering Attack Missile (LAM) and a joint CLU. In 2004, the Army decided to accelerate the Raytheon PAM and joint CLU for incorporation into the Army's Evaluation Brigade Combat Team, Spin Out 1. The LAM is positioned for reentry into SDD to support future FCS spirals.

The Navy entered into a memorandum of agreement with the Army in 2005 for the NLOS-LS system. The Navy has selected the NLOS-LS PAM and CLU for integration on the Littoral Combat Ship that also is scheduled for delivery in fiscal year 2008. Successful completion of the CLU PDR is a major step along the development path to support both services' requirements for the system.

NLOS-LS provides both Army and Navy commanders with immediate, precise and responsive fires on high payoff targets with real time target acquisition and battle effects.

Defence Industry

U.S. Army and General Dynamics Ink Teaming Agreement Links Anniston Army Depot and defense industry for worldwide fleet management

FT.LAUDERDALE, Fla. – The U.S. Army TACOM Life Cycle Management Command (LCMC), Program Executive Office Ground Combat Systems, Anniston Army Depot (ANAD) and General Dynamics Land Systems have signed an unprecedented teaming agreement on service and support of combat vehicles.

The agreement teams General Dynamics and Anniston [Alabama] Army Depot, the Army's premier heavy maintenance facility, for support and service of the M1A1 and M1A2 Abrams tanks and Stryker eight-wheeled combat vehicles worldwide.

"Our overall strategy is to continuously improve the Abrams and Stryker fleets to ensure the warfighting readiness of our Soldiers while providing best value to the American people," said Maj. Gen. Mike Lenaers, TACOM LCMC commanding general. "This joint strategy and integrated plan maintains core skills at both General Dynamics and Anniston Army Depot for continuous improvement and maintenance of both of these fleets."

Details of the "Integrated Plan" for respective baseline work shares for the Abrams and Stryker fleets will be completed within sixty (60) days of the signing of the original Memorandum of Understanding (MOU).

For the Abrams tanks fleet, all parties agree that as a strategy, it is contemplated that General Dynamics, as the producer and supporter, shall provide to TACOM and ANAD materials, parts and services required to support any associated remanufacture and restoration efforts. Additionally, General Dynamics, as the producer and supporter of the Stryker Family of Vehicles, and the other parties of this MOU, shall develop a procurement and management workshare plan to determine the materials, parts and services required to support all associated remanufacture and restoration efforts.

Currently, there are other Public Private Partnering (P3) arrangements between General Dynamics and Anniston Army Depot that individually support the Abrams and Stryker programs.

"This new agreement, for the first time, will address all aspects of the manufacturing and overhaul programs and material handling for the two vehicle families by both the Army and General Dynamics," said Kevin Fahey, Program Executive Officer Ground Combat Systems. "This agreement should ultimately result in the highest quality vehicle, at the lowest price, that builds upon the efficiencies of both parties."

According to Colonel Alexander Raulerson, ANAD's commander, "The signing of this MOU represents the

continuing and long established partnerships between the depot and General Dynamics that ultimately provide the Soldier with the best possible equipment needed to carry out their assigned duties worldwide."

"We are extremely excited about the potential of public and private partnerships in the defense sector," said Mark Roualet, Senior Vice President, General Dynamics Land Systems. "Previous experience with the Abrams tank has allowed us and the depot to better plan workload requirements, created a better business climate for investments to improve repair capability and improved management of parts obsolescence."

Anniston Army Depot is the only Army depot capable of performing maintenance on both heavy and light-tracked combat vehicles and their components. Additionally, the depot is designated as the Center of Technical Excellence for the M1 Abrams tank fleet, and it is expected that such designation will soon be received for the Stryker. The depot, established in 1941, occupies more than 25 square miles and employs approximately 6,500 people (including tenant and contractor activities.)

In addition to its combat vehicle capabilities, including their associated subassemblies and components, the depot also performs maintenance on individual and crew-served weapons as well as land combat missiles and small arms.

The TACOM LCMC unites all of the Army organizations that focus on soldier and ground systems throughout the entire life cycle. The TACOM LCMC consists of the Integrated Logistics Support Center, the Acquisition Center, Program Executive Office Combat Support & Combat Service Support, Program Executive Office Ground Combat Systems, and Program Executive Office Soldier. The TACOM LCMC gets products to the Soldier faster, makes good products even better and minimizes lifecycle cost by integrating Army acquisition, logistics and technology responsibilities, authorities, and processes to enable a closer relationship among all the partner organizations that develop, acquire and sustain the capabilities provided by ground and soldier systems.

Contracts

DRS Technologies Awarded $54 Million Contract to Produce Infrared Sighting Systems for U.S. Army Combat Vehicles

PARSIPPANY, N.J. -- DRS Technologies, Inc. (NYSE: DRS) announced today that it has received a $54 million contract to provide Horizontal Technology Integration (HTI) Second Generation Forward Looking Infrared (HTI SGF) sighting systems.

These systems provide critical common night vision technology to the U.S. Army's M1A2 Abrams Main Battle Tank System Enhancement Package (SEP) and M2A3 Bradley Fighting Vehicles, which continue to be an integral part of the military's operations in Iraq.

The contract was awarded to DRS by the Network Centric Systems division of Raytheon Company (NYSE: RTN) in McKinney, Texas. For this award, DRS will provide the Abrams Thermal Receiver Units (TRU) with the Block 1 B-Kit, as well as Block 1 B-Kits for Improved Bradley Acquisition Systems (IBAS) and the Bradley Commander's Independent Thermal Viewer (CITV) supporting the Army's HTI initiatives. Work for this award will be accomplished by the company's DRS Optronics unit in Palm Bay, Florida. Product deliveries will commence immediately and continue through July 2007. Additional orders on this program are anticipated by the company.

"This award will provide improved performance and increased sensor commonality for our military forces and reaffirms our position as a leading supplier of advanced military ground vehicle sighting systems," said Fred L. Marion, president of DRS's Surveillance and Reconnaissance Group. "The use of these systems across several ground platforms has provided the Army with the opportunity to leverage resulting economies, while exploiting the capabilities of the latest technology in night vision systems. Central to the Army's modernization strategy for the digitization of the 21st century battlefield, the HTI initiative contributes significantly to the power projection capabilities of ground forces."

The HTI SGF systems enhance the engagement and surveillance ranges for the identification of threats, increase target acquisition capability and significantly reduce fratricide. Providing the most advanced, high-resolution sighting technology available today for the success of ground combat operations, HTI SGF allows ground vehicles to detect, identify and engage tactical targets during the day or night. These systems contribute to information dominance by providing digital battlefield imagery to commanders thus empowered to promote interoperability among military platforms.

HTI SGF is comprised of a common electronics unit and opto-mechanical assemblies known as the B-Kit. The B-Kit is incorporated in the Improved Bradley Acquisition System (IBAS) sight of the M2A3 Bradley Fighting Vehicle System. The M1A2 Abrams SEP utilizes the same B-Kit within a thermal receiving unit and a biocular image control unit for the upgraded Thermal Imaging System (TIS), which is mounted in the gunner's sight. DRS-produced HTI components also are used for the Commander's Independent Thermal Viewer on the M1A2, the Commander's Independent Viewer on the Bradley A3 and the Long Range Advanced Scout Surveillance System (LRAS3).

Defence Industry

Large-calibre contracts go to Rheinmetall – Turkey and the Netherlands order ammunition worth EUR 79 million.

Turkey and the Netherlands have recently awarded Rheinmetall AG of Dusseldorf contracts for large-calibre ammunition worth some EUR 79 million.

In connection with the transfer to Turkey of 298 surplus Leopard 2 main battle tanks from the Bundeswehr inventory, Rheinmetall Defence received an order in December 2005 to supply Turkey with some 15,000 rounds of 120 mm KE ammunition (the DM 63, including practice ammunition). The order is worth around EUR 46 million. Delivery will take place during period July 2006 to June 2007.

The DM 63 is a tungsten-based kinetic energy round whose new temperature-independent powder also makes it suitable for use in extreme climate zones without limitation.

Coming hard on the heels of the decision of Germany's Bundeswehr – an important Rheinmetall reference customer – to buy the new round in summer 2005, the Turkish order represent an important export breakthrough. Potential customers include the roughly twenty nations whose tanks are equipped with 120 mm main armament technology from Rheinmetall.

In the artillery domain, the Dutch Army's decision to procure Rheinmetall's newly developed Rh 40 DM 131 round also represents a major step forward: the Netherlands will be the first nation to field the new ammunition. Already qualified by the Bundeswehr, the Rh 40 DM 131 has a maximum range of over 40 km. Moreover, the use of insensitive explosives in this new 155 mm round clearly places it at the forefront of global artillery technology.

Worth around EUR 33 million, the contract encompasses 10,000 artillery shells as well as 67,000 DM 92 modular propelling charges (MTLS), likewise qualified by the Bundeswehr. Delivery will take place through to the end of 2007. The Netherlands is buying this package of artillery rounds and propelling charges as part of its PzH 2000 self-propelled howitzer procurement programme.

These two orders underscore Rheinmetall's technological predominance in the world of large-calibre weapons and ammunition.

Contracts

AM General was awarded $76 million contract

AM General L.L.C., South Bend, Ind., was awarded on Feb. 10, 2006, a $75,731,226 modification to a firm-fixed-price contract for production of M1152 High Mobility Multipurpose Wheeled Vehicles.

Work will be performed in South Bend, Ind., and is expected to be completed by Dec. 31, 2007. Contract funds will not expire at the end of the current fiscal year. This was a sole source contract initiated on July 17, 2000. The Army Tank-Automotive and Armaments Command, Warren, Mich., is the contracting activity (DAAE07-01-C-S001).

Defence Industry

General Dynamics Delivers First Five Australian M1A1 Abrams Integrated Management Tanks

LIMA, Ohio -- During a ceremony at the Joint Systems Manufacturing Center - Lima, General Dynamics Land Systems, a business unit of General Dynamics (NYSE: GD), delivered the first five of 59 M1A1 Abrams Integrated Management (AIM) tanks to the Commonwealth of Australia.

Awarded in November 2005, this foreign military sales contract is valued at $70 million. The M1A1 AIM tanks will replace the Australian Land Forces' aging Leopard main battle tanks.

The Abrams M1A1 AIM tanks are survivable and affordable vehicles with excellent potential for network-centric warfare that will provide Australian Forces with increased connectivity, mobility and firepower. Additionally, the M1A1 AIM provides a cost-efficient armor solution as it incurs low operational and support costs, and reports high operational readiness rates. Under this contract, M1A1 Abrams tanks from the U.S. Army inventory are completely disassembled, overhauled and refurbished to like-new "zero-kilometer, zero-hour" condition.

General Dynamics Land Systems Senior Vice President for Production, Delivery and Support Richard O. Gillette told ceremony attendees the process for the Australian tanks began last year when 59 M1A1 Abrams were inducted into General Dynamics Land Systems' partner facility, the Anniston Army Depot. "There, the vehicles were stripped of their component parts," Gillette said. "The process comes full circle here at Lima, where upgrades and technology enhancements are completed. Today's ceremony celebrates the first major deliveries under Australia's Foreign Military Sales program with the United States. This is a major achievement."

Brigadier Damian Roche, the Australian Army Military Attachй to the United States, represented the Commonwealth of Australia. General Dynamics Land Systems and Australian vehicle crews participated in a symbolic vehicle log book presentation to signify the transfer of the tank from the contractor to the Australian government. Additionally, General Dynamics Land

Systems, U.S. Army Foreign Military Sales program managers and Roche signed the first vehicle's official certificate of acceptance.

The Australian M1A1 AIM tank has a cruising range of up to 480 kilometers, the ability to reach speeds of 66 kph on-road (41 mph) and up to 48 kph off-road (30 mph), while carrying four crewmen and ammunition. The primary weapon is a 120mm smooth-bore cannon; it is also equipped with a 50-caliber machine gun for the tank commander and two additional 7.62mm machine guns. The Abrams can fire an advanced kinetic energy tungsten penetrator round against vehicles and a multipurpose round for infantry support.

The Abrams' survivability is enhanced through its nuclear, biological and chemical protection system, crew compartmentalization from munitions and armored blow-off panels, which allow stowed munitions to vent to the atmosphere if detonated.

The 59 M1A1 AIM tanks will be shipped to Australian Land Forces in two increments: June and December 2006. The tanks are part of a large worldwide fleet with known, stable operating costs, and are expected to be in service beyond 2020.

Defence Industry

Armoured personnel carriers of Morozov Design Bureau shall be equipped with German Deutz engines

Ukraine -- The leading enterprise in development of armoured equipment and artillery systems in Ukraine – Kharkov Morozov Machine-Building Design Bureau has fitted a German diesel engine Deutz into a new domestic special purpose armoured vehicle DOZOR-B.

This information has been given by Lt General Mykhail Borysyuk - Doctor of Science, General Designer of armored equipment and artillery systems of Ukraine, Head of State-owned Enterprise Morozov KMDB.

According to him, earlier, the first prototype of the armoured personnel carrier DOZOR-B was fitted with a joint Ukrainian-Italian venture IVECO – Motor Sitch 100 hp engine, but a number of customers desired to enhance the mobile capabilities of Kharkov made DOZORSs. Nowadays, DOZOR-B power has come to 200 hp and it got «better performance and became more comfortable in control», said the Head of Design Bureau.

He also said, that specialists and customers could get acquainted with this prototype of the armoured personnel carrier at the exhibition in Kiev. According to the General Designer, trials of DOZOR-B with Deutz engine are scheduled for this spring at the testing range of KMDB near Kharkov. But at present, continued M. Borysyuk, the preparation for series production of these vehicles is under way.

He noted, that interest to new model was also shown by customers both in Ukraine and abroad. Designers from KMDB, who made two prototypes of specialized equipment – armoured personnel carrier DOZOR-B and armoured vehicle DOZOR-A can also offer some other versions, in particular, vehicle for police and special forces units, ambulance and reconnaissance vehicle as well as general purpose vehicle.

Future Technologies

BAE SYSTEMS IAAPS Program Demonstrates Capability To Defeat Kinetic Energy Threats Under TARDEC Survivability Program

SANTA CLARA, Calif. – BAE Systems has demonstrated the capability to defeat kinetic energy threats under contract to the U.S. Army's Tank and Automotive Research, Development and Engineering Center (TARDEC) survivability program, achieving another significant milestone in the Integrated Army Active Protection System (IAAPS) program.

In end-to-end live fire testing, IAAPS demonstrated defeat of multiple near-simultaneous close-in rocket propelled grenades (RPGs) and anti-tank guided missiles (ATGMs), as well as tank-fired high-explosive anti-tank (HEAT), tank-fired fragmentation and mortar rounds. Many of these tests were conducted on-the-move at speeds over 40 kph.

During the current successive testing over a two-week period, IAAPS consistently delivered an interceptor within the required kill radius to defeat kinetic energy (KE) threats. These tests were conducted during the most heavily instrumented active protection system testing to date. Additionally, the tests demonstrated that a KE round was significantly affected by the interim interceptor warhead, indicating future capability may be possible sooner than expected.

These tests further expand the capabilities proven by the most thoroughly tested U.S. active protection system (APS).

"These achievements have provided ground truth by validating full-spectrum APS modeling and simulation, and demonstrating measurable progress toward objective system performance for lightweight protection of ground combat vehicles," said Mark Middione, BAE Systems' IAAPS program manager.

Team members from TARDEC, BAE Systems and Northrop Grumman, performed the stressing series of live fire tests against KE threats at Yuma Proving Ground, Arizona, with staff from TARDEC, the U.S. Army Armament Research, Development and Engineering Center (ARDEC) and the U.S. Army Research Laboratory (ARL) in attendance.

Progressing from early successes against RPGs and ATGMs three and a half years ago, to the latest series of tank fired threat defeats, this leading research on the IAAPS Program has resulted in a full spectrum system that offers the warfighter early fielding of a low-weight alternative to heavy armor.

Source: BAE Systems

Contracts

ATK Receives Additional $38 Million Order for Main Battle Tank Ammunition

Minneapolis, -- Alliant Techsystems has received a follow-on contract from the U.S. Army to continue production of the 120mm M829A3 tank round.

The value of the production year 4 award is approximately $38 million. Including a contract awarded earlier in the company's fiscal year for production year 3, the total value of FY06 awards for M829A3 rounds is approximately $77 million. Under terms of the contract, ATK will manufacture the composite sabot; load, assemble and pack the round; and provide logistics support.

Used by the U.S. Army's M1A1/A2 Abrams main battle tanks, the M829A3 is the most advanced armor-piercing, Kinetic Energy tank cartridge in the arsenal. Its state-of-the-art composite sabot, propellant, and penetrator technologies give it outstanding accuracy and lethality and are designed to ensure that U.S. armored forces maintain battlefield supremacy.

ATK is the sole source supplier of the M829A3 and will have delivered over 35,000 M829A3 units once PY4 is complete. Production of the M829A3 occurs at ATK's manufacturing center of excellence in Rocket Center, West Virginia. Program management is headquartered in Plymouth, Minnesota. The company is the nation's largest manufacturer of ammunition and it produces a complete family of tactical and training rounds for main battle tanks.

Future Technologies

Metal Storm and ST Kinetics Successfully Fires Jointly-Developed High Explosive Stacked Rounds

Singapore -- Metal Storm Limited and Singapore Technologies Kinetics (ST Kinetics) are pleased to announce the successful firing of a range of jointly-developed, stacked configuration low velocity 40 mm electrically ignited munitions (EIM).

The firings included high explosive (HE) munitions; enhanced blast explosive (EBX) munitions and air burst munitions (ABM). Less than lethal (LTL) munitions development will be undertaken in the future.

The firings follow from a teaming agreement that was signed by both parties in September 2005 to co-develop, produce and market 40 mm munitions for Metal Storm weapon systems. The agreement also provides for a broader relationship in which ST Kinetics would market Metal Storm 40 mm weapons systems in selected markets.

The firings, which were completed last week at ST Kinetics' Bukit Timah range in Singapore, validate the compatibility between Metal Storm's stacked round technology and selected ST Kinetics' commercially available warheads.

"ST Kinetics is keen to become a total solutions provider for 40 mm munitions, encompassing both lethal and less than lethal products. We are delighted with the results of our joint developments and their compatibility with Metal Storm's weapon systems. We look forward to capitalising on these initial achievements to further the commercial opportunities between our companies under our teaming agreement." Sew Chee Jhuen, Deputy President (Operations) and President Defence Business, ST Kinetics

"The significance of these firings is that we can now take selected ST Kinetics commercially available, off the shelf warheads and combine them with our own stacked munitions technology to provide an expanding suite of explosive and less than lethal munitions. The ability to use ST Kinetics' off the shelf warheads is a major commercial step for the company. It positions us to demonstrate a range of selectable munitions in our integrated weapon systems to defence customers. We value ST Kinetics' support in achieving this outcome, and plan to utilise this range of munitions in a number of existing and planned weapon system projects. ST Kinetics' munitions are very much a key element in many of our future projects." David Smith, Chief Executive Officer, Metal Storm Limited

Metal Storm is exhibiting its technology as a guest of ST Kinetics at the Asian Aerospace Exhibition in Singapore 21- 26 February 2006.

Future Technologies

Trends of use of non-lethal weapon

Analysts of many armies in the world, scaling up their efforts, carry out investigations in the field of new types of non-lethal weapon. New tactics of combat actions and the use thereof in modern conditions are being developed.

Army has always solved political tasks. Recently the politicians pay special attention to extension of peacemaking steps taken by the army and view them as a link with development of political situation in these countries. Integration of national peacemaking forces into international units enables to realise or strengthen achievement of political goals.

The politicians are especially concerned by formation of relations with local population during army actions and in the period after invasion of regular army into the territory. At his stage the army units are not engaged in army actions but perform police duties and employ the anti-guerilla tactics. The occupation period can be more

extensive than army operations and armies are still armed with army weapon, although the tasks differ in tactics and demand new types of weapon.

Casual losses among civilians caused by the army of occupational forces can change the attitude of population in the occupied areas and have a substantial effect of the results of the conducted army operation. As a result they can essentially adjust political goals of the complete campaign.

That is why non-lethal weapon is becoming the effective counterbalance and augmentation to the weapon, meant to annihilate the enemy's troops.

Establishing new laws on the occupied territories is possible only with legal condemnation of the imprisoned enemy. Demonstration of the power of Law is much more important for stabilization of the political situation than total and bloody annihilation of the enemy at its home territory. Annihilated enemy is unable to give any information and become a «loyal citizen». Its annihilation can give a psychological impetus to its relatives, relationship and party brothers-in-arms to stir up the guerilla actions at the territories under control of occupation army.

According to a number of experts, very soon the UN forces participating in peacemaking operations, will be composed of armed forces of only those countries that are armed with non-lethal weapon.

The concept of a non-lethal weapon has something in common with the concept of new categories of light high-precision weapon. These two types of weapon while jointly used in combat can substantially reduce casual victims among peaceful population and will enable to rapidly implement political goals of the military campaign. In future it will be quite possible to create new set of weapon for peacemaking mobile groups, armed with both non-lethal weapon and light high-precision weapon for urban combat.

Conventionally we can single out the following principles of a non-lethal weapon combat effect:

- humaneness of effect on the enemy, which excludes lethal wounds, injuries, lingering or irreversible health disorder of the enemy;
- sufficiency of action for rapid imprisonment of the enemy and substantial reduction of its fighting efficiency both in the open ground and when using light shelters;
- adequacy of effect on the enemy using minimum force that is sufficient to suppress the threat;
- selectivity of action on the enemy and its equipment;
- high tactical and economical factors for minimization of expenses to recover the damage of the defeated enemy or its equipment.

The long list of non-lethal weapon principles clearly characterises and predetermines the possible tactics of its combat use.

At present, certain types of a non-lethal weapon is present at the world market:

- weapon that uses powder and compressed gas forces (net launcher, catapults, water cannons, impulse devices, dispersed mixtures and bio-active agents sprayers, etc.)
- weapon that uses the sources of optical, laser emission, infra-sound, radio-wave, microwave, etc.
- types of a non-lethal weapon that defeats the enemy's troops and equipment at the areas by using vibro-acoustic properties, vortical principles, current-conducting powders, etc.
- weapon of light-smoke action using pyrotechnic means (signal flares with sound effects, smoke means, etc.)
- combat mixtures and compounds with non-lethal physical and chemical composition (foamy, gel, powder, quick-setting, with enhanced friction properties as well as annihilators, etc.)
- weapon based on bio-chemical agents of a non-lethal action (odorants, irritants, malodorants, and liquid markers, narcotic mixtures, light viruses, etc)
- weapon that uses high voltage electric charge supplied via conductors or ionized laser beams, etc.

Such a long list of available at present non-lethal weapon testifies to wide opportunities of its combat use. New weapon enables to radically change the existing tactics and increase the range of the performed by the police or peacemaking forces missions.

When conventional mines are used to protect block-posts, areas and borders, in many cases it is the peaceful population that suffers most of all. Besides, when such mines are left they totally demoralize peaceful population and oppress development of economics and vital activity of local people. Induction of new non-lethal mines that are under development by the Ukrainian company «Valar» to peacemaking forces, will facilitate solution of conventional ones, and capable of changing the political atmosphere among the peaceful population in the post-war period.

Armor Holdings, Inc. Announces Exclusive License Agreement for New 'Flexible Armor' Technology

JACKSONVILLE, Fla., -- Armor Holdings, a leading manufacturer of security products and vehicle armor systems serving military, law enforcement, homeland security and commercial markets, announced today that it has been selected as an exclusive licensee for a unique application of nanotechnology, currently referred to as shear thickening fluid (STF), that has the ability to enhance the performance of ballistic fabrics and protective armor products.

Developed by the University of Delaware's Center for Composite Materials, in partnership with the Weapons and Materials Research Directorate of the U.S. Army Research Laboratory, testing has indicated that the technology appears to allow conventional ballistic fabrics to increase the level and quality of protection they provide without compromising their weight, comfort or flexibility.

Under active development for the past five years, STFs are special materials with nano-particles that exhibit properties normally associated with both solids

and liquids, but are rarely found in the same material. Sometimes referred to as "liquid armor," the material is actually a nanotechnology that exists in a flexible, fluid-like state under normal conditions but adopts seemingly rigid qualities and becomes less penetrable when impacted. As a result, this special material can be applied to conventional ballistic fabrics or other materials used in armor applications, allowing them to remain flexible under normal wear, but simultaneously becoming resistant to penetration when impacted by a spike, knife or high velocity projectile or fragment. STF treated fabrics effectively spread the energy over a larger area.

Dr. Tony Russell, Chief Technology Officer for Armor Holdings, Inc., said, "Going back to the Middle Ages, developing armor has involved a constant balance between the need for protection and the need for comfort, flexibility and light weight. Rarely do the words 'flexible' and 'armor' get used in the same sentence, but this new technology has the potential to unlock entirely new and better solutions that will leapfrog to the next generation of armor and other lifesaving equipment. The scientists at both ARL and UDTC have done an outstanding job of creating the core technology and demonstrating its advantages. We are proud to have been selected to assume development responsibility for this important technology and we look forward to rapidly fielding products that will help better protect those who operate in harm's way. This represents an important new addition to the Armor Holdings portfolio of core technologies and further allows us to select and apply the best material for each application."

Extensive testing conducted by UDTC and ARL has demonstrated that when treated with STFs, a conventional ballistic fabric can resist penetration from an ice pick that would otherwise easily penetrate the fabric. However, further testing and applications in the field may be needed to understand fully the properties of STFs. In addition, fabrics treated with STF have been shown to reduce "back face deformation" (an indication of blunt trauma) from high energy ballistic impacts. Importantly, treating the fabric with this material has little or no effect on the look, feel, texture, weight or flexibility of the fabric.

Armor Holdings, which will be the sole commercial provider of this technology in applications related to body armor vests and extremity protection, helmets and gloves for protective use worldwide, anticipates fielding the first products later this year.

Professor Norman Wagner of the University of Delaware and Dr. Eric Wetzel of the Army Research Lab, commented, "This has been an extremely successful collaboration between ARL and UDTC and we believe this technology has the potential to yield new and valuable products that will provide better protection to those who need it. Armor Holdings has a proven ability to take technologies, such as this, improve upon them and rapidly develop them into products that can be used in the marketplace. Dozens of dedicated researchers contributed to this project over the past several years and we look forward to seeing the results of their work being used to help save and protect lives."

Robert Schiller, President of Armor Holdings, Inc., said, "This is a very important development for Armor Holdings and underscores our leadership in the area of developing life safety and survivability systems for members of the armed forces, law enforcement and correction officers and private citizens. We are constantly striving to develop new and better ways to protect those who protect us. In the past two years, we have fully integrated the R&D capabilities across our various businesses, allowing us to seamlessly adopt the use of technologies such as STF in a wide range of protective applications."

The potential applications of STF include a wide range of products such as body armor, vehicle armor, helmets, gloves and bomb blankets to protect soldiers, law enforcement, corrections and government officials and other industrial safety applications. Armor Holdings has selected Barrday Inc. as a partner for development and production of STF-based ballistic fabrics. Barrday has strong complimentary experience in weaving fabrics from high strength fibers as well as applying films, resins, finishes and coatings for both soft and hard armor applications.

Background on Shear Thickening Fluid

Under the direction of Professor Norman Wagner, the University of Delaware, Center for Composite Materials began investigating shear thickening fluids in the mid 1990s. Beginning in 2000, UD CCM began working in partnership with the Army Research Lab's Materials Research, led by Dr. Eric Wetzel, to create a new armor material. The first promising ballistic results were achieved in 2002, presented publicly at the U.S. Army Science Conference in Orlando, FL, in 2002. The U.S. Army recognized the significance of this new technology by awarding the UD/ARL research team the Siple Award as the best paper at the 23rd Army Research Conference in December 2002. Work on the technology continued throughout 2003 and 2004, with important discoveries of the stab and puncture resistance of the fabric and further refinements in processing and fabrication. A U.S. patent application was filed in May of 2003.

Contracts

Raytheon Awarded U.S. Army Contract with Potential Value of $122 Million for TOW Weapon System Support

TUCSON, Ariz., -- Raytheon Company has received a contract with five one-year options that has a total potential value of $122 million to provide engineering services for the TOW (Tube- launched, Optically tracked, Wire-Guided) weapon system family of missiles and TOW fire control systems including: ITAS (Improved Target Acquisition System), IBAS (Improved Bradley Acquisition Subsystem), T2SS (TOW 2 Subsystem), and M220 Ground TOW.

"The TOW system has provided the Army with a clear advantage on the battlefield during numerous engagements against all armor vehicles, fortifications and reinforced bunkers throughout Operations Iraqi Freedom and Enduring Freedom," said Jim Riley, vice president of Raytheon Missile Systems' Land Combat product line. "This contract enables Raytheon to deliver the continued support that the Army needs to effectively deploy these systems and achieve mission success."

TOW remains the Army and Marine Corps' primary heavy anti-tank/precision assault weapon deployed on more than 4,000 TOW launch platforms including the Army "Stryker," Bradley Fighting Vehicle System and HMMWV (High Mobility Multipurpose Wheeled Vehicle).

Raytheon Company, with 2005 sales of $21.9 billion, is an industry leader in defense and government electronics, space, information technology, technical services, and business and special mission aircraft. With headquarters in Waltham, Mass., Raytheon employs 80,000 people worldwide.

Defence Industry

ROSOBORONEXPORT Board Of Directors Sums Up 2005 Arms Exports Results

The Rosoboronexport Board of Directors summed up results of 2005 at a meeting, convened on 15 February 2006. In 2005 Rosoboronexport exported in excess of US $5.2 billion's worth of defence products.

Thus, arms and materiel exports have exceeded the all-time high in Russia's latest history for the third year in a row. The Board emphasised that the Corporation had managed to exceed the plan by almost US $1 billion by fulfilling the so-called 'short-term' contracts qualitatively and on time.

The Corporation increased its contracts portfolio thanks to its task-oriented marketing. Just in 2005 alone the overall cost of contracts signed amounted to over US $9 billion. This will provide national defence enterprises with enough workload for the next five years. The Board pointed out that Rosoboronexport paid equal attention to both big-ticket and 'smaller' contracts, worth from several thousand to several million dollars, in the course of preliminary work preceding the signing of a contract.

India and China remained Russia's major strategic partners in the sphere of military-technical cooperation in 2005. At the same time last year the Corporation continued expanding the scope of its arms exports. It promotes cooperation with such promising partners in South East Asia as Malaysia, Indonesia, and Vietnam. Rosoboronexport also continues securing its positions in Latin America and North Africa. The Corporation has managed to conclude a contract on delivering defence products to Morocco, for the first time in Russia's history.

The 2005 arms and defence equipment sales featured a considerable increase in naval materiel exports up to over 52%, while aircraft exports accounted for about 44%. Special attention was paid to spare parts deliveries and modernisation programmes. The Corporation has established a special division to this end.

The Board also discussed key issues, facing the Corporation in 2006.

Contracts

O'Gara-Hess was awarded $66 million contract for Procurement of M1114

O'Gara-Hess and Eisenhardt Armoring Co., Fairfield, Ohio, was awarded on Feb. 22, 2006, a $66,005,340 modification to a firm-fixed-price contract for Procurement of M1114 Up-Armored High Mobility Multipurpose Wheeled Vehicles and Front Wheel Well Armor Protection Field Kits.

Work will be performed in Fairfield, Ohio, and is expected to be completed by Nov. 30, 2007. Contract funds will not expire at the end of the current fiscal year. This was a sole source contract initiated on April 10, 2000. The Army Tank-Automotive and Armaments Command, Warren, Mich., is the contracting activity (DAAE07-00-C-S019).