

# Army Guide monthly



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## Defence Industry

## Greece puts first LEOPARD 2A6 HEL into service



Munich/Xanthi, 30 May 2008. The 25th armoured brigade of the Greek armed forces has put the first LEOPARD 2A6 HEL supplied by Krauss-Maffei Wegmann (KMW) into service. Present at the tanks' commissioning in Xanthi were Greece's Deputy Minister of Defence Konstantinos Tasoulas, standing German representative in Athens François de la Croix, high priests of the Greek Orthodox Church, and representatives of participating corporations.

"We are proud of this important milestone and the contractually compliant supply of LEOPARD 2A6 HELs to the first Greek brigade," said Frank Haun, CEO of KMW. "Greece has the most modern version of the LEOPARD 2 and we now look forward full of confidence to future collaboration with Greece as a strong, reliable customer on our side."

In addition to the 170 main battle tanks, KMW supplied the Greek armed forces with armoured recovery vehicles (ARVs), armoured vehicle launched bridges (AVLBs), driving and shooting simulators, as well as the world's most advanced simulation centre. KMW is also fulfilling one of the most extensive offset programmes for Greece. The contract was worth 1.7 billion euros.

On 25 March 2008, the Greek national holiday commemorating the 1821 revolution, the armed forces presented the LEOPARD 2A6 HEL to the public at a parade in Athens.

Krauss-Maffei Wegmann GmbH & Co. KG is Europe's market leader for armoured wheeled and tracked vehicles. At sites in Germany, Greece, the Netherlands and the United States 3,100 employees develop, produce and support a product portfolio that ranges from airtransportable and highly protected wheeled vehicles (MUNGO, DINGO, FENNEK, GFF4 and BOXER\*), to reconnaissance, air defense and artillery systems (FENNEK, GEPARD, LeFlaSys\*, PzH 2000 and AGM) all the way to main battle tanks (LEOPARD 1 and 2), infantry fighting vehicles (PUMA\*) and bridge layers (LEGUAN und PSB2). Furthermore KMW possesses a broad system competence in the field of civil and military simulation, command and control applications and fully automatic remote controlled gun mounts. The armed forces of more than 30 nations worldwide rely on operational systems supplied by KMW.



## Defence Industry

## Krauss-Maffei Wegmann presents new vehicle family

Munich, 27 May 2008. At the International Aerospace Exhibition Berlin (ILA), the leading trade fair for the aerospace industry in Germany, Krauss-Maffei Wegmann will present its new family of modular scalable tactical vehicles to specialists and the public.

The generic platform Future FENNEK Technology (GP-FBIT) is based on the FENNEK armoured reconnaissance vehicle. This is already being used successfully by the Bundeswehr and Dutch armed forces in a number of variants and has proven itself in daily use in Afghanistan.

"With the development of the GP-FBIT vehicle family we want to offer the Bundeswehr and later other international customers a new dimension in mobility, modularity and protective technology for their

current deployments, taking the constantly changing deployment conditions into account," explained Frank Haun, Chairman of the KMW Board of Management, at the presentation of the new vehicle. "For this, the GP-FBIT family represents a weapons system tailored to both the current and future requirements of the armed forces," Haun went on to say. A first prototype of the twin-engined system will be presented in June 2008 at the world's biggest trade fair for land systems, the EUROSATORY in Paris.

In developing the GP-FBIT, great store was set on the survivability and assertiveness of crew and system. For this reason, an innovative concept has been realised, characterised by the redundancy of vital components, such as independent drive trains for the front and rear axles. This concept permits a closed, highly protected useful volume between the vehicle axles, in which modular and mission-specific vehicle cells can be integrated. As a result, modular equipment of the GP-FBIT family is possible for various deployments.

The vehicle family comprises two basic types, resulting from the scaling of the support structure, with the essential components and sub-systems of both systems being identical. This approach permits the realisation of deployment-specific crew and mission compartments for three to six crew members.

The highly protected vehicle cell protects the occupants against ballistic, mine and IED threats, as well as against the potential risks of ABC contamination. Furthermore, extra reinforcement of the vehicle cell provides protection against handheld anti-tank weapons. Depending on the scenario, adaptive modules guarantee the ballistic protective level for the particular vehicle version. In addition, the GP-FBIT family has a very low silhouette and consequently an extraordinarily low infrared and radar signature.

The engine output of over 20 kW per ton vehicle weight allows the vehicle to effortlessly negotiate 60 percent forward slopes and up to 30 percent side slopes. In combination with a range of over 1,000 km,

the crew can operate for up to five days autonomously. Since the vehicles are air-transportable too, they can be transferred to distant deployment areas quickly and easily.

The new concept also adopts the suspension characteristics and consequently unique mobility of the FENNEK. Thanks to the redundant drive components, the vehicle also possesses extraordinary "residual mobility." This means that even in the case of a sub-system failure, such as the front axle drive train, the vehicle still remains mobile as a result of the second sub-system (rear axle drive train).

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## Training And Simulators

### Rheinmetall Defence to operate German Army's Combat Training Centre



Rheinmetall will soon be responsible for running the GbZ, one of the world's most advanced combat training centres, a German Army facility located in the Altmark district of Saxony-Anhalt. Starting 1 September 2008, Rheinmetall will take over management of the GbZ, which the company also played the leading role in creating.

The parties signed the contract on May 29th, 2008, at the Berlin Air Show ILA. For Rheinmetall Defence's Simulation and Training division, the deal represents sales of more than Euro 100 million spread out over the six-year lifetime of the contract, depending on the level of utilization.

The principal reasons for handing over the operation to Rheinmetall Defence were economic efficiency and the conceptual approach contained in the proposal.

"We're very pleased to be selected in keen competition with other bidders to be the future GbZ operator. This contract underscores our ability not only to supply customers with complex and sophisticated training facilities, but also with related services that meet the full range of customer requirements", declares Ulrich Sasse, head of Rheinmetall Defence's Simulation and Training division.

A team of over 200 Rheinmetall employees, the great majority of whom already work at the GbZ, will carry out the extensive range of services needed to run the facility. These include various support services as well as general administration, repair and maintenance of computer hardware and tactical vehicles, operating and maintaining the exercise control centre, the communications network and the laser simulators. Others work as drivers, still others are in charge of issuing and keeping track of the facility's many items of simulator

equipment as well as maintaining and storing them. Apart from preserving these jobs, Rheinmetall intends to outsource certain service activities to local companies.

Another objective is to develop the GbZ's existing capabilities, enabling full integration of new mission requirements such as joint and multinational operations into the exercises. Training soldiers to fight in an urban environment is equally important, and Rheinmetall will be in charge of this too, bringing into play the newly extended version of its "Future Soldier" equipment.

In 2006 the German government already contracted with Rheinmetall Defence to upgrade the technology in the GbZ exercise control centre as well as the training facility's data communication system. Then, at the end of 2007, came an order to link the southern section of the site with the rest of the training area, which had already been equipped with simulation technology, and to supply additional mobile online video technology.

Preparing German troops for their missions through realistic, efficient training is one of the Bundeswehr's core imperatives. The GbZ provides the perfect venue for training military formations of all types to perform effectively on the modern battlefield, giving troops the skills and confidence they need to execute a vast variety of missions and tasks. As the GbZ's new operator, Rheinmetall Defence will systematically develop the site's existing capabilities, enabling it to do an even better job of meeting the military's requirements and carrying out its core mission to the full.

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## Future Technologies

### U.S. Department of Defense to Select Competitors Next Month for \$40 Billion Program

RESTON, Va. and OSHKOSH, Wis., May 30, 2008 -- The Joint Light Tactical Vehicle (JLTV) family of vehicles offered by Northrop Grumman Corporation and Oshkosh Corporation features diesel-electric drive, a unique approach that provides more power, enables higher performance, provides better protection and is easier to maintain.

Company officials presented details of the team's JLTV at the National Press Club in Washington, D.C., on May 16. The JLTV will replace the Humvee for the U.S. Army and U.S. Marine Corps.

The Northrop Grumman-Oshkosh diesel-electric vehicle-propulsion approach opens the door for numerous design advances, reduces the logistics footprint, lowers life-cycle costs, and provides surplus exportable electrical power, all based on proven technology. Although no vehicles in the military's fleet use diesel-electric drive today, railroads and mining equipment have been powered by the technology for decades.

"This vehicle is of such importance that the Department of Defense wisely reached out to create an acquisition process -- including Technical Development and System Design and Development phases -- to harvest the best ideas that industry could bring to the table," said

Joe Gray Taylor, vice president of Ground Combat Systems at Northrop Grumman's Mission Systems sector. "Our team had some very good ideas that enable us to leapfrog current capabilities by offering greater flexibility to cope with unexpected future combat requirements."

"Diesel-electric drive is a time-tested and proven technology -- simple in theory but complex in capability -- that allows us to meet and exceed the customer's requirements for protection, payload and performance," said John Stoddart, Oshkosh Corporation executive vice president and president, Defense Group. "What is new is the ability to take that proven technology and package it so that its vast power reserves can be exploited in very intense areas like battlefields."

Oshkosh also demonstrated the technology during relief operations in 2005 following Hurricane Katrina, powering pumps around the clock to remove millions of gallons of water from Louisiana State University Health Services Center-Charity Hospital.

Northrop Grumman and Oshkosh believe the design gives them an enormous power advantage. Noting that specifics are competitive sensitive, Taylor said: "This technology provides not only exportable power but also a great deal of power to the vehicle, which means agility, performance, and the ability to deal with payloads, such as the C4ISR systems it carries."

The design also offers more flexibility and modularity and the ability to tailor engineering solutions. Since diesel-electric power eliminates the need for a transmission and conventional drive train -- the so-called "doghouse" and drive shaft hump -- engineers can tailor and create a more spacious and efficient crew compartment with optimal armor protection.

By reducing the number of parts, the Northrop Grumman-Oshkosh JLTV reduces the likelihood of a complex mechanical failure. Fewer parts also mean less burden on maintainers, higher reliability and lower life-cycle cost.

The diesel-electric design intentionally excludes the large, high-voltage battery pack often found in hybrid solutions, mitigating the logistics burden of battery disposal. With the weight of the batteries removed, the vehicle can also carry more valuable payload.

"Because the diesel electric design itself is inherently modular, it allows for a family of vehicles made up of a small number of common modules. In practical terms, the military can modernize or repair this design far more simply than traditional designs," Stoddart said. "This design allows efficient manufacturing, crew maintenance, battle damage repair and eventual refurbishment."

Stoddart cited as examples the easy replacement of the front or rear drivetrain module if it sustains combat damage and the engine with a fuel cell if the military decides to move to new power systems. Hybrid technology -- "once it matures" -- could be integrated in the design, and the crew compartment module could readily accept new base armor and add-on armor technologies when available.

Diesel-electric powertrains are made up of a diesel engine connected to an electrical generator, which creates electricity to power an electric traction motor driving each axle to move the vehicle. The components that form this design include a high-horsepower engine, high power-capacity generator, high power-rated motor, motor controller and a power inverter, all proven technologies that have been demonstrated in military trucks.

The Defense Department is expected to decide next month which industry competitors will continue into 27-month Technology Development phase for this \$40 billion program.

Northrop Grumman and Oshkosh Corporation joined forces to compete for the JLTV program on Jan. 8. If selected, Northrop Grumman will be the prime contractor and systems integrator. Oshkosh Corporation's Defense Group will be responsible for designing, engineering and manufacturing the vehicle, including the armor system.

Northrop Grumman integrates a broad spectrum of critical joint combat and C4ISR platforms, including serving as the prime contractor for the Army's Command Post Platform, Force XXI Battle Command Brigade and Below (FBCB2)/Blue Force Tracking (BFT) and Command and Control Personal Computer (C2PC) programs.

Oshkosh has nine decades of proven experience developing advanced automotive systems, on/off road capabilities, extreme-duty vehicle platforms, military vehicles and integrated armor solutions. Oshkosh has advanced on-board vehicle power capabilities on two prototype vehicles: the Marine Corps' Medium Tactical Vehicle Replacement (MTVR) and the U.S. Army's Heavy Expanded Mobility Tactical Truck (HEMTT).

Oshkosh Corporation is a leading designer, manufacturer and marketer of a broad range of specialty access equipment, commercial, fire and emergency and military vehicles and vehicle bodies. Oshkosh Corp. manufactures, distributes and services products under the brands of Oshkosh(r), JLG(r), Pierce(r), McNeilus(r), Medtec(r), Jerr-Dan(r), BAI(tm), Oshkosh Specialty Vehicles, Frontline(tm), SMIT(tm), Geesink(tm), Norba(tm), Kiggen(tm), CON-E-CO(r), London(r) and IMT(r).

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



## Defence Industry

### DRS Technologies Receives \$51 Million in New Orders for TWS II from US Army

PARSIPPANY, N.J. -- DRS Technologies, Inc. announced the receipt of new contract orders totaling over \$51 million to produce Thermal Weapon Sights II (TWS II).



The contracts were awarded by the U.S. Army's Research, Development & Engineering Command's (RDECOM) Acquisition Center at the U.S. Army Garrison Aberdeen Proving Ground in Maryland, acting on behalf of Program Executive Office Soldier at Fort Belvoir, Virginia.

Contract work will be performed by two of the DRS Sensors & Targeting Systems divisions - the Optronics Division in Palm Bay and Melbourne, Florida, and the Infrared Technologies Division in Dallas, Texas.

These new orders are part of a five-year, \$2.3-billion Indefinite Delivery/Indefinite Quantity (ID/IQ) TWS II Bridge contract awarded to DRS in 2007. Additional ID/IQ contracts are expected as funding is available enabling the Army to order up to 150,000 TWS II systems to support fielding needs.

"The Warfighter demand for night vision equipment remains robust, and the requirement for thermal weapon sights continues to increase," said James M. Baird, president of DRS' Reconnaissance, Surveillance & Target Acquisition (RSTA) Segment. "We're committed to supporting our nation's front-line Warfighters with increased production to meet that demand, and it's an honor to be helping them to accomplish their missions safely and effectively."

The DRS family of light, medium and heavy TWS II sights use advanced, uncooled thermal imaging sensors, enabling Army Soldiers and Marines to see the battlefield and engage the enemy through smoke, dust, fog and degraded weather conditions. Currently deployed with U.S. Army, Marine Corps, Air Force and Special Operations forces, TWS II systems offer superior image quality for increased threat detection and situational awareness. The DRS-produced TWS II systems provide longer battery life, ease of use and reduced carry weight.

The company's RSTA Segment develops, manufactures and supports electro-optical technologies, including advanced cooled and uncooled thermal-imaging solutions for Soldier systems, ground vehicle, airborne, maritime, industrial, security, public safety and firefighting applications.

announced today, Friday 30 May 2008.

Powered by a 440Hp, 10.5litre, six cylinder turbo diesel engines, the recovery vehicles will be a powerful replacement for the existing Foden fleet. They are fully compliant with the latest emissions legislation (Euro 4) without the need for fuel additives, and can also operate, without preparation, on aviation fuel.

The trucks have a gross vehicle weight of 32 tonnes, with a crane that will lift 15 tonnes at a distance of 2.3 metres. All eight wheels are driven and 21st century technology introduces self-levelling suspension and automatic vehicle diagnostics.

Taylor, Minister for Defence Equipment and Support, said:



"This milestone represents a significant achievement and is further evidence of how hugely successful Support Vehicle Programme is delivering 7285 new military vehicles under our BJ1.3bn procurement programme."

The Support Vehicle (SV) programme will procure the future tri-Service cargo and recovery vehicles that will increase the military materiel lift/distribution and recovery capability.

Inspecting the vehicles at the MOD's Long Valley Training and Development Unit Baroness



The programme is procuring a fleet of vehicles consisting of 42 variants but effectively based around the light, medium and heavy cargo vehicles (6, 9 and 15 tonne respectively), the 7000 litre unit support tanker, the recovery vehicle and the recovery trailer.

DE&S General Support Vehicles team leader, Alison Henry, added:

"The vehicles are tremendously capable cross country, and can recover our heaviest wheeled casualties. In fact, the vehicle is capable of lifting 13 tonnes and can tow a 44 tonne vehicle. We work closely with the Armed Forces to deliver the equipment our forces need."

In all 288 recovery vehicles will be delivered with 69 recovery trailers to equip troops on operations in both Iraq and Afghanistan where required.

Baroness Taylor also inspected new cargo vehicles that have been fitted special armour to offer even greater

## Defence Industry

### 32 tonne trucks roll off the production line



UK troops are about to receive the first batch of new state of the art MAN Truck & Bus UK Ltd recovery vehicles and trailers, capable of retrieving the heaviest vehicles on operations it was

protection for troops on operation. The vehicles were purchased as an Urgent Operational Requirement (UOR), a process which can deliver equipment that commanders want on the ground in a very quick timescale. UORs have delivered life-saving equipment to Iraq and Afghanistan, including Osprey body armour and Mastiff and Bulldog vehicles.

The complicated and highly capable recovery top hamper equipment which includes the cranes and winches is designed by ECA based in Gerrards Cross, then manufactured and bolted to the main chassis by Atlas Terex, based in Motherwell, Scotland. The vehicles are shipped across to Cambridge to Marshalls who manufacture the load bed.

Every vehicle will be received and inspected at the DE&S's distribution centre DSDA in Ashchurch, Gloucestershire. The programme is managed by the DE&S which works closely with industry to deliver equipment to the forces under the Defence Industrial Strategy.

**Defence Industry**

**SAAB Delivers World's First Multispectral Camouflage Systems for Abrams Main Battle Tanks**



In less than six months, Saab Barracuda has delivered prototype camouflage systems fitted to the Australian Army for the M1A1 Abrams Main Battle Tanks and M88A2 Hercules Armoured Recovery Vehicles, giving them higher survivability on the battlefield.

The contract worth \$4.2 million AUD was signed in December 2007 to design, manufacture and fit camouflage to these tracked vehicles after the Australian Army identified the need to reduce the multispectral signatures and to reduce the solar heat transfer into the vehicles while operating in Australian conditions.

These special camouflage systems are designed to significantly reduce the visual, near-infrared, thermal infrared, and radar signature of the vehicles. The second part of this requirement is achieved using Saab's Heat Transfer Reduction technologies which are designed to make the internal environment of the vehicle more liveable in the extreme conditions of northern Australia.

The effectiveness of the multispectral camouflage systems is being verified in tests conducted by the Defence Science and Technology Organisation.

"Saab has been supplying the Australian Defence Force with its signature management capability for thirty years, and this project reaffirms their trust in Saab's capability and experience", says Bob Fuller, Managing

Director of Saab Barracuda Pty Ltd.

The design and manufacture was carried out by Saab Barracuda in Sydney with materials and support from Saab Barracuda, Sweden, and other local suppliers. This camouflage system now has export potential for the other countries using advanced classes of main battle tanks.

Saab serves the global market with world-leading products, services and solutions ranging from military defence to civil security. Saab has operations and employees on all continents and constantly develops, adopts and improves new technology to meet customers' changing needs.

**Contracts**

**BAE Wins Contract for Medium Tactical Vehicles**



BAE Systems, Tactical Vehicle Systems Limited Partnership, Sealy, Texas, was awarded on May 30, 2008, a \$1,656,794,781 firm-fixed price and cost-reimbursement contract for 10,000 medium tactical vehicles, program support and federal retail excise tax.

Work will be performed in Sealy, Texas, and is expected to be completed by Dec. 31, 2010. Contract funds will not expire at the end of the current fiscal year. One bid was solicited on Nov. 5, 2007.

U.S. Army TACOM, Warren, Mich., is the contracting activity (W56HZV-08-C-0460).

**Contracts**

**Honeywell Awarded Additional Year For Abrams Engine Program With U.S. Army In Contract Now Valued At More Than \$1 Billion**



PHOENIX, Arizona -- Honeywell announced that it has been awarded the third option year of a contract from the U.S. Army to improve performance and extend the life of the AGT1500 turbine engine that powers the M1 Abrams tactical vehicle.

The option year is valued at \$311 million, bringing the

total contract value to more than \$1 billion.

"Honeywell's Total InteGrated Engine Revitalization program – TIGER – is an innovative partnering of public and private efforts," said Mike Cuff, Vice President, Helicopters & Surface Systems. "Teaming with the Army, we will continue to improve the AGT1500 engine to make it even more reliable and durable on the battlefield.

"To date under the program the Army has avoided more than 475 engine 'returns to depot' as Honeywell and ANAD Field Service Engineers successfully repaired the engines at field level in TIGER Repair Shops. For engines returned to depot, the post-overhaul engine Acceptance Test rate has improved by more than 40 percent. At the same time, 21 design changes made to improve the engine's durability are in development, testing or implementation," Cuff said.

Honeywell is working with the Army's Program Manager Heavy Brigade Combat Team and Anniston Army Depot (ANAD) under the contract to provide parts, enabling the ANAD overhaul of approximately 1,000 engines. The program deploys fact-based maintenance and engineering design improvements to reduce operating and support costs and increase the service life of overhauled AGT1500 engines. The scope of work includes critical field support services at U.S. military bases and in Kuwait, South Korea and Germany.

With the TIGER Program, the Abrams engine is transitioning to a fact-based maintenance protocol in keeping with the Army's desire for Conditioned Based Maintenance. Significant cost-savings will be realized as a result of eliminating standard overhaul practices and employing targeted maintenance per engine field history, performance trends, and teardown analysis upon return to depot.

Honeywell International is a \$37 billion diversified technology and manufacturing leader, serving customers worldwide with aerospace products and services; control technologies for buildings, homes and industry; automotive products; turbochargers; and specialty materials. Based in Morris Township, N.J., Honeywell's shares are traded on the New York, London and Chicago Stock Exchanges. For additional information, please visit [www.honeywell.com](http://www.honeywell.com).

Based in Phoenix, Honeywell's \$12 billion aerospace business is a leading global provider of integrated avionics, engines, systems and service solutions for aircraft manufacturers, airlines, business and general aviation, military, space and airport operations.

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### Contracts

#### Raytheon Wins \$85M for Excalibur Guided Munition

Raytheon Missile Systems, Tucson, Ariz., was awarded on May 30, 2008, an \$85,278,599 firm-fixed price contract for 155mm Excalibur block 1A-1 and 1A-2 projectiles.

Work will be performed in locations across the United

States, and Sweden, and is expected to be completed by Jan. 31, 2010. Contract funds will not expire at the end of the current fiscal year. One bid was solicited on Mar. 16, 2007.



Joint Munitions and Lethality life Cycle Management Command, Picatinny Arsenal, N.J., is the contracting activity (W15QKN-07-C-0100).

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### Contracts

#### Lockheed Martin Receives \$90 Million MLRS Launcher Support Contract



DALLAS -- Lockheed Martin has received a \$90 million contract to support U.S. Army and U.S. Marine Corps MLRS launchers. Lockheed Martin's Life Cycle Contractor Support (LCCS) system will support more than 300 launchers through 2010.

This contract entrusts Lockheed Martin with the full support responsibilities for the performance-based specification components of the HIMARS and MLRS M270A1 launchers' fire control systems, as well as the HIMARS launcher-loader module. Responsibilities also include supply, maintenance and related logistics support, including field service representatives who work alongside the Warfighter to provide quick turnaround times.

"We are pleased to continue our partnership with the Army and Marine Corp to ensure our products perform for the Warfighter in those defining moments on the battlefield," said Mike Syring, director of After Market Enterprises at Lockheed Martin Missiles and Fire Control. "Our integrated approach to logistics support literally puts Lockheed Martin alongside the Warfighter in the field. It's a partnership in efficiency where work is done quickly, with the necessary expertise to make sure the job's done right."

LCCS brings contractor support to the system, no matter where the system may be. The global team of field service representatives feed a central operations center with complete records of each unit's launcher operational status, configurations and component upgrades, all of which are instantly available in a networked database. This database also contains records that describe the configuration and maintenance history of every major component and sub-assembly. Repair facilities and special test equipment are co-located with



the operational units to help reduce field turnaround times for repair of major components.

The HIMARS/MLRS M270A1 performance-based program has yielded impressive results over the three years that it has been in place. Through LCCS, the customer has experienced a system status readiness rate that consistently averages above 99 percent, and a HIMARS/MLRS M270A1 mission-capable turnaround time that has averaged less than 12 hours for those systems based within the U.S. Additionally, repair turnaround times in the field have averaged less than two days.

Lockheed Martin has also partnered with the U.S. Army's Letterkenny Army Depot (LEAD) to perform selected repairs of HIMARS and MLRS M270A1 hardware. This depot maintenance partnership between Lockheed Martin and LEAD will result in LEAD performing HIMARS/MLRS M270A1 repairs under the Lockheed Martin LCCS contract beginning in late 2008.

The Department of Defense recognized the outstanding performance of the HIMARS/MLRS M270A1 LCCS program and selected the U.S. Army and Lockheed Martin's HIMARS team for the 2006 Secretary of Defense System Level Performance Based Logistics (PBL) Award, which recognizes exceptional operational capability. PBL is the hallmark of the U.S. military's call for integrated, affordable performance packages designed to optimize system readiness at lower cost than traditional maintenance programs. The U.S. Army nominated HIMARS for the system award because its PBL solution maintains performance across the entire weapon system, rather than just components. It is at the system level that the customers recognize the highest potential for realizing savings and performance efficiency.

Because of its C-130 transportability, HIMARS can be deployed into areas previously inaccessible to heavier launchers and provides a force multiplier to the modular brigade. It also incorporates the self-loading, autonomous features that have made Multiple Launch Rocket System (MLRS) the premier rocket artillery system in the world. HIMARS carries a single six-pack of MLRS rockets, or one ATACMS missile. Its fire control system, electronics and communications units are interchangeable with the existing MLRS M270A1 launcher, and the crew and training are the same. HIMARS prototypes were successfully employed in Operations Iraqi Freedom.

Headquartered in Bethesda, Md., Lockheed Martin employs about 140,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The Corporation reported 2007 sales of \$41.9 billion.

### Defence Industry

## Arotech's Armor Division Receives Over \$3 Million In New Orders For Military Armored Vehicles

Arotech Corporation announced that its Armor Division has recently received an additional \$3.0 million order for its military armored vehicles and accessories to be supplied from the MDT plants in the US and in Israel.

"We are delighted to have received additional orders for our military vehicles used for combat missions and designed for the urban low intensity conflict," said Robert S. Ehrlich, Chairman and CEO of Arotech Corporation. "Our vehicles have proven ideal for operating in urban and other densely populated areas and these new orders are a testament to capabilities of the vehicles. The adaptable design allows for various armor options, seating arrangements and equipment installations that are all designed to meet specific operational tasks," added Ehrlich. "The new order of vehicles will bolster our backlog, as we have now transitioned our production process to the new model year. Beginning as of this month, June 2008, we are now operating at full production in our facilities," concluded Ehrlich.

### About Arotech's Armor Division:

Arotech's Armor Division is an innovative leader in lightweight armoring for vehicles. The Armor Division has years of battlefield and commercial protection experience and has provided life saving protection under the most extreme conditions. In addition to armoring vehicles for military and commercial customers, Arotech manufactures armor kits for military vehicles, aviation armor both for helicopters and for fixed wing aircraft, marine armor, personnel armor and fragmentation blankets.

The Armor Division consists of MDT Protective Industries Ltd., MDT Armor Corporation and Armour of America Incorporated.

### About Arotech Corporation

Arotech Corporation is a leading provider of quality defense and security products for the military, law enforcement and homeland security markets, including multimedia interactive simulators/trainers, lightweight armoring and advanced zinc-air and lithium batteries and chargers. Arotech operates through three major business divisions: Armor, Training and Simulation, and Battery and Power Systems.

Arotech is incorporated in Delaware, with corporate offices in Ann Arbor, Michigan, and research, development and production subsidiaries in Alabama, Michigan and Israel.

### Contracts

## Contract valued at MNOK 585 to the CROWS-program



KONGSBERG has booked an order valued at MNOK 585 from the US Army.



The deliveries will begin in second half of 2009. The order is part of the 8 billion NOK Common Remotely Operated Weapon Stations (CROWS) framework agreement signed in August 2007. The deliveries will start in 2009.

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



## Robots

### First MAARS Robot Shipped to U.S. Military



McLean, VA, June 4, 2008 -- QinetiQ North America, a global developer of innovative technology solutions for national defense, today announced that the Foster-Miller subsidiary of its Technology Solutions Group has shipped the first MAARSTM ground robot to the U.S. military under a contract from the Explosive Ordnance Disposal/Low-Intensity Conflict (EOD/LIC) Program within the Combating Terrorism Technical Support Office (CTTSO).

MAARS (Modular Advanced Armed Robotic System) is the first fully modular ground robot system capable of providing a measured response including non-lethal, less-lethal and even lethal stand-off capabilities.

The MAARS system is an agile, combat-ready robot that is remotely controlled by the operator. The robot contains advanced processing capabilities and features a uni-body chassis with a plug-and-play design, which allows for ready use of new and evolving accessories and attachments. MAARS also comes with an easy-to-learn digital control system that provides comprehensive situational awareness that works up to a range of over one kilometer from the operator, effectively extending the reach of the operator and enhancing his survivability.

MAARS was developed with safety as the number one goal. Based on feedback gleaned from numerous tests and demonstrations at military facilities across the country, along with experience gained from the U.S. Army safety-certified features of SWORDS™, MAARS gives the warfighter the ability to provide a measured response no matter the situation. Additionally, MAARS will continue to be tested exhaustively under various conditions in the coming months to ensure full compliance with standards and a safety release for fielding.

“Government has been working with us over the last 18 months to develop and provide an innovative and evolutionary approach to combat situations that address the battlefield of the future,” said Dr. William Ribich, President of the Technology Solutions Group, QinetiQ North America. “The MAARS robot, building on valuable experience gained with our SWORDS robot system in Iraq, is now ready to provide the needed core platform to develop tactics, techniques and procedures for using armed, yet human-controlled, robotic ground systems.”

One of the most innovative capabilities of MAARS is the ability to apply non-lethal force by projecting the operator's voice through mounted loudspeakers, or alternatively to pulse a green, eye-safe laser to dazzle people. In addition, MAARS' two-way communication features allow the operator to interact from a safe distance. MAARS also has the capability to launch 40mm less-lethal ammunition, such as bean bags, smoke, star clusters and pepper spray, and lethal ammunition. If lethal action is required, an operator can launch 40mm high-explosive grenades or engage with the powerful M240B medium machine gun firing 7.62mm ammunition.

“We jointly developed the MAARS robot with the military in order to enhance the warfighter's capability and lethality, extend his situational awareness and provide all these capabilities across the spectrum of combat,” added Dr. Ribich. “With today's enemies engaging in asymmetric warfare, no encounter is ever completely safe. MAARS' modularity and groundbreaking levels of force escalation will help to save both the lives of our troops as well as non-combatants in the area.”

MAARS comes with tracks that can traverse all terrains, including stairs, and it is also capable of using wheels to increase speed and further reduce noise. The robot's turret system is able to support a drop-in manipulator arm, multiple types of weapons and a wide range of sensor packages. Additional features include up to seven cameras with multi-modal capabilities. In the MAARS weapons-configured system, the operator always sees where the weapon is pointed in relation to himself and other friendly forces.

MAARS is currently the largest and also one of the newest members of the TALON® family of QinetiQ North America robots, which recently shipped its 2000th robot to the military.



## Defence Industry

### KMW and GDELS to produce advanced artillery systems

Krauss-Maffei Wegmann (KMW), Munich, and General Dynamics European Land Systems (GDELS), Vienna, are teaming to develop and market a new generation, air deployable, autonomous and remotely operated 155mm artillery system.

The system addresses the growing need for precise indirect fire capabilities that can augment or even replace close-air-support operations previously conducted by costly fixed- or rotary-wing aircraft.



Frank Haun, CEO of KMW, and John C. Ulrich, President of General Dynamics European Land Systems, share the value of this partnership: “We share the value of the collaboration. This program it is a significant innovation and will benefit all.”

The KMW / GD ELS system, called the DONAR, provides capabilities that will change conventional artillery doctrine. DONAR not only reduces crew and logistics requirements, but also provides for autonomous operations. The system is targeted to replace legacy systems (e.g., M109, AS90, K9, etc.) in service with modern armies.

A first prototype has already undergone rigorous mobility and fire trials at the test facility of the German procurement agency BWB (Bundesamt für Wehrtechnik und Beschaffung), and will be displayed during this year’s defence exhibition EUROSATORY in Paris, France.

The DONAR is a joint European technology program of GD ELS and KMW that utilizes specific resources and shared skills between the companies, creating true value for European and international defence forces. The joint effort also follows the growing European trend towards enhanced multinational industry cooperation in the land system sector.

Unique system features: one solution - DONAR possesses multiple features that are unique to the worldwide artillery community.

Air transportability - the total systems weights less than 31 metric tons, allowing it to be transported in the future European Transport Aircraft A400M or similar aircraft with payload capacities in this class.

Autonomous operation - The completely remotely operated artillery module is equipped with a 155mm (52 cal.) cannon, giving it the advanced fire power of an PzH2000. DONAR’s maximum range amounts to more than 56 kilometers (vlap). Its on-board ammunition supply includes 30 fuzed 155 mm shells and a corresponding number of charge modules. Despite a marked reduction in weight and size, the gun module is operational without any additional stabilization and provides a 360-degree azimuth range. In addition, the autonomous system character of DONAR allows a consistent step towards networked, centralised command and control (network centric warfare).

High mobility & survivability - The system possesses the high mobility of an Infantry Fighting Vehicle,

derived from an adapted ASCOD 2 version for artillery applications. Separated from the automatic gun module, a crew of only two soldiers (driver and commander) operate the system from a highly protected driver cabin, increasing survivability and allowing for extremely rapid fire and movement manoevers. The system’s survivability is enhanced by both its low silhouette and from the cabin’s protection against ballistic impact and shell fragments from artillery and mortar ammunition - the cabin meets a very high NATO protection standard.

### About General Dynamics European Land Systems

General Dynamics, head quarter in Vienna (Austria) is a business unit of General Dynamics Corporation, and conducts its business through four European operating sites located in Spain, Germany, Austria, and Switzerland. With more than 3,250 highly skilled technical employees, GD ELS companies design, manufacture and deliver to global customers land systems, including wheeled, tracked, and amphibious vehicles, armaments and munitions.

General Dynamics, headquartered in Falls Church, Va., employs approximately 84,000 people worldwide and reported 2007 revenues of \$27.2 billion. More information about the company is available online at [www.generaldynamics.com](http://www.generaldynamics.com).

### About Krauss-Maffei Wegmann

Krauss-Maffei Wegmann GmbH & Co. KG is Europe’s market leader for armoured wheeled and tracked vehicles. At sites in Germany, Greece, the Netherlands and the United States 2.800 employees develop, produce and support a product portfolio that ranges from airtransportable and highly protected wheeled vehicles (MUNGO, DINGO, FENNEK und BOXER), to reconnaissance, air defense and artillery systems (FENNEK, GEPARD, LeFlaSys, PzH 2000 and AGM) all the way to main battle tanks (LEOPARD 1 and 2), infantry fighting vehicles (PUMA) and bridge layers (LEGUAN und PSB2). Furthermore KMW possesses a broad system competence in the field of civil and military simulation, command and control applications and fully automatic remote controlled gun mounts. The armed forces of more than 30 nations worldwide rely on operational systems supplied by KMW.

### Defence Industry

#### EADS Defence & Security and Nexter Systems team up for Operation Scorpion

Herve Guillou & Luc Vigneron EADS Defence & Security and Nexter Systems have signed an agreement covering the creation of a joint venture to act as the "system of systems" prime contractor for Operation Scorpion, which aims to satisfy the transformation needs of the French Army.

The comprehensive Scorpion is an operation designed to bring together the different major equipment

modernisation and coherence programmes for French land forces for contact over the period 2008-2025, while also ensuring enhancement of the operational capabilities of future land combat systems.

Scorpion will make it possible to respond to the most probable future combat scenarios for the Armed Forces and will cover a broad spectrum of operational situations in a joint-forces and multinational context.

This move to improve capabilities requires a global approach to equipment, combat platforms, weapon systems and transverse systems.

That is why the creation of a joint venture between EADS Defence & Security, via its Business Unit Defence and Communications Systems, and Nexter Systems brings together within an independent structure the competencies of the two groups in the architecture and integration of land combat systems for joint-forces operations. The goal of the resulting integrated team will be to design and implement global solutions for land forces and provide support throughout the different stages of the transformation process. In this structure, the solutions will be adapted to Contact Forces pour nationwide and multi national deployments ensuring interoperability with Forces of others nations, particularly with US Forces.

This structure will also be well placed to form partnerships both nationally and internationally in order to bring together for the benefit of Operation Scorpion both the competencies and contributions of the European Defence Technological and Industrial Base (EDTIB) and also the feedback from initiatives launched by our main NATO partners.

Together, EADS Defence & Security and Nexter Systems possess unique industrial know-how and are well qualified to specify and develop an appropriate response to the Scorpion requirement.

According to Herve Guillou, CEO of Defence and Communications Systems: "This joint approach will allow us to support Army transformation by implementing an industrial and operational approach that is coherent with the totality of existing combat and contact systems, while benefiting from the feedback from battlefield digitisation. This approach also fits in with the strategy for the EADS Group's Vision 2020 to reinforce the company's positions in the defence sector."

Luc Vigneron, Chairman and CEO of Nexter, adds: "This integrated team, which will unite the know-how of the two industrial groups, possesses the full capability to optimise a global solution by acting as a prime contractor for Operation Scorpion. This joint approach completes our partnerships network and confirms our position at the core of European integrated land defence offer building process."

Defence and Communications Systems is an integrated activity of EADS Defence & Security (DS). DS is a systems solutions provider for armed forces and civil security worldwide. Its portfolio ranges from sensors and secure networks through missiles to aircraft and UAVs as well as global security, service and support solutions. In 2007, DS – with around 22,000 employees –

achieved revenues of € 5.5 billion. EADS is a global leader in aerospace, defence and related services. In 2007, EADS generated revenues of € 39.1 billion and employs a workforce of about 116,000.

Nexter designs and provides ground defence systems for armed forces. The Nexter Group offers a comprehensive portfolio of products and services from conception and manufacture of weapon systems through to ensuring their on-condition maintenance. With a sales volume of € 587 million, Nexter has a workforce of 2,500 and allocates 17% of its revenues to Research & Development. The products offered by Nexter include the VBCI combat vehicle, the CAESARO artillery system, the BONUS intelligent munition, the SIT-V1 command and control system, customer support, maintenance and system upgrades.

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## Contracts

### General Dynamics Awarded \$20 Million for Abrams Tank-Related Work

STERLING HEIGHTS, Mich. -- The U.S. Army TACOM Lifecycle Management Command has awarded General Dynamics Land Systems, a business unit of General Dynamics, a contract worth \$19.8 million for the purchase of long-lead materials to support the reset of 129 M1A2 Abrams Systems Enhancement Package Version Two (SEP V2) configuration of the main battle tank.

The reset process restores used equipment to combat-level capability. The most technologically advanced digital tank, the M1A2 SEP V2 includes improved displays, sights, auxiliary power and a tank-infantry phone. It also can accommodate future technology improvements to ensure compatibility with the U.S. Army's Future Combat Systems.

The long lead work will be performed by existing General Dynamic's employees in Scranton, Penn., and Tallahassee, Fla.

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## Contracts

### Allen-Vanguard receives \$10 million order for electronic counter-measures equipment from Commonwealth customer

OTTAWA -- Allen-Vanguard Corporation of Ottawa, Canada today announced that it has received an order valued at USD \$10 million for dismounted electronic counter-measures equipment for a Commonwealth customer.

The Company previously stated on May 15, 2008 with the release of its second quarter results for fiscal 2008 that it was processing approximately \$50 million in expected orders for ECM equipment in the very near term. "We are pleased to see this pending order progress to a formal contract," said David E. Luxton, Company President and CEO. "This additional order underlines the continued confidence in our battle-proven counter-IED



systems and services and we are proud to be supporting the vital mission of a key Commonwealth customer.”

The Company stated that the order is scheduled for delivery through the fourth quarter of fiscal 2008 and the first quarter of fiscal 2009.

## Army

### US Army Prepares Strykers for Reset in US



CAMP ARIFJAN, Kuwait -- While bands play, flags wave and families rejoice at the return of 4th Brigade Combat Team, 2nd Infantry Division Soldiers to Fort Lewis, Wash., the operation to return home their battle-wearied Stryker Combat Vehicles goes on here in Southwest Asia.

As intense daytime heat builds with the approach of summer, here at a fence-enclosed, 2nd Battalion, 401st Army Field Support Brigade area, contract workers spend their nights stripping more than 280 SCVs of the 5,000 pounds of slat armor that each was retrofitted with as the brigade prepared to surge north into Iraq some 15 months ago.

The Soldiers and Strykers of the brigade saw extensive combat action in Iraq's Diyala province and, as the Soldiers return and re-integrate with their families; their vehicles will be prepared for future employment by repair and refurbishment through the Army Materiel Command-managed Reset Program.

According to Tiffany Smith, a logistic analyst with Jacobs Engineering Group, the contract firm working with the Army's Project Manager for Stryker to facilitate the retrograde of the vehicles, work began after the first vehicles arrived here on May 25th and is nearing completion.

"As of this morning we are 76 percent complete in removing the slat armor," Smith said. "We expect to have this portion of the operation complete within the next couple of days."

There is more to sending the 20-ton, 8-wheeled Stryker home for 'reset' than simply removing the armor, said Smith. SCVs equipped with the 105mm Mobile Gun System had those systems removed in Iraq for shipment to Auburn, Wash., and 120mm mortar systems had to be removed here for transport to Fort Lewis, she said.

Reset of the gun and mortar systems will be done at maintenance sites at those locations, she said.

Once the vehicles have had the necessary removal work done, each vehicle is taken into a nearby maintenance shelter and subjected to an advanced

technical assessment to determine whether it can be sent to the reset facility at Fort Lewis for work, or whether the wear and battle damage are so extensive that the vehicle has to be sent to Anniston Army Depot, Ala. for more in-depth repair and refurbishment.

All the vehicles next are taken to nearby wash racks for a thorough cleaning and customs inspection for the long journey home.

Chief Warrant Officer Dennis Reid, a 4th Brigade maintenance officer, and one of approximately 50 brigade Soldiers who stayed behind in Kuwait to help prepare the Strykers, said the work started a little slow but has picked up speed as the Soldiers and contract workers got into a good rhythm.

Asked if there was anything he would like to see changed with the effort, Reid said "no, but it would be nice if we could turn down the heat some."

## Army

### Soldiers in Afghanistan Test New Off-Road Prototypes



Afghanistan -- Soldiers from Combined Task Force Currahee recently test-drove a new vehicle that could help alleviate some of the problems they have maneuvering through Afghanistan's mountains and valleys.

The enhanced logistic off-road vehicle, known as the ELSORV, may be the answer to navigating Afghanistan's rugged terrain.

Three prototypes are being tested. Afghanistan's rocky terrain makes the going slow and difficult for supply convoys, evacuation and basic ground transportation.

"This vehicle was brought on as an operation need," said Charlie Copey, one of the engineers who built the ELSORV. "Rapid Equipment Force funded the building of the prototypes."

All three prototypes are in Afghanistan so soldiers can learn how they handle in the terrain. Over the past year, the ELSORVs went through operational assessments in the United States, and now they are here for a real-world assessment by the soldiers who could end up using the vehicles.

"The ELSORV is unlike any other military vehicle I've driven," said Army Sgt. Lance Davis, one of the test drivers. "It goes wherever you want it to go."

Copey said ELSORVs can carry 2,700 pounds, and they have modified Humvee engines that can conquer

approach angles of 90 degrees and climb slopes at 80 degrees.

“As long as they have power going to one of the wheels, they’re going to stay mobile,” Copsey said.

The ELSORVs allow soldiers to go over obstacles without getting hung up on the undercarriage. The vehicle can go 90 mph safely on a hard surface.

“The best place for these vehicles is here in Afghanistan,” Davis said.

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### Contracts

## U.S. Marine Corps Awards Harris Corporation \$118 Million in Orders for Falcon II Multiband Manpack Radios Under New \$350 Million IDIQ Contract

ROCHESTER, NY -- Harris Corporation, an international communications and information technology company, has been awarded \$118 million in orders to supply the U.S. Marine Corps with Falcon II® AN/PRC-117(F) multiband manpack radios.

The Marines are acquiring the radios under a new \$350 million Indefinite Delivery, Indefinite Quantity (IDIQ) contract. Harris is the largest provider of tactical radios to the Marine Corps.

Under terms of the contract, the Marine Corps will almost double its quantities of the AN/PRC-117(F), a widely deployed and battle-tested manpack radio that delivers multiband/multimission Type-1 secure voice and data communications in a single rugged package. The Harris IDIQ contract is part of the Marine Corps' Strategic Radio Plan, which will transition the Corps from legacy single-band radios to multiband, multimission software-defined radios. These radios provide extended frequency range, significant reductions in weight and size, waveform upgradeability and interoperability across many components of the U.S. forces. Harris is playing the central role in that plan, including the delivery of Falcon II multiband and HF manpack radios and the new JTRS-approved Falcon III® multiband handheld tactical radios.

"We're pleased to help the Marines address their expanding mission requirements," said George Helm, vice president and general manager, U.S. Government Products, Harris RF Communications. "Harris is committed to providing our customers with a family of radios that not only meets the operational challenges faced by troops in the field today but also provides the ability to transition to the networked force of tomorrow.

As part of the contract, Harris will also provide three dedicated technical service personnel who will be embedded with Marine maintenance companies.

The AN/PRC-117F(C) radio covers the full 30-512 MHz frequency band using military standard voice and data waveforms, ensuring interoperability with a wide range of ground-based and airborne equipment. The radio features advanced tactical satellite voice and data capabilities required to communicate on the digital

battlefield. Harris RF Communications Division is the leading supplier of secure voice and data communications products, systems and networks to military, government and commercial organizations worldwide.

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### Defence Industry

## Navistar Engine Group Expands Diesel Offerings for Belarus Off-Road Equipment Manufacturers



MINSK, Belarus -- Navistar® Engine Group, an operating arm of Navistar, Inc., today announced an expanded commitment to supplying off-road diesel engines to Belarus manufacturers of diesel-powered agricultural, construction and industrial equipment.

Presenting at the Belagro international agricultural exhibition here, the company unveiled its full line of off-road diesels across the 37 - 254 kW (50-340 hp) range. In addition to current International® brand engine models that meet European Stage 2 emissions standards, Navistar showcased its new Stage 3 emissions-compliant MaxxForce™ diesels that in the future will help Belarus equipment manufacturers strategically expand their businesses in European export markets.

“Working with Belarus government and industry, we have enjoyed 15 years of success in this country,” said David LaPalomoto, sales and marketing vice president, Navistar Engine Group. “Today, we move from a niche player with two highly respected products to a broad-line diesel engine supplier to off-road equipment makers throughout the region.”

In Belarus, Navistar has long exported in-line six-cylinder diesels that power Minsk Tractor Works farm tractors and Gomselmash combine harvesters. Following Navistar’s 2005 acquisition of leading South American diesel engine maker MWM Motores Diesel Ltda., the company now offers diesel powerplants for a wider range of agricultural tractors, construction equipment and industrial power generation sets.

“Our long-range goal is to be a fully integrated partner with Belarussian vehicle and equipment makers,” said LaPalomoto. “Local sourcing of engines that meet tightening global emissions standards will allow them to profitably market their products throughout Europe and Asia.”

## Contracts

### US Army Orders Armored Bulldozers for \$397M

Caterpillar, Inc., Peoria, Ill., was awarded on Jun. 6, 2008, a \$397,100,467 firm-fixed price contract for light T-5 dozers and medium T-9 dozers with type A armor kits and type C armor kits with a five-year requirements contract with one five-year option.

Work will be performed in East Peoria, Ill., and is expected to be completed by Jun. 9, 2018. Contract funds will not expire at the end of the current fiscal year. Four bids will be solicited on Nov. 29, 2007, and seven bids were received.

U.S. Army TACOM, Warren, Mich., is the contracting activity (W56HZV-08-D-0169).



## Future Technologies

### U.S. Army Completes Production of First Non Line of Sight-Cannon Prototype



WASHINGTON, DC -- The U.S. Army's Future Combat Systems (FCS) Program successfully completed full prototype integration of the first FCS Manned Ground Vehicle (MGV) Non Line of Sight-Cannon (NLOS-C).

The NLOS-C, which has the ability to rapidly deliver precision munitions in both urban and conventional battlespace is the lead prototype in the Army's family of eight FCS Manned Ground Vehicles.

The NLOS-C is much different than all the other combat vehicles produced by the Army thus far. Advanced NLOS-C technology such as an automated loading system and improved accuracy through a projectile tracking system, coupled with the power of the FCS network and sensors, provides the NLOS-C's two-man artillery crew with capability to quickly deliver highly accurate sustained fires for close support and destructive fires for standoff engagements. This networked capability is important during both counter insurgency and conventional fights. "After receiving situational awareness reports from the FCS network, the NLOS-C will be able to put precision fires on target in less than thirty seconds," stated Lieutenant Colonel Robert McVay, Army Product Manager for NLOS-C,

"This is especially important in counter insurgency warfare as it will deprive the enemy of the ability to 'shoot and scoot', while allowing Soldiers to put precise rounds into urban environments that will help reduce collateral damage."

The state-of-the-art technology that is used in the NLOS-C will also be used in the other eight Manned Ground Vehicles creating commonality that will reduce operations and support burden for the FCS Brigade Combat Team. All MGV variants will have a common chassis and hybrid propulsion system. Soldiers will complete missions using a system that generates its own electricity, recharges its own batteries and uses less fuel than today's heavy combat vehicles. "The marriage of the cannon's mission module to the common chassis marks a commutation of more than five years of Army and industry development collaboration. We are now proceeding with production of seven more NLOS-C prototype vehicles," commented Colonel Bryan McVeigh, Army Product Manager for FCS Manned Ground Vehicles.

A total of eight NLOS-C prototypes will be produced between 2008 and 2009, with all undergoing rigorous testing, safety certification and evaluations at various Army test facilities. The NLOS-C prototypes will be used for testing and evaluation of not only the artillery system but also the MGV common chassis and technologies. "Information taken from extensive propulsion and drive train tests will be used across the MGV family to make potential cost saving development adjustments prior the entire MGV vehicle family prototyping in 2011 and eventual fielding in 2015." commented Col. McVeigh.

Soldiers at the Army's Evaluation Task Force (AETF) will receive 18 NLOS-C test vehicles starting in 2010. At the AETF the NLOS-C vehicles will be put through combat scenarios that will provide lessons learned that will be used to enhance and finalize the design for the final production NLOS-C vehicles and the rest of the MGV family.



## Defence Industry

### Two orders valued at a total of MNOK 193 for weapon control systems



KONGSBERG has booked an order valued at MNOK 58 from the US Army. The order is part of the 8 billion NOK Common Remotely Operated Weapon Stations (CROWS) framework agreement signed in August 2007. The deliveries will take place in first half of 2009.

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



further development.

KONGSBERG have also been awarded a MNOK 135 order by General Dynamics Land Systems in USA for deliveries of weapon control systems for armoured personnel vehicles to US Army.

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### Defence Industry

#### Northrop Grumman and DHS Systems Receive Contract Worth Up to \$240 Million for Mobile Command Posts

HUNTSVILLE, Ala. -- The U.S. Army has selected Northrop Grumman Corporation and its partner DHS Systems to provide mobile tactical operations centers that can be rapidly deployed for command, control and communications on the battlefield.

Under the Army's Standardized Integrated Command Post Systems (SICPS) Family of Trailer Mounted Support System (TMSS) contract, Northrop Grumman and DHS Systems will produce, integrate and deliver suites of tents, trailers and command posts complete with climate control and power for lighting, computers and large screen displays. The systems are being fielded to Army brigade combat teams, including troops in Iraq and Afghanistan.

Northrop Grumman's Mission Systems sector, as the prime contractor, will be responsible for program management and integrated logistics support. The companies will share responsibility for testing and mission assurance.

The Army Aviation and Missile Command at Redstone Arsenal, Ala., awarded Northrop Grumman a 60-month contract on May 30 and opened the first ordering period for systems. TMSS is potentially valued at \$240 million, with the Army expected to place four additional orders over the next five years.

The contract, originally awarded in February, was protested by General Dynamics. The Government Accountability Office investigated and reaffirmed the Army's selection of the Northrop Grumman team.

"Without question, Northrop Grumman is pleased to have this protest resolved favorably," said Philip Teel, corporate vice president and president of Northrop Grumman Mission Systems. "The employees working on this program can again focus on delivering this urgently needed capability to the warfighter as quickly as possible."

The TMSS medium and large Deployable Rapid Assembly Shelter (DRASH) systems, manufactured by DHS Systems, provide up to 1,100 square feet of usable space and can be set up in less than 40 minutes. The system is supported by a trailer providing electrical power and an environmental control unit capable of operating in temperatures from 50 degrees below to 131 degrees above zero Fahrenheit. Northrop Grumman produces the command post portion that completes the SICPS TMSS suite.

"We are pleased to be able to partner with a great company like DHS to meet this critical need of our

Army," said Kelley G. Zelickson, sector vice president and deputy general manager of the sector's Command and Control Systems Division.

"We are delighted to continue providing our men and women in uniform with state-of-the-art command and control facilities and systems," said Jerry McAbee, general manager of the DHS Systems Huntsville facility.

TMSS will be built at DHS Systems facilities in Orangeburg, N.Y., and Huntsville, Ala. The 130,000 square-foot Huntsville production facility, which opened earlier this year, will employ more than 150 people.

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

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### Contracts

#### BAE Systems Receives \$53 Million Contract for Mine Resistant Ambush Protected Special Operations Vehicles



YORK, Pa. -- BAE Systems has been awarded a \$53 million contract modification from the U.S. Marine Corps for 40 Special Operations Command (SOCOM) Mine Resistant Ambush Protected (MRAP) vehicles. The SOCOM Armored Utility Variant (AUV) vehicle is one of the different MRAP variants based on the RG33 6x6 family of vehicles.

"Our MRAP variants are tailored to meet mission-specific requirements for our marines, soldiers and Special Forces," said Matt Riddle, vice president for Wheeled Vehicle Programs at BAE Systems. "These highly survivable vehicles will allow service men and women to safely and efficiently carry out their duties."

Each of the new vehicles provides critical cargo carrying with an ability to haul up to 12,000 pounds, and towing loads weighing up to 30,000 pounds.

Work will be carried out at BAE Systems facilities in Santa Clara, California, York, Pennsylvania, and Fairfield, Ohio. Delivery of test vehicles will begin in December 2008 with production ending February 2009.

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### Exhibitions

#### Thales launches Bushmaster Copperhead utility vehicle at Eurosatory

Thales is pleased to announce the launch of its armoured combat support vehicle, known as

Bushmaster Copperhead, at the Eurosatory defence exhibition in Paris, France...



...This Utility or 'Ute', to use the Australian slang, is a 4-wheel drive cab chassis protected logistic vehicle that can carry a 4,000 kg load on its 9.4m<sup>2</sup> tray. It also provides crew the protection, mobility and combat flexibility to fulfil the ever growing mission needs in demanding situations encountered by military forces around the world.

The Bushmaster Copperhead is the latest addition to the Bushmaster Family of Vehicles (FOV), and uses the same single shell V-shaped hull to provide protection against mine blast and improvised explosive devices (IED). This technology is enhanced by upgradeable ballistic protection options to the crew cabin and a protection system already operationally proven in Iraq and Afghanistan.

A cruising speed of 100 km/h, maximum range of 800 km, high clearance for obstacles and river crossings, tight turning circle, plus the capacity to go off road in all conditions, give Bushmaster Copperheads the ability to safely carry personnel, supplies and equipment to any frontline in any environment.

However, what makes the vehicle truly unique is the combination of protection systems and tactical mobility while carrying a substantial load.

Backed by an international supply chain, mechanical components are selected for their global availability, and are common with Bushmaster while providing Thales the ability to offer worldwide Through Life Support (TLS). Thales is always looking at innovative support packages to reduce the customer's risk while tailoring TLS packages to meet the their specific needs.

"Australians have always had a fascination with the Ute and its unique body style. These vehicles have been extensively used on farms and construction sites across Australia for the last 75 years,"

said Chev Viviers, Chief Engineer for Bushmaster Copperhead. "It is the ruggedness, durability and functionality of the Ute that inspired the design of Bushmaster Copperhead."

Chris Jenkins, managing director of Thales in Australia, said: "The Copperhead marks a significant achievement for Thales Australia's design and construction team. Utilizing technologies, design elements and components already operationally proven, we have been able to construct a brand new vehicle that fulfils an operational requirement for the military. The latest addition to the Bushmaster family of vehicles offers enhanced safety features while increasing the operational capability of the armed forces".

## Defence Industry

### Krauss-Maffei Wegmann and Iveco DV jointly develop vehicle family



Krauss-Maffei Wegmann (KMW) and the Italian vehicle manufacturer IVECO have signed a cooperation agreement on the development of a new military vehicle family in the weight class of 18 to 25 tons in Paris.

For this class, there is a specific armed forces demand in Germany as well as in Italy. The two companies intend to serve this demand jointly in the future with highly protected two-axle and three-axle vehicles. „This agreement is vitally important for the expansion of our international network but also for the European desire for cross-border cooperation,“ declared Frank Haun, CEO and President of KMW and Pietro Borgo, head of the IVECO-business unit for military wheeled vehicles after the joint signature. „We will develop a vehicle family that, due to its standardized and modular concept, may be adapted to each specific demand of our national as well as international customers,“ they both explained. In a first step, the German market will be addressed in the Federal Armed Forces class 4 for Armoured Command-Control and Operations Vehicles (GFF4) with the version 6x6 (i.e. three axles, six driven wheels). In Italy, the VTM-x-vehicle is simultaneously introduced in a 4x4 version.

A prototype of the three-axle version is currently tested by the Federal Armed Forces. A two-axle variant will be derived from this model and will this year already be available as prototype for trial purposes. Depending on the customer requirements, the serial production delivery of the first vehicles may already start from 2009 on. The vehicle family is particularly characterized by its high level of protection against all common threats in the ongoing international NATO and EU operations like in Afghanistan, by an extraordinarily high mobility, a high vehicle payload as well as by a simple and reliable suppliability which is ensured due to the use of standardized components.



## Defence Industry

### Navistar Defense Awarded \$707 Million In Contracts To Provide Parts And Support For MaxxPro™

WARRENVILLE, ILL. -- Navistar Defense, LLC

continues to support and modify Mine Resistant Ambush Protected (MRAP) vehicles to better protect U.S. troops in Iraq and Afghanistan.



On Friday, June 20, the Marine Corps Systems Command awarded Navistar Defense five contracts worth more than \$707 million to provide parts and support for International® MaxxPro™ MRAP vehicles.

Under the contracts, which are fixed-price modifications to delivery orders awarded in fiscal year 2007, Navistar Defense will also support several engineering change proposals for its MaxxPro vehicles. Work for the engineering updates will be conducted at the company's West Point, Miss., assembly plant.

"We are proud to provide U.S. troops with a quality vehicle that helps them carry out their missions safely," said Archie Massicotte, president, Navistar Defense. "Navistar parts and support is a part of our entire value proposition that allows us to provide maximum protection to the men and women in uniform."

Navistar will complete the engineering portion of the contracts during fiscal year 2008 with parts and support continuing beyond the end of the year. The contracts total \$707,017,416. Navistar's global network provides swift distribution and service for MaxxPro MRAP vehicles in theater. Navistar has shipped more than 170,000 parts pieces to the military for use in Iraq and Afghanistan.

"Providing the best vehicles to our military doesn't end with production," said Tom Feifar, general manager, Global Defense and Export, Navistar Parts. "We intend to make sure MaxxPro vehicles remain in top shape, with little downtime spent in repair. Parts support is crucial to keeping these vehicles up and running."

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