

# Army Guide monthly



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**Robots**

**Japanese Robot Is Powered by Fuel Cells**

TOKYO, June 28 Asia Pulse - Robot development firm Speecys Corp. has developed a small bipedal walking robot powered by fuel cells.

Capitalizing on the fact that fuel cells do not emit carbon dioxide or need to be charged, the company developed the Speecys FC for use in research and at special events. It is 50cm tall, weights 4.2kg and is operated by a personal computer via a wireless local area network.

The robot is powered by five fuel cell stacks located in its arms. A 16-liter canister of compressed hydrogen is inserted near the robot's neck and provides enough fuel for around one hour of operation.

The company will begin manufacturing it on a build-to-order basis for universities, research institutions and companies in July, with the robot to be priced at 2.5 million yen (US\$22,850).



**Contracts**

**U.S. Army Awards Raytheon a \$22 Million Contract for Excalibur Early Fielding**



TUCSON, Ariz., -- The U.S. Army awarded Raytheon Company a \$22.1 million contract for initial production and early fielding of Excalibur, a cooperative effort between Raytheon Missile Systems and Bofors Defence of Sweden.

Excalibur is an artillery projectile that uses satellite guidance to provide precision accuracy at extended ranges for all current and future 155mm howitzers.

Raytheon will provide Excalibur projectiles, testing, manufacturing tooling, test and inspection equipment, projectile shipping/storage containers, and training support necessary to provide initial capability to the Army in fiscal year 2006, more than 3 years ahead of when full operational capability will be achieved.

Excalibur will conclude developmental testing, and the first production rounds will be delivered by the end of 2005. The Excalibur rounds will be delivered as part of a

system which includes an AFATDS (Advanced Field Artillery Tactical Data System) update for Excalibur and approximately 14 stand-alone fuze setters to be fielded to Paladin units serving in Iraq. Excalibur will also be compatible with the Army and Marine M777 light weight howitzer. The Marines have recently begun M777 fielding, and the U.S. Army will field M777 next year in conjunction with forming the Stryker Brigade of the 25th Infantry Division.

"The decision to pursue this early fielding reflects the Army's urgent need for organic precision-guided artillery munitions and is a sign that Raytheon Missile Systems and Bofors Defence have reached technical maturity in their design," said Lt. Col. William Cole, the Army's Excalibur product manager at Picatinny Arsenal, N.J.

This contract follows on the heels of months of successful testing. In November 2004, the contractor and Army Excalibur team successfully fired the world's first global positioning satellite-guided 155mm artillery projectile, which navigated to a target 20 kilometers down range, impacting 3.4 meters from the aim point.

In December 2004, the program proved reliability by repeating the test and impacting within 6.9 meters. Both were well within the Excalibur performance specification. The program is a key element of the transformation of cannon artillery to provide responsive precision strike capability for the U.S. Army's modular force.



**Contracts**

**Ceradyne, Inc. Receives \$75.5 Million Ceramic Body Armor Contract**



COSTA MESA, Calif. -- Ceradyne, Inc. announced the receipt of a \$75.5 million delivery order for its lightweight ceramic body armor. This is the third delivery order received under the \$461 million indefinite delivery/indefinite quantity (ID/IQ) contract announced on August 20, 2004.

Including this delivery order, orders received under this contract total approximately \$179 million with approximately \$282 million in unplaced options. The contract was awarded to Ceradyne by the U.S. Army Unique Missions Division, Aberdeen Proving Ground, Maryland. Joel Moskowitz, Ceradyne chief executive officer, commented: "We expect to receive additional delivery orders against this ID/IQ contract later this year and throughout the remaining 25 months of this contract.

The acquisition in 2004 of ESK, our supplier of the

raw material boron carbide, coupled with additional armor capacity coming on stream in our new Lexington, Kentucky, plant and Irvine, California, facility are anticipated to allow Ceradyne to meet these as well as other projected requirements." "Under an ID/IQ type contract, the government is obligated to purchase only certain minimum quantities," Moskowitz noted. "Each delivery order is issued as a release against a maximum amount, which for this contract is \$461 million. Therefore, our projections of follow-on business under this contract anticipate receipt of additional delivery orders.

Ceradyne includes delivery orders as backlog only when there is a firm delivery schedule." Moskowitz added: "Ceradyne is proud to have been awarded this contract and is confident that the Ceradyne armor systems that will be fielded in large quantities will help to save American lives." Ceradyne develops, manufactures and markets advanced technical ceramic products and components for defense, industrial, automotive/diesel and commercial applications.



## Defence Industry

### New Contract to Save MoD J29 Million and Support AS90 Guns



British soldiers will get even better logistics support for their AS90 guns and the MOD will save some J29 million over the next five years, thanks to a new partnering arrangement between the MOD and BAE Systems, Minister for Defence Procurement, Lord Drayson announced today. Levels of spares availability for the AS90, a 155mm self-propelled gun, will also be significantly improved as the result of the J60 million contract awarded by MOD's Defence Logistics Organisation.

The announcement was made at the official opening of Defence Vehicle Dynamics (DVD) 2005, one of the largest defence vehicle shows in Europe, where the defence sector can see at first hand the latest products and developments in military, commercial and emergency vehicles.

Lord Drayson, said: "DVD is important for both MOD and industry as it represents a unique opportunity for exhibiting and demonstrating, both on and off road, industry's latest military, specialist, commercial and emergency vehicles. It brings together all those involved in producing, procuring and providing logistics support to a vast array of vehicles that helps ensure our Armed Forces continue to have the very best vehicles available to them." "The partnering contract demonstrates the innovative way MOD and industry are working together to produce new cost effective support solutions.

Industry has greater flexibility to provide the required

support in the most efficient way, ensuring our Armed Forces continue to have the best support available. The new arrangements are expected to produce some J29 million in savings, representing excellent value to British taxpayers." Now in its fifth year, DVD features a vast and diverse range of vehicles and support services, from emergency 'blue light' vehicles to the latest combat support vehicles used in places such as Iraq and Afghanistan. BACKGROUND NOTES: 1. DVD is organised by MOD's Specialist and Utility Vehicles Integrated Project Team (SUV IPT).

The theme for this year's events is 'Through Life' reflecting SUV IPT's prominence within the Defence Logistics Organisation and Defence Procurement Agency as a truly Through Life IPT. DVD also gives visitors, of which thousands have pre-registered to attend, a rare chance to try many of the vehicles themselves in a realistic environment, including a high-speed ring and the extensive off-road section, complete with infamous one-in-one hill. 2. AS90 is a 155mm self-propelled gun that equips six Field Regiments of the Royal Horse Artillery and Royal Artillery. Fitted with a standard barrel, AS90 can fire the NATO L15 unassisted 155mm projectile (96lbs) 24.

7 km. With a long (52 Calibre) barrel the gun can reach out to 30 km using standard ammunition, and 60-80 km with Extended Range (ERA). AS90 is equipped with an autonomous Navigation and Gun Laying system (AGLS) based on the vehicles inertial navigation system, the Dynamic Reference Unit (DRU). (ends) BAE Systems Wins New, Innovative Support Contract for AS90 (Source: BAE Systems; issued June 29, 2005) British soldiers will get even better logistics support for their AS90 guns and the MoD will save some J29 million over the next five years, thanks to a new partnering arrangement between the MoD and BAE Systems, Minister for Defence Procurement Lord Drayson announced today.

Levels of spares availability for the AS90, a 155mm self-propelled gun, will also be significantly improved as the result of the J60 million contract awarded by MoD's Defence Logistics Organisation to BAE Systems. The announcement was made at the official opening of DVD 2005, one of the largest defence vehicle shows in Europe which is taking place at Millbrook near Bedford, UK. Lord Drayson said: "The partnering contract demonstrates the innovative way MoD and industry are working together to produce new cost effective support solutions. Industry has greater flexibility to provide the required support in the most efficient way, ensuring our Armed Forces continue to have the best support available.

The new arrangements are expected to produce some J29 million in savings, representing excellent value to British taxpayers." Andrew Davies, Managing Director of BAE Systems Land Systems, said, "The AS90 equipment support agreement is the first incentivised platform support contract in Land. Valuable lessons have been learnt from the air and naval sectors that we have been able to bring to the table on this support contract.

The partnering approach to delivery and the good working relationship between the DLO and BAE Systems will hopefully signify the new approach to support contracting of Land Systems platforms in the future”.

**BACKGROUND NOTES:** -- AS90 is a 155mm self-propelled gun that equips six field regiments of the Royal Horse Artillery and Royal Artillery. Fitted with a standard barrel, AS90 can fire the NATO L15 unassisted 155mm projectile (96lbs) 24.7 km. AS90 is equipped with an autonomous Navigation and Gun Laying system (AGLS) based on the vehicles inertial navigation system, the Dynamic Reference Unit (DRU). --146 AS90 guns are in service with the British Army. BAE Systems has major operations across five continents and customers in some 130 countries. The company employs nearly 100,000 people and generates annual sales of approximately \$25 billion through its wholly owned and joint-venture operations.

### Defence Industry

## General Dynamics Awarded \$23 Million for Abrams Tank Systems Technical Support



STERLING HEIGHTS, Mich. -- The U.S. Army TACOM Lifecycle Management Command has awarded General Dynamics Land Systems, a business unit of General Dynamics, a \$22.7 million contract modification for Abrams tank systems technical support (STS).

STS funds engineering studies and investigations on Abrams tanks with the purpose of identifying improvements and change-out of obsolete parts, while keeping Abrams tanks current to their base configuration. The STS program’s objective is to maintain Abrams tanks at high operational readiness rates.

Work will be performed at General Dynamics Land Systems headquarters here and is expected to be complete by July 31, 2006. The contract was initially awarded Nov. 23, 2001.

### Training And Simulators

## Lockheed Martin Receives U.S. Army Order For Four Additional Virtual Combat Convoy Trainers

ORLANDO, FL, June 27, 2005 -- The U.S. Army has awarded Lockheed Martin a 12-month service contract valued at \$4.2 million for a suite of four Virtual Combat Convoy Trainers (VCCT). The trainer is used to train troops for convoy operations in hostile environments, and will be built at Lockheed Martin Simulation, Training & Support in Orlando.

This order follows a \$5.1 million contract from the U.S. Marine Corps in January for four trainers and an initial U.S. Army order of eight trainers valued at \$9.6 million in June 2004. The trainers will be delivered to the U.S. Army Combined Arms Support Command at Fort Lee, VA in July. To date, more than 10,500 soldiers and 300 Marines have been trained in the Lockheed Martin VCCT.

“We believe that the troops that have trained in our VCCT have gained life-saving skills prior to their respective deployments to Iraq and Afghanistan,” said Lt. Col. Joseph Giunta, Product Manager, Ground Combat Tactical Trainers, Program Executive Office for Simulation, Training and Instrumentation.

The Lockheed Martin VCCT consists of a 53-foot, self-contained, deployable commercial trailer. Using a full-scale Humvee and simulation system that replicates scenarios troops might encounter, it enables combat crews to communicate, maintain situational awareness and acquire targets while moving at highway speeds operating in a convoy environment.

The VCCT is compatible with the Army’s Close Combat Tactical Trainer (CCTT) and has already been integrated with the Aviation Combined Arms Tactical Trainer (AVCATT).

Lockheed Martin subcontracts with Firearms Training Systems, Inc. of Suwanee, GA to provide firearms simulators that make the VCCT a comprehensive training system, incorporating realistic weapons engagement training and networked vehicle simulators to reinforce crew awareness and communications.

### Defence Industry

## Thales to Supply New High Frequency Tactical Communication System for French Forces

The French defence procurement agency (DGA) has appointed Thales as prime contractor for the Melchior programme, which will provide the French armed forces with a new-generation high-frequency (HF) tactical transit and access communication system. The contract, worth 252 million euros, calls for development and production of the system and subsequent through-life support.

The Melchior programme will provide French Army, Navy, Air Force and Special Forces units with a vital component of theatre communications that will be highly secure and interoperable with NATO systems.

The contract also calls for migration to the Melchior standard of the Carthage (HF tactical communication system currently in service) and Matilde (programme to upgrade French forces’ long-range communication capabilities) HF tactical communication systems in service and currently deployed in outside theatres of operations. Based on a family of latest-generation HF radio equipment and terminals, Melchior will incorporate protocols and waveforms compliant with NATO standards. The system will also integrate commercial IP technology to provide highly secure voice, data and

messaging services.

It will provide long-range links and will be complement satcom capabilities on joint and allied operations. In addition, new multimedia capabilities will enhance connectivity between HF terminals and other information and communication systems operated by the French armed forces. New-generation (TRC 3700) Carthage HF radio sets delivered from 2005 will support the Melchior standard. The initial version of the system and the first 100 Melchior terminals will be delivered in early 2007. By the end of the decade, over 1,200 Melchior terminals will be produced and all existing Carthage and Matilde HF terminals will be upgraded to make up a complement of close to 2,000 Melchior systems.

With its tactical HF equipment and systems installed in more than 35 countries, Thales continues to strengthen its leadership in tactical communications and is ready to work with the armed forces of these countries to migrate their systems on the basis of Melchior technologies and associated international standards. Thales is a leading international electronics and systems group serving defence, aerospace, security and services markets. The Group employs 60 000 people throughout the world and generated revenues of 10.3 billion euros in 2004.



## Defence Industry

### Tenix and Bofors Team up for ADF Artillery Upgrade



Tenix Defence has teamed up with Swedish company Bofors Defence AB to supply the Australian Defence Force with a new artillery system. The ADF is seeking tenders under the Land 17 Artillery Replacement Project for an indirect fire support system to succeed its 105mm Hamel Howitzer and 155mm M198 Howitzer fleet from 2008-10.

Tenix Defence and Bofors will offer the ADF with two options:

The Archer solution: a self-propelled 155mm L52 automatic howitzer incorporated into a modified armoured commercial six-wheel-drive (6x6) articulated Volvo A30D truck chassis.

A long range towed artillery system based on the FH77B05 platform that has consistently performed exceptionally well during recent tests by the Indian

Army.

Australian-owned Tenix Defence will work closely with Bofors Defence in the integration of the howitzer with the chassis, and ensure the Volvo articulated hauler chassis meets Australian requirements and has the desired level of protection.

Tenix Defence will also develop training packages and provide maintenance and repair, testing and evaluation.

Tenix Defence will conduct as much of the work as possible in Australia, where it already employs 3,500 people.

Bofors will provide the 155mm/52-calibre FH-77 BW L52 Archer self-propelled howitzer. Other parties involved are CJD (chassis); Kongsberg (artillery C2 and fire control system); Nammo (conventional ammunition manufacture) and CITS (simulation and training).

The Archer is a complete artillery system. It is unrivaled in all terrain mobility and fire power and has a sophisticated 'shoot and scoot' capability, onboard ammunition and multi round simultaneous impact (MRSI) capability. It is operated by a crew of three and requires fewer resources to execute and maintain its capability.

Personnel remain protected and effective inside the cab throughout deployment, acquisition, firing and redeployment.

Archer marries a proven artillery system with an off-the-shelf chassis to provide a sophisticated solution that fits within the Hardened Network Army concept.

Tenix Defence, CEO, Robert Salteri, said the company was very excited about teaming with Bofors Defence, which it saw as another opportunity to invest in Australian industry.

"Tenix Defence is confident that the Archer system meets all the ADF functional specification requirements and is the most practical and cost effective solution for the ADF upgrade" Mr Salteri said.

"Tenix Defence is a major player in the Australian defence industry and we believe that this partnership will continue to enhance Tenix's industry reputation across the Land and Electronics divisions."

Mr Salteri said words that describe great Olympic archers – "sophisticated, skillful and precise" – also applied to the Tenix – Bofors Archer system.



## Contracts

### CACI Awarded \$25 Million Contract to Support U.S. Army Ammunition Management System

Arlington, VA — CACI International Inc announced that it has been awarded a four-year prime contract, valued at \$25 million if all options are exercised, to support the Total Ammunition Management Information System (TAMIS) for Headquarters, Department of the Army in Washington, D.C. Awarded by the U.S. General Services Administration through the Millennium Lite Functional Area 3 vehicle, the contract includes one base year and three option years.

Under the terms of the award, CACI will provide program management and technical services in support of munitions modernization efforts for both the Army and U.S. Marine Corps. The award increases the size and scope of CACI's work with this Army client and expands its core systems integration business.

By delivering enhanced ammunition management capabilities and integrating new applications into a central system, the web-based TAMIS is expected to bring the Army and Marine Corps new efficiencies in developing requirements and managing weapons training programs. The enhanced system will include capabilities for managing more than \$1.3 billion in both training and war-time munitions.

CACI's team will provide program management and a full range of systems integration services to TAMIS and its 7000 + users. This includes reengineering and consolidating existing systems, delivering user training and help desk support for the system, and providing ongoing software maintenance and development. CACI will also integrate a range management component and install and manage an enterprise-wide business intelligence solution, interfacing with other Defense Department systems.

CACI has a strong legacy of support for stand-alone Army ammunition systems and the Department of the Army, offering the benefits of in-depth experience and proven technical solutions in the TAMIS environment. The company also provides high-quality software development services certified at Level 3 of the Software Engineering Institute's Capability Maturity Model. This combination of functional and technical expertise assures the Army of effective systems and software support, delivered on time and within budget.

According to Dr. J.P. (Jack) London, CACI Chairman, President, and CEO, "The Total Ammunition Management Information System is a pivotal program for U.S. Army and Marine Corps support. CACI has worked with the Department of the Army for many years on the legacy systems that will go into TAMIS, and we offer proven high-quality support for its development. Our experts will continue to leverage new technologies to enhance TAMIS performance as it grows to meet the Army's emerging requirements."

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### Contracts

#### **Stewart & Stevenson Receives Additional FMTV Orders Valued at \$219 Million; Company to Provide U.S. Army With 1,706 Additional Vehicles**

HOUSTON, -- Stewart & Stevenson Services, Inc. announced that Stewart & Stevenson Tactical Vehicle Systems, LP (TVS) received contract modifications from the U.S. Army valued at approximately \$219 million. These modifications are funded by the 2005 U.S. Congress Supplemental Spending Bill and represent the second award to TVS under that bill in recent weeks.

The current modification adds an additional 1,706

Family of Medium Tactical Vehicles (FMTV) to the third program year of the current production contract with deliveries scheduled from June 2006 through September 2008.



"This is the second award for FMTV under the Supplemental Spending Bill, which in total provides for an additional 3,016 additional vehicles. We believe these orders continue to demonstrate the overall success of the FMTV and the high confidence placed in this vehicle by our customer, the U.S. Army," said Dennis Dellinger, President and Chief Operating Officer of TVS.

Max Lukens, Stewart & Stevenson's President and Chief Executive Officer, said, "We are proud of the success of the FMTV and our long-standing relationship with the U.S. Army. We are confident that our industry-leading expertise in the manufacture of tactical vehicles and our broad product portfolio uniquely positions us to continue to design and produce world-class tactical vehicles for customers around the world."

The company noted that TVS is evaluating the requirements under the contract modification and will increase its production capacity for 2006 in order to meet the required delivery schedule. This will require capital expenditures in the near term for additional equipment and facilities. The contract modification is not expected to have a significant impact on the company's fiscal 2005 financial statements. The company will comment further as to the impact of this contract modification at its second quarter earnings conference call to be scheduled in late August.

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### Contracts

#### **Receives \$7.2 Million Order for U.S. Army Knight Precision Targeting System**

ST. LOUIS -- Engineered Support Systems, Inc. has received a \$7.2 million order from the U.S. Army Tank-automotive and Armaments Command (TACOM) in Warren, Michigan, for system technical support and logistics services for the Knight Precision Targeting System. Engineered Support's wholly-owned subsidiary Systems & Electronics Inc. (SEI) will provide the services in their St. Louis facility.

"To date, SEI has produced more than 140 Knight systems for the Army and Army National Guard. Knights are currently deployed in Afghanistan and Iraq as part of Operation Enduring Freedom and Operation Iraqi

Freedom," said Gerald A. Potthoff, Engineered Support's Vice Chairman and Chief Executive Officer. "With this order for technical and logistics support, we're now also able to provide for successful life cycle management for the Knight system."

Knight is a precision targeting system consisting of a laser designator/rangefinder, thermal imager, digital command and control, blended inertial/Global Positioning System navigation and targeting, and a self defense weapon. Its mission is to provide precision far target location and laser target designation for both artillery and air-delivered general purpose and precision-guided munitions.



### Defence Industry

#### ATK Successfully Demonstrates XM25 Airbursting Weapon System



ATK's Advanced Weapon Design Gives the Warfighter Unmatched Precision and Lethality. XM25 Ideal for Urban Combat Environments. Minneapolis – Alliant Techsystems (and the U.S. Army's Project Manager-Soldier Weapons successfully demonstrated the XM25 advanced airbursting weapon system with developmental ammunition at the International Infantry & Joint Services Small Arms Systems Annual Symposium on May 19, 2005.

The target for the first shot was a small window located approximately 170 meters down range. After exiting the chamber, the round flew right through the target and detonated inside the virtual room. The next four shots in the demonstration sequence also successfully engaged targets at ranges approaching 500 meters. The demonstration was the latest in an on-going series of successful field tests for the XM25. It was designed to simulate a realistic urban combat challenge and the XM25 met all test objectives.

When fielded, the XM25 will fire a High Explosive (HE), air bursting 25mm round capable of defeating an enemy behind a wall, inside a building or in a foxhole. The advanced design allows the operator to program the round so that it flies to the target and detonates at a precise point in the air. It does not require impact to detonate.

The revolutionary fire control system for the XM25 employs an advanced laser rangefinder that transmits information to the chambered 25mm round. As the round flies down range to the target, it precisely measures the distance traveled and detonates at exactly the right moment to deliver maximum effectiveness. The XM25 dramatically increases the warfighter's system performance while extending the effective range of the soldier's individual weapon to more than 500 meters.



### Contracts

#### Rheinmetall Awarded EUR 30 Million Tank Ammunition Contract



Germany's Bundeswehr has awarded the Rheinmetall Group with a tank ammunition contract worth approximately EUR 30 million. The ammunition is designed especially for the Leopard 2 main battle tank (MBT).

The contract was signed on July 1, 2005 at the Federal Agency for Defence Technology and Procurement (BWB) in Koblenz. Developed specifically with the out-of-area missions of the German Army in mind, the new ammunition, based on tungsten technology and known as the DM 63, will close a capabilities gap. Thanks to a new propulsion system, this KE round – unlike any other ammunition now available on the market – can be used not only in the most advanced version of the Leopard 2 tank, but also to expand the operational spectrum of the other 350 Leopard 2 MBTs remaining in the Bundeswehr's inventory, without the need for additional technical modification.

Its temperature-independent propulsion system constitutes a unique selling point, a technical feature unrivalled worldwide. The contract underscores Rheinmetall's leading edge position in the world of large-calibre armament and ammunition. Thanks to its superior main armament, the Leopard 2 is widely considered to be the world's most effective main battle tank. Some fifteen nations rely on large-calibre technology from Rheinmetall, giving this new generation of ammunition substantial export market potential.



### Defence Industry

#### General Dynamics Santa Barbara Sistemas Presents and Delivers the First Leopard 2E Tanks to the Spanish Army



SEVILLE, Spain --- General Dynamics Santa Barbara Sistemas (GD SBS) presented last June 17th 2004 in its Seville factory the first Leopard 2E Main Battle Tank (MBT) for the Spanish Army in an official ceremony chaired by His Majesty Juan Carlos I, the King of Spain, with the presence of more than one hundred civil and military authorities as well as executives of the defense sector.

The unveiling of the first Leopard 2E with the Spanish colors and banners took place at the semianecoic

chamber, one of the biggest in Europe, manufactured on purpose at the factory of Las Canteras to undertake electromagnetic tests, in the presence of the President of General Dynamics Corporation, Nicholas D.

Chabraja, the Spanish Ministry of Defense, Jose Bono, and the President of the Board of GD SBS, Antonio de Oyarzabal. Following, His Majesty the King made a tour through the workshops where the final assembly of the Leopard takes place and got to know in detail the whole process. Thereafter, he went to the test track to attend a dynamic exhibition of the MBT and recovery units, the last ones put at the disposal of the Spanish Army. Finally, he had the opportunity to see the differences and improvements existing between the Spanish Leopard 2E, the most modern of this sort, and the Leopard 2A4, in service in Spain through a lease system.

As part of the static exhibition other products from the GD SBS Group were shown like the armored Pizarro and BMR, the Howitzer 155/52 and the amphibious M-3. In his short speech, the President of General Dynamics, Nicholas D. Chabraja, stated that "the Leopard program has been an historic effort and has been characterized by cooperation among European governments, Spain's national industries and private industries from Spain and across Europe. I applaud everyone who has been involved for their achievements". "It is an honor to be here today to witness the delivery of the first Spanish Leopard tank to the Kingdom of Spain - he said.

This is a significant step forward in equipping the Spanish military with one of the world's most powerful ground-based defensive combat systems, which will help ensure Spain's future security as well as its place among peace-loving nations". Mr. Chabraja added that as President of GD, "this first delivery is proof that it was a correct decision to utilize the more than half-century of experience in manufacturing tracked armored combat vehicles that Santa Barbara Sistemas brings to the program. That was our belief when we first considered acquiring Santa Barbara Sistemas and it is the vision that drives us forward into the future".

Mr. Chabraja also stated that: "Santa Barbara Sistemas is now firmly part of the General Dynamics family, and both are stronger for it. For us, today's delivery is another opportunity to display how good a job the workers, managers and leadership of Santa Barbara Sistemas and General Dynamics can do for Spain, and our commitment that we will continue to meet the requirements of Spain's Armed Forces into the future", concluded. Among other personalities there were also present, the President of the Government of Andalusia, Manuel Chaves; the Supreme Allied Commander, Europe (NATO), General James Jones; the Chairman of Joint Chiefs of Staff (Spain), Admiral Antonio Moreno Barberó; Army Chief of Staff (Spain), General Luis Alejandro Sintés, and Mr.

Manfred Bode, President of the German company Krauss-Maffei Wegman (KMW), the main technological partner. In 1998, the Spanish government agreed to contract 219 tanks of the Leopard 2E line, 16 recovery tanks (CREC) and 4 training vehicles. They choose Santa

Barbara Sistemas as the main contractor. The program, with a budget of 1,939.4 million Euros, includes also the integrated logistical support, training courses for crew instructors and maintenance engineers and driving, tower, maintenance, aiming and shooting simulators. To face this industrial challenge, Santa Barbara Sistemas made total investments of 35.

3 million Euros, mainly in its factories of Sevilla, Trubia (Asturias), La Coruca and Oviedo. The main items were allocated to the construction of new facilities and the acquisition of production and test equipment. The Leopard 2E Program represents a total of 2.6 million working hours (hours of manpower in direct labor). The Spanish government stipulated that the percentage of participation of the national industry had to be at least of a 60 per cent, this figure will probably be exceeded. The industrial structure included tens of Spanish and German companies. The most representative Spanish companies, besides from GD SBS, are INDRA (combat system), IZAR (engine), SAPA (transmission, chains and final steps), AMPER (communications) and ELECTROOP (stabilization).

General Dynamics Santa Barbara Sistemas, which employs approximately 2,300 people in nine facilities in Spain and Germany, is the Spanish Army's main supplier of combat vehicles and ammunition. The company has production contracts for the Spanish Leopard MBT main battle tank, the Pizarro Infantry Fighting vehicles and the 155/52 APU SIAC Howitzer, in addition to other systems, and its products are marketed in 47 countries. General Dynamics, headquartered in Falls Church, Virginia, employs approximately 68,400 people worldwide and anticipates 2004 revenue of \$19 billion.

The company is a market leader in mission-critical information systems and technologies; land and expeditionary combat systems, armaments and munitions; shipbuilding and marine systems; and business aviation.



## Defence Industry

### Army Approves General Dynamics/Lockheed Martin System Design for Warfighter Information Network-Tactical (WIN-T)

TAUNTON, Mass. -- General Dynamics C4 Systems, a business unit of General Dynamics, and Lockheed Martin today announced that they had held the U.S. Army's preliminary design review (PDR) on the Warfighter Information Network-Tactical (WIN-T) program, the Army's next-generation battlefield communications network.

During the PDR, the Army reviewed the "first draft" of the WIN-T system design, including the top-level architecture and key component technologies. The comprehensive PDR is a detailed analysis of the selected system design to determine that it meets the performance and engineering requirements documented in the development specifications.

The Army performed the PDR to evaluate program



progress, technical adequacy, proposed architectures and risk resolution, including the existence and compatibility of the physical and functional interfaces with other systems, equipment, facilities, computer programs and personnel. The overall result is that WIN-T is on schedule for a critical design review (CDR) in September followed by development test/operational test (DT/OT) in November. "This major milestone is an important step to achieving the vision of WIN-T: giving warfighters access to critical battlefield information, seamless connectivity to the global information grid, unified network operations, joint interoperability and security across a host of platforms and points of presence," said Bill Weiss, vice president of future force programs for General Dynamics.

With the PDR accomplished, the General Dynamics/Lockheed Martin team will proceed with building a prototype WIN-T network, which will be used for extensive field testing in November of this year. Completion of that test, combined with the upcoming critical design review milestone, are essential requirements in advance of Army authorization for low-rate initial production (LRIP) of the WIN-T system, currently slated for March 2006. The WIN-T program, currently estimated to be worth \$7 billion through 2018, was awarded to a joint General Dynamics/Lockheed Martin team in September 2004.

WIN-T is a secure, high-bandwidth wireless communications network that will deliver mobile connectivity to soldiers across the battlefield. Integrating voice, data and video into a single network, WIN-T will keep troops in the field connected to joint and allied forces with unprecedented reliability. The General Dynamics/Lockheed Martin team has made significant progress in designing a stable, mature WIN-T system that is on track for initial fielding in 2008. In addition to General Dynamics and Lockheed Martin, the WIN-T program team includes Harris Corporation and BAE Systems - North America as collaborators on the transmission system.



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## Major Investment In Australia`s Special Forces

Army

The Howard Government has approved a \$207 million redevelopment of Special Forces facilities at Holsworthy Barracks to support the relocation of Special Operations Command units to the Sydney Defence base.

Defence Minister Robert Hill said Holsworthy is one of Australia`s key bases for national security and is used to train our Special Forces in counter terrorism as well as train snipers, commandos and the Incident Response Regiment. "Australia`s Special Forces are considered amongst the most capable Special Forces in the world and recent initiatives have significantly strengthened Australia`s domestic and offshore security capabilities," Senator Hill said.

"This redevelopment project will deliver a dedicated precinct to accommodate two key units of Special Operations Command, the 4th Battalion Royal Australian Regiment (Commando) - including the Tactical Assault Group (East) - and the Incident Response Regiment. "Many of the facilities at Holsworthy were built in the 1960s or earlier and no longer meet the needs of the new Special Operations units which are currently housed in old or temporary facilities. "The project will provide vital accommodation and infrastructure to support the new training facilities already approved and under construction at Holsworthy including electronic and live firing ranges and a mock-up aircraft, plus training for counter terrorism scenarios.

"This new project will support the latest Special Forces capabilities through construction of medical facilities, workshops, briefing rooms, warehouses and vehicle parks. There will also be upgrades to communications, security, external lighting, and stormwater management. "The redevelopment will improve the facilities needed for our Special Forces to be able to respond to terrorist and other threats against Australia and our national interests. "The new facilities will centralise most of the Sydney based Special Forces elements into one location. About 3000 personnel are currently based at Holsworthy, of which close to 1000 make up 4RAR and the IRR.

Holsworthy remains a long term Defence base." Two Sydney-based architectural firms, Group GSA and Rice Daubney Group, will design the working and logistic accommodation facilities, while Carson Group will project manage the development and construction of the facilities. The successful tenderer for the construction of the facilities is expected to be announced early next year with work to commence shortly after. The project is to be completed in 2009. The Government has previously announced four separate projects to boost Special Forces capabilities including the full time commando capability, the Incident Response Regiment and Tactical Assault Group - East, and the establishment of Special Operations Command.

In August last year, the design for the new Special Forces training facilities at Holsworthy was complete - these facilities are now under construction.



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## Radian Chosen to Perform NATO Response Force Studies

Army

Alexandria, VA -- Radian Inc, an Engineered Support Services Inc. (ESSI) company, has been chosen by the North Atlantic Treaty Organization (NATO) Supreme Allied Command-Transformation to perform a study of new concepts and existing technologies for the design, construction, and maintenance of NATO base camps. These base camps would be used by a deployed joint task force and the headquarters of the NATO Response Force. The study is worth \$170,000 and will last six months.

The base camp study is Radian`s second study award

from NATO in as many months. The first was for a water generation and distribution study, which is currently underway. Both projects will provide market surveys of existing and emerging technologies; recommend a system that best suits NATO's needs; and include an equipment demonstration in an exercise.

The end result of the base camp study will be a fully deployable camp that will be adaptable to all different terrains, and usable in weather conditions from sub-arctic to tropical. Radian's proposed solution for producing, purifying, and distributing water on-site will provide NATO and coalition forces with an alternative to the current method of importing and delivering bottled or tanked water to remote locations. This will result in safer, more cost-effective operations, as well as reduce the amount of logistical planning and cost required to execute such endeavors.

The water generation and distribution study and the base camp study are part of an organization-wide transformation effort to improve NATO's ability to uphold its global security commitments. NATO's ultimate goal is to support the NATO Response Force (NRF) with the technology and expertise necessary to meet its needs in a worldwide expeditionary environment.

### Defence Industry

#### BAE Systems Down-Selected As Preferred Supplier For Falcon

BAE Systems has been down-selected as preferred supplier for the first increment of the FALCON information infrastructure programme.

FALCON will provide the British Armed Forces with a new high capacity, secure information system infrastructure capability at the operational and tactical levels of command that can be deployed rapidly by air into any theatre of operations.

FALCON meets the requirements for greatly improved data throughput, multi-level security, mobility and manpower efficiencies, and will operate in conjunction with Skynet 5, Cormorant and Bowman, providing a wide area system binding together and reinforcing tactical communications in the theatre of operations. It is a crucial component of Network Enabled Capability, a central element in the new chapter of the UK's Strategic Defence Review. The intellectual capital gained from the development of FALCON will be an important part of the UK defence industrial base and the programme is a key element of BAE Systems UK strategy.

BAE Systems Integrated System Technologies (Insyte) and team partners Thales, Cisco, Dytechna and Flagship will now work closely with the UK MoD to prepare the main gate business case for the main production programme.

Clive Richardson Managing Director of Insyte said: "BAE Systems and its partners understand the battlespace and will take that experience into the

transition to FALCON. The MoD has run a very thorough and fair competition and we look forward to working together to deliver the capability to the UK Armed Forces".

### Defence Industry

#### Successful Firing of Area Denial Weapon System by Defense Consortium



ARLINGTON Va. -- Metal Storm Limited today released information regarding a successful firing of the Area Denial Weapon System (ADWS) Capability Demonstrator which was undertaken at the Port Wakefield Proof and Experimental Range near Adelaide, Australia.

The ADWS consortium project is sponsored by the Australian Department of Defense, and led by the Defense Science and Technology Organization (DSTO), and includes Metal Storm as a major consortium member. Tenix Defense Industries was a significant contractor to the project. Australia is signatory to the 1997 Ottawa Treaty that bans the use of Anti-Personnel Land Mines (APL).

Through the banning of APLs, the Australian Defense Force (ADF) needed to identify a more appropriate weapon system to deny access by a dismounted enemy to large areas of ground. The ADWS Project was established to investigate and demonstrate weapon system concepts that may provide an alternative to APLs. The ADWS aims to demonstrate area denial technology that can overcome the indiscriminate nature of land mines by addressing the requirement for a human-in-the-loop to initiate the weapon system. The ADWS concept provides an option that is Ottawa Treaty Compliant. ADWS is based on integrating Metal Storm 40 mm stacked projectiles into a multi-barrel pod system and linking them with intrusion sensors and a fire control system.

The concept demonstration system comprised four weapon pods, each containing four barrels, networked and linked to a command and control station. Each demonstrator pod has the capability to fire up to 20 projectiles in varying user-selectable combinations including rates of fire, barrel selection and firing sequence. The live fire demonstration used inert projectiles, and engaged simulated targets based on information provided by a computerized sensor system. Firing responses included a range of combinations from single shots through to a rapid-fire burst of 20 projectiles at a rate of 1500 rounds per minute.

The pods are able to fire at a maximum rate of 6,000 rounds per minute. More barrels can be added to each pod to increase payload as required. Metal Storm's Chief Executive Officer Mr. David Smith, said the demonstration of the ADWS highlighted the viability of the company's stacked round, multiple propellant load technology in the military area denial role. "The conclusion of the ADWS project provides us with the opportunity to evaluate the commercial opportunities flowing from the project outcomes." "In addition to land mine replacement and area denial applications, the ADWS concept may have potential for other uses, such as airfield defense and defense of ships against close-in terrorist attack," Mr.

Smith added. Metal Storm Limited is a defense technology company engaged in the development of electronically initiated ballistics systems using its unique "stacked round" technology. The company is headquartered in Brisbane, Australia and incorporated in the US, with an office in Washington DC. The company has invented a ballistics technology that has no known conventional equivalent. Metal Storm is working with government agencies and departments, as well as industry, to develop a variety of systems utilizing the Metal Storm non-mechanical, electronically fired stacked ammunition system.



### Contracts

#### **CACI Awarded \$11 Million Task to Support Defense Personnel Records Image Retrieval System Work for Department of Defense Military Personnel Records Portal Continues**

Arlington, VA, July 11, 2005 — CACI International Inc (NYSE:CAI) announced today that it has been awarded a task order of an estimated \$11 million value if all options are exercised to continue work on the Defense Personnel Records Image Retrieval System (DPRIS) initiative for the Department of Defense (DoD) Office of the Undersecretary of Defense for Personnel and Readiness.

The five-year task order was competitively awarded by the General Services Administration (GSA) Federal Systems Integration and Management Center (FEDSIM) under the Millennium Lite Functional Area 4 Information Technology Support Services contract and requires CACI to perform web-based integration and support services for the DoD. With this award, CACI expands its secure electronic records capabilities within its core systems integration business.

DPRIS is a secure web portal through which the Department of Veterans Affairs and other federal agencies gain access to official military personnel records in digital image format. Copies of source documents from millions of records for current active, guard, and reserve service personnel, as well as recently retired, separated, or discharged veterans can be requested by authorized agency users. The modular DPRIS design facilitates component reuse with minor

configuration changes to accommodate additional interfaces as other agency systems are incorporated into the Net Centric DPRIS enterprise environment. The DPRIS application does not persistently store records which remain under control of the respective repositories operated by the military services and the National Archives and Records Administration.

CACI will continue to provide maintenance and support for the legacy DPRIS production software, integrate interfaces with other DoD military personnel records systems, complete the development and implementation of a secure DPRIS Web site for authorized agency use, and expand the system to support automated routing of requests for information or documents from older microfiche and paper records as well as for data from military personnel record databases. The upgraded Military Personnel Records - Net Centric enterprise portal will automate the secure routing of government agency requests and return of retrieved images, text, and data.

As the incumbent contractor, CACI brings senior military personnel records experts and a highly qualified technical development and implementation team to DPRIS. The SEI CMM Level 3 compliant team employs proven development processes and extraordinary communications and coordination skills to provide the ultimate in product development and performance, completed on time and within budget.

"Military personnel, both active duty and retired, deserve America's support and respect. Our technology allows government agencies supporting our service personnel and veterans to more quickly and consistently adjudicate requests for the entitlements and benefits that they have earned," said CACI Chairman, President, and CEO Dr. J.P. (Jack) London. "We're proud to serve in this vital area."



### Contracts

#### **DRS TECHNOLOGIES Receives \$16.8 Million Contract To Provide Embedded Diagnostic Systems For U.S. Army Combat Vehicles**



Parsippany, NJ, July 14 -- DRS Technologies, Inc. announced today that it was awarded a \$16.8 million contract from the U.S. Army to deliver new embedded diagnostics systems for installation on the M2A3 Bradley Fighting Vehicles.

For this award, DRS will manufacture Chassis Modernization and Embedded Diagnostics (CMED) kits. The kits will provide substantially upgraded weapon systems capability and an integrated embedded diagnostics functionality for these vehicles, while delivering real-time diagnostics and increased reliability, reducing logistics footprint, and lower operating and support costs. The CMED systems are applicable to the entire fleet of Bradley Fighting Vehicles.

The contract was awarded to DRS by the U.S. Army's Tank and Automotive Command Life Cycle Management Command (TACOM LCMC), Rock Island, Illinois, on behalf of Program Manager Combat Systems in Warren, Michigan. Work for this order will be accomplished by the company's DRS Test & Energy Management unit in Huntsville, Alabama. Product deliveries are expected to begin in August 2006 and continue through July 2007. Additional contracts for production and installation of these diagnostic kits are anticipated by the company.

"The receipt of this contract reinforces our role as a key supplier of operationally-proven electronic test and diagnostics equipment for the U.S. Army's fleet of ground vehicles," said Fred L. Marion, president of DRS's Surveillance & Reconnaissance Group. "The upgraded capabilities developed for this ground combat vehicle system will result in enhanced situational awareness for the Bradley driver, increased vehicle availability, simplified logistics, and improved product functionality and performance, ensuring that the Bradley fleet will continue to play a crucial role on the battlefield."

For this contract, DRS will deliver transducer sensor kits, cable modification kits, Driver Vision Enhancer (DVE) kits, Digital Vehicle Distribution Box (DVDB) embedded diagnostics and video integration kits, new Driver Display Panels (DDPs), steering column modifications and common display panel kits for existing M2A3 Bradley Fighting Vehicles.

DRS's Test & Energy Management business is a leading supplier of automated test systems, embedded diagnostic systems, vehicle electronics, and power and energy management solutions for a broad range of military applications.

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### Contracts

#### **DRS TECHNOLOGIES Receives \$35 Million Contract To Provide Electronics Test Support For U.S. Army Ground Vehicles**

Parsippany, NJ, July 12 -- DRS Technologies, Inc. announced today that it was awarded a \$35 million contract for the continued manufacture of the Direct Support Electrical System Test Sets (DSESTS) Test Program Sets (TPS) for the M1A1, M1A2 and M1A2 Abrams Main Battle Tanks System Enhancement Program (SEP) and the M2/M3 family of Bradley Fighting Vehicles.

The contract was awarded to DRS by the U.S. Army

Tank Automotive and Armaments Command Life Cycle Management Command (TACOM LCMC), Rock Island, Illinois, on behalf of Program Manager Combat Systems in Warren, Michigan. Work for this contract will be performed by the company's DRS Test & Energy Management unit in Huntsville, Alabama. For this award, DRS will produce Test Program Sets (TPS) designed to support the U.S. Army's conversion to modularity and also will provide engineering and support to resolve parts obsolescence issues. Product deliveries are expected to commence immediately and continue through June 2007.



"Our continued support of this test equipment assures that the Army's current generation of Abrams and Bradley vehicle fleets can be fully sustained around the world," said Fred L. Marion, president of DRS's Surveillance & Reconnaissance Group. "Our customer's commitment to the long-term sustainability of DSESTS equipment reaffirms our position as a leading supplier of 'best value' electronic test systems for the Army's family of Abrams and Bradley ground vehicles."

DRS produces a variety of automatic test equipment (ATE) designed for diagnosing electronic components installed on Army M1A1, M1A2 and M1A2 SEP Abrams Main Battle Tanks, M2/M3 Bradley Fighting Vehicle Systems, and U.S. Marine Corps' Abrams tanks and Light Armored Vehicles (LAVs). Utilized at 89 locations in the U.S. and deployed internationally, the DSESTS supports the U.S. Army's modularity requirements, as it transforms existing divisions into brigade combat teams.

DRS is developing new, state-of-the-art, third generation Army automatic test equipment, which is expected to reduce test development time, increase testing efficiency, improve data logging capability, reduce overall support costs, and improve the capability to test all Abrams and Bradley line replaceable units (LRUs).

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### Contracts

#### **Force Protection, Inc. Announces \$5 Million Debt Financing Agreement**

Ladson, S.C. -- Force Protection, Inc., manufacturer of the Buffalo and Cougar armored vehicles deployed with U.S. armed forces in Iraq and Afghanistan, announced today that it has secured a credit line of \$5 million through GC Financial Services, Inc. of Houston, Texas. The all-debt deal is coupled with a factor agreement that allows Force Protection to receive payment on its U.S. government contract receivables within 24 to 48

hours of delivery.



Force Protection CEO Gordon McGilton noted that the agreement will help ensure the expansion of the company's production capability to meet the order for 122 Joint Explosive Ordnance Rapid Response Vehicles (JERRV) recently awarded by the Joint IED Defeat Task Force.

"The flexibility of the credit line, together with the \$6.7 million milestone payment recently received under the JERRV contract, will provide us with sufficient working capital to meet present cash needs" noted McGilton.

"This will enable Force Protection to maintain its focus on delivering cutting-edge armored vehicle technology to support our troops in Iraq."

"We are extremely pleased to continue our close working relationship with Force Protection and proud to play a role in the company's mission to protect and save lives," said Kent Martin, Managing Director of GC Financial.

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### Defence Industry

#### Roush reveals its Lightweight High-Mobility Platform



Roush Technology's new lightweight 6x6 all-terrain vehicle has been revealed at DVD defence exhibition.

The Harewood programme, as it is known within Roush, began after the company won a £3.5 million tender to design, develop and build a new lightweight, high-mobility modular platform for the UM MoD.

The new platform features fully independent front suspension and a 'walking beam' rear bogey – supporting an ultra-light honeycomb aluminium chassis. Full-time 6x6 all-wheel-drive is delivered from a 1.9-litre mechanically fuelled, naturally aspirated diesel engine, via fully automatic transmission and a torque converter. The engine develops 72 brake horsepower and 125 Nm of torque.

The kerb weight of the base platform is 805 kg, which permits a payload capacity of over 900 kg. The machine uses high flotation tyres to achieve low ground pressure.

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### Contracts

#### U.S. Army Awards Lockheed Martin \$152 Million Contract To Develop Next-Generation Army Knowledge Online

MANASSAS, VA., -- Lockheed Martin has been awarded a \$152 million contract to lead the development, integration and maintenance of Army Knowledge Online (AKO), the U.S. Army's primary internal web portal.

With more than 1.8 million users worldwide, AKO is the premier web gateway to the Army enterprise. The sophisticated web portal gives soldiers fast, easy access to dozens of logistics and combat support applications, secure e-mail and messaging, and volumes of valuable information about the Army itself. The AKO Enterprise Services (AKO-ES) program, which was awarded to a Lockheed Martin-led team on July 7, calls for a single contractor team to take over the management and administration of AKO, developing and implementing a strategic plan for cutting costs, streamlining operations and improving service to warfighters.

"We are honored to have been selected by the Army to lead the development and maintenance of one of their most important programs," said Lee Hall, Lockheed Martin's director of enterprise solutions. "AKO spans the breadth and depth of the Army itself, serving millions of soldiers, civilians, retirees and contractors. Our team understands just how critical this system is to the Army, and we're excited to begin building a streamlined, integrated infrastructure that will continuously evolve to meet the needs of both the Current and Future Force."

The first priority for the team will be to quickly stand up the program and establish a solid partnership with the Army, while preparing to assume responsibility for existing help desk operations. From there, the team will design and implement a new AKO architecture, one that will significantly reduce operating costs, bolster performance and reliability, and set the stage for an evolution to net-centric operations.

"This is truly a full-scope effort, one that spans from basic server administration and network maintenance all the way to helping define the future of the Army's technology road map," said Scip de Kanter, Lockheed Martin's AKO-ES program manager. "AKO is poised to become the centerpiece of an evolving IT infrastructure, one that will ultimately link every soldier to a worldwide network powered by the Global Information Grid. For Army soldiers, their entry point into that transformational network will be AKO. Our job is to make sure that every time they log on, they're able to quickly and precisely get to the information they need."

The Lockheed Martin team includes leading defense and commercial IT experts, including SAIC, Computer

Sciences Corporation, and a host of focused technology providers. Lockheed Martin brings world-class enterprise integration and tactical communications expertise to the AKO program, and is responsible for program management, IT strategy and application integration. SAIC, a primary member of the Future Combat Systems (FCS) team, brings critical expertise in Army systems and operations. SAIC is responsible for integrating AKO's legacy applications and for its future knowledge management architecture. A leading provider of networking, server and data center solutions, CSC leads infrastructure operations, maintenance and enhancements.

Teammate Roundarch brings specialized expertise in the design and implementation of portal, content management and integration solutions. Internosis, a premier provider of enterprise messaging and directory services, brings both commercial and government best practices to the team. The Ambit Group lends expertise in balanced scorecard processes and performance-based contracting. Finally, MicroLink provides solutions for the design of AKO Forward as it is integrated into the overall AKO architecture.



### Defence Industry

#### 2.8 Billion Baht Arms Procurement Budget Thai Army Approved

The Thailand cabinet meeting on the 12th of July has had a resolution approving the encumbrance of 2,785,500,000 Baht in fiscal years 2005-2007.

Pol. Gen. Chalermdej Chompoonut, Government Spokesman, revealed that the cabinet meeting on the 12th of July has had a resolution approving the encumbrance of 2,785,500,000 Baht in fiscal years 2005-2007 by the Army for six weaponry procurement projects which include 1) 5.56 mm rifles procurement; 2) 7.62 mm machine guns procurement; 3) Attack helicopters procurement (seven); 4) 5.56 mm submachine guns procurement; 5) Model-212 utility helicopters repair and maintenance; and, 6) Radio direction detectors procurement. 557,100,000 Baht of the said budget would be paid in 2005 and 1,114,200,000 Baht would be paid in 2006 and in 2007.



### Contracts

#### Armor Holdings, Inc. Receives \$78 Million Up-Armored HMMWV Order



JACKSONVILLE, Fla. -- Armor Holdings, Inc., a

leading manufacturer and distributor of security products and vehicle armor systems serving military, law enforcement, homeland security and commercial markets, announced today that it has received a \$78 million contract award from the U.S. Army Tank-automotive and Armaments Command to provide additional M1114 Up-Armored HMMWVs.

The company indicated that all Up-Armored HMMWVs purchased under this order will be delivered to the United States Marine Corps. Work will be completed in 2005 and into 2006 by Armor Holdings' Aerospace and Defense Group facilities located in Fairfield, Ohio.

The company also stated that it will provide an update to previously provided fiscal year 2005 financial guidance during its July second quarter conference call scheduled for July 21, 2005. Robert Schiller, President of Armor Holdings, Inc., said, "We are grateful that the U.S. Marine Corps Systems Command has elected to continue fielding M1114 Up-Armored HMMWVs through the U.S. Army contract in support of our Marines serving in Iraq. This new order enables us to sustain monthly production rates at a minimum of 550 vehicles per month through 2005 and adds to previously announced 2006 backlog.

We are proud to support the Corps and look forward to additional opportunities to support our Marines, Soldiers, and other potential customers of the Up-Armored HMMWV." Armor Holdings, Inc. is a diversified manufacturer of branded products for the military, law enforcement, and personnel safety markets.



### Future Technologies

#### BAE Systems Fires First Round From 38-Caliber NLOS-Cannon



BAE Systems has successfully fired the first round from its Non-Line-of-Sight Cannon (NLOS-C) Concept Technology Demonstrator (CTD) using a Zone 4, 38-caliber cannon tube at Yuma Proving Ground, Arizona. NLOS-C is the lead manned ground vehicle system under the US Army's Future Combat System program.

The lighter-weight 38-caliber length tube replaces the CTD's 39-caliber length tube which fired more than 1,193 rounds on the NLOS-C CTD system since August 2003. The successful integration and firing of the 38-caliber tube - in less than one month - demonstrates

BAE Systems has successfully reached the next step in the development path toward fielding NLOS-C Increment 0 prototypes in 2008.

"The integration of the 38-caliber cannon onto this system continues to prove that BAE Systems is a world-class armament system developer," said Jim Unterseher, Director of Army Programs for BAE Systems at Minneapolis. "As this technology continues to mature, it is yet another indication that a new artillery weapons system will be in the hands of soldiers very quickly."



## Defence Industry

### Force Protection, Inc. Expands Production Capacity Through Engineering Alliance



Ladson, SC - Force Protection, Inc., manufacturer of the Buffalo and Cougar armored vehicles deployed with U.S. armed forces in Iraq and Afghanistan, today announced a services contract with Ricardo plc, a leading international automotive consultancy.

Under the terms of the alliance, Ricardo will provide an integrated bill of materials including Spartan Chassis assemblies and subassemblies in the Cougar product line, automated drawings and model updates, design releases, and vehicle validation tasks for the Joint EOD Rapid Response Vehicle (JERRV).

Ricardo will receive an estimated \$1.68 million for its services and materials.

"We are extremely pleased to work with a world-class organization like Ricardo," said Force Protection CEO Gordon McGilton. "Their expertise will be invaluable to us as we continue our rapid growth and expand production capacity to meet the constantly-increasing demand for our vehicles."

Force Production was recently awarded a joint contract by the Department of Defense for more than 120 Cougar JERRV vehicles funded by the Joint IED Defeat Task Force. Its vehicles have been in active operations for more than two years in support of Operations Iraqi Freedom and Enduring Freedom.

"This is an exciting time for Force Protection, as our manufacturing structure becomes larger," said Force Protection Industries President Ted McQuinn. "Ricardo brings a wealth of experience and a knowledge base in engineering technology that will greatly assist us as we address the needs of this joint order."

With technical centers in the United States, United Kingdom, Germany and the Czech Republic, Ricardo provides innovative technology, engineering services and

strategic consulting to automotive industries around the world.



## Exhibitions

### At Defense And Security 2005 3 rd International Exhibition Of Defense And Security Technology



Rosoboronexport State Corporation (SC) is an organizer of Defense and Security 2005 – 3 rd International Exhibition of Defense and Security Technology, which will be held in Nizhniy Tagil on the basis of the State Demonstration and Exhibition Center of Armament and Materiel from 5 th to 9 th of July 2005.

The Exhibition will demonstrate achievements of national defense industry in the sphere of development and production of local and integrated systems of emergencies monitoring and forecasting, elimination of after-effects of ecological and man-caused catastrophes, and antiterrorist and law enforcement aids.

Remained instability in the world, existing threats of terrorist acts commitment and risks of emergencies are turning the topic profile of this Exhibition and accordingly foreign economic activity of Rosoboronexport SC in the segment of special technical aids and security systems, into a priority area of defense technological cooperation with foreign nations.

In this regard Rosoboronexport SC observes with satisfaction that higher interest in the Exhibition is demonstrated on the part of foreign military attaches, experts and representatives of potential customers.

There is no doubt that attention of foreign visitors will be captured by products of such enterprises – manufacturers of special devices as Rekord Alexandrovsky Research & Design Institute of Television Equipment, Elektropribor Production Association, Research and Design Institute of Applied Chemistry and Eleron Research and Production Association. In Nizhniy Tagil they represent a wide nomenclature of protection and security devices, radio wave and radio technical detection means, information cryptographic protection systems, radio wave devices and radio communication system of sentinels security.

The stand of Rosoboronexport SC will display a number of perspective export samples for antiterrorist activity. Among these are Fort-Technology body armor, SV-1312 disintegrator of explosive assemblies, SV-1324 hydro gun for disintegration of explosive assemblies, SV-131 door opening kit and other items.

Models of special aircraft exhibited by Rosoboronexport SC can also be of interest for foreign participants. These comprise Be-200 unique multipurpose amphibious aircraft, offered in fire-fighting, passenger, cargo, patrol, search and rescue and medical versions, AN-38 aircraft, AN-3T multipurpose transport aircraft, AN-74 multipurpose aircraft and Ka -226 helicopter.

Rosoboronexport SC is viewing Defense and Security 2005 Exhibition as an important step for deepening further interaction with export-oriented enterprises of Ural Region, primarily SUE Uralvagonzavod Production Association, FSUE Uraltransmash, FSUE Ural Optical Mechanical Factory Production Association and OJSC Motovilikhinskiye Works.

Rosoboronexport SC also uses participation in the exhibition as a tool to bring attention to core nomenclature of exported products.

Specialists will receive exhaustive information about combat capabilities of more than 40 samples of state-of-the-art and modernized military equipment. Among them are T-90S, T-80UK, T-72 tanks and engineering vehicles on their base, modernized BTR-60PB and BTR-70 armored personnel carriers and modernized 152mm and 155mm caliber MSTA-S modernized self-propelled howitzer. The stand offers a traditionally wide range of small arms and close combat systems: 5.56mm Kalashnikov AK-101 submachine gun, 5.45mm AK-102 submachine gun, 7.62mm Kalashnikov AKSU-74 submachine gun, 5.56mm Pecheneg 6P41 machine gun with improved penetration bullets (ind. RS101), 9mm PYa Yarygin autoloading pistol (ind. 6P35), 12.7mm KORD 6P49 tank machine gun.

The immediate Defense and Security 2005 Exhibition will undoubtedly become an important marketing event that will materially complement a package of measures, implemented by Rosoboronexport SC, on improvement of export potential of national defense industry and rising international reputation of Russian weaponry.

### Defence Industry

#### General Dynamics and Rafael Win \$38M Contract to Supply Reactive Armor to American Vehicles in Iraq



HAIFA, Israel -- Rafael Armament Development Authority Ltd. and General Dynamics have won a contract valued at \$38M to supply reactive armor for the U.S. Army Bradley APCs serving in Iraq. The reactive armor, developed by Rafael especially for the Bradleys, is the newest generation of reactive armor available worldwide.

The armor is mounted onto the vehicle and provides the crew inside with excellent protection against a variety of anti-armor weapons, including shoulder-launched weapons. A few months ago, Rafael received an official letter of commendation from the Americans clearly stating that the Rafael armor – passive on the AAV7 APC and the reactive on the Bradleys – successfully withstood tough battles and saved the lives of many soldiers in Iraq. Dr. Eitan Yudilevich, VP Marketing and Business Development at Rafael, said that “The successful cooperation between GD and Rafael has proved that both companies are capable of working together to achieve customer satisfaction and successful business results.

As a result of this success, the companies have decided to expand their cooperation to other business activities.” Rafael has gained an excellent reputation over the years for its passive and active armor products suited to a variety of tanks and combat vehicles in the IDF, such as the “Nakpadon”. It is important to note that the same technology that was used for the American vehicle armor, which has stood-up successfully against a number of threats, will also be used in creating the armor for the IDF’s M-113. Rafael designs, develops, manufactures and supplies a wide range of advanced defense systems for all branches of the military and homeland security forces.

Tailored to its customer’s specific needs, Rafael provides state-of-the-art, yet cost-effective systems and weapons in the fields of Missiles, Air Defense, Naval Systems, Target Acquisition, EW, C4ISR, Communication Networks, Data Links, Electro-Optic Payloads, Trainers and Simulators, Add-on Armor, Combat Vehicle Upgrading, Mine Field Breaching, Border and Coastal Protection Systems, UAVs and much more.



### Defence Industry

#### 17 BM Bulat tanks shall reinforce combat fleet of Armed Forces of Ukraine



Kharkov, Ukraine – Specialists of SOE KMDB have developed a BM Bulat tank – upgraded T-64. Performance characteristics of the upgraded tank meet the up-to-date global requirements. 17 combat vehicles have been directly manufactured by the State Enterprise “Malyshev Plant” in the framework of state order of the Ministry of Defence of Ukraine.

As it was announced in the press-cutting service of the Ministry of Defence of Ukraine the first batch of



upgraded tanks, which will soon reinforce the combat fleet of Armed Forces of Ukraine, was taken over last week by the Deputy Minister of Defence Viacheslav Kredisov from Kharkov tank manufacturers.

According to him, the contract for these works with the State Enterprise "Malyshev Plant" was signed by the military department in summer 2004, and today its conditions have been fulfilled by the both parties.

"Malyshev Plant" General Director Gennady Grytsenko was sure that the state and Ministry of Defence, in particular, despite the present economic difficulties, would significantly activate their cooperation with Kharkov tank manufacturers.

"Within the framework of reforming of the Armed Forces of Ukraine, optimization of their structure and reduction of strength, induction of 17 new tanks will not lead to increase of overall quantity of combat vehicles, but will increase the qualitative performance of the land forces striking power. Simultaneously the process of inactivation from the combat composition of much bigger quantity of obsolete and unfit for active service vehicles is permanently going on", - was said in the Ministry of Defence.

Among the developments of SOE KMDB there is also a new tank Oplot, armored personnel carrier Dozor B, variants of upgrading of equipment up to the NATO standards, modern simulators and other equipment for land forces.



## Defence Industry

### CACI Awarded \$11 Million Task to Support Defense Personnel Records Image Retrieval System Work for Department of Defense Military Personnel Records Portal Continues

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The five-year task order was competitively awarded by the General Services Administration (GSA) Federal Systems Integration and Management Center (FEDSIM) under the Millennium Lite Functional Area 4 Information Technology Support Services contract and requires CACI to perform web-based integration and support services for the DoD. With this award, CACI expands its secure electronic records capabilities within its core systems integration business.

DPRIS is a secure web portal through which the Department of Veterans Affairs and other federal agencies gain access to official military personnel records in digital image format. Copies of source documents from millions of records for current active, guard, and reserve service personnel, as well as recently retired, separated, or discharged veterans can be

requested by authorized agency users. The modular DPRIS design facilitates component reuse with minor configuration changes to accommodate additional interfaces as other agency systems are incorporated into the Net Centric DPRIS enterprise environment. The DPRIS application does not persistently store records which remain under control of the respective repositories operated by the military services and the National Archives and Records Administration.

CACI will continue to provide maintenance and support for the legacy DPRIS production software, integrate interfaces with other DoD military personnel records systems, complete the development and implementation of a secure DPRIS Web site for authorized agency use, and expand the system to support automated routing of requests for information or documents from older microfiche and paper records as well as for data from military personnel record databases. The upgraded Military Personnel Records - Net Centric enterprise portal will automate the secure routing of government agency requests and return of retrieved images, text, and data.

As the incumbent contractor, CACI brings senior military personnel records experts and a highly qualified technical development and implementation team to DPRIS. The SEI CMM Level 3 compliant team employs proven development processes and extraordinary communications and coordination skills to provide the ultimate in product development and performance, completed on time and within budget.

"Military personnel, both active duty and retired, deserve America's support and respect. Our technology allows government agencies supporting our service personnel and veterans to more quickly and consistently adjudicate requests for the entitlements and benefits that they have earned," said CACI Chairman, President, and CEO Dr. J.P. (Jack) London. "We're proud to serve in this vital area."



## Contracts

### U.S. Marine Corps Awards General Dynamics \$43 Million Expeditionary Fighting Vehicle Contract



STERLING HEIGHTS, Mich. -- The U.S. Marine Corps Systems Command in Quantico, Va., has awarded General Dynamics Land Systems, a business unit of General Dynamics, a \$43 million contract to continue the systems development and demonstration (SDD) phase and full-up system live-fire testing of the Expeditionary Fighting Vehicle (EFV).

The EFV is the Marine Corps's highest priority

expeditionary modernization program. The EFV is an amphibious vehicle that allows Marines to implement operational maneuvers from the sea doctrine. It can launch forces from 20 to 25 nautical miles at sea and transport its crew of three and 17 combat-ready Marines to shore at speeds in excess of 20 knots, three times faster than the current platform's speed. The EFV is capable of speeds up to 45 mph on land and is replacing the 30-year-old, less capable AAV7s.

General Dynamics will provide all required materials, services, personnel and facilities to complete EFV design and development, perform studies and analyses, manufacture and test all SDD prototypes, prepare for production, initiate EFV logistics support, and successfully complete the SDD phase.

The majority of work will be performed by General Dynamics Amphibious Systems, an operating unit of General Dynamics Land Systems, Woodbridge, Va., and is expected to be completed by September 2009. The Marine Corps awarded General Dynamics the EFV contract in 1996. The vehicle entered the SDD phase in 2001. Production of 1,013 vehicles begins in fiscal year 2007 and continues into 2020.

