

# Army Guide monthly



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## Contracts

**Earns \$203.7 Million Contract for U.S. Army Modular Fuel Farm System**

Engineered Support Systems, Inc. received a \$203.7 million contract with the U.S. Army Tank-automotive and Armaments Command (TACOM) to produce the Load Handling System Modular Fuel Farm (LMFF) bulk fuel storage and distribution system. The firm-fixed price, indefinite delivery-indefinite quantity contract will be performed over five years, with an initial delivery order of \$6.28 million, according to Gerald A. Potthoff, Engineered Support Vice Chairman and Chief Executive Officer.

The modular fuel farm system design and production team will be led by Engineered Support's wholly-owned subsidiary Systems & Electronics Inc. (SEI), conducting more than 51 percent of the work at its West Plains, Missouri facility, six percent at its St. Louis headquarters with design support from Engineered Support's wholly-owned subsidiary Engineered Air Systems, and 1 percent at Engineered Support's wholly-owned subsidiary Radian Inc., providing logistics support from its headquarters in Alexandria, Virginia, Potthoff said. The team also includes SEI's strategic partner E. D. Etnyre & Co., projected to contribute 42 percent of the contract work at its Oregon, Illinois facilities.

"Fuel storage and distribution is an essential element of sustainment on the battlefield, and our company is committed to providing the most advanced sustainment solutions possible to our nation's warfighters," Potthoff said. "SEI has the extensive experience and performance track record to make it the perfect anchor for the Engineered Support System team of partners that will execute this program for the Army -- which could involve as many as 191 pump modules and more than 1,600 tank modules. This award exemplifies the capabilities and synergies within the Engineered Support Systems family of companies. We are honored and privileged to have been chosen to develop and produce the next generation fuel storage and distribution system for the US Army," said Potthoff.

The LMFF is a rapidly deployable, highly mobile, modular fuel storage and distribution system. The LMFF is designed for Army Quartermaster personnel to support forward deployed units on the battle field by rapidly establishing fuel retail operations without the need for additional construction equipment. Each system includes 14 2,500 gallon fuel storage modules, and 2 pump filtration modules, that are designed to be readily transported using existing Army transportation equipment. The LMFF will be the primary system for storing and issuing fuel in selected units at the division level and below, and will provide fuel support to all types of vehicles, support equipment, and aircraft. The LMFF is an enabling system for the Stryker Brigade Combat Team (SBCT) and the Future Combat System (FCS).

## Defence Industry

**KMW Takes Over MAN-Mobile Bridges**

Krauss-Maffei Wegmann has acquired MAN-Mobile Bridges GmbH and has thus decisively strengthened its key position in the market for land defence systems. In Munich, last Friday, 08 April 2005, Frank Haun, member of the KMW Board of Management and its deputy chairman, signed a contract with MAN Technologie AG that provides for the transfer of MAN-Mobile Bridges to Krauss-Maffei Wegmann GmbH & Co.KG, subject to the consent of the Federal Cartel Office.

MAN-Mobile Bridges is a successful system lead contractor for military bridgelaying systems of a high technological standard and a variety of different categories and thus complements the KMW product range in a meaningful way. "The take-over marks a decisive expansion of our product range and the entry into the combat engineer market. Moreover, MAN-Mobile Bridges, with its presence on the international markets, gives us access to new markets, such as Asia", says Frank Haun.

KMW and MAN-Mobile Bridges have already successfully collaborated in the past in the field of bridge technology. The Leopard 1, for instance, served as the base vehicle for the LEGUAN armoured bridgelayer of the Belgian, Greek and Norwegian armed forces. The Leopard 2 is the base vehicle for the modular bridgelaying system of the latest generation, the PSB 2. Moreover, the Leguan system is in service on the tank versions of the U.S. M1 WOLVERINE, the Russian T-72 and the 8x8 carrier vehicle from MAN.

## Contracts

**Armor Holdings, Inc. Awarded \$19.7 Million for Up-Armored HMMWV Program**

JACKSONVILLE, Fla., -- Armor Holdings, Inc., a leading manufacturer and distributor of security products and vehicle armor systems serving law-enforcement, military, homeland security and commercial markets, announced today that it has received contract modifications for new production totaling \$19.7 million from the U.S. Army Tank-automotive and Armaments Command and

the Defense Logistics Agency to provide additional Up-Armored HMMWVs, Gunner Protection Kits, and armor component spare parts.

The Company stated that the new orders are for additional Up-Armored HMMWVs for delivery to the U.S. Army, Air Force, and the Iraqi military. Armor Holdings also indicated that the deliveries will be completed in 2005 and that the work will be performed by Armor Holdings' Aerospace & Defense Group at its Fairfield, Ohio, facilities.

Robert Schiller, President and Chief Operating Officer of Armor Holdings, Inc., said, "We are delighted to receive this new work under our existing U.S. Army contract to continue to provide survivability equipment for our Army and Air Force, and now also for the Iraqi Armed Forces. We are encouraged by the opportunity afforded by this new customer and look forward to the possibility of receiving additional orders to provide Up-Armored HMMWVs to the new Iraqi military."

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### Contracts

#### **DRS Technologies Receives \$23 Million Contract To Provide Key Subsystems For U.S. Army Long Range Advanced Surveillance Systems**

Parsippany, NJ -- DRS Technologies, Inc. announced today that it was awarded a \$23 million subcontract from Raytheon Company to provide major subsystems for the U.S. Army's Long Range Advanced Scout Surveillance System (LRAS3). LRAS3 provides the U.S. Army Brigade Reconnaissance Troops, Armor and Infantry Battalion Scout Platoons, and the Stryker Brigade Combat Teams (SBCT) with a long-range detection, recognition, identification and far-target location capability.

The contract was received by DRS from Raytheon Company's Network Centric Systems business in McKinney, Texas. The company's DRS Optronics unit in Palm Bay, Florida, will perform all work associated with the award at its state-of-the-art electro-optical design and production facilities. Product deliveries are expected to commence this April and continue through May 2006. Including the latest award, DRS has received approximately \$110 million in orders on the LRAS3 program.

Bridging the gap between currently fielded systems and the U.S. Army's Future Combat System (FCS), LRAS3 provides heavy battalion, Light Cavalry Squadron and Stryker Brigade Combat Team Scouts with the capability to conduct 24-hour surveillance and reconnaissance missions at safe distances and operate well outside the direct-fire range of detected threats.

"As a market leader of Second Generation infrared ground vehicle sighting, targeting and detection systems, DRS plays a crucial role in the Army's Horizontal Technology Integration initiative and its modernization strategy," said Fred L. Marion, president of DRS's Surveillance and Reconnaissance Group. "The LRAS3 program remains a key component of our DRS ground

vehicle systems product line."

LRAS3 provides precise far-target location by incorporating advanced Second Generation Forward Looking Infrared (FLIR) technology, a global positioning interferometer, an eye-safe laser range finder and a day video camera. Deployed on the Army's M1025/M1114 HMMWV reconnaissance vehicles in their mounted configuration, the system also can be used on tripods for dismounted missions.

The M1025 and M1114 HMMWV Scouts are forward deployed to provide commanders with 24-hour battlefield reconnaissance and surveillance and to assist the missions of heavy battalions in remote areas with rough terrain under difficult conditions. The mission of the SBCT is to conduct effective combat operations, including preventing, containing, stabilizing and resolving conflicts in major theater warfare.

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### Contracts

#### **General Dynamics Awarded \$14 Million for Enhanced Reactive Armor Production for Bradley Fighting Vehicles**



CHARLOTTE, N.C. --- General Dynamics Armament and Technical Products, a business unit of General Dynamics, has been awarded a \$13.8 million modification from the U.S. Army's TACOM/ARDEC Picatinny Arsenal (Picatinny, N.J.) for the production of enhanced-capability reactive armor for the Bradley Fighting Vehicle System.

This award modifies a contract originally awarded in November 2004, bringing the total contract value to \$46.75 million for 152 vehicle sets. The reactive armor package, designed specifically for the U.S. Army Bradley Fighting Vehicle, is saving lives and preventing crippling damage to combat vehicles in Iraq, giving units equipped with the armor a clear advantage on the battlefield.

The system is made up of "tiles" that fasten to the exterior of the vehicles. Equipped with the General Dynamics reactive armor, the Bradley is better able to withstand a direct hit from a variety of anti-armor munitions, including shoulder-fired rocket propelled grenades, which are prevalent in many of today's regional conflicts. This contract modification represents the continuation of a successful program with the Army and a successful relationship with General Dynamics' strategic partner, RAFAEL Armament Development Authority Ltd., Ordnance Systems (Haifa, Israel), which



will share 50 percent of the production workload.

The production program will be directed from the General Dynamics Armament and Technical Products Burlington Technology Center, Burlington, Vt., with U.S. tile production occurring at the company's reactive armor facility in Stone County, Miss. General Dynamics Armament and Technical Products, located in Charlotte, N.C., provides a broad range of system solutions for military applications. The company designs, develops and produces high-performance armament systems; a full range of advanced composite-based products; biological and chemical detection systems; and mobile shelter systems.



**Defence Industry**

**AM General and General Motors in Military Marketing Agreement**



DETROIT – AM General, manufacturer of the military Humvee and the civilian HUMMER H1 and H2, and General Motors Corporation executed an agreement covering the development of a marketing arrangement through which AM General would assume marketing and sales responsibility for military vehicles manufactured by General Motors Corporation.

GM offers three military support vehicles – the Chevrolet Silverado 2500 HD in either regular, extended or crew cab models, complete with a militarized Cargo/Troop Carrier, as the baseline configuration or upgraded for off-road with an enhanced mobility package. Sales of these vehicles in 2003 totaled nearly 1,700 units, primarily to U.S. and international military organizations.

“This agreement benefits both AM General and General Motors,” executives of the two companies said in a joint statement. “It leverages each company’s strengths and core competencies to broaden each company’s business base. “AM General has particular strengths in military applications and an in-depth knowledge in military procurement,” said Ed Peters, president of AM General Defense.

“GM brings its skills in the latest automotive technologies and large manufacturing operations,” said John Gaydash, director of marketing for GM’s Fleet and Commercial Operations. “Together, we are confident that we will raise this business to a new level.”

With the agreement, GM’s military-enhanced vehicles will be available for the first time on the General Services Administration’s schedule which makes it easier

for all government agencies – military and non-military – to order these vehicles that have added capability over a regular-production Chevrolet Silverado.

AM General is a world-leader in the design, engineering, production and technical and parts support of military and special purpose vehicles and has the largest world distribution of all-purpose Standard Military Patterned vehicles. The HMMWV (High Mobility Multi-purpose Wheeled Vehicle, pronounced Humvee) has been the mainstay truck of the U.S. military since 1985. AM General has produced more than 180,000 HMMWVs for the U.S. and more than 50 friendly international forces.

AM General also assembles HUMMER H2 vehicles for GM. GM owns the HUMMER brand name and is responsible for marketing and sales of both HUMMER H1 & H2 vehicles through its dealer network.

Military-specific equipment on the Silverado Cargo/Troop Carrier includes an M16/M14 weapons rack; NATO slave start receptacle; blackout lighting; heavy-duty front and rear bumpers; troop seats; front brush guard; front and rear tie-downs, making this vehicle certified for air transport; tow pintle hook and trailer-light hookup. The Enhanced Mobility Package adds equipment to the drivetrain, suspension system and underbody to operate in arduous road conditions.



**Contracts**

**United Defense Awarded \$8 Million Contract Modification for Servicing Vehicles Returning from Iraq**

SANTA CLARA - United Defense has been awarded an \$8 million contract modification by U.S. Army Tank-automotive and Armaments Command for reconstitution of vehicles returning from Iraq.

The contract covers armored personnel carriers, self-propelled howitzers, artillery ammunitions resupply vehicles and Bradley Fighting Vehicles from the 1st Cavalry Division. Reconstitution involves detailed vehicle inspections, replacement of damaged or worn parts, and performance of annual services.

The work will be conducted at Ft. Hood, Texas under a modification to a Systems Technical Support contract, and is expected to be completed about six months after the receipt of the vehicles.



**Contracts**

**ATK Awarded \$40 Million Bushmaster III Chain Gun Contract**



ATK#039;s Dual Feed Technology Increases Mission Flexibility of Netherland Armored Vehicles.

Minneapolis – Alliant Techsystems has received a \$40 million order from BAE Systems for the Bushmaster III dual feed chain gun®. The Bushmaster III chain gun will be mounted on the Netherlands' CV90 Infantry Fighting Vehicles. Deliveries will begin in May, 2006.

The Bushmaster III fires 35mm ammunition. It offers a unique dual feed system that allows the operator to select different types of ammunition for use against a variety of targets. The compact size of the Bushmaster III facilitates easy upgrades to existing turrets and it shares significant commonality with other cannons in the Bushmaster family. The safety, reliability and low life cycle costs of the Bushmaster III add to the systems value.

This is the first production contract for Bushmaster III series, expanding ATK's portfolio of chain guns mounted on armored vehicles. ATK's M230, MK44 and M242 Bushmaster gun systems are already the choice for U.S. armed forces. In addition, the Polish, Finnish, Swiss and Norwegian armies have selected the MK44 for their armored vehicles. In total, ATK has equipped the U.S. military and 20 allies with more than 15,000 25mm, 30mm and 35mm chain guns.

### Defence Industry

## Latin America Is A Promising Weapons Market For Russia

RIO DE JANEIRO - An International Aero & Defense Show (LAAD-2005), which recently took place in Rio de Janeiro, is an important tool for promoting Russian military equipment not only in Brazil, but also in other Latin American countries, announced in an interview with RIA Novosti deputy head of the Russian Federal Service for Military Technical Cooperation (FSMTC) Alexander Fomin, who led the Russian delegation at the show.

"The level of organization of the show has been improving year after year, and Russia continues to increase its presence there," Alexander Fomin said. "We believe LAAD is becoming one of the most important exhibitions of aircraft and weaponry in Latin America."

Alexander Fomin said Russia presented the most advanced models of aircraft and weaponry at the LAAD show.

"The certification of the Russian-made Mi-171 helicopter for flights in Brazil is a great success," the head of the Russian delegation stressed. "It opens possibilities to operate this helicopter not only in Brazil, but also on the whole Latin American continent and allows Russia to sell this model in the region."

Brazilian and other Latin American partners showed great interest to the presentation of the Russian-made BMP-80 and BMP-90 armored personnel carriers, which are perfect for local conditions and have competitive prices compared to rival European and US models.

"There are prospects of delivering Russian-made helicopters, armored vehicles and small arms to Latin America," the deputy head of the FSMTC said. "In addition, Russia is not only willing to sell weapons to

Latin America, but also provide the potential buyers with manufacturing and servicing technologies, and create networks of service stations." Summing up the results of the LAAD-2005 show, the head of the Russian delegation underlined Russia and Brazil had great prospects of cooperation in manufacturing double-purpose military equipment.

### Defence Industry

## KMDB Has Tested a BAU-23x2 Remote Controlled Weapon Station



Kharkiv Morozov Machine Building Design Bureau (KMDB) has developed and tested a new single-seated BAU-23x2 remote controlled weapon station. It is designed for firing at the men power and armoured targets both ground and aerial.

The module main armament is two 23-mm automatic guns 2A7M with rate of fire of 850 rounds per minute each, range of fire – 2000 m and ammunition load of 200 projectiles. Additionally mounted KT-7.62 (PKT) machine gun with 2000 rounds.

Module control – manual. Provides for laying in azimuth – 360 degrees, in elevation from -4 to +55 degrees.

The module provides for reliable protection of the gunner up to 12.7 mm ammunition. The gunner is seated inside the hull and, additionally to the armour, he is protected from the upper hemisphere by armament, which is arranged above. Additional protection is ensured by the smoke screening system, consisting of six 81-mm smoke grenade launchers, three at each side of the module. The smoke screen is set in the gun laying direction.

Weight of BAU-23x2 is about 1 ton only, ensuring the possibility to mount it on light armoured vehicles with weight starting from 6 tons. KMDB has tested it on the chassis of the Ukrainian armored personnel carrier BTR-70 and on the South African armored personnel carrier RATEL.

The basic advantages of the module are as follows: little weight, reasonable price, high degree of protection of gunner with provision of high fire power.

BAU-23x2 is suggested for upgrading of light armoured equipment to increase its fire power. It is planned for supply both to the Ukrainian army and abroad.

## Defence Industry

## NCDR and Pennsylvania State University's Electro-Optics Center Launch Project to Develop Sensors for Unmanned Military Vehicles

The National Center for Defense Robotics (NCDR), an initiative of The Technology Collaborative, today announced that it has signed a \$1.25 million master sub-contract with Pennsylvania State University's Electro-Optics Center (EOC) to develop lower cost, lower weight, less power-hungry electro-optical sensors for unmanned ground vehicles and to explore methods of manufacturing and testing them more efficiently and cost-effectively. The NCDR also announced that it has begun to sub-contract with southwestern Pennsylvania-based Agile Robotics Alliance member companies and organizations to undertake a number of key projects under the EOC contract.

The first two projects were awarded to Pittsburgh-based RE2, Inc. (Robotics Engineering Excellence) and SEEGRID. The results of these projects are expected to address specific unmet government needs, to drive subsequent military utilization and/or commercial productization activities, and to help generate new jobs in the growing field of agile robotics. "Developing and being able to produce electro-optical sensors and devices specific to the requirements of unmanned ground vehicles is essential to enabling their ability to operate more autonomously," said Bill Thomasmeyer, President of the NCDR and Executive Vice-President of The Technology Collaborative.

"We are fortunate to have such a strong, able, and willing partner in the EOC with their growing resources and extensive expertise in electro-optic sensors and systems to help us achieve these objectives." "Penn State University has a proud history of advancing research that also creates economic opportunities for Pennsylvania," said Karl Harris, Director of the EOC. "The growing relationship between the EOC and the NCDR is certainly creating good research and exciting opportunities that will not only benefit our region but our nation as well." Pittsburgh-based RE2, a Carnegie Mellon spin-off company specializing in mobile defense robotics with an emphasis on unmanned ground vehicles (UGVs) and unmanned air vehicles (UAVs), will undertake an effort to research and determine the feasibility of establishing an indoor and/or outdoor Experimentation Center for assessing the performance of various Electro-Optic sensors on unmanned vehicles and other applications.

SeeGrid, Inc., a developer of automation products that enable manufacturers, warehouses and distribution centers to automate their day-to-day material handling processes, is also based in Pittsburgh and will undertake a project to develop a standardized, multi-variant methodology for measuring the effectiveness of different electro-optic sensors on various unmanned vehicle platforms and then using that methodology to objectively assess and rank various, currently available, off-the-shelf sensors and devices.

## Defence Industry

## U.S. to send reinforced APCs to replace vulnerable Humvees



The U.S. Army has plans to deliver reinforced armored personnel carriers to Iraq.

Officials said the army has been overseeing a project to install add-on armor on surplus M113 and M577 APCs deployed in Iraq. They said the project was meant to bolster protection of combat troops where speed was not critical.

So far, the army plans to send more than 700 reinforced APCs to Iraq in an \$84 million project, Middle East Newswire reported. The use of the M113A3s and the M577s would replace the Humvee utility vehicles, which have largely failed to protect U.S. troops from improvised explosive devices, or roadside bombs, in Iraq.

"These additional vehicles will provide much needed protection while we await the delivery of more modern up-armored Humvees," Rep. Ike Skelton of Missouri, the ranking Democrat on the House Armed Services Committee, said.

The army has set a requirement for add-on armor kits for the Humvees and other vehicles at more than 13,000. Armor Holdings produces the armor kits and has maintained a production level of 550 a month.

Officials said the use of the up-armored APCs was regarded as an interim measure as the Defense Department develops medium- and long-term armor solutions. They said the army and Marine Corps have been designing armored jeeps and other combat vehicles that could support add-on armor and protect against IEDs.

Congress has urged the Pentagon to replace many of the Humvees deployed in Iraq with M113s and other APCs. Officials said, however, that the up-armored M113s were deemed as being too slow to participate in combat patrols.

Officials said the up-armorings of the APCs has taken place in Kuwait, with U.S. Navy and Air Force mechanics stationed to help in the effort. The Third Army, based in Kuwait, has been up-armorings about 50 Humvees and trucks per week. Officials said the attrition rate of the up-armored vehicles has been high because of the extra weight.



**Defence Industry**

**Russia To Sell 100,000 Kalashnikov Submachine-Guns To Venezuela**

RIO DE JANEIRO - On Tuesday Venezuela and Russia signed an agreement on supplies of 100,000 Kalashnikov submachine-guns to that South-American country. The sum total of the transaction is \$54 million. Russia undertook to supply to Venezuela, alongside weapons, also 2,000 handbooks, as well as spare parts and accessories for the AK submachine-guns.

This transaction also provides for transferring technology of assembly of the submachine-guns of this model to the Venezuelans, for training of 45 Venezuelan technicians and engineers in Russia for 11 months, and for organizing assembly production of the AK-103 in Venezuela.

As Venezuela's Defence Minister Jorge Garcia Carneiro stated at the ceremony of signing the contract, the first batch of 28,000 AK-103 submachine-guns must be received already in October.

The Minister deemed it necessary to stress the absolute transparency of the talks on this deal. According to him, 56 specialists of different specialties participated in the negotiating process from the Venezuelan side, and all their meetings with the Russian representatives were video and audio taped.

The Minister said that already on Wednesday the Russian technical commission will start analyzing and estimating the possibilities of the Venezuelan military-industrial company which will assemble the Russian AK-103 submachine-guns in the future.

The Russian submachine-guns must replace the Belgian arms which were in service in the Venezuelan army for more than a half-century.

According to Rosoboronexport representative Sergei Ladygin who participated in the signing ceremony, Venezuela will become the first country in the world after Russia where the Russian AK-103 submachine-guns will be assembled, and the first country of the Western hemisphere to have them in service.

Earlier this year Russia and Venezuela signed a \$120-million contract for supplies of Russian helicopters to Venezuela.



It includes joint activities aimed at preserving and developing connections established between the defense industries of independent states for the purpose of development and manufacture of military and dual-use products, their mutual deliveries, cooperation and coordination of military products export to the third countries.

Most successful military product deliveries are noted within the framework of the integrated ADMS of the CIS countries and Collective Security Treaty Organization in the area of optical and electro-optic equipment, special communication and jamming equipment, after-sales services, upgrade and repair of armaments and military equipment of Russia, Belarus and the third countries.

A further step in development of the integrated ADMS will be the Belarus-Russia's

'Oboronpromservice' center of the after-sales service, upgrade and repair of armaments and military equipment, which construction with participation of Rosoboronexport is coming to the end.

Common efforts are made in creation of the integrated system of aviation control, airborne early warning system, development and manufacture of different-purpose radio communication equipment, in the area of diagnostics and repair of electro-optic systems, joint development, production and export to the third countries of modern simulators and thermal vision sights for armored vehicles and anti-tank missile systems. Most successful projects implemented were the mutually developed and manufactured radio communication equipment integrated into the systems of automatic troops control and weapons produced by the Belarus defense industry and the Russian mobile radio communication facilities of the new generation of type 'Akvedukt'; provided for the Belarus armed forces. The PT-76 amphibious tank and the BTR-50 PK full-track amphibious armored personnel carrier that have been upgraded by common efforts of a number of Belarus and Russia's defense companies have rather high perspectives.

The Inter-State Financial and Industrial Group "Defense systems" (Central Company - 'Defense systems'; OJSC) that was set up in accordance with the agreement between the Governments of Russia and Belarus in 2000 continues its work for a comprehensive upgrade of the 'Pechora'; AAMS (S-125) to a level of 'Pechora-2M';, including the work under the inter-state contract with one of the large foreign partners. In 2003-2004, the first lot of the serial systems was manufactured, delivered and successfully handed over to the foreign customer.

At the same time, over the last two years, 'Defense systems'; jointly with a number of other leading design offices and companies of Russia has been conducted purposeful work to develop the radio protection system (RPS) to essentially increase survivability of 'Pechora-2M';.

For developing, manufacturing and further promotion to the world market placement of competitive military, dual-use and civil products is nowadays necessary to

**Defence Industry**

**Russia-Belarus military & technical cooperation**



Military & technical cooperation of the Russian Federation with the Republic of Belarus has been performed on a mutually beneficial basis since July 1992.

create a common technological space of the Union State, CIS as a whole. A number of the Inter-State Financial and Industrial Groups in Russia and Belarus are contributing to it.

Once established within the framework of the Union State Groups hold the doors open for other companies and organizations of the CIS countries.

The Rosoboronexport cooperation with the entities of military & technical cooperation of Belarus in the interests of the third countries includes repair of armaments and military equipment of the third countries at the Byelorussian repair agencies; acquisition of military products in Belarus, their further import to Russia for remanufacture and re-export to the third countries as parts of the main articles; joint participation in the international tenders.

Rosoboronexport jointly with Beltechexport (CJSC) special exporter of Belarus, Peleng OJSC developer and manufacturer and Tales; French Company have already successfully passed through three stages of demonstration tests in the context of the international tender for delivery of the latest fire control system (FCS) to upgrade the T-72M1 main battle tanks of the Indian Land Forces. Based on the Sosna-U gunner's day and night multi-channel thermal vision sight that allows the day-and-night firing from all weapons of the tank, including guided missiles, the fire control system greatly increases the fire power of the tank. The absolute advantage of the Russian and Byelorussian proposal is that the upgrade of the Indian T-72M1 tanks will not require investments for re-equipment of the armor production process line in the town of Avadi.

According to the Resolution of the Russian Government, Rosoboronexport will be the organizer of the common Russian exposition, which will be arranged taking into account the most perspective trends in military & technical cooperation of not only Russia and Belarus as the independent states but the Union State to be created based on the 2000 Treaty.

The specialists will be offered a wide range of export models of Russian military products with attractive performance, including that produced by means of the components of Belarus, various upgrade programs for armaments and military equipment of the first generations and different variants of joint work. The exhibited range of armaments and military equipment are in service with the Ministry of Defense of the Russian Federation and a number of foreign states where they have been tested under combat conditions. Rosoboronexport proposes foreign customers to organize on a turn-key basis in their countries the recovery and major repair of electrical equipment of tanks, infantry combat vehicles and other combat materiel, including installation of thermal vision sights.

The exhibition will demonstrate a wide range of export military products for Landing Forces, including the BTR-80, BTR-80 A and BTR-90 armored personnel carriers developed by one of the largest companies,

'GAZ'; OJSC of the Russian motor-car industry and produced by the Arzamas machine-building plant that is well known to many foreign customers. High mobility and survivability as well as powerful armament of BTR-90 refer it to the class of wheeled combat infantry vehicles.

The BTR-80 and BTR-80 A armored personnel carriers designed for carrying personnel and supporting them in combat by organic weapons, afloat-water crossing from the move and providing a NBC protection are successfully used by the subunits of Land Forces and Marine.

The participants and the guests of the forum can acquaint with the information and promotional materials on a wide range of Russian tanks (including T -90S, T -80U, T -72S, T -55 AM , P T -76B), infantry combat and airborne assault vehicles of all generations (BMP-1, BMP-2, BMP-3, BMD-2, BMD-3), armored recovery vehicles (BREM-1, BREM- K , BREM-L), multiple rocket systems (MRS) such as 'Grad', 'Smerch', 'Uragan' and its rockets, self-propelled artillery guns and howitzers, anti-tank rocket and antiaircraft gun systems, small arms and close combat weapons. Many models of these armaments employ components of Belarus.

For further cooperation in developing the unified reconnaissance and firing system common both for rocket troops and artillery of the customer country, Rosoboronexport showcases the second generation of the prestrategic battle area real-time surveillance system that has been developed based on the combat employment of the Pchela-1 remotely piloted vehicle (RPV). The target range determined by means of RPV provides engagement of enemy's targets by all weapons, including MRS 'Smerch', 'Grad', long-range artillery and naval guns and AF attack helicopters. Its low cost as compared with RPV and high survivability make the system rather attractive in the world's market of arms. The Byelorussian TV and infrared equipment can be used for manufacture of this system.

Since the CIS countries and other states have a great number of self-propelled artillery guns and systems such as 2S1 'Gvozdika', 2S3 M 'Akatsiya', 2S19 'Msta-S' and 'Grad', 'Uragan' and 'Smerch'; MRS, Rosoboronexport proposes a harmonious system of their technical examination in the countries of foreign customers with subsequent medium or major repair. One of the innovations will be an additional fitting of guns with the automatic fire control and laying systems, and the artillery units with the 'Mashina-M' fire control systems. These systems will decrease an average time of control over the subunits in 3.0 up to 3.3 times, weapons - in 4 or 5 times, reduce the consumption of ammunition for engagement of standard targets by 10 to 20 % and will increase hit probability on an average by 30 to 40%.

On the whole, development, manufacture, use and delivery of automatic control systems to the third countries as well as the problem of new solutions on



integrated automation of all control processes in the armed forces of the customer country will become an independent subject-matter of negotiations of the Russian and Byelorussian specialists.

The ADMS, electronic warfare equipment, ACS and communication facilities will be traditionally demonstrated among other Russian expositions. The 'Buk M1-2' medium-range missile system will certainly arouse interest among many experts. This is the only system that in the radio and fire countermeasures environments can destroy not only strategic and tactical aircraft, helicopters and cruise missiles but also tactical ballistic and airborne missiles, including anti-radar missiles, warheads of precision weapons and radio-contrast surface and land-based targets.

The experience of combat and peace-making operations in different regions of the world has shown well a special role of transport/assault and attack day-and-night helicopters. That is why visitors of the exhibition are offered the export versions of the day-and-night and all-weather 'Mi' and 'Ka' helicopters: Mi-171SH and Mi-17-1V troop-carrying helicopters, Ka -50 and Mi-28NE attack helicopters, Mi-35M transport/combat helicopters, Ka-27 PS shipborne search-and-rescue helicopter and Mi-26 heavy transport helicopter. The foreign customers are also offered various upgrades of most popular Mi-35/24 transport/combat helicopters that have proved successful in more than 30 countries of the world.

Participation of Rosoboronexport and the companies of the Russian defense industry at the 'MILEX-2005' exhibition will be aimed at further strengthening of cooperation ties in the defense and industrial area, development of military and technical cooperation of Russia with Belarus, CIS and other European countries and will promote further strengthening of Russia and Union State's positions in the world's market of arms.

### Defence Industry

#### KMW Hands Over First DINGO 2 To Austrian Army



Gotzendorf -- The Austrian Army on Monday in the presence of the Federal Minister of National Defence, Mr. Gunther Platter, as well as numerous representatives from business and the media took delivery of the first security and patrol vehicle, type DINGO 2.

At a checkpoint, the guests were given a demonstration of the operational role of the DINGO 2 as a security vehicle. Austria has ordered a total of 20 DINGO 2 vehicles for armoured personnel transport missions and is at the same time the first export customer.

"Our soldiers are doing their best in whatever mission they are deployed. We must provide them with the best possible equipment and maximum protection. The roll-out of the DINGO is therefore an important milestone for the Austrian Army", says Gunther Platter.

"With the DINGO 2, Austria is receiving a vehicle optimally matched to the new threat scenario and challenges of armed forces. A protected squad compartment is therefore high up on the list of priorities and the modern system layout of the DINGO 2 is the right answer to this", said Frank Haun, managing director and deputy chairman of the KMW Board of Management. Aside from Austria, orders are in hand for 52 DINGO 2 for the German Army and 220 (plus 132 options) for the Kingdom of Belgium.

The DINGO 2 is a consistent upgrade of the DINGO 1 all-protected carrier vehicle fielded in 2000 and proven in many foreign missions. For as many as eight crew, it currently affords the highest level of protection against modern hand-held weapons, artillery fragments, anti-personnel and anti-tank mines as well as against NBC combat agents. With the UNIMOG chassis, which stands out for its high cross-country mobility, the vehicle reaches maximum speeds of more than 90 kph and has a radius of action of appr. 1,000 kilometres. On top of that, the DINGO2 is airportable on the C 160 Transall, C130 Hercules and A400M transport aircraft.

### Contracts

#### Force Protection, Inc. Wins \$16 Million Contract For Iraq-Bound Armored Vehicles



Ladson, SC – Force Protection, Inc. announced a delivery order for 17 additional mine-protected Cougar Joint Explosive Ordnance Disposal (EOD) Rapid Response Vehicles to be used in Iraq and Afghanistan at an amount not to exceed \$16.5 million.

This marks the second such order within the past week made under a joint contract awarded by the Department of Defense for approximately 120 Cougar vehicles, bringing the total number of vehicles ordered to 88 for an amount not to exceed \$62.2 million.

The order, which is funded by the Joint Improvised

Explosive Device (IED) Defeat Task Force, marks the first time that all military services will receive the armored vehicle. The Cougar has been deployed with the Marines in Iraq since last fall. Under the contract, Force Protection will manufacture the vehicles and provide training, spare part blocks, and technical data. The first vehicles are expected to reach the field by early fall 2005.

“The increasing demand for our vehicles is great news for our deployed servicemen and women who need this protection against IEDs, land mines and roadside ambushes,” said Force Protection CEO Gordon McGilton. “The need for this solution could not be more pressing and is reflected in this additional funding and new order.”

The Cougar H series is a family of medium-sized blast-protected vehicles and is produced in both 4 and 6 wheel layouts. It can be customized for multiple tasks including troop transport, mine and explosive ordnance disposal, command and control, reconnaissance and as a lead convoy vehicle.

### Defence Industry

#### General Dynamics to Upgrade RST Vehicle for U.S. Marine Corps Operational Evaluation

STERLING HEIGHTS, Mich. - General Dynamics Land Systems, a business unit of General Dynamics, has received a \$5.9 million agreement modification to upgrade its Reconnaissance, Surveillance and Targeting Vehicle (RST-V). The upgrade supports continued operational evaluation of the vehicle as a utility carrier, prime mover and electrical generator for various U.S. Marine Corps (USMC) applications. System capabilities will be demonstrated in a relevant operational environment in early 2006.

The original RST-V program objectives seek to exploit hybrid electric drive technology with innovations in electric-wheel motor drive, chassis design, power management and a patented folding suspension to provide a highly mobile, survivable, long-range reconnaissance vehicle that can be transported inside a V-22 Osprey. In transport mode, the RST-V is narrower than a jeep and has cargo capacity comparable to a HMMWV.

The RST-V's hybrid electric drive can provide on-board power generation as a battlefield power source. This system could complement or replace trailer and packaged power generators in many applications, thus improving deployability and reducing the footprint of USMC expeditionary and Joint Forces operations.

The vehicle's hybrid power system is designed to provide modular, flexible options. It allows the vehicle to be operated in several propulsion modes: battery, diesel electric, or hybrid. The system can be adapted to use a full spectrum of energy storage options, from a base diesel electric with no energy store, to ultra capacitors, to any battery chemistry. Previous USMC RST-V operational evaluations demonstrated the

system's significant potential and utility to provide or support command and control on the move by using exportable power generated by its hybrid electric propulsion system.

### Defence Industry

#### Strategic Alliance Agreement between HAI and Indra Espacio

Mr Tassos Philippakos, Chief Executive Officer of Hellenic Aerospace Industry S.A. (HAI) and Mr Jose Maria Marti Fluxa, General Manager of Indra Espacio SA signed today a strategic alliance agreement between the two companies, in the presence of Mr George Mergos, General Secretary of the Ministry of Economy and Finance, Mr Theodoros Damianos, HAI Chairman of the Board and Mr Panagiotis Papadakis, HAI Vice Chairman of the Board.

The agreement is within HAI business pursuit plans that focus on the establishment of strategic alliances with leading companies in the aerospace field. Under this agreement, the work to be assigned by Indra Espacio to HAI will be worth 50 million euro in the next five years, while both companies confirm their intention to co-operate on specific areas of mutual interest including electronic system upgrades, development and design tactical and strategic communication network surveillance systems, simulation systems, etc. Mr Philippakos and Mr Marti underlined the great importance of the agreement and the fact that both companies will benefit from this co-operation, which is the result of the recognition both countries have to each other's Defense Industry capabilities.

### Contracts

#### Armor Holdings, Inc. Receives Orders for \$12.2 Million For Heavy Vehicle Armor Components



JACKSONVILLE, Fla. -- Armor Holdings, Inc., a leading manufacturer of security products and vehicle armor systems, announced today that it has received orders for armor components totaling \$12.2 million to support the U.S. Army Tank-automotive and Armaments Command (TACOM).

The Company will provide equipment for the FMTV, HEMTT and PLS vehicles including such items as armor panels, ballistic glass, gun turret assemblies and product support. Work will be completed in 2005 at the Armor Holdings Aerospace and Defense Group facilities in Fairfield, Ohio and Phoenix, Arizona.

Robert Schiller, President of Armor Holdings, Inc., said, "We are pleased to continue as an integral part of the Army's vehicle armoring effort to achieve improved force protection and survivability for our deployed forces. We also view this important work as critical in preparing the Company for significant participation in the emerging opportunities over the years ahead as the U.S. Army tactical wheeled vehicle fleet is transformed to include vehicle armoring as a major sub-system." Armor Holdings, Inc. is a diversified manufacturer of branded products for the military, law enforcement, and personnel safety markets.

commence in mid 2006, in time to meet the first tanks when they arrive from the United States. They will be immediately put to work delivering tanks and recovery vehicles to training establishments and operational units.

## Defence Industry

### New Army Muscle Machine Unveiled



A prototype of Terrier - the J300 million combat engineer vehicle under development for the Army by BAE Systems - was officially unveiled by Minister for Defence Procurement, Lord Drayson, today at BAE Systems, Leicester.

Designed to withstand mine explosions, small arms fire and artillery while digging trenches or clearing obstacles for the infantry, Terrier will become a vital tool for the Royal Engineers when it enters service towards the end of the decade. It will be equipped with a machine gun for self defence but can even be entirely operated by remote control, should the area it needs to work in be initially too dangerous for troops to enter.

As well as being able to operate under fire, terrier will also be equally important for peacetime operations, and by replacing its mine plough with a fork lift will be able to move supplies for troops or humanitarian aid. Speaking at the unveiling, Minister for Defence Procurement, Lord Drayson said: "Although still at the prototype stage, when it enters service Terrier will be a hugely powerful and versatile piece of equipment. It will be an extremely tough machine, like a cross between an armoured vehicle and a bulldozer, and I am pleased to see all the good work that is being done to get it into production.

"Designed in Leicester and manufactured and integrated by BAE Systems in Newcastle and Barrow, this prototype clearly demonstrates the great level of skills and workmanship here in the UK."

BACKGROUND NOTES: -Terrier will fill the gap between heavy engineer tanks working on the front line and unarmoured commercial equipment working in rear areas. Terrier will provide the capability to clear routes, obstacles and dig defensive positions. -Terrier will be airportable within C17 or A400M transport aircraft. -Approximately 90 per cent of Terrier will be sourced in the UK.

Terrier is being procured by for the MoD by the Mobility IPT at the Defence Procurement Agency, Bristol.

## Defence Industry

### Heavy Tank Transporters for Defence



An A\$16 million contract has been awarded to an Australian manufacturer to provide 14 Heavy Tank Transporters and associated commercial repair and maintenance support, Defence Minister Robert Hill announced today.

Senator Hill said Defence has awarded the vehicle contract to MAN Military Vehicles Systems (Australia). The tank transporters will allow the new M1A1 Abrams tanks and M88A2 Hercules armoured recovery vehicles to be transported on Australian roads. Senator Hill said more than half of the contract value will be going directly to Australian industry.

"As part of the contract with MAN, Australian owned and operated Brisbane-based company Drake Trailers will manufacture and supply 14 new heavy duty trailers," Senator Hill said. "Brisbane-based MAN Automotive Imports will then make final modifications to another 14 imported Prime Movers and will be conducting compliance testing and managing the ongoing repair and maintenance support. "This is another example of Defence and Australian industry working together to provide new assets for our Defence Force. "The Heavy Tank Transporter represents an important component of the replacement tank capability.

" In October last year, Australia signed an agreement with the United States to buy a new fleet of M1A1 Abrams tanks. Under this agreement, the US Government will provide 59 refurbished and updated M1A1 Abrams tanks, seven M88 Hercules Armoured Recovery vehicles, advanced gunnery and driver training simulators, training and other support equipment and a range of spares. The M1A1 Abrams tanks will provide a major increase in capability over the present Leopard tanks. The new tanks will also provide our soldiers with greatly increased levels of protection and survivability on the battlefield.

Delivery of the Heavy Tank Transporters will



## Defence Industry

purchase of additional manufacturing facilities near its headquarters in Oshkosh, Wis.

### CBS Evening News Features Force Protection, Inc.'s Buffalo Armored Vehicle



Ladson, SC - Force Protection, Inc. and its Buffalo mine clearance vehicle were featured on CBS Evening News Wednesday night. In a major news report, which included a pre-broadcast promo of the story on Force Protection, Inc. and the Buffalo, CBS Evening News with Bob Schieffer called the Buffalo a "humvee on steroids" and a "lifesaver" for soldiers tasked with detecting and removing threats such as improvised explosive devices (IEDs), land mines and roadside bombs from the streets of Iraq.

CBS noted that while IEDs are the cause of 70% of all U.S. combat deaths, Army units actually seek them out while riding in the 26-ton "armored cocoon on wheels." Mine detection teams can examine and remove potential threats using a 30-foot robotic arm without leaving the safety of the vehicle's steel hull.

"This vehicle is designed to take the punch," said Michael Aldrich, Force Protection Vice President, stating that the vehicle is built to absorb the explosive attacks so that troops don't have to.

CBS reported that IEDs have become more sophisticated, triggered by cell phones or electronics with complicated frequencies, and that troops should stay back and let the Buffalo take the risk.

Staff Sergeant Ryan Grandstaff of the Ohio National Guard said the Buffalo makes him feel "100 percent safe."

"I've been through countless explosions and I'm still here to tell about it," he added.

The Buffalo has been in active operations for more than a year, and has been used to clear thousands of kilometers of dangerous road in Iraq and Afghanistan. Thirty-seven vehicles are in active operations, with thirteen more in production or en route to the field.

Located near Charleston, South Carolina, Force Protection has become the nation's leading center for blast protection technology and state-of-the-art research and development to counter improvised explosive devices (IEDs).

## Defence Industry

### Oshkosh Truck Closes Deal for New Facility

OSHKOSH, -- Oshkosh Truck Corporation, a leading manufacturer of specialty trucks and truck bodies, announced today that it has completed the

The company has begun upgrading the 300,000 square foot production facility and plans to invest approximately \$4 million to optimize it for remanufacturing defense trucks, many of which are returning from extensive service in Iraq. The facility upgrades include installation of an automated line for blast and paint operations, new cells for component disassembly and refurbishing, new overhead cranes and a dedicated line for vehicle teardown.

"This investment will help us meet the long-term needs of our defense customers. They continue to reset the U.S. military fleet to full readiness, and we're here to support them in every way possible. This facility will be optimized in line with our "lean" manufacturing initiative, and we expect it will more than double Oshkosh's remanufacturing capacity for our defense customers. Beyond that, we're very pleased to be making an investment in the future of our customers, our company and our community," said Robert G. Bohn, Oshkosh's chairman, president and chief executive officer.

Oshkosh anticipates that the production facility will be ready for full-scale operations by September 1.



## Defence Industry

### Rheinmetall takes up a stake in high-tech AIM Infrarot-Module and buys Austrian medium-calibre specialist Arges



The Rheinmetall Group continues to pursue its strategy of profitable growth through carefully targeted acquisitions.

By taking up a share in AIM Infrarot-Module GmbH of Heilbronn, Germany, which will in future be run as a joint venture with previous part-owner Diehl, as well as by taking over medium-calibre specialist Arges m.b.H. of Schwanenstadt, Austria, Rheinmetall has taken a further step in its strategy of internationalization and rounding out its portfolio of products, bolstering its status as one of the world's leading suppliers of systems for ground forces. Both acquisitions still require approval from the competition authorities.

Bremen-based Rheinmetall Defence Electronics GmbH's purchase of a 50% stake in AIM Infrarot-Module GmbH, which was previously held by

EHG Elektroholding GmbH (a component of DaimlerChrysler AG), expands Rheinmetall's spectrum of expertise in this highly specialized high-tech segment. The Diehl Group's BGT Defence GmbH & Co. KG (a unit of Diehl Stiftung & Co.) will continue to hold a 50% interest in the company.

AIM is one of the world's most important manufacturers of infrared sensors. In the field of high-performance infrared sensors, the company enjoys a leading position in the global market, supplying (among other customers) both Rheinmetall and Diehl. With a steadily growing market volume, AIM's 300-strong workforce generated sales in 2004 of approximately Euros 47 million. The company has also successfully marketed its products in the United States, a difficult market for European companies to penetrate.

Diehl and Rheinmetall, who cooperate successfully in several fields, see this venture as another important contribution to consolidating Germany's defence technology industry. In this way, high-value defence sector resources will continue in future to remain in German hands.

The takeover of Arges m.b.H. places Rheinmetall on the cutting edge of the accelerating global market for medium-calibre products. The manufacturer of a highly advanced family of 40mm ammunition, Arges is excellently placed to meet the future needs of NATO armed forces.

Owing to ongoing military procurement programmes, the market for medium-calibre ammunition and accessories is very robust. Especially in the United States, the company sees strong potential for increased sales.

