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Defence Industry

Rheinmetall to Supply Sensor Equipment for Bundeswehr Vehicles

Germany's Bundeswehr has assigned Rheinmetall an important role in modernizing many of its vehicles with new electro-optical sensor technology.

The Dьsseldorf-based Group has received a follow-up order to supply some 700 high-performance sensors for an identical number of weapon stations destined for a variety of vehicles. In total, the order is worth around €55 million. Over the next four years, Rheinmetall will be equipping the Bundeswehr with 418 LAZ 200 and 275 LAZ 400L sensors.

Rheinmetall will thus be supplying particularly high-value components under a Bundeswehr procurement programme that will significantly enhance the self-defence capabilities of numerous different vehicles. It will also assure a substantially improved night fighting capability.

The sensor units form the central element of the electronic fire control unit in the weapon station, enabling highly effective target recognition, tracking and engagement. In combination with remotely operated weapon stations, they let vehicle crews respond to threats without having to leave the safety of the armoured fighting compartment, potentially exposing themselves to hostile fire. Older weapon systems can only be operated with the hatch open in unprotected mode.

Mounted on vehicles such as the Fox, Boxer, Yak and Dingo, LAZ equipment sets (LAZ stands for "Lafetten-adaptierbares Zielsystem", or "gun mount-adaptable aiming system") have already proven highly effective in deployed operations of the Bundeswehr.

The compact LAZ 200/400L systems comprise a sensor unit consisting of a thermal imaging device, a high-resolution CCD camera and – in the case of the 400L – a laser rangefinder. Unlike the LAZ200, the LAZ 400L model features a cooled thermal imaging device with an even better night vision capability. The package also includes operator interface and display devices, which form an integral part of the overall weapon station system.

This new order attests the excellence of the devices produced at Rheinmetall's Ismaning plant, while also assuring adequate capacity utilization and the plant's continued economic viability for years to come.

Defence Industry

Rheinmetall to supply Bundeswehr with 7 Fuchs/Fox armoured vehicles for clearing IEDs

The German Bundeswehr has contracted with Rheinmetall to supply it with seven Fuchs/Fox armoured vehicles specially configured for detecting and identifying roadside bombs, mines, etc. This new Fuchs/Fox variant is called the KAI, short for its official Germany designation, "Kampfmittelaufklдrung und –identifizierung". The order is worth around €37 million.

The vehicles reinforce the Bundeswehr's "Route Clearance System" for reconnoitring and neutralizing improvised explosive devices, or IEDs, from the safety of an armoured fighting compartment. A total of seven vehicles are to be delivered between November 2013 and November 2014.

In current and future peace enforcement and peacekeeping missions, IEDs will continue to pose a major threat to troops deployed in harm's way. Today, the Bundeswehr still relies on troops equipped with manual devices for keeping routes of march and lines of advance free from roadside bombs, etc. As a result, current EOD detection and clearing procedures are not only labour- and time-intensive but potentially dangerous.

Besides excellent crew protection, the Fuchs/Fox KAI features a multiple-joint, high-precision manipulator arm with a 10-metre reach and heavy lifting capacity. The manipulator arm makes it possible for EOD personnel to examine and identify unexploded ordnance and IEDs with extreme precision from a safe standoff without leaving the safety of the fighting compartment. Moreover, a special rescue platform can be used for evacuating personnel and equipment from the danger zone.

The Fuchs/Fox vehicle used for the KAI platform is the latest version of this tried and tested 6x6 wheeled vehicle, which occupies a prominent place in the Bundeswehr inventory. First fielded some thirty years ago, Rheinmetall has steadily upgraded the protection level and operational capabilities of this robust, reliable three-axle vehicle, adding modular protection features, a reinforced chassis and fragment-reducing spall liner in the interior of the fighting compartment.

In addition, the Fuchs/Fox 1A8 is equipped with highly effective anti-landmine and IED protection elements, special suspended seating that keeps the crew's feet off the floor of the hull, textile rifle holders and nets

for securing all wall-mounted equipment. As an option, the vehicles can also be outfitted with the Group's Active Defence System (ADS), which neutralizes incoming projectiles just before impact.

The Bundeswehr plans to deploy the Fuchs/Fox KAI in Afghanistan starting in the 4th quarter of 2014: even in a drawdown scenario there are numerous vehicle movements, and countering the threat from booby traps and roadside bombs will be as important as ever.

A high-tech system of systems

The Fuchs/Fox KAI adds a new dimension to the Bundeswehr's heavy mine-clearing capability, and is intended to reconnoitre danger zones that the Route Clearance System cannot reach. In addition, KAI will also be able to serve as a standalone EOD detection system for reconnoitring hotspots during convoy escort operations.

The Route Clearance System (RCP) consists of four vehicles: one for reconnaissance; one for clearing IEDs, mines, etc.; a control vehicle; and another used for transport.

Rheinmetall's remote control Wiesel detection vehicle, equipped with a newly developed dual sensor with integrated ground penetration radar and a metal detector, has the task in the GRCP of detecting landmines and IEDs on roads. The Fuchs/Fox 1A8 armoured transport vehicle serves as a mobile, highly protected control centre, equipped with operator interfaces as well as systems for evaluating the signals from the dual sensor.

Forming part of a separate order, the "Mini MineWolf" manipulator vehicle is used for the disposal of dangerous unexploded ordnance by remote control.

Depending on the specific mission, this approx. 10-tonne manipulator vehicle can be equipped with tools such as a robotic arm, tiller system or bulldozer blade. An integrated video system instantly transmits imagery back to the EOD specialists in the Fuchs/Fox operator vehicle, keeping them in the picture at all times.

Finally, a Multi FSA logistics vehicle made by Rheinmetall MAN Military Vehicles (RMMV) has the task of transporting the vehicles of the Route Clearance System.

Exhibitions

FN Herstal deFNder Remote Weapon Station Selected by Renault Trucks Defense and Streit

Two armored vehicle manufacturers, Renault Trucks Defense and Streit, have selected the deFNder® Remote Weapon Station designed, developed and manufactured by Belgian small arms manufacturer FN Herstal to equip their vehicles at the international IDEX 2013 trade show to be held in Abu Dhabi from 17 to 21 February 2013.

Renault Trucks Defense will display the deFNder® Light equipped with a 7.62x51mm cal FN MAG® machine gun on its Sherpa SW vehicle whilst Streit will show the deFNder® Medium featuring the .50 cal FN M3R™ machine gun on its Scorpion 4x4 vehicle.

The deFNder® Remote Weapon Stations, available in Light or Medium version, were designed and developed around a same philosophy. They feature unique elevation and depression angles, which is particularly critical in urban and irregular warfare. They both offer an open architecture, accepting any types of sight modules and a wide choice of FN weapons – from 5.56 to 7.62 cal machine gun for the Light model and from 5.56 to .50 cal machine gun, plus 40mm AGL, for the Medium model. The deFNder® Medium Remote Weapon Station can integrate the exclusive .50 cal FN M3R™ machine gun, with outstanding high firing rate (1,100 RPM).

The deFNder® Remote Weapon Stations can easily be integrated onto any new or existing vehicles or static platforms, and are available with various options, e.g. add-on modular ballistic protection, gyroscopic stabilization, sniper shot detectors, tracking systems, smoke grenade launchers, to name just a few.

In addition, FN Herstal is taking part in the Battlenet concept developed by Renault Trucks Defense. This new concept allows quick interconnection of various devices using the same communication protocol. This, combined with the specific features of the deFNder®, makes the vehicles very easy to upgrade throughout their life cycle.

Both the deFNder® Light and Medium will be on display also on FN Herstal booth at IDEX 2013 (Belgian Pavilion, hall 12, booth no. C20).

FN Herstal product inventory includes handguns, submachine guns, assault and precision rifles, light, medium and heavy machine guns, fire control systems, shot counters, less lethal launchers, and integrated weapon systems for airborne, land and sea applications. Most of the inventory will be on show at IDEX 2013.

Defence Industry

Representatives of the Iraqi Ministry of Defence Have Accepted Another Batch of BTR-4 Armoured Personnel Carriers

On 7 February, in Kiev, the representatives of the Ministry of Defence of the Republic of Iraq and those of the State Company "Ukrspecexport" signed the document that confirms the acceptance of another batch of Ukrainian-made BTR-4 armoured personnel carriers. The batch consists of 40

vehicles.

"The tests have been conducted successfully. No serious problems have been revealed. We are content with the process of cooperation with the Ukrainian side. In Iraq, the Ukrainian-made BTR-4s, which have been supplied earlier, are operated under difficult field conditions. This is a new and advanced vehicle for the Iraqi Army", said the official representative of the Iraqi delegation.

The $457.5 million contract for supply of 420 BTR-4 vehicles was signed late in 2009 by representatives of Ukraine and Republic of Iraq. The main contractor is the State Enterprise "Kharkiv Morozov Machine Building Design Bureau", the sub-contractors are State Enterprise "Malyshev Plant" and other enterprises of the State Concern "Ukroboronprom". The contract envisages the supply of not only BTR-4 armoured personnel carriers, but also special vehicles based on the BTR-4 chassis, technical maintenance and repair vehicles, and training simulators, with required technical support being also provided.

The Ukrainian side is content with the results of the inspection. "Despite the considerably more strict requirements for acceptance put forward by the Iraqi side (each vehicle was checked in accordance with a special procedure), all the vehicles were accepted without any substantial observations. We will fulfil the contract in compliance with the agreements that have been concluded. Now the main task consists in establishing an efficient maintenance system to service the vehicles that have been delivered to the Iraqi side", said a representative of the State Concern "Ukroboronprom".

Contracts

Thales Canada awarded Optronics contract for Upgraded LAV III vehicles

"We are very pleased to be part of the LAV III upgrade team. Including Thales' world-leading optronics technology will enhance the LAV III fleet's survivability, operational capability and long-term performance. Our uncooled optronics technology is second to none, as well as being combat proven by both Canadian and other NATO allies," said Mark Halinaty, Vice President and Managing Director, Thales Canada, Defence and Security. "This technology is a perfect example of domestic innovation and investment in Canada's high-value defence sector. By securing this kind of business at home, it allows us to continue to invest in new product development and secure our competitive advantage and export opportunities".

Thales' Canadian-developed thermal imaging and vision enhancement solutions have been preferred solutions of the Canadian Army since the mid 90's. The equipment is also used by NATO and allied forces to improve their operational capabilities at night or in adverse weather and obscured battlefield conditions. Our exports are provided as individual products to foreign defence forces, or through our business line partners as local situational awareness systems or sub systems to their own system offerings.

Today's announcement follows Department of Defence contracts to Thales in 2007 and 2010 for the supply of over 1100 units of Driver Vision Enhancement equipment, and equipping 550 vehicles with Crew Vision Enhancement equipment. The contract with General Dynamics Land Systems - Canada further emphasizes Thales' leading supplier position in this important segment.

Term of the day

Artillery Tractor

Artillery tractor is a kind of tractor, also referred to as a gun tractor, a vehicle used to tow artillery pieces of varying weights.

In modern warfare towed artillery has given way in part to self-propelled artillery, it is also common to find auxiliary power units built into the gun carriage to provide limited battlefield mobility. Traditional towed artillery can still be found in units where complexity and weight are liabilities: e.g. air-mobile, amphibious and other light units. In such units, where organic transport is usually limited, any available transport can double as artillery tractors in order to reposition guns when needed. For example engineer vehicles of a different primary purpose such as the U.S. Marines' Light Capacity Rough Terrain Forklift, a versatile telehandler forklift capable of towing gear from either end.

Defence Industry

Government of Canada Invests in Canadian Jobs and the Canadian Armed Forces' Fleet of Light Armoured Vehicles III (Ottawa)

OTTAWA, Ont. -- Foreign Affairs Minister and local Member of Parliament John Baird today announced that important government investments in the Canadian Armed Forces' fleet of Light Armoured

Vehicles will not only keep Canada's men and women in uniform safe; they're creating jobs right here in Ottawa.

"For our government, the economy is Job One," said Baird. "We are also taking unprecedented action to keep our troops safe when we send them overseas to do the tough work we ask of them."

He added:" "This announcement delivers on both fronts and is a win for all involved."

EODC Inc. of Ottawa, Ontario, has been awarded this $3.75 million subcontract by General Dynamics Land Systems – Canada in support of the Light Armoured Vehicle III Upgrade Project. This sub-contract is sustaining 60 positions at EODC's Ottawa facility.

Baird made the announcement on behalf of the Honourable Bernard Valcourt, Associate Minister of National Defence and Minister of State (Atlantic Canada Opportunities Agency) (La Francophonie) and was joined by Royal Galipeau, Member of Parliament for Ottawa-Orleans.

"Our investments in renewing the Canadian Armed Forces' capabilities on land, sea and air are building a first-class, modern military that is ready to take on the challenges of the 21st Century – while supporting Canadian workers across the country," said Minister Valcourt.

"Our Government is leveraging large-scale investments and positioning Canadian industry to take advantage of not only current but emerging value chains,"" said the Honourable Christian Paradis, Minister of Industry. ""The Industrial and Regional Benefits Policy provides Canadian companies with access to lucrative business opportunities, ensuring that 100 per cent of contracts result in direct and indirect business activity in Canada."

EODC Inc. will be providing armour modules for the Light Armoured Vehicle III Upgrade Project. These high quality armour components will protect against ballistic threats, as well as the fragmenting effects of Improvised Explosive Devices, enhancing the overall survivability of the vehicle.

"Canadian soldiers need the best tools for the job and deserve the best vehicle we can give them," said Danny Deep, vice president of General Dynamics Land Systems-Canada. "The LAV III Upgrade Project will enhance the LAV III fleet's survivability, operational capability and long-term performance. With our Canadian design and manufacturing base and over 500 suppliers located in every province of Canada, we are proud to say that the best armoured vehicles in the world are made in Canada."

Defence Industry

Paramount Group to exhibit latest defence technology at IDEX 2013

Africa's largest privately-owned defence and aerospace company, Paramount Group, will this week demonstrate its world leading selection of innovative defence solutions at IDEX 2013, held in Abu Dhabi.

IDEX 2013 will showcase Paramount's latest cutting-edge offerings in aerospace, electronic, naval and land systems, as well as peacekeeping and internal security.

In the last two years, Paramount has grown fast – driven by increased business in Africa and new market entries in booming markets, including the Middle East.

Ivor Ichikowitz, Executive Chairman of Paramount Group, said: "The Middle East is a key region for Paramount Group. A lot has happened in the region since IDEX 2011, the Arab Spring and the war in Syria have dominated the international headlines in 2012, and there are still a myriad of challenging security issues in the region.

"In particular, governments across the region are faced with the triple challenge of monitoring long and porous borders, fighting terrorism and controlling internal civil unrest, often simultaneously. Each of these challenges requires a tailored response, and our range of solutions are designed to meet the diverse challenges of modern security in the region.

"The Marauder Patrol, which we will be exhibiting in the region for the first time, is particularly well suited to police and special forces that require an agile and quick response vehicle for use in tough environments and protection from grenades and AK-47 rounds.

"Our specialised range of revolutionary security technologies, such as the Maverick for internal security issues, the Mbombe for advanced infantry fighting, and the AHRLAC for reconnaissance, are ideal for the important challenges the Middle East has to face.

"IDEX will also give Paramount Group the chance to once again fly the flag for the South African defence industry, which has a strong heritage of innovative armoured vehicle design, and demonstrate the market-leading abilities of Africa's engineers."

On display will be the Marauder, a mine-protected armoured vehicle labelled the "world's toughest vehicle" by the BBC television show Top Gear; a scale model of Africa's first domestically built aircraft, AHRLAC; the Marauder Patrol, a lightweight and versatile armoured 4x4; Maverick, an internal security vehicle, which is kitted out as a command and control centre; scale models of the Mirage F1 fighter, MI 24 helicopter and multi-purpose naval vessels.

Defence Industry

Oshkosh Defense Unveils L-ATV variant combines unprecedented off-road

mobility and crew protection with the capacity to transport troops, shelters and other cargo

OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation, has unveiled its Light Combat Tactical All-Terrain Vehicle (L-ATV) utility variant for the Joint Light Tactical Vehicle (JLTV) program. The L-ATV utility variant fulfills the JLTV requirement for a two-seat cargo vehicle, while the L-ATV base variant meets the requirement for a 4-seat multipurpose vehicle. Both Oshkosh L-ATV variants leverage a common crew protection system, advanced automotive systems, and the patented Oshkosh TAK-4i™ intelligent independent suspension system to deliver unprecedented levels of protection and off-road performance in a light vehicle.

The Oshkosh L-ATV utility variant is designed to provide mobility for loads such as containers, pallets and break bulk cargo in a wide range of operating environments and threat levels. In addition to hauling cargo, the L-ATV utility variant can be outfitted as a shelter carrier to carry standard shelters for communications systems, on-board electronics and other functions. The vehicle can transport two passengers and has a payload capacity of more than 5,100 pounds. The vehicle's performance was demonstrated at the 2013 NATC Technology Rodeo, which took place Feb. 6 at the Nevada Automotive Test Center (NATC) near Carson City, Nev.

"The landscapes and threats of tomorrow's battlefields are unpredictable, and state-of-the-art equipment will be absolutely necessary to protecting lives and completing missions," said John Bryant, vice president and general manager of Joint and Marine Corps Programs for Oshkosh Defense. "The Oshkosh L-ATV utility variant is the most technologically advanced, most mature JLTV solution for Warfighters to complete transport missions on those battlefields."

Oshkosh engineered the L-ATV with a high level of commonality to streamline fleet sustainment, yet each variant is tailored to optimize performance for its unique role.

Oshkosh successfully completed its JLTV design understanding review with the government and is on schedule to deliver 22 JLTV prototypes this summer under the Engineering, Manufacturing and Development (EMD) contract. The company began production of its JLTV offering shortly after receiving the contract and is using LEAN processes, a rigorous quality-assurance system and an efficient supply chain to deliver high-quality and affordable L-ATVs that meet or exceed JLTV requirements.

Oshkosh has extensive experience delivering a high level of operational discipline and quality control across a platform with multiple variants. The company has met its delivery schedules and set new standards of quality for the U.S. Army's Family of Medium Tactical Vehicles (FMTV), which consists of 17 variants and 23 configurations, while delivering significant cost savings to the Department of Defense over the life of the contract. Oshkosh also has delivered more than 8,700 MRAP All-Terrain Vehicles (M-ATV) on-time and on-budget. The M-ATV is the only vehicle performing the JLTV's mission profile in-theater and has a field readiness rate of 95 percent.

Oshkosh is displaying the L-ATV base vehicle at Marine West, Feb. 13-14 at Marine Corps Base, Camp Pendleton, Calif.

Robots

Unmanned Ground Vehicle Technology from Oshkosh Defense to Make MENA Debut at IDEX

OSHKOSH, Wis. -- Oshkosh Defense, a division of Oshkosh Corporation, announced today the international debut of its Oshkosh TerraMax™ unmanned ground vehicle (UGV) technology, which is available to support militaries globally and will be demonstrated at IDEX (International Defense Exhibition and Conference) 2013 (booth #03-C10), on Feb. 17-21 in Abu Dhabi, United Arab Emirates.

The TerraMax UGV technology provides a solution to two primary needs of today's military customers worldwide. It helps reduce the threat to Warfighters from improvised explosive devices (IEDs) on today's battlefields by increasing a driver's situational awareness or removing a driver from the vehicle entirely. It also serves as a force multiplier by allowing one operator to supervise three to five UGVs from a safe distance. All this at a time when militaries are facing force reductions.

"Crew protection is a crucial priority for militaries as they modernize their vehicle fleets," said Serge Buchakjian, senior vice president and general manager of International Programs for Oshkosh Defense. "Our TerraMax technology gives forces the option to complete missions in dangerous situations with fewer troops. Our UGV technology has been extensively tested and refined,

using input from troops and leveraging our more than 90 years of experience mobilizing military forces worldwide."

Designed as a scalable kit that can be used on any fielded tactical wheeled vehicle, the Oshkosh TerraMax UGV technology enables vehicles to complete planned missions in full autonomous mode or by "shadowing" a leader vehicle. Oshkosh will demonstrate at IDEX the TerraMax UGV technology's Operator Control Unit (OCU), a user-friendly control interface that provides the usability and functionality capabilities that troops need for operations in the field.

The TerraMax UGV technology is highly sophisticated but was developed with the user in mind and for ease of control. Troops can be trained to operate vehicles remotely or in full autonomous mode in only a few days. Vehicles equipped with the TerraMax UGV technology retain their original payload and performance capabilities and can operate for extended periods of time – day or night, through dust and adverse weather – without enduring the fatigue that can afflict human operators.

Oshkosh also is transitioning technologies from the TerraMax UGV system to provide active-safety features for the manned operation of vehicle fleets, including electronic stability control, forward collision warning, adaptive cruise control and electric power-assist steering.

Countries throughout the Middle East region, including the United Arab Emirates, the Kingdom of Saudi Arabia, Egypt, Jordan, Iraq and Oman, rely on Oshkosh vehicles for tactical and logistical operations. The company has been supporting militaries in the region for nearly 30 years and has a well-established presence with permanent offices in the United Arab Emirates and Kingdom of Saudi Arabia. Oshkosh retains partnerships with industries in select markets and provides the full spectrum of vehicle life-cycle sustainment capabilities through its Integrated Product Support services.

Oshkosh Defense leadership will be available at IDEX to discuss the company's commitment to the Middle East and North Africa region, as well its full range of vehicles, technology and service offerings, at booth #03-C10.

Exhibitions

Textron Marine & Land Systems Introduces Two New Vehicles to its COMMANDO™ Family of Vehicles

IDEX 2013 – Abu Dhabi – February 17, 2013

-Textron Marine & Land Systems, an operating unit of Textron Systems, a Textron Inc. company, today introduced the addition of two vehicles to its COMMANDOTM family of vehicles at the International Defence Exhibition and Conference (IDEX 2013). The new COMMANDO Select Mortar Vehicle and COMMANDO Utility Baserunner are being shown in Booth 03-B30 during IDEX 2013.

Designed to meet growing requirements of international combat units for a more operationally flexible and adaptable under-armor indirect fire capability, the new COMMANDO Select Mortar Vehicle is capable of firing up to 120mm mortars from a common mount, and stowing up to 82 rounds of high explosive, illumination and smoke rounds. The vehicle is expandable to other fire control systems. The Mortar Vehicle mount also can fire at an azimuth of up to a 360-degrees and a firing elevation of 45 to 85 degrees.

Three other COMMANDO Select variants are currently being produced and fielded for the Afghanistan National Army. Like all vehicles in this line, the Mortar Vehicle exceeds MRAP levels of crew protection and takes advantage of the proven mobility and survivability of TM&LS' COMMANDO family of armored vehicles. COMMANDO Select vehicles are easy to operate and maintain, with readily available parts, training and service support.

TM&LS' new Baserunner 4x4 selectable gas/electric hybrid COMMANDOTM Utility vehicle is built to facilitate missions in forward and rear echelon operational environments. These vehicles perform demanding tasks with ease, allowing users to efficiently and safely complete tasks. In gas mode the Baserunner powers through rough terrain and adverse conditions while electric mode provides quiet vehicle operation.

The COMMANDO Utility vehicle line also includes the Survivable Combat Tactical VehicleTM (SCTV) System, an MRAP-style fully armored monocoque v-hull crew capsule designed to replace the crew compartment of the HMMWV in a one-for-one exchange. The SCTV is offered by Granite Tactical Vehicles Inc. and Textron Marine & Land Systems.

"These vehicles offer current and potential customers the new capabilities they seek," said Tom Walmsley, TM&LS senior vice president and general manager. "A number of international militaries have expressed a need for a Mortar vehicle that combines indirect fire capabilities with outstanding mobility and protection, while others have expressed a desire for a robust and flexible utility vehicle to support military base operations. We're pleased to bring both to market while expanding the range of our COMMANDO vehicle lines."

Rigorously tested and proven in the toughest environments, the COMMANDO family of vehicles offers a range of protection up to and exceeding MRAP level, unmatched on-road/off-road mobility and ample firepower. TM&LS produces four lines of COMMANDO four-wheeled vehicles – COMMANDO Utility, COMMANDO Advanced, COMMANDO Select and COMMANDO Elite.

As an end-to-end armored vehicle provider, TM&LS

also offers its customers COMMANDO fielding, training, maintenance and logistics support throughout each vehicle's life cycle.

Exhibitions

CMI Defence and Doosan DST Present a New 120/105mm Medium Tank Concept

Demand for Medium Tanks is increasing. At IDEX 2013 CMI Defence and Doosan DST present a new 120/105mm Medium Tank concept. The system integrates the Cockerill XC-8 turret and the Doosan K21 IFV chassis. With a system weight of some 25 tonnes, the concept offers advanced 120mm or 105mm firepower with high operational flexibility and tactical mobility. The Cockerill XC-8 is a low-weight concept-turret that recognises divergent market requirements; specifically for the broad operational flexibility demanded by the medium-tank requirement, and for the narrower, more specialised anti- armour requirement. Thus one of two low-recoil force guns may be fitted in the XC-8.

The Cockerill 105mm high pressure gun provides commanders with a wide choice of ammunition to suit the tactical situation; it fires all NATO-standard 105mm types and the Cockerill Falarick 105 Gun Launched Anti Tank Guided Missile (GLATGM). Elevating to +42° this weapon delivers exceptional engagement capability in complex terrain, an indirect-fire HE capability to 10km range, and the GLATGM permits heavy armour to be enagaged at extended ranges.

The Cockerill 120mm high pressure gun provides a strengthened anti-armour capability. This weapon fires all NATO-standard 120mm smoothbore ammunition and the Cockerill Falarick 120 GLATGM, which permits the effective engagement and penetration of heavy armour to beyond 5km range.

Both guns are employed using a common high performance, digital, fully-stabilised, day/night weapon control system. Turret weight is kept low through the use of a bustle- mounted autoloader, which permits a two-person crew. The Cockerill XC-8 concept-turret draws on the proven modular technology of the Cockerill CT-CV 105HP turret and may be realised at low risk.

The Doosan K21 IFV chassis represents the latest-generation of vehicle technology. In service with the Republic of Korea, the K21 offers outstanding tactical mobility through the use of hydro-pneumatic suspension, a 750HP powerpack and advanced running-gear design. Tactical mobility and flexibility is further enhanced by the vehicle's ability to swim without assistance at full combat weight. A high- capacity digital data-infrastructure permits the functional integration of the Driver with the turret crew by using shared imagery and control. The same architecture permits straightforward through-life upgrade and low obsolesence risk.

The combination of the Cockerill XC-8 concept-turret with the Doosan K21 chassis promises a significant advance in terms of medium-weight direct-fire capability. The combination of highly effective and flexible lethality options with outstanding strategic and tactical mobility, opens up a new range of operational possibilities.

Exhibitions

BAE Launches Its Latest Manned Turret

BAE Systems Land Systems South Africa revealed its latest manned turret to attendees at the International Defence Exhibition (IDEX) and Conference in the United Arab Emirates today.

The Overhead Manned Turret (OMT) is a new generation, low profile turret designed for vehicles such as Light Armoured Vehicles (LAV) or Mine Protected Vehicles (MPV). The OMT is operated by one crew member and provides self-protection, ground fire support and attack capabilities to the vehicle system with an optimal balance between situational awareness, crew protection and cost.

The system has been modularly designed to support different user requirements. Parameters such as protection level, weapon interface, sighting system and position control mechanism can be configured to suit specific applications. The OMT can be configured to accommodate a range of weapons from 7.62mm and 12.7mm machine guns, to 40mm grenade launchers. Fitted with the appropriate weapon configuration, the OMT can be effectively utilised against enemy targets.

The basic designated system is equipped with manual turret drives and an optical episcope with integrated aiming mark. All round vision of the battlefield enables outstanding target detection capability, fast reaction time and orientation in urban conditions. Four smoke grenade launchers are fitted as standard.

The latest OMT-ED (Overhead Manned Turret - Electrical Drive) version is based on the basic system and is fitted with additional traverse electrical drives, enabling the operator to engage a target quickly and effortlessly.

"At Land Systems South Africa we continually use our own research and development funds to improve our products to ensure our customers receive the latest technology they require to keep safe on the battlefield," said Johan Steyn, Managing Director Land Systems South Africa.

When configured with a B7 level ballistic protection, the total mass is 550 kg excluding ammunition. The maximum height of 590mm above vehicle deck offers a low-profile solution with good situational awareness and high performance target identification of more than a kilometre, day or night.

Elevation and traverse hand wheels provide the standard human interface for turret movement. The OMT-ED version makes use of a dead-man switch and movement controller for rapid movement in traverse. An integrated brake system ensures operation while the vehicle is parked against a slope of 15 degrees. This added functionality, in combination with the high performance video sight, offers an affordable turret solution for light vehicles.

Contracts

Navistar Defense Awarded $23 Million Order To Provide Armored Cabs To The Afghan National Security Forces

LISLE, Ill. -- Navistar Defense, LLC, already a key supplier to the Afghan National Army (ANA) and Afghan National Police (ANP), has received an urgent delivery order from the U.S. Army (TACOM LCMC) to retrofit 205 armored cabs onto Navistar Medium Tactical Vehicles (MTV) currently designated for service with the Afghan National Security Forces.

The award, for $23 million, will involve replacing the current commercial cab with a specially designed armored cab— providing savings by re-using the original components of the MTV to protect the ANA and ANP from ballistic and blast threats in the theater of operations. The order also includes enhancing additional vehicle elements for improved survivability to provide Afghan National Security Forces with the capability to conduct route clearance missions with mine roller applications.

"This order reflects Navistar's strong partnership with the U.S. Department of Defense in providing high quality vehicles on very aggressive schedules in support of protecting the soldier on the ground," said Archie Massicotte, president, Navistar Defense. "We are proud to continue to support the vehicle fleet that we have provided to the Afghan National Security Forces and deliver on our commitments to the U.S. military and allies on this very important project and program."

The Navistar MTV is an extremely flexible platform that is already in service in Afghanistan in a variety of key missions including general troop transport, water tankers, fuel trucks, recovery vehicles and cargo trucks. Since 2004, Navistar has provided nearly 9,000 MTVs to the ANA and ANP. There are another 14,000 Navistar MTVs in service with military units around the world.

The vehicles will be upgraded at the Navistar Defense facility in West Point, Miss. Deliveries are scheduled to begin in April with completion scheduled for July.

Exhibitions

AutoKrAZ to Unveil New Armored Vehicle at IDEX 2013

PJSC AutoKrAZ in partnership with Ares Security Vehicles LLC (United Arab Emirates, Dubai), manufacturer of high quality armored vehicles, will participate in IDEX-2013, held February 17-23 in Abu-Dhabi (UAE).

The product for display will be the KrAZ-ASV/APC/2013 armored personnel carrier built on a base of the 4x4 KrAZ-5233HE chassis cab.

Acronym KrAZ-ASV consists of the names of cooperating companies. APC marking (Armored Personal Carrier) defines the family and armored vehicle purpose.

All-wheel drive vehicle is provided with powerful diesel engine. Protection level STANAG 4569 – level 2 and 3 kinetic energy and blast threat respectively.

This multirole vehicle is used for carrying personnel of military units and their fire support, it is provided with state-of-the-art weapon systems, active and passive protection systems.

APC demilitarized version can be used for carrying personnel of peace-support missions and other persons in conflict zones.

First orders for supply of KRAZ-ASV/APC/2013 vehicle have been placed long time ahead of displaying it at the exhibition.

KrAZ delegation invites all the partners to come and have a look at this vehicle on stand No CP-212 National Exhibition Centre, Abu-Dhabi.

Term of the day

Armoured Vehicle-Launched Bridge

An armoured vehicle-launched bridge (AVLB) is a combat support vehicle, sometimes regarded as a subtype of combat engineering vehicle, designed to assist militaries in rapidly deploying tanks and other armoured fighting vehicles across rivers.

The AVLB is usually a tracked vehicle converted from a tank chassis to carry a folding metal bridge instead of weapons. The AVLB's job is to allow armoured or infantry units to cross water, when a river too deep for vehicles to wade through is reached, and no bridge is conveniently located (or sufficiently sturdy, a substantial concern when moving 60-ton tanks).

The bridge layer unfolds and launches its cargo, providing a ready-made bridge across the obstacle in only minutes. Once the span has been put in place, the AVLB vehicle detaches from the bridge, and moves aside to allow traffic to pass. Once all of the vehicles have crossed, it crosses the bridge itself and reattaches to the bridge on the other side. It then retracts the span ready to move off again. A similar procedure can be employed to allow crossings of small chasms or similar obstructions. AVLBs can carry bridges of 60 feet (19 metres) or greater in length. By using a tank chassis, the bridge layer is able to cover the same terrain as main battle tanks, and the provision of armour allows them to operate even in the face of enemy fire. However, this is not a universal attribute: some exceptionally sturdy 6x6 or 8x8 truck chassis have lent themselves to bridge-layer applications.

Defence Industry

LM Demos DAGR Missile Ground Vehicle Launch Capability from JLTV

Lockheed Martin recently demonstrated the ability of its DAGR missile to launch from a ground vehicle during a series of flight tests at Eglin Air Force Base, Fla.

DAGR and two Hydra 70 rockets were launched from a pedestal launcher mounted in the bed of a Lockheed Martin prototype Joint Light Tactical Vehicle (JLTV). DAGR locked onto the laser spot two seconds after launch, flew 5 km down range and impacted the target within 1 meter of the laser spot. The unguided Hydra 70 rockets were launched down the center of the range, and flew 521 and 2,600 meters, respectively.

“DAGR delivers a high-precision defensive capability to the surface combat arena when paired with the pedestal launcher and a mobile ground platform like the JLTV,” said Ken Musculus, director of close combat systems at Lockheed Martin Missiles and Fire Control.

Lockheed Martin’s pedestal launcher features four M299 launcher rails, associated cables and electronics, providing full compatibility with HELLFIRE® II and DAGR missiles. DAGR’s rail-mounted canister attaches to the pedestal launch rails as it would on a standard HELLFIRE launcher designed for aircraft.

DAGR incorporates proven HELLFIRE II technology into a 2.75-inch/70 millimeter guidance kit that integrates seamlessly with legacy Hydra-70 rockets. The result is a laser-guided missile that puts a 10-pound warhead within one meter of the laser spot, defeating high-value, non-armored or lightly-armored targets while minimizing collateral damage. DAGR’s lock-on-before launch mode ensures the missile identifies the correct target prior to launch.

Lockheed Martin has conducted 40 DAGR flight tests from ranges of 1 to 5.1 kilometers. DAGR has been launched from multiple HELLFIRE-equipped rotary-wing platforms, including the AH-64D Apache, AH-6 Little Bird and OH-58 Kiowa Warrior. It has been launched from the pedestal launcher in three guided flight tests and five flights in total.

Lockheed Martin Missiles and Fire Control is a 2012 recipient of the U.S. Department of Commerce’s Malcolm Baldrige National Quality Award for performance excellence. The Malcolm Baldrige Award represents one of the highest honors that can be awarded to American companies for achievement in leadership, strategic planning, customer relations, measurement, analysis, workforce excellence, operations and business results.

Term of the day

Sloped Armour

Sloped armour is armour that is mounted at a non-vertical and non-horizontal angle, typically on battle tanks and other armoured fighting vehicles.

For a given normal to the surface of the armour, its plate thickness, increasing armour slope improves the armour's level of protection by increasing the thickness measured on a horizontal plane, while for a given area density of the armour the protection can be either increased or reduced by other sloping effects, depending on the armour materials used and the qualities of the projectile that hits it. The increased protection caused by increasing the slope while keeping the plate thickness constant, is due to a proportional increase of area density and thus mass, and thus offers no weight benefit. Therefore the other possible effects of sloping, such as deflection, deforming and ricochet of a projectile, have

been the reasons to apply sloped armour in armoured vehicles design. Another motive is the fact that sloping armour is a more efficient way of covering the necessary equipment since it encloses less volume with less material. The sharpest angles are usually seen on the frontal glacis plate, both as it is the hull side most likely to be hit and because there is more room to slope in the longitudinal direction of a vehicle.

Sloped armour was first widely used in the Soviet-designed T-34 battle tank and is also widely used in modern main battle tanks. A good example of that is the turret of the Israeli Merkava main battle tank.

Defence Industry

GDELS signs a teaming agreement with Falck Schmidt Defence Systems for Danish APC-R Program

General Dynamics European Land Systems and Falck Schmidt Defence Systems have signed a comprehensive teaming agreement to respond to the requests for the Danish Armored Personnel Carriers Replacement (APC-R) Program.

Under the teaming agreement, General Dynamics European Land Systems (GDELS) and Falck Schmidt Defence Systems (FSDS), a leading Defence contractor in Denmark, are working together to provide the best armored personnel carrier for the Danish Army.

The Danish Defence Acquisition and Logistic Organization (DALO) invited General Dynamics European Land Systems to submit tenders for both wheeled and tracked options of the program. GDELS has been the only contender chosen for both options with the ASCOD and PIRANHA 5.

This partnership, the core industrial team and open to other Danish Industry, creates a powerful platform for both companies to provide a turn-key armored personnel carrier solution to the Danish Army combining their existing capabilities and strengths. General Dynamics European Land Systems' previous experience in the design and deliver of combat vehicles to key allies of Denmark such as USA, UK, Germany, Spain and Canada provides the perfect background for the technology transfer of production to FSDS.

The collaboration between the two companies will create a basis for numerous new job opportunities at FSDS, not only for the production period, but also in the following years of operation and logistics support. Furthermore, the added value that FSDS will obtain during this partnership will help this company and other Danish enterprises in getting new contracts on the international market, with further job opportunities as a result.

"We look forward to working with Falck Schmidt Defence Systems to prove again that we are a trusted key supplier for the Danish Army vehicle fleet and a global leader of wheeled and tracked vehicles, and we to engaging in close cooperation with the overall Danish defence industry," said Alfonso Ramonet, President of General Dynamics European Land Systems.

"For FSDS this is a key strategic alliance with an international perspective which can raise the technology knowledge and production skills for the company even further than it is today," said Jan Falck-Schmidt, CEO of Falck Schmidt Defence Systems. "FSDS has a proven record in production, assembly, integration and test of complete armored personal carriers to the Danish Army, and this partnership will improve this capability to an even higher standard".

Over the past years, General Dynamics European Land Systems has delivered through the GDELS-Mowag Site to the Danish Army more than 260 PIRANHA 3, DURO IIIP 6x6 and EAGLE 4x4 vehicles. GDELS has demonstrated to be a reliable partner living up to the expectations of the Danish Army, by delivering the vehicle capabilities to operate across the full spectrum of operations.

Exhibitions

At the exhibition IDEX 2013 Golden Security Ltd. presented armored Toyota Land Cruiser 200

At the exhibition IDEX 2013, UAE, Golden Security Ltd. presented its latest vehicle - Toyota Land Cruiser 200 armored to the level VR 10 / Stanag 3-.

This level of protection is the next after B7 (standards EN 1063 / EN 1522) and according to the company's information the vehicle became the most protected civil vehicle in the world - perhaps excluding the vehicle of the US president, the protection level of which is not disclosed.

Till now there were only three companies in the world which have know-how to design highly protected civil vehicles, yet the level of protection was lower - up to B7, i.e. VPAM 9. Thanks to using state of the art materials and technologies the vehicle of Golden Security weighs even less than these vehicles.

The vehicle withstands attacks by bullets B32 (7.62 x 54R sniper rifle Dragunov) with velocity up to 874 m/s as required by VPAM 10 and Stanag 3, thus providing protection against all widespread soft core and armor piercing bullets 5.56 / 5.45 and 7.62 mm - excluding only tungsten-carbide bullets, that are not easy to source and are quite expensive.

The anti-mine protection guarantees no injuries to the occupants after blasts up to 6 kg TNT under the wheel (anti-tank mine) as required by Stanag 4569, level 2a. Apart from that, no injuries would occur after a blast of IED up to 15 kg at the distance of 2 m from the vehicle, anti-personnel mine DM31 under the floor and up to 3 hand grenades under the floor or on the roof of the vehicle.

The armoring scheme was developed in the company's design bureau in Germany.

The vehicle was tested and certified in a military certification center in Germany; contrary to the civil certification centers (Beschussamt), this certification center register all data necessary to evaluate if any injuries would occur to the occupants. A dummy with sensors is set into the vehicle and some high-speed cameras are installed, recording what happened inside the vehicle at each millisecond after the blast.

The assembly of the vehicles is done in the manufacturing facility of the company in Jordan, as well as at the partner company Armor Group in Russia.

Defence Industry

Bumar as the leader of the consortium building a new Polish tank

On 14th February in Warsaw, Bumar Sp. z o.o., together with other companies of the Polish defense industry set up a new main battle tank construction consortium. The goal of the consortium, according to the records, is performing research and development works and the implementation of "Universal Modular Tracked Platform in a Direct Support Vehicle/New Main Battle Tank version" to the production stage.

Bumar became the leader of the consortium and will coordinate and supervise the course of research and development works, and afterwards the company will be responsible for the implementation to the production and providing the Polish Armed Forces with the new Polish tank.

Apart from Bumar, the following companies of the Bumar Group entered the consortium: Ośrodek Badawczo–Rozwojowy Urządzeń Mechanicznych OBRUM Sp. z o.o. (Eng. Research and Development Center for Mechanical Appliances), "Bumar Łabędy" S.A. Mechanical Plants, Bumar Żołnierz S.A. (Eng. Bumar Soldier, Bumar Elektronika S.A. (Eng. Bumar Electronics) and Huta Stalowa Wola S.A. (Eng. Huta Stalowa Wola steel mill), Wojskowe Zakłady Motoryzacyjne S.A. (Eng. Military Automotive Plants), Wojskowy Instytut Techniki Pancernej i Samochodowej – Instytut Badawczy (Eng. Military Institute of Armored and Automotive Technology – Research Institute) and Wojskowe Zakłady Mechaniczne S.A. (Eng. Military Mechanical Plants).

The consortium was established in response to the interest of the Ministry of National Defense, concerning the project of a Universal Modular Tracked Platform/New Main Battle Tank. For several years, the Bumar Group has been conducting analytical, conceptual and research and development works to provide the Polish Armed Forces with a modern Universal Modular Tracked Platform as a Fire Support Vehicle, as the Ministry of National Defense required. The consortium will allow the exploitation of intellectual and production potential of constructing tracked combat vehicles, including combat and special platforms, which individual members of this contract have.

The detailed division of tasks between the members of the consortium is based on the initial plans, prepared by the leader.

"This contract means that the Polish industry will join forces, because we all want to provide the Polish Armed Forces with the best vehicle, and to make possible for Polish soldiers to drive a Polish tank," says Mariusz Andrzejczak, Vice President of the Management Board responsible for Technology and Development.