

# Army Guide monthly



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## Defence Industry

### SITNO Teams With BAE Systems to Offer Remote Turret for Tactical Vehicles

SLOVAKIA -- SITNO, the Slovak based company with one of its subsidiaries, PPS Vehicles, has teamed with BAE Systems Land Systems South Africa to offer the Tactical Remote Turret (TRT) to armed forces in the region.

The newly designed TRT is a family of remotely controlled turrets operated by a single gunner offering self-protection and ground fire support for Light Armoured Vehicles, Mine Protected Vehicles and Infantry Combat Vehicles.

“Teaming with and supporting the growth of local companies is an important strategy for our business,” said Johan Steyn, managing director, BAE Systems Land Systems South Africa. “SITNO is a valuable partner for us in this region and this partnership will allow us to offer more customisation and affordability for our customers.”

The TRT family of turrets is intended for a range of applications for armoured vehicles capable of supporting various weapon configurations. With a low-weight design philosophy in mind, the system provides the required firepower in a defensive and offensive role to high mobility tactical vehicles. In addition, the system’s high-firepower capabilities and low weight makes it feasible for amphibious applications.

“This collaboration combines comprehensive knowledge and state of the art technology of our two companies,” said Ludovit Cernak, member of the SITNO board in Slovakia. “This project not only delivers a competitive and modern product to our customers, but also demonstrates the shift in the market in modernisation of ex-soviet combat systems.”

The TRT base structure and Man Machine Interface is common for all configurations supporting a dedicated weapon cradle for the configuration of choice. The TRT’s armament suite consists of a rapid fire cannon, co-axial machine gun and Anti-Tank Guided Missiles or combination thereof.

A simple vehicle interface enables integration of the system on existing vehicles for modernisation of older platforms. These will be further explored to expand on existing system benefits such as light weight, increased internal space for crew or load capacity, simple-to-use operator interface and “on-the-move” engagement and firing capability. The unique Rapid Target Designation function significantly reduces time for target lock-on during engagements.



## Contracts

### Oshkosh Defense Showcases Special Forces Vehicle Expertise at SOFEX 2012

OSHKOSH, Wis. -- Special forces worldwide need highly mobile tactical vehicles that meet the requirements of their unique mission profiles. Oshkosh Defense, a division of Oshkosh

Corporation, will be displaying two such vehicles at the Special Operations Forces Exhibition & Conference (SOFEX) in Amman, Jordan, May 7-10.



The Oshkosh MRAP All-Terrain Vehicle (M-ATV) Special Forces Vehicle (SFV) and SandCat Tactical Protector Vehicle (TPV) will be in Oshkosh booth B650.

“The M-ATV SFV and SandCat TPV are protected and highly mobile vehicles that can support a wide array of demanding law enforcement, border patrol and special forces missions,” said Serge Buchakjian, senior vice president and general manager of International Programs for Oshkosh Defense. “Our experience providing special forces vehicles is matched by our dedication to provide full life-cycle sustainment and support services to every truck, regardless of location. We have established offices and networks in the Middle East to provide customers with support from individuals who understand the challenges unique to the region.”

Oshkosh has more than 90 years of experience designing, manufacturing and sustaining world-class vehicles for governments, militaries and special forces units around the world. Oshkosh Defense uses a collaborative, integrated approach to meet customers’ needs, from vehicle design and production to training and aftermarket sustainment. The company has produced more than 100,000 military-class trucks and trailers, and Oshkosh vehicles have been proven in severe off-road environments.

Oshkosh’s aftermarket solutions cover the complete spectrum of vehicle life-cycle support, including training services, instruction manuals, maintenance and repairs, parts supply and fleet restoration services. Oshkosh Field Service Representatives (FSR) travel globally to ensure vehicles and personnel are at peak operational readiness. The company’s robust operator and maintenance training services provide systems-level expertise on the platforms and technologies they support, and Oshkosh’s parts-supply network is available 24/7 to provide instant access to spare and repair parts for all vehicle makes and models.

Oshkosh Defense has locations around the world, including its Oshkosh Arabia headquarters in Dubai, United Arab Emirates.

### Vehicles on Display

The SFV variant is part of the M-ATV family of vehicles, which is designed to support the most challenging tactical operations in rugged and mountainous off-road terrain. The proven vehicle combines best-in-class off-road mobility and high levels

of protection. The M-ATV SFV features alterations specific to the needs of special forces, including a modified cargo deck, intended to accept specialized equipment based on each mission's requirements, and larger front windscreens for increased visibility. Oshkosh has received awards to date for nearly 8,700 M-ATVs, including more than 460 SFV variants, as well as spare parts kits, upgrade kits and aftermarket support.

The SandCat TPV is part of the Oshkosh SandCat family of vehicles and can be configured to meet individual performance, protection and payload needs. The vehicle's armor system can be customized based on the threat level and mission profile, and seating capacity can be adjusted to accommodate up to nine passengers. The vehicle also can be equipped with standard or customized storage, and is typically integrated with a wide array of weapons and communications systems. The SandCat TPV's compact design, combined with a 45.7 centimeter vertical step capability and 12.7 meter curb-to-curb turning circle, enables mobility in both tight urban settings and rugged rural landscapes. Oshkosh has received orders for the SandCat from Mexico, the United States, Sweden, Bulgaria, Canada and Nigeria.

Cubic is showcasing its newly developed range of advanced training systems during the Special Operations and Homeland Security Exhibition (SOFEX) at the King Abdullah I Airbase in Jordan.

According to the company, the computer-based training systems are targeted for the Kingdom of Jordan and other Middle Eastern customers.

Cubic Defense Applications Middle Eastern region business development vice president John Naff said: "All of these products can be integrated with each other to provide a live, virtual, constructive capability for leadership training, as well as use in planning for tactical operations."

The company is displaying the Jordanian Army's newly acquired deployable combat training centre (CTC) and tactical vehicle system (TVS), which is a laser-based live combat training system for tactical vehicles featuring advanced wireless devices with embedded laser detectors.

The CTC includes Cubic's MILES individual weapon system (IWS) and exercise control, as well as after action review facilities to help Jordanian forces conduct force-on-force training with MILES laser engagement systems throughout the country.

Cubic is also showcasing the light weight special operations forces - weapons engagement simulation system (SOF-WESS), developed specifically to train special operations teams.

The system features small arm transmitters capable of attaching to Nato and international weapons to simulate weapons firing and detector modules, which can be placed anywhere on a uniform using a magnetic bracket.

The EST 2000 engagement skills trainer is a smaller-scale version of the EST dismounted soldier (DS) system, designed for individual soldiers to gain, sustain and sharpen their marksmanship skills, are also exhibited by the company.

Also on the display is the smaller-scale version of its mission rehearsal planning system (MRPS) virtual sand table system for constructive or computer-based training.

### Defence Industry

#### Finnish Forces rely on armoured Sisu ETP trucks in UNIFIL operation



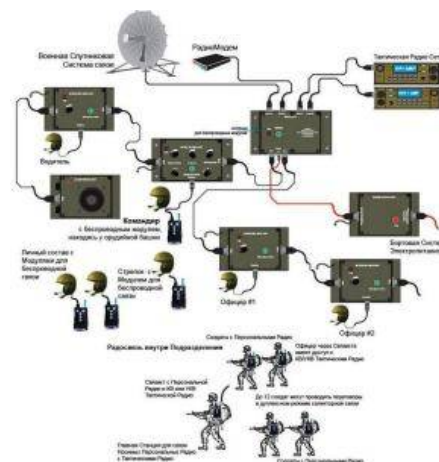
Finnish Forces shall resume participation in an UN operation in Lebanon mid May, 2012, after absence of five years. As earlier, also this time Sisu branded vehicles shall play a vital role in the theatre. This time the deployed vehicles include also the new ETP 8x8 trucks featuring the up-to-date armouring solutions of Sisu Defence.

The gear necessary for a successful operation was loaded to a ship heading to Beirut in Rauma harbour, Finland, on April 22, 2012.

Sisu E13TP series trucks are modern military vehicles providing protection against mine, ballistic and NBC threats. In addition to the forthcoming operation in Lebanon, the armoured Sisu E13TP trucks are currently in service also in Afghanistan, under a NATO led operation, ISAF.

### Defence Industry

#### AT Tactical Intercom System



AT Communication, has recently updated its

### Training And Simulators

#### Cubic unveils advanced training systems at SOFEX 2012



Tactical Intercom System. The Tactical Intercom System is a highly configurable and modular intercom system suited to a range of wired and wireless intercom applications.

Examples of both Military and Civilian applications include Military Vehicles, Emergency Services, Patrol Boats and Dismounted Squads.

In Vehicular applications, the AT Tactical Intercom System compact design allows intercom users to have access to up to four tactical radios as well as other crew members. Crew can be in the vehicle or dismounted via the Wireless intercom option. The system's robust hardware design and system architecture is suitable for military Command, Fighting and Support vehicles, tracked or wheeled, armoured or soft skinned.

In Military applications, the AT Tactical Intercom System is a ready replacement for aging systems. It is scalable to meet varying demands and provides crisp, clear, full duplex audio amongst crew members. It has a range of radio interface options from basic PTT to full remote control of the radios. User are provided with the exact functionality required and not burdened with sophisticated commands and controls found on competitive systems.

In Civilian and Emergency service applications, the system modules are compact, robust, and easy to use and designed to be operated with minimal training.

The systems are based on modular architecture and can be configured in many ways to suit the requirement and consequently cover a wide range of intercom applications which can be augmented with specialist modules to add functionality if needed;

- Entry System is for small platforms with two, three or four crew and one radio,
- Medium System is suitable for platforms supporting two to four radios, four to six crew members and crew who operate both inside and outside the platform. It has a range of options, wireless intercom, power distribution, remote operation and advanced functional control of radios.
- Enhanced System is aimed at the large command platforms that can support between two and eight radios, four to eight crew members and crew who are required to be versatile and operate both inside and outside the platform. It has a range of options, wireless intercom, power distribution, advanced functional control of installed radios and remote operation.

The medium and enhanced systems are projected for the wide range of platform options and these will include the personnel carriers, command structures and main site requirements. The ability to configure the system to exactly what is required, enhances the man machine interface and operational efficiency whilst maintaining costs. Both systems can be augmented with data via Ethernet routed to those positions that require it. One of the key improvements of the Tactical Intercom System is the ability for the individual modules to be maintained at workshop level. This makes the AT Tactical Intercom system a very economical solution considering total cost of ownership.

For Squad Applications Wireless Personal

Communicators (WPC) and a Wireless Base Unit (BU) can be configured to give a wireless only variant which can be expanded to interconnect to vehicular systems for future expansion. Squad members wear a wireless belt unit which interfaces with commonly available audio headsets to provide hands-free full duplex intercom operation or with remote PTT option depending on the application.

A vibration mode can be enabled for covert operations to alert to incoming calls. The Wireless system through the Base Unit can provide connectivity to Portable Tactical HF, VHF and UHF transceivers. This capability requires an upgrade to the WPC as it is not a standard feature.

For further information or to discuss your application, please do not hesitate to contact us.

#### **System Benefits at a glance:**

Scalable – all versions Entry, Medium and Enhanced are derived from the same set of core modules

Versatile – can be adapted to the Users' requirements

Flexible – can be installed in a wide range of vehicular and static locations

Cost effective in procurement – Users adjust the system to suit and only pay for what they require so there is no inefficient functionality

Cost effective in installation – the small volumetric size of the system allows for installation in confined spaces

Installation – easy to design installation and cost of installation aspects minimised in platforms

Cost of Ownership – simple local workshop repair by technicians

Future Proof Technology – boards will only require either component or software upgrades

Ease of Use – simple to use, all controls are for essential functionality so no expensive training courses required

Maintenance – no maintenance training required, User manual explicit for both first line and workshop level, spare boards held at workshop

Expandable – options can be added to any of the systems, up to 15 IUUs can be placed on one "Daisy Chain" and up to 10 RAUs on one "Daisy Chain".

Architecture options – Standard "Daisy Chain" or "Ring" connectivity



**Army**

## **UK MoD confirms commitment to Specialist Vehicle programme in Armoured Fighting Vehicle pipeline**



The UK MoD has confirmed in its Planning Round

2012 (PR12) announcement today that funding for its future Armoured Fighting Vehicle (AFV) pipeline, which includes the Specialist Vehicle (SV) programme, is part of its core programme of committed funding, thus protecting the core component of Force 2020 for the British Army.

General Dynamics UK will deliver the most modern medium-weight AFV fleet in the world today for the British Army, featuring the most advanced ISTAR capabilities and providing the best possible protection for the soldiers using it. The SV programme is a Modified-off-the-Shelf (MOTS) solution that brings huge economic and industrial benefit to the UK, and is expected to attract valuable export orders from overseas markets.

“We welcome the announcement by the Secretary of State for Defence confirming that the SV programme is secure in the MoD’s future AFV pipeline and core programme of committed funding,” commented Dr. Sandy Wilson, president and managing director of General Dynamics UK, the prime contractor on the programme. “This is great news for the soldiers who will use SV; it is great news for the UK supply chain involved in designing and manufacturing SV; and it is great news for General Dynamics UK in South Wales and validates General Dynamics’ continued investment in the United Kingdom.”

Chief of the General Staff, General Sir Peter Wall said, “I am delighted that BJ5.5bn is secured for the Armoured Fighting Vehicle (AFV) pipeline over the next decade. SV is a key programme in this mix: It will provide the mobility, flexibility and protection to provide our commanders with critical battlefield information in the most demanding of environments.”

### **Benefits to the UK economy and industry**

The SV programme is a tangible demonstration of how the modification in the UK of a European Off-the-Shelf platform – a process called Modified Off the Shelf or MOTS – can deliver increased value for money to the British taxpayer, support British jobs throughout the supply chain, and deliver a solution with great export potential; making SV a key capital programme for the UK economy over its 30 year lifespan.

A recent audit study by Ernst & Young concluded that the SV programme would generate total economic output of over BJ9.8 billion, with a corresponding Gross Value Added (GVA) of BJ4.7 billion over the life of the programme. To this end, General Dynamics UK recently invested BJ12 million in state of the art facilities in Wales, establishing a Centre of Excellence for Land Systems, where the programme’s intellectual property and the UK’s sovereign AFV capability will reside.

General Dynamics UK has signed a major sub-contract with Lockheed Martin UK, based in the East of England, for the turret of the Scout variant. Thales UK in Scotland is also contracted to provide a full optonics suite including the gunners and commander’s sights on Scout, using their latest Orion technology, which are used for reconnaissance and targeting, and short-range sensors to provide local situational awareness in the vicinity of the vehicle. Contracts have also been

signed with 12 other UK based suppliers, as well as a number of European suppliers. Further contracts will be signed as the programme progresses, bringing further economic benefits to regions around the UK.

A direct consequence of the SV programme’s robust UK content and supply chain is a stronger British supply chain, a continuing UK sovereign AFV capability and a British Army equipped with a fleet of modern, highly capable and easily deployable, armoured fighting vehicles.

### **Benefits to the British Army**

The SV programme will deliver an initial family of four vehicle variants to the British Army - Scout for the manned reconnaissance role, a Protected Mobility Reconnaissance Support (PMRS) vehicle, plus Recovery and Repair variants, with possible future variants such as a light-tank with a 120mm direct fire gun and turret solution, a bridge layer, command and control post, ambulance and Overwatch missile defence system to name a few. Also, the combination of SV’s Common Base Platform (CBP) and General Dynamics UK’s proprietary electronic architecture (EA) means that the British Army will be able to develop and grow its core medium-weight AFV capability much more easily than in the past. The open nature of the electronic architecture designed by General Dynamics UK was a key reason why the MoD chose the General Dynamics solution in the first place. The electronic open architecture will allow for the easy addition of new capabilities to the platform when needed, resulting in a more cost effective upgrade path, whilst the common base platform across all variants will ensure that it will be less expensive and easier to manage logistics, supply and training requirements. General Dynamics UK’s solution reduces cost of repair and upkeep, reduces weight and increases available space inside AFVs while providing the required power and data architecture for the high power and high data demands of modern networked vehicles fighting in a digital age. Currently each different vehicle type used by the Army requires its own support lines, and by extension is less financially efficient.

### **Excellent progress on SV programme**

Since signing the contract for SV in July 2010 the industry team has made excellent progress on the SV programme, meeting all milestones set by the MoD on budget and on schedule. Amongst the key achievements are:

- 24 contracts signed with suppliers to the programme across the UK and Europe;
- Testing of key components completed;
- First development turret for the Scout variant of SV built and tested;
- CT40 cannon system integrated into turret and successfully fired;
- Representative PT3 Scout SV prototype unveiled;
- New armour system tested against latest IED threats;
- Powertrain physically integrated in the Mobile Test Rig (MTR).

### **Excellent export potential**

The recent Ernst & Young audit study conservatively

estimated the potential export value of the SV programme to be approximately B1.3 billion or more in its first 16 years, based on expressions of interest from a number of countries. Many of these countries are understood to be considering upgrading to SV for it levels of capability and survivability. The UK Government's announcement that the SV programme is secure in the AFV pipeline and in its core programme of committed funding will encourage these countries to more closely consider SV for their AFV needs as it offers the future growth and protection they will need to protect their troops.



### Future Technologies

#### AM General LLC Submits Independent JLTV Solution



SOUTH BEND -- AM General LLC announced today that it is backing two separate proposals for the Engineering, Manufacturing and Development (EMD) phase of the Joint Light Tactical Vehicle (JLTV) program.

AM General has submitted an independent JLTV solution for the EMD phase based on more than a decade of the company's own investments in research, development and testing for the next-generation light tactical military vehicle.

AM General's new Blast-Resistant Vehicle - Off Road (BRV-O) is a highly mobile and versatile platform that meets or exceeds 100 percent of the government's program evaluation criteria including protection, performance, payload, transportability, reliability and affordability. BRV-O features a crew capsule and modular armor already proven effective in government-supervised blast testing. This AM General design can be readily adapted to future changes in U.S. military missions, enemy threats and new protection technologies as they emerge.

BRV-O also features a lightweight, fuel efficient, high performance engine; a self-leveling suspension system; a C4ISR backbone with open-standard networked architecture and clustered super-computing power, and other advanced components. These and other mature subsystems have been tested, refined and validated. This makes BRV-O cost effective and production ready, with the high degree of reliability needed by U.S. service members.

AM General also is supporting a separate proposal from General Tactical Vehicles, the joint venture formed

in 2007 with General Dynamics Land Systems. GTV received one of three Defense Department contracts for the Technology Demonstration phase of the JLTV program.

Both of the proposals backed by AM General have the added value of the company's 50-plus years of experience - making it, by far, the most experienced light tactical military vehicle developer and manufacturer in the United States.



### Future Technologies

#### DRS Tactical Systems Introduces Three New ARMOR™ Rugged Tablet Computers



PARSIPPANY, NJ -- DRS Technologies, Inc. a Finmeccanica Company, announced today that its Tactical Systems division has expanded its product portfolio. The ARMOR™ X7et and the ARMOR™ X7ad are new, thin, lightweight tablets based on customers requesting even more portable computers from ARMOR™.

These sleek, 7" multi-touch tablets shatter the perception of bulky, rugged computing and offer field service workforces the ability to choose between the fast-growing Android OS and the enterprise-friendly Microsoft® Windows platform.

"With the launch of these products, we responded to customer feedback and are capitalizing on our highly-successful ARMOR™ X7 compact rugged tablet form factor, launched last year. At the same time, we've addressed growing interest in the Android™ platform," said Mike Sarrica, president of Network and Communication Solutions (NCS) and general manager for DRS Tactical Systems.

The ARMOR™ X7et is a Windows-based tablet that weighs just under 1.5 lbs and provides six hours of battery life. It features an Intel® Atom™ Z670 processor and runs Microsoft® Windows 7 Professional. Its Android counterpart, the ARMOR™ X7ad, weighs 1.3 lbs. and operates for up to eight hours. It features a NVIDIA® Tegra™ 2, 1.0Ghz dual core processor and operates on Android™ v3.2. Both lightweight tablets feature a 7" outdoor-readable multi-touch screen display. They are certified to MIL-STD 810G for extremes in temperature, vibration, shock and four-foot drops and have an IP65 rating for ingress protection, which means they are fully protected against dust and can withstand



low pressure jets of water from all directions.

Additionally, DRS is now offering a new convertible tablet, the ARMOR™ X12kb, the lightest convertible tablet in the marketplace that meets MIL-STD-810G. Weighing 5.5 lbs., it features a 12.1" sunlight-readable swivel touch-screen that incorporates polarized LCD glass and anti-reflective technology. The ARMOR™ X12kb offers the Intel Core™ i5-560UMCPU processor and runs Microsoft® Windows 7 Professional. It has a long battery life, operating for up to eight hours, as well as a spill proof keyboard and touchpad. Additionally, the one-click stealth mode operation disables all emitting light and sounds, a feature that is designed for the unique applications of covert operations.

The three new ARMOR™ mobile computers include robust connectivity options including Gobi® Wireless Broadband, integrated GPS, 802.11 b/g/n WiFi, and Bluetooth® wireless. They are simply designed to make it easier for workers to use mobile computing, even in rugged environments.

"Our new 7" tablets and the new 12" convertible tablet build on DRS' many years of experience in developing mobile solutions for field service, manufacturing, transportation, public safety and other industries. They expand the capabilities of the ARMOR™ family of Rugged Mobile Solutions by meeting the evolving needs of today's mobile enterprise," added Sarrica.

#### About ARMOR™

ARMOR™ Rugged Mobile Solutions from DRS Technologies combine real-time advanced computing and communications technology with MIL-STD durability and reliability. Based on more than 25 years of experience developing military computer systems and industrial tablets for the harshest real-life working conditions and environments, ARMOR™ fully rugged tablets are certified to survive the harmful effects of dust, sand, glare, moisture, impact, temperature extremes, vibration, and more. They enhance the productivity of mobile workers in field service, heavy industry, energy, manufacturing, construction, transportation, public safety, homeland security, and the military, among other industries.

DRS Technologies is a leading supplier of integrated products, services and support to military forces, intelligence agencies and prime contractors worldwide. The company is a wholly owned subsidiary of Finmeccanica S.p.A. (FNC.MI) which employs approximately 70,000 people worldwide.



### Exhibitions

#### General Dynamics European Land Systems presents the new EAGLE 6X6 at EUROSATORY 2012

MADRID -- General Dynamics European Land Systems will present for the first time the newest member of the EAGLE family of vehicles, the EAGLE 6x6 light tactical vehicle, at EUROSATORY 2012 exhibition in Paris from 11-15 June 2012.

General Dynamics European Land Systems will be located in Hall 5 - Stand No. 05-C186. EAGLE 6x6



Building on the mobility, protection and payload of the class-leading EAGLE 4x4 light tactical vehicle, General Dynamics European Land Systems is proud to present the new EAGLE 6x6 light tactical vehicle at the EUROSATORY show.

To meet the growing demand for higher levels of survivability, mobility and capacity in more-affordable light tactical vehicles, General Dynamics European Land Systems combined the proven DURO 6x6 chassis, driveline and suspension with the EAGLE 4x4 hull to create the EAGLE 6x6 light tactical vehicle.

The uniquely designed axle and mechanical roll-stabilizer system provides superior driving safety at high speeds and superior traction for negotiating difficult off-road conditions. The General Dynamics-designed transfer case, differentials and wheel ends ensure constant drive to all wheels under all conditions. The optional rear-axle steering further increases the tactical mobility of the EAGLE 6x6.

The EAGLE 4x4 and the EAGLE 6x6 provide a true family of vehicles with the flexibility to accommodate 2 to 11 soldiers in roles including reconnaissance, command and control, APC, ambulance, NBC detection, mortar carrier, recovery and logistics transport over the 8.5 tons to 15 tons gross vehicle weight range. The new EAGLE 6x6 offers payloads of up to 6,000 kg and protected volumes of up to 16 cubic meters.

The family of vehicles concept provides significant savings in operator and maintenance training and maximizes commonality in tools and spare parts. Payload growth is designed into the platform and an optional integrated generator provides significant electrical growth to meet future electrical needs.

The EAGLE family of vehicles provides customers with a cost-effective balance of payload, protection and performance through the use of proven, off the shelf systems while providing growth and flexibility to meet future operational needs and threats.

General Dynamics European Land Systems, headquartered in Madrid, Spain, is a business unit of General Dynamics and conducts its business through four European operating units located in Austria, Germany, Spain and Switzerland. With more than 3,300 highly skilled technical employees, GDELS companies design, manufacture and deliver land combat systems to global customers, including wheeled (PIRANHA,

PANDUR, DURO and EAGLE), tracked (ASCOD) and amphibious (M3) vehicles, bridge systems (IRB, MTB and REBS), armaments and munitions.

with our high-performance supply chain management solutions, our offering results in outstanding logistics response times and the highest level of reliability, while reducing life cycle costs."

## Defence Industry

### Navistar Defense, Indigen Armor, SAIC Unveil Special Operations Tactical Vehicle

LISLE, Ill. -- Navistar Defense, LLC, Indigen Armor and SAIC today unveiled the team's Special Operations Tactical Vehicle for the U.S. Special Operations Command (SOCOM) Ground Mobility Vehicle (GMV) 1.1 program.

The vehicle, on display this week at the Special Operations Forces Industry Conference in Tampa, Fl., is built on Indigen Armor's proven Non-Standard Tactical Truck (NSTT) platform and designed to be its modular and overt tactical equivalent.

The team's Special Operations Tactical Vehicle is transportable in an armored and mission-ready state on a M/CH-47 helicopter. The vehicle is designed for maximum off-road speed and mobility for a variety of terrain found in desert, jungle, mountain and arctic environments and incorporates a full government furnished Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) suite.

"Our GMV offering incorporates the expertise of three very strong companies," said Archie Massicotte, president, Navistar Defense. "Together we have a sophisticated design ready now that meets transportability and mature platform requirements while providing unprecedented mobility."

The Special Operations Tactical Vehicle chassis, suspension, powertrain and armored occupant safety cell were engineered specifically to carry large payloads across rough landscapes in 3-man, 5-man and 7-man variants. The scalable armor packages meet multiple threat levels and accommodate a variety of low-profile and overt tactical body styles which allow the vehicle's profile to be changed at the crew level.

"As former special operators, we have first-hand knowledge of how critical vehicle mobility and transportability are to SOCOM missions," said John Choate, president of Indigen Armor and former Navy SEAL. "This knowledge helped us bring to the table a mature, purpose-built and tested tactical vehicle platform when developing our team's GMV 1.1 offering."

Navistar's world-class truck and engine integration capabilities and Indigen Armor's unique understanding of performance specifications are further strengthened by SAIC. The company will provide integrated logistics support in addition to a full C4ISR suite.

"We have added to our already robust GMV offering by incorporating our expertise in integrating C4ISR systems and life-cycle support efficiencies in from the very start," said Glenn San Giacomo, SAIC senior vice president and business unit general manager. "Coupled

## Future Technologies

### Army Assesses Current Vehicles As Part of GCV Development Process



Last week, the U.S. Army began operational assessments of existing combat vehicles to validate capabilities against requirements for a new Infantry Fighting Vehicle. The effort, known as the Non-Developmental Vehicle, or NDV, Assessments will take place on the border of Fort Bliss, Texas, and White Sands Missile Range, N.M.

The assessments are being conducted on domestic vehicles - the M2A3 Bradley Fighting Vehicle, M1126 Stryker Infantry Carrier Vehicle Double V-Hull, and a Turretless Bradley - as well as the Israeli Namer and Swedish CV-9035, both international vehicles.

The NDVs included in the assessments feature a wide range of unique capabilities and attributes, which will allow the Army to conduct a comprehensive analysis of multiple configurations and families of vehicles to better understand requirements achievability.

Operational assessments are being conducted on each vehicle with focus on individual key characteristics. Each NDV encompasses unique technologies specific to individual country

requirements, enabling the Army's Project Manager for Ground Combat Vehicle to balance these requirements against mobility, survivability, growth and lethality capability gaps.

"We have a very good mix of vehicles with unique attributes and capabilities," said Col. Andrew DiMarco, the Army's project manager for Ground Combat Vehicle, or GCV. "Information gained from these operational assessments will contribute to the body of analysis the Army uses to validate existing capabilities against the requirements for a new GCV Infantry Fighting Vehicle, IFV, as well as further inform potential design trade-offs."

The NDV Assessment effort, directed in the Milestone A Acquisition Decision Memorandum on Aug. 17, 2011, is one part of the GCV program's three-pronged approach to the GCV IFV Technology Development, known as the TD phase, which is focused on reducing cost and schedule risk prior to Milestone B. The other two prongs



in the approach use contractor developed, best-value design and a continued effort to analyze and model operational attributes and capabilities against cost, schedule and performance risks.

Conducting the NDV Assessments at Fort Bliss allows the Army to utilize an operationally relevant environment. These operational assessments will focus on field observations, Soldier surveys and interviews, and static exercises in varying conditions.

"Successfully developing, building and fielding a capable Infantry Fighting Vehicle that meets affordability and schedule demands depends on aggressive exploration of the capabilities trade-space and the full range of alternatives prior to finalizing requirements," said DiMarco.

Soldier-based operational insights gleaned from the NDV Assessment will be used to refine requirements in the GCV Capability Development Document and inform Army and Office of the

Secretary of Defense decision makers at the program's upcoming Milestone B.

The NDV Assessments will continue through May 25th.



### Exhibitions

#### Oshkosh to Showcase TPV at National Homeland Security Conference 2012



Homeland security officials, planners and funding managers from federal, state and local levels across the U.S. will have an opportunity this week to see and learn firsthand about the unique Tactical Protector Vehicle (TPV) from Oshkosh Defense, a division of Oshkosh Corporation, at the National Homeland Security Conference in Columbus, Ohio, May 22-24.

The Oshkosh TPV is designed to provide law enforcement officers with exceptional mobility and maneuverability to operate in tight spaces. The vehicle is built to support a wide array of operations, such as disaster response, border patrol, rescue missions, terrorist threats and hostage situations in either urban areas or rugged rural environments.

"The Oshkosh TPV delivers best-in-class mobility combined with optimal protection for officers responding to homeland security threats," said John Bryant, vice president and general manager of Joint and Marine Corps Programs for Oshkosh Defense. "Whether officers are

negotiating dense cities, rural areas or debris-strewn terrain in response to emergency situations, the TPV provides the mobility, maneuverability and crew protection needed for a wide range of missions."

The vehicle provides officers with protection through an advanced armor system that utilizes ballistic steel and glass to enclose the entire crew compartment. With an armor protection rating of NIJ Level IV, the TPV can stop multi-hit, armor-piercing ammunition.

The TPV has a more compact footprint than other protected vehicles in its class. It can carry up to nine officers and offers available electrically deployed drop-down skip plates for additional officer protection. Its turning circle is less than 42 feet curb-to-curb, with a maximum speed of 75 mph. With selectable four-wheel drive, available run-flat tires and 13 inches of ground clearance, the TPV can handle the roughest terrain and obstructions, whether on border patrol duty or city law enforcement missions.



### Defence Industry

#### Krauss-Maffei Wegmann buys UK bridge-making company

Munich -- Krauss-Maffei Wegmann GmbH & Co. KG has taken over the UK company WFEL Ltd. based in Stockport, Cheshire. WFEL is regarded as the worldmarket leader for mobile bridging systems in both military and civil applications.

WFEL bridges are used in places where other opportunities for crossing terrain, obstacles and bodies of water have been destroyed. The self-supporting structures can span up to 46 metres with a maximum load capacity of 125 metric tons. The global WFEL portfolio numbers about 40 governments and includes the USA, UK and Switzerland. In fiscal year 2011, the company's 228 employees achieved sales of about EUR 45 m.

Prior to the takeover by Krauss-Maffei Wegmann, WFEL was majority-owned by Dunedin LLP, a UK private equity company. Frank Haun, Chief Executive Officer of Krauss-Maffei Wegmann, stated that the purchase is a logical step for WFEL, Dunedin and KMW: "Expanding our bridge business by including the mobile bridge systems from WFEL is a rational addition to our product range within a growing market. Mobile bridging systems are essential, both for military applications and in the civil sphere in case of natural catastrophes."



### Contracts

#### Elbit Systems Awarded Initial Contract to Supply Advanced Dismounted Soldier Systems to the Finnish Army

Haifa, Israel -- Elbit Systems Ltd. ("Elbit Systems") announced today that it was awarded a contract by the Finnish Army, to supply advanced dismounted soldier systems, in the first phase of a

comprehensive ISTAR (Intelligence, Surveillance, Target Acquisition and Reconnaissance) program. The initial award is not in an amount that is material to Elbit Systems.



The solution offered by Elbit Systems includes enhanced observation soldier equipment (MARS), comprehensive situation awareness software, cutting edge combat soldier wearable radio (PNR1000) and computer systems intended to enhance the operational capabilities of the Finnish Army in the areas of reconnaissance, terrain dominance and dismounted soldiers. It will also support the Finnish Army in developing new combat doctrines, and as a basis for developing its future forward observation program.

Bez halel (Butzi) Machlis, General Manager of Elbit Systems' Land and C4I Division, commented: "We are proud that Finland, a NATO Partner of Peace, has selected our systems following a rigorous competition, including field testing in Lapland. This win affirms yet again our leadership as a supplier of advanced solutions for soldier systems."

is essential to have know-how supplied by various specialised departments (for installing the vehicle, armoured and other systems) in order to come up to users' expectations regarding both costs and development. Here both the manufacturers of armoured troop carriers as well as armed forces worldwide are confronted with the following challenges:

- The increasing complexity of the systems which have to be installed in extremely confined spaces
- Dwindling defence budgets, which means that all current and new projects have to be reviewed
- Obsolete fleets of vehicles, which were not designed for future operations and are therefore in need of modernisation
- The increasing importance of reduced life-cycle costs
- A guaranteed supply of spare parts and vehicle services for the entire life cycle of the vehicles

Regarding the choice of drivetrain concept, specialists ought to be involved from the very beginning in order to make sure that vehicle projects move in the right direction concerning aspects of development and costs both for the vehicle manufacturer and the final user.

The establishment of the new business unit "Special Chassis" is Mercedes-Benz Special Trucks' answer to altered market needs. Based on the time-tried Mercedes-Benz Truck modular assembly system, Mercedes-Benz Special Chassis is now providing an integral system solution for the entire vehicle with a "Component Kit" which is absolutely in tune with the requirements of modern vehicle manufacturers in the 21st century as well as coming up to the latest military and technical vehicle standards.

From Component Kit to entire vehicle - that means for Mercedes-Benz Special Chassis providing a complete package covered by contract, guaranteeing complete technical and commercial customer care from the system solution "Component Kit" right up to its installation - which thus contributes to improved planning predictability for both vehicle manufacturer and end customer.

This extremely flexible approach makes Mercedes-Benz Special Chassis not only a reliable development partner, but also the first choice when it comes to selecting a "Component Kit" system solution especially when it is combined with the Mercedes-Benz worldwide service and spare parts network which ensures best possible vehicle care throughout its whole life cycle and moderate life-cycle costs.

One thing is true for all Mercedes-Benz Component Kits: They include "mass-produced components adapted to military requirements". With no limits set to diversity: whether two, three or four axles with varying wheelbases, tonnage from 12.5 tonnes right up to 45 tonnes, 4, 6 or 8-cylinder engines, manual or automatic transmission, the most modern electronic architecture and instruments. When selecting a Component Kit, the manufacturer of armoured monocoque vehicles has recourse to time-tried safeguarded components and interfaces (mechanical, electric, hydraulic, pneumatic) which also come up to international STANAG standards.

## Exhibitions

### Mercedes-Benz Special Chassis will release a FGA Component Kit and FGA 14.5 Special Chassis at Eurosatory 2012



Mercedes-Benz Special Chassis, business unit of Mercedes-Benz, will release new FGA Component Kit and FGA 14.5 Special Chassis at Eurosatory 2012 (11 - 15 June 2012).

#### FGA Component Kit

The armoured monocoque wheeled vehicles used worldwide for demanding operations are extremely complex systems which have to be considered under both technical and economic points of view - in particular with regard to their research and development. First and foremost are the user's requirements as they provide the functional criteria for the system "vehicle" as a whole. When selecting and installing appropriate components it

Using the "Component Kit" system solution to meet special military requirements is however not just of interest for new projects, but for upgrading fleets of vehicles already in use. The improved performance standards required for vehicles and new challenges to be faced during operations are good reasons for modernising vehicles already used. The most important reason is however to lengthen the vehicle's life cycle. Because a long life span saves resources and lowers life-cycle costs.

It does not matter what manufacturers of armoured vehicles require, they can rely on time-tried mass-produced components and decades of military vehicle know-how from Mercedes-Benz.

### FGA 14.5



For years, Mercedes-Benz Special Chassis FGA 12.5 has proved its worth in very diverse military missions as the base of the KMW DINGO 2. Extensive experience gained over the year and changing operation scenarios with regard to payload, mobility and reliability have served as the basis for the new development of Special Chassis FGA 14.5. This is also the basis for the new heavy duty version of the DINGO 2 HD from Krauss-Maffei Wegmann. The logistical concept of the DINGO 2 HD (supplying spare parts and servicing) follows in the footsteps of the DINGO versions already launched, which were given Special Chassis FGA 12.5 as a base.

The decision to go into series production with Special Chassis FGA 14.5 means that Mercedes-Benz is now in a position to provide manufacturers of military and civil vehicles with a completely newly-designed chassis on the basis of the time-tried Unimog concept. Special Chassis FGA 14.5 is absolutely geared to the requirements of modern armed forces in the 21st century as far as increasing payloads and tactical mobility are concerned and it comes up to the latest standards for military and technical vehicles. Its improved handling properties (achieved with a new drivetrain concept and a new concussion spring package) and the integration of ergonomic operating concepts such as the pre-programmable central tyre inflation system found in the driving display help to take the strain off the driver. The controls are so designed that even drivers with little practice can react quickly with no complications in stress situations.

Designed according to STANAG standards, the Special Chassis also has a flexible ladder-type frame construction which allows the greatest possible torsional flexibility as well as portal axles which provide ground

clearance of over 455 mms. Outstanding off-road mobility is provided by the time-tried 3-point mounting for all equipment which has been taken over from the Unimog concept and combined with a specially adjusted concussion spring package.

The drivetrain of the FGA 14.5 is fitted with a Mercedes-Benz a 7200 cc diesel engine, type OM 926 with a power rating of 225 kW which can develop up to 1200 Nm torque. With the OM 926, Special Chassis FGA 14.5 has been fitted with an engine already tested for military purposes (400 h NATO continuous operation) which can also be run on poorer quality fuels.

A premiere in the drive configuration of the Special Chassis FGA 14.5 is its fully-automatic transmission designed for use in exacting operations with six switch stages each with two different reduction possibilities (basic and off-road modes). In addition, the automatic torque converter improves the vehicle's performance when going is difficult, for instance over sandy ground, by making sure that traction is not interrupted.

Electric power for the FGA 14.5 is guaranteed by a new generator concept capable of up to 355 A. It is protected against dirt and provides enough capacity for complex systems (armaments, weapon stations etc.). A new energy management system makes sure that the power supply is well-balanced both for the body (i.e. for a great number of electronic power consumers) as well as for the Special Chassis itself.

The FGA 14.5 equipment package is rounded off by a powerful auxiliary heater with a total output of 12 kW, automatically adjustable to altitudes up to 2500 m, as well as a standard air-conditioning compressor with an output of 9 kW which can be increased to 13 kW as an option for hot regions and/or large crew cabs.

The Special Chassis is fitted with all the mechanical, electric, hydraulic and pneumatic interfaces needed for integrating the safety cage. The most important interfaces are fitted with the corresponding quick-change systems which contribute to reducing the time the vehicle is out of use and the time needed for maintenance - and these of course also lead to a reduction in life-cycle costs.

Manufacturers of armoured troop carriers have a maximum weight of 8.5 t at their disposal for setting up the safety cage and integrating it (incl. armour plating, weaponry, equipment etc.)

With FGA 12.5 and FGA 14.5, Mercedes-Benz Special Chassis is providing a well-thought out range of products tailored to the needs of modern armed forces which is also in keeping with its idea of the vehicle family as a whole.

### About Mercedes-Benz Special Chassis

With the establishment of the new business unit, "Mercedes-Benz Special Chassis" in 2008, it is responding to changing market needs. Mercedes-Benz Special Chassis can offer to the vehicle manufacturers the right mobility platform to build up their own protected cabin/cell and furthermore to create their own local content. Based on the proven Mercedes-Benz modular unit system, Mercedes-Benz Special Chassis offer to customers a high-quality, mission-specific



special chassis or component-kit with proven interfaces.

At the end of April, Anniston Army Depot began a new reset program for M777 medium, towed Howitzers with assistance from BAE Systems.

**Robots**

**iRobot Receives US Army Orders Totaling \$6 M**



iRobot Corp., a leader in delivering robotic technology-based solutions, has received two orders from the U.S. Army's Robotic Systems Joint Program Office (RSJPO) totaling \$6 million.

The orders call for the delivery of spares for iRobot 510 PackBot robots, including operator control units, manipulator arms and radios. All deliveries will be completed by November 30, 2012.

Modular, adaptable and expandable, 510 PackBot is a tactical mobile robot that keeps warfighters and first responders out of harm's way. The robot is ideal for a variety of missions, including reconnaissance, route clearance, hazardous materials detection and bomb disposal.

"Over the course of the past decade, PackBot has proven its worth as a life-saving tool in areas of conflict and for emergency response," said Tim Trainer, interim general manager of iRobot's Defense & Security business unit. "These robots represent a safer, more effective and more efficient way to conduct dangerous operations both on and off the battlefield. We believe that this technology is an important piece of the military's future and are pleased that the Army continues to invest in its current fleet of robots."

iRobot has delivered more than 4,500 unmanned ground vehicles to military and civil defense forces worldwide.

**Anniston Army Depot begins M777 reset program**

**Army**



The M777 artillery system was created by BAE to replace the M198, an artillery system Anniston Army Depot has repaired and overhauled.

In 2011, the installation performed the first overhaul for the M777 and, in the process, learned not only to repair the Howitzer, but also gained the capability to weld with titanium.

The M777 system uses titanium in an effort to reduce weight, while maintaining weapon effectiveness.

"We are learning a lot about how this weapon system works through this reset process," said Eric Bennett, a depot artillery repairer supervisor.

This is the first time this system is being reset at Anniston, so representatives from BAE are on-hand in the shops to teach employees the best way to perform each step of the reset process.

"BAE has been building and repairing this system for many years and we are hoping to pick up their work station processes," said Randy Burke, a depot maintenance management specialist. "The depot's employees are doing all of the touch labor, but BAE has mechanics on site to teach their procedures."

Resetting these first two systems will prove Anniston Army Depot's ability to reset the M777, a necessary step to transition reset work from BAE's Hattiesburg, Miss., operation to the depot.

"This process will be part of the Army's transition from contractor support to organic support of the M777 system," said Tommy Morgan of the depot's Logistics and Business Development Office.

This year, that transition has begun with Anniston serving as a subcontractor for BAE under a direct sales contract.

Some components of the M777, such as the recoil system and the hydraulic system, must be rebuilt on each Howitzer. The rest of the artillery system is inspected and repaired as needed.

"Both of the first two weapons being reset had some battle damage on them. The damaged parts will be replaced completely, which is good experience for our artillery repairers," said Burke.

In addition to the two reset M777s, a second overhaul is in process for the artillery system at Anniston.

Burke said depot employees plan to spend time during this overhaul cycle to study each rebuild process in an effort to build efficiency into the program.

By Jennifer Bacchus, AMC

**Exports sales double at MTL Group**

**Defence Industry**

Steel specialist MTL Group announce exports have almost doubled to GBP 7.3 million after moving to a new state of the art facility in Rotherham in 2011.

The group, which manufactures fabrications and components for global OEMs ranging from armour

plating for military vehicles to Boat Landing Systems, said its move from Sheffield to a new 300,000 square foot facility in Brinsworth in Rotherham, enabled it to double capacity and bring its manufacturing under one roof. The firm employs 365 people in Rotherham and a further 15 at its quayside facility in Blyth in Northumberland.



MTL Group said the GBP 5 million investment in its new home allowed it to specialize in volume manufacturing, with 22% of turnover now coming from exports. Its products are shipped around the world to mainland Europe, the Middle East, Africa, North America and India.

Mr David O'Hara finance director at MTL Group said that

"We have established a worldwide reputation as a specialist processor with the capability to cut, bend, machine and fabricate steel to customers' specific requirements. This expertise is increasingly being sought by overseas customers with exports growing to almost a quarter of our turnover. In 2011, we were awarded our largest ever export to supply 97 boat landing systems to a leading European foundations manufacturer, for a German offshore wind farm."

He added that "Since then, our export success in the offshore wind market has continued as we have secured several multi million pound export orders to supply boat landings for the Borkum West and Meerwind offshore wind farms in the North Sea. Having made a significant investment in larger, more efficient manufacturing facilities and also in training our workforce to the highest level of competency, we have been able to meet this demand from overseas and also to explore new sectors such as offshore wind farms."

MTL Group was established in 1995, underwent a management buyout in 2006, and has doubled its turnover in the last five years to GBP 50 million.

industry-leading off-road mobility and crew protection for a variety of missions. With fully integrated life cycle sustainment provided by Oshkosh Defense and General Dynamics Land Systems-Canada, the Oshkosh TAPV solution optimizes vehicle performance and operating costs. The Oshkosh TAPV leverages the combat proven Mine-Resistant Ambush Protected All-Terrain Vehicle (M-ATV) platform and industry-leading TAK-4® independent suspension system to provide a 70 percent off-road mission profile.



The Oshkosh Defense MSVS SMP is designed around the battle-tested Oshkosh HEMTT A4, which uses a high-performance drive train and advanced suspension. The HEMTT platform has logged over 1 billion kilometres in military service globally. Tailored to the needs of Canadian Forces, the Oshkosh MSVS SMP can provide proven reliability and protection for a wide range of Canadian Army logistics operations.

"We are committed to providing innovative vehicles that enhance performance and protect Canadian Soldiers," said Serge Buchakjian, senior vice president and general manager of International Programs for Oshkosh Defense. "Both the Oshkosh TAPV and MSVS SMP vehicles have successfully undergone extensive testing and are ready to be fielded with the Canadian Army."

Oshkosh will also have its FMTV on display. The FMTV is a series of 17 models. Vehicles share parts commonality of more than 80 percent, resulting in streamlined maintenance, training, sustainment and overall cost efficiency. The unarmoured FMTV is EAR rather than ITAR controlled. It is a cost-efficient logistics truck that provides the capability, versatility and mobility to move troops and supplies, recover vehicles and weapon systems, or haul equipment.

To see the vehicles on display, visit Oshkosh's booths, #1001 in the Capital Exhibition Centre and outdoor booth #2402, in Ottawa, Canada. Oshkosh leadership will be available on-site to discuss the vehicles.

## Exhibitions

### Oshkosh to Display Vehicles Tailored to Needs of Canadian Forces

Oshkosh Defense, a division of Oshkosh Corporation, will exhibit its Tactical Armoured Patrol Vehicle (TAPV), the Oshkosh HEMTT A4 vehicle, which is the base vehicle for the Company's MSVS SMP submission, and a cargo truck from its proven Family of Medium Tactical Vehicles (FMTV) at CANSEC in Ottawa, May 30-31.

The Oshkosh TAPV was designed to provide