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Defence Industry

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

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

Nurol Makina unveils its new Ejder 4x4 armoured combat vehicle at IDEF 2013

Teams that can make good use of the area in which they are positioned (rural or residential) in small groups and rapidly penetrate into an area being threatened by element employing hit-and-run tactics have become more and more important.

ACCORDINGLY, a need has arisen for a Wheeled Armoured Vehicle that can function under all kinds of field and weather conditions, that is safe, that can operated safely at speed and that has a low risk of breakdown, allowing the crew to feel safe.

Founded in 1976, and entering into the defence sector in 1992, Nurol Makina ve Sanayi AŞ (NMS) currently produces 4x4, 6x6 and 8x8 Wheeled Armoured Vehicles and sub-systems, additional armour sets and vehicle gun turrets. The first 6x6 Wheeled Armoured Vehicle was manufactured and delivered to the Turkish Armed Forced (TAF) by NMS, which was also the first to export 6x6 Wheeled Armoured Vehicles from Turkey. At IDEF '13, NMS is introducing to Turkey and the world its Ejder 4x4 and Ejder RCV, the newest members of the Ejder Wheeled Armoured Vehicle family, featuring a unique design and domestic manufacturing financed from within the company. The Ejder 6x6 Wheeled Armoured Vehicle, the first member of the family, was exported (72 pcs.) within the scope of a con-tract signed with the Georgian Ministry of Internal Affairs on 3 February, 2009.

Ejder 4x4

Meeting the operational requirements of military units and security forces in both rural and residential areas, the Ejder 4x4 is designed as a modular and versatile armoured combat vehicle that is dynamic and agile over all kinds of terrain and in all environ-mental conditions. It offers high ballistic and mine protection, and is easy to maintain and sustain.The Ejder 4x4 has a useful load carrying capacity of 4 tons and can be integrated with different systems. It has the highest internal volume in its class and a number of superior features that make it an ideal platform for reconnaissance, command & control, internal security or medical missions.

The Ejder 4x4 is 6 m in length, 2.3 m high and 2.45 m wide. İts combat train varies between 12 t and 14 t depending on the configuration. The vehicle has a personnel capacity of nine - two in the front cabin and seven in the rear. In the gun turret configuration the Ejder 4x4 can be equipped with a 7.62 mm machine gun, a 12.7 mm antiaircraft gun, a 25 mm cannon or a 40 mm automatic grenade launcher, depending on the requirements of user. Powered by a 300 hp Cummins diesel engine, it can reach speeds of 40 km/h speed from standing in 6 seconds, and drive at a speed of 110 km/h on asphalt. It has a power to weight ratio of 25 hp/t, and a turning circle of 7.5 m. On rough terrain it can climb inclines of 70 percent and traverse 40 percent side slopes. The vehicle has an integral mono-block body, designed according to a system-level protection concept instead of local protection. The vehicle offers superior ballistic protection against kinetic energy impacts, and superior mine protection against hand-made explosives.

The Ejder 4x4 can clear obstacles of 50 cm, can traverse ditches 1.1 m wide and can fording 70 cm deep water.

The Ejder 4x4 offers the following benefits:

- High midsection
- Superior maneuverability
- Potential integration of various weapons, including heavy weapons
- Latitudinal and longitudinal differential locking systems
- Central Tire Inflation System
- "Bird Cage" option against rocket at-tacks
- Additional bolt-on armour plates
- Improvable ballistic protection options
- Hydraulic-Powered Salvage Crane
- Internally Controlled Weapon Station
- Manually Controlled Weapon Station
- Smoke Grenade Launchers/Grenade Launchers
- Day/Night Vision Systems
- Personnel Compartment Explosion Suppression and Fire Extinguishing System
- Rear Ramp

Ejder RCV

The Ejder Riot Control Vehicle (RCV) is a fully independent suspension vehicle with 4x4 mobility that has been developed to meet a need of the Security Forces for a vehicle that is capable of rapid and effective deployment. Designed by Nurol Makina, the unique Ejder RCV can function in both residential and rural areas thanks to its superior road and land performance. It is powered by a 6-cylinder, 4-cycle water-cooled diesel engine that can propel the vehicle to a maximum speed of 90 km/h. It has an internal 300 l capacity fuel tank, giving it a range of 750 km.

Exhibitions

Navistar Defense Showcases Best In Light Tactical Vehicles At SOFIC

Tampa, Fla. -- Navistar Defense, LLC and its partner, Defense Venture Group Ltd., are demonstrating the latest in light tactical vehicles this week at the Special Operations Forces Industry Conference (SOFIC). The International® Special Operations Tactical Vehicle (SOTV) for the Ground Mobility Vehicle (GMV) 1.1 competition and Indigen Armor's four door, four wheel drive, armored pick-up truck, the Non-Standard Tactical Truck (NSTT), will both be on display.

The SOTV was designed with speed and mission-readiness in mind—fully equipped to roll off a MH/CH-47 in less than 60 seconds while meeting the maximum payload requirements across a spectrum of armored and unarmored configurations. The SOTV offers exceptional mobility, transportability and modularity.

"The 80 percent commonality shared between our SOTV and Indigen's NSTT allows SOCOM to meet two major requirements with one platform, drastically reducing their program and system investment for provisioning, spare parts and logistics support," said Pat MacArevey, vice president government business, Navistar Defense.

The SOTV and the NSTT are both designed to incorporate scalable armor packages to meet multiple threat levels encountered by special operators. The two vehicles are engineered to carry large payloads at off-road racing speeds in the roughest of mission terrain. Each vehicle can be integrated with a full government furnished Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) suite.

"We designed our SOTV to easily grow, adapt and change," MacArevey added. "The vehicle's high payload, excess engine and electrical capacity provide room for capability improvements in armor, weapons and C4ISR technology."

About Navistar

Navistar International Corporation is a holding company whose subsidiaries and affiliates produce International® brand commercial and military trucks, MaxxForce® brand diesel engines and IC Bus™ brand school and commercial buses. The company's subsidiaries and affiliates also produce truck and diesel engine service parts. Another affiliate offers financing services.

About Defense Venture Group

Defense Venture Group (DVG) designs and manufactures innovative force protection systems and products primarily for government applications through three business units: ArmorLine, Indigen Armor and Dynamic Runflats. DVG is a portfolio company of J.F. Lehman & Company, a leading middle-market private equity investment firm focused solely on the defense, aerospace and marine sectors.

Future Technologies

DARPA Seeks Technology to Radically Improve Dismounted Squad Situational Awareness, Communication Effectiveness

Success on the battlefield requires warfighters to know as much as possible about themselves, their surrounding environment and the potential threats around them. Dismounted infantry squads in particular risk surprise and loss of tactical

advantage over opponents when information is lacking. While squads use many different technologies to gather and share information, the current piecemeal approach doesn't provide the integrated, real-time situational awareness needed for individual warfighters and squad leaders to anticipate situations and effectively maneuver to positions of advantage. Providing this capability would provide dismounted squads with overwhelming tactical superiority over potential adversaries similar to what warfighters enjoy at the aircraft, ship and vehicle levels.

To help address these challenges, DARPA has issued a Request for Information (RFI) about technologies that can help lead to digitization of dismounted squads. By digitization, DARPA means collecting sensor data that would provide much more detailed and actionable real-time information about a squad's condition, surroundings and adversaries. It is believed that digitization could provide squads of 9-13 members and their unmanned assets with enhanced tactical awareness and advantage up to a mile away, in both urban and open‐air environments.

"Imagine a squad moving through a complex urban environment that has heavy threat activity," said Army Lt. Col. Joseph Hitt, DARPA program manager. "The squad members don't know it, but a group of hostiles is waiting 100 meters ahead of them in an alley. Today, the squad must rely heavily on line of sight to identify the threat–which would bring them very close to the attackers, affording squad members little time and space to react."

"With digitization, the squad's long-loiter Unmanned Aerial Vehicle (UAV) flying overhead could detect those hostiles, alert the squad and automatically trigger the squad's quadruped robot to investigate," Hitt continued. "Entering the alley, the robot could automatically inform all squad members via visual and other cues about the hostiles' composition, location and weapon types. Moreover, the robot could check biometric databases to determine if any hostiles are known threats. These crucial insights would provide the squad time to maneuver to a position of advantage and safely take appropriate action."

To deliver these capabilities, DARPA seeks innovative technologies in the following areas:

- Sensing technologies for warfighter health and operational status
- Absolute or relative geolocation technologies, particularly for global positioning system (GPS)-denied areas, with accuracy comparable to that of current GPS technologies
- Non-optical and distributed sensing solutions
- Communication network solutions
- Approaches to tactical information synthesis and delivery

Proposed technologies must meet the following criteria:

- Ensure all hardware, power and processing capabilities are integrated into equipment that squad members and the squad's complement of ground and air unmanned systems can carry
- Minimize system size, weight and power (SWaP)
- Inherently enable real-time action by squads

"We're looking to leverage emerging technologies, integrate and optimize them through rigorous experimentation, and deliver the decisive technological advantage dismounted squads deserve," Hitt said. "We're reaching out to the performer community to see what game-changing technologies they could contribute."

Contracts

iRobot Wins $7.2 M Tender from Brazil to Provide Defense & Security Robots

iRobot Corp., a leader in delivering robotic technology-based solutions, has won contracts totaling $7.2 million from the Brazilian government to provide iRobot 510 PackBot robots, spares and associated equipment through December 2013.

"iRobot continues its international expansion, and Brazil represents an important market for the company's unmanned ground vehicles," said Frank Wilson, senior vice president and general manager of iRobot's Defense & Security business unit. "iRobot is excited to be providing the company's state-of-the-art robotic technologies to Brazil as the country prepares for several high profile international events, including the 2014 FIFA World Cup."

iRobot has delivered more than 5,000 robots to military and civil defense forces worldwide. The company's tactical mobile robots perform multiple missions for troops and public safety professionals, enhancing situational awareness, reducing risk and increasing mission success.

Term of the day

Assegai

An assegai (or assegai) is a pole weapon used for throwing or hurling, usually a light spear or javelin made of wood and pointed with iron.

The use of various types of the assegai was widespread all over Africa and it was the most common weapon used before the introduction of firearms. The Zulu and other Nguni tribes of South Africa were renowned for their use of the assegai.

Shaka of the Zulu invented a shorter-style assegai with a two foot shaft and which had a larger, broader blade one foot long. This weapon was known as the iklwa or

ixwa, for it was the sound that was heard as it was withdrawn from the victim's wound. It was used as a stabbing weapon during mкlйe attacks. The traditional assegai was not discarded but was used for a softening range attack on enemy formations before closing in for close quarters battle with the iklwa. This tactical combination originated during Shaka's military reforms.

Army

US Army Ground Combat Systems adopts Sandia tool for choosing future warfighting vehicles

ALBUQUERQUE, N.M. -- Imagine trying to solve this complex problem: You have to modernize a fleet of combat vehicles, such as tanks, tracked howitzers and infantry fighting vehicles, choosing from among more than 50 ways to update them to meet future threats. Each modernization option can be configured differently to meet a variety of missions around the globe. You are constrained by schedule milestones and the costs for research and development and maintenance and operations, and your budget can change without warning. A shift in the socio-political status of any country or the environment could have consequences that would require you to re-think your decision and, by the way, you're planning 30 years into the future.

Are you scratching your head yet? This is the daunting task faced by analysts working for the U.S. Army's Program Executive Office Ground Combat Systems (PEO GCS), who help the nation's top generals decide which Army vehicles to modernize for future wars.

Sandia National Laboratories, working closely with the Army and other contractors, has developed key components of a software tool to help the PEO GCS analyze countless what-if scenarios that can be manipulated as technology advances and the global environment, the federal budget or other factors change. Sandia calls this advanced combination of modeling, simulation and optimization decision support software the Capability Portfolio Analysis Tool (CPAT).

Award-winning tool

CPAT won the 2012 Military Operations Research Society's Richard H. Barchi Prize, and its Sandia developers say senior Army leaders are expanding the use of the 2-year-old tool across a number of Army modernization programs.

The Sandia researchers envision adapting CPAT to help make a variety of complex decisions easier throughout the military and elsewhere.

"This has really revolutionized the way the Army thinks about things. It's been a big shift in paradigm for how they do analysis," said Liliana Shelton, a Sandia computer scientist and CPAT's technical lead. "About a year after we started from a blank sheet of paper, it started getting used by people once they saw the capability and the questions we could answer."

Alan Nanco, Sandia's CPAT capability manager, said the tool that supports PEO GCS answers questions about ground combat vehicle modernization by combining optimization — mathematical formulas, software language and a user interface that clarifies results — with a large number of choices that helps the Army leadership narrow millions of choices into a handful of options that best balance its goals while staying within budget, schedule or other constraints.

"The beauty of the tool that we have developed in collaboration with the Army is it's better to evaluate how you're going to pick among such a huge array of options if you have tools that will walk your equipment and your people through a scenario," Nanco said.

Growing partnership with Army leads to CPAT

The analytic support CPAT provides grew out of a partnership between Sandia and the Army that started more than a decade ago. Sandia had been using computer modeling and simulation and system-of-systems engineering to support decisions for upgrading and modernizing nuclear weapons systems by making choices associated with reliability, safety and security, Nanco said. The Defense Advanced Research Projects Agency and the Army wanted to use that systems engineering and analysis expertise to support complex decisions for modernizing the Army's combat systems to create "modular brigade combat teams," Nanco said.

For CPAT, Sandia worked closely with the Army to develop the structure of the models, the algorithms, the mathematical formulation for the optimization tool and the software that makes CPAT user-friendly and displays the results so analysts can use them to brief decision-makers, Shelton said. Other contractors are responsible for data collection feeding in and assumptions made by the software.

Craig Lawton, the lead for Sandia's PEO GCS projects, said other contractors input specific requirements for each vehicle's capabilities. Then, those capabilities are matched to each mission, and CPAT

takes into account operating, maintenance and research and development costs.

Shelton added: "These are all the decisions you have to balance when you do an optimization run."

When PEO GCS calls Sandia, Shelton said she can get answers in days — a process that used to take weeks. The results are a variety of data and graphs that help analysts quickly compare what-if scenarios or choose the best path to modernize a vehicle or see where different choices fall in meeting the military's long-term goals. Eventually, Sandia envisions training Army systems analysts to use CPAT themselves.

In the real world, most choices are trade-offs, Shelton said.

"You look at different levels of modernization because at different budgets, you might not be able to afford the gold-plated solution. There's something in between, like a happy medium, that they can afford, so they can still improve the capability without breaking the bank," she said.

As a situation changes over time, Sandia and its partners can input new information into the underlying assumptions to show how various changes have an impact on the entire system, she said.

In its two-plus years of existence, CPAT already has shown its value by correcting a misconception as to whether two certain military vehicles could be modernized at the same time.

"The tool reported differently and bucked conventional wisdom, leading to its success," Lawton said.

'Sky's the limit' for CPAT applications

CPAT has been so successful that the assistant secretary of the Army for Acquisition, Logistics and Technology asked that it be briefed to other Army PEOs. As a result, Sandia is working with other Army PEOs, such as Enterprise Information Systems, to apply it to their complex decision-making processes. Sandia has taken action to meet anticipated demand for the tool, Lawton said.

Eventually, CPAT could be adapted to other military branches or applied to entirely different, complex decision-making processes in other large organizations.

"The challenge is each organization has different things that they are managing. Conceptually you are making decisions about how you invest your money, but the details of what goes into it are very, very different," Lawton said. He added, "The sky's the limit."

Defence Industry

AT LR Ground Surveillance Radar

AT LR Ground Surveillance Radar AT Communication is please to announce the expansion of its range of Radar Products with the introduction of the AT LR.

The AT LR is a long-range Ground Surveillance Radar capable of detecting land, sea and aerial moving targets at ranges up to 45 km. The radar provides automatic detection, automatic tracking and classification of the targets.

The AT LR is portable and easily deployed by a light vehicle or on a tripod for man portable applications as well as fixed installations. An Embedded GPS and magnetic compass unit are standard allowing rapid deployment and configuration.

The AT LR is ideal for military and paramilitary organizations for applications such as border protection forces, intrusion detection, protection of military bases, strategic infrastructure sites where ambush/raid is a risk from hostile forces.

The AT LR can be operated either independently or as a part of an integrated network of units via Ethernet or WLAN. The system can easily be configured to integrate with existing systems and sensors in use by customers.

For further information on the AT LR please don't hesitate to contact us or visit this link

http://surveillance-radars.at-communication.com/en/at/at_lr_ground_surveillance_radar.html

for more detailed information.

Contracts

Bundeswehr to get more high-protection Fuchs/Fox 1A8 transport vehicles from Rheinmetall

Rheinmetall will modernize 25 more Fuchs/Fox armoured transport vehicles for the Bundeswehr, substantially enhancing their level of protection. The Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw) in Koblenz recently awarded the contract, which is worth €36 million.

To date, BAAINBw has contracted with Rheinmetall to upgrade a total of 152 Fuchs/Fox 1 vehicles to the new

1A8 version. By February 2013, 123 of these had been delivered. With the latest order the total number of Fuchs/Fox 1A8 vehicles in the Bundeswehr inventory is set to rise to 177.

The Fuchs/Fox 1A8, which the Bundeswehr mainly deploys in Afghanistan, is the best-protected wheeled armoured vehicle in its weight class now in service with the German armed forces. Outstanding reliability and excellent off-road mobility have long made the Fuchs/Fox one of the most trusted and versatile vehicles used by the Bundeswehr.

Compared with previous versions of the vehicle, the new 1A8 assures substantially greater protection from landmines and IEDs, which continue to pose a widespread threat in Afghanistan. It also offers better protection from ballistic fire. Moreover, the infantry section vehicles are equipped with an unmanned weapon station, giving them a significantly enhanced self-defence capability.

The latest retrofit order will considerably expand the operational spectrum of all these Fuchs/Fox vehicles, whose numerous variants have become indispensable in Bundeswehr missions. Once modernized, they will provide crewmembers with a substantially higher level of protection from a variety of battlefield threats.

The 25 vehicles that form this order come in five different configurations, three of which the Bundeswehr is procuring for the first time:

- 7 HRM communication vehicles equipped with high-frequency HRM radio systems
- 5 command and fire control vehicles for indirect fire/joint operations tactical fire support
- 4 combat weather section vehicles for indirect fire/joint operations tactical fire support (weather data collection and analysis)
- 6 armoured reconnaissance vehicles
- 3 EOD section vehicles

This increases the number of different Fuchs/Fox 1A8 variants in service with the Bundeswehr to 16.

The Bundeswehr intends to use the new vehicles in support of deployed operations abroad as well as for special pre-deployment training in Germany.

Delivery of the vehicles will commence in the fourth quarter of 2014, and is scheduled for completion in 2016.

Exhibitions

Oshkosh Defense Presents Array of Vehicle and Sustainment Solutions for Canadian DND Modernization Programmes

OTTAWA, Ontario -- As the backbone of the Canadian Army's logistics fleet reaches the end of its service life, vehicle modernization programmes such as the Medium Support Vehicle System (MSVS) Standard Military Pattern (SMP) will help restore the capabilities and protection that troops need to fulfil their missions. At CANSEC 2013 in Ottawa, Ontario, Oshkosh Defense, a division of Oshkosh Corporation, will present a full range of advanced vehicle platforms and life-cycle sustainment solutions for Canadian Forces.

"Oshkosh Defense is committed to supporting the Canadian Department of National Defence and ensuring that troops have the survivable and technologically advanced vehicles they so urgently need," said Serge Buchakjian, senior vice president and general manager of International Programs for Oshkosh Defense. "The Canadian government is actively pursuing its strategy to modernize its tactical vehicle fleet, and we intend to provide a compelling solution including advanced vehicles, complete life-cycle support services and measurable economic benefits by leveraging a nationwide network of partners and suppliers."

The Oshkosh MSVS SMP solution is designed to improve the protection and performance capabilities of the Canadian Forces' medium-payload fleet, both today and for decades to come. The Oshkosh MSVS SMP vehicle was specifically designed to meet the Canadian program requirements with advanced features, including a high-performance drive train, as well as advanced suspension, braking and armour protection systems. The MSVS SMP from Oshkosh has accumulated more than one billion real-word operational kilometres in a full range of missions around the globe.

Oshkosh will display the Heavy Expanded Mobility Tactical Truck (HEMTT) A4 at CANSEC along with the Oshkosh Light Combat Tactical All-Terrain Vehicle (L-ATV) and the Oshkosh Family of Medium Tactical Vehicles (FMTV) 5-ton wrecker.

As the DND fields its new MSVS fleet, training will be critical to operational readiness and safety. At CANSEC, Oshkosh Defense also will demonstrate its latest module of the Oshkosh Virtual Trainer for the HEMTT load handling system (LHS). Oshkosh currently provides a multi-faceted training curriculum including classroom, hands-on and virtual training for military vehicle operators and service professionals. Oshkosh virtual training provides a 20 percent or more cost savings compared to a traditional classroom-only approach. Additionally, students are able to demonstrate skill proficiency in the virtual environment before performing tasks on the actual vehicle, where more risks are involved.

To see the vehicles and technology on display, visit Oshkosh's indoor booth #1001 in The Ernst & Young Centre (formerly the CE Centre) and outdoor booth #2029. Oshkosh leadership will be available on-site to discuss the company's commitment to Canada and full range of vehicle and sustainment offerings.

Defence Industry

US Army's 2014 modernization plan prioritizes Soldiers in fight

The Army's fiscal year 2014 Equipment Modernization Plan, now working its way through Congress, prioritizes equipping warfighters in Afghanistan while simultaneously preparing for an uncertain future.

Programs in the modernization strategy are grouped within ten "portfolios," but some of those programs the Army has called out as being priorities for the service.

Several programs that make up the Army network have been included as priorities in the plan. Among those are the Warfighter Information Network-Tactical, at $1.3 billion; the Family of Networked Tactical Radios, at $402.1 million; the Joint Battle Command-Platform, at $110.6 million; the Distributed Common Ground System-Army, at $295 million; and the Nett Warrior system, at $122.6 million.

Among combat vehicles, the Army has prioritized the Ground Combat Vehicle program, at $592 million; the Armored Multi-Purpose Vehicle, at $116 million; and the Paladin Integrated Management system, at $340.8 million.

Additionally, the Joint Light Tactical Vehicle is a priority for the service, at $84.2 million; as is the Kiowa Warrior, at $257.8 million.

A complete breakdown of the Army's equipment modernization plan for fiscal year 2014, including cost and what is being purchased, can be found at www.g8.army.mil.

THREE FOCAL POINTS

In advance of plan development, Chief of Staff of the Army Gen. Ray Odierno laid out three priorities to use as guidelines, said Brig. Gen. John G. Ferrari, director, joint and futures, Army G-8. He is one of the architects responsible for assembling the plan.

First among those priorities was a focus on the Soldier and squad, Ferrari said. Developers of the Army's modernization strategy were told to ensure that as budgets come down, Soldiers will continue to be provided with advances in lethality and protection, then build outward from there.

The second priority, he said, is to enable mission command. He said that means providing viable and robust communications network capacity so Soldiers at the small-unit level can operate with "intent, guidance and mission," he said. With such a network, Soldiers will be able to pull the information they need to innovate and solve the problems and tasks they're given.

The third priority, he said, was to "always remember, we're the U.S. Army and we have to remain prepared for decisive action, to fight and win in a large conflict, because that's what the Army's all about."

THE MODERNIZATION PLAN

Ferrari said having a modernization plan doesn't necessarily mean funding is guaranteed, or that Congress won't make changes.

There's a lot of uncertainty, he said, not only about funding for future equipment, but even with paying for programs the Army is trying to execute today.

Because of the budget control act and sequestration, the Army still doesn't know how much money it has to purchase equipment in fiscal year 2013, much less fiscal year 2014. This creates a ripple effect in purchasing, he said, causing a backlog of things that need to be purchased.

However, he pointed out that Congress is performing its constitutional duty to fund the Army and that process must be respected. He said Army leaders remain in close consultation with lawmakers regarding the process. So how does the Army make its purchasing recommendations?

The Army takes a three-pronged approach to its equipment acquisition strategy, Ferrari said, including consideration of the strategic environment, a staggered procurement approach and smarter investing.

STRATEGIC ENVIRONMENT

First, the strategy takes into account the current and future strategic environment, Ferrari said. That includes equipment needed as troops leave Afghanistan and what becomes of that equipment once they're out.

The strategy also includes the shift to the Pacific and regional alignments. The president's National Security Strategy, the Defense Department, the secretary of the Army and the Army chief of staff, along with the Army's Training and Doctrine Command, provide the blueprint and inform direction.

For the strategy to work, Ferrari said, the Army needs a balanced force composed of armor brigade combat teams, or BCTs, lighter infantry BCTs and medium Stryker BCTs. Included with that, he said, is the equipment that goes with each type of unit.

Other "enablers," he said, include intelligence, military police, engineers, and medical support.

STAGGERED PROCUREMENT

As the Army's manpower and budget shrink, it has to be more selective on what to purchase. That might include buying some things in smaller quantities and staggering those purchases out over the years as old equipment is retired, Ferrari said.

The fiscal year 20114 Equipment Modernization Plan does in fact provide a 15-year timeline for equipment purchases so lawmakers can see the rationale behind the Army's decision on how much to spend and what quantities of each item should be purchased for a given year.

Replacing all old, unserviceable or less capable equipment all at once wouldn't make sense and the

dollars are not there to do it anyway, he said.

Ferrari provided an example of staggered procurement, using the early Vietnam-era M113 armored personnel carrier to illustrate.

The chassis of an M113 "is basically an aluminum box," he said. "During Vietnam, Soldiers put sandbags on the floor and sides because even then they didn't provide much protection. Yet we still have them 50 years later."

Besides lacking robust armor, the M113 is also not configured for adding network gear, he said. Also, advanced medical equipment can't be loaded on it because the engine doesn't have enough power to move it around.

In other words, he said, "you really don't want your son or daughter to go to war in that thing."

But the Army still has thousands of them and not enough money to replace them all.

A study was conducted, as is done on every piece of gear, to see what is feasible, Ferrari said. The study indicated that those M113s serving on the front lines should be removed as soon as possible and replaced by the Armored Multi-Purpose Vehicle, a much more lethal, versatile and protected vehicle.

However, the remaining M113s could still be used in the rear and mostly out of harm's way, to move Soldiers around, he said.

Another example is the Abrams tank, said Ferrari, who's a tanker by trade. A tank, or for that matter, any vehicle or helicopter, can be divided into three big blocks.

First there's the "platform." Ferrari said that is the steel chassis that might be 30 or 40 years old on an Abrams. The chassis might be "perfectly good" and probably doesn't need to be replaced.

Then there's systems and components like engines, transmissions, guns and sights. Those need to be changed out about once a decade or they become obsolete, he said.

Finally there are the applications that go into them, like the communications and network systems. Those need to be spun out about every five years, he said.

The challenge, he said, is how to synchronize the platform, the components and applications. If too much communications equipment is loaded onto a vehicle, such as a tank, the power draw and weight might stress the engine.

Each of the enhancements must go into an equipment funding request for the appropriate year.

Ferrari said the Abrams tank is still the "best tank in the world" and has a good 10 or 15 years before replacement is necessary. But it still needs funding for such things as new electronics, improved sights and fuel efficiency.

"If you do nothing, over time you won't even be able to buy the circuit cards needed to make it work," he said.

SMARTER INVESTING

Ferrari said the Army needs to slow down spending on development of technologies that are similar to what is already available in the private sector.

The civilian sector already is investing massive amounts of research and development dollars into its hardware, software and other electronic devices, so investing Army dollars in those same endeavors might be foolhardy, he said.

"As technology moves forward we can get the latest technology off the shelf and run with it," he said.

On the other hand, there are certain technologies the Army would be wise to invest in, he said.

Missiles, armor and rotorcraft are a few examples that the Army needs to continue focusing on, he said.

When the Army first went about looking for a replacement for the Vietnam-era OH-58 Kiowa, he said he was "surprised" that there had not been an improved platform developed since Vietnam.

"There's not a huge market for rotorcraft in the civilian world so the military needed to invest its R&D dollars on engines and blades to push technology forward," he said.

All the integrators, systems engineers and mechanical engineers who build those rotorcraft and all of the other new equipment are themselves an investment the Army needs to continue making to retain their skills, he added. No one else understands how all this stuff goes together and works.

Another example of how old and new technology might meet and save money is the Bradley Fighting Vehicle, in service for more than three decades now.

The Bradley is slated for replacement by the Ground Combat Vehicle. In the interim, however, the Bradley has a perfectly usable platform that might escape the scrap heap.

"We're going to industry and saying we want to replace the M113s and, by the way, we have around 2,000 Bradleys," he said. "We can provide you the (Bradley) hulls and you can use them to make a vehicle with more power to keep up with Abrams tanks and enough space to put a mortar or ambulance and comms, at an affordable cost and something that would offer better protection than the M113s," he said, describing ongoing discussions.

"We don't want to be so prescriptive with industry," he said. "Rather, we want to partner with them to come up with cost effective solutions."

SOLDIER-DRIVEN FOCUS

An important step in the equipment funding request is saving money through user testing, Ferrari said.

Over the last several years the Army has conducted a number of Network Integration Evaluation, or NIE, exercises on training ranges in Texas and New Mexico. These exercises are known for testing network gear, as the name implies, but they're also being used to test other equipment.

Ferrari said last year, Soldiers got to put infantry fighting vehicles from around the world through their paces.

"What better place to test it than with Soldiers in a brigade?" he said, adding, "Any time you get equipment in Soldiers' hands and let them train with it, you'll wind up with a better piece of gear."

The NIE success story has its roots in the wars in Iraq

and Afghanistan, where equipment was fielded on the battlefield within weeks.

"That's been the real success story of the war," he said. "We got Soldiers equipment that would have taken years under the normal process. We put it in their hands. Did every piece of equipment work? No. But a lot of it did."

Ferrari said there will be failures along the way, but from the kind of testing that goes on at NIE, the Army can better learn and observe how equipment will be used in the war fight.

It's a "win-win" for Soldiers and the private sector, he explained, since the Soldiers themselves are doing the market research.

"They'll tell you right away, 'there's a button is in the wrong place,' 'I don't understand the dials,' 'it takes me 14 clicks to get in there to do it, so give me something simpler,' 'I can't read this when it's dark out there,' 'this flashlight has a red filter and you wrote on it in red and I can't see it,'" Ferrari said.

"So when you get that early in the developmental process, it's much easier to fix and change than buy it and then change it," he said. "It also familiarizes us with what's in industry as well, so we know when you go to war what's out there."

By David Vergun

Contracts

Duro Dakovic and Croatian defence ministry signed a contract worth HRK 112 million

Following the Republic of Croatia's decision to continue the equipment of its Armed Forces, the Minister of Defence Ante Kotromanovic and the President of Management Board of Duro Dakovic Group Vladimir Kovacevic signed a contract on the acquisition and equipment of the Armed Forces' combat armoured vehicles with PROTECTOR M151 12.7mm calibre weapon stations today.

The contract is worth HRK 112 million (not including VAT) ($20.9 million) and Đuro Đaković is supposed to deliver the combat armoured vehicles to the Ministry in course of this year and the next.

Đuro Đaković Group has already signed a cooperation contract with the Norwegian Kongsberg Group on the acquisition and mounting of PROTECTOR M151 12.7mm calibre weapon stations, which is the global leader in its segment at the moment due to its characteristics and its widespread use. The cooperation between the two companies was reinforced last year with the agreement about joint development and commercialization of the PROTECTOR Medium Calibre RWS 30mm weapon station.

"Our continued cooperation with Đuro Đaković on the combat armoured vehicle project is another step toward the fulfilment of our vision of the Armed Forces' development in the sense of building and consolidating a small, but modern and mobile army, with the goal of maintaining achieved abilities and developing new ones. On the other hand, this is another confirmation that the Croatian Government and the Ministry of Defence remain firmly dedicated to continuously supporting the Croatian defence industry as one of the most potent Croatian export industries. Accordingly, the Ministry has helped and is going to continue helping Croatian producers and exporters", Minister Kotromanović said.

"This contract confirms the long-lasting successful cooperation between Đuro Đaković and the Ministry of Defence. We are happy that the Armed Forces are continuing the equipment and modernization of their existing technology relying on Croatian producers as much as possible. Sound cooperation with the local defence forces and sound references in the local market are a prerequisite for defence technology producers' success in the global market. By signing contracts with Finnish Patria and Norwegian Kongsberg on the mounting of Kongsberg's weapon stations on AMV 8x8 vehicles at the Slavonski Brod plants and about joint appearance in the global market, Đuro Đaković joined the exclusive society of producers of defence technology of the highest global renown. This contract is going to be another good reference for us in the foreign markets, the breakthrough to which is this Management Board's focus", said Đuro Đaković Management Board President Vladimir Kovačević.

Defence Industry

Hawkei Vehicles Delivered on Schedule

Thales Australia has delivered a further two Hawkei vehicles to the Defence Materiel Organisation on schedule.

The handover of the two Reconnaissance variants under Stage 2 of the Manufactured and Supported in Australia option of Land 121 Phase 4 means that all six vehicles are now with the Department of Defence for testing. All vehicle delivery milestones have been met on schedule.

The six vehicles comprise two Command variants, two Utility variants and two Reconnaissance variants, plus a trailer.

The majority of the evaluation process is being undertaken by the Commonwealth at Monegeetta in Victoria, and includes survivability testing, communications system integration testing,

electro-magnetic interference/compatibility testing, reliability growth trials and user assessments.

Vehicles already delivered have so far completed almost half of the planned 100,000km of testing scheduled for the evaluation period. Subject to successful testing of the vehicles, final approval of the project is expected circa 2015, as detailed in the 2012 Defence Capability Plan.

Thales Australia CEO Chris Jenkins said: “We are very pleased to deliver these final two vehicles to Defence on schedule. They are backed by the expertise of our protected mobility engineering teams, and we are working closely with Defence to support the testing and evaluation process.”

“We have invested $30 million in Hawkei, and Australian industry has also put significant effort into the development of these vehicles. I’d like to thank all the companies in the supply chain who have helped us meet this important milestone.”

The Hawkei is manufactured at Thales’s Bendigo facility in Victoria. Employing 200 people, Bendigo is also home of the Bushmaster vehicle that has proven very successful on Australian Defence Force operations overseas.

LAND 121 Phase 4 is a Department of Defence project that seeks to provide up to 1,300 protected light vehicles.

Term of the day

Kopis

The kopis was in Ancient Greece a heavy single-edged cutting or “cut and thrust” sword with a forward-curving blade.

The kopis sword was a one-handed weapon. Early examples had a blade length of up to 65 cm. Later Macedonian examples tended to be shorter with a blade length of about 48 cm. The kopis had a single-edged blade that pitched forward towards the point, the edge being concave on the part of the sword nearest the hilt, but swelling to convexity towards the tip. This shape, often termed "recurved", distributes the weight in such a way that the kopis was capable of delivering a blow with the momentum of an axe, whilst maintaining the long cutting edge of a sword and a capability to deliver a thrust.