

# Army Guide monthly



## # 12 (159) December 2017

- Kongsberg Signs Orders to the CROWS Program Valued at 330 MNOK
- Otokar participated in Expodefensa 2017
- Production of ALAN armored cars is in place in Kazakhstan
- Testing of a new robotic complex for the airborne troops started in Russia
- OSHKOSH DEFENSE DISPLAYS THE NEXT GENERATION OF LIGHT VEHICLES WITH UNMATCHED MOBILITY AND TRANSPORTABILITY
- Otokar to present COBRA II and ARMA 6x6 at GDA 2017
- The Finnish army is testing a new MiSu armored vehicle
- Rheinmetall modernizing 25 more Marder IFVs for Jordan
- Rheinmetall delivers two special ops vehicles to the Saxony State Police
- BAE Systems contracts Czech metal manufacturer for Swedish Mjølner programme
- In Russia will be tested the Nerehta combat robot
- SAAB Receives Order From KMW For Mobile Camouflage Systems
- Ministry of Defense of Russia demonstrated a new Kungas UGV
- The Russian Ministry of Defense has concluded contracts for the supply of an experimental-industrial batch of T-14 Armata MBT
- BAE Systems receives U.S. Army contract to begin M109A7 full-rate production
- U.S. Army Places \$100.1 Million Order For 258 Joint Light Tactical Vehicles
- OSHKOSH DEFENSE AWARDED \$40 MILLION FROM U.S. ARMY FOR RECAPITALIZATION OF THE ARMY RESERVES HEAVY VEHICLE FLEET

## Contracts

held on December 4-6, 2017 at Corferias Exhibition Center, in Bogota, Colombia.

### Kongsberg Signs Orders to the CROWS Program Valued at 330 MNOK



The orders with the U.S. Army are for delivery of additional PROTECTOR RWS Low Profile CROWS configuration for the M1A2 Abrams Main Battle Tank, Spare parts and engineering services. The orders are related to the CROWS contract signed in August 2012.

The PROTECTOR RWS (Remote Weapon Station) Low Profile is a variation of the CROWS (Commonly Remotely Operated Weapon Station) system, modified in order to enhance the visibility for the tank commander on the M1A2 Abrams Main Battle Tank platform. This innovation is a result of close cooperation between the customer and KONGSBERG.

"This contract confirms KONGSBERG's strong relationship with the U.S. Army, and ordering the PROTECTOR Low Profile CROWS System for the Abrams Main Battle Tanks and spare parts for sustainment, confirms their continued commitment", says Pel Bratlie, Executive Vice President Protech Systems of Kongsberg Defence & Aerospace.

The PROTECTOR RWS is designed for small and medium caliber weapons and can be installed on any type of platform; it is a fully stabilized, combat proven system qualified for global operations. The PROTECTOR RWS protects military troops by allowing the vehicle's weapons to be operated from inside the vehicle.

As of 2017, the PROTECTOR system has been chosen by 18 nations and KONGSBERG continues to be the world's leading provider of remote weapon stations.

Highlighting Otokar's success at global markets, General Manager Serdar GURGÜZ stated, "Our strength in the defence industry is driven by our experience, engineering and R&D capabilities, and successful use of technology. Today over 30,000 Otokar military vehicles are in service in many different parts of the world with an outstanding performance. Our military vehicles serve almost 50 different end users in over 30 countries."

Mentioning Otokar's presence in Latin America, GURGÜZ continued: "Otokar vehicles are currently in service in different parts of Latin America region. With the aim of increasing our presence in Latin America mainly in Colombia, Expodefensa is an important opportunity for us to meet our existing users as well as potential users. We believe that our vehicles serving in conflict areas in Latin America will be the most important reference for our potential users. We will use our unique experience in response to the unique needs of the Latin American market."

## Defence Industry

### Production of ALAN armored cars is in place in Kazakhstan



The Kazakhstan Paramount Engineering together with the Israeli company Plasan has mastered production of Alan armored wheeled vehicles.

The uniquely equipped armored car hull with a capacity of up to 11 people provides protection in accordance with STANAG 4569 level 3. Lightweight composite materials used in the armor provide additional protection that does not affect the weight and performance of the armored car.

Alan be supplied in various configurations: reconnaissance vehicle, command vehicle, special response vehicle with various types of weapons.

The first batch of Alan was successfully produced as part of the order of the government of the Republic of Kazakhstan.

The Alan armored car is assembled by the Kazakhstan Paramount Engineering LLP (a joint venture of Kazakhstan Engineering and the South African Paramount Group) an SandCat Stormer armored car, developed by the Israeli company Plasan, which is mass-produced by the US corporation Oshkosh. The SandCat Stormer is builded on the chassis of the Ford F550 pickup truck and is one of the latest versions of the world famous SandCat family of development Plasan.

## Exhibitions

### Otokar participated in Expodefensa 2017



Otokar, Turkey's leading land systems manufacturer and leading supplier of the Turkish Military and Security Forces for wheeled tactical vehicles, participated in Expodefensa 2017, which is

The SandCat Stormer was previously purchased for the armed forces of Kazakhstan directly from Oshkosh and was publicly demonstrated at the military parade in Astana on May 7, 2015. In the future, the assembly of these vehicles was organized at the "Kazakhstan Paramount Engineering".

Kazakhstan Paramount Engineering LLP is a joint venture of Paramount Group (South Africa) and the Kazakhstan Engineering National Company, which is under the trust management of the Ministry of Defense and Aerospace Industries of the Republic of Kazakhstan.

## Robots

### Testing of a new robotic complex for the airborne troops started in Russia



The new multifunctional UGV for the Airborne and Land Forces goes to the state tests, reported the commander of the Russia Airborne Forces, Andrei Serdyukov.

Works to develop a multifunctional robotic complex based on the light and medium chassis for solving the tasks of providing combat operations to the Land Forces and the Airborne Forces has reached the state tests stage, said Serdyukov at the gathering of the senior command of the troops taking place in Ryazan (Russia).

He also talked about the development of new cargo parachute systems and design development for the creation of a parachute system that operates without human intervention and the entry of chemical reconnaissance vehicles into the airborne forces created within the framework of the Border-Carriage-2.

In addition, the commander reported about the work on a new complex of control of air defense facilities for R&D called "Barnaul-T".

Within the framework of improving the airborne management system and expanding the capabilities of automated troop control, the R&D called "Cassiopeia-D" is being carried out. As a result, a basic complex of communication and automated control equipment will appear, which will be installed on the base armored crawler tracks BMD-4M, BTR-MDM, added Serdyukov.

## Exhibitions

### OSHKOSH DEFENSE DISPLAYS THE NEXT GENERATION OF LIGHT VEHICLES WITH UNMATCHED MOBILITY AND TRANSPORTABILITY



OSHKOSH, Wis. -- Oshkosh Defense, LLC, an Oshkosh Corporation company, will be displaying next-generation mobility and transportability with the Oshkosh Defense Joint Light Tactical Vehicle (JLTV) at the Dubai Airshow, November 12-16, 2017 at the Dubai World Central in Dubai, United Arab Emirates.

Oshkosh Defense offers a full range of cutting-edge military, security and airport fire fighting vehicles to serve customers throughout the Middle East Region, including the highly transportable Joint Light Tactical Vehicle (JLTV).

"Allied forces around the globe demand their military vehicles have the mobility, protection, and transportability to serve a full range of mission capabilities," said George Mansfield, Vice President and General Manager, International at Oshkosh Defense. "The Oshkosh JLTV combines battle-proven automotive technologies, Mine Resistant Ambush Protected (MRAP)-levels of protection, and extreme off-road mobility in a light-weight, highly-transportable package. The JLTV offers armed forces a technological leap in capabilities that other light vehicles in the industry simply cannot match."

Oshkosh will display a General Purpose variant of the JLTV, equipped with a dual weapon R400 S Remote Weapon System from EOS equipped with an Orbital ATK XM914 and a M240 machine gun.

The JLTV family of vehicles is equipped with the TAK-4i™ intelligent independent suspension system, which is the next-generation of Oshkosh's advanced TAK-4® independent suspension system. The TAK-4i system allows the JLTV to deliver superior ride quality at speeds 70 percent faster than today's top-performing tactical wheeled vehicles. Additionally, the TAK-4i independent suspension system can be raised and lowered using interior operator controls to meet sea, air and land transportability requirements. The JLTV can be air transported internally by a C-130, C-5, and C-17 or externally by CH-47 and CH-53.

Under the U.S. JLTV contract, Oshkosh will produce and deliver up to 17,000 JLTVs for the U.S. Army and Marine Corps. The JLTV program is scheduled to



achieve full rate production authorization in Fiscal Year 2019 (FY19), at which time the vehicle would be available for foreign military sale (FMS) deliveries.

Oshkosh Defense leadership will be available to discuss the company's full portfolio, including the JLTV, in the U.S Pavilion at the Dubai Airshow in booth #1588.

## Exhibitions

### Otokar to present COBRA II and ARMA 6x6 at GDA 2017



Otokar, the biggest privately owned company of Turkish defence industry, participated in Gulf Defense & Aerospace exhibition in Kuwait, between 12th and 14th December. Otokar exhibited its COBRA II 4x4 and ARMA 6x6 armoured wheeled vehicles at its booth.

Regarding exhibiting in Kuwait, Otokar General Manager Serdar Gürgeb said: "Our vehicles are used in over 30 countries by more than 50 different users. The requirements and feedbacks of our clients are our guidelines to enlarge our product portfolio. With an enlarged product portfolio, Otokar gives foremost importance to further expand its activities in the Gulf Cooperation Council countries. In this respect, Otokar highly gives importance to the ongoing relationship with its users in the region, including Kuwait armed and security forces."

Reminding Otokar Land Systems, Serdar Gürgeb said, "We established Otokar Land Systems in UAE in 2016, aiming to be closer to our users in regions where we operate, we intended to strengthen our cooperation abroad, especially in the Gulf region, open to new markets and increase our sales. The most important step in this goal is taking role in one of the largest 8x8 armoured vehicle supply projects through Al Jasoor, established in partnership with Tawazun."

### COBRA II: Undertaking the Most Challenging Missions

COBRA II, designed by Otokar, successfully serves the Turkish Armed Forces and security forces in various missions, and several other countries, including United Nations missions. In addition to its superior mobility, COBRA II offers 10-personnel capacity including the driver, and excellent security thanks to its outstanding level of protection against ballistic, mine, and IED threats. COBRA II delivers high performance in the most challenging terrain and climate conditions, and can be produced in an amphibious version on demand, perfectly adapting to different missions that may be required.

Preferred especially for its broad weapon integration and mission-oriented equipment options, COBRA II successfully carries out a variety of missions including border protection, security and peacekeeping operations. Designed and produced by Otokar in line with user expectations against present and future threats, COBRA II features a modular construction that enables the vehicle to be used as personnel carrier, weapon platform, land surveillance radar, CBRN reconnaissance vehicle, command control vehicle, and ambulance. At GDA, Otokar exhibited its COBRA II with its own design KESKIN remote controlled weapon station.

### ARMA 6x6: Successfully in service in the Gulf Region

ARMA 6x6 is actively used in the Gulf Region since 2010. Highly modular and capable, the ARMA product family is an ideal platform for various purposes and a wide variety of missions, offering a low-profiled solution suited for existing and future combat conditions depending on the modern armies' survivability, protection and mobility needs. ARMA draws attention with its high combat weight and spacious interior, and thanks to its amphibious kit, is able to wade in water at 8kmh without any advance preparation. At GDA, ARMA 6x6 was displayed with Otokar designed BOZOK 12.7 mm MKT turret system.

### Otokar

Founded in 1963, Otokar has been operating in the defence industry since 1987 when the company produced Turkey's first tactical wheeled vehicles. The company, with a plant spread on 552,000 square meters of land and nearly 2500 employees, designs and produces 4x4, 6x6, 8x8 tactical wheeled armoured vehicles, tracked armoured vehicles and turret systems tailored for specific client expectations and needs. Having designed and developed the world's most modern main battle tank ALTAY in accordance with the Turkish Armed Forces' requirements, Otokar offers a wide product range that includes 4x4 tactical wheeled armoured vehicles COBRA, COBRA II, KAYA, KAYA II and URAL; multi-wheeled tactical vehicles ARMA 6x6, ARMA 8x8; tracked armoured vehicles TULPAR, TULPAR-S, and turret systems KESKIN, BOZOK, BAĞIR, BOZOK and MIZRAK. Otokar's defence industry products are actively used by nearly 50 users in more than 30 countries. Otokar, Turkey's largest land systems producer, is part of Koç Group, also Turkey's largest group of companies.

## Defence Industry

### The Finnish army is testing a new MiSu armored vehicle

The Finnish Army has purchased four MiSu armored vehicles for field testing. The cost of the purchase is 4 million euros.

The developer and manufacturer of the vehicle is the Finnish company Protolab Oy. MiSu belongs to the class

of MRAP and is officially called PMPV 6x6 (Protected Multipurpose Vehicle). It has protection against small arms, fragments and mines, but it is lighter than armored personnel carriers manufactured by Patria and can be registered for use on public roads.



The Command for the logistics of the Finnish Defense Forces was received decision to purchase on December 12, 2017.

Four PMPV 6x6 vehicles will be tested by the Finnish Defense Forces during the 2018-2020 years. In the case of positive test results, the PMPV 6x6 will be adopted by the Finnish Defense Forces.

PMPV 6x6 MiSu project was launched in 2009, it was attended by SSAB and Lappeenranta University of Technology. The prototype has already passed the first test run for 800 km. Additional tests were conducted in Finland in the winter of 2015. The vehicle is based on the specifications contained in the requirements of the Finnish and Swedish Defense Ministries under the FIMECC BSA program.

The PMPV 6x6 Misu design provides a high level of protection against mines and improvised explosive devices.

The PMPV is robust, but has incredibly mobility and lightweight. It can carry a crew or up to 10,000 kg payload both on roads and off-road conditions.

For vehicle protection used heavy-duty armor steel, developed by SSAB. Steel structures designed for protection were developed in cooperation with the Lappeenranta University of Technology.

"We noticed that there is no simple, but very protected solution. Modern military vehicles are complex and vulnerable. Destroying one small component can stop an entire expensive car," says Jukka Kemppainen, Chairman of the board of Protolab Oy, about the prehistory of PMPV.

In PMPV protection, multi-purpose use and cost-effectiveness were the main design drivers. PMPV is mainly created using standard commercial truck units that are easy to repair or replace anywhere. Commercial components have been used before, for example, in Afghanistan. Thus, it was tested under extreme conditions.



## Defence Industry

### Rheinmetall modernizing 25 more Marder IFVs for Jordan



The German government has contracted with Rheinmetall to upgrade a further 25 Marder infantry fighting vehicles from surplus Bundeswehr stocks. The vehicles are destined for the Jordanian armed forces. Delivery will begin in the first quarter of 2018. The contract was awarded under a German military aid programme aimed at bolstering the capabilities of the Jordanian armed forces in the fight against international terrorism as well as for border security and stabilization missions. Booked in October 2017, the order is worth over €17 million without value added tax.

Under the contract, Rheinmetall will supply Jordan with twenty-five fully modernized, former German Marder 1A3 infantry fighting vehicles, painted in a desert camouflage pattern. The package also encompasses spare parts, ammunition, documentation, special tools, customer support on location as well as training for operators and maintenance personnel.

In addition to Germany, Chile and Indonesia, Jordan is the fourth nation to deploy the enhanced-performance Marder.

Rheinmetall already supplied the Hashemite Kingdom with 25 vehicles of this type in 2016/2017. The Marder 1A3 infantry fighting vehicle weighs about 35 tonnes. Its 600 HP-engine enables a top speed of around 65 km/h, and the fighting compartment is roomy enough to seat nine soldiers. A 20mm RH-202 automatic cannon serves as the vehicle's main armament.



## Defence Industry

### Rheinmetall delivers two special ops vehicles to the Saxony State Police



On 15 December 2017 Rheinmetall transfers the first of two heavily protected Survivor R transport vehicles to the Saxony State Police. The second system will be delivered before Christmas. The Free



State of Saxony ordered the two vehicles from Rheinmetall MAN Military Vehicles (RMMV) in February of this year. Forming part of an extensive anti-terror package, the vehicles will be used to equip special police units in Saxony.

The Survivor R is a compelling symbol of Rheinmetall's extraordinary expertise in the worlds of security and mobility. Developed in cooperation with Achleitner, a maker of special vehicles, it is the perfect answer for robust law enforcement operations. Vehicles of this type are especially important in high-risk situations when police special operators have to be safely transported to the area of operations or for evacuating persons from the danger zone.

Among other things, Saxony's two Survivor R vehicles feature a special signalling system; an integrated, remotely controlled observation turret with optronics and effectors; a high-performance loudspeaker; and a hydraulically operated rear ramp for rapid entry and exit. A powerful 340 HP engine with torque of 1,250 Nm gives the 17-tonne vehicle an outstanding mobility. Moreover, the environmentally friendly Survivor R meets the latest Euro 6 emission norms.

The armoured monocoque cabin provides the crew with all-round protection from multiple threats. Ergonomically designed, the well-lit interior offers sufficient space for crewmembers and their personal equipment as well as extensive communications and command and control technology.

Systematic use of serially produced, standard commercial and military components has resulted in a reasonably priced vehicle – one which benefits from Rheinmetall MAN's global service network, assuring efficient maintenance and repairs worldwide. This makes the Survivor R a cost-effective, easy-to-maintain vehicle platform with low lifecycle costs and outstanding operational readiness. The Berlin State Police have also ordered the Survivor R.

## Defence Industry

### BAE Systems contracts Czech metal manufacturer for Swedish Mjölner programme



The agreement represents BAE Systems' first agreement with a supplier in the Northern Liberec region of the Czech Republic.

Laser Centrum, a family-run company established in 2006, offers precision metal sheet manufacturing services, including laser cutting, metal bending, and welding. The contract will support work for the Mjölner system, which is being integrated on the Swedish Army's fleet of CV90 Infantry Fighting Vehicles (IFVs).

This arrangement adds to the number of industrial cooperation relationships BAE Systems has established in the Czech Republic as it looks to support the Czech government's effort to replace the Army's legacy fleet of BMP II IFVs. BAE Systems is offering the CV90, an adaptable, combat-proven vehicle in service with numerous countries, including several who are members of NATO.

"We are pleased to extend our industry network further into the north of the Czech Republic, while helping to support the regional economy and workforce through a high profile defence programme," said Peter Nygren, vice president of business development at BAE Systems' Högglunds business. "This latest contract will also open the door for Laser Centrum to compete for production work in the defence sector, which only serves to strengthen the Czech Republic's defence industry base over the long term."

The contract with Laser Centrum is the second made in 2017 with a Czech company for participation in the Swedish Mjölner system programme. In May, Czech manufacturer Ray Service was selected to develop and produce cabling assemblies for 40 mortar systems. Additionally, Slovak defence company Konstrukta-Defence, a.s was chosen to produce 84 120-millimeter barrels in September as part of a multimillion Euro contract for the mortar systems.

## Robots

### In Russia will be tested the Nerekhta combat robot



Tests of the Nerekhta Armed Unmanned Ground Vehicle (AUGV) in winter conditions will be held in the city of Kovrov in the Vladimir region of Russia, the Department of Information and Mass Communications of the Ministry of Defense of Russia reports.

In the 467th inter-service district training center of the Russian Army during the tactical training with motorized infantry units, military tests will be conducted in the winter conditions of the Nerekhta AUGV with the purpose of determining the location of the AUGVs in the structure of the ground forces in the conduct of the combined arms.

The Ministry of Defense noted that to test the combat qualities of the AUGV, a special route was prepared on the range, which will test the robot's capabilities in the

mobility and overcoming obstacles, and also test the Nerekhta's armament.

According to open sources, the Nerekhta AUGV was created as an universal transport platform for the logistic and work for 14 other specialties. Depending on the installed systems, the robot can patrol the terrain, provide reconnaissance, locate the enemy's artillery positions and evacuation of the wounded. Nerekhta is equipped with an unmanned helicopter and operates in the information network of the company.

Three special payload were developed for the platform: weapon, transport and artillery reconnaissance. The weapon station in various versions is equipped with a 12.7-mm Kord machine gun or 7.62-mm Kalashnikov machine gun, and can also be equipped with an AG-30M automatic grenade launcher.

The Nerekhta AUGV was created by the Degtyaryov plant together with the Foundation for Advanced Studies of the Russian Federation.

The payload of the robot reaches 700 kg. For moving, electric motors mounted on a tracked platform. Remote control the robot can be from the vehicle at distances of up to 20 kilometers, and if used mast, or run from a natural elevation, the distance can be significantly increased.

A sample of the robot was first demonstrated at the exhibition of the Russian Defense Ministry in 2016.

## Defence Industry

### SAAB Receives Order From KMW For Mobile Camouflage Systems

Defence and security company Saab has received an order from the German company Krauss-Maffei Wegmann GmbH (KMW) for deliveries of Mobile Camouflage Systems (MCS). Deliveries will take place during the period 2018-2022.

The Barracuda Mobile Camouflage System (MCS) is a flexible solution providing multispectral protection for vehicles when moving or when in a static position. The MCS ordered by KMW, will equip the German Armed Forces new Leopard 2 A7V, the latest version of the Leopard 2 A7, developed and manufactured by KMW. The camouflage systems ordered by KMW will come in woodland configuration.

"We are fully certified by the customer as a supplier of advanced mobile camouflage solutions, which we are extremely proud of. With this order the customer will equip their tanks with a reliable, multispectral and combat-proven camouflage system. This year we celebrate 60 years of developing static and mobile camouflage systems, and this order is a proof of that experience", says Grger Johansson head of Saab's business area Dynamics.

Barracuda's advanced camouflage technology products have already been exported to more than 60 countries worldwide. Saab offers a unique package of tailor-made camouflage systems and force protection solutions that decrease the enemy's ability to detect and

engage. These solutions protect personnel, vehicles and base infrastructure against hostile sensors and enemy target acquisition.

The camouflage solutions offer multispectral protection. Everything from ultra-violet, visual, near infrared, short wave infrared to thermal sensors and radar. Built-in thermal radiation protection reduces the operating temperature inside vehicles and increases crew comfort, firing accuracy, and fuel efficiency.

## Robots

### Ministry of Defense of Russia demonstrated a new Kungas UGV



"At the operational-special gathering together with officials of the Main Command of the Ground Forces of the Russian Federation in the Moscow region, the Kungas Combat Unmanned Ground Vehicle (UGV) was demonstrated," the Russian Ministry of Defense reported.

"At the training ground in Alabino, generals and officers got acquainted with modern and future models of weapons, military and special equipment. Participants of the meeting also demonstrated a Kungas multifunctional UGV for solving the problems of providing combat operations to the land forces," the press release said.

Earlier, the Tractor Plants Concern reported that its subdivision, Special Design Bureau of Machine Building, was developing a Kungas multipurpose UGV to provide combat operations.

In March 2017, Deputy Prime Minister Dmitry Rogozin announced the arrival of UGVs in the Russian army.

"The task is to get our man out of the sector of defeat to a safe distance, but so that he himself sees the enemy and is able to hit him. Our purpose is to turn a serviceman into a robotic system operator capable of performing any combat missions," Rogozin said.

## Army

### The Russian Ministry of Defense has concluded contracts for the supply of an experimental-industrial batch of T-14 Armata MBT

The Commander-in-Chief of the Russian Ground Forces Colonel-General Oleg Salyukov said that

state contracts have already been concluded for the supply of an experimental industrial batch of T-14 Armata Main Battle Tanks (MBT) for military operation.



According to him, at the moment, industrial enterprises conduct debugging of Armata, its adjustment and coordination of all systems and units.

Earlier it was reported that the Russian army would receive one hundred Armata MBTs until 2020.

T-14 Armata - the world's first tank with a remote controlled turret. The crew of the vehicle is in the sealed armored capsule in the front part of the hull. T-14 maximum road speed is about 90 km/h, road range - 500 km.

Afghanit Active Protection System intercepts rounds and missiles. Malachite ERA protects MBT against particularly powerful ATGM.

The tank is equipped with a 125-mm 2A82 or 152-mm 2A83 main smoothbore gun. The range of fire is up to seven kilometers, and for Krasnopol 2K25 guided missiles - about 20 km.



## Contracts

### BAE Systems receives U.S. Army contract to begin M109A7 full-rate production



The U.S. Army has awarded BAE Systems a contract that clears the path to begin full-rate production of the company's M109A7 Self-Propelled Howitzer and M992A3 ammunition carrier vehicles.

The contract includes an initial \$413.7 million award to execute the third and final option for low-rate initial production on the program. Options are also included that would begin the full-rate production phase, which, if exercised, would bring the cumulative value of the award to approximately \$1.7 billion.

BAE Systems will initially produce 48 vehicle sets, with the options calling for 60 sets per year for approximately three years of deliveries thereafter during full-rate production. The M109A7 consists of a new chassis design for improved performance, upgraded survivability, and components common to other Army

vehicles, as well as additional key features.

"We have been working with the Army to design, develop, build, and test this vehicle for several years," said Adam Zarfoss, vice president and general manager of BAE Systems' Combat Vehicles U.S. business. "By working closely with our customer, we were able to design a vehicle that meets the needs of the current forces, and provides the system infrastructure and electrical power generation that leaves ample room to incorporate future capabilities."

The M109A7 program is a significant upgrade over the vehicle's predecessor, the M109A6 Paladin Self-Propelled Howitzer. It uses the existing main armament and cab structure of the M109A6, but replaces the vehicle's chassis structure with a new design that increases survivability and allows for the integration of drive-train and suspension components common to the Bradley Infantry Fighting Vehicle. This commonality reduces overall program cost and logistical footprint, and provides improved mobility and system survivability to maintain dominance on the battlefield.

The M109A7 also leverages technologies from previous design programs, such as a 600-volt on-board power generation, distribution, and management system, coupled with a high-voltage electric gun drive and projectile ramming systems. The state-of-the-art digital-backbone and power generation capability provides significant growth potential for future payloads, and will accommodate existing battlefield network requirements. The upgrades ensure commonality with the existing systems in the Army's Armored Brigade Combat Team, including the BAE Systems-built Bradley Fighting Vehicle and the new Armored Multi-Purpose Vehicle family.

Work on the M109A7 is currently underway at the Anniston Army Depot in Alabama, and at BAE Systems' facilities in York, Pennsylvania; Elgin, Oklahoma; Aiken, South Carolina; Minneapolis, Minnesota; and Endicott, New York.



## Contracts

### U.S. Army Places \$100.1 Million Order For 258 Joint Light Tactical Vehicles



Oshkosh Defense, LLC, an Oshkosh Corporation company, announced today that the U.S. Army has placed a \$100.1 million order for the Joint Light Tactical Vehicle (JLTV) program, to include 258 vehicles and associated installed and packaged kits. This is the seventh order for JLTVs since the



contract was awarded in August 2015.

Intended to replace the aging up-armored HMMWV fleet, the JLTV program fills a critical capability gap in the U.S. military's current vehicle line-up.

"From a scheduling perspective, the JLTV program is on track. We are currently in Low Rate Initial Production (LRIP) and have delivered over 1,000 vehicles since October 2016," said Dave Diersen, Vice President and General Manager of Joint Programs at Oshkosh Defense. "The initial LRIP vehicles are undergoing a spectrum of Government testing, and Soldiers and Marines will begin receiving JLTVs for operational use in FY19."

The program also anticipates a Full Rate Production decision in FY19, and both Army and Marine Corps Initial Operating Capability (IOC) in early FY20.

"Over time, we are confident there will be opportunities to expand this powerful vehicle platform to include new variants and configurations," Diersen continued. "The JLTV program was designed to provide a new generation of protection, mobility and network capability. We also see significant international market potential for allies requiring a tactical wheeled vehicle proven to provide the ballistic protection of a light tank, the underbody protection of an MRAP-class vehicle, the network capability of a mobile command center, and the off-road mobility of a Baja racer."

performance and life cycle cost advantages of a new vehicle," said Pat Williams, Oshkosh Defense vice president and general manager of Army and Marine Corps programs. "Recapitalized vehicles are assembled on the same production line as new vehicles, and put through the same extensive performance tests and inspection procedures as new vehicles. As the Original Equipment Manufacturer (OEM), Oshkosh can modernize these vehicles to the latest configuration and quickly return them to operations."

### **The U.S. Army's Heavy Vehicle Fleet**

With a 13-ton payload and multiple variants for a wide range of operations, the HEMTT is the backbone of the Army's logistics fleet. Oshkosh's latest configuration, the HEMTT A4, brings significant improvements in power, maintenance and safety to the battlefield, traversing even the most challenging environments easier and more efficiently. The latest configurations of FHTV trucks also include air-conditioned and armor-ready cabs, electrical upgrades, and anti-lock braking to keep soldiers safe.

## **Defence Industry**

### **OSHKOSH DEFENSE AWARDED \$40 MILLION FROM U.S. ARMY FOR RECAPITALIZATION OF THE ARMY RESERVES HEAVY VEHICLE FLEET**



OSHKOSH, Wis. -- Oshkosh Defense, LLC, an Oshkosh Corporation (NYSE: OSK) company, announces today that it has been awarded a \$40 million delivery order from the U.S. Army Tank-Automotive and Armaments Command (TACOM) to recapitalize vehicles from the U.S. Army Reserves Family of Heavy Tactical Vehicles (FHTV) fleet. Oshkosh will bring the Army's fleet of Heavy Expanded Mobility Tactical Trucks (HEMTT) to their latest model configuration and the same zero-mile, zero-hour condition as new production vehicles.

Overall, the award is valued at more than \$40 million for the recapitalization and production of over 90 units. All work performed under the contract will be completed in Oshkosh, Wisconsin, with deliveries beginning in Fiscal Year 2019.

"Our recapitalization services offer significant cost savings to the Army Reserves by returning vintage vehicles to current operational readiness with the same