

Army Guide monthly



3 (138) March 2016

- **AM General Secures Additional \$57 M In HMMWV Vehicle And Parts Sales**
- **Trusted Casspir Adds Firepower To Its Mine-Protection Qualities**
- **Alcoa Awarded up to \$50 M from US Army to Advance Combat Vehicles**
- **Ajax vehicle brings Merthyr Tydfil factory back to life**
- **Rheinmetall to manufacture ordnance for a European partner**
- **Oshkosh Defense to Showcase Winning JLTV at AUSA Global Force Symposium**
- **KONGSBERG buys 49.9 % of Patria creating a leading Nordic defence partnership**
- **SAIC Awarded \$121.5 Million ACV 1.1 Contract by U.S. Marine Corps**
- **Oshkosh to Upgrade the US Army's Heavy Tactical Vehicles**
- **Oshkosh Announces \$243 M for Next Generation Light Tactical Vehicles**
- **TATRA TRUCKS at Defexpo India 2016**

Contracts

AM General Secures Additional \$57 M In HMMWV Vehicle And Parts Sales



AM General today announced it has secured \$57 million in HMMWV contracts and vehicle parts for Iraq, Serbia, Argentina, and the U.S. National Guard and Reserve.

These contracts demonstrate the growing global demand for affordable readiness and reliability offered through the HMMWV family of Light Tactical Vehicles and O.E.M. provided parts.

"These orders are examples of the significant opportunities for our diverse line of world-class Light Tactical Vehicles to include the HMMWV and support business," said AM General President and CEO, Andy Hove. "Our company's priorities are to be agile, flexible and innovative --- able to adapt and be in lock-step with the priorities outlined by our customers."

Hove added, "Our focus is to assure vehicle readiness for our customers, both domestic and international. Just in these past few weeks we have been actively rolling new vehicles off the production line, on to awaiting aircraft and right into theaters of operation, in addition to maintaining and sustaining vehicles to the highest standard. That is the epitome of providing readiness and value for our customers."

Prior to these most recent Light Tactical Vehicle contracts, AM General received a \$24,965,954 modification to an earlier foreign military sales contract for an additional 120 M1151A1B1 HMMWVs.

During the past year, the company has seen robust business in its Light Tactical Vehicle lines providing great visibility into a deep pipeline of HMMWV sales for the future.

Examples include:

- July 2015: AM General was awarded a \$372,936,476 firm-fixed-price multi-year foreign military sales contract for Afghanistan, Iraq, Kenya, Lebanon, Ukraine and Tunisia, which with options, will total 2,082 HMMWVs and contractor unique spare parts.
- September 2015: AM General was awarded a six-year \$428,295,155 contract for new M997A3 HMMWV Ambulance Chassis Vehicles for domestic disaster relief efforts by the Army National Guard, Army Reserve, and Army.
- October 2015: AM General announced that it had been awarded new HMMWV contracts and modifications to existing domestic and international contracts for vehicles and parts for Iraq, Afghanistan, Tunisia, Israel, Turkey, Kenya, Lebanon and the United States totaling \$42,165,170. This specific contract covered items

to include new production vehicles, international ambulance vehicles, automotive kits, spare parts and training.

Just as important, on the U.S. domestic front, the Company continues to perform work under its ground breaking Private Public Partnership (PPP) with the National Guard and Red River Army Depot in the refurbishment and upgrade of older HMMWV models that will continue to be in the U.S. Military fleet for 30-plus years. Through this innovative PPP program, the Company has already contracted orders totaling nearly \$250 million, with a significant pipeline remaining to include \$160 million in additional FY2016 funds.

Defence Industry

Trusted Casspir Adds Firepower To Its Mine-Protection Qualities



The versatility and range of Denel's Casspir mine-protected vehicles has been expanded to accommodate the firepower requirements of different clients. This will attract the interest of defence clients looking for a versatile and cost-effective family of mine-resistant vehicles.

The General Manager of Mechem, Ashley Williams, says the Casspir is one of the most-trusted global brands for defence and police forces who require mobility and superior protection against landmines, roadside bombs and automatic rifle fire.

In the latest development of the Casspir 2000 clients can now select the type and range of firepower required to be fitted onto the vehicle. The new variants can serve as platforms for 81mm mortar systems, anti-tank and anti-aircraft weapons. The Plofadder mine-clearing system, developed by Rheinmetall Denel Munitions can also be fitted onto the Casspir hull.

Williams says Mechem is responding to opportunities in defence markets where clients need a single platform with a number of variants to meet operational requirements. The versatility of the Casspir, its modular design and its long track record of success in many environments since it first came off the production line in 1979 are among its most important features.

Denel is now able to produce a tailor-made Casspir according to the requirements of the client. Different modules are fitted onto the standard platform system and then modified according to client specifications.

This significantly extends the range and versatility of the Casspir which can now be used as a reconnaissance vehicle, a troop carrier or as a fire-support vehicle equipped with mortars, anti-aircraft or anti-tank weaponry.

Williams says this makes the Casspir the most cost-effective vehicle in its class in the world. “Our clients can now use the same family of vehicles that offer superior levels of protection and mobility, but in different roles”

This means substantial savings on maintenance costs, spare parts and logistics. All Mechem’s sales are accompanied by training packages, maintenance agreements and comprehensive fleet support, including inside the client country.

The Casspir is the vehicle of choice for demining or peace-keeping operations and has been used from Afghanistan to Mozambique by the United Nations, the South African National Defence Force, police services and private security companies around the globe.

The hull and platform of the vehicle is manufactured in its entirety in South Africa by Mechem and its partners in the local defence industry. Existing Casspir 2000NG vehicles can also be upgraded and modified to fulfil different roles as required by the client.

The conventional Casspir can be adapted to serve as a command-and-control vehicle, a field ambulance or a recovery vehicle. All variants are fitted with run-flat tyres and are available in 6X6 or 4X4 format and with a choice of manual or automatic transmission.

Williams says the Casspir is designed to withstand the blast of 14kg of explosives under each wheel – which is more than can be delivered by two landmines. It has a cruising speed of up to 40kph per hours in most off-road conditions and a reach of up to 800km on a standard fuel tank.



Contracts

Alcoa Awarded up to \$50 M from US Army to Advance Combat Vehicles



Lightweight metals leader Alcoa has been awarded a five-year contract from the U.S. Army worth up to \$50 million for R&D projects focused on developing innovative, lightweighting solutions for ground combat vehicles. The U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC) awarded Alcoa Defense a “Ground Vehicle Light-Weighting” contract to support efforts to accelerate technology research and development and provide engineering solutions for Department of Defense ground vehicles and intelligent ground systems.

“This agreement with TARDEC builds on Alcoa Defense’s decades-long partnership with the U.S. Army to advance military ground vehicles,” said Eric Roegner,

President of Alcoa Defense. “Alcoa’s lightweight solutions have improved troop protection while reducing vehicle weight and assembly time. We look forward to building on our successful track record to help develop the next generation combat vehicle.”

Alcoa’s first “work directive,” or project funded under the contract, is an initiative to advance Alcoa-developed aluminum weld wire alloys. These alloys have already been proven to increase the strength of welded joints—typically the weakest point on a vehicle—as well as reduce corrosion of those welded joints on combat vehicles. Under potential future work directives, Alcoa will provide material research, development, engineering, testing, and evaluation efforts related to ground vehicle lightweighting. These research and development efforts will address various technologies associated with lightweighting such as aluminum forming technology, fastening and joining, modeling and simulation, armor development, material development, material fabrication, energy conservation, and coating and corrosion technology.

A Strong Track Record

Alcoa has built a strong track record of partnering with the U.S. Army to develop solutions that advance the performance of ground combat vehicles. In 2013, Alcoa announced a joint Alcoa-U.S. Army Research Laboratory (ARL) initiative to manufacture the world’s biggest single-piece forged aluminum hull for combat vehicles—the largest closed die forging ever made. This game-changing forging replaces the lower hull of a combat vehicle, significantly improving survivability over traditional welded hulls. In Army testing, the monohull has performed exceptionally well in mitigating the effects of blast events, such as those caused by Improvised Explosive Devices.

In 2005, the U.S. Army Tank-Automotive and Armaments Command (TACOM) awarded Alcoa a research, development and engineering contract to develop aluminum structures for ground combat and tactical vehicles under the Army Lightweight Structures Initiative. Alcoa delivered structural solutions that provided on average 30 to 50 percent weight savings over baseline designs.



Defence Industry

Ajax vehicle brings Merthyr Tydfil factory back to life



Following a J390 million commitment to the Ajax

armoured vehicle by the Ministry of Defence (MOD), General Dynamics UK decided to turn the former Linde Forklift Truck factory in Merthyr Tydfil into an assembly, integration and testing centre for Ajax.

The site, which will begin assembling and testing the Army's first fully digitised Ajax vehicle in 2017, was opened by Ministers from both the UK and Welsh Governments.

Minister for Defence Procurement Philip Dunne said:

"The opening of this new facility is a major development for both Merthyr Tydfil and the British Army. It is another reminder of the importance of Defence investment right across the UK: the Ajax programme alone is sustaining 2,800 jobs across the country, 550 of which are here in Wales".

"This new facility, like the next generation vehicle it will produce, is more evidence of our J178 billion commitment to provide our Armed Forces with the equipment they need. Thanks to the close partnership between the UK Government and industry, this site will spring back in to life as a significant centre of employment and bring in valuable skills with a lasting legacy for the entire region".

In addition to the 250 jobs being created at the Merthyr Tydfil facility, the Ajax build programme is sustaining 300 jobs at General Dynamics in nearby Oakdale, and a further 2,250 jobs at more than 210 companies across the UK supply chain.

The British Army will receive 589 Ajax vehicles which will come in six variants and replace the Combat Vehicle Reconnaissance (Tracked). Ajax will form a central component of the UK's new Strike Brigades announced in the Strategic Defence and Spending Review at the end of last year.

Head of Armoured Vehicles at the MOD's Defence Equipment and Support organisation Major General Robert Talbot-Rice said:

"Ajax represents the biggest single order for armoured vehicles for the British Army in three decades. Today's opening is a big step towards fulfilment of this huge national project to put world beating equipment into our soldiers' hands".

"The design of Ajax builds on lessons learned on the battlefield. It is the Army's first fully digitised armoured vehicle, able to tackle the world's toughest terrain and highly resilient against likely threats".

The 589 Ajax vehicles will be the 'eyes and ears' of the British Army on the battlefields of the future. The new vehicle will give the army enhanced intelligence, surveillance, protection, target acquisition and reconnaissance capabilities, and it will be able to defend itself with a highly effective 40-millimetre cannon, which was developed jointly with France.

To date, the MOD has committed J4.5 billion in contracts with General Dynamics to deliver the Ajax vehicle.

Wales Office Minister Alun Cairns said:

"The UK government is determined to see as many MoD projects designed, built and manufactured here in the UK".

"General Dynamics' decision to bring the assembly, integration and testing of AJAX vehicles to south Wales is an enormous vote of confidence in the skills and expertise of the workforce. This grows the defence footprint in Wales and is an excellent example of the UK and Welsh Governments working together in the interests of the Welsh economy".

"The Welsh manufacturing sector is surging from strength to strength. Today's event showcases the invaluable contribution our home-grown talent is making in the provision of first-class protection and support to the brave men and women working in front line situations around the world".

The British Army's Chief of the General Staff General Sir Nicholas Carter said:

"The opening of this facility is great news for the British Army".

"Ajax will deliver a first class armoured capability to our ground forces. The combination of firepower, protection and mobility, as well as range and reach, will provide the battle winning edge to our new Strike Brigades".

The first vehicle is expected to be completed at the Merthyr Tydfil facility in 2018, with the first Army units to receive the vehicle equipped by mid-2019 and ready to deploy from the end of 2020.

Contracts

Rheinmetall to manufacture ordnance for a European partner

A European procurement agency has awarded Rheinmetall a major order for ordnance.

Worth up to €225million, the multi-year contract encompasses the development, qualification and production of modern ordnance which meets the highest safety standards.

RWM Italia S.p.A. – a wholly owned subsidiary of the Rheinmetall Group since 2010 – won the order. The ammunition will be jointly manufactured by RWM Italia S.p.A. and by a European defence contractor.

This important order underscores once again the Düsseldorf-based Group's global reputation for competence in the twin high-tech fields of security and mobility. One of the world's top munitions suppliers, Rheinmetall's customers include (among others) the armed forces of Germany, the United States, Australia, the United Kingdom, Italy, Sweden, Switzerland and Austria.

Exhibitions

Oshkosh Defense to Showcase Winning JLTV at AUSA Global Force Symposium

Oshkosh Defense, LLC, an Oshkosh Corporation (NYSE: OSK) company, will showcase its Joint Light Tactical Vehicle (JLTV) at the Association of the United States Army (AUSA) Global Force

Symposium in Huntsville, Ala. on March 15-17, 2016. The Oshkosh JLTV is the next-generation light tactical wheeled vehicle with an unprecedented combination of protection, mobility, transportability and net-ready systems integration that delivers the network capability of a mobile command center.



“The battlefield can generate an unpredictable combination of terrain, tactics and threats, and our troops need to stay connected wherever their missions take them,” said John Bryant, senior vice president of Defense Programs for Oshkosh Defense. “JLTV is a network on wheels, representing the first time a tactical wheeled vehicle was designed from the ground up to be Net Ready. Our JLTV is now one of the most connected and protected vehicles in the fleet.”

The Oshkosh JLTV

The JLTV program is a top priority for the Department of Defense, filling a critical capability gap for the U.S. Army and Marine Corps by replacing a large portion of the legacy uparmored HMMWV fleet with a modern light vehicle that provides unprecedented protection and off-road mobility, as well as transportability via air, land and sea. The JLTV production contract calls for Oshkosh to deliver a total of nearly 17,000 vehicles, as well as kits and services over an eight-year period. The Oshkosh JLTV combines the latest in automotive technologies, the innovative Oshkosh Core1080™ crew protection system, and the Oshkosh TAK-4i™ intelligent independent suspension system to provide the world’s fastest, most protected light military vehicle. The Oshkosh Defense JLTV is scalable and adaptable to future mission changes and unknown threats not only today, but for decades to come.

U.S. Soldiers and Marines can expect:

- A vehicle 1/3 smaller and 1/3 lighter than the Oshkosh MRAP All-Terrain Vehicle (M-ATV)
- Off-road speeds 70 percent faster than today’s gold standard, the Oshkosh M-ATV
- A modular design that can be quickly and efficiently outfitted for a full range of missions
- Banks® 866T, 6.6 Liter Turbo Diesel Engine, based on GM® Duramax® architecture
- Fully transportable by air or sea, such as C130, CH-53 and CH-47
- Network ready and VICTORY compliant
- Superior ride quality

Bringing the Network to the JLTV Mission

The Oshkosh JLTV is the first light tactical vehicle serving as its own mobile command center.

Oshkosh combines a proven history of vehicle design

with extensive Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) and systems integration capabilities to enhance the user experience and maximize overall system performance of the JLTV. The Oshkosh Net Ready solution fully integrates the following elements:

- Weapon systems
- Exportable power
- IED defeat
- Navigation
- Situational awareness
- Communication and control

The Oshkosh JLTV delivers a complete network solution while maintaining its payload, performance, protection, and off-road mobility. The JLTV is wired for current and future C4ISR systems to ensure the vehicle is ready-to-roll right off the production line.

Oshkosh has been a pioneer in designing, integrating, manufacturing and sustaining military vehicles with nearly 100 years of experience providing the best value to our customers. Oshkosh is a leading provider of tactical wheeled vehicles for the U.S. Army including M-ATV, FMTV, HEMTT, PLS and HET. Oshkosh also developed the battle-tested, combat proven TAK-4® independent suspension system, which is in operation on more than 20,000 military-class vehicles.

Defence Industry

KONGSBERG buys 49.9 % of Patria creating a leading Nordic defence partnership



Today, KONGSBERG has entered into an agreement with the Finnish state for the purchase of 49.9 % of the shares in Patria for EUR 272 million. Patria is Finland’s leading defence supplier and owns 50 % of the shares in the Norwegian company Nammo. The partnership will be a leading defence supplier in the Nordics, and a considerable supplier on the European defence market, with total gross revenues of NOK 13.4 billion in 2015.

"By forming this industry partnership consisting of KONGSBERG, Patria and Nammo, we’re taking a proactive step to meet the ongoing consolidation in the defence industry. This transaction entails a significant strengthening of our Nordic and international position, it provides strengthened profitability and growth opportunities, and is an important step in the strategy for our defence businesses," says Walter Qvam, CEO of KONGSBERG.

Patria has approximately 2,800 employees and had revenues of EUR 428 million (NOK 3.8 billion) in 2015. The company is Finland's leading defence supplier, and has a broad and modern product portfolio.

The Norwegian state and Patria each holds a 50 % share in Nammo. Nammo has approximately 2,200 employees and had revenues of NOK 3.8 billion in 2015. The company develops and produces high technology products within ammunition and rocket engines for defence and civilian applications.

"As a partnership, KONGSBERG, Patria and Nammo hold both complementary and world leading products as well as key geographic areas that strengthen each other. This, combined with Patria's strong position in Finland and KONGSBERG's strong global alliances and position in Norway, makes us significantly stronger together in a growing global defence market," says Qvam.

"This partnership will be a larger and stronger supplier to the Norwegian and Finnish armed forces with more than 7,000 employees and total gross revenues of 13.4 billion Norwegian kroner. We have a close cooperation today, including on air defence and missiles, and this cooperation will be strengthened further. Significant opportunities within other areas, such as maintenance and aviation, will also emerge," says Qvam.

The completion of the transaction is expected in the second quarter of 2016, and is subject to normal closing conditions e.g. approval from relevant authorities. The purchase price plus settlement of interest and taxes at closing will be settled in cash, and financed by a bridge facility in DNB.



Defence Industry

SAIC Awarded \$121.5 Million ACV 1.1 Contract by U.S. Marine Corps



The U.S. Marine Corps awarded Science Applications International Corp. a prime contract worth \$121.5 million to build 13 prototypes for the Engineering, Manufacturing and Development (EMD) of the Amphibious Combat Vehicle Phase 1, Increment 1 (ACV 1.1).

"We are honored to have been selected by the U.S. Marine Corps to deliver a truly amphibious solution that will support infantry Marines ashore," said Tom Watson, SAIC senior vice president and general manager of the Navy and Marine Corps customer group. "Our solution provides the Marine Corps with an ACV that is fully-protected and has superior maneuverability with amphibious ship-to-shore capability. We are pleased that

the protest for this program has been favorably resolved. Now, SAIC and the Marine Corps can move forward on this important program."

During the EMD phase, SAIC, along with teammate ST Kinetics, will provide the Marine Corps with 13 prototypes that will be tested next year. Work will be performed primarily in SAIC's facility in Charleston, South Carolina, where the company is currently providing the Marine Corps with initial survivability upgrades to 10 Assault Amphibious Vehicle (AAV) prototypes.

SAIC and ST Kinetics' enhanced ACV 1.1 solution, called TERREX 2, is an 8x8 wheeled, armored ACV with improved mobility that can transport a combat load of up to 11 embarked Marines and three crew members through hostile territory. On land, TERREX 2's independent suspension system improves ground mobility and ride quality for U.S. Marines. In water, TERREX 2's hydraulically driven propulsion systems with full independent thrust control authority allows safe operation at Sea-State 3 and through six-foot plunging surf.

"ST Kinetics is pleased to be informed of the Marine Corps' selection of the TERREX 2 for the next phase of evaluation for the ACV 1.1 program," said President of ST Kinetics Ravinder Singh. "Following GAO's decision to proceed with the ACV 1.1 program, and together with our teammate SAIC, ST Kinetics now moves into the EMD phase of the ACV program."

For more than 10 years, SAIC has modified and upgraded armored vehicles for the Department of Defense ensuring warfighters are protected during combat, while securing command and control and repair capabilities. ST Kinetics is one of Asia's leading land systems and specialty vehicles companies having delivered hundreds of TERREX 1 vehicles to the Singapore Armed Forces as well as the Warthog, a twin chassis, multi-purpose articulated tracked carrier, to the British Armed Forces.



Contracts

Oshkosh to Upgrade the US Army's Heavy Tactical Vehicles



Oshkosh Defense, LLC, an Oshkosh Corporation company, will recapitalize 1,212 Family of Heavy Tactical Vehicles (FHTV) and produce 345 trailers following multiple orders from the U.S. Army valued at more than \$430 million. Oshkosh will upgrade the Army's fleet of Heavy Expanded Mobility Tactical Trucks (HEMTT) and Palletized Load

Systems (PLS) to provide the same performance and life cycle cost advantages as new production vehicles. All work performed under the contract will be completed in Oshkosh, Wis., with deliveries occurring from 2016 to 2017.

“We understand the critical need to improve reliability for in-theater operations without sacrificing performance on aging vehicle fleets,” said John Bryant, senior vice president of Defense Programs at Oshkosh Defense. “That is why Oshkosh recapitalized vehicles are assembled on the same production line as new vehicles, and complete the same extensive performance tests and inspection procedures as new vehicles.”

Since 1995, Oshkosh has recapitalized more than 12,000 of the U.S. Army’s heavy vehicles to equip soldiers with the latest technology and safety upgrades to achieve operational readiness. Through recapitalization, heavily used vehicles are returned to Oshkosh, stripped to the frame rails and completely rebuilt to like-new condition.

The Oshkosh HEMTT is the backbone of the Army’s logistics fleet with a 13-ton payload and multiple variants for a wide range of operations. 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 Oshkosh PLS A1 supports the Army’s distribution and resupply system by providing unparalleled performance for loading, unloading and delivering ammunition and other critical supplies needed in battle. The PLS carries a wide range of cargo and is specially designed to load and unload a variety of flatrack or ISO compatible containers on its own. The latest configurations of FHTV trucks also include air-conditioned and armor-ready cabs, electrical upgrades and anti-lock braking to help keep soldiers safe.

Defence Industry

Oshkosh Announces \$243 M for Next Generation Light Tactical Vehicles



Oshkosh Defense, LLC, an Oshkosh Corporation company, announced today that the U.S. Army has placed an order for the Joint Light Tactical Vehicle (JLTV) program including 657 vehicles, 2,977 installed kits and related support. The order, which will serve both the U.S. Army and Marine Corps, is valued at more than \$243 million.

“The JLTV program is providing our Soldiers and Marines with the world’s most capable light tactical vehicle,” said Wilson R. Jones, Oshkosh Corporation president and chief executive officer. “The Oshkosh JLTV will be the platform our troops depend on to keep them safe as they perform future military operations outside-the-wire.”

The JLTV program remains a top priority for the Department of Defense, filling a critical capability gap for the U.S. Army and Marine Corps by replacing a large portion of the legacy uparmored HMMWV fleet with a modern light protected vehicle. The JLTV provides unprecedented protection and off-road mobility, as well as transportability via air, land and sea. The JLTV production contract calls for Oshkosh to deliver a total of nearly 17,000 vehicles, as well as kits and services over an eight-year period with first vehicle delivery in October 2016. The vehicles, trailers and installed kits for this order will be delivered by first quarter FY18.

Exhibitions

TATRA TRUCKS at Defexpo India 2016



TATRA TRUCKS will present their products at the trade fair of defense technology Defexpo India 2016, which will be held from 28 to 31 March 2016 in India, in the town of Quito, the state of Goa.

TATRA sincerely invite all those interested to visit our stand, located in Hall 3, booth labeled 3.2.3.

The Indian Army has more than 8,000 TATRA vehicles, making it one of the most active users of this technology. At Defexpo, TATRA TRUCKS will present the TATRA FORCE model range vehicle with AWD 8x8. In the future this advanced range should replace the older TATRA vehicles with 4x4 up to 12x12 configurations.