



## SCIENCE, TECHNOLOGY AND PROCUREMENT

Science, Technology and Procurement news items have been grouped into the following sections:

- **Industry**
- **Manufacturing**
- **Policy and Standards**
- **Systems**
- **New Technology**
- **Contracts**

All information has been gathered from open source websites and links to the original information is included with each item.

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## INDUSTRY

### **BERGER BULLETS JOINS NAMMO GROUP**

11 Oct 2016. Nammo is proud to announce that Berger Bullets, a global leader in the manufacturing of premium rifle bullets, has joined the Nammo Group. Berger Bullets joins an existing family of premium Nammo commercial ammunition components and ammunitions brands – SK, Vihtavuori and Lapua. The addition of Berger Bullets to Nammo unifies four brands that all share one common goal, which is producing the ultimate in precision performance. The four brands will continue to operate as unique brands servicing precision rifle shooters, while working together to enhance their collective offerings and services.

<https://www.nammo.com/news-and-events/news/berger-bullets-joins-nammo-group/>

### **SAAB ACQUIRES MINE COUNTER MEASURES MANUFACTURER NORDIC DEFENCE INDUSTRIES**



19 Oct 2016. Saab has acquired Denmark's Nordic Defence Industries (NDI) that manufactures mine disposal charge systems for the naval defense industry. "With the acquisition, our regional footprint will be strengthened as well as our role as a global supplier of Mine Counter Measure solutions," said Görgen Johansson, head of business area Dynamics in a statement Tuesday.

One of NDI's products is DAMDIC, a mine disposal charge, carried to the mine by a remotely operated vehicle such as Saab's Double Eagle. The company will be integrated into Saab's business area Dynamics within its Underwater Systems business unit. The combination of Saab's experience and knowledge from

the AUV/ROV (Autonomous Underwater Vehicle/Remotely Operated Vehicle) market and NDI's innovative mine disposal solutions will create Mines Counter Measure (MCM) house within Saab.

### **QINETIQ ACQUIRES DEFENSE UNIT FROM MEGGITT**

Mosquito UHV-T Manufactured by Meggitt Target Systems

3 Dec 2016. Meggitt has sold its defense unit to UK firm QinetiQ for 57.5 million pounds (\$71 million) as the aerospace and engineering group intends to focus on its larger market. The unit, which provides unmanned aerial, naval and land-based target systems to 40 different countries from bases in Britain and Canada, is expected to make 5.5 million pounds of operating profit this year, QinetiQ announced Wednesday.

Defense technology firm QinetiQ also stated that the unit Meggitt Target Systems would help it to drive growth in international markets as it generates 90 percent of its revenues outside the UK.



[http://www.defenseworld.net/news/18030/QinetiQ\\_Acquires\\_Defense\\_Unit\\_From\\_Meggitt#.WJMwkm8rLmE](http://www.defenseworld.net/news/18030/QinetiQ_Acquires_Defense_Unit_From_Meggitt#.WJMwkm8rLmE)

## **QINETIQ WINS \$1.2 BILLION CONTRACT TO MODERNIZE UK MILITARY TEST, EVALUATION SERVICES**

3 Dec 2016. QinetiQ has won a £1 billion (\$1.26 billion) contract from the UK Ministry of Defense to upgrade the test and evaluation services that is being delivered at three sites across the country. Under a 25-year long-term partnering agreement (LTPA), the company has been providing test and evaluation services to the MoD since 2004, the company announced Friday.

A mid-term revision of the contract has resulted in investments in a number of areas. This will include the modernization and continued operation of air ranges at MoD Aberporth in Wales and MoD Hebrides in Scotland, plus test aircrew training at the Empire Test Pilots' School at Boscombe Down in Wiltshire. The MoD and Qinetiq are investing £180 million into the modernization of these facilities and equipment to support the continuation of the LTPA contract. Some £95 million will be invested in new tracking equipment, instrumentation and range infrastructure at the Aberporth and Hebrides ranges, which will reduce the cost of operations.

[http://www.defenseworld.net/news/17857/Qinetiq\\_Wins\\_1\\_2\\_Billion\\_Contract\\_To\\_Modernize\\_UK\\_Military\\_Test\\_Evaluation\\_Services#.WJMzP28rLmE](http://www.defenseworld.net/news/17857/Qinetiq_Wins_1_2_Billion_Contract_To_Modernize_UK_Military_Test_Evaluation_Services#.WJMzP28rLmE)

## **BERETTA ACQUIRES VICTRIX ARMAMENTS BRAND FROM ITALIAN FIRM ROTTIGNI**

17 Jan 2017. Beretta has acquired Victrix Armaments brand (victrixarmaments.com) from Officina Meccanica Rottigni, an Italian company based in Cazzano Sant'Andrea (BG). The acquisition helps Beretta to broaden its position in the rifle segment and further expand its already wide range of products and customer base.

Beretta will market the Victrix product lines – Victoria (Competition), and Minerva (Defense & Law Enforcement) – and will develop new solutions starting from a line of extreme long range rifles in .408/.375 CheyTac, as well as .50 BMG calibers, the company announced Monday. These products will complement and expand the fine line of Sako and Tikka rifles already marketed by Beretta in the US.

[http://www.defenseworld.net/news/18242/Beretta\\_Acquires\\_Victrix\\_Armaments\\_Brand\\_From\\_Italian\\_firm\\_Rottigni#.WJMpmG8rLmE](http://www.defenseworld.net/news/18242/Beretta_Acquires_Victrix_Armaments_Brand_From_Italian_firm_Rottigni#.WJMpmG8rLmE)

# MANUFACTURING

## **RHEINMETALL AND DAY & ZIMMERMANN JOIN FORCES TO MAKE MEDIUM-CALIBRE AMMUNITION FOR THE US MARKET**

6 Dec 2016. Germany's Rheinmetall and the family-owned enterprise Day & Zimmermann (D&Z) have established a joint venture company. The two firms announced the move at the AUSA show in Washington D.C. in October 2016. Serving as general contractor or subcontractor, the new joint venture will design, develop and manufacture state-of-the-art ammunition for the US market. These include the 25mm ammunition for the F35 Joint Strike Fighter, the US Air Force's latest warplane. Trading under the name Rheinmetall, Day & Zimmermann Munitions (RDZM), the company will operate out of Rosslyn, Virginia.

<https://www.defenceprocurementinternational.com/news/air/rheinmetall-and-dandz>

## **AEROJET ROCKETDYNE DELIVERS 2,500TH PAC-3 CRI MISSILE AND 500,000TH PAC-3 ACM**

16 Jan 2017. Aerojet Rocketdyne, a subsidiary of Aerojet Rocketdyne Holdings, Inc. (NYSE:AJRD), announced today it has achieved the milestone shipment of the 2,500th PATRIOT Advanced Capability-3 (PAC-3) Cost Reduction Initiative (CRI) Solid Rocket Motor and its 500,000th PAC-3 Attitude Control Motor (ACM) to Lockheed Martin. Aerojet Rocketdyne produces 180 solid propellant ACMs used on each PAC-3 CRI interceptor that enable the high-velocity interceptor to maneuver so it can defend against incoming targets, including tactical ballistic missiles, cruise missiles and aircraft.

<http://www.rocket.com/article/aerojet-rocketdyne-delivers-2500th-pac-3-cri-missile-and-500000th-pac-3-acm>

## **BAE SYSTEMS WINS \$177 MILLION FOR NEW NITROCELLULOSE FACILITY AT RADFORD ARMY AMMO PLANT**



20 Jan 2017. BAE Systems was awarded a \$177 million contract for construction and commissioning of the new nitrocellulose facility at the Radford Army Ammunition Plant. Work is to be completed by Dec. 31, 2018, the US department of defense said in a statement Friday.

Radford is capable of producing mass quantities of solvent and solventless propellants to support direct fire, indirect fire, and rocket applications. The facility uses a variety of ingredients in its propellant-making process, including nitroglycerin and nitrocellulose. Radford currently is the primary supplier of solventless propellants, and is the only North American manufacturer and supplier of nitrocellulose.

[http://www.defenseworld.net/news/18280/BAE\\_Systems\\_Wins\\_177\\_Million\\_For\\_New\\_Nitrocellulose\\_Facility\\_At\\_Radford\\_Army\\_Ammo\\_Plant#.WJMmi28rLmE](http://www.defenseworld.net/news/18280/BAE_Systems_Wins_177_Million_For_New_Nitrocellulose_Facility_At_Radford_Army_Ammo_Plant#.WJMmi28rLmE)

## **RHEINMETALL'S LYNX - MINIMISING TECHNICAL RISK AND COST**

24 Jan 2017. German arms manufacturer Rheinmetall used the international defence exhibition Eurosatory 2016 in Paris to unveil the demonstrator for its new Lynx Infantry Fighting Vehicle (IFV).

The Lynx features the two-man 360° LANCE medium-calibre turret based on the Modular Turret System developed by Rheinmetall, which is designed with an internal ballistic protection for the crew. There are no weapons or ammunition stowed in this compartment and the main and co-axial weapons are stored in cradles at the front of and external to the compartment. The main armament is a stabilised 30 mm x 173 MK30-2/ABM cannon also used by the Puma AIFV, but it can also be equipped with a 35 mm cannon based on customer requirements.

<https://www.defenceprocurementinternational.com/features/land/rheinmetalls-lynx>

# POLICY AND STANDARDS

## **NEW EU-FUNDED RESEARCH PROGRAMME CLOSE TO ITS FORMAL LAUNCH**

31 Jan 2017.

The European Commission is close to launching the first-ever use of the European Union's (EU's) budget to formally finance defence research. Known as the "preparatory action in defence research" (PADR), the three-year programme will have a budget of EUR90 million (USD96 million) and is expected to fund more than a dozen projects during 2017-19, according to EU officials.

To lay the groundwork for PADR, a brief test phase was conducted involving three pilot projects in 2016. "There are already some lessons learnt from the three pilot projects' negotiations and launch last year," an EU defence policy official said on 27 January.

<http://www.janes.com/article/67351/new-eu-funded-research-programme-close-to-its-formal-launch>

# SYSTEMS



## **NEW MOBILE VSHORAD POSITIONED TO REPLACE GERMAN STINGER-BASED LEFLASYS**

1 Jun 2016. Rheinmetall and MBDA launched today a mobile air defense system designed to defeat aerial targets at close- and very close-range, including small and very unmanned aerial systems (UAS, LSS). Providing escort for mobile and mechanized forces, the system employs MBDA's Mistral guided missiles mounted on Rheinmetall's MPCS turret.

## **FRANCE AND ITALY JOIN TOGETHER TO DEVELOP ASTER 30 BLOCK 1 NT**

14 Jun 2016. Today in Paris, the Italian Minister of Defence, Roberta Pinotti, and the French Minister of Defence, Jean-Yves Le Drian, signed a 'Cooperation Arrangement' agreement which aims to pursue the joint development of the Aster 30 Block 1 NT missile. With this agreement, Italy is joining with France who launched the development programme in December 2015.

The Aster 30 Block 1 NT programme comprises, in addition to the upgrade of the Aster missile, the modernization of the SAMP/T systems currently in service with the French Air Force and the Italian Army. These systems as a result will see themselves featuring enhanced capabilities notably against ballistic missiles and thereby making essential contributions to the NATO programme in this domain.

<http://www.mbda-systems.com/press-releases/france-and-italy-join-together-to-develop-aster-30-block-1-nt/>



## **RHEINMETALL UPS TANK FIREPOWER WITH NEW 130MM GUN**



15 Jun 2016. The new 130 mm gun is a precondition for the future tank, known as 'Main Ground Combat System' (MGCS) being developed by Germany. MGCS is currently being developed by Germany and France as a future replacement for the Leopard 2 and Leclerc main battle tanks.

The new cannon is designed for integration in new main battle tanks. It has a vertical sliding breech mechanism and increased chamber volume handling larger, more energetic kinetic ammunition. The breech mechanism with the recoil system weighs about three tons. The barrel weighs 1,400 kg and has chrome lined smooth bore.

[http://defense-update.com/20160614\\_rheinmetall-ups-tank-firepower-with-new-130mm-gun.html](http://defense-update.com/20160614_rheinmetall-ups-tank-firepower-with-new-130mm-gun.html)

## JAVELIN BLOCK 0 AND BLOCK 1 MISSILES SCORE A PERFECT 5 FOR 5 IN UK GROUND VEHICLE TESTS

15 Jun 2016. The Javelin™ Joint Venture team successfully demonstrated Javelin's ability to engage targets beyond its current 2.5 kilometer range requirement during a series of ground vehicle launch tests. During the U.K. Army-sponsored tests, the Javelin missiles were mounted on a Spartan armoured fighting vehicle and fired via the Kongsberg M151 Remote Weapon Station. Each missile flew between 1.2 and 4.3 kilometers, hitting the stationary ground target in each test.

<http://raytheon.mediaroom.com/2016-06-15-Javelin-Scores-a-perfect-5-for-5-in-UK-ground-vehicle-tests>

## TEXTRON SYSTEMS AND THALES SUCCESSFULLY TEST FURY® WEAPON GUIDANCE PACKAGE

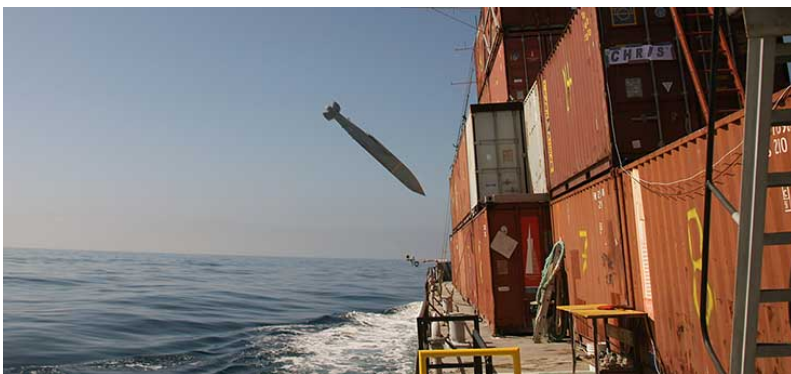
11 Jul 2016. Textron Systems and Thales announced today the successful testing of the Fury® lightweight precision guided glide weapon from the Shadow® Tactical Unmanned Aircraft System (TUAS) against static vehicle targets. The Fury was tested from a Textron Systems' Shadow TUAS and was released from 8,000 feet altitude, conducted a Global Positioning System (GPS) guided fly-out maneuver and transitioned to the Semi-Active Laser (SAL) guided terminal engagement, directly striking a static vehicle target.



“We are delighted with the recent success of Fury,” says Thales General Manager Philip McBride. “Building on the technology used in the Lightweight Multirole Missile (LMM), this latest addition to the LMM family has proven the precision of the munition. The weapon utilizes advanced technologies including GPS guidance with SAL terminal seeker and a mature warhead equipped with tri-mode fuzing for optimized engagement against a range of stationary and moving targets.

<http://investor.textron.com/news/news-releases/press-release-details/2016/Textron-Systems-and-Thales-Successfully-Test-Fury-Weapon-Guidance-Package/default.aspx>

## NEW JSOW C-1 READY FOR US NAVY FLEET



12 Jul 2016. Raytheon and the U.S. Navy have completed all operational tests for the Joint Standoff Weapon C-1, making this newest variant of the guided glide weapon ready for US Navy fleet release and declaration of Initial Operational Capability. JSOW is a family of low-cost, air-to-ground weapons that employ an integrated GPS-inertial navigation system with advanced guidance algorithms. JSOW C prosecutes fixed land targets and uses an imaging infrared seeker for increased accuracy in the terminal phase. JSOW C-1 is the world's first network-enabled weapon with a range of more than 100 kilometers.

<http://raytheon.mediaroom.com/2016-07-12-New-JSOW-C-1-ready-for-US-Navy-fleet>



## **MBDA SHOWCASES THE SPEAR 3 PRECISION STRIKE MISSILE FOR THE F-35**



12 Jul 2016. MBDA showcased its next generation air-launched networked precision strike weapon at the Farnborough International Air Show. SPEAR, for which the company has recently been awarded a £411M weapon development contract by the UK MOD. It is to be operated by the United Kingdom's F-35 Lightning II and will provide the aircraft with a unique strike capability, fully exploiting its advanced sensor and network capabilities. There is also an option to equip the Eurofighter Typhoon for future phase enhancements.

## **MBDA DEMONSTRATES BRIMSTONE MISSILE LIVE FIRING FROM APACHE HELICOPTER**

MBDA and Boeing have successfully completed a series of physical trials and firings of Brimstone on the AH-64E attack helicopter to confirm the feasibility of integrating the missile with the United Kingdom's future Apache AH-64E fleet. These trials validate a prior UK MOD study contract with MBDA and Boeing that confirmed integration was expected to be low risk. The programme was funded by a UK Ministry of Defence (MOD) contract, awarded to MBDA in September 2015.

These firings demonstrated the capability of the weapon to guide using Brimstone's Semi-Active Laser (SAL), Dual Mode SAL/millimetric wave (mmW) and fully autonomous mmW guidance modes. The weapon releases were from hovering, moving and manoeuvring/banking scenarios against Main Battle Tanks and Pickup Truck targets.



<http://www.mbda-systems.com/press-releases/mbda-demonstrates-brimstone-missile-live-firing-from-apache-helicopter/>

## **US NAVY CONDUCTS TEST FIRING OF SEARAM ANTI-SHIP MISSILE DEFENSE SYSTEM**

17 Aug 2016. The U.S. Navy conducted its first firing from the SeaRAM® anti-ship defense system produced by Raytheon (NYSE: RTN) installed on the USS Carney stationed in Rota, Spain. The SeaRAM® detected, tracked and engaged an inbound BQM-74E target, intercepting it with a RAM Block II missile in a mid-July test. USS Carney is the second of four guided-missile destroyers stationed near the Mediterranean Sea to receive a SeaRAM system.

Intended to enlarge Phalanx's keep-out range against evolving anti-ship missiles, rotary- and fixed-wing aircraft and other threats, SeaRAM Anti-ship Missile Defense Systems use advanced Phalanx Block 1B sensors and replace the gun with an 11-round Rolling Airframe Missile guide.

[http://www.deagel.com/news/US-Navy-Conducts-Test-Firing-of-SeaRAM-Anti-Ship-Missile-Defense-System\\_n00015522.aspx](http://www.deagel.com/news/US-Navy-Conducts-Test-Firing-of-SeaRAM-Anti-Ship-Missile-Defense-System_n00015522.aspx)

## ORBITAL ATK TO CONVERT ITALY'S HARM TO AARGM



27 Sep 2016. Orbital ATK has won a \$14.7 million contract for the conversion of Italy's AGM-88B High-Speed Anti-Radiation Missiles (HARM) into Advanced Anti-Radiation Guided Missile (AARGM). The contract also includes related supplies and services necessary for manufacture, sparing, and fleet deployment of the missiles for Italy, the US department of defense said in a statement Sunday. Work is expected to be completed in September 2018.

<http://www.defenseworld.net/news/17194/Orbital-ATK-To-Convert-Italy-s-HARM-To-AARGM#.WJM9MW8rLmE>

## MBDA DEUTSCHLAND SUBMITS PROPOSAL FOR TLVS/MEADS

28 Sep 2016. MBDA Deutschland GmbH submitted its proposal for the development of TLVS, Germany's future ground-based air defence system, to BAAINBw (the Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support).

TLVS, based on Medium Extended Air Defense System (MEADS) technology, will provide unprecedented protection for both civilians and soldiers on operations either at home or abroad. Special system features include: 360-degree coverage, open system architecture and a "plug & fight" capability. This latter feature allows the attaching and detaching of additional sensors, effectors and weapon systems during uninterrupted operation, as well as rapid deployment.



<http://www.mbda-systems.com/press-releases/mbda-deutschland-submits-proposal-for-tlvsmeads/>

## FIRST BATCH OF NEW TAURUS MISSILES DELIVERED TO SOUTH KOREAN AIR FORCE

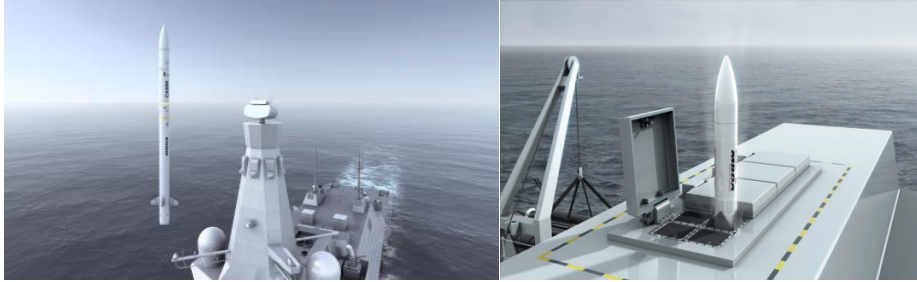
14 Oct 2016. The first batch of long-range missiles Taurus KEPD 350k missiles were delivered to South Korea's Air Force. A hand-off ceremony took place at the headquarters of the missiles' manufacturer, Taurus Systems GmbH, in Schrobenhausen, Bavaria, and featured South Korean officials and representatives from the country's Defense Acquisition Program Administration (DAPA).



The upgraded 350K is designed to engage high-value targets through dense air defenses at a low terrain. It is a modular stand-off missile system chiefly employed for precision strikes. The system also combines blast-and-fragmentation capabilities and penetration capabilities used for buried or hard targets in its dual stage warhead system.

<https://sputniknews.com/asia/201610141046348734-first-aurus-missile-south-korea/>

## **MBDA TO DEMO SEA CEPTOR FOR TYPE 26**



4 Nov 2016. MBDA was awarded a £100 million demonstration and manufacture contract by the UK Ministry of Defence (MoD) for the Sea Ceptor air defence system for the UK Royal Navy's new class of frigate, the Type 26 (T26) Global Combat Ship (GCS). The advanced missile system will provide the principal air defence of the T26 and nearby ships against advanced airborne threats including sea-skimming anti-ship missiles, fast jets, helicopters, and UAVs.

<https://www.defenceprocurementinternational.com/news/maritime/sea-ceptor-for-type-26>

## **ROYAL NORWEGIAN AIR FORCE TESTED IRIS-T IN AIR-TO-GROUND MISSION**

8 Dec 2016. The functionality of the short-range air-to-air missile IRIS-T (Infra Red Imaging System Tail/Thrust Vector-Controlled), produced by Diehl Defence, Germany, and having been selected for the combat jets Eurofighter/Typhoon, F-16, EF-18, Tornado and Gripen, has again been extended.

After its initial optimization for air-to-air use, it has already been procured for short-range (IRIS-T SLS) ground-based air defence. Now functionality has been enhanced with an air-to-surface engagement capability. This basic air-to-ground capability provides the ability to acquire, track and engage individual ground targets like boats/ships, small buildings and vehicles and has been successfully verified in September 2016 by a test firing from a Norwegian F-16.

<http://www.diehl.com/en/nc/diehl-defence/press/royal-norwegian-air-force-tested-iris-t-in-air-to-ground-mission.html>

## **US NAVY'S STANDARD SM-6 DUAL 1 INTERCEPTS BALLISTIC MISSILE TARGET AT SEA**

19 Dec 2016. The U.S. Navy fired two Standard Missile-6 Dual I guided missiles, developed by Raytheon Missile Systems (NYSE: RTN), from the USS JOHN PAUL JONES (DDG-53) during a recent test event, intercepting a medium-range ballistic missile target at sea in its final seconds of flight. The SM-6 is the new Sea-Based Terminal variant of the company's versatile missile portfolio. SM-6 provides U.S. Navy vessels with extended-range protection against fixed- and rotary-wing aircraft, unmanned aerial vehicles, cruise missiles and ballistic missiles in the terminal phase of flight, and an offensive capability against surface targets.

[http://www.deagel.com/news/US-Navys-Standard-SM-6-Dual-1-Intercepts-Ballistic-Missile-Target-at-Sea\\_n000015976.aspx](http://www.deagel.com/news/US-Navys-Standard-SM-6-Dual-1-Intercepts-Ballistic-Missile-Target-at-Sea_n000015976.aspx)

## **MBDA CARRIES OUT SUCCESSFUL TESTS WITH ENFORCER**

15 Dec 2016. MBDA has successfully tested the lightweight missile, known as ENFORCER, as part of its ongoing development programme. The firings with the development prototype were conducted at ranges of between 1,000m to 2,000 m and confirmed expectations with regard to the weapon's homing head, which guided the missile directly to the centre of each of the intended targets.

The Enforcer concept is a new lightweight, disposable shoulder-launched guided munition in the 2 km class. Modular design offers prospect of a future family of Enforcer munitions.

Key features of Enforcer at a glance:

- Fire-and-forget missile system
- Range up to 2,000m
- High precision over full range
- Lock-on before launch (LOBL)
- Capability against lightly armoured and soft skinned targets
- Effect against targets behind cover through airburst capability
- Multi-effects warhead
- Enclosed space firing capability



<http://www.mbda-systems.com/innovation/preparing-future-products-3/enforcer/>

## **NORWAY'S JOINT STRIKE MISSILE COMPLETES FLIGHT TEST IN US**

22 Dec 2016. The Norwegian Armed Forces' joint strike missile (JSM) has successfully completed a flight test in the US. Designed for F-35 Lightning II joint strike fighter, the missile was tested aboard an Edwards Air Force-based F-16 over the Utah Test and Training Range west of Salt Lake City.



The JSM is a long-range anti-surface missile primarily designed to be integrated within the F-35's internal carriage, enabling engagement of targets across long distances. It features an advanced engagement planning system, accurate navigation system for flight close to terrain and an imaging target seeker for discrimination of land and non-targets.

<http://www.airforce-technology.com/news/newsnorways-joint-strike-missile-completes-flight-test-in-us-5703750>

## **UKRAINE TO DEVELOP NEW AIR DEFENSE MISSILE SYSTEM**

9 Jan 2017. Ukraine has approved a program to develop new air defense system, including a new medium-range missile. This new Ukrainian air defense system will strengthen the capacity of Ukrainian armed forces to protect its airspace.

This new surface-to-air missile will have the capacity to destroy aircraft but also all types of helicopters, drones and cruise missiles at medium and short distances. The new air defense system DNIPRO has all-weather capability during day and night. The system provides a detection range of more than 150 km and coverage to an altitude up to 7,000m. It can destroy aerial targets from a distance of 15 m to 25 km. The system can be deployed and prepared for firing in less than four minutes.

[http://www.defenseworld.net/news/18159/Ukraine\\_To\\_Develop\\_New\\_Air\\_Defense\\_Missile\\_System#.WJMsLW8rLmE](http://www.defenseworld.net/news/18159/Ukraine_To_Develop_New_Air_Defense_Missile_System#.WJMsLW8rLmE)

## **US ARMY DEVELOPING ABRAMS TANK REPLACEMENT BY 2030**

14 Jan 2017. The US Army is developing design concepts for an assortment of sophisticated new tank platforms. The Service's Tank Automotive Research, Development and Engineering Center (TARDEC), in charge of the necessary design and simulation modeling, and conceptual work, is overseeing the project. Still in the concept phase, but projected to enter service in the 2030s, Army officials explained that a new tank is necessary as the current main battle tank, the M1A2 SEP Abrams, can only be upgraded to a limited extent.

Before a new vehicle can be deployed, the Army must field its upgraded M1A2 SEP v4 Abrams tank in the 2020s. This perhaps-last Abrams variant is equipped with more lethal Advanced Multi-Purpose ammunition (AMP), integrating many rounds into one 120mm round. The four tank rounds currently in use will be replaced by the AMP round. The Multi-Purpose Anti-Tank (MPAT) round, M830A1, and the M830, and High Explosive Anti-Tank (HEAT) round are now in service.

<https://sputniknews.com/military/201701141049580748-us-to-replace-abrams-tank/>

## **TOMAHAWK CRUISE MISSILES TO BECOME DUAL-MISSION, ASSUME ANTI-SHIP ROLE**

17 Jan 2017. New capabilities introduced to the new batch of Block IV Tomahawk Land Attack Cruise Missiles (TLAM) are transforming the weapon of the 1980s into a smarter, more versatile 21st century weapon. Recent updates now becoming standard in the system added network-enabled capabilities to the weapon, enabling in-flight retargeting capabilities. Impressed with the new capabilities the Navy is planning to deploy the retargetable, modernized land-attack Block IV weapon on board ships as a dual-mission 'Maritime Strike Tomahawk' (MST).

Fielding of MST is scheduled to begin this year (2017) as a quick reaction program, and include a production series of some 4,000 missiles. Tomahawk is used by U.S. and British forces to defeat integrated air defense systems and strike high-value, fixed and moving targets. The new Block IV Tomahawk is the longest range weapon operated by the U.S. Navy from surface ships. The recent tests conducted by the U.S. Navy were part of the weapon's evolution.

[http://defense-update.com/20170117\\_tomahawk-2.html](http://defense-update.com/20170117_tomahawk-2.html)

## **JAPAN AND UK TO START JNAAM MISSILE DEVELOPMENT BY END OF 2017**

18 Jan 2017. Japan and Britain are pushing ahead with the development of a new air-to-air missile in 2017 and the technical feasibility study for the Joint New Air-to-Air Missile (JNAAM) is slated to be completed before the end of 2017.

Work on the JNAAM project started in November 2014 as an attempt to merge the AESA missile seeker from the Japanese AAM-4B missile on the body of Meteor missile jointly developed by Britain, Germany and France. Even though the new missile can travel great distances, its accuracy leaves much to be desired. The Japanese want to install an active self-homing system from their Mitsubishi AAM-4 missile, which they hope would help bring the JNAAM up to par with the very best such missiles around.

<https://sputniknews.com/asia/201701181049730392-japan-britain-missile/>

## **INDIA TEST-FIRES HOME-GROWN GUIDED PINAKA ROCKET**

24 Jan 2017. Indian Army successfully tested guided Pinaka rocket from launch complex—III of the Integrated Test Range (ITR) launch pad at Chandipur today. Defence sources were quoted as saying by PTI that the Pinaka rocket mark-II, equipped with navigation, guidance and control kit, was transformed into a "guided Pinaka".

"All the radars, electro—optical and telemetry systems at the ITR monitored the guided Pinaka throughout its flight path," said ITR Director B K Das. The guided version of Pinaka has been developed jointly by Armament Research and Development Establishment, Pune, and Hyderabad—based Research Centre Imarat and Defence Research and Development Laboratory. Chandipur ITR provided the range and launch support.



[http://www.defenseworld.net/news/18322/India\\_Test\\_fires\\_Home\\_grown\\_Guided\\_Pinaka\\_Rocket#.WJMjT28rLmE](http://www.defenseworld.net/news/18322/India_Test_fires_Home_grown_Guided_Pinaka_Rocket#.WJMjT28rLmE)



## **DAVID'S SLING MISSILE DEFENSE SYSTEM TESTED AGAINST ADVANCED THREATS**

25 Jan 2017. Israel's Missile Defense Organization (IMDO) within the Israel Ministry of Defense and the U.S. Missile Defense Agency successfully completed a series of intercept tests of Rafael/Raytheon David's Sling Weapon System (DSWS). The new system is being deployed with Israel's multi-tiered antimissile array. This is a second milestone announced by the IMDO in recent days. Earlier this month the Israel Air Force took delivery of the first Arrow-3 exoatmospheric interceptor produced by IAI. It was the fifth series of tests of the David's Sling Weapon System. The initial block of the system was delivered to the Israel Air Force in late 2015

[http://defense-update.com/20170125\\_dsws.html](http://defense-update.com/20170125_dsws.html)

# NEW TECHNOLOGY

## **SUCCESSFUL FIRING OF LARGE HYBRID ROCKET MOTOR**

3 Jun 2016. On Thursday 19th May, Nammo completed the first hot firing of the Flight-Weight Unitary Motor (FWUM) at its Green Propulsion test facility for rocket motors in Raufoss, Norway. The innovative design of this hybrid rocket motor, which is safe, controllable, low-cost and green, reflects the progress and superiority of Nammo's hybrid rocket motor technology, and places Nammo as a global leader in this area.

The test firing was a great success, as Onno Verberne, Vice President at Nammo Space and Offshore comments: "The test firing demonstrated – through a first firing and then shortly after, a second firing of the same motor – the re-start capability of Nammo's hybrid technology at large scale". During the first firing, the engine burned for the duration of 5 seconds, until it was terminated in a controlled manner by closing the main oxidizer valve. 2 hours and 35 minutes after the first pulse, the engine was restarted simply by opening the main oxidizer valve, and burned flawlessly for 10 more seconds. Ignition was performed by catalytic reaction of the oxidizer, which enables an unlimited number of restarts. During both pulses, the engine delivered stable high-performance combustion and a thrust level of 30 kN (3 tons).

<https://www.nammo.com/news-and-events/news/nammo-successfully-fires-large-hybrid-rocket-motor/>

## **RUSSIAN ARMATA TANK TO FIRE REMOTELY DETONATED 125MM SHELLS**

8 Sep 2016. Russian engineers have developed a new type of munition for the T-14 Armata main battle tank. The new "remotely-detonated" 125mm shell was designed and produced by Uralvagonzavod, the largest tank manufacturer in the world.

Oleg Sienko, the corporation's CEO, has announced the development at the Army-2016 international military expo that launched in Moscow on September 6, according to RIA Novosti. "We produced this 125mm remotely-detonated munition acting on our own initiative. We've never done anything like that before, until now. We've already completed the development, production and testing stages, and it has already entered service. And now we also offer it for export," Sienko said.

[http://www.deagel.com/news/Russian-Armata-Tank-to-Fire-Remotely-Detonated-125mm-Shells\\_n000015604.aspx](http://www.deagel.com/news/Russian-Armata-Tank-to-Fire-Remotely-Detonated-125mm-Shells_n000015604.aspx)

## **LOCKHEED MARTIN AWARDED DARPA CONTRACT FOR TACTICAL BOOST GLIDE PROGRAM**

19 Sep 2016. The Lockheed Martin Corp. has been awarded a M\$147 cost-sharing, other transaction for prototype agreement for a research project under the Tactical Boost Glide (TBG) program.

Systems that operate at hypersonic speeds—five times the speed of sound (Mach 5) and beyond—offer the potential for military operations from longer ranges with shorter response times and enhanced effectiveness compared to current military systems.

<http://www.darpa.mil/program/tactical-boost-glide>

## **INCREASING INFANTRY OVERMATCH WITH ADVANCED SHOULDER FIRED WEAPONS**

4 Oct 2016. SAAB Company announced yesterday at the AUSA convention it is studying adding enhanced, precision-engagement capability for its shoulder-fired weapons. The Massive Overmatch Assault Round (MOAR) study is part the

US Defense Advanced Research Projects Agency (DARPA's) Broad Agency initiative seeking 'Innovative Systems for Military Missions.'

DARPA's MOAR project explores new ways to increase the combat power of small vehicle mounted or dismounted units introducing a compact, multi-function precision engagement weapon that would evolve into a new category combining the lightweight and versatility of current shoulder fired weapons with the efficiency of larger, heavier and more expensive precision guided weapons.

"Saab is investigating a possible solution: a precision-guided munition for shoulder-fired weapons that provides a long-range, high-precision, multi-target capability," said Görgen Johansson, Head of Saab's Dynamics business area. "Analyzing already-established platforms allows the research to remain focused on the munition itself," he added. "Rather than developing a completely new solution, we are seeking to apply improved capabilities to existing systems – and that would translate to lower costs and faster availability."

[http://defense-update.com/20161004\\_moar.html](http://defense-update.com/20161004_moar.html)

## **US ARMY SEEKS PROPOSALS FOR BIODEGRADABLE AMMO FOR TRAINING PURPOSES**

11 Jan 2017. The US Army has sought proposals for biodegradable ammunition to be used for training purposes. According to the solicitation, "Biodegradable Composites with Embedded Seeds for Training Ammunition," the US Army currently manufactures and consumes hundreds of thousands of training rounds. These rounds (including low velocity 40mm grenades; 60mm, 81mm, and 120mm mortars; shoulder launched munitions; 120mm tank rounds; and 155mm artillery rounds) are fired at proving grounds and training ranges in the United States and around the world.

Components of current training rounds require hundreds of years or more to biodegrade. Further, civilians (e.g., farmers or construction crews) encountering these rounds and components do not know if they are training or tactical rounds. This will prove out the technology and replace current training round components with biodegradable parts. The biodegradable materials identified can be utilized by private industry to manufacture biodegradable water bottles, plastic containers, or any other composite or plastic product(s) on the market today.

[http://www.defenseworld.net/news/18192/US\\_Army\\_Seeks\\_Proposals\\_For\\_Biodegradable\\_Ammo\\_For\\_Training\\_Purposes#.WJMraG8rLmE](http://www.defenseworld.net/news/18192/US_Army_Seeks_Proposals_For_Biodegradable_Ammo_For_Training_Purposes#.WJMraG8rLmE)

## **US ARMY TEST FIRES MINIATURE HIT-TO-KILL MISSILE FROM MULTI-MISSION GROUND LAUNCHER**

17 Jan 2017.

US Army has tested fired Miniature Hit to Kill (MHTK) missile, AIM-9X Sidewinder and Hellfire missile from its new Army Multi-mission launcher (MML). The interceptor missile is developed to protect forces on the ground by destroying incoming enemy fire from artillery, rockets, mortars, cruise missiles and even drones and aircraft, Scout Warrior reported Monday.

The MML is configured to fire different kinds of weapons; the launcher recently conducted live fire exercises with an AIM-9X Sidewinder missile and an AGM-114 Hellfire missile. The Multi-Mission Launcher, or MML, is a truck-mounted weapon used as part of a Soldier protection system called Integrated Fire Protection Capability. The MML launcher can rotate 360 degrees and elevate from 0-90 degrees in order to identify and knock out approaching fire from any direction or angle.





The system uses a Sentinel radar and fire control technology to identify and destroy approaching enemy fire and protect forward-deployed forces. The technology uses a command and control system called Integrated Air and Missile Defense Battle Command System, or IBCS.

[http://www.defenseworld.net/news/18241/US\\_Army\\_Test\\_Fires\\_Minature\\_Hit\\_to\\_Kill\\_Missile\\_From\\_Multi\\_Mission\\_Ground\\_Launcher#.WJMqAG8rLmE](http://www.defenseworld.net/news/18241/US_Army_Test_Fires_Minature_Hit_to_Kill_Missile_From_Multi_Mission_Ground_Launcher#.WJMqAG8rLmE)

## US EYEING TO REPLACE CLUSTER BOMB ROUNDS WITH NEW MUNITIONS

20 Jan 2017. US officials are hoping that a new artillery warhead that would replace a cluster-bomb round could help eliminate unwanted casualties in the future. The M30A1 guided multiple launch rocket system alternate warhead recently debuted during a test fire exercise in Kuwait, US Army announced Tuesday.



The warhead is retiring an outdated round on the battlefields for US Army Central in the Middle East and southwestern Asia. "Currently, the dual-purpose improved conventional munitions round has a higher-than-acceptable rate potential to leave duds behind," said a spokesman. Older models of the dual-purpose improved conventional munitions contained hundreds of smaller "cluster bomb" explosives that were often left unexploded across the battlefield, posing a danger to civilians. The new M30A1 round is being implemented to limit duds by replacing the smaller explosives with 180,000 tungsten steel bee-bee-sized balls.

[http://www.defenseworld.net/news/18276/US\\_Eyeing\\_To\\_Replace\\_Cluster\\_Bomb\\_Rounds\\_With\\_New\\_Munitions#.WJMnD28rLmE](http://www.defenseworld.net/news/18276/US_Eyeing_To_Replace_Cluster_Bomb_Rounds_With_New_Munitions#.WJMnD28rLmE)

# CONTRACTS

## **NEW GUN FOR UK ON TYPE 26 GLOBAL COMBAT SHIP**

28 Jul 2016. The Maritime Indirect Fire System (MIFS) will be integrated onto the Type 26 Global Combat Ships, currently being designed by BAE Systems. MIFS includes the 5-inch, 62-calibre Mark 45 Naval Gun System, which is already in service with other NATO nations, including the US and Spanish navies.

BAE Systems, Weapon Systems and Munitions, based in the US, will lead on the work to bring the weapons system into service, with subcontractor work being undertaken by:

- BAE Maritime Services Frimley & Broad Oak to develop, supply and integrate MIFS gunfire control;
- BAE Munitions Glascoed, which is carrying out the UK ammunition qualification and;
- BAE Weapons Systems Barrow, which is supporting the UK equipment safety cases.

<https://www.gov.uk/government/news/183-million-deal-for-new-gun-on-type-26-global-combat-ship-sustains-43-skilled-uk-jobs>

## **FMS: NATO REQUESTS PRECISION GUIDED MUNITIONS**

11 Aug 2016. The State Department has approved a possible Foreign Military Sale to the NATO Support and Procurement Agency (NSPA) for precision guided munitions, equipment, and support. The NSPA as 'Lead Nation' has requested a possible sale of precision guided munitions for subsequent retransfer to Belgium, Czech Republic, Denmark, Greece, Netherlands, Norway, Portugal, and Spain.

Included are: 500 Joint Direct Attack Munition (JDAM) Guidance Kits, KMU-556 F/B; 40 JDAM Guidance Kits, KMU-557 F/B; 1,500 JDAM Guidance Kits, enhanced Paveway IIs; 1350 Joint Programmable Fuzes, FMU-152 A/B.

The proposed sale improves NATO members' capability to meet current and future ground threats with precision. They will use the enhanced capacity as a deterrent to regional threats, and to increase interoperability within contingency operations. Many of the purchasing nations already have precision-guided munitions in their inventories and will have no difficulty absorbing these additional munitions.

<http://www.dsca.mil/major-arms-sales/nato-support-and-procurement-agency-precision-guided-munitions>

## **MBDA WINS £184M MOD CONTRACT TO SUPPLY ASRAAMS FOR F-35B LIGHTNING II**

17 Aug 2016. MBDA has secured a £184m contract from the UK Ministry of Defence (MoD) to supply advanced short-range air-to-air missiles (ASRAAMs) for the F-35B Lightning II joint strike fighter (JSF) aircraft. Under the contract, MBDA will manufacture an additional stockpile of an updated version of the ASRAAM, which is currently in service with Royal Air Force (RAF) Typhoon and Tornado aircraft.

The advanced heat-seeking weapon will be manufactured at MBDA's new, £40m facility that is nearing completion in the Logistic North commercial development in Bolton. It has the ability to engage hostile air targets ranging in size from large multi-engined aircraft to small drones.

<http://www.airforce-technology.com/news/newsmbda-wins-184m-mod-contract-to-supply-asraams-for-f-35b-lightning-ii-4980793>

## **BOEING WINS \$700 MILLION USAF CONTRACT FOR SMALL DIAMETER BOMB I**

14 Sep 2016. Boeing has won a \$700 million contract from the US Air Force Life Cycle Management Center for Small Diameter Bomb Increment 1 (SDB) production. As per the terms of the contract, the Air Force will supply SDB I weapons of Lot 12-14 and associated carriage systems, the company announced Tuesday.

[http://www.defenseworld.net/news/17087/Boeing\\_Wins\\_700\\_Million\\_USAF\\_Contract\\_For\\_Small\\_Diameter\\_Bomb\\_I#.WJM-uG8rLmE](http://www.defenseworld.net/news/17087/Boeing_Wins_700_Million_USAF_Contract_For_Small_Diameter_Bomb_I#.WJM-uG8rLmE)



## **SAAB RECEIVES ORDER FOR RBS 70 NG**

21 Sep 2016. Defence and security company Saab have signed a contract on delivery of the new RBS 70 NG VSHORAD (very short range air defence system). The core of RBS 70 NG is the new generation sight module with integrated high-resolution thermal imager that allows for an all-target capability both day and night. The RBS 70 NG also has an advanced cueing which improves reaction times and target acquisition. With the RBS 70 NG, Saab offers state-of-the-art systems for demanding customers investing in the future.

<http://saabgroup.com/Media/news-press/news/2016-09/saab-receives-order-for-rbs-70-ng/>

## **ARGENTINA ORDERS RBS 70 NG SHORT RANGE DEFENSE SYSTEM**

13 Oct 2016. Argentina orders Swedish Saab's RBS 70 NG short-range defense (SHORAD) system. Saab had announced in late September that it had procured a \$44 million order for the RBS 70 SHORAD without disclosing the customer. IHS Janes reported quoting unnamed sources close to the Argentine Ministry of Defense Thursday.



The Argentine Navy Marine Infantry has had RBS 70 launchers since 1990s and procured new Bolide (an upgraded, faster version of the Mk 2) missiles a few years ago, and current plans are meant to standardise all three military services with the more advanced RBS 70 NG, the news daily reported. The RBS 70 weapon system has been in service in Australia since 1987. Significant enhancements to both the weapon sight and the missile have ensured that it remains a modern and potent missile system to counter a constantly evolving air threat.

According to the sources, a key consideration in favour of procuring the RBS 70, under study since 2013, is Argentina's lack of aircraft for air defence and interception after the last Mirage aircraft were retired in 2015.

[http://www.defenseworld.net/news/17342/Argentina\\_Orders\\_RBS\\_70\\_NG\\_Short\\_Range\\_Defense\\_System#.WJM6a28rLmE](http://www.defenseworld.net/news/17342/Argentina_Orders_RBS_70_NG_Short_Range_Defense_System#.WJM6a28rLmE)

## **CONTRACT AWARDED TO FULFILL DEMAND FOR ADVANCED PRECISION KILL WEAPON SYSTEM**

28 Oct 2016. The US Navy has awarded BAE Systems a contract worth \$600 million to fulfill the growing demand for Advanced Precision Kill Weapon System (APKWS) laser-guided rockets. Challenged by budget constraints and increasingly urban battlefields, militaries around the world are seeking cost-effective, precise weapon systems that limit collateral damage.

Built around BAE Systems' proprietary Distributed Aperture Semi-Active Laser Seeker technology, with a mid-body guidance section that fits between the motor and the warhead, the APKWS solution easily transforms a standard unguided 2.75-inch (70 mm) munition into a highly accurate precision laser-guided rocket. BAE Systems says this design

requires no modifications to the rocket, launch platform, or launcher system, and it allows militaries to leverage existing infrastructure and munitions investment with minimal effort and training.

<https://www.defenceprocurementinternational.com/news/air/news-precision-munitions>

## **POLAND TO BUY 70 AGM-158B JASSM ER CRUISE MISSILES**

28 Nov 2016. The State Department has approved a possible Foreign Military Sale to Poland for Joint Air-to-Surface Standoff Missiles Extended Range (JASSM-ER) and related support, equipment, and training. The Government of Poland has requested a possible sale of seventy (70) AGM-158B Joint Air-to-Surface Standoff Missiles Extended Range (JASSM-ER).

[http://www.dsca.mil/sites/default/files/mas/poland\\_16-72.pdf](http://www.dsca.mil/sites/default/files/mas/poland_16-72.pdf)

## **USAF AWARDS \$24 MILLION GRIFFIN A MISSILE CONTRACT TO RAYTHEON**

3 Dec 2016. Raytheon has been awarded the US Air Force contract worth \$24 million for Griffin A, an aft-eject missile. "Raytheon Co., Missile Systems, Tucson, Arizona, has been awarded a \$24,993,572 firm-fixed-price contract for Griffin A Block III missiles," the US Department of Defense announced Friday.

[http://www.defenseworld.net/news/17858/USAF\\_Awards\\_24\\_million\\_Griffin\\_A\\_Missile\\_Contract\\_To\\_Raytheon#.WJMykG8rLmE](http://www.defenseworld.net/news/17858/USAF_Awards_24_million_Griffin_A_Missile_Contract_To_Raytheon#.WJMykG8rLmE)



## **SAAB RECEIVES ORDER FOR CARL-GUSTAF M4**

5 Dec 2016. Defence and security company Saab has signed a contract for deliveries of the new Carl-Gustaf M4 multi-role weapon system. This is Saab's fourth customer for the system since its launch in late 2014. Deliveries will take place during 2017. The new version has all the effectiveness and versatility of the proven Carl-Gustaf system but with enhancements. These include a lightweight design (weighing less than 7 kg), a round counter and intelligent features, such as compatibility with future innovations like the intelligent sighting systems and programmable ammunition, which collectively offer significant operational improvements for the soldier.

<http://saabgroup.com/Media/news-press/news/2016-12/saab-receives-order-for-carl-gustaf-m4/>

## **HARPOON LOT 90 MISSILE CONTRACT AWARDED TO BOEING ON BEHALF OF EGYPT, SOUTH KOREA AND BRAZIL**

21 Dec 2016. Boeing is being awarded a \$207,534,768 not-to-exceed, firm-fixed-price contract for the procurement of 51 full rate production Lot 90 Harpoon weapon systems, components, and spares for the governments of Egypt (20); Korea (19); and Brazil (12).

## **SAAB RECEIVES ORDER FOR NLA**

22 Dec 2016. Defence and security company Saab has received an order [unspecified customer] for deliveries of the anti-tank weapon system NLA. Deliveries will take place during 2016 and 2017.

NLAW (Next generation Light Anti-tank Weapon) is a shoulder-launched, anti-tank missile system that attacks the tank from above. The system is originally developed for Sweden and Great Britain and it meets the requirements for a modern anti-tank weapon system in international operations as well as national defence. "There is an increased interest and demand for lightweight anti-tank weapons on the market and this order is a strong proof of our customers trust in the NLAW system" says Görgen Johansson, head of Saab business area Dynamics.

<http://saabgroup.com/Media/news-press/news/2016-12/saab-receives-order-for-nlaw/>

## **BAE SYSTEMS TO DELIVER VEHICLE MOUNTED MORTAR SYSTEMS TO SWEDISH ARMY**



23 Dec 2016. BAE Systems has received a contract for the installation of vehicle mounted mortar systems on Swedish Army CV90 Infantry Fighting Vehicles. The installation of the company's mortar system, known as Mjölner, on 40 CV90s will considerably increase the indirect fire capability of the vehicles to support mechanized battalions.

"The delivery of the Mjölner solution to the Swedish Army allows it to field a capability well adapted for the CV90 while enhancing the fleet's firepower," said Tommy Gustafsson-Rask, managing director of BAE Systems Hägglunds.

<http://www.baesystems.com/en/article/bae-systems-hagglunds-to-deliver-vehicle-mounted-mortar-system-to-swedish-army>

## **INDIA LIKELY TO FINALIZE \$660 MILLION MOBILE HEAVY ARTILLERY WEAPONS FROM L&T**

4 Jan 2017. India is set to finalize a \$660 million contract for the purchase of 100 mobile heavy artillery weapons offered by L&T. An Indian army officer, who did not wish to be named as the matter is yet to go public, said the purchase contract for the 100 guns is pending final clearance and approval. This will be the third major gun purchase for the year after a \$737-million deal with the US for buying 145 155-mm 42-caliber M777 guns and six locally-made 155-mm 45-caliber "Dhanush" guns being delivered by state-owned ordinance factory in July 2016.



An India Ministry of Defense spokesman had no comment to offer on the possibility of the deal for the 155-mm 52-caliber K9 artillery gun - modified for the army's need for a highly mobile, long-range deep fire support weapon with a higher rate of fire - being signed. The deal is a big win for Larsen & Toubro Ltd., a major Indian infrastructure and engineering company which partnered with South Korea's Hanwha Techwin to modify the howitzer for local conditions, Bloomberg Reported Wednesday.

[http://www.defenseworld.net/news/18110/India\\_likely\\_To\\_Finalize\\_660\\_Million\\_Mobile\\_Heavy\\_Artillery\\_Weapons\\_From\\_L\\_T#.WJMt9W8rLmE](http://www.defenseworld.net/news/18110/India_likely_To_Finalize_660_Million_Mobile_Heavy_Artillery_Weapons_From_L_T#.WJMt9W8rLmE)

## SAFRAN TO PROVIDE ASSM AIR-TO-GROUND BOMB GUIDANCE KITS TO FRENCH MILITARY

6 Jan 2017. Safran has been awarded a contract from the French military procurement agency, DGA to develop and manufacture new modular ASSM air-to-ground block 4 bomb kits. Safran will provide ASSM family of kits, used by France and other countries, give precision guidance to standard bombs and come in several versions, depending on the type of guidance: inertial GPS, inertial/GPS + infrared imaging, and inertial/GPS + laser, DGA said in a statement Thursday.



The guidance system kits also come with a propulsion kit. The Direction Générale de l'Armement said the contact for new kits will allow for a reduction in cost of the weapon kits, and a doubling of production capacity and new jobs in the Auvergne-Rhône-Alpes and Brittany regions of the country. Initial deliveries, which are to be conducted in tranches, will take place in 2019.

[http://www.defenseworld.net/news/18137/Safran\\_To\\_Provide\\_ASSM\\_Air\\_to\\_Ground\\_Bomb\\_Guidance\\_Kits\\_To\\_French\\_Military#.WJMtUW8rLmE](http://www.defenseworld.net/news/18137/Safran_To_Provide_ASSM_Air_to_Ground_Bomb_Guidance_Kits_To_French_Military#.WJMtUW8rLmE)

## US NAVY PLACES ORDER FOR ADDITIONAL STANDARD SM-6 MISSILES



23 Jan 2017. The U.S. Navy awarded Raytheon Company \$235 million for Standard Missile-6 all-up round production missiles and spares. The missiles will be deployed on Aegis cruisers and destroyers to support U.S. Navy fleet operations. The award funds the fourth year of full-rate production for the multi-mission missile, which recently accomplished significant testing milestones and achievements.

The contracted missiles will include an anti-surface capability. The SM-6 also set a new record for maximum down-range and maximum cross-range intercepts in over-the-horizon missions. The display of offensive capability established SM-6 as a multi-mission missile with expanded capabilities in Anti-Air Warfare, Sea-Based Terminal and Anti-Surface Warfare. SM-6 delivers a proven, over-the-horizon defensive and offensive capability by leveraging the time-tested advantages of the Standard Missile's airframe and propulsion and the active radar of the Advanced Medium-Range Air-to-Air Missile. The SM-6 uses both active and semi-active radar modes and advanced fuzing techniques.

[http://www.deagel.com/news/US-Navy-Places-Order-for-Additional-Standard-SM-6-Missiles\\_n000016075.aspx](http://www.deagel.com/news/US-Navy-Places-Order-for-Additional-Standard-SM-6-Missiles_n000016075.aspx)