

## Copernicus For The Armed Forces

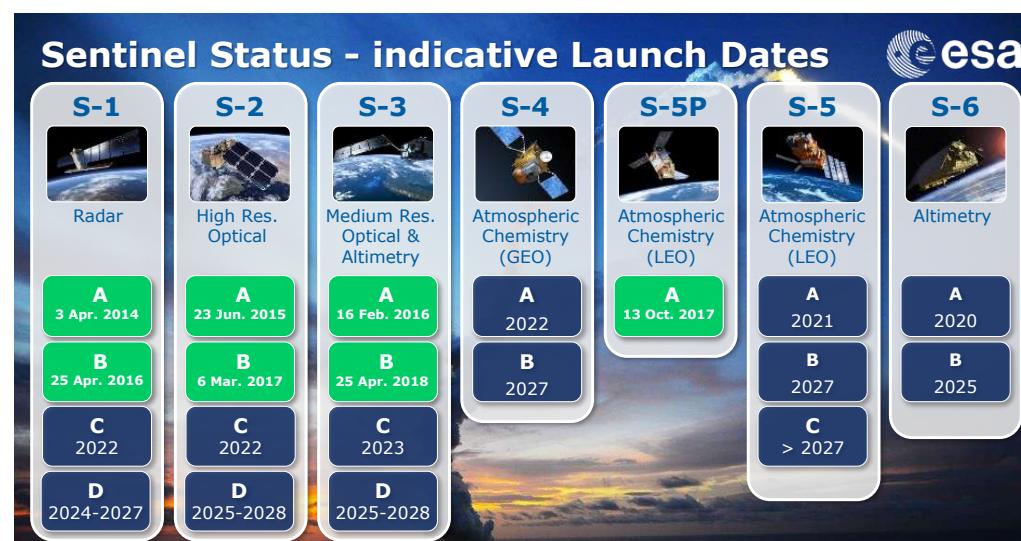
Dorothee Frank

AFCEA Europe hosted the 3<sup>rd</sup> European GeoInformation Symposium in Berlin, Germany. Here the visitors, mainly from the armed forces, met experts from the military, science and politics of NATO, the USA, the EU and several European armed forces. There was also an interesting and well-attended exhibition where industry demonstrated its capabilities. Particularly interesting was the presentation by Dr Thomas Beer, Copernicus Policy Coordinator of the European Space Agency (ESA), who gave an insight into the possibilities of Copernicus for military use.

In 2003, the ESA reinterpreted Article II of its Convention, which had been given to the Space Agency by the EU, and also rated its use by democratic armed forces as "peaceful purposes". The ESA leadership agreed at the time that "peaceful purposes" meant "non-aggressive" and not "non-military". Since then, armed forces have also been able to use the data collected by ESA systems free of charge. According to Beer, the twin brother of Galileo, Copernicus in particular offers a wide range of possibilities. All data received through Copernicus are "free, full and open" and would be safely available over a longer period of time. Under [scihub.copernicus.eu](http://scihub.copernicus.eu), state actors could register free of charge and then access all Copernicus data.

"Copernicus looks into every aspect of our life," Beer said at the symposium. In addition, the ESA has a policy of continuous availability of data. "The sentinels always exist as pairs. Moreover, we start the successors in time, so that as soon as one expires the next sentinel takes over his task." This provides the user with a highly reliable database of very good quality. The radar and high res. optical sentinels offer a 10 metre resolution.

The six types of sentinels that have been realised so far or are currently being realised are S-1 Radar, S-2 High Res. Optical, S-3 Medium Res. Optical & Altimetry, S-4 Atmospheric Chemistry (GEO) that starts in



2022, S-5P and S-5 Atmospheric Chemistry (LEO) as well as the S-6 Altimetry starting in 2020. Other sentinels likely to be realised in the future are likely to collect the following data:

- Anthropogenic CO<sub>2</sub> to determine the causes of climate change,
- Polar Ice & Snow Topography to capture the effects of climate change,
- Passive Microwave Imaging for the investigation of sea surface temperature & sea ice concentration,
- High Resolution Land Surface Temperature for agriculture & urban management services,
- HyperSpectral Imaging for agricultural management & food security, soil & mineral resources,

• L-band SAR for detection of soil, vegetation, food security & ground motion. However, the user is not only provided with data by pure Copernicus-sentinels, he can also use the data from connected missions. For example, the data of the DMC, Pléiades, Deimos-2, RapidEye or SPOT (HRS) missions are also available to Copernicus users free of charge. As of January 2019, 12,729,137 products had already been published as part of Copernicus and 198,368 registered users had downloaded 114.04 PB of data.

"Copernicus is a huge success story," Beer summarized accordingly. A success story freely provided accurate and actual data of which military users could now also benefit.

## Technology

### STH Programme R&I Issued

The German acquisition agency BAAINBw has published the Request for Information for the participation in the STH programme (heavy transport helicopter) of the Bundeswehr on the European tender platform TED. The deadline for the submission of proposals is May 27, 2019. Invitations to submit bids or to participate in selected applicants are expected to be sent on June 24, 2019. After the selection of a contractor, it is intended to conduct the contract negotiations swiftly and to conclude the supply and service contract before the end of 2020.

The programme is to cover the procurement of an STH fleet of at least 44 and a maximum of 60 heavy transport helicopters for the Bundeswehr as well as logistical support over a planned delivery period of eight years after contract award.



Potential candidates are the Lockheed Martin CH-53K and Boeing H-47F.

The size of the helicopter fleet is determined by the total annual flight hours for a fixed and a variable number of aircraft. The fixed number is determined by the contracting authority on the basis of operational obligations (e.g. CSAR). The variable number must be calculated by the provider against the background of specified transport missions. Transport volumes, flight profiles, environmental conditions and restrictions must be taken into account.

This currently results in a minimum requi-

rement of 44 (43 + one test pattern) and a maximum requirement of 60 (59 + 1 test pattern).

The delivery of the first STH is required three years after contract award, the Initial Operational Capability (IOC) is to be achieved six years after contract award, and the last STH is to be delivered eleven years after contract award. If the supply contract can be concluded in 2020, there will be an introduction from 2023 and a completion of the procurement process in 2031.

[www.baainbw.de](http://www.baainbw.de)

### Mission Clemenceau

(hum) The 3,200 strong TF 473 around the CHARLES DE GAULLE left Toulon on March 5<sup>th</sup>. The French aircraft carrier has 20 Rafale Marine, two Hawkeye air surveillance aircraft and three helicopters (one Caiman Marine and two Dauphin Pedro) on board. After a 18-month maintenance phase, the carrier will embark on its eleventh major strategic voyage as part of the Clemenceau mission.

It is accompanied by a French attack submarine (name not published), the anti-aircraft frigate FORBIN (one AS 565 Panther helicopter embarked), the two multi-purpose frigates (FREMM class) PROVENCE, LANGUEDOC (each with a Caiman helicopter on board), the ASW frigate LA TOUCHE-TRÉVILLE (two SeaLynx on board (one crew)) and the task force supplier MARNE. Temporarily and as needed, the unit is supported by MPA type Atlantique 2. On departure, the French Defence Mi-



nister Florence Parly addressed the Group Aéro Naval (GAN), which also includes the NILS JUEL frigates from Denmark and the Portuguese CORTE REAL. If the NILS JUEL remains with GAN until the end of April with its EH 101 helicopter on board, the CORTE REAL will (according to Portuguese newspaper reports) disengage after three weeks.

In the Mediterranean, HMS DUNCAN, a British TYPE 45 or DARING class destroyer, will strengthen the air defence capabilities of the formation, which left Portsmouth on March 9. It is also expected that Italian and American units will practice with the French unit during the six-month mission.

For France, the Clemenceau mission has a far-reaching political significance in addition to its contribution to the counter-DAESH/IS coalition. The strengthening of partnerships in the Indo-Pacific region has been declared a strategic priority under President Emmanuel Macron. The cultivation of military relations thus becomes an obligation. Of course, there are also (arms) economic interests behind this. For example in Australia, which recently signed a contract for 12 submarines with the French Naval Group. And India, which in September 2016 ordered a total of 36 Rafale worth €7.87 billion, first delivery in 2019. Or Egypt, which in recent years has purchased two helicopter carriers/dock landing ships, three frigates and also Rafale from France. The participation of two FREMM units, which Naval Group intends to market worldwide together with Fincantieri (Italy), is an indication of the marketing activities carried out here.

## Lynx offered for Australian Army's Land 400 Phase 3

(df) Rheinmetall offers the Lynx Infantry Fighting Vehicle (IFV) with Lance turret and the Lynx Manoeuvre Support Vehicle (MSV) for the Australian Army's Land 400 Phase 3 – Mounted Close Combat Capability Request For Tender (RFT). One special capability of the Lynx is its modular architecture resulting in a system that requires only two Lynx base vehicle configurations to achieve the nine roles sought under the Australian Army's RFT. The modular system architecture also covers the four additional roles sought in the Australia Army's Request for Information, including a mortar variant, a

logistics variant, and a protected amphibious Lynx.

The Lynx provides protection against the full spectrum of threats including blast, IED, direct and indirect fire, cluster munitions, and anti-tank guided missiles. It has an enhanced lethality combined with the mobility of a main battle tank. The featured Lance turret is already contracted to be delivered to the Australian Army under Land 400 Phase 2, and will be manufactured in Brisbane for the local and export markets. The digital Lance turret provides the crew with sensor systems, advanced automatic tracking and targeting capabilities, and weapon integrated battle management all



(Artwork: Rheinmetall)

in a connected and digitally enabled platform. This common electronic architecture provides enhanced combat effectiveness for the crew, generating a range of scalable and precise effects to deal with threats on the current and future battlefield.

[www.rheinmetall-defence.com](http://www.rheinmetall-defence.com)

## Next-Generation Air Power

(df) Yesterday companies from across the UK defence industry came together in the first opportunity for suppliers to engage with the Government and Team Tempest partners over the future of Combat Air System development in the UK. The event in Farnborough was launched by Minister for Defence Procurement, Stuart Andrew MP, and saw 300 delegates including SMEs and technology-led organisations attending to build connections and take part in a series of briefings outlining the capabilities and skills needed to shape the future of Combat Air System delivery in the UK.

"The Tempest programme guarantees the UK's position as a world-leader in air power into the future and is a huge boost for the UK defence sector," Andrew said. "Deliver-



ing this ambitious vision will see the MOD drawing on the innovation and creativity of the UK defence sector, which already supports over 18,000 highly skilled jobs across the country."

"Continuing to develop Typhoon and growing our F-35 fleet provides the route to the near-term, but we must prepare for the future now. The Combat Air Strategy with its clear commitment to an enduring UK Combat Air industrial sector is important to the RAF, as it is that sector that provides daily support to our war fighters,"

added Air Marshal Mike Wigston, Deputy Commander Capability. "The stand-up of the Combat Air Acquisition Programme, to replace what is currently delivered by Typhoon is recognition that we must start now if we are to deliver a coherent and continuous capability in the future. The Future Combat Air System Technology Initiative is the practical embodiment of the enterprise today, and the £2Bn investment demonstrates how seriously we take the challenge."

The Tempest programme will directly inform the UK's acquisition programme to succeed Typhoon. Representatives of the acquisition team were on hand at the event to explain their programme and how it interacts with the Tempest programme.

[www.baesystems.com](http://www.baesystems.com)

## Conversion Kit For Glock Pistols

(gwh) With a conversion kit for Glock pistols, the shooting performance with the pistol can be approximated to that of a rifle. The U S W - G 17 conversion kit from B&T AG consists of a stop stock, into which

the pistol can be installed in a few simple steps. The shooting performance can be further increased by adding an Aimpoint ACRO P-1 sight.

The carbine conversion system can be used for the Glock pistols of generations 3, 4 and 5. After the conversion, the gun can be used like a pistol with the stock folded. When the stock



is unfolded - and with an additional visor - the pistol carbine can achieve sufficient accuracy even at great distances. Thus the pistol can be used both as a personal defence weapon (PDW) and as a long-range weapon in terrorist situations. This is particularly important for patrol officers who may unexpectedly find themselves in a terrorist situation and often have only moderate shooting experience.

[www.bt-ag.ch](http://www.bt-ag.ch)

## Second ASAHI Destroyer Enters Service

(hum) The JMSDF (Japan Maritime Self Defence Force) put the second (and probably last) destroyer of the ASAHI class or Type 25DD into service on February 27 at the Nagasaki shipyard of Mitsubishi Heavy Industries, designated JS SHIRANUI (Pennant No. 120). The ASAHI are a further development of the AKIZUKI air defence destroyers and have been optimised for ASW. In addition to a hull sonar and a towed sonar, they have six torpedo tubes and ASM VL ASROC.



The ships also have a 127mm gun, two Phalanx, 2x4 Type 90 anti-ship missiles (Japanese Harpoon in-house development) and Evolved Sea Sparrow (ESSM). Crew is 220-230 men. ASAHI have space assigned to take a Mitsubishi (Sikorsky) SH-60K helic-

opter on the flight deck and another one in the hangar. At an operational displacement of 6,800 tons, dimensions 151x18 meters, the destroyers with their CODELAG propulsion system (two GE LM2500 gas turbines, diesel generators and electric propulsion) reach a maximum speed of 30 knots according to the Japanese Ministry of Defence.

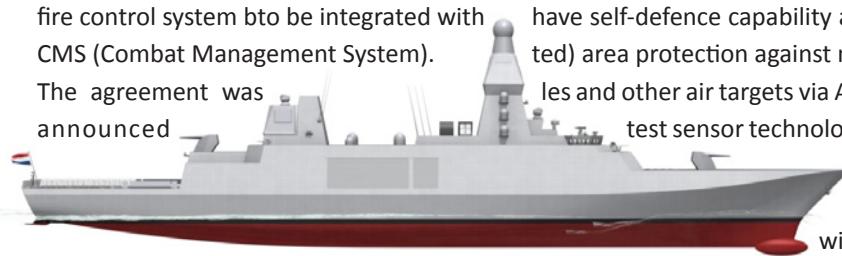
According to Jane's, JS SHIRUNI will be the first ship in the Japanese Navy to feature an Active Phased Array Radar (AESA) with periscope detection capabilities.

[www.mod.go.jp/msdf/en/](http://www.mod.go.jp/msdf/en/)

## Thales AWWS For Belgian And Dutch M-Frigates

(hum) Together with the Dutch Defence Materiel Organisation (DMO), Thales Nederland will develop and introduce AWWS, Above Water Warfare System, a (according to company statements) future-oriented fire control system to be integrated with CMS (Combat Management System).

The agreement was announced



by CEO Gerben Edelijn and Director DMO Admiral Arie-Jan de Waard on February 28 in the presence of the staff of Thales Nederland's headquarters in Hengelo. The successor of the Dutch and Belgian M-Frigates, which are expected to be introduced from 2024, manufacturer Damen, are to have self-defence capability and also (limited) area protection against modern missiles and other air targets via AWWS. The latest sensor technologies for target recognition and tracking will be used,

such as a dual-band X/S digital radar of the latest generation, which combines the capabilities of the APAR multifunction radar and the Sea Master 400. Thales promises that its advanced software architecture will allow the system to remain adaptable and upgradeable during the operational period of the vessels.

The AWWS project, for which a demonstrator is available, arose from a collaboration started a decade ago between DMO, TNO (Dutch Institute for Applied Research) and Thales.

[www.thalesgroup.com](http://www.thalesgroup.com)

## Royal Canadian Navy – Presence In The Western Pacific

(hum) With the departure of the HMCS REGINA frigate and the MV ASTERIX from Esquimalt Naval Base on Vancouver Island on February 6, the Royal Canadian Navy continues its objective of a permanent maritime presence in the Asia-Pacific region. The CITY-class frigate and fleet supplier MV ASTERIX are expecting a tight training programme with units from the Japanese, Philippine, Singapore, Malaysian and Vietnamese navies as part of Operation PROJECTION. Prior to their deployment on the margins of the G20 Summit in Osaka, Japan (June 28-29), they will support the Combined Task Force 150 (CTF 150) from March 2019 as part of Operation ARTEMIS,

which will then be led by Canada. CTF 150 is a naval coalition of 33 partner countries in the fight against terrorism operating in the Arabian Sea area and the Horn of Africa region.

After completing their support to ARTEMIS, HMCS REGINA and MV ASTERIX will resume Operation PROJECTION and continue their engagement in the Asia-Pacific region. They will participate in TALISMAN SABRE (June-August 2019), a U.S.-Australian cross-departmental exercise in Australia's EEZ.

Within the "Resolve" project, the use of MV ASTERIX is a short-term commercial five-year solution to bridge the supply gap until the arrival of (two) new PROTECTEUR-class support vessels. Originally built in



2010 as CYNTHIA in Wismar, Germany, the 182 metre long container ship was a new vessel of the PROTECTEUR class. Purchased by Federal Fleet Services, she was transformed into a fleet supplier for the Royal Canadian Navy in autumn 2015 and delivered in 2017.

HMCS TORONTO from Canada is a member of the Standing NATO Maritime Group 2.

[www.navy-marine.forces.gc.ca](http://www.navy-marine.forces.gc.ca)

## Secure Workspaces On The Smartphone

(df) Bittium has launched a multicontainer feature for the secure Bittium Tough Mobile smartphone to enable several secure container workspaces. The different container workspaces – up to five are possible – are completely isolated from each other and the user's personal data and applications.

From each individual workspace there is a secure connection to the data and background services of the organisation con-



nected to the workspace. Connections from the workspaces to the data of different organizations are secured with the Bittium Secure Suite device management and encryption software product.

With the secure workspaces, users can therefore safely handle confidential data of even multiple different organisations, as well as their personal data and applications, with the same Bittium Tough Mobile smartphone. Connections, services and applications for each workspace are running and online simultaneously and accessible from the home screen of the phone. Users can therefore easily switch between the different workspaces by swiping sideways from the home screen.

[www.bittium.com](http://www.bittium.com)

## New Features And Security Of The Akamai Edge Platform

(df) Akamai Technologies unveiled several enhancements to its intelligent edge-platform designed to help users accelerate their cloud migration strategy. The new features protect content, apps and APIs, accelerate web and mobile performance and help development teams to be more flexible as they move to the cloud.

"85 percent of businesses today have a hybrid cloud strategy; many have recognized that the cloud poses significant security,

operational and cost management challenges," said Rick McConnell, president and general manager of Akamai's Web Division. "Cloud migration creates complexity that slows application delivery, causes cost overruns, and can expose organisations to previously unknown security risks. By extending our platform, Akamai expands customer infrastructures and leverages the Edge and advanced security solutions to address cloud challenges."

Akamai has also expanded its portfolio of adaptive security capabilities. With a ful-

ly integrated proxy detection service for Virtual Private Networks (VPN) and Domain Name Systems (DNS), the new offerings can intelligently provision or block access to content. Akamai's token authentication with additional intelligence extends coverage for browsers and devices that do not support cookies and makes it more difficult to play stolen content. Finally, the standard TLS ensures that HTTPS can be deployed on a large scale and at the same time provide a customer's own SSL Certificate.

[www.akamai.com](http://www.akamai.com)

## Data Diode Receives Approval

(df) Independent testing laboratories in cooperation with the German Federal Office for Information Security (BSI) have granted the SDOT diode from infodas the approval to GERMAN, NATO and EU SECRET. With a data throughput of up to 9.1 Gbit/s, it is currently the fastest diode solution on the market approved for SECRET.

Data diodes allow secure unidirectional communication and thus protect critical networks and data sources from cyber risks. They allow data flow in one direction

and prevent data flow in the other. This makes data diodes ideal for scenarios in which data must reach secret domains or higher classified networks (e.g. satellite images) or specific data from critical networks (e.g. machine and sensor data) must reach the cloud without access to these networks (e.g. for predictive maintenance). SDOT products are therefore used in very demanding and operationally important scenarios in the public and private sectors around the world. The approval for classified environments by the BSI is considered



(Photo: infodas)

a globally recognised labelling, as the German office is known for its independence and thoroughness.

[www.infodas.de](http://www.infodas.de)

## Airbus' Bluelight In UK

(df) Airbus Defence and Space has been selected as a supplier on the UK's Crown Commercial Service Data and Applications Solutions (DAS) Framework, and features

in both the DAS Bluelight Operations and Bluelight Solutions lots. Airbus' SAFEC-command comprises a set of component applications and services that ensure the effective deployment of Command & Con-

trol information to mobile resources in-the-field, which is key to satisfying UK Fire and Rescue Services mobile data requirements.

[www.airbus.com](http://www.airbus.com)

## Multi-Purpose Protected Off-Road Vehicle

(df) At IDEX TRB presented the DESPOT a multi-purpose, highly protected off-road 4x4 vehicle, that has been jointly developed by TRB and the Government of Republic of Srpska. DESPOT is a state-of-the-art armored vehicles designed to carry out



(Photo: TRB)

a vast range of missions from the domain and scope of the police and armed forces. The vehicle's ballistic protection is according to STANAG 4569 level 2 protection, or optionally level 3. It is also protected from explosions with level 2a and 2b protection under STANAG 4569.

The concept of this cost effective vehicle is based on a multipurpose chassis combined with modern powertrain with an independent suspension system that provides a high level of mobility in all terrain and weather conditions. DESPOT is 6.05 m long, 2.70 m high and 2.56 wide. The maximum weight is 14 t, and the volume of the passenger cabin is 12 m<sup>3</sup>, which can comfortably accommodate up to 9 crew members. The vehicle is able to carry a payload of over 3 t. The maximum speed is more than

120 km/h, with the ability to overcome gradients of 50%, lateral gradients of 30%, vertical obstacles of 0.5 m, fording of 1.1 m, with an approach angle of 40° and departure angle of 43°. Engine power is 240 kW, with automatic transmission. It has a driveline system with independent suspension, run-flat inserts, central tire inflation system, anti-lock braking system (ABS) and a wide range of standard equipment. It is able to operate at temperatures ranging from -30°C to +50°C. Of course DESPOT is air conditioned. Two 240Ah - generators supply the vehicle with electricity.

According to the company various weapon stations might be integrated into DESPOT, from manned ring-mount systems to highly advanced remote control weapon stations.

[www.trb.ba](http://www.trb.ba)

## New Protection Concept

(pb) Under the name "Advanced Survivability System", the French company ARQUUS (formerly Renault Trucks Defense) presented a new protection concept at IDEX 2019 with which the VAB Mk3 family (VAB stands for Véhicule de l'Avant Blindé) of protected

medium-weight 6x6 vehicles can be optimised for today's threats.

The concept includes improved mine protection, cage armour to cover the front and lower side halves and, as a major innovation, reactive armour on the upper side halves. The latter, according to the

company, for the first time allows a combat vehicle to be protected against the threat of tandem warheads. In addition, the vehicle's IT system was modernized with an improved Battlenet communication system.

[www.arquus-defense.com](http://www.arquus-defense.com)

## Multi-Purpose Vehicle G-Class MRV

(gwh) At IDEX, Daimler presented a 4x4 Multirole Vehicle (MRV) of the G-Class. Based on proven components, an open vehicle in the six-ton class was developed for a wide range of tasks.

The MRV has a modular design with a multi-part tubular lattice frame so that different rear bodies can be exchanged depending on the task. By replacing the rear module, various superstructures can be mounted, such as ambulance cases for MedEvac (emergency evacuation in action) with the integration of a stretcher to quick-



ly rescue injured persons, box superstructures for electronic observation equipment or with seats for up to six soldiers with equipment. The remaining loading space for equipment and food allows longer patrol missions. Depending on the role, the vehicle can be partially protected.

The frame concept and drive train with a

135 kW diesel engine and automatic transmission are based on proven components from the Mercedes-Benz G-Class. This leads to a logistical consistency that makes it possible to service the MRV worldwide via the Mercedes-Benz service network.

Thanks to its compact external dimensions, the G-Class can be easily transported both by helicopter and in transport aircraft. For regions and areas of operation with poor fuel quality, the Euro 3 standard is optionally available as a poor fuel variant (conversion from Euro 5 to Euro 3 possible on site).

[www.daimler.com](http://www.daimler.com)



INTERNATIONAL DEFENCE EXHIBITION AND CONFERENCE  
17 - 21 February 2019  
ABU DHABI NATIONAL EXHIBITION CENTRE - ADNEC  
ABU DHABI, UNITED ARAB EMIRATES



## Falcon Air Defence System Introduced

(pb) At IDEX 2019, the German company Diehl Defence, Lockheed Martin from the U.S. and the Swedish company Saab presented the Falcon air defence system against short- and medium-range threats. The system combines the capabilities of Diehl's IRIS-T SLM missile including the vertical 360-degree launcher, Saabs' gallium nitride Giraffe 4A radar and Lockheed Martin's SkyKeeper Command and Control Battle Manager.

Falcon is suitable for defence against unmanned systems with lethal payload, cruise



missiles as well as rotor and fixed-wing aircraft.

IRIS-T SLM engages targets at a distance of up to 40 kilometres and a height of up to 20 kilometers – sufficient to eliminate the threat to urban terrain posed by chemical or biological warfare agents, for example.

SkyKeeper is able to detect 800 targets and simultaneously engage eight targets per launcher approaching from different directions.

[www.diehl-defence.de](http://www.diehl-defence.de)

[www.lockheedmartin.com](http://www.lockheedmartin.com)

[www.saab.com](http://www.saab.com)

## Multi-Purpose Vehicle Ajban 447A

(gwh) At IDEX, Nimir Automotive introduced the protected Ajban 447A 4x4 multi-purpose vehicle, a further development of the introduced Ajban 440A. A significant change is the reconfiguration of the powertrain including suspension with weight savings, which allowed a flat inner floor in favour of an increase of the inner volume. It now accommodates five fully-equipped soldiers - facing forward - as well as the driver and commander. Nimir offers two drive variants: Diesel engine with 220 kW or 265



kW. This gives the vehicle to reach a top speed of 120 km/h.

The vehicle in the ten-ton class now offers a payload capacity of four tons, some of which has been used to improve protection. Users can further increase the level

of protection for the crew with add-on protection.

The prototype at the exhibition, which will be put to the test this summer, was equipped with an M134D Dillon Gatling 7.62 mm caliber machine gun in a flat-weapon station. It is possible to use other weapons according to the needs of the users.

Other features of the vehicle include interior air conditioning, roof-mounted mine protection seats, central tyre pressure control, a self-sealing tank and a battery management system.

[www.nimir.ae](http://www.nimir.ae)

## Joint Light Tactical Vehicle

(pb) The Joint Light Tactical Vehicle (JLTV) programme is gaining momentum in the USA and Oshkosh Defense is now striving to market the vehicle in its various variants globally. After several appearances in Europe, most recently at the symposium of the Dutch industry association NIDV in Rotterdam, the US company also showed the JLTV in its general-purpose configuration at IDEX in Abu Dhabi.

An EOS R-400S-MK2 Dual Remote Weapon Station (RWS) was installed in the vehicle on display. The choice should not be a coincidence, as the United Arab Emirates decided to purchase this product from the Australian manufacturer in large quantities almost a year ago. The vehicle on display was shown with an integrated M230LF 30mm machine-gun from Northrop Grumman. The company did not comment on whether the UAE had already expressed concrete interest in the gun. However, they



(Photo: Peter Bossdorf)

confirmed that they were in talks with potential customers from the region.

[www.oshkoshdefense.com](http://www.oshkoshdefense.com)



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## New Components From The World Of Autonomous MCM Systems

(hum) The French robotics house ECA presented its latest UPS (Unmanned Surface Vehicle) at IDEX. On the basis of a V2 NG lifeboat developed for the S.N.S.M. (French



(photo: ECA)

shipwreck rescue company) and already in service (20 units), the engineering office MAURIC, a subsidiary of ECA, designed the Inspector 125. Technical data: Dimensions 12.3 x 4.2 meters, 3 tons payload, drive either 2 hydrojets or 2 drive shafts/propellers (presumably 2x410 hp diesel), max. 25 kn. Inspector 125 is able to use sensors and effectors from the ECA-Toolbox UMIS (Unmanned Maritime Integrated System): towed sonar T18-M, a medium-size drone like the A18-M AUV, ROV to identify and/or neutralise mines (e.g. SEASCAN (Identify), K-STER C (Combat)). The UPS should be able

to carry up to 2 SEASCAN and 6 K-STER simultaneously.

In addition, MAURIC presented with OC-TOPODA 500 its design of an OPV as a mother ship for surveillance and MCM missions. Technical data: Dimensions: 53.5x10.6 metres, 2x3200 hp diesel, 20 kn max. hangar for maintenance and equipment of a large UPS (like 'Inspector 120/125', LARS (Launch and Recovery System) for a large UPS, platform for a small UAV). In addition, there is space for two medium-sized AUV, two ROV Seascan, 10 ROV KSTER-C.

[www.ecagroup.com](http://www.ecagroup.com)

## KBP presents PANTSIR-ME

(pb) KBP, a company belonging to the Russian state-owned Rostec Group, presented the PANTSIR-ME system for ship-based air defence to an international audience for the first time on foreign soil at IDEX 2019. KBP wants to use this solution to make its experience with land-based systems usable for maritime applications. According to the company, the system can be installed on almost any Russian naval vessel. The same



(photo: Bosendorf)

should also be possible for numerous types of other navies.

PANTSIR-ME uses both type 57E6-E1 ground-to-air guided missiles and two 30-mm cannons. The guided missiles can engage targets horizontally at a distance of up to 20 kilometres and vertically on targets at a distance of up to 15 kilometres. The guns can engage targets at a distance of up to four kilometres. With a detection angle of 90 degrees, four targets can be simultaneously detected and engaged.

<https://rostec.ru/en/>

## UGV Presented With MMP Anti-Tank System

(gwh) MBDA and Milrem Robotics present at IDEX the unmanned tracked vehicle with a turret for anti-tank defence announced at Eurosatory 2018. The joint project integrated the MBDA IMPACT (Integrated MMP Precision Attack Combat Turret) system into the Milrem Robotics THeMIS unmanned ground vehicle, which is equipped with two MMP 5th generation anti-tank systems and a machine gun for self-defence. The system, which is designed for land combat, is to be remote controlled. Soldiers can use it while staying at a safe distance and using a wireless or networked

connection. The system has a low heat and noise signature, so it can go unnoticed until the end of its mission.

The THeMIS UGV (Tracked Hybrid Modular Infantry System) is a fully modular diesel-electric unmanned ground vehicle that can run up to ten hours on one tank of fuel, including up to 1.5 hours in silent mode. It has a top speed of 22 km/h and can carry a payload of 750 kg. It can be operated with direct vision or remote control via cameras. MMP (Missile Moyenne Portée) is the latest generation MBDA anti-tank missile system designed to meet the requirements of modern conflicts. The „Fire-and-Forget“ missile has a range of four km and more



(photo: MBDA)

with a dual mode seeker (uncooled infrared and visible colour channels). Bidirectional data link enables Man-in-the-Loop mode and damage assessment through real-time video.

[www.mbda-systems.com](http://www.mbda-systems.com)

[https://milremrobotics.com](http://milremrobotics.com)



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## Industry & Trade

### NITEC19 - Industry Conference In The High North

From 20 to 22 May 2019 in Oslo, Norway, this joint annual event organised by the NATO Communications and Information (NCI) Agency and AFCEA Europe (the Association for Communications, Electronics, Intelligence and Information Systems Professionals) and in cooperation with the Ministry of Defence, Norway, will bring together more than 700 senior government, military and industry leaders from NATO, the Nordics, and other countries.

NITEC19 focuses on advancing technological solutions and business practices to strengthen NATO operations from South to High North. The NCI Agency will also showcase its upcoming business opportunities.

Building on NATO's largest exercise, Trident

Juncture, this conference titled "NATO and the High North: Technology Ultramarathon" will give industry leaders the chance to learn how they can support the Alliance in the High North with their latest technology. The extreme climate and lack of satellite coverage in the Arctic are leading allies in the region to embrace innovative partnerships with the private sector.

Some of NITEC19 highlights are:

- Keynotes and tech discussion: Listen to hand-selected speakers discuss key NATO focus areas such as big data, artificial intelligence, quantum computing, machine learning.
- Business opportunities: Get a first look at upcoming business opportunities to support NATO's mission.
- Small Business mentoring: Learn best

practices to successfully compete for NATO contracts by participating in a one-to-one session with the NCI Agency acquisition experts.

- Access to NATO managers: Meet senior NCI Agency representatives for bilateral meetings and in-depth discussions about major future projects.
- AFCEA TechNet International exhibition: Display as exhibitor your latest tech innovations by demonstrating cutting-edge technology, hardware and software products. Meet senior decision makers from Government and Industry.
- B2B speed dating: Schedule meetings with peers and potential partners to discuss upcoming projects, and partner for NATO opportunities.

<http://nitec19.com>

### MASTHEAD

#### ESD Spotlight

Email newsletter of the magazine "European Security & Defence" (ESD)

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### Underwater Defence Technology

UDT 2019, the 32<sup>nd</sup> in the annual Underwater Defence Technology event series, will open in the Stockholmsmässan Exhibition Centre on 13th May for three days. Stockholmsmässan is close to the city centre, well served by regular metro trains, with several large hotels nearby. Stockholm Arlanda Airport is only 30 minutes away by commuter train, which runs 8 times every hour. The venue is the Nordic region's largest exhibition centre and offers the exhibition plenty of room to expand, whilst simultaneously hosting UDT's sister events – ITEC, which focuses on military training and simulation, and Electronic Warfare. 2019 is the first year that all three events are co-located, enabling attendees to spark new ideas, create new collaborations and partnerships, and extend networks. It also provides senior military personnel with a more efficient use of their increasingly precious time, thereby growing the number of officers in attendance.

The overall theme of UDT 2019 is "Total defence: undersea defence and security in

a deteriorating global environment". Sweden's Defence Policy 2016-2020 establishes the Swedish approach to the deteriorating global security environment. It highlights that the underwater environment and specifically anti-submarine warfare (ASW) is an area in which Sweden is investing. Responding to Sweden's "Total Defence" approach, UDT 2019 will examine how the underwater defence and security environment fits into a Total Defence architecture. The conference will examine how new and emerging technologies may be deployed. It will also consider how incremental developments in established technologies are enabling new approaches to traditional underwater defence disciplines.

UDT 2019 will look at technological developments, and adaptation of existing systems, to improve capability and performance. It will consider disruptive technologies and unique deployment strategies, with a focus on creating a Total Defence approach for military forces and civil marine security services.

[www.udt-global.com](http://www.udt-global.com)

### Future Indirect Fires Conference

The Future Indirect Fires Conference will be held at Ashton Gate Stadium, Bristol, on March 19 - 20, 2019. The Future Indirect Fires conference is the longest running international conference that combines Artillery, Mortars and Simulation training. The forum is built around core joint fires concepts, land power doctrine and simulation training capabilities, bringing together over 350 representatives from military and industry for two days of debate and discussion.

**March 19 - 20, 2019, Bristol, UK**



### LIMA'19

The highly anticipated the Langkawi International Maritime and Aerospace Exhibition 2019 (LIMA'19) returns from March 26 - 30, 2019 for its 15<sup>th</sup> edition of the event. LIMA is the largest event dedicated to the maritime and aerospace defense and commercial industry in the Asia-Pacific region. The exhibition that is held biennially is expected to be bigger and bolder this time around. Online Registration is available for both trade and public visitors.

**March 26 - 30, 2019, Langkawi, Malaysia**



### SOFINS 2019

Unique in Europe, SOFINS offers an unequaled opportunity for manufacturers to meet and discuss their solutions with special forces. Meetings, R&D workshops, and dynamic tests of equipment allow special forces to try out the new technologies being developed by manufacturers to meet the demands of special operations.

**April 2 - 4, 2019, Bordeaux, France**



### LAAD Defence & Security 2019

The event brings together Brazilian and international companies specialized in supplying equipment, services and technology to the Armed Forces, Police and Special Forces, Security Services, Law Enforcement, Homeland Security, security managers from large corporations and critical infrastructure, consultants and government agencies. Several official delegations from all over the world are expected at this years event.

**April 2 - 5, 2019, Rio de Janeiro, Brazil**



### IDEF'19 – 14<sup>th</sup> International Defence Industry Fair

The show authorities allocate meeting offices to meet the delegations and participants from national/international defence industry institutions during IDEF, establishing important commercial connections with them. Scheduled meetings and signature ceremonies are realised during the fairs between the defence industry authorities and exhibitors from all around the world.

**April 30 - May 3, 2019, Istanbul, Turkey**



### UDT

Now in its 32<sup>nd</sup> year, Undersea Defence Technology (UDT) brings together professionals from military, industry and academia to focus on cutting edge technologies and developments within the underwater battle space. Held in Stockholm, the UDT 2019 conference will consider the key issues faced by countries as they address their needs in the global underwater defence and security environment. This multi-faceted event reflects this community's desire for continuous learning in dealing with one of the world's harshest environments.

**May 13 - 15, 2019, Stockholm, Sweden**

