

JEUDI 14 JUIN

THURSDAY 14 JUNE



# CE MONDE EST FLOU

De la Défense à la Sécurité, la frontière s'estompe et l'Industrie tire partie des opportunités créées...

PAR FRÉDÉRIC LERT

Les démonstrations dynamiques du Salon ont donné le ton : RAID, GIGN, BRI, BSPP... Le bleu qui n'était pas dans le ciel était par contre très présent au sol, avec le rouge des pompiers et le noir des groupes d'intervention. De même, un tiers des quelque 70 conférences organisées pendant la semaine ont été ou seront liées aux questions de Sécurité. Alors, si Eurosatory reste le Salon de référence de la Défense terrestre, il est facile de constater la montée en puissance, forte et rapide, des entre-

prises de sécurité. Le mouvement ne date pas d'aujourd'hui mais il se renforce d'année en année avec des traductions concrètes au plus haut niveau politique et industriel : Gérard Collomb, ministre français de l'Intérieur, déclare vouloir créer un continuum Défense-Sécurité. Patrice Caine, patron de Thales, affiche sa volonté de faire passer les activités Sécurité devant celles de Défense dans son groupe, dans les cinq ans qui viennent.

Ne soyons pas naïfs. Il existe des exigences objectives en matière

de Sécurité. Il y a, exprimé de façon plus diffuse dans la société française, le défi posé par un déficit en matière de Sécurité perçue. Et puis, il y a les opportunités économiques portées par cet ensemble. Celle de la Sécurité offre un taux de croissance aujourd'hui très supérieur à celui de la Défense. Les derniers chiffres du CICS (Conseil des Industries de la Confiance et de la Sécurité) évoquent une croissance moyenne de 6,1 %, sur la période 2013-2016, pour la seule filière Sécurité française. Celle-ci emploie aujourd'hui plus de 300 000 personnes, toutes activités confondues. Encore plus spectaculaire, la croissance moyenne dans le monde est de 11,9 % sur la même période, pour les activités de cybersécurité. Les opportunités sont là, portées par les grands marchés régaliens, mais aussi par ceux, innombrables, des collectivités locales.

Personne ne veut donc laisser passer le train de la croissance. Et, si les industries de la Défense se tournent vers le monde civil de la sécurité, l'inverse est également vrai : le spécialiste des murs de soutènement sait proposer des chicanes de protection. Les logiciels de traque de la cyberpédophilie sont adaptés à la lutte contre le terrorisme. Et, les futurs systèmes de télécommunication sécurisés pourront être basés sur des normes purement commerciales... La technologie devient mixte et les frontières s'estompent, à l'image de la menace qui a elle-même décidé de brouiller définitivement les cartes entre guerre et terrorisme.



A sleek electric vehicle serves as a watchtower  
**page 7**



Optio® X-20, UGV à canon automatique  
**page 17**



New fire control system is a SMASH hit  
**page 34**



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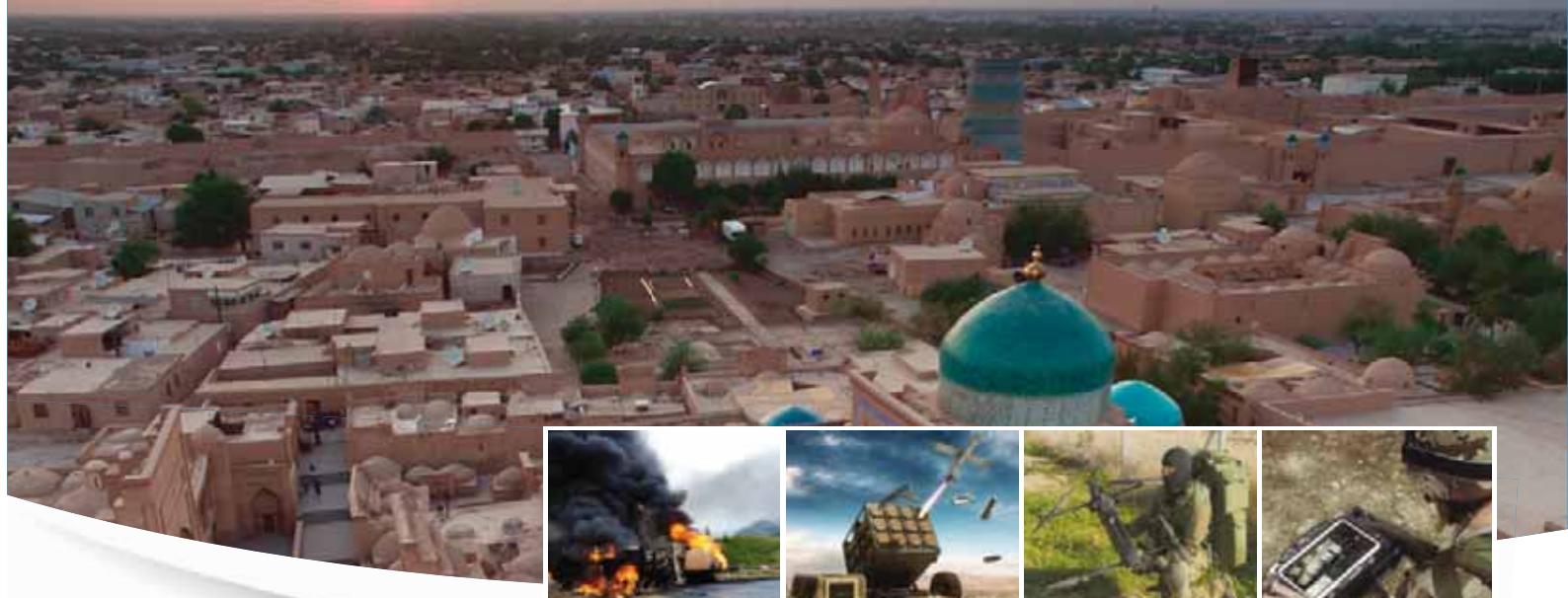
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# Un laser qui vous marquera !

PAR JEAN-MICHEL GUHL

Si l'usage du laser est de nos jours multiple, dans le champ militaire c'est avant tout un précieux auxiliaire de l'appui aérien ou terrestre au profit des TAC-P, deux domaines de combat où les désignateurs laser s'avèrent indispensables pour conduire une opération de frappe de précision contre une cible distante. Une opération complexe qui s'effectue au moyen de "l'illumination" de celle-ci à l'aide d'un faisceau laser qui marque véritablement le but à atteindre de façon "chirurgicale". Mis en œuvre par des opérateurs spécialisés (JTAC / TACP) au sol au seul profit d'une munition dotée d'un autodirecteur laser, larguée d'avion ou tirée par un canon à longue portée, un tel marqueur permet de traiter et frapper une cible avec une précision métrique. Cilas (France) présente sa nouvelle génération de désignateurs laser commandée par les forces armées françaises et adaptée aux contraintes de charge du fantassin moderne, donc nettement plus légers. Par exemple, le DHY 308, d'un poids de 4 kg, est capable d'illuminer une cible jusqu'à 20 km de distance, alors que le DHY 208, ultra compact, porte à 4 km et ne pèse que 2 kg. Une véritable rupture technologique.

(Stand 5aD687)



► Les DHY 208 et DHY 308 ne nécessitent pas de refroidissement actif

▼ Avec le P320, un poids de départ net, doux, et une remise en batterie rapide



## Compact et maniable

PAR BRIGITTE XERRI

Le Sig Sauer (Allemagne/Etats-Unis) P320 Compact Nitron® est un pistolet automatique modulaire, à platine amovible, doté d'un dispositif de détente à percuteur lancé. Conçu avec la contribution de nombreux utilisateurs professionnels, il est en calibre 9x19 mm et disponible avec trois

tailles de poignées interchangeables en polymère (chaque poignée change la circonférence totale au niveau de la prise en main afin d'ajuster au mieux la préhension). D'une longueur totale de 18,3 cm (longueur du canon : 99 mm; longueur de la ligne de visée : 147 mm) et d'une hauteur de 13,5 cm, il pèse 737 g avec

son chargeur de 15 cartouches. Son niveau de sécurité au fonctionnement est unique, grâce, notamment, à sa sûreté au percuteur à ressort et au séparateur. De plus, il dispose d'une sûreté au démontage en trois points. Une version de cette arme a été récemment adoptée par l'US Army sous l'appellation M-17 (avec glissière longue) et M-18 (version compacte).

(Stands 6E81/6E131)

**ARMA 6x6**

The ARMA 6x6 is a multi-role armored vehicle designed for various military applications. It features a spacious interior with a modular interior layout, a large rear cargo area, and a high ground clearance. The vehicle is equipped with a range of weapons systems, including a 30mm gun, a 12.7mm machine gun, and a 7.62mm coaxial machine gun. It also has a NBC system and a fire extinguishing system. The ARMA 6x6 is built on a robust chassis with a six-wheel drive system, providing excellent mobility and maneuverability in various terrains. The vehicle is currently in service with several countries and is being showcased at the Eurosatory exhibition.

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# Interceptor marches on



BY DAVID DONALD

Lockheed Martin's Miniature Hit-to-Kill (MHTK) interceptor programme has moved from the Science & Technology (S&T) phase into development with a \$2.6 million contract award from the US Army's Cruise Missile Defense Systems Project Office.

Announced at Eurosatory, the contract allows Lockheed Martin Missiles & Fire Control (Hall 5A, Stand G840) to continue maturing the project, evaluate its effectiveness and to demonstrate

manufacturing readiness.

MHTK is a small interceptor measuring 76cm in length and weighing 2.2kg. It is designed to defend against a range of threats, including rockets, artillery and mortars, as well as small UAVs and helicopters. It has no warhead, relying instead on accurate targeting and kinetic energy to destroy or disable its target. The small dimensions of the weapon allow large numbers to be packed into a small footprint, in turn providing the

system with sufficient ready-to-fire interceptors to engage large-scale saturation attacks.

Two seeker types have been tested: a semi-active RF seeker that requires continuous radar illumination of the target, and an active RF seeker that allows the MHTK interceptor to take over the intercept autonomously. A series of test firings have been conducted throughout the S&T phase, the latest undertaken in January at the White Sands Missile Range in New Mexico. ■

BY SAM J BASCH

Italy's Leonardo (Hall 6, Stand C300/B301) has just announced the inking of a new commercial partnership with Konstrukta Defence of Slovakia. Supporting the objectives of the European PeSCo (Permanent Structured Cooperation) initiative on developing common defence capabilities, the agreement will see Leonardo's precision-guided Vulcano ammunition (*pictured*) integrated onto Konstrukta's Zuzana 2 155mm/52 calibre artillery system.

# European teamwork

Under the terms of the agreement, the two companies will jointly market the products internationally, while exploring

further collaboration towards developing common European defence capabilities. Italy and Slovakia are members of PeSCo. ■

## STOP PRESS

### Tenth Giraffe for UK

Saab has just delivered the tenth Giraffe AMB (Agile Multi Beam) air defence radar to the UK Ministry of Defence, making it the largest operator of the land-based version of the radar in the world. Giraffe AMB has been in UK service since 2010, and forms a vital element of the Sky Sabre ground-based air defence system. It provides target tracking to the British Army's new Land Ceptor air defence system – recently demonstrated during live-fire trials in northern Sweden – and was used at the 2012 Olympics to support airspace management.

### US/French agreement

Raytheon and Safran have signed a memorandum of understanding at Eurosatory to work together on the development of a new generation of combat vehicle sighting systems. The family of forward-looking infrared sights will combine electro-optical technology from the US company and inertial measurement unit technology from the French electronics and defence company. The new systems will see in mid- and long-wave bands simultaneously at long range.

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BY CHRISTOPHER F FOSS  
 Excalibur Army of the Czech Republic (Hall 5A, Stand K600) is showing the first example of the latest T 815-7 4x4 Patriot armoured vehicle, which is described as a multipurpose platform that can be adapted to a range of battlefield missions. The company is now building three standard production vehicles, which are being aimed at the home and export markets.

Patriot has a hull of all-welded steel armour, which is stated to be STANAG 4569 Level 3 ballistic protection, while mine protection is to STANAG

# Battlefield missions c

4569 Level 2a/2b. It is being offered with a choice of a Cummins water-cooled diesel developing 210kW, or a Tatra air-cooled diesel developing 300kW, coupled to an automatic transmission. Both engines are stated to give a maximum road speed of 110km/h and a cruising range of up to 400km.

The vehicle being shown is in the six-seater configuration, but its design is such that it can be adapted for a range of missions.



## Cocked and ready



Belgian company CMI Defence (Hall 5A, Stand B267) is displaying its latest Cockerill Protected Weapon Station Generation 2 (CPWS Gen 2). This has a shell of all-welded aluminium armour and can be armed with a variety of weapons, the first example being fitted with the widely deployed 25mm M242 dual-feed cannon and a 7.62mm coaxial machine gun mounted to the left, which can be reloaded under full armour protection.

Alternative weapons include the 30mm M230LF low-recoil cannon, and the potential for a pod of two missiles mounted externally on the right side.

It is typically fitted with two banks of electrically operated smoke grenade launchers and offers a number of sighting options, the example on display being fitted with a stabilised panoramic sight with day/thermal channels and a laser rangefinder.

The gunner is seated under full armour protection and lays the

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# covered

Various armament systems can be fitted onto the roof, including a remote weapon station typically armed with a 7.62mm or 12.7mm machine gun.

Because it is based on a Tatra chassis, it has a high level of cross-country mobility. Standard equipment includes a central tyre inflation system. It is also fitted with a fire detection and suppression system for the engine compartment, air conditioning and an NBC system. ■

weapons onto the target using his flat-panel display, which is coupled to a computerised fire control system.

An unusual feature is that there are four potential hatch positions – fully closed, elevated hatch, large open hatch and removed hatch – for all-round observation.

The CPWS Gen 2 is currently at Technology Readiness 4/5 and is a follow-on to the original CPWS developed by the company several years ago. It is expected that the first firings will take place within 12 months. ■

## Elevated view

BY SAM J BASCH

One of the more unusual outside exhibits is the UMS Viséo surveillance vehicle from Iris France (Stand S331, External Pe6A).

A sleek, low-slung electric vehicle with a prominent telescopic cabin, it is reminiscent of the New York Police Department's pop-up observation watchtowers. This is actually how commercial and marketing director Fabrice Vivier himself proudly describes the UMS Viséo.

"It is meant to reassure the citizenry of a visible police presence as our vehicle silently cruises around town or the city," he explained. "Being a battery-powered electric car, it runs completely silently, with zero carbon emissions, and the ability to traverse narrow streets and lanes."

For observation and improved situational awareness, the driver can elevate the cabin to a height of 4m above street level and lower it again in eight seconds.



"This is a security feature to allow the driver to exit quickly in the event of an emergency," Vivier added. "In addition, the vehicle is equipped with external controls to operate the cabin without the driver inside."

Optional equipment includes four HD cameras to give 360° day/night surveillance capability with a 4G recorder and transmitter, GPS tracker, long-range LED spotlight and LED light ramp with speaker.

Powered by a 48V gel lead battery that gives a range of 120km, the vehicle has a top

speed of 45km/h. It weighs 2,200kg with the battery. The UMS Viséo has a reinforced suspension, all-road tyres and reinforced side skirts, and tinted and secure windows and windscreen.

According to Vivier, the UMS Viséo is being evaluated by the French and Belgian police forces and is already in use with civilian security operators in applications such as the 'follow-me' vehicle at an airport and on construction sites. The UMS Viséo is certified for use on public roads in Europe. ■



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# Un monde de robots

PAR JACQUES DE LESTAPIS

ECA Group (France), expert reconnu de la robotique, des systèmes automatisés, de la simulation, mais aussi des procédés industriels, a beaucoup de choses à montrer. Notamment, le simulateur d'un engin militaire (MVS) – réplique d'un blindé à roues connu! – mais aussi celui d'un véhicule logistique lourd des armées, permettant de mener des missions de convoyage. Ce dernier est développé dans le cadre du programme Scorpion, dédié à la préparation de l'armée française au système d'engagement (SPE). Et, en plus des drones aériens ECA éprouvés au combat, il faut découvrir l'ensemble des robots terrestres de cet exposant, tel l'Iguane E. C'est un UGV compact d'intervention EOD/IEDD commandé par la France, dans le cadre du programme Sminex, et par une police européenne. A chenilles, mais disposant d'un kit roues en option, il pèse 45 kg. Il peut emporter une charge utile de 40 kg,



tels un bras articulé six axes d'une capacité de levage de 20 kg, des canons disrupteurs, des caméras, et autres capteurs ou détecteurs.

(Stand 5aB248/5aF20-178-268)

▲ L'Iguane E est contrôlable jusqu'à une distance de 800 m, se déplace à la vitesse de 6 km/h, et a une autonomie de 2h30

# Shotgun à deux vitesses...

Par Jean-Pierre Husson

Ultime version de la famille M3 de Benelli (Italie), le M3-A1 combine une série de caractéristiques techniques faisant de ce fusil à pompe calibre 12 une arme extrêmement polyvalente, adaptée aussi bien à une utilisation militaire que de police. Cela, grâce, notamment, à son double système de fonctionnement, semi-automatique et manuel à pompe. Cette dernière modalité permet l'utilisation de munitions non létale qui ne développent pas suffisamment de puissance pour procéder au recharge automatique de l'arme. Proposé avec un canon de 18,5 ou de 14 pouces (469,9 et 355,6 mm), l'arme accepte toute la gamme de cartouches semi-magnum et magnum (70 et 76 mm), létale et non létale. Elle est pourvue d'une crosse en polymère, réglable en longueur, d'organes de visée mécaniques (guidon sur rampe et hausse réglable), de rails type Picatinny pour le montage d'accessoires d'aide au tir, et d'un magasin tubulaire fixe. Sa capacité est de 8 ou 5 coups, suivant la longueur du canon.

(Stand 6E360)



▲ Le Benelli M3-A1 se prête tout aussi bien à une utilisation militaire que de police

# De l'optronique connectée Bluetooth

PAR JEAN-MICHEL GUHL

La gamme d'optiques à vocation tactique jour et nuit de Newcon Optik (Canada) s'enrichit d'un télémètre laser à moyenne ou longue portée. Il offre une connectivité Bluetooth complète avec de nombreux périphériques d'ordre militaire. Pouvant être montées sur une arme ou utilisées sur trépied, ces optiques dotées d'un large choix de grossissements autorisent l'acquisition précise de cibles pouvant être distantes de 2000 à 6 000 m, selon les modèles, avec ou sans inclinomètre ou GPS et boussole. Les Seeker et Spotter sont pourvues de lasers "Eye-Safe" (ne blessant pas les yeux), avec un réticule de visée "Mil-Dot" à visualisation OLED.

(Stand 5aD687)

◀ Le Spotter LRF Pro pourvu d'un télémètre laser de 3 km de portée



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# Efficace herse de barrage

PAR JACQUES DE LESTAPIS

Produite aux Etats-Unis, Stop Stick® est une barre de 90 cm de longueur pour stopper des véhicules à quatre roues roulants à plus de 40 km/h. Y sont positionnées 36 pointes creuses acérées, réparties en trois rangées, qui, au contact d'un pneumatique, se séparent de leur support en mousse. Elles perforent alors en multi-endroits la bande de roulement. Le pneu se dégonfle

très rapidement, sans éclater. Le véhicule reste très contrôlable et s'arrête sans avoir subi un quelconque dommage, ce qui évite tout conflit juridique. Signalons que ce dispositif d'interception vient d'être de nouveau commandé en France pour la Police et la Gendarmerie nationales, pour un montant de 6,5 M€, marché remporté par Rivolier.

(Stands 6E131/5bD10)



◀ Stop Stick® aide efficacement les forces de l'ordre à prévenir et à mettre fin aux poursuites de véhicules

# Equiper les meilleurs

PAR JEAN-PIERRE HUSSON

Dessiné par Stéphane Ballarin, le FX-517 Félin de Fox Knives (Italie) est un couteau tactique fiable et robuste dans tous ses composants. Dès l'origine, il a été conçu pour équiper les opérateurs des groupes spéciaux d'intervention de la Police nationale française (RAID et BRI). Il est doté d'une lame à tranchant droit, avec repose-doigt cranté sur le dos pour assurer une bonne prise. Réalisée en acier inoxydable N690 au cobalt, avec traitement de surface anticorrosion Black

Cerakote, la lame affiche une dureté de 58/60 HRC sur l'échelle Rockwell. Elle mesure 110 mm de longueur pour une épaisseur de 4 mm au talon. Pourvu d'un manche avec plaquettes ergonomiques en 3D G10, ce couteau tactique est livré avec un étui en Kydex®, doté de dispositifs de fixation Molle. D'une longueur totale de 230 mm pour un poids de 200 g, il est proposé également en version avec lame à tranchant partiellement dentelée, dite FX-517S.

(Stand 6D497)



▲ En ville, sur route comme en tout terrain, le HMV Survivor I est impressionnant

# Survivor I, HMV “Made in Austria”

PAR JEAN-MICHEL GUHL

Franz Achleitner Fahrzeugbau (Autriche) s'est taillée depuis de longues années une place méritoire dans le domaine des véhicules blindés légers 4x4. Habituelle d'Eurosatory, elle met en avant cette année son nouveau HMV (High Mobility Vehicle) Survivor I, un véhicule de 12,5 tonnes, de 6 m de long, à quatre roues motrices en permanence, spécialement fait pour les forces d'intervention et de sécurité. Il offre jusqu'à 2 + 8 sièges sous une protection blindée Stanag 4569 (balistique jusqu'au niveau 2,

et contre les mines et IED niveau 1). Il est mû par un moteur Diesel de 245 ou 285 ch relié à une boîte de vitesses Allison 2500 SP entièrement automatique - avec un couple jusqu'à 925 Nm pour 245 ch, et 970 Nm pour 285 ch. Survivor I est capable des 100 km/h sur route, offre une autonomie de 600 km, et franchit très facilement des pentes de 60 % et des devers de 30 %. Rappelons que ce tout nouveau véhicule est déjà en service dans les forces de police allemande de Hambourg.

(Stands 5a328/5aD577)

▼ Fonctionnel et robuste, le FX-517 Félin est un couteau tactique avec lame à tranchant droit et dos cranté



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# Vivre comme pour survivre

PAR JEAN-PIERRE HUSSON

Pour les opérationnels sur le terrain, et sous les marques Katadyn, Optimus et Tek'n Eat, l'offre du groupe Katadyn (Suisse) concerne avant tout l'intendance. Systèmes de cuisson et réchauds à combustibles liquides diversifiés Polaris Optifuel, pompes et systèmes de filtrage et de potabilisation de l'eau, type Base Camp 10L, notamment, rations alimentaires journalières lyophilisées très nutritives Day Ration Packs, sont seulement quelques-uns des nombreux produits d'"Outdoor Life" proposés aux armées, aux services de secours, et aux organisations humanitaires, qui doivent opérer bien souvent en conditions environnementales difficiles. Sont aussi concernées, les communautés ayant à faire face à des catastrophes naturelles, des tempêtes, voire des pannes techniques majeures. (Stand 6LK627)



► Base Camp 10L, une vache à eau qui filtre 2 litres d'eau/mn par simple gravité

# Chercher et détecter les mines



▲ Un soldat mettant en œuvre le Recon-Pro AML-1000

PAR JEAN-MICHEL GUHL

Garrett Metal Detectors (Etats-Unis) s'est fait une spécialité dans la détection des engins métalliques enterrés et, par extension, des mines, une arme particulièrement mortelle. En effet, elle frappe sans discriminer, militaires comme civils, dans de nombreuses zones de combat ou de conflits de la planète. La plus récente réalisation de GMD est le Recon-Pro AML-1000 (AML = All Metals Detector), un détecteur de mines individuel, léger (2,83 kg avec ses batteries), à impulsions, particulièrement facile et simple d'emploi. Il fonctionne comme les habituelles "poêles à frire", si familières aux soldats du Génie. Grâce à sa technologie par induction, il s'utilise sur une grande variété de sols, mais aussi dans les zones inondées peu profondes, comme les gués ou les flaques d'eau trouble si propices à la confection de pièges sournois. Très complet, il est livré dans une mallette antichoc contenant un sac à dos pour le transport en campagne. En outre, il est accompagné d'une notice d'emploi illustrée, un modèle du genre qui ne laisse aucun point en suspens. (Stand 5aC393)

# Les bagages abandonnés, c'est fini !

PAR FRÉDÉRIC LERT

La start-up française XXII (lire "22"), spécialiste des "Deep Techs", démontre une de ses solutions intelligentes de compréhension et d'analyse de flux vidéo pour la sécurité des espaces privés et publics, celle de la détection de bagages abandonnés avec alerte en temps réel. Tout le monde le sait, la sécurité est devenue un secteur clé pour l'intelligence artificielle (IA) et XXII s'est penchée sur l'une des problématiques actuelles : les bagages abandonnés qui provoquent d'importants retards dans les aéroports, gares et stations de métros. Son algorithme de Computer Vision est ainsi capable d'identifier l'objet (le bagage), l'humain (propriétaire du bagage), de les associer, de les suivre à la trace dans leurs déplacements, puis de capturer la dissociation et, enfin, d'alerter à l'instant T lorsqu'un cas de bagage abandonné se présente. Même si, au-delà des risques humains liés aux attentats, il est important de souligner que la

première cause de bagage abandonné est due surtout à l'étourderie des voyageurs, avec les conséquences que l'on connaît, mais qu'il est dorénavant possible de maîtriser.

(Stand 5a/Eurosatory Lab)



► A Eurosatory, XXII fait des démonstrations de son système ainsi que celles d'autres applications IA sur la sécurité

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# Super Hercules fleet doubles

BY DAVID DONALD

Last week, the Armée de l'Air took delivery of the second of four C/KC-130J Super Hercules it has on order from Lockheed Martin. They were acquired for rapid entry into service, a requirement driven by the ongoing Operation Barkhane in the Sahel region and delays to the A400M programme. The first aircraft arrived last December for operation by



PHOTO: SGC SANDRA AUGUSTE/ARMÉE DE L'AIR

**France's first C-130J lands at the deployed base in Jordan**

Escadron de Transport 2/61 'Franche-Comté' at Orléans. The latest delivery arrived on

7 June direct from the factory in Marietta, Georgia, just days after operational capability was

declared for the C-130J in the logistics transport role. In May, the first aircraft visited the deployed air base in Jordan for the first time, before flying to Djibouti.

Both initial aircraft are of the C-130J-30 long-fuselage version. They are due to be cleared for tactical transport operations next year. Two more Super Hercules are due for delivery next year, both in the KC-130J tanker/transport version. They will be able to refuel the air force's Caracal helicopters. ■

Trials of the Airbus Defence and Space A400M tanker/transport in the refuelling role for the Dassault Rafale fighter have recently been concluded. The tests were conducted by the Direction Générale de l'Armement's Essais en Vol (DGA EV) using an A400M from the Armée de l'Air's Escadron de Transport 1/61 'Touraine'. The aircraft in question was the 12th to be delivered to the air force, and the first in the European A400M programme to be delivered with two underwing refuelling pods. The aircraft was handed over to the DGA by the manufacturer in November 2017.



PHOTO: DGA-ESSAIS EN VOL

**Fuelled on the wing**

The wing pods are Cobham 908E WDE (wing dispense equipment) units; the A400M is also able to mount an 808E hose-drogue unit (HDU) in the rear cabin.

While the manufacturer has already undertaken initial tests of both WDE and HDU systems on the A400M, the recent DGA

trials are the first with the aim of clearing the A400M as a tanker for operational use. Refuelling of Rafale fighters was conducted across a wide range of speeds and altitudes, and also by day and night. The Rafales refuelled in varying stores configurations, and also in degraded modes

that simulated emergencies such as engine or flight control system failures. Data from the trials should permit the DGA – as the French military approval authority – to clear the A400M to refuel the Rafale from the WDE pods, in turn allowing the air force to develop and implement operational procedures.

Next year, trials are planned to clear the Mirage 2000 for refuelling by the A400M, as well as large transport aircraft that will use the fuselage HDU. Cobham is developing a low-speed version of the 908E that will permit the A400M to refuel the air force's Caracal helicopters. ■



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BY DAVID DONALD

MBDA has brought its EMADS/CAMM-ER air defence system to Eurosatory for the first time, having debuted the system at the MSPO show in Poland. CAMM-ER is an extended-range version of the common anti-air modular missile that is in production for the Royal Navy as part of the Sea Ceptor naval defence system, and is part of the Land Ceptor system for the British Army.

For export, the CAMM-based systems are marketed by MBDA (Pe6A, Stand C371) as the Enhanced Modular Air Defence Solutions (EMADS). Italy is the launch customer for the system, and for the CAMM-ER extended-range missile. They were selected in mid-2017 to replace the SPADA system that is based on the Aspide missile. A contract is expected this summer, with entry into service to follow around 2021.

Although it shares around 90 per cent systems commonality with the standard 99kg, more than 25km CAMM, the extended-range version looks very different. It has a long-burn rocket motor made by Avio, with a larger diameter (190mm instead of 166mm) and longer rear body. Narrow strakes are added to give aerodynamic stability and also to stiffen the extended body structure. Despite its extra length, the 160kg CAMM-ER can use the same launcher as the standard missile. Engagement



## Extended air defence

range is more than 40km.

CAMM-ER is soft-launched vertically. The missile is ejected from the canister by compressed air, after which the body is turned by small thrusters before the main motor ignites. The standard launcher carries eight canisters, and all eight missiles can be fired in rapid succession against separate targets over a full hemispherical engagement zone.

Both CAMM and CAMM-ER employ an active RF seeker that provides excellent capability against a wide range of aerial targets. Performance against

low-heat signature targets such as glide bombs is particularly noteworthy.

EMADS can be tied to any air defence radar, Italy having selected the Leonardo Kronos AESA sensor, while the UK pairs the Land Ceptor with the Saab Giraffe AMB. The EMADS launcher has a two-way datalink to provide mid-course target updates to the missile as standard, located on a mast on the launcher vehicle. A second mast for an infrared sensor is optional, providing the ability to passively engage targets.

In the UK's Land Ceptor

application, the system is mounted on a MAN 8x8 truck, while Italy has selected an Iveco vehicle. The launcher can be loaded and off-loaded from the vehicle, allowing it to be positioned as a fixed-position firing unit if required.

All elements of the CAMM-ER system have been proven and tested, but an end-to-end trial of the extended-range weapon has yet to be conducted. The system on display at Eurosatory represents the Italian CAMM-ER configuration, but mounted on a UK-based trials vehicle.

## Electronic shield against drones

Protecting high-value assets, political meetings and other potential targets from the threat of attack from drones and

small unmanned aircraft systems has become an important mission for security forces. To provide a protective electronic screen against such threats,

Allen-Vanguard (Hall 5A, Stand C698) has developed a system known as Ancile. Using its battle-proven RF inhibition technology, Ancile can be employed as

standalone equipment or as part of a wider defensive net. It provides enforcement of a 'no-fly' zone against drones and UASs by disrupting a range of command and control protocols. Ancile was deployed last week at the G7 summit in Canada.



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**Production Plant:**

**EODH SA  
Lakkoma Chalkidikis, 63080  
Tel. +30 2399051114, Fax. +30 2399051113**

**Internet**

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## EN BREF

■ • Contre la menace protéiforme que représentent les drones, CerbAir (France) développe des solutions, fixes ou mobiles, afin d'offrir une protection permanente



à un site sensible ou bien de protéger un événement particulier. La pierre angulaire des savoir-faire de CerbAir repose sur des capacités très fines de détection des émissions radio et wifi servant au contrôle des drones. Leur présence peut ainsi être repérée dès leur mise sous tension, avant même leur décollage.

(Stand 5aF21)

■ Le Cluster français Eden signe aujourd'hui une convention avec le SGGN (Secrétariat Général de la garde Nationale) française, forte de 72000 réservistes. Eden s'engage à informer les entreprises adhérentes du partenariat entreprises Défense et du rôle des correspondants réserve (CRED). Il les encourage à signer des conventions de soutien à la politique des réserves françaises.

(Stands 6G657/5aF20-178-268)

■ Qista (France) démontre l'efficacité de sa borne anti-moustiques "outdoor" écologique, adaptée au secteur militaire. Elle reproduit la respiration et la transpiration humaine, en émettant, de manière saccadée, de petites quantités de CO<sub>2</sub> recyclé et leurs olfactifs, afin de sélectionner et d'attirer les femelles moustiques dans son piège.

(Stand 5a/Eurosatory Lab)



► Avec son casque H6 PRO, Welp Armouring étend son savoir-faire du blindage de véhicules à la protection balistique individuelle

# Blindage sur mesure

PAR JEAN-PIERRE HUSSON

Dans un contexte sécuritaire toujours plus sensible, Welp Armouring (Allemagne) continue d'offrir des solutions réfléchies, efficaces et personnalisées pour la protection balistique de la voiture de Monsieur tout le monde – ou presque... – aux véhicules dédiés (intervention, transport de fonds, soutien logistique, etc.). Blindage de

niveau militaire, suspensions renforcées, Run Flat, trappes de ripostes, et autres systèmes de sécurité, sont seulement quelques-unes des solutions proposées, qui permettent de transformer une voiture haut de gamme, un SUV ou un fourgon, en véritable "forteresse roulante". Poursuivant sa démarche en matière de protection balistique, l'industriel propose aussi un nouveau casque

de combat unique dans sa catégorie. En effet, le H6 PRO offre une protection sur 360° de classe 6 selon la certification VPAM HVN 2009, soit contre le tir de projectiles de Kalachnikov 7,62x39 mm. Ce même casque, qui est doté de rails flexibles pour le montage d'accessoires, peut être fourni avec visière anti-éclats et de protection balistique niveau III.

(Stand 6G704)

# Le fil à la patte... largable en plein vol!

PAR JEAN-MICHEL GUHL

Fortes des retours d'expérience de ses clients du domaine de la Défense et de la Sécurité, Novadem (France), spécialisée depuis 12 ans dans la conception de micro-drones, présente plusieurs de ses réalisations récentes. Par leur concept, les drones filaires pallient efficacement à la contrainte d'autonomie limitée des batteries embarquées. Dix ans après la sortie de son NX110, Novadem marque des points avec la nouvelle génération de son dispositif NXWIRE. C'est là une évolution majeure. Elle

permet au drone NX70 de bénéficier d'une autonomie illimitée en configuration captive, tout en conservant sa capacité d'appui à l'intervention grâce au largage du câble en vol qui s'effectue par simple action depuis la station-sol. Un mécanisme électromécanique libère alors le câble permettant ainsi au NX70 d'aller au contact pour suivre l'objectif détecté, sans jamais le perdre de vue. Autres nouveautés de Novadem, le NX100. Successeur du NX110 en service depuis 10 ans, il reprend une grande partie des technologies



▲ Le drone NX70, vu larguant en vol son câble d'alimentation pour aller au plus proche de l'action

du NX70 tout en intégrant les meilleures capteurs photos et vidéos disponibles pour effectuer, notamment, des missions de cartographie 2D et 3D, de reconnaissance, et d'identification. (Stand 6F658)

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# Optio® X-20, l'UGV à canon de 20 mm

PAR JACQUES DE LESTAPIS

Le groupe Nexter (France) et ses différentes composantes, en partenariat avec Milrem Robotics (Estonie), propose le robot téléopéré Optio® X-20, version armée du Robot Tactique Polyvalent (RTP) de Nexter. Cet UGV est un engin chenillé de 1 450 kg à l'architecture ouverte, pour accompagner le fantassin débarqué. Sa propulsion hybride, Diesel-électrique, permet une autonomie de 1 à 2 heures en tout électrique (de 8 à 10 en mixte), et une vitesse de 24 km/h. Quant

à sa plateforme modulaire, elle supporte jusqu'à 750 kg de charges utiles diverses (modules de mission Surveillance/Reconnaissance, Transport logistique autonome, Ouverture d'itinéraires piégés, voire EOD, Relais de communication, Déminage, NRBC, Medevac). Avec le tourelleau ARX®20 à canon automatique de 20 mm et mitrailleuse de 7,62 mm gyrostabiliés en site, Optio® X-20 est capable de traiter des cibles molles ou plus protégées.

(Stand Pe6B170/6J351)



▲ La munition perforante de 20 mm de l'ARX®20 perce du blindage niveau IV à 500 m

## Visée laser efficace

PAR JEAN-PIERRE HUSSON

Deux nouveaux systèmes de visée laser pour armes longues et un pour armes courtes sont proposés par Quarton Inc. (Etats-Unis). Il s'agit, respectivement, des modules LAS-31 et 41 et du LAS-41P («LAS», pour Laser Aiming System, «P» pour Pistol). Point commun de ces trois systèmes, ils cumulent plusieurs fonctionnalités dans un seul et même boîtier en alliage aéronautique, étanche et facilement installable sur rail standard MIL-STD 1913. Disponibles avec laser visible rouge ou vert, chacun d'eux emporte un pointeur et un illuminateur laser infrarouge, plus une lumière blanche à diode

électroluminescente (LED) pour les LAS-41 et LAS-41P. Robustes et fiables, même dans les conditions d'utilisation les plus adverses, ces modules, dotés de commandes intuitives et ambidextres, sont alimentés par batteries CR123.

(Stand 5aC563)

▼ Le LAS-41 cumule quatre fonctionnalités dans un même et unique boîtier en alliage aéronautique



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# Closing the loop

BY DAVID DONALD

"Closing the sensor-to-shooter loop" is a phrase often heard in the defence world, but the reality in the field is that front-line troops are often left waiting for minutes to receive targeting data and approvals before they can engage.

Rafael (Hall 6, Stand E687/688) has developed the Fire Weaver networked attack system as a means of reducing that time to seconds, as well as reducing the chances of fratricide and enhancing the effectiveness of fire assets.

Although complementary with the higher-level C4I systems used at command level, Fire Weaver can be embedded in all weapon systems and sensors in a battle area. With particular application to urban and close-quarters battles, Fire Weaver provides a real-time 3D model interlaced with real imagery, overlaid with potential targets, own forces and other relevant data.

Operating completely independently of GPS using video pixel co-ordinates, and networked through a radio net such as Rafael's B-Net, the system employs a common visual language to provide a picture

based on what the shooter or sensor operator actually sees, depicting the scene from the relevant angle on their displays and sights.

Advanced battle management algorithms within the system automatically select the optimum fire asset to engage any given target, and relay targeting data to the chosen shooter. Local commanders have the ability to assess the situation instantly, and can relay fire approval through the system.

Fire Weaver can handle many threats, targets and fire solutions simultaneously, thereby increasing the effectiveness of the overall force by assigning targets to shooters with the greatest efficiency based on the locations and the characteristics of both shooter and target.

Using the system, large numbers of targets can be engaged in a much shorter time than is traditionally possible. It can also take into account safe zones – such as around a hospital – and the collateral damage effects of the various fire assets.

Fire Weaver also incorporates the ability for human control over the level of autonomy, and to define its behavioural policies. ■



## Crete is venue of choice

The Nato Missile Firing Installation (NAMFI) (Hall 5A, Stand ED790) on the Greek island of Crete offers high-quality services for training, test, experimentation and live firings with year-round favourable weather conditions and newly renovated staging facilities.

A vast area of sea measuring 200km by 100km and unrestricted airspace provide the opportunity to test and fire modern long-range air defence and advanced tactical ballistic missile (ATBM) weapon systems under realistic scenarios, which include information/crisis handling, decision-making

processes, site reconnaissance, deployment phase, live firing and redeployment phase, while being constantly evaluated and graded under strict NATO criteria enforced by NAMFI's tactical firing evaluation section.

A network of surveillance and tracking radars and close co-operation with civil and military authorities ensure that all activities undertaken at NAMFI are performed according to the highest safety standards. NAMFI is today the only firing range in Europe with the ability to fire ATBM weapon systems.

During recent years, Patriot, ASRAD/GEPARD, Hawk, TOR-M1,

## Secure the perimeter

Autonomous perimeter security solutions, particularly unattended ground sensors, are what Russia's Polus-ST (Hall 5A, Stand J481) is best known for. Its products have protected and secured more than 7,000km of state borders, 3,500km of pipelines and infrastructure, and approach routes to some 500 sensitive facilities in 25 countries. One of its latest products is Radiobarrier CSS, a perimeter security system for force protection, short-term reconnaissance and intelligence gathering. Lightweight and compact, it consists of detection devices based on different physical principles of operation. Each set may include up to 20 devices, including a receiver, cameras and repeaters. Its control unit enables full remote control, as well as alarm and service data to be transmitted via a two-way secure radio channel. ■

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OSA-AK, Roland, Rapier, Velos, Crotale, Stinger/Ozelot, NASAMS, Mistral and S-300 have been fired at NAMFI. At the same time, SM-1, SM-2, Penguin, Exocet MM-38/MM-40, NSSM, ESSM, OTO Melara 76mm and 105mm, Goalkeeper 20mm, Phalanx 20mm and RAM have been fired by warships. Air-to-air firings have included Exocet AIM-39, Sidewinder, Maverick, Hellfire, Magic-2 and MICA.

Modern accommodation and support facilities are available for the firing units on request, to combine rigorous training with times of relaxation enjoying the picturesque island of Crete.

BY CHRISTOPHER F FOSS  
Turkish company Otokar (Hall 6, Stand B51) is showing the first example of the Tulpar light tank, which it has developed as a private venture in conjunction with CMI Defence for the export market. This essentially consists of the chassis/hull of the Otokar Tulpar infantry fighting vehicle (IFV) fitted with a CMI Defence Cockerill 3105 turret, which is already in quantity production.

It is armed with a stabilised 105mm rifled gun fitted with a thermal sleeve, fume extractor and muzzle reference system, and is fed by an automatic loader, which holds 12 or 16 rounds

of ready-use ammunition. The installation of an automatic loader has enabled the turret crew to be reduced to just two – commander and gunner.

A 7.62mm machine gun is mounted coaxial with the 105mm gun, and a 12.7mm machine gun can be mounted on the roof with banks of electrically operated smoke grenade launchers being mounted either side. As a computerised fire control system is fitted it can engage stationary and moving targets while the platform is moving with a high first round hit probability.

A key feature of this weapon system is that in addition to

firing conventional natures of ammunition, it can also fire the Falarick gun launched anti-tank guided missile, which is fitted with a tandem high-explosive anti-tank warhead to neutralise targets fitted with explosive reactive armour. Falarick enables targets to be engaged well beyond the range of the 105mm gun.

Turret traverse and weapon elevation are all electric and the maximum elevation of +42° is very useful when operating in urban areas. The turret can also be fitted with a defensive aids system, including a laser warner and an acoustic gunfire detection system.



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## Reaching for the sky

BY GÜNTER ENDRES

The launch of the first of a new line of masts has been announced by UK company Cobham, a global leader in telescopic composite mast technologies. Known as SkyHigh and designed for the harshest environments, the lightweight mast provides rapid deployment, up to 20m, with a compact footprint and no guying required. The masts can be deployed in less than two minutes and can carry a large maximum payload of up to 600kg.

With a mechanical structure that has no pneumatic or hydraulic components, SkyHigh is durable, reliable and has minimal maintenance requirements. Its versatility is highlighted by multiple interface options including remote control and

computer operation. Mounting options allow the masts to be installed on the exterior or interior of vehicles, in a shelter or on open ground.

The company is also now offering a rapid deployment antenna and mast package, which can include any combination of antennas, masts, mounting kits, mast interfaces and guying accessories, as well as other customer-specified items, relevant to rapid deployment systems, such as filters, cables, combiners and lightning arrestors.

An example of a rapid deployment package combining Cobham's Link16 high-gain omnidirectional antenna, composite 9m mast, interface cables and ancillaries, can be viewed on its Stand C750 in Hall 5A.

## SlingShot



BY SAM J BASCH

Figures released by UK-based Spectra Group show that its innovative SlingShot, displayed by Airbus (Hall 5A, Stand C158),

## CBRN hazard detection

Supergum Industries (Hall 6, Stand CD678) has introduced its Sampling Kit for the detection of CBRN hazards. Said to be the most advanced CBRN sampling solution available, it provides complete coverage for all sampling needs and transfer for laboratory analysis. The user-friendly kit contains four modules for swab (chemical and biological), liquid and soil collection. Designed for users wearing cumbersome protective gear, it meets laboratory requirements for quantity and quality of samples.

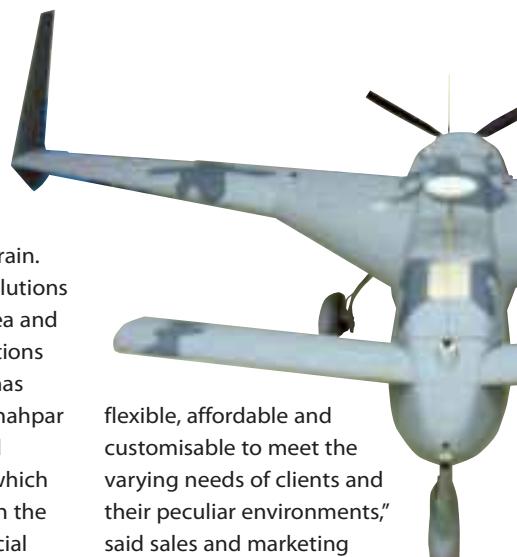
## Pakistan highlights indigenous technology

First-time Eurosatory exhibitor, state-owned Global Industrial and Defence Solutions (GIDS) of Pakistan (Hall 5A, Stand H587), which is promoting self-reliance through indigenous technology, is showing some of its core activities in the defence domain.

Among its range of unmanned aerial systems (UAVs), the company counts a variety of short-range, hand-launched or VTOL surveillance systems and its medium-endurance

tactical Shahpar and Uqab systems. The latest version offered is the Uqab-NG, with a ceiling of 20,000ft and endurance of 10 hours. It is launched by catapult from any type of terrain. Focused on solutions for air, land, sea and special operations forces, GIDS has brought its Shahpar (*pictured*) and Scout UAVs, which are in use with the Pakistani Special Forces.

"Our UAV packages are designed to be



flexible, affordable and customisable to meet the varying needs of clients and their peculiar environments," said sales and marketing director, Asad Kamal.

The company is also showing general-purpose steel and pre-

# t on upward trajectory



is fast becoming the system of choice for specialist users around the world.

SlingShot is a small external adaptor that enables in-service

U/VHF tactical radios to utilise Inmarsat's commercial satellite network for beyond-line-of-sight communications on the move. In this manner, the tactical net can broadcast over thousands of kilometres between forward units and a rear headquarters.

Besides C2 voice, the system enables data capability for mission-critical applications. These include artillery fire missions, GPS tracking and biometric analysis.

The latest sales figures for SlingShot reveal that more than 600 systems have been ordered across four continents since November 2017. With just over 450 systems delivered, a further 211 orders are awaiting completion. According to

Spectra Group, more than 3,000 units have been shipped across 18 different end-users since the system was launched, which endorses the company's dominant position in the tactical satcom market.

Spectra Group has strategic relationships with Inmarsat, whose L-TAC service uses SlingShot, and Airbus, which brands the system as TREx services.

"We're receiving significant interest in our products and services from around the globe," said chief executive Simon Davies. "Having our capabilities showcased by our partners at Eurosatory 2018 is another fantastic opportunity for visitors to understand the advantages of our systems."

## technology



fragmentation bombs, ranging from 125kg to 1,000kg. Having improved on the performance of the MK series of bombs, GIDS has diversified its customer base to air forces in the Middle East, Europe, South East Asia and Africa.

## Track and monitor

Mobile satellite services operator, Dubai-based Thuraya Telecommunications Company (Hall 5A, Stand B790) is showing its latest solutions and products.

Its defence portfolio includes the recently launched Thuraya tracking and monitoring service. The rugged and compact terminals are easy to install and maintain, and simple to set up for LAN or wireless connectivity.

Thuraya believes its fast and easily deployed purpose-built Thuraya IP Commander or Thuraya MCD Voyager could be particularly useful to the government and military sector.

Likewise, the company's machine-to-machine (M2M)

portfolio is also well suited to government customers. The mobile, dual-mode T2M-DUAL terminal for M2M communications and remote asset tracking and monitoring ensures the safety of assets through the simultaneous collection of data from multiple points and external sensors or devices.

Thuraya Aero caters for the growing demand for in-flight connectivity. It supports internet access, voice calls, text messaging and real-time secure datalink communication, and high-speed data applications, such as video streaming for ISR and SAR missions on small aircraft and helicopters.

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## EN BREF

■ Véhicule blindé des forces spéciales, le 4x4 Bastion d'**Arquus** (France) s'appelle dorénavant Fortress. Transport de troupe ou logistique de 14,5 tonnes, il dispose d'une "driveline" haute mobilité avec moteur de 340ch relié à une boîte de vitesses automatique. La suspension est à roues indépendantes. La caisse monocoque, blindée au Stanag 4569, offre un large volume interne protégé contre les agressions balistiques, les mines et les engins explosifs improvisés. **(Stand 5aF267)**



■ En 2018, présent pour la première fois au Salon, l'**Eurosatory LAB** accueille dans le Hall 5 quelque 70 start-up de 13 pays construisant la Défense et la Sécurité de demain. Elles ont été sélectionnées pour la qualité de leur projet et présentent leurs produits et services à côté de plus de 1 800 autres sociétés.

■ La **BSPP (Brigade de Sapeurs-Pompiers de Paris)**, forte de 8 600 hommes et femmes sous statut militaire, reçoit 10 000 appels par jour et réalise 1 300 interventions quotidiennes. **(Stand 5bD10)**

■ Le robot Nerva® LG de **Nexter Robotics** (France) remporte de nouveaux succès. En effet, pour la reconnaissance et l'observation il vient d'être commandé par la **National Security Guard (NSG)** indienne et, pour l'observation, avec un bras manipulateur, par les **US Navy SEALs**. **(Stand Pe6bB170)**

## Déetecter efficacement les risques NRBCe

PAR JEAN-MICHEL GUHL

Avec son système Rium, Icohup (France) participe à la protection des forces et de la population en détectant et qualifiant le risque NRBCe. Ce système s'intègre dans la dynamique de numérisation de l'espace de bataille. C'est un capteur de radioactivité dix fois plus sensible que les compteurs Geiger traditionnels, ou radiamètres standards. Outre l'activité (CPS) et la dosimétrie en micro-sieverts ( $\mu\text{Sv}/\text{h}$ ), il fournit des informations spectrométriques pour

l'identification du rayonnement. Il est connecté et donc capable de transmettre les données en temps réel et de les restituer sur une plateforme dédiée (tableau de bord, géolocalisation, cartographie, alertes). Parmi ses

applications pratiques, Rium peut équiper les équipes d'intervention, être embarqué sur drone ou robot terrestre afin d'accomplir une carte radiologique d'une zone, ou encore être déployé autour d'une base pour en assurer la protection. Compact, léger et étanche, il est de plus très simple d'utilisation.

**(Stand 5a/Eurosatory Lab)**



▲ Le détecteur et dosimètre NRBCe Rium de Icohup

## Le Dino sort de l'ombre

PAR FRÉDÉRIC LERT

Le LTMPV (Light Tactical MultiPurpose Vehicle) Dino 319 est un blindé léger 4x4 très compact, développé par Concept (Pologne). Il est conçu en partenariat avec Oberaigner Automotive (Autriche) et Mercedes-Benz® (Allemagne). Ce

n'est donc pas un hasard s'il utilise un châssis de Sprinter 319 de la marque allemande et une transmission intégrale permanente de son partenaire autrichien. Différents moteurs Diesel OM, conformes aux normes Euro 5 ou 6, sont proposés, qu'il s'agisse d'un 6 cylindres de

2 897  $\text{cm}^3$  développant 190 ch, ou d'un quatre cylindres de 2 143  $\text{cm}^3$  163 ch. Tous les deux peuvent être associés à une boîte manuelle 6 vitesses ou bien automatique à 7 rapports. Le Dino blindé dispose d'une cabine protégée en matériaux composite céramique au niveau 1 du Stanag 4569 pour quatre passagers. Une version non blindée est proposée avec une caisse en matériaux composites dont la légèreté permet une charge utile de 1 000 kg et l'emport de 8 personnes plus le pilote.

**(Stands Pe6bD271/Pe6bD240)**



▲ Le Dino (ici en version blindée) offre un bon compromis entre encombrement, coût de possession, et capacités tactiques

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# Tous à table !

PAR JEAN-PIERRE HUSSON

Conçue pour assurer la restauration rapide et efficace de 50 à 300 personnes, la cuisine roulante de campagne CR 300 de Sert (France) est constituée de deux modules de cuisson circulaires, tout inox. A la demande, ils peuvent être réalisés avec des marmites de 200 litres, des autocuiseurs de 150 litres, des sauteuses de 70 litres, ou des woks de 800 mm. La puissance de nouveaux brûleurs polycombustibles à haut rendement, interchangeables et connectés à deux jerricans de carburant de 20 litres, garantit la montée en température rapide des équipements de cuisson. Consommant peu d'énergie électrique, grâce à ses composants de dernière génération (groupe électrogène en option), la CR 300 affiche des dimen-

sions de 4,1x1,7x1,9 m<sup>3</sup> et un poids inférieur à 900 kg. Montée sur un essieu avec suspension flexible, avec timon articulé et système de freinage à inertie, elle peut être tractée par un véhicule léger de type 4x4.

(Stand Pe6bB301)



# Pathogènes mais presque

PAR JACQUES DE LESTAPIS

Avec le soutien de la DGA, la PME Elvesys (France), en partenariat avec l'Assistance Publique-Hôpitaux de Paris et l'Inserm, a mis au point Fastgène II, le détecteur d'agents pathogènes le plus rapide au monde. En moins de 15 minutes, ils sont identifiés, soit quatre fois plus vite que les solutions existantes. La méthode consiste à cibler de courtes séquences génétiques caractéristiques des pathogènes recherchés et à les répliquer des millions de fois si elles sont présentes dans le prélèvement à analyser. L'amplification permet de "grossir" les informations génétiques infinitiment petites pour mieux les lire. Un seul test suffit à rechercher plusieurs dizaines d'agents pathogènes potentiellement présents dans le prélèvement. L'exploitation des informations génétiques de la bactérie permet, en outre, de détecter une éventuelle résistance à un type d'antibiotique.

(Stand 5aF20-178-268)

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## EN BREF

■ Reconnu dans le domaine de la thérapie cellulaire à base de placenta humain, **Pluristem Therapeutics** (Israël) a développé le PLX-R18 (PLX pour PLacental eXpanded). Administré par voie intramusculaire, donc facile à utiliser, il libère un mélange distinct de protéines thérapeutiques en réponse à un système hématopoïétique endommagé par inflammation, ischémie, troubles hématoologiques, ou exposition aux radiations.

(Stand 5a/Eurosatory Lab)

■ Le ministère français de l'Intérieur prévoit l'acquisition de quatre-vingt-deux appareils portatifs de détection et d'identification de substances chimiques. (Stand 5bD10)

■ Monté en 15 minutes par un seul homme, le conteneur de décontamination 10 pieds de **Utilis** (France) est divisé en cinq parties : Zone déshabillage, Zone douche (deux lignes "valide", ou une ligne "invalidé"), Zone de séchage/rhabillage, Zone technique, et Zone de stockage produit et matériel.

(Stand 5aC367)



# Protection et durabilité assurées

PAR FRÉDÉRIC LERT

Le Praetor-FR de Heathcoat Fabrics (Royaume-Uni) est un tissu conçu pour dépasser les spécifications actuelles en termes de résistance à la chaleur et à l'abrasion, de longévité et de poids. Combinant confort extrême, excellente durabilité et résistance au feu exceptionnelle, il améliore considérablement le standard des tenues de combat camouflées, type DPM. Testé en conditions réelles, ce tissu, par nature ininflammable, offre par ailleurs d'excellentes performances en matière de résistance à l'usure et de tenue des coloris. Ceci, grâce à l'utilisation de fibres 100 % aramide, plus stables que les tissus ayant des composants cellulaires filés. Lavage après lavage, il conserve



toutes ses qualités de protection, de camouflage et thermique, dans les conditions d'intervention les plus extrêmes. (Stand 6H390)

▲ Praetor-FR résiste au feu et à l'abrasion



## Port en toute sécurité

PAR JEAN-PIERRE HUSSON

Le T-LEP de Radar Leather Division (Italie) est un étui en polymère thermo-moulé pour arme de poing, type Glock 17/19/22, notamment. Sécurisé contre l'extraction par une tierce personne, il possède jusqu'à 4 niveaux de rétention, dont un système de verrouillage innovant qui, par simple action du pouce, libère automatiquement les sécurités pour extraire l'arme. Outre celui-ci, appelé justement T-LEP, l'étui est doté de sûretés Rotolock et Roto-Guard. Combinées à un système passif de rétention STR avec vis de réglage, elles agissent sur la glissière de l'arme afin d'éviter tout mouvement

► Port haut ou bas, l'étui T-LEP possède jusqu'à 4 niveaux de rétention pour assurer un maximum de sécurité

inutile de celle-ci à l'intérieur de l'étui. Un système de port Multilink 2 permet, en outre, de lui associer divers accessoires, boucles de ceinturon, plaques de cuisse, et système de largage rapide d'urgence, tel le Radar SSF.

(Stand 6C527)

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# Vous ne passerez pas!

PAR JEAN-MICHEL GUHL

La société anglo-israélienne DSIT Solutions, concentrée dans les systèmes de fibre optique et de sonars, entre autres activités, présente sa plus récente réalisation, le Lightline. C'est là une installation par fibre optique souterraine de protection de zones. Elle est depuis peu opérationnelle le long de deux frontières européennes. Très réactif, le Lightline présente un niveau de fausses alarmes très bas. De plus, il est très sélectif et diffé-



Le terminal de surveillance compact du système Lightline

rence les vibrations produites par des humains, de ceux d'animaux, ou encore de véhicules, grâce à un logiciel de filtrage des sons qui élimine les bruits de fond créés par l'environnement. Discret et associé

à un nombre de caméras vidéo réduit, il détecte une intrusion à 2 m de distance, et toute approche en temps réel jusqu'à 12 m. Ne requérant aucune maintenance

particulière, il répercute et identifie tout mouvement particulier sur un terminal cartographique qui localise les tentatives d'intrusion.

(Stand 6C658)

## Récepteur GNSS

PAR ED SIPATSEL

Le récepteur SP90m de Spectra Precision (Etats-Unis) est une solution de positionnement GNSS (Global Navigation Satellite System) puissante, ultra polyvalente et fiable qui répond à une vaste palette d'applications en temps réel et post-traitement. Il intègre de nombreuses options de communication: Bluetooth, wifi, radio UHF, modem cellulaire, et deux canaux L-band MSS pour recevoir le service de correction

Trimble RTX. Son concept modulaire permet une souplesse maximale d'utilisation du récepteur: station de base, station de référence en continu (CORS), mobile temps réel (RTK), ou Trimble RTX, pour une utilisation embarquée sur des véhicules terrestres, maritimes, et autres. La technologie Z-Blade centrée GNSS dernier cri utilise tous les signaux GNSS disponibles pour fournir en temps réel des solutions RTK rapides et fiables. Non seulement le SP90m prend en charge tous les signaux GNSS des satellites actuels et à venir, mais il permet aussi la connexion de deux antennes GNSS pour déterminer avec précision le cap sans avoir besoin d'un deuxième récepteur GNSS. (Stand 5aB368)



▲ Avec Z-Blade, le SP90m offre des résultats optimaux même lorsque la couverture GNSS est incomplète, par exemple dans des canyons urbains ou sous couvert végétal

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## Dog's new tricks

Counter-terror operations require innovative solutions, which is what France-based Aeraccess (Hall 5A, Stand H800) is providing. A variety of its drone systems are operational with clients ranging from the French and UK MoD, to Germany, the Netherlands, Greece and Malaysia.

Building on its expertise and proven technologies, some of which were developed with the support of French space agency CNES, the company has now designed the palm-sized NanoHawk platform specifically to clear buildings during tactical intervention operations.

Equipped with thermal and visible cameras, and an encrypted datalink, the tiny 18x18cm drone provides real-time visuals for instantaneous decisions.

NanoHawk is monitored by an operator with a main display in a pouch on the front of their bulletproof vest and a smaller display strapped to their wrist for ease of tactical movement. A single-hand controller with intelligent flight modes enables operation of the drone, which is equipped with peripheral avoidance sensors. This allows NanoHawk to fly effortlessly inside a building, all the while

detecting obstacles in congested and narrow spaces. Indoors it can range three levels above or below the operator; it can also be flown outdoors.

According to Aeraccess director-general Shehzaad Callachand, a novel feature is the simultaneous deployment of NanoHawk and a dog. In this kind of application, the dog can drop-launch the drone attached to its collar by pulling a lanyard, allowing NanoHawk to autonomously continue inspecting blind indoor spaces.

NanoHawk was built to specifications of the French DGA programme for Special Forces and is already being evaluated by the UK. ■



PHOTO: PETER NILSSON, ATELJÉ MARIE FOTOSTUDIO AB



## Know where you are

Finding the best route through woodland or a vantage point, without being detected, could be problematic, if not for a solution proposed by Sweden-based Carmenta Geospatial Technologies (Hall 6, Stand JH371).

Combining high-definition 3D static background data and dynamic information from radars and CCTV in a platform offers soldiers a way to obtain

enhanced situational awareness. As senior account manager Michael Ericsson explained: "They can find out which areas in a town they can see from a certain window on a certain floor, or from the other perspective, from where the enemy can see them if you are in a certain place. This kind of information is important when deciding how to move through the town." ■

For Carmenta it was important that the system works exactly the same, whether the user is in a control centre with large computer screens or on foot holding a small mobile device. He said Carmenta's technology can be adapted for specific clients – for example, it is used by SOS Alarm for routing its emergency vehicles.

For the military, this can be extremely useful, because much like GPS that utilises road characteristics, Carmenta's technology analyses terrain, such as where it is rocky or where there is marshland. On the basis of this information, the best route can be established, both for vehicles or for those on foot.

Such a common situational picture by means of an interconnected network is thus available for command staff and field units. In Carmenta's view, the system has already been extensively tested through civilian use on a daily basis. ■

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## Beat the threat

BY SAM J BASCH

With the changing nature of threats in mind, Greece-based EODH (Hall 6, Stand JH751) is constantly innovating to provide protection for any type of platform.

A pioneer of ballistic protection, EODH now employs nanotechnology and a new generation of composites and hybrid materials to provide comprehensive survivability solutions for platforms on land, sea or in the air. The aim is for high ballistic strength

with substantial kinetic energy absorption, and significant weight reduction, at the most effective price-performance ratio.

This has made EODH one of the preferred partners in the Leopard 2A7 and several modern armoured fighting vehicle programmes. The company is currently involved in the development of major projects in Europe, the Americas and the Middle East.

Besides a wide range of spall liners, EODH is offering transparent armour based

on innovative glass ceramic technologies. Compared with typical glass, this armour is 70 per cent lighter, with multi-impact absorption and visibility even after multiple shots.

The rapid evolution of threats has made it imperative to adopt active self-protection systems. EODH's latest project ASPIS (advanced shielding platform integrated system) is a holistic protection concept for a new generation of combat vehicles. ASPIS detects, recognises, prioritises, intercepts, protects and deactivates incoming threats in less than one millisecond.

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## Make the connection

Netline Communications Technologies on the Israel pavilion (Hall 6, Stand D588) has launched three products this week. The man-portable OutReach long-term evolution (LTE) system (*pictured*) enables



teams in the field to connect between users and higher echelons via a private data VoIP network.

It provides communication control irrespective of any other external network. Although carried in a backpack, it can also be applied to vehicles. The system transmits video, mapping and images to enhance situational awareness command and control.

Netlink is a field-proven plug-and-play digital in-band interference cancellation system. Netlink for Base Stations extracts the full RF spectrum without hardware filters and losses that reduce usable bandwidth. Its advantage lies in the ability to digitally cancel disrupters that block the base stations. In similar fashion, Netlink for Mobiles enables mobile phones to work when subject to interference or a jammed environment.

Netline's third solution is the DroneNet ManPack, which combines drone identification, detection and jamming capabilities that can even be used in an urban environment. ■

## Delivering fuel and water

BY GÜNTER ENDRES

WEW Container Systems (Hall 6, Stand JH733), a Thielmann company, has expanded its deployable fuel and water storage and distribution system portfolio with two new products.

The FSD-10 fuel storage and dispensing and WSD-10 water storage and dispensing units have been developed with affordability in mind. To achieve this, the units are fitted onto DIN 30722-1 PLS/DROPS-compatible

A-frames, creating low-profile systems that retain the handling capabilities of the WEW full frame systems. The overall dimensions of the systems allow transport inside a standard ISO box container for full intermodality.

A further variant, the WSD-10-FF, has been designed with the firefighting and emergency services in mind.

The products have a capacity of 10,000 litres, gross weight of 15,000kg, operating pressure



of 0.45 bar and can operate in temperatures ranging from -40°C to +49°C.

WEW has signed a \$27.5 million contract to supply 241 Hippo water container systems to the US Army, with deliveries to begin within three months. The Hippo water system has been in use with the US Army since 2003. WEW was part of the team that supplied 1,400 units between 2003 and 2013. The new Hippo

## Ground-hugging Centaur



Displayed by Turkish company Katmerciler (Hall 5A, Stand B821) is the Horiba Mira Centaur unmanned ground vehicle (UGV). The lightweight Centaur is a variant of the Viking platform and can be integrated with various payloads, including the detection of improvised explosive devices, remote surveillance and soldier

support. It can reach speeds of up to 40km/h.

Horiba Mira, part of Kyoto, Japan-based Horiba Group, is a provider of pioneering engineering, research and test services to the automotive, defence, aerospace and rail sectors. It works in close collaboration with vehicle

manufacturers and suppliers around the world, providing comprehensive support ranging from individual product tests to turnkey multivehicle design, development and build programmes. It has formed a consortium with Katmerciler for the further development of unmanned ground vehicles. ■

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systems will be identical in form, fit and function to the original design. With a capacity of 7,700 litres (2,000 US gal), Hippo is a self-contained, 'drop and go' drinkable water storage and distribution system fitted within a standard 20ft ISO frame. With integrated heating, pumping and diesel engine systems, Hippo can pump 125 gallons per minute. It can be transported on existing US Army heavy expanded mobility tactical truck logistics vehicles and requires no site preparation prior to its deployment.

In May, WEW completed deliveries of 36 deployable fuel distribution capacity 8,000-litre tank containers to the Belgian Army. ■

## Spot the target at a distance

BY SAM J BASCH

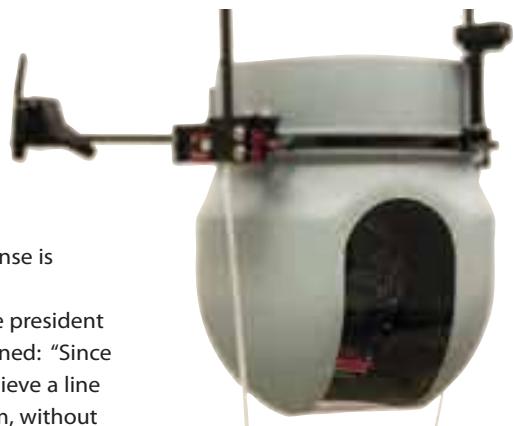
A night-vision solution specifically designed for stand-off situations and where wide-coverage air observation is required, is proposed by Shilat Optronics (Hall 6, Stand C712).

The payload, mounted on a conventional drone, is a cooled thermal camera weighing 1.2kg that provides human target recognition at a distance of approximately 5km. Such high-quality aerial optic capabilities make it ideal for use in situations

where a rapid response is required.

Miki Bouskila, vice president of marketing, explained: "Since the payload can achieve a line of sight of up to 5km, without having to actually be above the event it is photographing, it can be in the air for less time – a huge advantage where the amount of air time is limited from the outset."

The company's low-light level cameras provide the user with night-vision capabilities, come



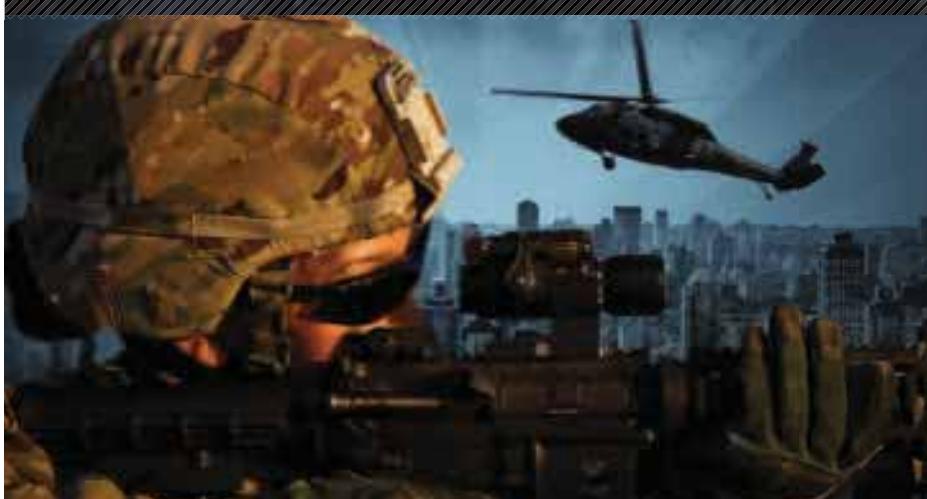
at a low cost and without export regulations. They have a built-in recording capability and optional integrated laser pointer. An important advantage is that the cameras can be used on weapon sights, helmet-mounted night-vision goggles and for drones. ■



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## EN BREF

■ Au titre du MCO (Maintien en Condition Opérationnelle) des stations fixes et de l'infrastructure du réseau radioélectrique Rubis de la **Gendarmerie nationale** française, ce sont des antennes Ground Plane et Dipôle Trombone, omnidirectionnelles, ainsi que des VHF de type Yagi, d'**Aart Electronics** (France) qui ont été retenues.

(Stand 5bD10/6G547)

■ Pour la Police et la **Gendarmerie nationale**, mais aussi les **Douanes et l'Administration pénitentiaire** françaises, **Cooneen Group** (Irlande) détient un marché de 48,3 M€ pour la fourniture de 307 000 gilets pare-balles masculins, leurs housses et sacs de transport, les kits d'identification. Distribué en dotation individuelle, le gilet est destiné à un port préventif quotidien et conçu pour être porté de manière dissimulée, sous habits civils ou tenue d'uniforme, y compris des vêtements légers par temps estival, ou bien de manière visible par-dessus les vêtements.

(Stand 5bD10/5aD438)

■ En Belgique, la Police intégrée, comme les **autorités fédérales, régionales, provinciales et communales**, vont recevoir des systèmes centraux de gestion & portiques de contrôle de trajet (radar-tronçon), ainsi que des ANPR (Automatic Number Plate Recognition), acquis auprès de **THV Proximus—Trafiroad** (Belgique) (26 M€).

■ La **Gendarmerie** sénégalaise doit recevoir quatre vedettes de 11 mètres construites en France par **Ufast**.

■ L'**European Union Training Mission Somalia** loue des **Saab** 5 SUV suédois, blindés niveau VI, VPAM 7/VPAM 8, Diesel, avec conduite à gauche. (Stand 6K371)

# Voir à travers les murs

PAR JEAN-MICHEL GUHL

Camero-Tech (Israël) s'est fait une spécialité dans le domaine de l'imagerie radar à très courte

portée. Avec sa famille de systèmes "Sense-Through-The-Wall" (STTW), elle livre des systèmes efficaces pour détecter les objets à travers

les murs. Sa plus récente réalisation présentée est le Xaver 100, un détecteur léger, portable, robuste, capable de relever tout signe de vie derrière une paroi d'épaisseur courante. Ses applications pratiques sont aussi militaires que policières, ou de sécurité civile. Elles permettent de débusquer une forme humaine dissimulée ou masquée par des gravats ou un mur écroulé. La portée pratique est d'une vingtaine de mètres. Le système peut être mis en œuvre sans fil à partir d'une tablette numérique ordinaire. Jusqu'à quatre Xaver 100 peuvent être mis en réseau afin d'obtenir une localisation plus fine.

(Stand 6D647)

▲ **Le détecteur STTW Xaver 100 en opération**



# Attention au serpent !

PAR JEAN-PIERRE HUSSON

Démarche originale que celle de Silver Shadow (Israël) qui propose la carabine semi-automatique à emprunt direct des gaz Gilboa® DBR-Snake. Basée sur plate-forme AR15, elle se caractérise par deux canons juxtaposés et séparés de 3 cm l'un de l'autre, alimentés, chacun, par un chargeur. Chambrée pour la munition de 5,56x45 mm Otan, l'arme dispose d'un double système de détente séparé, pouvant être actionné singulièrement ou simultanément.

Cela permet de doubler le nombre de coups sur une même cible, en un seul tir, et d'en engager plusieurs plus rapidement ! D'un poids proche de celui d'un fusil d'assaut classique (4,5 kg sans les chargeurs), grâce à l'absence de piston et à l'utilisation de matériaux composites, ce puissant "serpent" mesure 790 mm de longueur avec son double canon de 292 mm. Autre modèle intéressant, également fabriqué aux Etats-Unis et toujours basé sur plateforme AR15, le Gilboa® M43. Comme son nom



▲ **Les deux canons juxtaposés du Gilboa® DBR-Snake et son double système de détente facilitent les tirs de saturation**

l'indique, il est chambré pour la puissante 7,62x39 mm M43 russe. (Stand 6C712)

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# Elles vous suivent partout

PAR JEAN-PIERRE HUSSON

Conformes aux plus fortes exigences et aux tests IP67 et Stanag 4280, notamment, les valises rigides HPRC de Plaber (Italie) permettent de transporter avec un maximum de sécurité tout type de matériel, que se soit de l'armement et des munitions que des équipements optiques, optroniques ou informatiques. Etanches à l'eau, au sable et à la poussière, indestructibles, ne craignant ni les chocs ni la corrosion chimique ou marine, elles se déclinent en différentes tailles et



formats. Garnies de blocs de mousse pré découpée, avec compartiments modulables, elles peuvent aussi être produites sur demande en différentes couleurs et finitions personnalisées.

(Stand 6C482)

# Pour une Afrique plus sûre

PAR ED SIPATSEL

Organisé par le COGES (Commissariat Général des Expositions et Salons du GICAT), ShieldAfrica est ce Salon biennal international consacré à la Sécurité et à la Défense en Afrique. Il permet de présenter une offre mondiale de matériels et équipements pour lutter contre l'insécurité sur terre, en mer, et dans les airs, pour le développement du continent. Placée sous le parrainage du ministère ivoirien de l'Intérieur et de la Sécurité, sa cinquième édition se tiendra à Abidjan, du 21 au 24 janvier prochain. En 2017, ce sont 133 exposants de 25 pays qui y ont participé. Ils ont accueilli 4 139 visiteurs, dont 115 délégues constitués en 50 délégations officielles de 24 pays africains.

(Stand 6J51)



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## EN BREF

■ Le ministère français de l'Intérieur recevra pour 17,5 M€ des grenades de maintien de l'ordre et moyens de propulsion à retard de 40 et 56 mm, ainsi que des cartouches-grenades de 40x46 mm, lacrymogènes et fumigènes, des produits français de **Nobel Sport** et **Alsetex**, mais aussi allemands de **Rheinmetall**.

(Stand 6G567/5aK48/Pe6bC240)

■ L'expérience de **Henri Blanc SA** (France) en matière d'Abris Techniques Mobiles (ATM) d'occasion est reconnue par des entreprises internationales relevant de la Défense – telles Thales, Ineo Défense, Comrod, CAE-Aviation – mais aussi du monde civil. Selon la formule "rien ne se jette, tout se transforme", Henri Blanc récupère des shelters IEM et NRBCe issus des stocks Otan, les démonte, les remet en état, ou les valorise en les transformant à la demande. Cette société fait de même pour ce qui concerne des tracteurs 20/30 tonnes industriels et aéroportuaires. Une manière économique de prolonger la vie de matériels d'origine militaire.

(Stand 5aF21)



■ Remplaçant des systèmes plus anciens, six radars Mto 2000S et Meteor 360S bande S, à effet doppler et à double polarisation, vont être livrés à **Météo France** par **Selex-Es** (Allemagne) (1,16 M€).

(Stand 5aC647)

# Je pointe et je tire...



► Le DBAL-A4v2 existe en deux coloris, noir ou sable, et s'adapte sur les rails Picatinny

PAR FRÉDÉRIC LERT

En combinant les fonctionnalités de son pointeur laser DBAL-A3 et d'une lampe de combat MK4 Battle

Light, Steiner eOptics (Etats-Unis) a donné naissance à un nouvel équipement, le DBAL-A4v2 (pour Dual Beam Aiming Laser). Très compact

et construit en aluminium aéronautique, son boîtier emporte un pointeur laser en lumière visible verte (515-535 nm), un pointeur laser infrarouge, et une puissante torche en lumière blanche (600 lumens). L'énergie est fournie par deux batteries CR123 lui donnant une autonomie d'utilisation supérieure à trois heures. L'ensemble est servi par une interface intuitive qui en place l'utilisation à la portée non seulement des forces spéciales, mais également des forces militaires classiques, ou encore des services de police, avec un temps de prise en main réduit au minimum.

(Stand 6E360)

## "Push-to-Talk" sécurisé

PAR ED SIPATSEL

"Hoox for mission" est la solution de communication tactique 4G/LTE d'Atos (France) pour les forces d'intervention. Elle combine la puissance et la convivialité des smartphones civils avec la confidentialité et la résilience dont les forces de sécurité ont besoin. Elle utilise trois canaux de communication (réseau public, LTE privé, et communication d'un appareil à l'autre), avec commutation automatique de l'un à l'autre, et intègre un module de chiffrement.

(Stand 5bB178)

▼ "Hoox for mission", un smartphone Android™ fait pour les forces de sécurité



## Drones pour Frontex

PAR JACQUES DE LESTAPIS

L'Agence européenne de garde-frontières et de garde-côtes Frontex (Pologne) a conclu des contrats d'essais de surveillance aérienne longue durée de zones maritimes déterminées en mer Méditerranée par des aéronefs télépilotés (RPAS). Deux différents systèmes sélectionnés doivent respectivement effectuer au maximum 600 et 300 heures de vol en 2018. Israel Aerospace Industries Ltd, Malat Division, met en œuvre un MALE, moyenne altitude à grande autonomie, pour un prix de 4,75 M€. De son côté, Leonardo (Italie) emploie un Small MALE pour la basse et moyenne altitude (1,7 M€). Pour Frontex, il s'agit d'analyser l'intérêt que peuvent représenter de telles plateformes à fournir des services de surveillance réguliers, fiables et rentables.

(Stands 6F751/5aC647)

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## Les rois de la gonflette

▲ Leurre reproduit un matériel à taille réelle. Pour l'exposition dans un Salon, il est toutefois plus simple de présenter une maquette à l'échelle un tiers...

PAR FRÉDÉRIC LERT

Un char Abrams de 60 tonnes soulevé à la main ? C'est possible avec les leurre gonflables d'Inflatel (République tchèque) dont la spécialité est de tromper l'ennemi. Un Abrams à l'échelle 1 réalisé en matériau synthétique ne pèse guère plus de 60 kg, ce qui en fait un équipement facile à transporter et à mettre en place avec seulement deux personnes. C'est là un progrès essentiel par rapport aux premières générations de leurre qui étaient faits en caoutchouc étanche et pesaient plusieurs centaines de kilos. Certes, le leurre

doit être alimenté en permanence en air soufflé mais, pour les concepteurs d'Inflatel, c'est aussi un avantage : outre la légèreté, la présence d'un souffleur permet de s'adapter en permanence aux changements de température et de densité de l'air. Les pertes en air dues aux micro déchirures sont également compensées sans souci. Le leurre est aussi un produit technique avec une reproduction fidèle de la signature visuelle (forme parfaitement restituée), mais aussi radar (présence de réflecteurs), ou thermiques (utilisation de résistances électriques ou de canalisation souples d'air chaud). Le tout étant facilement adaptable aux *desiderata* du client, avec, au bout du compte, deux utilisations possibles : l'entraînement des forces amies ou bien, en temps de guerre, le leurrage pour amener l'ennemi à s'épuiser contre de fausses cibles.

(Stand 5A510)

## Quand la police balise

PAR JACQUES DE LESTAPIS

Différents systèmes discrets de localisation d'un véhicule suspect entreront prochainement en service dans la Police et la Gendarmerie nationales, comme dans les Douanes françaises. Celles vendues par Track Cars (France) sont des balises permettant le suivi

de la cible en utilisant la technologie GPS, pour la localisation, et GSM (3G/GPRS/SMS), pour l'envoi des informations à l'utilisateur. Celles de Photospace (France), GPS et GSM, disposent en plus d'un module qui permet de suivre et commander la balise par liaison radio. Une valise de réception

(avec ses antennes et son interface) est fournie pour la transmission/réception radioélectrique. Un troisième matériel, livrable par Point Core (France), est à intelligence embarquée. Pour la localisation, il utilise plusieurs systèmes de satellites et, pour l'envoi des informations, la technologie GSM. Chacun des fournisseurs héberge la plateforme de gestion de son propre système. (Stand 5bD10)

## EN BREF

■ Pour la surveillance des côtes, la **Guarda Nacional Republicana** portugaise doit acquérir une nouvelle vedette de patrouille ainsi que des caméras thermiques gyrostabilisées.

■ Des caméras piéton individuelles et autonomes d'**Allwan Security** (France), avec leur logiciel d'exploitation de données, vont être livrées à la **Police** (x 5 400 unités) et à la **Gendarmerie** (x 5 000) nationales françaises (2,4 M€). (Stand 5bD10)

■ La **Délégation Sécu** circulation routière française dispose d'un budget de 100 M€ pour le développement, la fourniture, le déploiement et la maintenance avancée de nouveaux équipements de contrôle multi-infractions déplaçables en environnement urbain (Etu). (Stand 5bD10)

■ Dans le cadre de l'aide au renforcement de la capacité transfrontalière pour la détection et la détection de substances chimiques en Afrique du Nord et au Sahel, la **Union européenne** va donner à certains pays un équipement NRBC spécialisé pour la formation de personnels de contrôle des frontières. Sont concernés, les Burkina Faso, Mali, Mauritanie, Maroc, Niger, Tunisie, voire Algérie.

■ Il est envisagé d'équiper prochainement les PSIG (Pelotons de Surveillance et d'Intervention) de la **Gendarmerie nationale** française de boucliers balistiques rigides de niveau de protection NIJ IV. (Stand 5bD10)

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BY SAM J BASCH

Well known for developing new technologies based on unmanned aerial vehicles (UAVs) and unmanned ground vehicles (UGVs), French company Drone Volt (Hall 5A, Stand J801) is showing some of its latest drones at Eurosatory this week.

Prominent among these is the Hercules 20, a high payload capacity drone, suitable for security, law enforcement, military and civil construction, media and agricultural applications. As its name



suggests, the Hercules 20 is powerful, being able to lift up to 25kg of a wide range of payloads. While lightweight and compact, it is also extremely resistant thanks to a carbon-fibre frame and anodised aluminium fasteners. The Hercules 20 stands 600mm high, but its landing gear can be removed and its arms folded for ease of transportation.

In military, security or law enforcement applications, it can carry any type of heavy camera and sensors, laser scanning or LiDAR equipment

## Smash hit

BY CHRISTOPHER F FOSS

Israeli company Smart Shooter (Hall 6, Stand D687) has confirmed that following extensive trials, its revolutionary new Smash fire control system (FCS) has entered service with the Israel Defense Forces (IDF).

Smash is an electro-optical FCS than can be fitted to the weapon, which has a Picatinny rail, to provide the infantry person with an increased first-round hit probability against moving targets.

According to Lt Col David Artzi from the IDF Ground Forces, "Fighting increasingly complex warfare on modern hybrid battlefields requires excellent infantry troops, capable of reacting swiftly and decisively to emerging threats. Smash provides a unique solution to these operational challenges, enabling soldiers to hit their targets with high precision and achieve their aims in first contact with the enemy."

Smash is an add-on system

that consists of a sighting unit and a grip, which can be rapidly assembled and fitted to existing and future rifles in minutes to ensure a hit using standard ammunition.

The user activates Smash with a single switch that controls a three-step process: acquire the target using the red dot reflex sight; lock and track; and fire at the optimum moment.

Smash has an open architecture that can be upgraded with new applications and enhancements in the future.

Further development has resulted in Smash 2000 plus, which includes all of the functions of the base installation



but adds drone mode to enable forces to tackle the rising threat of drones, as well as built in

## Bright future for new radars

RADA Electronic Industries (Hall 6, Stand D707) is presenting two new products: the eCHR, evolved from its Compact Hemispheric Radar (CHR) currently in use in active protection systems (APS) and hostile fire detection

(HFD) solutions for combat vehicles; and the xrMHR, a non-rotating multi-mission active electronically scanned array (AESA) radar.

The eCHR is said to introduce dramatically increased detection and tracking ranges,

advanced beam forming and additional technological enhancements that result in widely improved performance in highly demanding battlefield environments.

The xrMHR, an extension of RADA's combat-proven Multi-

mission Hemispheric Radar (MHR) family of tactical radars, provides mid-range detection, classification and tracking of all types of aerial targets, including small and low-level flights such as drones and tactical unmanned aerial systems (UASs).

"By implementing lessons learned from RADA's accumulated experience as a leader in tactical

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for data acquisition. It has an impressive 10km transmission range (telemetry, remote control and video transmission), with encryption capability. With a maximum take-off weight of 35kg, the Hercules 20 can operate in moderate rain, in temperatures between -20°C and +45°C, and in a maximum wind speed of 14m/s.

Besides the Préfecture de Police and Gendarmerie des Transports Aériens, companies such as energy operator Total and French media house TF1 are using the system. ■



storage to record video of engagements for training and after action review. ■

on-the-move radars for the manoeuvre force," said chief executive Dov Sella, "both the xrMHR and the eCHR are directly addressing two of the six current modernisation priorities of the US Army." He forecast a potentially bright future for both radars in US and global markets. ■



# Anti-tank goes unmanned

BY DAVID DONALD

MBDA has teamed with Estonian unmanned ground vehicle (UGV) specialist Milrem Robotics to develop a vehicle designed for the anti-tank role. The project marries a Milrem THeMIS UGV with the MBDA MMP anti-tank missile, the latter fired from an Impact (integrated MMP precision attack combat turret) turret.

THeMIS is a diesel-electric UGV that has a 10-hour endurance, including up to 90 minutes in silent electric mode. Its top speed is 22km/h and it has a payload capability of 750kg. Milrem Robotics (Hall 6, Stand J351) has designed the UGV with both direct remote-control using cameras over line-of-sight distances, or an autonomous guidance kit.

Developed primarily by MBDA (Pe6A, Stand C371) for fitment to light armoured vehicles, the 250kg Impact motorised turret has two ready-to-launch MMP missiles and the day/night sensors required for target acquisition. It also includes a 7.62mm machine gun. The MMP offers an engagement range of more than 4km and has a dual-band seeker (uncooled infrared and visible colour). A fibre-optic datalink provides for man-in-the-loop control.

MBDA has further strengthened its relations with Estonia by receiving a €50 million contract for Mistral short-range air defence missiles. This is the third Mistral contract from Estonia, which has operated the weapon system since 2009. Deliveries from the current contract are due for completion next year, with those covered by the new deal commencing in 2020. ■

## IN BRIEF

### Threat detection

ChemImage Corporation (Hall 5A, Stand DC407) has announced the availability of the VeroVision threat detector. Powered by the company's proprietary liquid crystal-based multi-conjugate filters and dynamic analytical software, VeroVision provides powerful imaging capable of detecting and identifying harmful explosive, chemical and narcotic agents at a distance of up to 20m.

Capable of detecting small amounts of material on stationary targets such as vehicles, cargo, luggage and other containers, it is said to be an ideal addition to a layered security system.

### Enhanced processing

RFEL (Hall 5A, Stand CD820) is presenting its Enhancer digital processor. Using FPGA accelerated image and the latest system-on-chip processing technology, Enhancer releases a powerful digital processing capability onto the live video stream, with digital stabilisation removing unwanted camera shake, and contrast enhancement boosting visibility in low light or poor weather conditions. Enhancer has a high-quality, slimline form-factor and a choice of control interfaces. ■

### Quantum leap

Video Inform (Hall 6, Stand C712) is demonstrating the Video Profiler, which it says represents a quantum leap in video scanning capabilities, enabling a very fast interpretation of hundreds to thousands of hours of video streams in minutes. Compared with human analysis, the system increases efficiency of time and resources by more than 95 per cent, without compromising on quality. ■

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## REGIONAL FOCUS

# Europe

Relations between NATO and Russia have continued to be poor, but the alliance has made good on its commitment to deploy multinational battalions to the Baltic states and Poland to reassure its easternmost allies. Russia's continued military build-up and massive 'Zapad 2017' exercise caused concerns among NATO and its partners alike, while Turkey continues its drift away from the alliance.

Europe faces a bleak defence and security outlook. In an interview with Sky News on 12 November 2017, which was Remembrance Sunday in the UK and marked the 99th anniversary of the end of the First World War, the UK chief of defence staff, Air Chief Marshal Stuart Peach, said, "The threats we face now are really serious; [it is] a dark world out there."

Peach went on to refer to "a gathering storm" combining "the expression of terrorism across the globe with state-on-state competition, which is the reality before us, with the outlaw activity by regimes such as the North Korean regime". Although not directly involved in the North Korean nuclear crisis, Europe will be in range of intercontinental ballistic missiles from the peninsula, European Union (EU) officials and former British senior officers have warned.

Closer to home, NATO faces threats on its eastern flank from a more aggressive Russia and on its southern flank from Africa and the Middle East. With the defeat of the Islamic State in Iraq and

Syria, Europe faces the prospect of fighters returning home with thoughts of acts of revenge against the West on their mind. The UK has been the target of several terrorist attacks, but it has not chosen to deploy armed soldiers on its streets as Belgium and France have done across the English Channel.

The Bundeswehr, the German armed forces, completed a study at the beginning of 2017 that painted a bleak security outlook for Europe over the medium to long term. The German news magazine *Der Spiegel* uncovered the study, entitled 'Strategic Perspective 2040', in November. The worst-case scenarios foresee some EU members seeking a rapprochement with Russia's "state capitalist model" and

some eastern members freezing European integration and others even joining a new Eastern bloc.

Turkey is looking increasingly eastward, as is Hungary, which, along with Poland, is putting a damper on the EU. After the Netherlands took 225 days to form a governing coalition, German coalition talks between the Christian Democrats and the Free Democrats and Greens broke down in November. New talks have begun between the Christian Democrats and the Social Democrats, but this has delayed important decisions that both countries need to make on defence after years of spending cuts that have affected military capabilities.

Germany is not only the economic locomotive of Europe, but also the driver of European integration, including in the defence field, which could suffer as a result of the country's failure to form a government.

### Key facts: EMEA market

	8.89%
	Five-year compound annual growth rate (CAGR)
	USD204.9 billion
	2017–26 market value

### REGIONAL LAND VEHICLE FORECASTS (2017–2026)

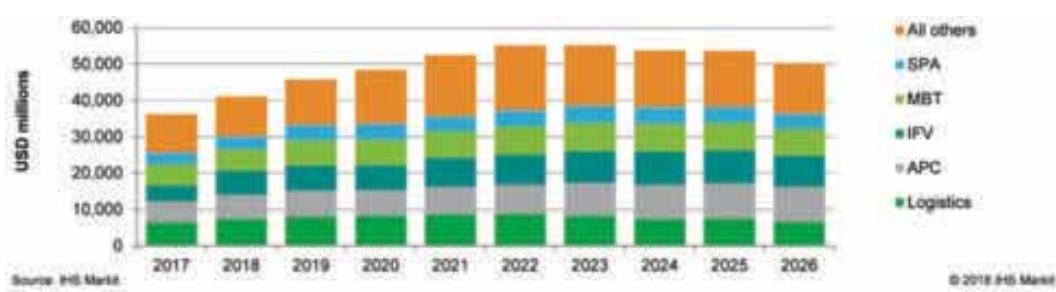
#### Companies

##### General Dynamics

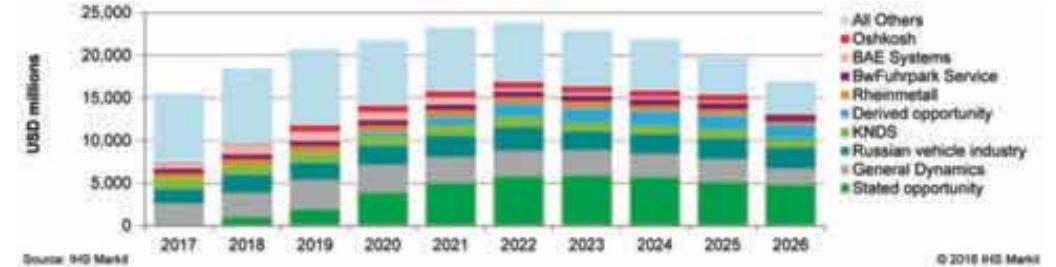
Market share driven by APC/IFV demand: General Dynamics is the prime contractor for a significant number of major European APC/IFV procurement programmes.

- Ajax family: in the UK, the Ajax family of vehicles is being manufactured by General Dynamics European Land Systems (GDELS) in South Wales.
- Piranha family: the Piranha family of vehicles, including the latest Piranha V, are in service with numerous EMEA countries, with upgrades and procurement driving up General Dynamics' market share.

EMEA market: major functional segments



EMEA market: top suppliers



## **Key facts: Russian Federation**



## Russian vehicle industry

- Russian ground force modernisation: With Russia's development of upgrades and procurement of new designs such as the Armata family, the country's vehicle industry is growing at a steady drumbeat.
  - Middle East exports: MBTs such as the T-90S and modernised T-72s have seen export success to the Middle East and more broadly, driving up market valuation.
  - Air defence procurement: Russia's investment in high-cost air defence systems such as the S-400, in addition to their export sales, have driven up the Russian vehicle industry's market share.

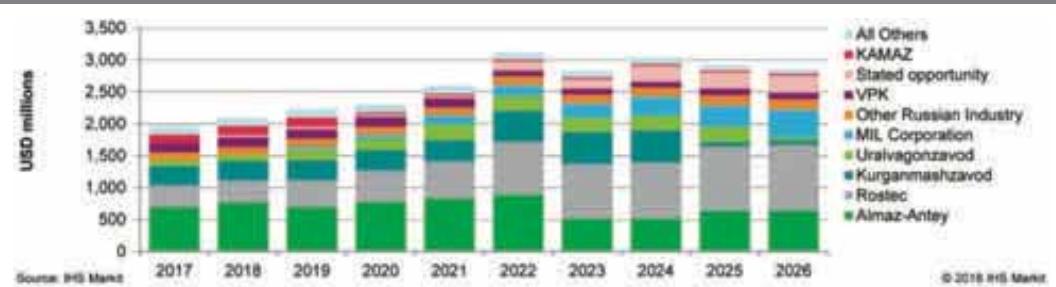
KNDS

- French investment: Nexter, the French component of the KNDS partnership, will be heavily involved in the French Scorpion procurement programme, which will see two new vehicle types manufactured over the forecast period.
  - German recapitalisation: German investment in a

## **Key facts: Poland**



Russian Federation



- conventional armoured force will see KMW upgrade a wide range of vehicles during the next 10 years, including the Leopard 2 MBT fleet
- Armour upgrades: outside of Germany, sustaining the French Leclerc MBT fleet as part of the Scorpion programme will involve KMW and Nexter over the 10-year forecast period.

## END USER COUNTRIES

# Russia

## **Major suppliers**

- Almaz-Antey JSC USD7.02 billion: the Almaz-Antey Joint Stock Company manufactures the premier Russian air defence system, the S-400, in addition to the S-300 series. These are high-value strategic assets accounting for the company's large market share.
  - Rostec USD6.69 billion: this large state company manufactures a wide range of military ground vehicles

including air defence, logistics, and armoured vehicles.

- Kurganmashzavod USD3.24 billion: responsible for development, manufacture, and upgrade of the BMP series of tracked vehicles

## Programmes

- Armata programme: development of the new-generation T-14 MBT, T-15 heavy IFV, and associated vehicles based on a common chassis design.
  - Bumerang 8x8 APC: the Bumerang is a break into the 8x8 design, a change in Russia, which has traditionally preferred tracked designs.
  - Kurganets-25: this tracked IFV is designed to complement the T-14, T-15, and Bumerang vehicles as a lightweight, rapidly deployable tracked IFV.
  - Koalitsiya-SV: the new generation of Russian SPA, the 2S35 Koalitsiya-SV is undergoing development trials.

## Market outlook

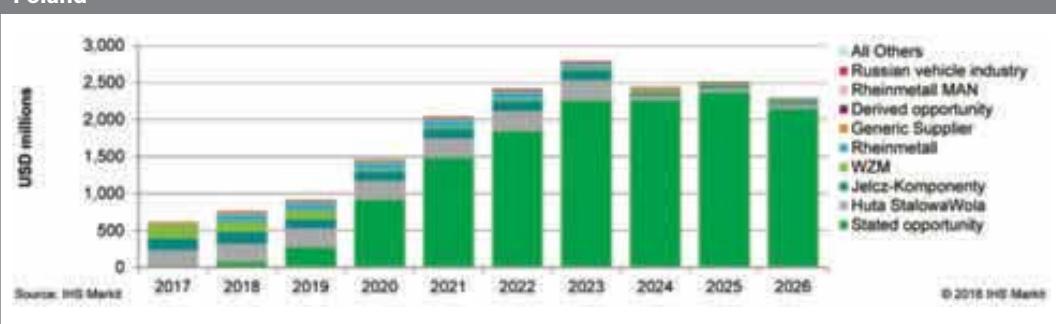
- Western sanctions: while limiting the capacity to source some components, sanctions do not appear to have significantly hampered Russian military ground vehicle developments.
  - Funding questions: the capacity for the Russian economy to fund its ambitious and varied ground vehicle procurements is dependent on overall GDP performance balanced against other high-cost naval and air programmes.
  - High tech – high cost: the high cost of new platforms such as the T-14 MBT could prove prohibitive, with there likely to be a high degree of reliance on upgraded older platforms, such as T-72 and T-90 MBTs.

# Poland

## **Major suppliers**

- Huta Stalowa Wola (USD1.93 billion): Huta Stalowa Wola is involved in the Rak self-

Poland



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propelled mortar procurement programme, as well as upgrade programmes such as the WR-40 multiple rocket launcher.

- Jelc-Komponenty (USD1.07 billion): principally focused on manufacture and upgrading of logistics and wheeled platforms.
- WZM (USD0.67 billion): WZM is the primary contractor for Poland's Leopard 2A4/5 MBT maintenance and upgrade programmes.

#### Programmes

- Borsuk (Badger) IFV and variants: a total of 1,600 tracked vehicles – 800 IFVs and 800 variants – are to be procured based on a common chassis. Serial production is scheduled for 2021.
- T-72M1 MBT modernisation: as part of Poland's strategic defence review in May 2017, the T-72M1 fleet will be upgraded with new mission systems and 125mm ammunition, extending the service life out to 2027-32.
- Hipopotam amphibious APC: this indigenously designed amphibious 8x8 is being jointly designed by Polska Grupa Zbrojeniowa (Polish Armament Group), OBRUM company, and Rheinmetall Man Military Vehicles.

#### Market outlook

- Conventional deterrence: with a resurgence of

regional tensions, Poland is making significant steps to bolster conventional warfighting capabilities; the majority of these remain open calls without contract awards, accounting for the large amount of stated opportunities.

- MBT sustainment: Poland has shown interest in procuring additional Leopard 2 MBTs; however, it is also likely that funds in the near term will be principally spent on upgrading the Leopard 2A4/5 and T-72M1 fleets in service.

## Germany

#### Major suppliers

- FuhrparkService (USD6.31 billion): the state-owned fleet service company is forecast to receive the highest market share over the forecast period, particularly as ageing logistics fleets require increased maintenance and upgrade.
- PSM (USD4.95 billion): Projekt System & Management (PSM) is responsible for the production and upgrade of the German Army's new Puma fleet. PSM is a joint venture between Krauss-Maffei Wegmann and Rheinmetall.
- KNDS (USD1.47 billion): Krauss-Maffei Wegmann, a partner of the KNDS partnership, will see sales generated principally by

the upgrade to Leopard 2 MBTs Programmes.

- Leopard 2A7/8 upgrade: the German army is upgrading its fleet of Leopard 2s to the latest 2A7V standard, to increase survivability, lethality and mobility.
- Puma IFV procurement: the Puma is the German Army's new fleet of IFV, 350 of which are to be procured, with full-rate production peaking at 66 vehicles a year.
- Boxer MRAV programme: a total of 403 Boxer 8x8 vehicles will enter service in a number of variants.

#### Market outlook

- MBT Reversal: the trend in Germany to shed Leopard tanks has been reversed in recent years, partly due to Russian aggression. Maintenance of an MBT fleet and continued upgrades is likely for the long term.
- Potential for slowdown: as the CAGR illustrates, Germany's growth rate is slightly negative. This is logical because the significant spending on Puma, as well as Boxer and Leopard, have prepared Germany for a period of reduced armoured fighting vehicle spending. Germany will also be in a good position from a logistics support angle because more than 2,000 trucks will be delivered by 2024.

## Norway

Norway is prosperous and stable and enjoys one of the highest standards of living and security in the world with an infrastructure and bureaucracy of the highest standard. Its political system is characterised by consensus and transparency with corruption extremely rare; ranking in the top five countries internationally.

Norway looks to oil and gas for a fifth of economic output, and therefore the sharp fall in oil prices from 2014 created significant headwinds for the economy.

Norway is not a member of the EU, but is a member of the European Economic Area and European Free Trade Association and participates in the EU's single market. It has adopted the majority of EU general and defence-related legislation into domestic laws.

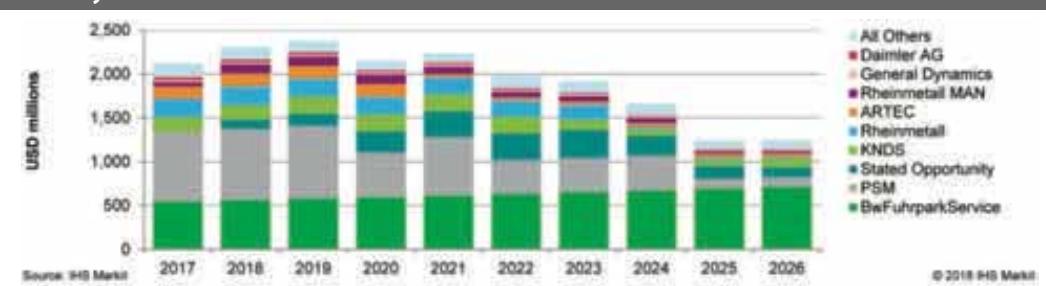
Norway has been a member of the NATO alliance since 1949.

#### Defence spending

Norway's 2017 defence budget of NOK50.95 billion (USD5.7 billion) is the 33rd largest in the world and the 11th largest within NATO. Regionally, Norway's defence budget is significantly higher than the Finnish and Danish budgets (both around USD3.0 billion), and comparable to neighbouring Sweden's budget.

However, as a percentage of

#### Germany



GDP, Norway actually spends more than all Scandinavian countries, with spending coming to 1.6% in 2017 compared with 1.4% in Finland, 1.1% in Sweden, and 1% in Denmark.

Norway's Long Term Defence Plan – published in June 2016 and covering the period 2017 to 2020 – called for gradually increased defence spending to take the 2020 settlement NOK4.1 billion above the 2016 level. This objective was achieved two years early under the 2018 budget settlement, which brought spending up NOK4 billion from the 2017 level to NOK55 billion.

## Industry

The Norwegian defence industry is modest in scale and traditionally focused on servicing the needs of the Norwegian armed forces. It has enjoyed sustained investment by successive governments and is best known internationally as producers of ammunition, advanced remote weapon stations, naval command and control, command management systems and air and sea-launched stand-off missiles.

The defence industry employs approximately 5,000 people directly and returns annual revenues of between NOK12-13 billion (circa USD1.5 billion).

Only three Norwegian defence organisations can be classed as large companies. These are offshore engineering and weapons systems specialist Kongsberg; munitions specialist Nammo and aerospace services firm AIM Norway. Kongsberg is state controlled; Nammo is 50% state owned; and AIM (which was identified for privatisation in 2015) is wholly state owned.

Other organisations in the

## Norway: Market Potential Index (MPI)

Factor/risk	Score	Rating
<b>Defence investment:</b>	3.43	Moderate appeal
<b>Procurement spending - land:</b>	2.75	Lower appeal
<b>Procurement spending - naval:</b>	3.46	Moderate appeal
<b>Procurement spending - air:</b>	4.20	High appeal
<b>Defence industrial capabilities score:</b>	2.38	Lower appeal
<b>Procurement environment score:</b>	4.25	High appeal
<b>Supplier relations score:</b> (credit reliance, international embargo status and degree of historic single supplier reliance)	3.40	Moderate appeal
<b>Market status score:</b> (based on political and economic stability, the internal and external security environment, ease of doing business and transparency)	3.96	Moderate appeal
<b>Final market rating:</b>	4.13	High appeal

**Note:** 1 = high risk/low appeal; 5 = very low risk/very high appeal.

**Source:** Jane's Market Potential Index. Full methodology available on request.

industrial base may be classed as small and medium-sized enterprises with fewer than 250 employees.

The sector looks to export markets for 70% of revenues. In 2016 it emerged that Norway was considering the establishment of a government-to-government sales mechanism to further facilitate defence exports.

Although Norway's domestic defence industrial capabilities are adequate, a substantial number of requirements are still fulfilled internationally and the market continues to be open to foreign investment. Fully 70% of procurement funding goes to foreign suppliers.

Requirements, tenders and procurement decisions were managed centrally through the Norwegian Defence Logistics Organisation (NDLO), although the procurement investment and

management functions of the NDLO were replaced by a civilian agency (the Defence Materiel Agency) from 1 January 2016.

Norway continues to operate an offset programme, with obligations usually placed against programmes equal to or exceeding NOK50 million.

### Investment plans

Norway's acquisition plans are outlined in the rolling "Future Acquisitions of the Norwegian Armed Forces" document. The most recent incarnation at the time of writing was the April 2017 edition covering the period 2017 to 2025. Investment in new programmes between 2017 and 2025 will add up to between NOK64 billion and NOK96 billion.

### Land sector

#### Indigenous industry

Norway does not have significant

indigenous capability in the land domain outside that possessed by Kongsberg or in niche technology companies with limited specific land-focused products. There is no company capable of the design and manufacture of armoured vehicles or artillery systems, for example. Maintenance, upgrade and overhaul of military land systems has been carried out by Cargo Handling Systems Norway and Ritek.

Rheinmetall subsidiary Vinghøg, part of Rheinmetall's Electro-optics business unit, specialises in high-tech products for dismounted soldiers as well as sensor systems and observation, reconnaissance and fire control systems. These range from night-vision goggles, target acquisition systems and day cameras to 40mm fire-control systems.

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## SECURITY

# Protecting public events

Event security is in the spotlight as Russia hosts the 2018 FIFA World Cup from 14 June to 15 July in 11 cities. Jane's has assessed that the primary terrorism threat to the tournament comes from Sunni Islamist militants, including returning Russian foreign fighters. A more locally driven threat comes from Islamist militants in the North Caucasus.

Match-day stadiums will be the highest-profile aspirational targets for militant attacks, but also the most heavily protected. Surrounding areas with uncontrolled public access are therefore likely to be the focus of any attack. Russian intelligence and security forces will be deployed in strength to the stadiums, and this is likely to be effective in limiting casualties in any successful attack, if attacks are not pre-emptively deterred.

Other potential targets include hotels and the host cities' transport infrastructure, particularly those used by large numbers of spectators. This World Cup poses greater logistical challenges than the 2014 Sochi Winter Olympics, but successful security at Sochi and other large-scale public events in Russia in 2018 suggests the authorities have a clear strategy and the capacity to mitigate terrorism risks to the tournament.

### **Changing approaches**

Numerous recent major events have faced acute security risks. The Euro 2016 football

tournament held in France between 10 June and 10 July faced a terrorist threat "more acute than for any international sporting event in history", according to French authorities. Mohamed Abrini, one of the Brussels attackers, told Belgian investigators that the terrorist cell had initially intended to target Euro 2016 but accelerated its plans, altering the timing and targets of the operation. In the November 2015 Paris attacks, three suicide bombers detonated explosive vests near the Stade de France during an international friendly football match.

In the aftermath of the Paris attacks, international security services have acted on the changing threat environment that they face from individuals and groups willing to attack high-profile sites with the intention of causing large numbers of casualties. This recognises that security for major events, often with fans travelling from different countries, requires international co-operation between police and intelligence services to identify and act upon potential threats.

The challenges faced by the authorities in securing mass-attendance events are considerable. A layered approach with multiple overlapping fields that are designed to divert, absorb, delay, and dissuade attempts to penetrate security is required to provide in-depth defence.

Since the Mumbai terrorist attacks of 2008, incident response

procedures for a 'swarming' terrorist attack have also had to evolve. Specialist military and police units may be brought in to resolve the situation, but the specialisation of these teams means they are seldom widely deployed. Street-level law enforcement personnel are generally unable to confront well-armed terrorists, and their role has tended towards evacuating civilians from danger areas. However, their role in locating active shooters is important

so that specialist units can be deployed effectively.

### **Securing entry points**

US guidelines for law enforcement planning and managing security for major events emphasise the importance of a large "show of force" that acts as a deterrent to disruptive behaviour. However, the presence of substantial numbers of security personnel is not necessarily reassuring to the public. Use of plain-clothes operatives and a



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# against terrorist attacks

less visible security presence can contribute to a more relaxed atmosphere, making it easier for observers to identify visitors behaving suspiciously.

As large bodies of people queueing for security checks are a potential target, official UK protocols recommend staging the process to ensure that security staff are given the opportunity to scrutinise every visitor on entry. This is similar to the approach used at Israel's Ben Gurion Airport, where a 'passenger-

oriented' security system is in place. Passengers showing signs of anxiety or suspicious behaviour will be engaged in conversation by security personnel to gauge their mood and intentions. Combined with surveillance cameras, armed security personnel, vehicle checks, and an array of other equipment and technology, this has made Ben Gurion International Airport one of the safest in the world.

At other venues, most static security personnel will be

trained to carry out screening security roles and to report anything suspicious. Training and basic investigation – such as asking questions and ensuring concerns are reported promptly to police – assist follow-up and can reduce false alarms. The pre-deployment of specialist teams at or near venues also enables rapid response to – and early assessment of – potential threats, with procedures enabling their covert deployment. Such teams must communicate effectively with venue security commanders and counter-terrorism advisers.

The team responsible for security during the London 2012 Olympics stressed the importance of gathering good intelligence for rapid analysis and action. The use of a combination of tangible security assets such as closed-circuit television (CCTV), automatic number-plate recognition (ANPR), metal detectors, and physical searches enabled mobile investigative teams of experienced counter-terrorism officers to act on intelligence and to reach any location on the Olympic sites within minutes.

The main legacy of the London security operation was the establishment of command, control, and co-ordination mechanisms across multiple civilian and military agencies. This enabled information to be passed along the chain of command and rapidly actioned. Contingency planning required a detailed response for each eventuality.

## **Technological assistance**

Another area of technological innovation during the London Olympics was the use of social media. Police established an All Source Hub (ASH) to gather social media intelligence in support of the security operation. This provided a significant volume of information on the mobilisation of public protesters, their sentiment, and their intent. It also potentially enabled investigators to rapidly identify and communicate with witnesses in the event of an incident.

Live facial matching of known suspects is rapidly becoming a security asset at events, supported by systems drawing on artificial intelligence, and is heavily deployed in China. This aids with the prevention of incidents rather than reaction.

Facial matching does not guarantee that all potential suspects will be identified and contained before gaining admission to an event, but the technology can restrict potential attackers' free movement. For the 2018 FIFA World Cup, Russian authorities in September 2017 implemented facial-recognition technology on 5,000 cameras in Moscow's CCTV network to crossmatch footage of 'wanted' images from databases and the social media website VKontakte, and authorities in Volgograd installed 131 additional CCTV cameras ahead of the tournament.

Material drawn from  
*Jane's Intelligence Review*



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## NEWS / ACTUALITES

### OUTDOOR LIVE DEMONSTRATIONS PROGRAMME / PROGRAMME DES DEMONSTRATIONS DYNAMIQUES EXTERIEURES

Daily at 09:45 a.m. and 03:30 p.m. (except for the afternoon of Friday, June 15) / *Tous les jours, à 09h45 et 15h30 (sauf l'après-midi du vendredi 15 juin 2018)*

In a new area, closer to the exhibition, the Eurosatory 2018 outdoor live demonstrations are the theatre of Security and Defence of today with: automated convoys, robotics, law enforcement, less than lethal use, protection, surveillance, and combat. The area provides the scene to display vehicles and operating systems in action. Complemented by wide-screen projections, these demonstrations boost exhibitor visibility at the event and promote their products / *Avec plus de décors, le Show des démonstrations dynamiques d'Eurosatory 2018 est le théâtre des opérations de Sécurité et de Défense d'aujourd'hui, avec des missions de convois automatisés,*

*de maintien de l'ordre, avec utilisation progressive de la force de protection, de surveillance, et de combat. La zone d'évolution tactique a totalement été repensée. Cette année, on y accède à pied. Elle permet de présenter des matériels et des systèmes en action. Une mise en scène opérationnelle et l'utilisation de renvois d'image en direct sur grand écran assurent le succès de cette activité qui reste une originalité du Salon. Cette présentation à but professionnel apporte l'information essentielle que ne peuvent offrir les brochures et les vidéo-clips. Pour Eurosatory 2018, sont présentés des produits du domaine Sécurité aussi bien que de celui de la Défense.*

### VEHICLES AND EQUIPMENT MANŒUVRES / MATÉRIELS ET ÉQUIPEMENTS EN ÉVOLUTION

**Aeneas Formation** (France) – Armed Private Security / *Sécurité privée armée dans les transports* ■ **Arquus** (France) – Military vehicles (Sherpa) / *Véhicules militaires* ■ **Azur Drones** (France) – UAV systems (Flying Guard FG-800) / *Drone* ■ **Daimler** (Germany) – Military vehicles (LAPV & Unimog) / *Véhicules militaires* ■ **FN Herstal** (Belgium) – Weapons and ammunition (defNder RWS) / *Armes et munition* ■ **Isuzu Motors** (Japan) – 4x4 vehicles (D-Max) / *Véhicules 4x4* ■ **Manitou** (France) – Logistics / *Logistique* ■ **Milrem Robotics** (Estonia) – Robotics (THeMIS) / *Robotique* ■ **Protecop** (France) – Personal Protective Equipment (demining) / *Equipements de protection individuelle (déminage)* ■ **Sides** (France) – Special vehicles (Fire Fighting) / *Véhicules spéciaux (lutte anti-incendie)* ■ **Spartan Military – Cybergun** (France) – Airsoft Training Weapons / *Armes d'entraînement Airsoft* ■ **Streit Group** (Canada) – Military vehicles (Sherp) / *Véhicules militaires*

### EXHIBITION OPENING HOURS / HORAIRES D'OUVERTURE DU SALON

- Thursday, June 14, from 9 a.m. to 5 p.m. / *Jeudi 14 juin 2018, de 9 h à 17 h*
- Friday, June 15, from 9 a.m. to 4 p.m. / *Vendredi 15 juin 2018, de 9 h à 16 h*

### TODAY'S MAIN EVENTS / EVENEMENTS DE LA JOURNÉE

Safety and Intelligence day / *Dominante du jour : Sécurité & Renseignement*

- **09:00** – Exhibition opens / *Ouverture du Salon*
- **09:30-10:15** – Joint Helicopter Group - Elite Pilots for Elite Cops: how the Joint Helicopter Group fights Terrorism in France / *GH - Au service du RAID et du GIGN : comment le Groupe Interarmées d'Hélicoptères combat le terrorisme en France* (Room 7)
- **09:30-10:30** – IHS Jane's Morning Briefings - Developments in the military ground vehicles market / *Développements sur le marché des véhicules terrestres militaires* (Room 10)
- **09:30-10:30** – Land and Airland Operations Forum - Tactical means of electronic warfare / *Forum des Opérations Terrestres et Aéroterrestres - Les moyens tactiques de guerre électronique* (Room 2)
- **09:30-10:45** – ECCO - The evolution of the offset market, and what the situation is today / *ECCO - L'évolution du marché des offsets et la situation actuelle* (Room 3 – Charge for entry)
- **09:30-11:00** – Security Forum - Developing international cooperation in Cyberdefence and Cybersecurity / *Forum Sécurité - CyberSec - CyberDef Développer une coopération internationale en Cyberdéfense et Cybersécurité* (Room 9)
- **09:30-12:30** – SEA – GILEP - Symposium related to overall operations fuel support, future and sustainable solutions for energy transition perspectives / *Symposium Soutien pétrolier global en opérations : besoins et solutions dans la perspective de la transition énergétique* (Room 4)
- **09:45-10:45** – Outdoor live demonstrations / *Démonstrations dynamiques extérieures*
- **10:00-11:00** – Artificial Intelligence - Defence and Security applications of Artificial Intelligence / *Intelligence Artificielle - Applications de l'intelligence artificielle en Défense et Sécurité* (Room 6)
- **10:30-11:00** – Exhibitor Conference - Getac Technology GmbH / *Conférence Exposant Getac Technology GmbH - L'informatique endurcie dans le secteur de la Défense* (Room 10)
- **10:30-12:00** – Homeland Security - Security organisations for the 2024 Olympic and Paralympic games: opportunities for the security industry / *Sécurité Intérieure - Equipements et technologies de sécurité pour les Jeux Olympiques et Paralympiques de 2024* (Room 1)
- **11:00-12:00** – Land and Airland Operations Forum - What place for new UAV segments within the Army? / *Forum des Opérations Terrestres et Aéroterrestres - Quelle place pour de nouveaux segments de drones au sein de l'armée de Terre ?* (Room 2)
- **11:00-12:00** – Start-Up - Tech giants and national agencies: conflict or cooperation? / *Start-up - Agences nationales et géants de la Tech : conflit ou coopération ?* (Eurosatory Lab)
- **11:00-12:15** – ECCO - A success story of an offset project in the Middle East / *ECCO - Un projet offset réussi au Moyen-Orient* (Room 3 – Charge for entry)
- **11:00** – GICAT Security Export Award / *Remise du Trophée Export Sécurité du GICAT (Salons GICAT - Invitation only)*
- **11:30-12:30** – CBRNe - Workshop on Syria / *NRB Ce - Atelier sur la Syrie* (Room 9)
- **14:00-15:00** – Homeland Security - Futur radio network / *Sécurité Intérieure - Réseau Radio futur* (Room 3)
- **14:00-16:00** – ECCO - Workshops on the following topics: transfer of technology, compliance, valuation of technology, direct offsets vs. indirect / *ECCO - Workshops : Transfert de technologie, Conformité, Évaluation de la technologie transférée, Offsets directs vs. Indirects* (Room 3 – Charge for entry)
- **14:30-15:00** – Outdoor live demonstrations GIGN Gendarmerie Nationale Intervention Group / *Démonstrations dynamiques extérieures Groupe d'Intervention de la Gendarmerie Nationale (GIGN) française*
- **14:30-15:30** – Land and Airland Operations Forum - Artificial intelligence for the benefit of the tactical chief (big data, calculator) / *Forum des Opérations Terrestres et Aéroterrestres - L'intelligence artificielle au profit du chef tactique ("bigdata", calculateurs)* (Room 2)
- **15:00-15:40** – Homeland Security - Population resilience in civil security crisis management in France / *Sécurité Intérieure - La résilience de la population dans la gestion des crises de sécurité civile en France* (Room 4)
- **15:00-16:00** – Security-development continuum and resilience - Three borders Liptako Gourma Zone - Introduction to ShieldAfrica / *La résilience de la population dans la gestion des crises de sécurité civile en France - Zone 3 frontières Liptako Gourma - Accroche ShieldAfrica* (Room 6)
- **15:00-16:00** – FFMI - Data centers protection / *FFMI - Protection des Data Centres* (Room 7)
- **15:30-16:30** – Outdoors live demonstrations / *Démonstrations dynamiques extérieures*
- **15:40-16:20** – Homeland Security - Artificial Intelligence and the input of data value in public policies management / *Sécurité Intérieure - L'intelligence artificielle et les apports de la valorisation des données dans la conduite des politiques publiques* (Room 4)
- **16:00-17:15** – Think-Tank - Strategic Landpower in the 21st Century / *La force terrestre stratégique au XXI<sup>e</sup> siècle* (Room 9)

16:20-17:00 - Homeland Security - Organisational adaptation as a consequence of Artificial Intelligence / *Sécurité Intérieure - Adaptation de l'organisation avec l'arrivée de l'intelligence artificielle* (Room 4)

LAND AND AIRLAND DEFENCE AND SECURITY EXHIBITION

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