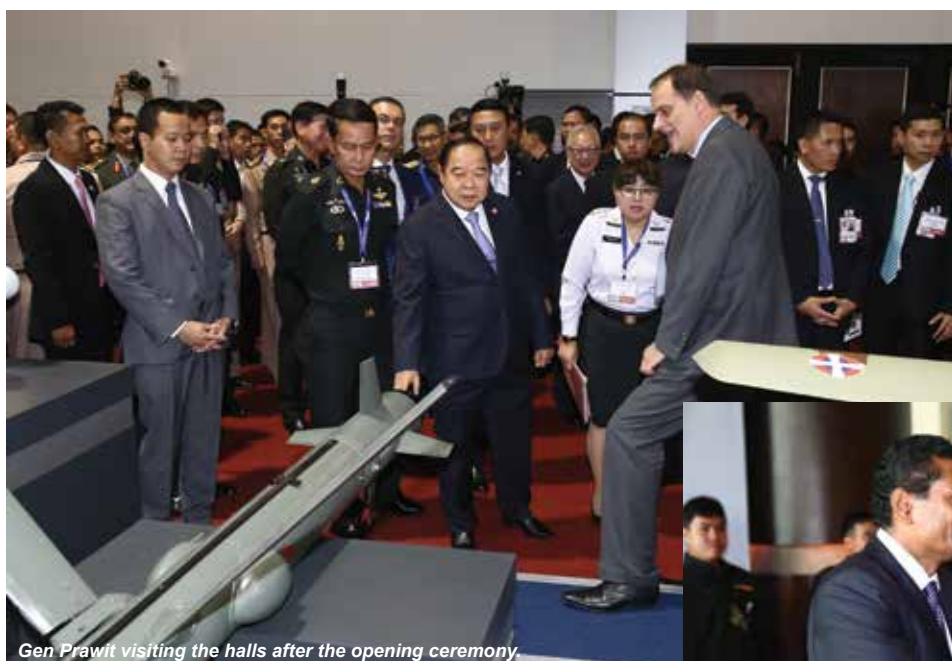


Tuesday, November 3, 2015

The Official Show Daily

Military Need New Systems to Counter Diverse Threats, says Deputy Prime Minister

By MG Mahmud



Gen Prawit visiting the halls after the opening ceremony

BANGKOK: Thailand's Deputy Prime Minister and Defence Minister General Prawit Wongsuwon said yesterday that the armed forces need new equipment and technology to address current requirements because the current security situation has become ever more multi-dimensional and trans-national in nature.

He said in addition to the armed forces' responsibility of maintaining military operation, they are required to prepare their readiness in providing humanitarian assistance wherever necessary during times of disaster, and rendering support to solve social problems such as preventing human trafficking, and combating illicit drug trade and contraband.

Gen Prawit said this in his keynote address for the Defense & Security 2015 show at the IMPACT exhibition complex in the kingdom's capital city. *continued on page 4*



GML Exhibition Managing Director M Gandhi welcoming Thai top brass.

NIMR Ajban ISV Debut at the Bangkok Show

By Kelvin Fong

"Conquer the Elements, Gain the Advantage" is the tagline for UAE's NIMR Automotive next generation of light tactical vehicles, showcased here at the Defense & Security 2015, the Ajban light tactical vehicles.

The Ajban is a HMMWV-style wheeled all-terrain tactical vehicle family, designed to carry out military, police and

peacekeeping missions in the Middle East area thanks to a cooling system that allows the vehicle to withstand the desert climate with temperatures ranging from -25 to +55°C. The vehicle also features composite ceramic armour and central tire inflation system. The vehicle is based on a flexible modular concept to provide support for a wide range of missions.

Displayed at the NIMR ground are two version of the Ajban, the standard hardtop 4x4 while the other making its first appearance here in the Bangkok's show is the new Ajban ISV. The Internal Security Vehicle or ISV is designed to provide fast deployment of a non-lethal means of controlling and dispersing potentially violent crowd gatherings, whilst protecting

continued on page 8

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Commander-in-Chief of the Royal Thai Army, Gen Teerachai Nakwanich being briefed by Norinco's expert on the latest VT-4 MBT.

continued from page 1

He said Defense & Security 2015 is the event that presents the technology that will help address the requirements of the armed forces, not only in the region but also world-wide.

"It also provides outstanding opportunity for manufacturers, delegations and military dignitaries from around the world to exchange knowledge, initiate long-term associations based on mutual trust and respect as well as create fast track route for the manufacturing sector from allied countries," Gen Prawit.

"I do hope all our exhibitors and visitors received warm welcome and treated with utmost hospitality from us."

On behalf of the Ministry of Defence, Gen Prawit also expressed appreciation to the Organising Committee, GML Exhibition (Thailand) Co Ltd—the show organiser—and all valued exhibitors for their on-going support and commitment.

It was reported that the Thai armed forces will be boosting its modernisation and transformation efforts under a new ten-year programme to face current and future threats.

The Ministry of Defence will focus the armed forces' combat readiness

capabilities to cope with all the different dimensional non-traditional threats both in the short-term and long-term. "For this, we have formulated the so-called "Ministry of Defence Reform Plan" which divides the development of the armed forces into two phases," Gen Prawit has said.

For the first five years, he said, "we will focus on reforming the management of the Ministry of Defence and strengthening the armed forces combat readiness capabilities in terms of personnel, equipment, doctrines and training which will include capability improvements to national defence missions, joint operations with allied armed forces and ASEAN as well as enhancing the armed forces capabilities to support the government."

For the next five years, the Ministry of Defence will focus on the development of its structure to be compatible with modern public administration with emphasis to support the government. ●

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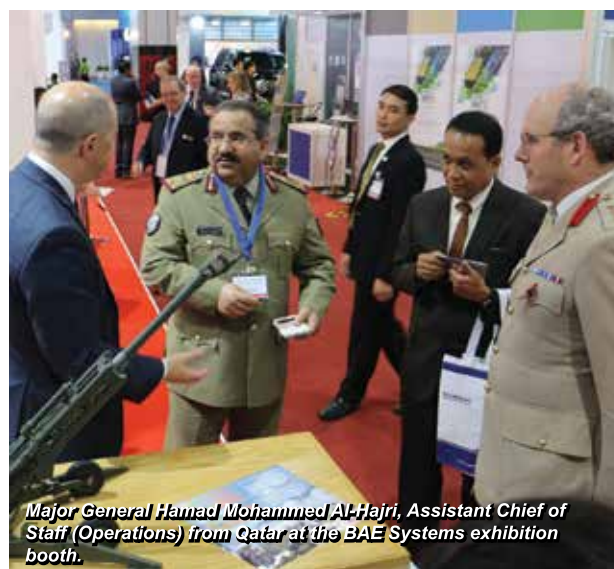
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Major General Hamad Mohammed Al-Hajri, Assistant Chief of Staff (Operations) from Qatar at the BAE Systems exhibition booth.

Thai Cybersecurity Readiness

The Thai military has also called for cybersecurity readiness at the national level, as the country still only maintains preparedness at the military and ministry level.

General Bunjerd Tientongdee, special adviser to the permanent secretary for the Defence Ministry, was referring

to the Information and Communications Technology Ministry.

There should be a national cybersecurity warning centre similar to the National Disaster Warning Centre, National Security Council and National Intelligence Agency, he added.

Bunjerd, who is an information

technology security expert at the Defence Technology Institute, also called on the public to trust the Armed Forces for cyberwarfare plans.

"No one designs an army to fight the people. The cyberwarfare division is the country's response to protect it from threats of cyberwars," he added. ●

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Saab's Erieye AEW&C— Your Eyes In The Sky



Richard Hjelmberg



Saab AB

The countries of Southeast Asia have many territories to keep track of, either on land and across the seas. The emergence of new security challenges like terrorism, overlapping territorial issues, intra-state conflicts, drug trafficking, illegal immigration and piracy have only heightened the need for effective surveillance by all nations.

"Our AEW&C system can monitor all traffic in the air, whether it is civil or military. Saab's Erieye radar can detect, track and classify the most difficult airborne targets, regardless of whether they are at high-speed and high altitude, or "low and slow". We can see "stealthy" aircraft, helicopters, unmanned platforms, even the smallest, flimsiest flying machines including long-range cruise missiles. An Erieye system can detect and track many hundreds of targets over a very wide area and, with our system, you get the same level of capability against maritime targets too. An Erieye can detect vessels at sea down to the size of a jet-ski," says Richard Hjelmberg, Head of Marketing & Sales in Asia-Pacific for Saab's Airborne ISR portfolio.

Putting radar in the air gives far superior area coverage, when compared to surface-based radars. Saab's Erieye system provides an invaluable "first line of defence" for wide area coverage over long ranges, and long duration. At the same time, the system can be easily networked with other national assets such as fighters, maritime patrol aircraft, naval vessels, ground sensors and

command and control centres.

At high altitude, an Erieye has an effective surveillance area of more than 500,000sqkm horizontally and 20km vertically. It will detect air targets at up to 450km. Sea coverage is only limited by the earth's horizon, which is about 350km distant. Within this area, every object in the air and at sea will be pinpointed.

"With our radar systems any country can take full control of its airspace, and monitor all activities at sea as we watch out for fishing vessels, illegal immigration, pollution, smuggling, piracy and provide protection for oil and gas installations," said Hjelmberg.

The Airborne Radar

Saab's Erieye is the first high-performance, long-range airborne early warning and control (AEW&C) system to use active phased-array pulse-Doppler radar. Saab pioneered the use of active electronically scanned array (AESA) radars for AEW&C more than 30 years ago. The Erieye system has been constantly updated and improved over the years and it incorporates materials, design and operating techniques that are unique on the market.

Like every Saab product, the Erieye sets new standards for mission effectiveness, operational flexibility and lifecycle cost control. Saab's excellence in AEW&C systems is driven by its mastery of all the technology required to produce an operational system

that can deal with all and any real-world conditions. Along with its decades of radar experience, Saab also designs and builds electronic warfare, command and control, communications and datalink systems—all of which are critical elements of a complete AEW&C system.

The Erieye system can be installed in a variety of aircraft, including regional jet or turboprop airliners. The number of operators on board can vary between one and five, depending on requirements, and the system can even be controlled remotely. The mission system gives its operators full control of the air and sea picture around them, gathering and integrating information from the radar, IFF, ESM and datalinks. An extensive communication suite incorporates all voice and data input/output. Datalinks are easily integrated to the user's existing air operations centres or reporting centres. A mission planning and debriefing system and a mission training system are all part of the Erieye ground segment.

Saab has secured a leading position as the world's supplier of choice for advanced, independent AEW&C that can be tailored to meet all user requirements. The first version of Erieye became operational in 1997 with the Swedish Air Force. Since then the system has been sold to many countries for multiple applications. The current operator fleet includes Sweden, Brazil, Greece, Mexico, Pakistan, Thailand and the United Arab Emirates. ●



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continued from page 1

the safety of both the vehicle's crew and demonstrators. The ISV is designed to meet the requirements of the local law

enforcement agencies to be a "riot control" vehicle.

Designed to carry up to 10 fully-equipped troops, the vehicle is armoured,

fire resistance and is fitted with a state of the art C4I communication system. The ISV is powered by a 6.7L six cylinder diesel engine, combined with a six-speed automatic transmission and full independent suspension as standard to provide excellent mobility on road terrains.

According to Oliver Cribben-Pearse, Sales Communication Manager for NIMR, the ISV displayed at the stand is fully equipped with 360° view cameras capable of infrared and night vision, IED protection armour and can be equip with smoke grenade launchers. One of the most interesting non-lethal weapons equipped at the roof of the ISV is the "Sonic Weapon". The Sonic Weapon disperse a very loud high pitch sound that irritates the human ears rendering them disoriented, and at the same time emits lasers – "Laser Dazzler" that temporary disturbs the visions of the surrounding crowd. Installed at the front of the vehicle is a plow equipment to push the barricade or debris away. Oliver also mentioned that the ISV is being promoted specially to the Asia-Pacific region, for operations in urban areas where this type of vehicle is most needed. ●

New US Envoy Calls on Thai PM

Thai Prime Minister General Prayut Chan-o-cha has met newly-appointed US Ambassador to Thailand Glyn Davies affirming that US-Thai relations remain strong.

Davies said that the United States wants to see democracy restored in Thailand and expressed the hope that the Thai government would follow its roadmap on national reforms toward a new general election.

Washington's position was expressed by the new US ambassador during his courtesy call on the Thai prime minister at Government House on October 29, during which both sides exchanged talks which lasted more than an hour.

Speaking to reporters after the meeting, Davies said the discussion with the Thai leader included bilateral issues on security, economy, social and public health.

Gen Prayut also told Davies that the Thai government would adhere to the roadmap in restoring the democratic system in Thailand.

The new US envoy said that bilateral relations between Washington and Bangkok remain strong and the United States sees Thailand as a leader of the Association of Southeast Asian Nations (ASEAN). ●

New National Security Policy

Deputy Prime Minister and Defence Minister Gen Prawit Wongsuwan on July 2 presented a six-year national security policy, starting this year, urging activists to stop creating unrest and give the current government in implementing its roadmap, and the country has a constitution which would lead to a general election and a sustainable reform.

Attending the meeting were leaders of the three armed forces, national police and national security council chiefs, and concerned government agencies, Gen Prawit told them that the roadmap would

take the government more than a year to complete.

Gen Prawit said the government is taking responsibility in solving problems every issue, especially cruxes involving foreign affairs, illegal fishing and human trafficking in which the government is moving forward to resolve the problems.

Regarding bloody violence in the deep southern provinces, Gen Prawit said the degree of violence in the region has declined more than half, probably due to a better understanding made by officials with the native people.

Security officials must realise four major factors which include domestic and outside the country dimensions so that they could map out appropriate operational plans, said Gen Prawit, adding that when the country becomes more secured, there would be several forms of cooperation in trade, investment, military and tourism. The Deputy Premier urged the participants to prepare security plans at every level so that they could strengthen the society while people are educated, jobs, income and security in life and property. ●



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Ukroboronprom Tanks to Thailand by Year's End

The next batch of Oplot tanks, the latest development of the Ukrainian armoured industry, will be shipped to Thailand by Dec 31, 2015, First Deputy General Director of state-owned Ukroboronprom Concern Serhiy Pinkas said in an exclusive interview with UNIAN news agency on Sept 17.

Pinkas also pointed to some difficulties that the company had been facing

while manufacturing these tanks. "I can't say that the production of Oplot tanks is smooth and easy. It's far from being easy. I can only say that a personnel reshuffle at the Malyshev tank plant is a signal that not everything has been good there. Now we have bought metal for manufacturing a very large batch of tanks. The situation with the supply of components has

improved. In short, the pace may not be the one we would like to achieve, but let us wait until the end of the year, and we'll make an official announcement then," Pinkas said.

As UNIAN reported earlier, in early 2015 Ukroboronprom's management announced plans to produce 40 Oplot tanks in 2015, and reach the production target of 100-120 tanks per year in 2016 and on.

In June 2015, the company's management dismissed the director of the Malyshev plant for the failure to fulfil the Oplot production plans. For this end, Ukroboronprom said private enterprises were engaged in the production of the tanks as the concern's own production capacities are insufficient.

In 2011, Ukraine signed a contract with Thailand for the shipment of 49 Oplot tanks worth about \$250 million. The first batch of five tanks was delivered in late 2013. Another five tanks were shipped to Thailand in June 2015.

Ukroboronprom's management repeatedly noted that it was more economically feasible to export Oplot tanks rather than use them in the anti-terrorist operation in eastern Ukraine, while channelling proceeds from the export to upgrade mothballed military hardware. ●

SAMP/T Wins International Award

During its yearly Multinational Ballistic Missile Defence Conference, the US Missile Defence Agency bestowed the "Technology Pioneer Award" on the French and Italian teams behind the SAMP/T extended air defence system on Oct 6, 2015. This prize comes in recognition of the successful firing on March 6, 2013 of an Aster 30 Block 1 missile against a target representing a SCUD-type tactical ballistic missile, in liaison with the NATO command chain.

The aim of the firing was to demonstrate that the ballistic missile defence capability of the SAMP/T, and its interoperability with NATO through the use of Link 16, allow it to be integrated into joint forces and inter-allied operations.

The firing was carried out at the DGA's missile testing centre in Biscarrosse,

jointly with the Italian 4th artillery regiment from Mantua and the French Air Warfare Centre (CEAM) at Mont-de-Marsan. It mobilised considerable resources from several DGA and NATO centres, as well as a US Aegis frigate.

The main strengths of the SAMP/T are its 360° area defence and its ability to simultaneously engage all types of short-range ballistic and conventional air targets. Developed and manufactured by Thales and MBDA through the Eurosam consortium, as a Franco-Italian cooperation, the SAMP/T system is in service in both countries, and is a key part of their contribution to NATO's ballistic missile defence programme. ●





Image source: Commonwealth of Australia

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Interview with **Nicole Ng**, Regional Business Manager Asia-Pacific, Life Protection, DSM Dyneema

ADJ Today: Can you explain DSM Dyneema's presence here in the Asian region and what are the company's objectives for the region?

Nicole: DSM Dyneema has been present in Asia-Pacific since early 1980's and is a partner in a manufacturing joint venture with Toyobo in Japan, which has existed since 1986. DSM Dyneema started expanding our products and solutions in life protection applications since 1995 and today we have become a material of choice in many defence and law enforcement programmes in Asia when it comes to higher ballistic protection at a lighter weight.

Asia is a key region for DSM Dyneema and we have four offices including our Asia-Pacific Technical Centre in Singapore, opened in January 2013. This centre offers extensive ballistic testing capability for evaluating and validating the performance of personal and vehicle armour concepts and applications made with Dyneema. The trend towards higher protection at a lighter weight keeps growing and the market is increasingly aware of our standards and the quality of our life protection solutions. This is how we choose to differentiate ourselves and further strengthen our position in the Asia-Pacific region.

ADJ Today: Please brief us on DSM Dyneema's products and its impact on the military forces.

Nicole: Dyneema is used in the form of uni-directional sheets (UD) or ballistic tape for the development of ballistic protection applications such as vests, inserts, helmets and armour for land, air and sea vehicles. Dyneema is well-known as the material of choice in many defence programmes when it comes to high ballistic protection at a lighter weight compared to traditional solutions like steel and aramid.

There are many properties of the material which makes it excellent for life protection applications. Based on the needs in soldier modernisation programmes around the world, we can clearly see the evolving operational needs of military and even law enforcement personnel today. This leads to the industry demanding for more innovative solutions that can deliver significant improvements to address the two main areas.

It is also applicable to vehicle armouring, where higher protection is required at a lighter weight. Today's vehicles are becoming more advanced with equip-

ment and electronics to carry out more advanced operations. Thus the need for lighter and less bulky armouring solutions that do not impact the vehicle's operational performance, range, agility and operational costs while offering a high level of ballistic protection.

ADJ Today: Tell us a bit on the company's latest technology and how would it put to use for the military?

Nicole: Dyneema Force Multiplier Technology (FMT) is a radical step change in armour innovation—and will set a new standard for ballistic armour protection in both personal protection (vests, inserts, helmets, soft armour applications and extremity protection), vehicle armour, and next-generation tactical gear that is engineered around the soldier or law enforcement officer. Products made with FMT are also used for designing composite armour used in air, land and sea vehicles, enabling the introduction of much lighter and thinner armour concepts with enhanced ballistic protection levels. Depending on the protection level, armour made with FMT offers weight reductions of up to 50% compared to glass and aramid armour concepts, and up to 90% compared to full steel vehicle armour standalone concepts — without sacrificing ballistic protection. Lighter and thinner armour gives vehicles better operational performance, greater range, agility and lower operation costs thanks to improved fuel efficiency, all at the same level of ballistic protection.

ADJ Today: Aside from the military, does DSM Dyneema's technology also cater for the commercial sector as well as the local law enforcements such as the police?

Nicole: Yes, Life protection applications like vests, inserts and helmets made with Dyneema are also used to protect law enforcement officers in the frontline globally including those in Asia-Pacific. In the commercial sector, Dyneema is used as a fibre in various applications for industry as well as sports and lifestyle.

ADJ Today: Though the Asian market is vast and lucrative for armour system but due to budget restriction, how will the company work around that in order to strengthen and market its technology?

Nicole: In the Asia-Pacific region, we



are well-positioned with our expanding and wide range of soft and hard ballistic product grades, as well as ballistic tape technology.

We work closely with our customers, OEMs and end-users to jointly develop or tailor-make new applications/innovations and local solutions, all the way from research, conceptualisation to implementation. We leverage our global knowledge, experience and successes via local channels/capabilities to create effective and efficient solutions that meet the local needs of our customers in Asia-Pacific.

ADJ Today: Tell us about your participation here in Thailand's Defense & Security 2015 and what is DSM Dyneema showcasing?

Nicole: DSM Dyneema is showcasing our latest portfolio of innovative grades for both personal protection and vehicle protection. The key highlight for Defense & Security 2015 is our award-winning Dyneema Force Multiplier Technology which has been eagerly adopted by leading armour manufacturers around the world, who are winning important tenders for personal and vehicle protection in the area of law enforcement, private security and defence.

Dyneema Force Multiplier Technology also won multiple industry awards. For example, last year DSM Dyneema received the WorldSafe Safety Product Innovation Award from the Safe America Foundation for the development of the technology. In November 2014, the company was honoured with three ITMA Future Materials awards. DSM Dyneema was recognised for its innovation in textiles, its successful platform launch strategy and its industry leadership. ●

Vietnam Buying Israeli Air Defence System

Vietnam has recently purchased Rafael's SPYDER air defence system, a surface-to-air missile system capable of launching the company's Python-5 and Derby Beyond Visual Range (BVR) air-to-air missiles.

The SPYDER is a low-level, quick-reaction surface-to-air missile system capable of engaging aircraft, helicopters, unmanned air vehicles, drones, and precision-guided munitions. It provides air defence for fixed assets and for point and area defence for mobile forces in combat areas. The missiles have a range of between 20 and 50km. The truck-mounted system combines both radar and optical tracking to guide a combination of short to medium-range air-to-air missiles as a versatile system adapted for a wider range

of threats. The system can be fitted atop a Tatra truck, a Mercedes-Benz Actros truck, a MAN TGS truck, Scania P-series truck, or a Dongfeng truck.

The SPYDER launcher is designed to fire Python-5 and Derby surface-to-air missiles, which share full commonality with the air-to-air missiles. There are two variants of the SPYDER: the SPYDER-SR (short range) and the SPYDER-MR (medium range). Both systems are quick reaction, all-weather, network-centric, multi-launchers, and self-propelled. A typical battery consists one central command and control unit, six missile firing units, and a resupply vehicle. The SPYDER-SR uses the EL/M-2106 ATAR radar while the SPYDER-MR incorporates the EL/M-2084 MMR radar.

The latter is the same radar used by the Iron Dome system currently in service with the Israel Defence Forces.

Current operators of the SPYDER missiles system include India and Singapore. The former operates the SPYDER-MR variant while the latter fields the SPYDER-SR variant.

India was the SPYDER's first customer, and the new systems are replacing India's Russian-made OSA-AKM/SA-8 Gecko and ZRK-BD Strela-10M/ SA-13 Gopher SAM systems. The Singapore Ministry of Defence ordered two SPYDER-SR batteries along with 75 Python-5 SAMs and 75 Derby SAMs in 2008. They were all delivered in 2011 and 2012. ●



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bling the submachine gun for cleaning and conservation. The actual disassembly itself can be carried out in record-breaking speed and ease. Thanks to the low weight, which is the result of extensive application of highly resistant polymers and small dimensions, the weapon can even be carried and used in very limited space.

The CZ Scorpion EVO 3 A1 is superior for its good balance, guaranteeing easy aiming, high precision, perfect controlla-

bility when shooting consecutive rounds, long service life and reliability in extreme conditions. Some of the advantages are intuitive and ergonomic ambidextrous controls and multiple mounting rails based on MIL-STD-1913. Moreover, the ergonomics of the weapon can be adjusted to meet the needs of the user by partially moving the pistol grip horizontally.

Česká zbrojovka offer also includes an exclusive self-loading version of the CZ Scorpion EVO 3 S1 in 9x19mm calibre, suitable for armed forces, which are not permitted to use fully automatic weapons. •



Roketsan and Lockheed Martin to **Develop Mid-Range Cruise Missile for the F-35**

Roketsan and Lockheed Martin recently signed a contract to cooperatively develop the SOM-J missile for integration into the F-35 internal weapons bay. SOM-J is a new generation air-to-surface stand-off cruise missile.

The contract, signed in Oct 2015 enables the companies to move forward with their Technical Assistance Agreement, making the SOM-J missile available to international customers. SOM-J integration into the F-35 is scheduled for Block 4. Early live flight testing will be conducted on Turkish F-16s.

"SOM-J integration on the F-35 will enable pilots to engage targets from long ranges while maintaining the aircraft's critical stealth capabilities," said Frank St John, vice president at Lockheed Martin Missiles and Fire Control.

"This contract signing, and subsequent approval of the Technical Assistance Agreement, continues our strong relationship with Lockheed Martin," said Emin Alpman, chairman of the board at Roketsan. "Offering SOM-J to the international F-35 marketplace will bring criti-



cal business to Turkey and provide an important capability to allied nations."

SOM missile development began in 2006 and entered service with the Turkish Air Force in 2011. SOM-J is a smaller version of the subsonic SOM missile, which employs a 500-pound warhead and

has a required range of more than 100 nautical miles. The SOM-J missile uses Global Positioning System as its primary guidance and is aided by inertial, terrain-referenced and image-based navigation systems, as well as an imaging infrared seeker. ●

Main Specifications:

- Two axis stabilized turret
- Automatic target tracking
- Day/night operation under all weather conditions
- Automatic ballistic calculation and correction

- Remote control
- Automatic slew to targets assigned from radar, target designator or C3
- Manual back-up mode

Stabilized Weapon Platforms

SARP System (Land Version)
7.62 mm / 12.7 mm MG,
40 mm Grenade Launcher,

STAMP System (Naval Version)
7.62 mm / 12.7 mm MG,
40 mm Grenade Launcher,
12.7 mm GAU-19/A Gatling Gun

STOP System (Naval Version)
25 mm / 30 mm Dual Feeding
Automatic Cannon

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Oto Melara Cannon for Tactical Transport



Finmeccanica's Oto Melara introduced its new 20mm palletised air-to-ground gun system designed for transport platforms. The Oto Melara gunship system is intended to provide fire support for troops including special forces personnel. It can also be used against ground vehicles with up to medium armoured protection, and to strike lightly defended outposts.

Designed to be self-contained within a

standard single military cargo pallet, the system comprises a Vulcan 20mm gatling gun mount and servos, electro-optical fire control system, gunner workstation and 750-round magazine. The total weight is 1,550kg including the operator and full magazine, but excluding ballistic protection. The gun, mount and operator console are made of carbon fibre material to help absorb firing recoil, according to

Finmeccanica.

The gunship payload can be quickly loaded aboard an unmodified tactical transport such as a Lockheed Martin C-130 or Alenia Aermacchi C-27J using a forklift, and be self-powered within about 30 minutes. The weapon is installed to fire through the aircraft's left hand paratroop door, and is capable of a maximum rate of 4,000 rounds/min.

Financial backing for the development comes from the Italian defence ministry's research and development department, in accordance with the nation's special forces requirements for airborne precision and long-endurance fire support.

A prototype system was delivered to the Italian air force's flight test facility in Pratica di Mare last October 2014 for certification with the C-27J. This was achieved in late February 2015, before airborne live firing tests. Analysis is ongoing, but the gunship system is expected to be fine-tuned for a final accuracy of better than 4m when fired using a 2,000m slant range from an altitude of 5,000ft.

Other possible customers will be offered use of the prototype to support evaluation or training in the near future. Production units could be delivered within the next 12 to 15 months. •

Rosoboronexport Displays Its Wares at the Bangkok Show

Rosoboronexport, part of the Rostec State Corporation, is presenting a wide range of hardware for all services of the armed forces and integrated national security projects at the Defense & Security 2015 Exhibition and Conference.

"Our efforts are focused on the further expansion of cooperation with all the countries in Southeast Asia including those which have been traditionally working with Western manufacturers. Russian weapons are strongly competitive, effective and fully meet the needs of the region. In addition, Rosoboronexport is ready for the broadest possible cooperation with local producers, joint and licensed production, and close science and technology cooperation. This fully meets the interests of many of our partners to establish their own high-tech defence industry," said Victor Brakunov, head of Rosoboronexport's external relations department, who leads the company's delegation at the exhibition.

Keen interest among our foreign partners is expected in Yak-130 combat trainer

aircraft, Mi-17-type attack and military transport helicopters, T-90S tanks, BTR-80A armoured personnel carriers, a police version of the Tigr armoured motor vehicle, BMP-3 infantry fighting vehicle, a wide range of small arms and naval equipment, including *Gepard* 3.9-class and Project 11356 frigates, Project 21632 *Tornado*-class corvettes, and *Amur* 1650-class submarines. Rosoboronexport expects greater attention to almost the entire export line-up of Russian air defences, in particular to the Buk-M2E and Tor-M2 SAM systems, Pantsir-S1 air defence missile/gun system and Igla-S MANPADS.

At the exhibition, Rosoboronexport will present its Integrated Safety and Security of Major Administrative Entities, Critical Facilities and National Frontier project to foreign customers. Ten type of detailed integrated security projects (for protecting borders, ports and coastal areas, providing security of cities and critical industrial facilities, holding mass sports events, among others) have been developed based

on an assessment of existing threats. Such systems are designed to establish a common information space, coordinate and control the activities of various law enforcement agencies and special services. This will make the fight against crime, terrorism, mass unrest, and illegal migration more effective and enable quick response to emergencies.

At Defense & Security 2015, Rosoboronexport will hold substantive talks with its key partners in Southeast Asia, as well as discuss the prospects of expanding military-technical cooperation with new partners.

Military-technical cooperation with Thailand began in 2009 with the deliveries of Kalashnikov assault rifles for the police. Later, contracts for the purchase of Mi-17V-5 helicopters and Igla-S MANPADS were signed. In addition, Rosoboronexport has been actively involved in all major tenders for the supply of military products for the kingdom's armed forces. •



FINDERS C2 from Nexter

Nexter Systems offers its Battle Management System solutions in its FINDERS C2 range, which includes the SIT, deployed by the French Army and the TMS for export markets. This specialised tool is showcased here at the Thai Defense and Security 2015 exhibition.

The FINDERS C2 Battle Management System (BMS) are dedicated for armed

forces units, from brigades to rank and file vehicles and foot soldiers. They connect vehicles, weapon systems and infantrymen to guarantee the continuity of mounted-dismounted combat. FINDERS C2 is well-known for its user interface and for its recognised ease of use. Developments concentrate on the addition of functions at the operational personnel's request (eg,

electronic interfaces with vehicles, intelligence, artillery, engineering or protection functions, among others).

Intelligence Tool

This tool is installed in the command vehicle, at a manoeuvre officer's workstation. It allows the intelligence officer to draw up a summary of the threats that the forces may face, by listing the facts and evidence along with their location, date, distribution and repetition. The tool can assess information and assign a degree of credibility to it. It displays in 3D the terrain and positions points of interest. It also provides assistance in the analysis of itineraries and threats, understanding the local situation (ambience), the surveillance of districts and the analysis of intelligence. When connected to FINDERS C2, the tool can exchange observation reports, intelligence messages, and ambience messages, among others, between the brigade and battalion control centres, or with the units of the Battalion.

Currently there are about 1,600 SIT kits in the service of the French Army and it has been combat-proven since 2006. About 1,700 TMS kits are on order (six contracts). Some of the benefits of the system include competitively priced, easy to use, limited training and multi-weapon customisation. ●



ROKETSAN has adopted the primary mission of serving to national defense with its rocket and missile systems and contributing to local technological infrastructure. **ROKETSAN** will continue improving its mission and strategic vision with the power rooted in its history.



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ROKETSAN IS AN ESTABLISHMENT OF TURKISH ARMED FORCES FOUNDATION

HMNZS Te Mana of ANZAC-class frigate.



Lockheed Martin: Continues to Wow Asia-Pacific

As one of the world's leading defence and aerospace company, Lockheed Martin has been riding on success on its ventures in the Asia-Pacific. ADJ Today gets the brief on some of the company's progress of its projects in this region.

NZ ANZAC Frigate Systems Upgrade

Lockheed Martin Canada announced that the ANZAC frigate systems upgrade project for the Royal New Zealand Navy has successfully completed the combat system critical design review on schedule.

The government-mandated review proves a contractor's progress and planning for all elements of a programme. It covered in detail all of Lockheed Martin Canada's plans for shipboard systems and designs. The success of the review enables Lockheed Martin Canada to begin implementing detailed designs and plans for the system's key components, which will in turn lead to ship installation. The

milestone is the latest achievement for the company in the 16 months since contract award.

Lockheed Martin Canada, in April 2014 was selected as the Prime Systems Integrator by the New Zealand Ministry of Defence to upgrade the combat systems on their ANZAC-class ships. The company's Combat Management System 330 is the backbone of the technical solution for this project and many of the sub-systems to be supplied are common to the Royal Canadian Navy's *Halifax*-class modernisation project.

"Our success on this programme is a direct result of our collaborative approach to building relationships and demonstrated ability to manage multiple stakeholders through complex projects," said Rosemary Chapdelaine, vice president for Lockheed Martin Canada Mission Systems and Training.

Echoing this sentiment of collaboration, New Zealand Ministry of Defence project director Gary Collier added, "I continue to be impressed with Lockheed Martin Canada's flexibility, responsiveness and prag-

matic approach to achieving a successful outcome for both parties. We are pleased to have Lockheed Martin Canada as the prime contractor and partner for this critical project for New Zealand's Ministry of Defence and the Royal New Zealand Navy."

Lockheed Martin Canada's combat management system was also down-selected as one of two solutions qualified to compete for the Royal New Zealand Navy's Maritime Sustainment Capability—the future replenishment tanker—which will maintain afloat replenishment capability for the New Zealand Defence Force.

Rosemary Chapdelaine continued, "This project has truly placed our products and capability in a global spotlight and positioned us for future international growth, demonstrating our ability to create jobs and economic growth for Canada. ANZAC leverages the expertise and record of success established through Canada's *Halifax*-class modernisation project—and now other customers can take full advantage of the modern combat system integration methodology and lessons learned from both of these sophisticated programmes." ●

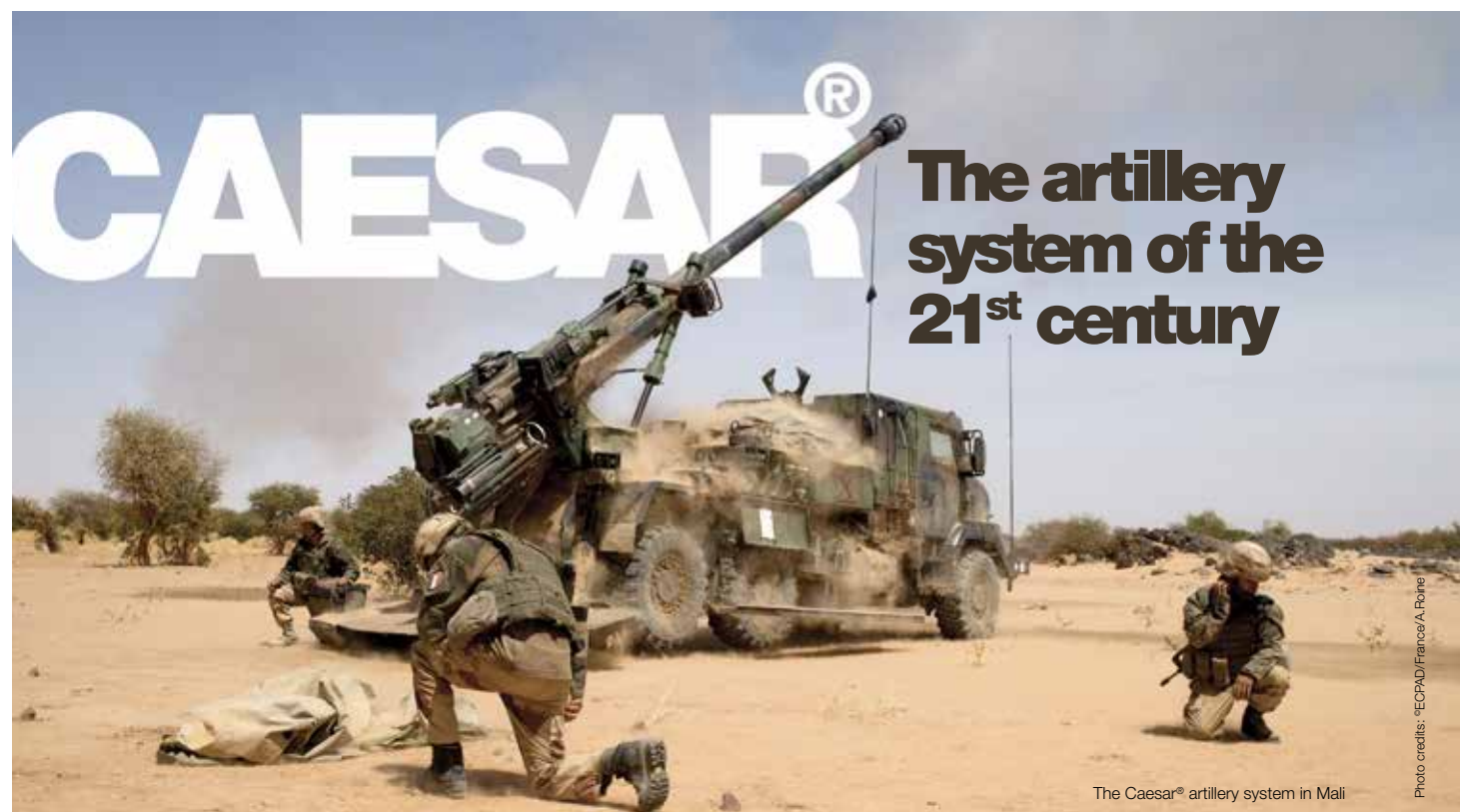
Aselsan Systems for Pakistan Fleet Tanker

Aselsan will be producing 25mm STOP remote controlled stabilised naval gun system and communication switching system for Pakistan Navy's fleet tanker, within the scope of the contract signed between Aselsan and STM, the prime-contractor of the fleet tanker project.

A fleet tanker with displacement of 15, 600 tones, approximate length of 155m, speed of 20kts and with a replenishment-at-sea system and a helicopter landing/take-off capability contract was signed between Savunma Teknolojileri Mühendislik ve Ticaret AŞ (STM) and Pakistan Ministry of Defence Production on Jan 22, 2013.

Under the contract, STM is providing Pakistan Navy with the ship design package including systems and equipment such as STOP, CSS, Integrated Logistics Support (Onboard and depot spares, Maintainer and Crew Training, Test Tools, etc) as well as consultancy and technical support to Karachi Shipyard Engineering Works where the fleet tanker is being constructed.

Aselsan's 12.7mm STAMP remote controlled stabilised machine gun systems, 25mm STOP remote controlled stabilised naval gun systems and communication solutions are already being used by the Pakistan Armed Forces. ●



Experience Situational Awareness with Rohde & Schwarz

Today's military missions are typically based on joint operations in a multinational environment. The key to success is achieving information superiority through network-centric operations. Rohde & Schwarz supplies interoperable radio communications systems for deployment on land, at sea and in the air. The solutions use efficient encryption methods that satisfy the highest national and international security standards. With powerful waveforms, high data rates and support of IP-based applications, the R&S SDTR software defined tactical radio opens up new fields of application.



Rohde & Schwarz supports recon missions by providing solutions which can be adapted to meet a broad range of requirements on various platforms. Exchangeable sensor subsystems are available for these platforms, for either manual or automatic COMINT as well as ESM operations. Combining outstanding RF performance over an extremely wide frequency range with maximum flexibility, Rohde & Schwarz systems are designed for use in especially demanding scenarios. Furthermore, Rohde & Schwarz introduces its new and innovative RADAR signal collection and analysis system. It focuses on operator usability, functionality and the operation in complex signal environments.

For more than 80 years, Rohde & Schwarz has stood for quality, precision and innovation in all fields of wireless communications. The German independent, family-owned company is strategically based on five pillars: test and measurement, broadcast and media, secure communications, cybersecurity, radio monitoring and radio location. To be always close to the customers, Rohde & Schwarz has an extensive service and sales network in over 70 countries.

SEA Showcased KraitArray

UK's SEA introduced their next-generation, small diameter, passive acoustic thin line array product at Defense & Security 2015. Named after the banded sea snake of this name, KraitArray is a user-configurable thin line array providing directional sensing capabilities.

Suitable for low speed towed or static applications, SEA have made use of their knowledge and experience of larger diameter arrays to develop this highly adaptable product that provides impressive performance with reduced power consumption, weight, drag and cost when compared to traditional line and towed arrays. These benefits mean that KraitArray can be adapted and used for many platforms and applications including:

- Manned and unmanned vessels (surface and underwater);
- Harbour surveillance and protection;
- Suspended/vertical array;
- Marine mammal monitoring;
- Torpedo defence systems;
- ASW;

- Environmental monitoring and vessel noise characterisation;
- Asset monitoring and protection; and
- Condition monitoring.

SEA also provide and support many other elements of naval combat systems, including communication systems, weapon and decoy launch systems and training solutions.

SooSung Defense Industries—Automatic Bore Cleaner (ABC system)

Cleaning of the tank and artillery barrels is critical because it is the single most important piece of equipment on the tank and artillery. However the current cleaning method is extremely time consuming and most modern soldiers could use this time for extra training or much needed rest. The Automatic Bore Cleaner system from Soosung Defense Industries delivers the solution.

Advantages of the Automatic Bore Cleaner include:

Perfect Cleaning—lifetime of bore increases because perfect cleaning of gun powder, sludge, copper, oxide causes reduction in movement friction resistance on the surface of bore when the gun is fired. Also jammed shell and unnecessary firing decreases because not only does clean bore help shell to be fired well but also rises shooting accuracy. Therefore, saving cost and achieving triumph in war could be achieved.

Fast Cleaning—rate of cannon operation could increase by 20~30% owing to fast cleaning.

Protection of soldier's life—reduction in soldier's combat exposure time when cleaning bore.

No Need for Large Space—when using a cleaning rod, the area which is 2.3 times longer than length of bore is required to clean the bore, but ABC system needs only the area where one person can stand.

Even Cleaning Quality—each brush has the same pressing force.

Portability.

Adaptable—AC 110V~240V(50HZ, 60HZ) and DC 24V.

Weatherproof—the ABC system is able to clean bore in all-weather conditions, day and night.

Speed Imaging Pte Ltd

Speed Imaging Pte Ltd is the authorised distributor for the Phantom range of ultra-high-speed cameras in Southeast Asia.

The area in which Phantom cameras are used in the defence industries are:

- Ballistic testing (projectile muzzle velocity or terminal ballistic and impact);
- Personnel safety inside vehicle subjected to blast and explosion;
- Advance material research;
- Rocket launching pattern;
- Explosive engineering;
- Weapon research; and
- Rocket and missile test.

The Phantom cameras have advantages varying from being compact to tackle hard to access area and being ruggedised in order to withstand high G or shock.

Available camera specifications are:

- 25,000fps at 1280x800 resolution to more than 1,000,000 fps at reduced resolution;
- Battery operated with LCD display for portability; and
- Extremely fast image download.



Stand-off Explosives

Detection

The threat of violent attacks by terrorists and insurgents remains in many places in the world. Attacks that in the past were mainly limited to hotspots are now happening in many places that were previously considered safe for residents and tourists alike. These threats come in many forms and use of explosives remains common. Some of the most serious attacks with large quantities of explosives occur when vehicles and suicide bombers are deployed to deliver the attack on the targets.

Achievements in radar technology and sensor fusion have led to effective detection systems at checkpoints with high probability of detection at safe stand-off distances outside of the blast danger zone. Coupled with advances in software controlled autonomous detection modes with automatic real-time threat detection and alarms, stand-off detection of, for example, suicide bombers have taken significant steps forward. The video camera controlled millimetre wave radars in Counter-Bomber by Rapiscan Systems is one sensor fusion example that have led to a virtual elimination of suicide bomber attacks at the checkpoints and facilities where deployed, and have proven their value and justified their cost many times over.

An intelligent Safe City solution as developed by Teletrol-One Co Ltd uses and merges input from many sensors of different types. Detection of suicide bombers with concealed explosive devices is one valuable input when protecting military as well as the civilian targets at places where many people gather like airports, government facilities, sport events and many other places.



C-Guard from Terma—A Proven and Cost-Effective Naval Decoy Launcher System

At Defense and Security 2015, Terma displays the proven C-Guard Soft-Kill Weapon System (SKWS)—a decoy launcher system for naval platforms made to defeat stream attacks with multiple missiles and torpedoes from multiple directions. The system effectively counters advanced threats like small range gate Radio Frequency (RF) missiles, imaging InfraRed (IR) seekers missiles, Dual Seekers (RF/IR), and ad-

vanced next generation torpedoes.

Based on the 130mm NATO standard decoy system, Terma has more than 150 C-Guard systems in operation worldwide. The system offers a small footprint, low Total Cost of Ownership (TCO), and High Mean-Time-Between-Failure (MTBF). This results in a cost-effective solution with a high degree of operational time.

In addition, Terma and DCNS have jointly developed a fully automatic anti-torpedo decoy system. The system uses the Terma C-Guard Decoy Launcher System to fire DCNS CANTO-V anti-torpedo decoys. The C-Guard upgrade for dual Anti-Air Warfare (AAW) and Anti-Submarine Warfare (ASW) countermeasures use the jointly developed software with advanced algorithm (embedding DCNS CONTRALTO-V reaction software) to support fully automatic firing.

This provides the ship with an effective protection against torpedo attacks. The decoys will be placed in the water in the best way to confuse the torpedo together with ship evasion manoeuvres proposal. With advanced algorithms, this system will provide the best firing solution and protection of all types of ships against torpedo attack.



Can a Riot-Control Tool be Absolutely Non-Lethal?

Answer: Meet "Skunk".

Police forces across the globe are consistently faced with the compelling dilemma in confrontations with violent civil unrests; the need to balance effective riot control and the duty to preserve the protestors' and police officers' health and safety.

Conventional crowd dispersal techniques ranging from physical force to tear gas, rubber bullets, and other so called "less lethal" means, have often proved ineffective or, worse, lethal. In collaboration with Israel National Police R&D, an Israeli company, developed the optimal solution; the highly-pungent, safe and eco-friendly solution, the Skunk.

First used in 2008, Skunk is a non-lethal and non-toxic liquid spray which extremely pungent, overpowering odour drives away rioters, effectively shutting down any escalation. With the viscosity of water, Skunk can be sprayed using standard water cannons or personal spraying systems. Ad-

ditional important advantage over other means is its long lasting effect which forces the rioters to stop the violence and evacuate the scene.

According to the manufacturer, Skunk is made from 100% food grade ingredients. Senior police officials say, that despite its effectiveness there has not been a single casualty due to the use of Skunk since 2008 when the tool was adopted by the Israel Defence Forces and Israeli National Police.

Skunk is being used for facilities protection as well. *Al Jazeera's* reporter Ahmed Abdullah could not describe it better. In October 2008 Abdullah wrote, "As disgusting as it is, being sprayed with Skunk might be preferable to being hit by a rubber-coated bullet or choking under the effects of tear-gas or pepper-spray."

Keep Moving When Tyres Go Flat

For wheeled vehicles to keep moving when the tyres suddenly deflate during an ambush or an IED attack, is really critical. Running on flat tyres even for a short distance on a well-constructed road is difficult. Imagine having to do it over rough terrain at high speed, it is nearly impossible.

The solution is to use runflat inserts, but not just any variant. They need to be made of rubber to absorb the shock and they need to be easy to fit. Tyron has developed a unique, multi part, All-Terrain Rubber (ATR) runflat for off-road applications which are designed to be easy to fit, even at the side of the road without any special tools. Its design has been patented and undergone significant assessment including ballistic testing against small arms.

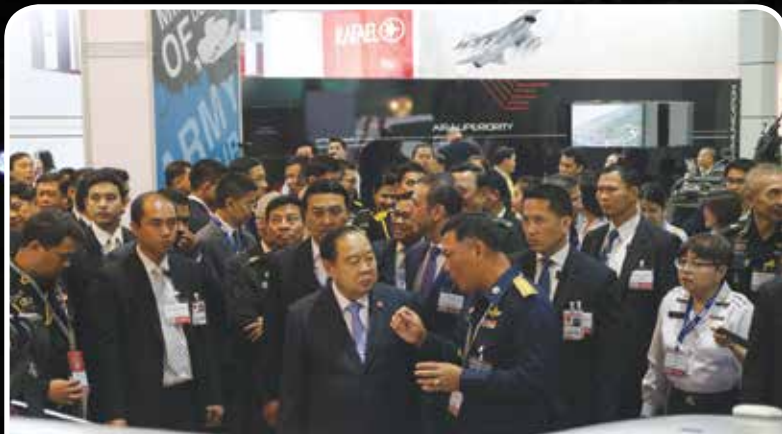
The company is one of the leading suppliers with several patents to its name for its designs. The runflats are made from rubber which, unlike composite material, will guarantee beadlock and absorb the shock from bumps and potholes, reducing the damage to both the wheel and tyre so that the vehicle can continue its mission.

A unique part of the Tyron design is that it is a multi-part rubber runflat. This allows the fitter to change a tyre, even at the side of the road with no special hydraulic press in a container or special tools.

The Tyron ATR runflats, unlike composite, come with a performance guarantee. Tyron guarantees a minimum performance of over 50km, on the heavy 4x4, 6x6 and 8x8 vehicles on 20" wheels and a minimum of two hours off-road.

The company also has TuV approval for 100km at 50km/h with two flat tyres on a Toyota Fortuner and then carried on for a further 50km or 30km/h with all four tyres deflated. ●

Pictorial Highlights



Thailand's Deputy Prime Minister and Defence Minister, General Prawit Wongsuwon being briefed on the Royal Thai Armed Forces' UAV during his visit to the Ministry of Defence Pavilion.



Gen Prawit Wongsuwon with VIPs after looking at the Black Widow 8x8 APC



General Pisit Sitthisarn, Chief of Staff from Royal Thai Army together with DTI personnel at the Ministry of Defence Pavilion.





Malaysian Deputy Defence Minister, Datuk Wira Mohd Johari and Malaysian Chief of Army, Gen Tan Sri Raja Mohamed Affandi taking a look at Nexter's CAESAR model.

Power of Partnership





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The RWS standard

With over 4 decades of exceptional experience and integrated worldwide on thousand of fielded ground platforms, RAFAEL's "SAMSON" family of advanced RWS delivers high performance with unmatched survivability.

RAFAEL's RWS are operational on tracked and wheeled Armored Personnel Carriers (APCs), Main Battle Tanks (MBTs) and accommodate diverse weapons and sensors.



SAMSON-DUAL
Reloading Under
Armor



SAMSON 30MKII
Loading Under Armor



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