

Wednesday, November 20, 2019

The Official Show Daily

## Thai Defence Industry Moving Up the Global Ladder



**The** Thai defence industry have played an increasingly important role in the recent years as the Thai armed forces embarked on their modernisation drive. Among the key players include Chaiseri, which has supplied the Thai armed forces with various armoured vehicles and has also successfully exported their products to both Malaysia and Indonesia, amongst others.

The Thai armed forces has also taken part in their own research and development efforts, and among the leading public sector players is the Defence Technology Institute (DTI, ably headed by its Director General, Air Chief Marshal Preecha Pradabmook, PhD.

The DTI has initiated a number of development programmes, such as the modernisation of the BTR-3E1 8x8 armoured ve-

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## China's Arms Makes Headway into Southeast Asia

**China's** defence companies are making headway in equipment sales here in Southeast Asia with its range of weaponry and systems whose cost-effectiveness has attracted the attention of budget-conscious nations operating military forces in condition of economic uncertainty. Making the Bangkok show as the platform to mark a bigger footprint here, its defence companies are present in a big way, offering solutions, encompassing land, air, and sea domains.

The sole communist superpower has grown its defence industrial footprint ten-fold over the decades – moving up the pace from fulfilling the requirements of the People's Liberation Army (PLA) modernisation needs to that of the world's militaries. The defence industry of China is estimated to continue to play an important role in the global defence industry arena, with big ticket national programmes, and with suc-

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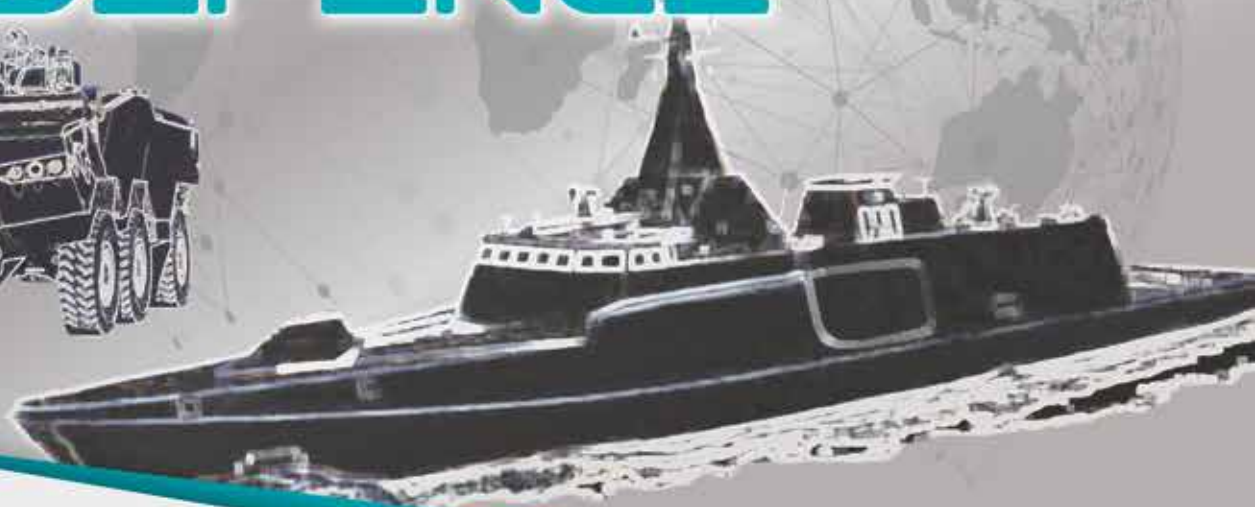
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cesses in international sales in tow, giving competitors a run for their money. And they have gone from just making licensed Russian systems, reengineered knock-offs of western items to making air defence/attack missiles, multi-role combat aircraft, submarines, and naval ships-including aircraft carriers of their own inspired designs. China's defence budget for 2019 was announced at RMB1.19 trillion (\$167 billion), a 7.5% increase from the previous year. Aerospace Long-March International Trade (ALIT), China Electronics Technology Group Corp (CETC), China National Aero-Technology Import & Export Corporation (CATIC), China Precision Machinery Import and Export Corporation (CPMIEC), China North Industries Group Corporation (NORINCO), China Shipbuilding & Offshore International Co (CSOC) and China Shipbuilding Trading Co (CTSC) are present at the Defense & Security 2019 to showcase their latest products and services.

#### China Equips World Militaries

Latest data from Swedish think tank, Stockholm International Peace Research Institute (SIPRI) in March reported that China is selling weapons from light arms to main battle tanks to more countries and is now the



world's leading exporter of armed drones. Chinese arms exports increased by 2.7% in the period from 2014 to 2018. SIPRI also said that China expanded its customer base to 53 countries in 2014-18, up from 41 in the previous five years. Of China's arms exports, 70% went to Asia and Oceania in the last five years, followed by 20% going to Africa and 6.1% to the Middle East.

Chinese weapons makers are among the world's biggest defence companies, accounting for seven of the top 25 by rev-

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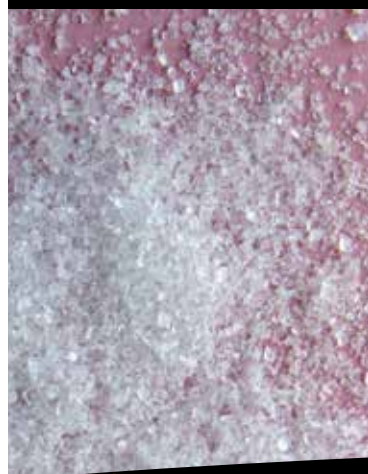
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## The European Leader in Energetic Materials



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COMBUSTIBLE ITEMS



AMMUNITION  
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continued from page 3....**China's Arms....**  
 enue; among them are NORINCO, China Aerospace Science and Industry Corp (CASIC), China Shipbuilding Industry Corp (CSIC), China State Shipbuilding Corporation (CSSC), CETC, and China Aerospace Science and Technology Corp (CASC).

#### Partnership Through Transfer of Technology

China's defence companies here at the show are offering its partnership with local partners, and others in the region. Thailand has been procuring a number of China's weapons and equipment over the years, with the biggest deal in the recent years being the procurement of the VT4 tanks and the new submarine for the Royal Thai



Navy. But China's companies go beyond the sales and marketing phase—offering partnerships in term of technology transfer.

**ADJ Today** speaks to some of the top officials of the China defence companies here at the show, and a majority of them agree that partnerships through transfer of technology is the way of the future. Take for instance ALIT which is working closely with Thailand's Defence Technology Institute (DTI), a research and development arm under the oversight of the country's ministry of defence, on various equipment such as unmanned aerial vehicles and weapon systems. ALIT has been collaborating with DTI on various projects in the past, and presently continues to maintain that partnership on other collaborative projects. ▲

## CH-4 UAV Highlights in Thailand



**As** a star product in the international market, CH-4 UAV has attracted more attention at the Bangkok show. Manufactured by ALIT, CH-4 is a medium-altitude long-endurance (MALE) UAV system, integrating reconnaissance, surveillance and strike capabilities. Two payloads can be carried simultaneously to realise detection, sur-

veillance, intelligence collection and target positioning missions. With different kinds of weapons, it can perform strike missions. Moreover, it has wide-range of civil applications, such as forest fire prevention, mapping, and emergency communication.

CH-4 UAV features long endurance, multiple payloads, easy training, easy op-

eration, low operation/maintenance cost, and good expandability. Until now, CH-4 UAV has been exported to a number of countries. With outstanding performance in operations, it is highly- acclaimed by users. The battle-proven system and can well meet the operational requirements of different users.

# Certified As **First Global F-16 MRO Depot**

On Oct 14, 2019, Vice President of F-16 of Lockheed Martin Susan Ouzts certified Kongsberg Aviation Maintenance Services (KAMS) as the first Falcon Depot while President of Kongsberg Aviation, Atle Wøllo, co-signed the Falcon Depot certification, authorising KAMS to perform Lockheed Martin-certified F-16 Maintenance, Repair and Overhaul (MRO) sustainment work as an Lockheed Martin franchise in the global market. Susan Ouzts stated that

"KAMS has decades of F-16 sustainment experience that can be leveraged globally to support our F-16 customers. KAMS has a unique opportunity to perform Lockheed Martin F-16 quality work, through deployable global field teams, with approved LM engineering and Lockheed Martin licensed parts at a value to the customer".

Wøllo expressed that "this is a step to further strengthen the long-established and close partnership between our two companies. For more than 40 years we have

joined efforts supporting the F-16s".

"We are extremely proud that Lockheed Martin acknowledges our experience and dedication to the F-16s by certifying KAMS as the first Falcon Depot. Together we will ensure continued success and readiness for existing and new F-16 operators".

Lockheed Martin continues to grow its F-16 customer base and sees new F-16 production opportunities totaling more than 400 aircraft. There are approximately 3,000 operational F-16s in service today within 25 countries. The Royal Thai Air Force currently has more than 30 F-16s in its service. ▲



Royal Thai Air Force's F-16.

Delivering advantage  
through **partnership**

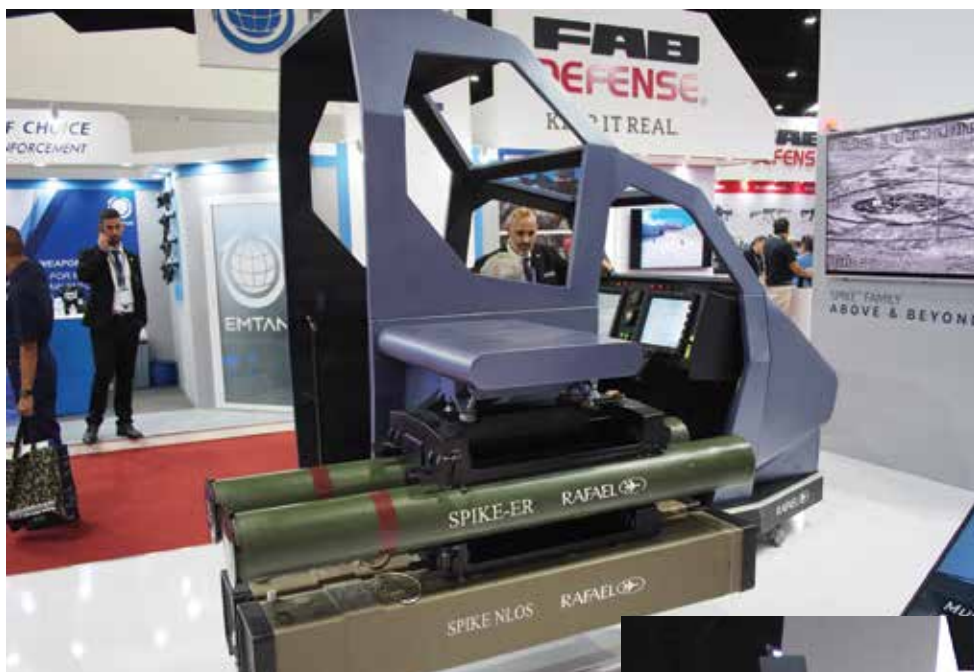
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**BAE SYSTEMS**

# Contender for Latest Thai ATGM Programme Selected by the **German Army**



Thai anti tank guided missile programme and variants are already in service with the armed forces of Singapore, Philippines, India, Australia and South Korea. Moshe Elazar, EVP, Head of RAFAEL's Land and Naval Division: "This is a significant contract for Eurospike and thus for RAFAEL, as a leading supplier of 5th generation ATGM in the world. It will undoubtedly cement the German Army's position as one of the strongest ATGM forces in Europe. The SPIKE missile and launcher cross-nation commonality enables the nations to manage joint SPIKE missile stocks, create joint procurement and maintain mutual support. In combination with local production within Europe by Eurospike, SPIKE is a truly common European missile." For further enquiries, RAFAEL is open for business at booth #J17. ▲

**Eurospike**, a joint venture between Rafael Advanced Defense Systems Ltd., Diehl Defence GmbH & Rheinmetall Electronics GmbH has signed a multi-year framework contract for the supply of SPIKE (also known as MELLs in Germany) Missiles & launchers to the German Army, it was announced on November 18. The missiles and launchers will be manufactured in Germany by local German companies, in keeping with RAFAEL's global policy of teaming up with domestic industry, resulting in knowledge transfer and local job creation. The contract was signed by representatives from Eurospike and BAaINBw in a ceremony that took place at the beginning of November in the offices of the German MOD (BAaINBw) in Koblenz Germany. As part of the framework contract, the first order was made for the supply of 1500 SPIKE rounds, as well as hundreds of RAFAEL's new ICLU (Integrated Control Launch Unit) dismantled missile launchers. The multi-year framework contract will allow the Bundeswehr to continue procuring additional SPIKE Missiles in the next few years to reach its goal of high launcher-to-missile ratio. The German Army is already currently using both the dismantled portable SPIKE (MELLs) launcher as well as the vehicle-mounted launcher on the German army Puma, Marder & Wiesel. SPIKE is a cutting-edge precise, multi-platform, multi-mission and multi-range electro-optical missile Family, with capabilities of fire-and-forget, as well as fire, observe and update, allowing attack of hidden targets. With 33 SPIKE missile users around the world, Germany is among 19 other SPIKE users in the EU and NATO. More than 30,000 SPIKE missiles have been supplied worldwide to-date, with over 5500 SPIKE missile firings, both in training and in combat. SPIKE MR is also one of the contender for



# M777: Tactical Mobility and Operational Flexibility in Challenging Terrains

The BAE Systems-made M777 is the leading ultra-lightweight towed artillery gun. More than 1,200 M777s are currently in operation with the US Army and US Marine Corps as well as Canadian and Australian forces. Expanding its global footprint, M777 gun systems are now being delivered to the Indian Army.

The M777 155mm howitzer was developed to succeed the M198 howitzer with a more advanced mobile artillery system that is better suited to the requirements of modern day, rapid reaction forces in expeditionary and border protection roles.

Battle-proven, the reliable M777 can be trusted to deliver superior firepower when needed most—in combat. The unparalleled ultra-lightweight 155mm artillery system available today continues to evolve by adapting new technologies and capabilities to remain at the forefront of artillery technology into the future. The system has already successfully tested precision strike munitions that can increase its accuracy and range.

Weighing less than 4,400kg, the entire M777 system can be towed by small vehicles, air-transported in a C17 or C130, and



carried by helicopters—in addition to being delivered from ship to shore in amphibious landing craft. These transport options provide significant tactical mobility and operational flexibility, particularly in desert, jungle, and mountainous terrain, as well as to facilitate coastal and island defence manoeuvres.

The M777 is fitted with digital fire control and inertial navigation, and can be brought

into action in less than three minutes, delivering accurate fires and rapidly redeploying before an adversary can respond. This 155mm howitzer has fired the M982 Excalibur precision-guided munition at deeper ranges than conventional munitions, reaching close to 40km.

Please visit the BAE Systems stand at the show to learn more about the M777 and other BAE Systems products. ▲

## SEE THE NEXT STEP

### ASELSAN ELECTRO OPTIC SYSTEMS

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hicle platform into the BTR-3 CS Command Variant, unmanned ground and unmanned aerial vehicles (UGV and UAV), training and simulation systems including tank simulators as well as a collaboration with China Aerospace Long March International (ALIT) on multiple launch rocket systems.

The DTI is also currently developing a new 8x8 Amphibious Armoured Personnel Carrier (AAPC) to meet the requirements of the Royal Thai Marine Corps, although Chaiseri is also showcasing the upgraded AAV-7A1 amphibious vehicle at the Defense & Security 2019. ▲



## RTAF Upgrade F-5 Fighters with Gripen Technology



The Royal Thai Air Force (RTAF) has successfully upgraded two of its legacy F-5TH aircraft incorporating modern technology from the fourth generation Gripen JAS39 C/D multi-role combat aircraft as part of

the air force's initiative to modernise its 14 Northrop F-5E fighters.

The aircraft, equipped with German IRIS-T and Israeli Python 4 missiles, Italian radar and smart bombs, can work just

as well as Gripen 39 C/D fighter jets, air force chief Air Chief Marshal Maanat Wongwat told the media during a U1 unmanned aerial vehicle (UAV) commissioning ceremony at Bangkok's Don Muang air force base Nov 14. The U1 UAV is locally developed by the RTAF.

"This is a historic step by the Thai air force which wants to be more self-reliant," ACM Maanat said. Following the successful upgrade, he said, the RTAF plan to upgrade additional F-5 in stages.

The modernisation programme involving the 14 aircraft is expected to be completed by 2022 at a cost of THB5.2 billion (\$172 million), reports said. The air force is also planning to upgrade its fleet of Alpha Jet advanced trainers with a budget of THB3.3 billion (\$109 million).

He said the air force decided to modernise the decades-old aircraft due to lack of funds to procure new Gripen fighters. "We indeed want to add a fleet of Swedish-made Gripen to our existing 12 Gripen fighter jets, but we just don't have a large enough budget," the air force chief said. ▲

# ASELSAN Electro-Optical Systems



**Viper laser target designator.**



**Eye-Seespot thermal imager.**

**ASELSAN** designs, develops, manufactures, tests and integrates electro-optical systems for over 25 years; providing maintenance, repair and support activities during their lifecycle. Through years of operational and organisational experience, ASELSAN is the electro-optical solution provider for land, air and naval platforms around the world. In addition to platform solutions, ASELSAN electro-optical systems include electro-optic weapon sights and portable

systems. These include thermal vision systems, day vision systems, night vision devices with image intensifiers, laser systems, electro-optical counter-measure systems and multi-sensor electro-optic systems.

Under the electro-optics business line, ASELSAN is developing indigenous systems from core level technologies to

sub-assemblies and, to platform level integration. With such capability, ASELSAN has the flexibility of customising and developing systems according to specific client requirements.

ASELSAN electro-optical systems are not only qualified and tested on the field, these are battle-proven systems used during combat operations. These systems are currently in use in over 30 countries, with ASELSAN providing logistics support either through its offices in respective countries or through integrated logistics support centres in Turkey.

## Product Focus

The Eye family thermal imagers are capable of providing a very long-range detection and identification capability in addition to providing critical reconnaissance information during combat operations. With ASELSAN's advanced laser systems, this information could then be used towards pin-point targeting with the Viper laser target designator. Equipped with an advanced thermal imager Eye-Seespot, this designator allows the user to actually see the laser designator spot on the target, ensuring visual confirmation of accurate target designation. ▲



# Pictorial Highlights



*Mohamad Sabu visit Indonesia pavillion*



*Secretary of National Defence Philippines, Delfin Lorenzana looking at rotorcraft from Turkey*



*Chief of Gen. Staff TNI, Lt. Gen Joni Supriyanto and Head of International Cooperation Centre TNI, 1st Admiral Didik Kurniawan testing the latest firearms at the show*



Chief of Defence Forces, Gen. Pornpipat Benyasri touring the exhibition



GML's M. Ghandi with DPM Gen. Prawit Wongsuwon



DPM & Defence Minister Gen. Tea Banh



Chinese top brass at China Pavilion.



Delegated from Vietnam

# Briefing on **National Defence Industry's** Overseas Activities



*Malaysian defence industry delegation with Defence Minister Mohamad Sabu at the country pavilion.*

**Defence** minister, Mohamad Sabu took time off from his busy schedule here to attend presentations on Malaysia's defence companies' programmes overseas. The defence minister was accompanied by the senior ministry officials and the Malaysian Armed Forces. Various defence companies, encompassing the fields of aerospace, information technology, telecommunication, security and armament systems are here at the show as part of Malaysia's collective effort towards regional collaboration in developing and promoting the defence industry.

## **Malaysian Companies at the Show**

The companies - Advanced Defence Systems, Aerospace Technology Systems Corp (ATSC), HeiTech Padu, Sapura Thales Electronics, and SPS Jaga Systems - which are exhibiting under the umbrella of the Malaysia Pavilion briefed defence minister Mohamad on the capability of their enterprises in supporting the global defence supply chain. Advanced Defence Systems engages in the sales of defence and security equipment, project management services, defence MRO and after-sales support services, project consultancy services to original equipment manufacturers (OEMs), and leasing of defence capital equipment.

ATSC's core business is support and enhancement of MiG29N/UB and Sukhoi Su-30MKM fighters, from maintenance, supply, and distribution of spares and materials, repair and overhaul, technical services, upgrades and modernisation of engines, airframe, and avionics.

HeiTech Padu is Malaysia's leading ICT player, and has devel-



oped a comprehensive suite of solutions and services that are holistic, integrated and cutting-edge, covering the entire life-cycle of systems and products. The company specialises in system development, system integration, VR training and simulation system.

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# FN Herstal Ready to Arm Up Asian Forces

For 130 years, Belgium-based FN Herstal has provided generations of defence and security forces as well as special units, with weapons that give them a clear advantage in any engagement. The company exhibits its small calibre weapon and weapon systems here at the show from Nov 18 through to Nov 21.

## Portable Weapons: From FN Less Lethal Solution to FN MAG

A wide-range of FN portable weapons is being displayed at the company's stand. FN Herstal proposes rifles and carbines for all types of defence and security missions. Based on the rifle that equips elite military Special Forces worldwide, the FN SCAR-L (5.56x45mm/.223 Rem) and FN SCAR-H rifles (7.62x51mm/.308 cal.) are available in several versions: various barrel lengths; wide offering of buttstock types; choice between receiver with Picatinny type side rails or KeyMod receiver; black or FDE colour. The subcompact FN SCAR-SC subcompact carbine is the newest addition to the FN SCAR family and is available in 5.56x45mm (.223 Rem cal.) or 7.62x31mm (.300 BLK).

The 40mm FN40GL Mk2 grenade launcher mounted under any FN SCAR assault rifle or used as a stand-alone launcher provides increased capability to the user. To achieve full potential on the battlefield, the FN FCU Mk3 Fire Control Unit can be fitted on the FN40GL grenade launcher - or any multi-shot grenade launcher. The FN FCU Mk3 Fire Control Unit provides a complete sighting and aiming solution.

The FN SCAR-H PR precision rifle is a highly reliable and extremely accurate weapon of choice for the specialised marksman. The semi-automatic 7.62x51mm



(.308) rifle with its heavy floating barrel and Match grade trigger provides rapid shots on target even at long range. The long one-piece integrated top rail allows day and night optics to be fitted in line. A choice of buttstock options - foldable or fixed, tactical - allow the rifle to be adapted to the user's needs. When there is no margin for error, the FN SCAR-H PR precision rifle can make the difference. Next to the FN SCAR line, FN Herstal exhibits the world-renowned FN MINIMI Mk3 light machine guns available in 5.56x45mm and 7.62x51mm NATO calibres and the original FN MAG general-purpose machine gun.

The FN 303 Less Lethal solution, also on show, is particularly effective when a baton is not sufficient and lethal force may still be avoided. Personnel can intervene with an acceptable level of force while remaining at a safe distance.

## High Firepower with FN Integrated Weapon Systems

Also here at the show is the deFNder medium remote weapon station (RWS). Com-

bining a smart and modular architecture with heavy firepower, the RWS can accept the FN MINIMI 5.56 (FN M249), the FN MINIMI 7.62 (FN Mk48), the FN MAG (FN M240) and .50 cal weapons such as the FN M2HB-QCB and exclusive FN M3R machine guns. FN fixed-forward firing capabilities will also be on show with the FN D-RMP Digital Rocket Machine Gun Pod. It comes with a 250-round .50 cal ammunition box and three 70mm rocket launcher tubes and is digitally compatible (MIL-STD-1760 standard compliant).

Alongside airborne applications, FN Herstal presents its agile FN Light Pintle System (LPS), to be mounted on new or in-service platforms. The FN LPS equipped with the FN MAG 58M is well-suited for self-defence and suppressive fire in an anti-personnel role up to 1,000m.

Throughout its whole product range, FN Herstal offers 360° service support, including a wide-range of certified accessories and ammunition. ▲

FN Herstal's products are on display at stand M17, Challenger Hall 1-2.

## Defense & Security 2019 WHEN, WHAT, WHERE & WHO

DATE	TIME	EVENTS	LOCATION	REMARK
20 NOVEMBER	1000-1700 hrs	Exhibition/Courtesy Call/ Technical Seminar/Demonstrations	Challenger 1-2	
	1200-1330 hrs	Official Lunch Hosted by Commander-in-Chief, Royal Thai Air Force	VIP Luncheon Area	By Invitation
	1300-1530 hrs	International Seminar Organised by Ministry of Defence	Jupiter 11-12	Pre-Registration
21 NOVEMBER	1000-1700 hrs	Exhibition/Courtesy Call/Technical Seminar/Demonstrations	Challenger 1-2	
	1200-1330 hrs	Official Lunch Presided Over by Commander-in-Chief, Royal Thai Navy	VIP Luncheon Area	By Invitation

# Len-Leonardo Radar Collaboration to Strengthen Indonesian Defence

**Indonesia's** PT Len Industri (Persero) and Leonardo S.p.A. from Italy has signed the procurement contract for the Medium Range Defence Radar here at the exposition. Signing on behalf of PT Len was the Director of Operations II, Adi Sufiadi Yusuf while from Leonardo was Davide Fazio, the Director of Marketing and Sales of the Electronic Division.

Adi in his official statement said, "Len will supply local components, work on the infrastructure, and expert training. However, for the program going forward we plan to joint produce the radars in Indonesia. We will be fully trained in radar maintenance therefore maintenance can be carried out directly by PT Len Industri."

He further added that Len actually has their own 2D radar product, but for the 3D version, the company are still in the development stage in collaboration with Leonardo. The contract with the Ministry of Defence is planned to be operational by early 2022. The Medium Range Radar is the RAT 31 DL / M which will be operated by the Indonesian Air Force to strengthen the air defence system of the Republic of Indonesia.

The medium range radar system is classified as a 3 Dimensional or 3D (Range,



Azimuth, Height) Radar with surveillance capability (surveillance / guarding) and has a range of up to 400 km and an altitude of 30,000 feet.

PT Len Industri, a member of the NDHI (National Defense & Hitech Industry) BUMN cluster, is participating in the 2019 Defense & Security exhibition in Thailand alongside the Indonesian Aerospace, Pin-

dad, Dahana, and PAL Indonesia located in the Indonesian Pavilion.

"We are in Thailand at the 2019 Defense & Security Expo in order to offer our defence products such as CMS and tactical radios. This is one of first initiatives to go global in the defense electronics business after previously being in the field of rail transportation," concluded Adi. ▲

*continued from page 12....DSA....*

Sapura Thales Electronics (STE) is a dynamic and fast-growing technology company focusing on the development and manufacturing of defence communications technologies. A joint venture between Sapura, a Malaysian conglomerate and Thales, international France based mother-company, STE has expanded its presence to 14 countries. The company's developed and manufactured products are exported from Malaysia to countries in Asia, Africa, the Middle East and South America.

SPS Jaga Systems specialises in border and perimeter security solutions. The company's key solution is an advanced scanner that provides complete situational awareness; with volumetric detection. It is equipped with laser and radar; using cutting edge sensing technologies to prevent intrusions.

## Minister Tour Exhibition

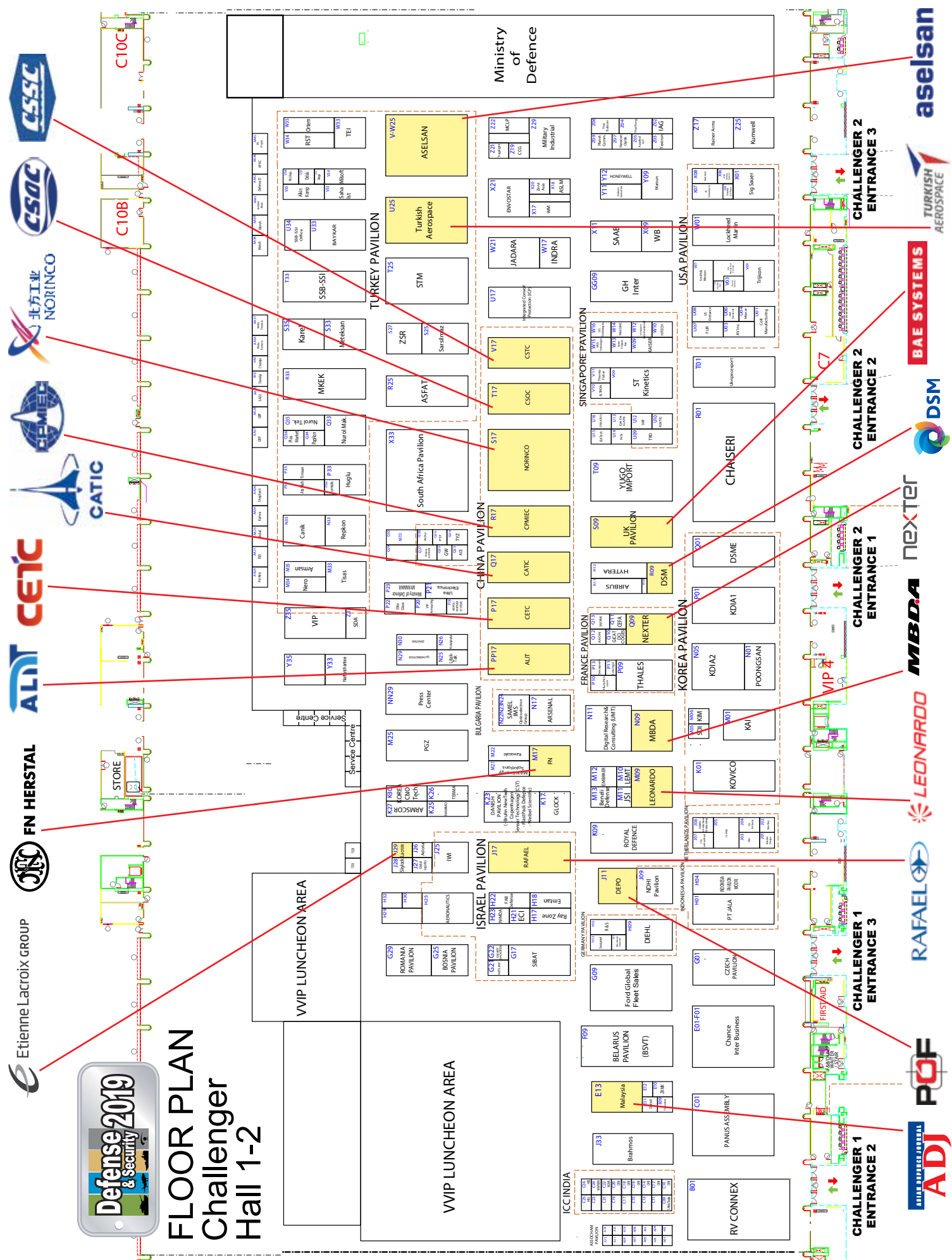
The minister later continued his rounds at the Defense & Security 2019 exhibition, fresh from meeting counterparts from the ASEAN states and that of dialogue partners. Defence ministers of Asean and the Plus countries are here in

Bangkok to attend the ASEAN Defence Ministers' Meeting Retreat and the 6th ASEAN Defence Ministers' Meeting Plus (ADMM-Plus).

The presence of Malaysia's defence companies here is part of a preview on their participation at the upcoming Defence Services Asia (DSA) & NATSEC

Asia show which will be held on April 20-23, 2020 in Kuala Lumpur, Malaysia. Hailed as one of the world's most important defence exposition, DSA & NATSEC Asia 2020 is organised by DSA Exhibition and Conference Sdn Bhd. It will be the 17th edition of the Kuala Lumpur defence exhibition. ▲







## 中国船舶工业贸易有限公司

CHINA SHIPBUILDING TRADING CO., LTD.

China Shipbuilding Trading Co., Ltd. (CSTC) was founded in 1982, specifically to introduce the Chinese shipbuilding industry to the world.

Since then, CSTC has been an active participant in the highly competitive global maritime market. Today, CSTC is the strongest trading company of Chinese maritime industry and a bridge linking shipyards and related enterprises with the global market.

CSTC's highly professional and committed staff, together with an extensive network of branches and local presence across the world, ensures high-quality, convenient service and support to our customers at home and abroad.

Flexibility is one of CSTC's key assets in fulfilling individual customers' requirements, with an extensive range of products and services.

Main business sectors of the company are:

- Defense Products
- Merchant Ships and Offshore Engineering Products
- Marine Equipment
- Energy & Resources
- International Engineering Contracting

