



ASIAN DEFENCE TECHNOLOGY

ASIAN AIRLINES & AEROSPACE

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DSEI COMES TO JAPAN

DSEI Japan, the first fully integrated defence event to be held in Japan, opens at a time when the country is trying to drastically improve its defence posture at a speed fundamentally different from the past. With the security environment surrounding Japan becoming increasingly

severe and uncertain, the country late last year formulated a new National Defense Program Guidelines, or NDPG, and the Mid-Term Defense Program, or MTDP, which set a target level of the defence spending on procurement over the next five years.

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LEONARDO AIMS FOR MORE HELOS IN JAPAN

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SPEAR AND METEOR ADORN MBDA STAND

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DSEIが日本に初登場

DSEI Japan、真に日本初の総合防衛展示会、は我が国にとって大切な時期に開催される。日本は、過去より基本的に異なる防衛姿勢で取り組むことで状態の向上を試みているからである。

日本を取り巻く環境が悪化して、不確実性が増している中、日本は昨年末に新たな防衛計画の大綱(いわゆる「防衛大綱」)及び中期防衛力整備計画(平成31年度から5年度分)で防衛調達予算の目的レベルを設定した。

ロンドン以外で初めて開催されるDSEIブランドのイベントを通し、日本の産業が世界的市場と効果的に携われるようにして、なおかつグローバル防衛産業が日本におけるチャンスを獲得、彼らの既存サプライチェーン拡大の足掛かりを築くことを目指している。日本の平成30年度の防衛予算はそのGDPの2.6%(約466億米ドル)である。日本はこの先の5年間

で2,420億米ドル程を防衛費にあてる予定となっている。

DSEI Japanのアレックス・ソーア国際展開ディレクターによれば、このイベントは「今までにないスケールで、世界の防衛・セキュリティ分野のプレーヤー達と日本全体の防衛分野企業が産業横断的に交流するように促し、イノベーションや情報交換、パートナーシップを育む... DSEI Japanは、日本における防衛関連イベントでもっとも重要なものになって行くであろう。」

現日本政府の国防スタンスとしては、海上自衛隊の既存するいずも型護衛艦2隻の空母化を通してロッキード・マーティンF-35B(短距離離陸垂直着陸: STOVL)ライトニングII総合打撃戦闘機の配備を実現化したい。更に、新しい防衛大綱と関連する中期防衛力整備計画では、日

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INTERVIEW: ALEX SOAR OF DSEI JAPAN

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NEXT GENERATION MISSILES FOR A NEXT GENERATION FIGHTER

Meteor and SPEAR provide F-35 with true next generation combat capability. With a No Escape Zone many times greater than any other air-to-air missile, Meteor has totally changed the rules of air combat. There is no escape! SPEAR family offers F-35 exceptional air-to-ground precision strike flexibility in all weathers, with both conventional and electronic warfare variants (SPEAR and SPEAR-EW) to overwhelm the enemy and their air defence networks.



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DSEI JAPAN OFFERS A NEW ROUTE TO APAC REGION

Clarion Defence & Security and Crisis Intelligence Japan have collaborated to launch and operate Japan's first tri-service defence exhibition & conference – "DSEI Japan". DSEI is globally recognised as a leader in Defence events. For the first time ever, the DSEI brand will travel outside of the UK to Japan, making it the country's first large scale fully integrated defence and security event. It will cover all four domains of Land, Naval, Aviation and Security. **Alex Soar, International Development Director, Clarion Events discusses with "Show Preview" the idea behind bringing DSEI to Japan.**

Excerpts from the interview:

Could you explain the idea behind bringing DSEI to Japan?

With DSEI celebrating its 20th anniversary this year it is the right time to launch the first ever DSEI outside of the UK. With the reinterpretation of the Japanese constitution several years ago and the relaxation of restrictions on defence imports and exports, it is an appropriate time to offer a new route to market for those focused on the Asia Pacific region.

How do you rate the Japanese defence market and how do you think DSEI will help the country's defence sector?

Combined with Japan's very real desire to improve its military capability in the face of regional frictions, the opportunity presented by the Japanese market is enormous for both Japanese and international industry.

Japanese companies are extremely keen to develop technology exchange partnerships with the global defence industry and are also rightly keen to develop export models of new or existing equipment to explore new markets with. From a purchasing perspective, the Japanese government has announced a comprehensive program of improvement and acquisition, including the expanded purchasing of F-35B as well as Pegasus tankers. Along with a number of other programmes, the Japanese defence market presents a good range of opportunities for international partners,

that will ultimately benefit the country's defence sector.

What unique perspective will the show offer, and how's the response?

As the first tri-service defence show to take place in Japan, DSEI Japan certainly offers a unique perspective for those looking to do business with Japan. Supported by the Japan Ministry of Defence visitors have the opportunity to get right to the heart of Japan's defence technology requirements and interact directly with potential end customers and in-country partners. The response so far has been incredibly positive with over 200 exhibitors and 5000 visitors set to attend.



Despite the recent loosening of restrictions, there has not been significant effort by Japanese companies to dive into the international defence market, as most major Japanese companies don't consider the defence business to be profitable. How do you think DSEI will help change this?

The opportunity for Japanese companies to meet with, share ideas with and do business with international partners will be an important step in opening up Japan's defence market to the world. We want to see the exhibition develop into the meeting place for all of Japan's allies in the region, and act as the focal point for the defence industry in the Asia Pacific region.

Japan, as you know, has adopted what's known as kokusanka - a conscious and systematic attempt to domesticate technologies that Japan would need for an autonomous defence-industrial base. How will DSEI help in this

endeavour?

It is fairly typical for governments to impose certain conditions for technology transfer and the development of in-country capabilities via international partnerships when acquiring equipment for their armed forces. DSEI Japan will offer the first real opportunity for companies to meet and share ideas tailored specifically for the Japanese market. We have put a lot of effort into ensuring the right organisations are there to provide the support needed for international partners to learn how to do business with Japan, and help existing Japanese industry reach out to their international counterparts.

Cooperation with a foreign partner appears to be the way Japan is proceeding in defence manufacturing. You think this is the right time to organize such an event in Japan?

Yes, certainly.

How will DSEI help the local industry especially the supplier chain?

We have worked to create an open dialogue with Japan's Ministry of Economy, Trade and Industry (METI) for the event. With their backing the event will offer support for smaller Japanese companies to access the international supply chain.

How has it been working with the Japanese government is organizing such an event?

The Japanese government is ready to take their requirements to the global market and encourage partnerships between Japan and international companies. The support they have provided us has been instrumental in bringing the first tri-service defence show to Japan.

How different it will be from the DSEI London?

DSEI UK is the world's leading defence and security event, and is renowned around the globe as the place to come and do business on an international scale. We see DSEI Japan as the future Asia-focused equivalent, and our main aim is to assist Japanese industry to interact effectively with the global market, and ensure the global defence industry has a place in Japan to present opportunities and develop their existing supply chain. In this way, those familiar with the DSEI brand can expect the same level of VIP visitors, customer engagement, military decision makers, and supported business opportunities that they find in London. ■



LEONARDO AIMS FOR MORE PROJECTS IN JAPAN

Leonardo Helicopters is looking at the AW249 combat helo as a potential collaboration between Italy and Japan for Japan Ground Self-Defence Force's (JGSDF) new attack helicopter project.

Japan is planning to buy up to 50 helicopters to replace its legacy Bell/Fuji Heavy Industries AH-1S Cobra attack helos. "The AW249 is the only new combat helicopter currently being designed. Technologically advanced, with outstanding performance, high survivability and low operating cost, the AW249 will be able to meet and exceed arising needs in evolving scenarios for the next 30 years," according to Leonardo.

Leonardo says the AW249 will feature all the latest technology developments in its market segment and will benefit from the design leadership of Leonardo. The open systems architecture will guarantee future growth capabilities and the state-of-the-art communication and battlefield management system will provide interoperability and teaming with other platforms in a network centric battlefield. The helicopter, compliant with the most rigorous safety requirements, will ensure

high safety and survivability thanks to Advanced Integrated Defensive Aids Suite, Ballistic Tolerance, crashworthiness and low detectability.

With a MTOW in the range of 7-8 tonne, the AW249 will have speed and endurance to sustain the most difficult attack, close air support and armed escort operations while the two powerful engines will allow for operations in all environment conditions (hot & high, cold weather). Shipboard operational capability will be designed in from the start.

In addition to a turreted gun, the AW249 will be equipped with a flexible weapon system with six wing store stations.

Leonardo at DSEI

Leonardo looks at the first DSEI in Japan as an opportunity to continue to develop business opportunities in one of the most hi-tech and mature helicopter markets in the world. "We are promoting the AW101 helicopter for expansion of the fleet with the Japan Maritime Self-Defence Force (JMSDF)," Andrew Hill, Head of Campaigns-Asia Pacific at Leonardo

Helicopters tells Show Preview.

Leonardo is also positioning its AWHERO rotary-wing unmanned aircraft system (UAS) for Maritime Staff Office/ Japanese Maritime Self Defence Force (MSO/ JMSDF) and Ground Staff Office/ Japan Ground Self-Defense Force (GSO/JGSDF) future UAV requirements, he says.

The state-of-the-art unmanned AWHERO is a dual-use platform able to perform civil and military missions day and night, over land and sea. It is the only RUAS (Rotary Unmanned Air System) in its class that has been designed to the same safety design concepts applied to helicopters such as systems redundancy and guarantees high reliability and maintainability, ensuring low operating costs. The company will also take the opportunity to update the community on the latest developments of the AW609 tiltrotor. Referring to Japan, Leonardo says, "We are looking forward to provide the Japanese market with tailored, best-in-class solutions. We are willing to continue nurturing and diversifying long term, win-win partnerships with Japanese industries and stakeholders to serve Japan defence, governmental and commercial sector requirements."

Regarding MRO facilities, Hill says, Leonardo Helicopters Division footprint in Japan already has network of Service Centres and Heavy Industry Partners delivering MRO in Japan. "In 2018 we established our first "Excellent" Service Centre with Shizuoka Air Commuter Corporation, delivering dedicated and comprehensive MRO capability." In the electronics domain, at DSEI Japan, Leonardo is exhibiting its IFF428 Mode 5 and IFF 426 technologies in addition to its Miysis DIRCM (Directed Infrared Countermeasure) System which provides dependable, persistent protection from IR-guided missiles, including advanced, all-aspect Man Portable Air Defence Systems missiles. Leonardo is also displaying Osprey, a low size, weight and power E-scan surveillance radar system, and its HF SDR Naval Radar. ■

レオナルドは更なる日本でのプロジェクト取得を目指す

伊航空宇宙企業レオナルドは、日本-イタリア間の提携が視野に入った陸上自衛隊新型攻撃ヘリコプタープロジェクト下で、AW249戦闘用ヘリの実現を目指して行く。

日本は、既存のベルヘリコプター・富士重工業AH-1Sコブラからなる攻撃ヘリ群を更新するにあたって、同新型ヘリ50機の購入を予定している。

DSEIにおけるレオナルド

レオナルドは日本で第一回目となるDSEIを、世界でもっともハイテクかつ成熟した

ヘリコプター市場である日本に置ける更なる商機拡大の絶好のチャンスと位置付ける。

レオナルドのスポークスマンは、「我々は、AW101ヘリを通して海上自衛隊の艦隊拡張の手助けをしたい。」とShow Previewに語っている。

また、レオナルドとしてはAW HERO回転翼機型無人航空システム(UAS)を海上自衛隊の海上幕僚監部(海幕)及び陸上自衛隊の陸上幕僚監部(陸幕)が将来求めることとなる無人航空機(UAV)基準に

適したものとするために最善の努力を費やしている。

最新鋭の無人機であるAW HEROは陸上か海上かに関わらず、官民両用のプラットフォームとして、昼夜や軍事行動が異なかを問わず使用可能。RUAS(Rotary Unmanned Air System)級の回転翼型無人航空機としては唯一通常ヘリコプターと同じ安全デザイン面からシステム冗長性を備え、高い信頼性・保守性と低運用コストを担保できるものである。

レオナルドは、この機会を使い同社のAW609垂直離着陸ティルトローター機に関するの最新情報も御披露目する予定。■

SPEAR AND METEOR ADORN MBDA STAND



For the latest in missile technologies, look no further than the MBDA stand (A196) at DSEI Japan 2019. The company is exhibiting two particular missiles of great relevance to modern combat aircraft platforms – the Meteor and SPEAR family of missiles.

Meteor is the most advanced air-to-air missile in the world. It is designed to overcome the shortcomings of old-fashioned rocket-powered air-to-air missiles against manoeuvring targets at long ranges, and

has been widely cited as a game-changer for air combat. Key to this is Meteor's throttleable ramjet engine that provides unmatched end-game speed and manoeuvrability at greatly extended ranges, resulting in its all-important 'No-Escape Zone' being more than three times greater than any other existing or planned BVR weapons. Meteor, already in service with the UK RAF on the Typhoon aircraft, is currently being integrated onto the new F-35 fighter aircraft, and in the future will also

arm the next generation of combat aircraft, such as Tempest.

Where Meteor revolutionises air-to-air combat, the SPEAR family of weapons does the same for defeating air defences. SPEAR is a miniaturised cruise missile designed to hit moving and challenging surface targets in all weathers at ranges exceeding 140 km. The small size of SPEAR means that a single F-35 can carry eight missiles internally while remaining stealthy. Just like Meteor, the SPEAR system features an advanced two-way datalink for network-enabled warfare.

Besides the normal version of SPEAR, which features a warhead and multi-mode all-weather seeker, there are other variants of the family that offer complementary capabilities, whilst utilising a single airframe. This includes the electronic warfare weapon SPEAR-EW that provides advanced stand-in jamming capabilities to support launch aircraft and other SPEAR weapons. SPEAR family members work together as a swarm of networked weapons able to saturate and neutralise the most sophisticated air defences and ensure the safety of friendly pilots and allied forces. ■

SPEAR, MeteorミサイルがMBDAブースにお目見え!

最新のミサイル技術に関しては、DSEI Japan 2019のMBDAブース (A196) をご覧ください。MBDAは、最新鋭の戦闘機に搭載される2種類のアイテムMeteorとSPEARシリーズを展示しています。

Meteorは世界最先端の空対空ミサイルである。ロケット・モーターを使用した旧式の空対空ミサイルの欠点となる、長距離で高機動のターゲットへの対処能力を克服するよう設計されており、空戦における"Game Changer"として広く取り上げられている。重要な特長は、長射程能力を保ちつつ終末誘導における速度性能及び高い機動性を可能にするMeteorの推力可変のラムジェット・エンジンにある。これにより、他の既存或いは計画中の他のBVR(視界外射程)ミサイルの3倍以上のNEZ(ノー・エスケープ・ゾーン)を実現している。Meteorは既に英空軍のTyphoonで運用中であり、現在はF-35へのインテグレーションが進められている。将来は、Tempest等の次世代戦闘機にも装備される予定。

Meteorが空対空戦闘に革命をもたらす一方で、SPEARシリーズも敵防空網を打ち負かすという観点で同様である。SPEARは小型巡航ミサイルであり、140km以上離れた距離から全天候で、地上/海上の移動目標等に対処できるように設計されている。SPEARが小型であることにより、F-35のステルス性を確保したまま8発内蔵することができる。METEORと同様に、SPEARシステムでは、先進的な双方向データリンクを有しており、ネットワーク化された戦



闘が可能となる。

弾頭と全天候型マルチモードシーカーを特長とするSPEARに加え、SPEARシリーズには同一のエアフレームを用いて、能力を補完する派生版がある。この中には、スタンドイン・ジャマーとして発射母機及びその他の

SPEARシリーズのウェポンを支援する、電子戦用のSPEAR-EWが含まれる。SPEARシリーズはネットワーク環境下でウェポン群として、高性能の敵防空網に対し飽和攻撃で無力化し、味方のパイロット及び友軍の安全性を確保することができる。■

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DSEI COMES TO JAPAN



The first DSEI-branded event being held outside of London aims to help the Japanese industry to interact effectively with the global market, and ensure that the global defence industry has a place in Japan to present opportunities and develop their existing supply chain.

Japan's military spending in 2018 accounted for 2.6 per cent of its GDP, reaching US\$46.6 billion. Over the next five years, Japan plans to spend around US\$242 billion on defence.

According to Alex Soar, International Development Director, DSEI Japan, the event "will bring the global defence and security sector together with the entire Japanese defence community to innovate, partner and share knowledge, bringing together companies from across the industry on an unrivalled scale. DSEI Japan will be the most important defence event ever to take place in Japan."

The government's defence policy features the conversion of the Japan Maritime Self-defence Force's (JMSDF's) two Izumo-class helicopter carriers into multirole aircraft carriers, from which, the short take-off and vertical landing (STOVL) Lockheed Martin F-35B Lightning II Joint Strike Fighter can be operated. Additionally, the new NDPGs and the associated MTDP have also put a strong emphasis on three new defence domains in the country, namely, cyber, space, and electronic warfare (EW). Developments in such domains are expected to be part of Japan's new multidimensional integrated defence force. Japan also announced the intention of buying an additional 63 conventional take-off and landing (CTOL) F-35As and 42 STOVL F-35Bs over the coming decade for replacing 99 of the Japan Air Self-defence Force's (JASDF's) 201 Boeing-Mitsubishi F-15J/DJ Eagle multirole combat aircraft. In addition, Japan is joining the international race to add arti-

cial intelligence and drones to its defence capabilities.

"In order to establish and maintain maritime and air superiority in the surrounding area of Japan, including the airspace and waters of the Pacific, we will enhance the capabilities of our ships and aircraft. For example, we will acquire an additional 105 F-35s in addition to 42 that we have already plans to acquire. This will make a total of 147. Once we complete the integration of all of them, Japan will possess the largest number of F-35s among all U.S. allies. Included in the procurement of the 105 additional aircraft, 42 may be capable of STOVL. We will also refurbish the Izumo-class destroyers for possible operations of these STOVL aircraft," a Japanese defence ministry official confirmed.

"Once we become able to operate the STOVLs onboard Izumo-class destroyers, Japan will have more airbases available for temporary takeoff and landing, further enhancing our operational flexibility. This will significantly improve our air defence posture in the Pacific where we currently only maintain a single airbase available for jet fighters on Iwo To, or the island of Iwo Jima," he added.

On the export front, various players, such as Kawasaki Heavy Industries, Mitsubishi Heavy Industries, ShinMaywa Industries, Ltd, Japan Steel Works Ltd, and Toshiba Corporation, according to analysts, may hold significant market share during the next five to 10 years. Various initiatives and product innovations are being made by companies, which have led them to strengthen their presence in the market. For example, Kawasaki's P1 maritime patrol aircraft is looking for customers in Europe and Asia. The P1 meets the demanding requirement needs of the Maritime Self-Defense Forces, and could also prove a platform for export worthy of rivalling Boeing's P-8 among potential Asian and European clients. ■



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DSEIが日本に初登場

本のサイバー、宇宙そして電子戦の分野にも重きを置きたいとしている。これらのような分野での発展は、今後の日本に置く新たな総合防衛力多角化の一部となる。

また、日本は今後10年の間に、現在ある航空自衛隊のボーイング三菱F-15J/DJイーグル201機の内、古くなりつつある99機を、63機の通常離着陸 (CTOL) F-35Aに加え42機のSTOVLタイプF-35Bに置換えるプランである。そして、日本はAIやドローンを防衛分野で応用する国際市場への参入を検討している。

ある防衛省の高官によると、「日本近郊の海上や空で、これは太平洋上も含むが、優位性を築き、保つためには、船舶及び戦闘機の機能を向上させる必要がある。

例に上げれば、42機以外にF-35を105機追加購入する予定。そうなれば、全体で147機を所有することとなる。全F-35戦闘機を装備できた場合、日本は米同盟国の中で一番多くF-35を所有することとなる。ちなみに、105機中42機は短距離離陸垂直着陸機かもしれない。改造したいずれも型からSTOVLが使える様になると、日本は更なる離着陸用の滑走路が出来ることになり運営上の柔軟性が出ます。特に、硫黄島にしか飛行場のない太平洋側の防空態勢の強化においては大きな効果を発揮するものと考えています。」

輸出に関しては、アナリストらによると、川崎重工業、三菱重工業、新明和工業、JSW日本製鋼所、東芝など多彩な日系企業がこの先5年から10年の間は目新しいマーケット・シェアをにぎるようになる。様々な製品開発プロジェクトや革新的動きが各社から出ていて、市場で存在感が増して来ている。例えば、川崎重工は同社の海上固定翼哨戒機P1の売り込み先を欧州とアジアで探している。海上自衛隊の厳しい基準をクリアしているP1だけに、アジアや欧州の顧客層の間では、ボーイングP-8にライバルできる機能があると見られている。■

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