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Singapore: Defence Budget and Procurements

Diplomacy and deterrence are the two pillars upon which the defence policy of Singapore is structured. By developing and maintaining good relations with other countries through diplomacy, Singapore is creating a safe environment which de facto diminishes the possibilities of an armed conflict. Nevertheless, Singapore Armed Forces (SAF) should always be alert and ready to intervene whenever is needed. That is why Singapore continues to maintain a well-integrated force that is trim, balanced and potent. Under this concept the Singaporean government decided to further modernize the country's armed forces. This is clearly illustrated by the fact that the total defence budget for Financial Year (FY) 2015 was approximately 13.12 billion Singapore dollars (USD9.5 billion), an increase of 706 million Singapore dollars (USD510.5 million) or 5.7% compared to the FY 2014 expenditure.

This increase will see defence expenditure rising as a proportion of GDP for the first time since 2009, growing from 3.2% of GDP in 2014 to 3.3% for 2015.

Additionally, it is worth mentioning that the funds allocated for the development of new capabilities for FY 2015 was 431 million Singapore dollars (USD311.9 million), an increase of 2 million Singapore dollars (USD1.44 million) or 0.5% from the revised FY 2014 budget.

	FY 2013 SGD billion	FY 2014 SGD billion	FY 2015 SGD billion	Change Over FY 2014 SGD million	(%) Change Over FY 2014
Total Expenditure	SGD 11.8	SGD 12.4	SGD 13.1	SGD 706	5.7%
Operating Expenditure	SGD 11.3	SGD 12	SGD 12.7	SGD 704	5.9%
Expenditure on Manpower	SGD 16.7	SGD 14.67	SGD 14.69	SGD 27.5	0.2%
Other Operating Expenditure	SGD 11.3	SGD 11.96	SGD 12.7	SGD 703	5.9%
Development of New Capabilities Expenditure	SGD 0.422	SGD 0.429	SGD 0.431	SGD 0.02	0.5%

Ministry of Finance (http://www.mof.gov.sg/)

According to the think-tank Stockholm International Peace Research Institute (SIPRI) for the period 2010-2014 Singapore was the world's 10th biggest arms importer. Nevertheless, it must be also stressed that local authorities have as a priority to upgrade existing platforms to extend their lifespan and enhance their fighting capabilities instead of purchasing new ones, unless the new equipment provides clearly superior and needed capabilities. It is indicative that a number of major platforms, such as the Archer-class submarines and the Leopard 2A4 Main Battle Tanks, were purchased second-hand and refurbished to suit the country's needs.

In some other cases, the Singaporean authorities develop unique solutions in cooperation with the local defence industry. One such example was the Terrex Infantry Carrier Vehicle and the Littoral Mission Vessel.

Singapore, a small nation with conscript armed forces, needed to draw on the different strengths and abilities of its community to augment the national defence capabilities of the country. Towards this direction, Singapore introduced the concept of Total Defence in 1984 that was adapted from the experiences of countries like Switzerland and Sweden.

Currently, Total Defence has been enhanced as conflicts between countries are no longer just military in nature and potential sources of instability can appear in less obvious and non-conventional ways.

Source: www.totaldefence.sg

Total Defence in Singapore is based on five different aspects - Military Defence, Civil Defence, Economic Defence, Social Defence and Psychological Defence. These five aspects represent the key sectors of society, are complementary and when combined can create a "safe net" for all the facets of the socioeconomic spectrum. Thus, Total Defence can be implemented whether it is a security threat such as global terrorism or a national crisis and can bring together all relevant government agencies, private sector organisations and the citizens of Singapore in a coordinated effort.

Kyriazis Vasileios,

Epicos Newsletter Head Editor

Singapore Aerospace and Defence Industry: Current Capabilities

Despite the fact that Singapore is a small state it has been able to establish and sustain a viable defence industry. Singapore is able to develop and manufacture high technology defence materiel such as weaponry, weapon systems and land and marine vessels. More on this direction, there are currently more than 200 companies in the local safety and security industry, supplying products and/or services ranging from biometrics, maritime and aviation security solutions to fire safety. Finally, Singapore is the home of more than 120 aerospace companies. According to a study provided by the Association of Aerospace Industries Singapore (AAIS), the country is considered to be Asia's most effective and competitive maintenance, repair and overhaul MRO hub, based on the breadth and depth of its collective supply base, its logistics strengths and the business environment. Currently, Singapore accounts for approximately 10% of the global MRO output.

ST Engineering is the jewel in the crown of the Singapore Aerospace and Defence Industry. ST Engineering is a global integrated engineering group with capabilities in aerospace, marine and land systems. According to the Stockholm International Peace Research Institute (SIPRI), ST Engineering is ranked 51 amongst the world's largest defence firms in 2014, with arms sales of US$ 2010 million. Reflecting its successful broad diversification into the civilian sector however, this represents 39% of its total sales for 2014.

Additionally, a special notice must be placed in the symbiotic relationship Singapore Armed Forces (SAF) has built with the defence research and development sector, as a number of SAF officers have been trained as engineers and then they have helped the Singaporean companies with their experience. Thus, most of the times, the army plays the role of a "big school" providing valuable information and/or training that it is then used by the local defence industry, in order to further enhance the country's defence industrial base.

Kyriazis Vasileios,

Epicos Newsletter Head Editor

Epicos "Industrial Cooperation and Offset Projects"

Epicos "Industrial Cooperation and Offset Projects" provides a unique set of online tools enabling the structure, identification and implementation of comprehensive Offsets programs, through a searchable database. By introducing different offset projects and ideas proposed by local A&D industry it ensures the optimum cost for Prime Contractors and reassures that the priorities of local industry are fully met…

For Further Information Press Here

Training a mobile Unit for aircraft Non-Destructive Testing

A company specializing in the sales and servicing of non-destructive testing (NDT) apparatuses, equipment and materials, as well as training in material testing, in the frame of an offset program, is proposing collaboration with a prime contractor or a third party company, active within the NDT market, in order to receive Transfer of Technology, in the form of training for the establishment of an emergency mobile NDT unit, serving commercial and/or general aviation aircraft at neighbouring airports.

For Further Information Contact our ICO Department

Mail at: a-kintis@epicos.com

Manufacturing of composite material and thermoforming parts and components for the aerospace and defense industry

A company with significant experience in manufacturing parts and components using composite material technology is proposing, in the frame of an offset program, cooperation with a Prime Contractor or lower tier companies, either locally or worldwide, for the manufacturing of composite material parts and components, to be used in specific aerospace and defense programs.

For Further Information Contact our ICO Department

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News from our A&D Business Network

INDRA to Deploy Radars in Shanghai and Two Other Chinese Airports

Indra has won a contract to deploy a radar station at Pudong International Airport in Shanghai, which will improve surveillance of movements within its airspace. It will also equip the international airports of Dalian and Shenyang with its advanced Surface Movement Guidance & Control System (A-SMGCS), which will include latest generation surface movement radars. The station that Indra will deploy at Pudong International Airport will feature a primary radar and a secondary mode S radar, meaning more flights can be managed with tighter security levels. Pudong is one of the fastest growing Chinese airports in terms of passenger numbers.

At the international airports of Dalian and Shenyang, Indra will deploy A-SMGCS systems that will make for more efficient control of aircraft runway maneuvers, and a flight platform, allowing operations to be conducted under poor visibility conditions.

These systems will be equipped with Indra's continuous wave surface radars, which offer high resolution detection and location of aircraft and other objects, whether stationary or in movement.

The company already completed deployment of an initial A-SMGCS system at Guangzhou International Airport, which was the first in China to be equipped with a continuous wave surface radar.

The multinational has a solid position in the Chinese air traffic control systems market. It has deployed a network of fifty radars that controls 60% of airspace. The Chengdu and Xian control centers oversee air traffic in an area that covers 4.2 million km2 using the company's technology. It won a series on contracts in 2015 to deploy more than 60 support radio systems at 20 airports. In total it has deployed more than 900 systems of this kind across the country.

Indra

Indra is one of the main global consulting and technology companies and the technology partner for core business operations of its clients businesses throughout the world. It offers a comprehensive range of proprietary solutions and cutting edge services with a high added value in technology, which adds to a unique culture that is reliable, flexible and adaptable to its client's needs. Indra is a world leader in the development of comprehensive technological solutions in fields such as Defense & Security, Transport & Traffic, Energy & Industry, Telecommunications & Media, Financial Services and Public Administrations & Healthcare. Through its Minsait unit, it provides a response to the challenges of digital transformation. In 2015 it reported revenues of €2.850m, had a workforce of 37,000 professionals, a local presence in 46 countries, and delivered projects in more than 140 countries.

For Further Information Click Here

Harris Corporation to Provide Advanced Air Traffic Management Communication System to UK's Air Traffic Management Service

Harris Corporation has been selected to supply a next-generation, VoIP communications system to support the United Kingdom's air traffic management (ATM) services. Harris was selected following a rigorous review by NATS – the UK's air navigation service provider (ANSP). The announcement was made during the World ATM Congress being held March 8-10 at the IFEMA Feria de Madrid. Harris will provide NATS with its cloud-based Voice Communications System for the 21st Century (VCS21). The VCS21™ system modernizes ATM programs by delivering net-centric voice communications that reduce dependency on traditional point-to-point communications, while supporting an efficient transition to IP-based communications. It will be installed at three facilities in the UK, and will include more than 600 controller working positions that can access up to 2,000 radios across NATS control operations.

"This upgrade to our voice communications system is part of a wider piece of work that will see us transform how we manage air traffic in the UK over the next five years," said Martin Rolfe, NATS Chief Executive Officer. "It's a hugely ambitious programme that will offer major benefits for our airline and airport customers. As such we need trusted partners like Harris with a proven track record of delivery and we're delighted to be working with them on such an integral project."

"We were impressed by Harris because of their reputation for performance and capability coupled with their ability to work collaboratively alongside the rest of our supply chain," added Tim Bullock, NATS Supply Chain Director.

The VCS21 system will be part of the Single European Sky ATM Research (SESAR) project, a collaborative initiative to modernize European airspace and air traffic control. NATS plans to invest nearly $1 billion in new technologies over the next five years to enable SESAR and other future concepts. VCS21 is a major step in this program – providing important networked voice capabilities that are more resilient, more cost effective and will enable dynamic rerouting of established flight sectors, more reliable contingency planning, and improved asset sharing that facilitates both flexible airspace use and future facility planning.

"With this award, the Harris VCS21 system is now supporting two of the world's premier ANSPs – NATS and the FAA – that are at the forefront of modernizing ATM worldwide," said Ed Sayadian, president, Harris Mission Networks. "VCS21 will be a key enabler of modernization and growth, offering features that support future air traffic operations and an architecture that ensures higher system reliability and availability."

About Harris Corporation

Harris Corporation is a leading technology innovator, solving our customers' toughest mission-critical challenges by providing solutions that connect, inform and protect. Harris supports customers in more than 125 countries, has approximately $8 billion in annual

revenue and 22,000 employees worldwide. The company is organized into four business segments: Communication Systems, Space and Intelligence Systems, Electronic Systems, and Critical Networks. Learn more at harris.com.

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Epicos NewsRoom

United to buy 25 more 737s from Boeing

United Airlines said Tuesday it would buy 25 more 737-700 aircraft from Boeing, in addition to an order for 40 of the narrow-body jetliners announced in January.

United, a unit of United Continental Holdings, announced the new order for the aircraft, which can carry 149 passengers, as it cuts its regional fleet of smaller aircraft.

"The new 737-700 aircraft are ideal for our fleet as we continue to reduce our reliance on 50-seat aircraft," said Gerry Laderman, United's acting chief financial officer, in a statement.

The order for the 25 737-700s is valued at $2.01 billion at list prices. United could pay less than that as aircraft manufacturers tend to offer customer discounts. Deliveries of the plane are expected to begin at the end of 2017.

United serves 342 destinations worldwide and operates nearly 5,000 flights per day.

United also announced Tuesday that it would retire its 747 fleet from scheduled service by the end of 2018. To meet capacity needs, United said it was converting 787 orders, initially anticipated for delivery beginning in 2020, to four 777-300ERs and five 787-9s, with deliveries to begin in 2017.

"Retiring the 747 fleet and replacing those aircraft with more customer-pleasing, current generation aircraft creates a more reliable and efficient fleet that provides a better overall experience for our customers traveling on long-haul flights," Laderman said.

United has also ordered 35 A350-100s from European firm Airbus and 10 E175s from Brazil's Embraer.

Shares in United Continental were down 2.6 percent at $56.38 in opening trade Tuesday, while Dow member Boeing lost 0.4 percent at $122.50.

Source: 2016 AFP, Agence France-Presse (AFP)

Cathay Pacific 2015 net profit soars 90% on low oil prices

Hong Kong flag carrier Cathay Pacific said Wednesday that net profit for 2015 rose 90 percent, beating expectations, with the firm attributing the surge to huge savings on fuel as oil prices tumbled.

The Hong Kong-listed company reported a net profit of HK$6 billion ($773 million), compared with HK$3.15 billion the year before.

This compares with the average estimate of HK$5.32 billion by 13 analysts questioned by Bloomberg. "The business benefited from low fuel prices," the firm's chairman John Slosar said in a statement filed to the Hong Kong Stock Exchange.

Fuel costs for the carrier, and its subsidiary Dragonair, plunged 37.8 percent, it said.

Savings were partially offset by a widened hedging loss, which increased to HK$8.47 billion.

Source: 2016 AFP, Agence France-Presse (AFP)

In a boost to Make in India, Airbus Group's annual procurement from India exceeds US$500mn in 2015

In a first for any foreign aerospace & defence original equipment manufacturer (OEM) in India, Airbus Group exceeded the US$500 million annual procurement mark from India in 2015. Over 6,000 people at more than 45 suppliers, both public and private, are directly engaged in providing Engineering & IT Services, Aero-structures, Detail parts & Systems, Materials and Cabins to the Group for several of its leading platforms including A380, A350 XWB, A320 Family, A330, C295W, A400M, Eurofighter, Tiger and NH90.

The Group has now set its sights on exceeding US$2 billion in cumulative procurement, covering both civil and defence, in the five years up to 2020. The last year's figure represents a 15% growth over 2014. Overall, Airbus Group's procurement from India has grown 16 times in the last decade. Today, every Airbus commercial aircraft being produced is partly Made-in-India. "Indian suppliers are a cornerstone of our globalisation strategy," said Klaus Richter, Chief Procurement Officer, Airbus Group and Airbus. "Many of the projects with our Indian partners have been very successful and we aim to further strengthen these relationships in the future."

"We are already making in India via our suppliers and this is independent of any offset obligations," says Pierre de Bausset, President & MD, Airbus Group India. "If our proposals to produce the C295W military transporter in India together with Tata and military helicopters along with Mahindra materialise, we will help set-up system integration and final assembly lines which will spawn an Indian defence supplier base that will be second to none globally."

Hindustan Aeronautics Limited (HAL) makes half of the entire A320 Family forward passenger doors produced worldwide. Dynamatic Technologies makes flap track beams for the A320 Family on a global single source basis and was given the contract last year to manufacture them for the A330 Family. Flap track beams are the assemblies on which the wings extend and retract every time the aircraft takes-off and lands.

Mahindra Aerospace is on contract from Premium Aerotec, an Airbus Group company, to supply more than a million aero-components per year. Aequs has recently inaugurated a dedicated machining facility in Belagavi, the largest of its kind in India, adding to a pre-existing sheet metal, assembly and forging facility and special process operations for Airbus commercial aircraft programmes.

UTC Aerospace Systems makes evacuation slides, interior and exterior lighting, power drive units, auxiliary motors and passenger supply cabin modules for all Airbus commercial aircraft while Axis Cades and Quest provide engineering services for the Fuselage and Wing & Pylon sections respectively, through dedicated design centres, each employing over 200 engineers.

Tata Advanced Materials Ltd. (TAML) provides composite parts for the wing for the A350 XWB and A320 programmes while another Tata Group company, TAL Manufacturing solutions, has partnered with RUAG Aero-structures to supply over 500 sheet metal and machined parts and sub-assemblies for the A320 programme. In addition, Tata Advanced Systems Ltd. (TASL) will supply refuelling pods for the A330 MRTT to Airbus Defence and Space via Cobham.

Wipro has received technology transfer from an Airbus Defence and Space JV company in Spain to manufacture more than 8000 aerospace actuators per year, which go on platforms such as A400M, CN235 and C295W while SEFEE India designs, develops, manufactures and tests complete electrical harness systems for aircraft like A400M and several helicopter types. Infosys provides SAP development and maintenance services while Geometric supports on product lifecycle management (PLM) applications and CAD services. Tech Mahindra provides consulting services on Quality and Business Support.

Airbus Group is at the forefront of the ‘Make in India’ initiative with annual procurement from India exceeding US$500 million from over 45 suppliers in 2015 and supporting more than 6,000 local jobs. Thanks to this supply chain, every Airbus commercial aircraft produced today is partly 'Made in India'. The Group has set its sights on exceeding US$2 billion in cumulative sourcing, covering both civil and defence, in the five years up to 2020. It has also offered to build the C295W military transport aircraft in India along with Tata Advanced Systems and has formed a partnership with Mahindra Defence to manufacture military helicopters locally. Around 80% of the Group’s nearly 500 direct employees in India are engineers. In addition, the Group operates two dedicated design centres with partners and collaborates closely with institutions such as the IITs, IIMs and the Tata Institute of Fundamental Research (TIFR).

For Further Information Click Here

Source: Epicos, Airbus Group

Boeing and Paramount to Collaborate on Light Multi-role Aircraft

Boeing and the Paramount Group, the South Africa-based global defense and aerospace business, have expanded their 2014 agreement to cooperate on an advanced mission system for a variant of the Advanced, High Performance, Reconnaissance, Light Aircraft (AHRLAC).

A high-wing, two-seat aircraft, AHRLAC is designed to incorporate advanced intelligence, surveillance and reconnaissance (ISR) capabilities and weapons systems. Boeing will develop an integrated mission system for the aircraft enabling ISR and light strike missions for the AHRLAC safety & security, and military variants. This militarised version will be known as Mwari.

Speaking from the Global Aerospace Summit in Abu Dhabi, Jeffrey Johnson, vice president, Business Development, Boeing Military Aircraft, said, "Through AHRLAC, we'll not only bring a flexible, persistent and affordable aircraft to the international market, but we'll also be developing world-class technology in Africa."

"Our relationship with Paramount will help us access markets that are new to Boeing," Johnson added.

The Paramount Group is the largest privately owned defense and aerospace business in Africa, providing fully integrated turnkey solutions to global defense, peacekeeping and internal security forces. Since its inception in 1994, Paramount has built strong relationships with governments and government agencies in more than 30 countries around the world. Paramount is a leading innovator in the design and development of state-of-the-art products that it manufactures in locations globally and has partnered with some of the world's largest and most reputable organizations in the global defense community. Please visit http://www.paramountgroup.com or follow on Twitter.

In 2016 Boeing celebrates 100 years of pioneering aviation accomplishments and launches its second century as an innovative, customer-focused aerospace technology and capabilities provider, community partner and preferred employer. Through its Defense, Space & Security unit, Boeing is a global leader in this marketplace and is the world's largest and most versatile manufacturer of military aircraft. Headquartered in St. Louis, Defense, Space & Security is a $30 billion business with about 50,000 employees worldwide. Follow on Twitter: @BoeingDefense.

For Further Information Click Here

Source: Epicos, Boeing

Saab Awarded Contracts to Deploy Multilateration Systems at Dubai International Airport and Al Maktoum Airport

Defence and security company Saab announces that it has been awarded two contracts by Dubai Aviation Engineering Projects (DAEP) to supply and install a Wide Area Multilateration (WAM) system at Dubai International Airport (DXB) and a Surface Multilateration system at Al Maktoum Airport (AMI).

The DXB WAM system will provide surveillance of the aerodrome using Saab's latest MDS technology that will support Precision Runway Monitoring (PRM) and allow the airport to increase its throughput by enabling simultaneous landings on the two parallel runways. The WAM system will augment the existing surface multilateration system already installed and commissioned at DXB to increase the surveillance coverage to 50nm from the airport.

The AMI surface multilateration system will allow the airport to accurately track aircraft positions on the airfield so that controllers can monitor the movements of all transponder equipped aircraft and vehicles. Saab's VeeLo NG vehicle locator will be installed on ground vehicles to positively identify them and enable their positions to be tracked by the system. With Saab's multilateration, air traffic controllers will be able to maintain situational awareness despite any obstructions or inclement weather that may constrain visual observations from the tower.

Saab is the leading multilateration surveillance provider in the world and is responsible for more than half of all global installations. Saab is proud to have Dubai and DAEP as another partner in the pursuit of increased aviation safety and efficiency.

Saab provides the global defence and aviation markets with advanced sensor technologies, next-generation radars, automation, and modelling and simulation solutions. It serves military, civil aviation, airport and airline customers in more than 40 countries across six continents.

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Saab serves the global market with world-leading products, services and solutions within military defence and civil security. Saab has operations and employees on all continents around the world. Through innovative, collaborative and pragmatic thinking, Saab develops, adopts and improves new technology to meet customers' changing needs.

Source: Epicos, SAAB