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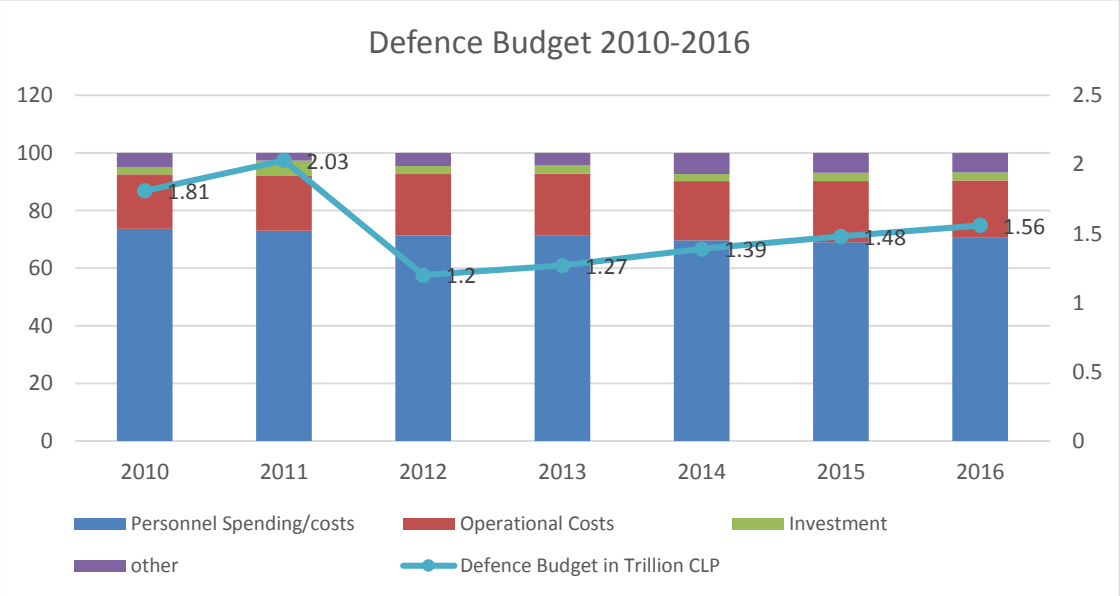
Part I: Chile

Part II: Epicos Newsroom

Chile: Defence Budget, Past and Future Procurements

Chile is a rather peaceful country with very few internal or external military threats. Furthermore, any historical disputes that have been arisen the last decades with neighboring countries were settled with diplomatic solutions. Nevertheless, Chile has one of the most professional and well-equipped armed forces in Latin America, something that is the result of a decade-long modernisation programme that has significantly updated the armed forces inventory. Currently, the military modernisation doctrine has changed as attention is shifting from quantity to quality. In order to achieve this Chilean government has allocated adequate resources. It is indicative that for 2016, it is expected that the country will spend in total 1.6 trillion Chilean Pesos –CLP- (approximately 2.3 billion US dollars).

From this amount the biggest percentage (70.5%), will be used to cover the payments and other costs of the defence forces' personnel. An amount covering 3% of the defence budget will be allocated to the procurement of new defence equipment, while almost 20% of the budget will be used to cover the operational costs of the armed forces. The same pattern was followed through the period 2010-2016, as the costs of defence personnel captured the biggest percentage of the annual defence budget averaging 71.3%, while operational cost and investment initiatives captured on average 20.3% and 3.1% of the annual budget respectively.



	Personnel Spending/costs	Operational Costs	Investment	Other	Defence Budget in Trillion CLP
2010	73.70%	18.90%	2.48%	4.92%	1.81
2011	73.04%	19%	5.34%	2.62%	2.03
2012	71.39%	21.24%	2.80%	4.57%	1.2

	Personnel Spending/costs	Operational Costs	Investment	Other	Defence Budget in Trillion CLP
2013	71.48%	21.31%	2.90%	4.31%	1.27
2014	69.72%	20.49%	2.52%	7.28%	1.39
2015	69.06%	21.19%	2.89%	6.86%	1.48
2016	70.59%	19.87%	2.77%	6.73%	1.56

Source: http://www.dipres.gob.cl/

Historically the army of Chile receives the highest amount of funds. It is indicative that in 2016 the army received 33.47%, the navy 22.6% and the air force 13.12% of the budget. The remaining funds are allocated to other authorities responsible for defence administration, planning and development of the domestic defence industry. This trend was followed through the period 2012-2016 with marginal fluctuations.

	Army	Navy	Air Force	Others
2012	35.20%	23.24%	13.13%	28.42%
2013	34.94%	23.16%	13.31%	28.58%
2014	33.77%	22.58%	12.98%	30.67%
2015	33.53%	22.64%	12.97%	30.87%
2016	33.47%	22.60%	13.12%	30.81%

Source: http://www.dipres.gob.cl/

As is it already mentioned Chile has modernised its armed forces. In order to achieve this, the country heavily depends on defence imports as indigenous defence industry is able to produce a wide, but not technologically advanced, range of military products. Under this context, Chile purchased 18 second-hand F-16A/B aircraft from Netherlands and 10 new-build F-16Cs and F-16Ds through the Peace Puma programme from US, updating the combat capabilities of the local air force and allowing the retirement of the outdated Dassault's Mirage 5 supersonic attack aircraft. It is worth mentioning that in return for the acquisition of the 10 F-16s the Chilean aerospace industry received a 100% offset package.

In 2008 Chile purchased 12 EMB 314 Super TUCANOs from Embraer, used for tactical training, as well as intelligence, surveillance and reconnaissance missions. Super Tucano is mainly operated by the air forces of Latin American countries. In Colombia the aircraft is used for intense internal security operations. In Dominican Republic, the aircraft is providing internal security and helping counter illegal activities. In Brazil, Super Tucano is providing border security and helping counter illegal activities, while in Ecuador Super Tucano is flying advanced training and operational missions.

Chilean air capabilities are also updated through the procurement of assets from the local aerospace industry. One such purchase was completed in 2015, when Chilean authorities approved a contract for the supply of 7 Vulcanair P68 Observer 2 aircraft. The flexible and easily reconfigurable Vulcanair P68 Observer 2 will be deployed for several missions including: Search and Rescue, Maritime Police, Search and Reconnaissance, Medical Evacuation and Transport. The aircraft will be delivered during the course of 2016-2017.

The fire power of the Chilean navy is mainly based on the relatively modern frigates it operates, three of which were purchased from the UK for a total amount of 260 million US dollars (including 125 million US dollars for spares, training and ammunition). The frigates

were modernized in Talcahuano by the Chilean shipyards ASMAR. Chilean navy is also supported by a fleet of 4 submarines, two of which were built in Germany and were refurbished and modernized in 2009 by ASMAR, and two that were produced by the French-Spanish DCN-Bazán Shipyards (now Navantia). The modernisation of the two German-made submarines from ASMAR included the refit of the hull, diesel engines, electric batteries and all the mechanical, electrical, electronic components and hydraulic and optical systems.

Additionally, the Chilean navy is expected to procure a new ice breaker from ASMAR that will replace the "Contraalmirante Oscar Viel Toro" which is currently near the end of its lifespan. The new icebreaker is expected to be delivered in 2021 and will have a 13,000 tons displacement.

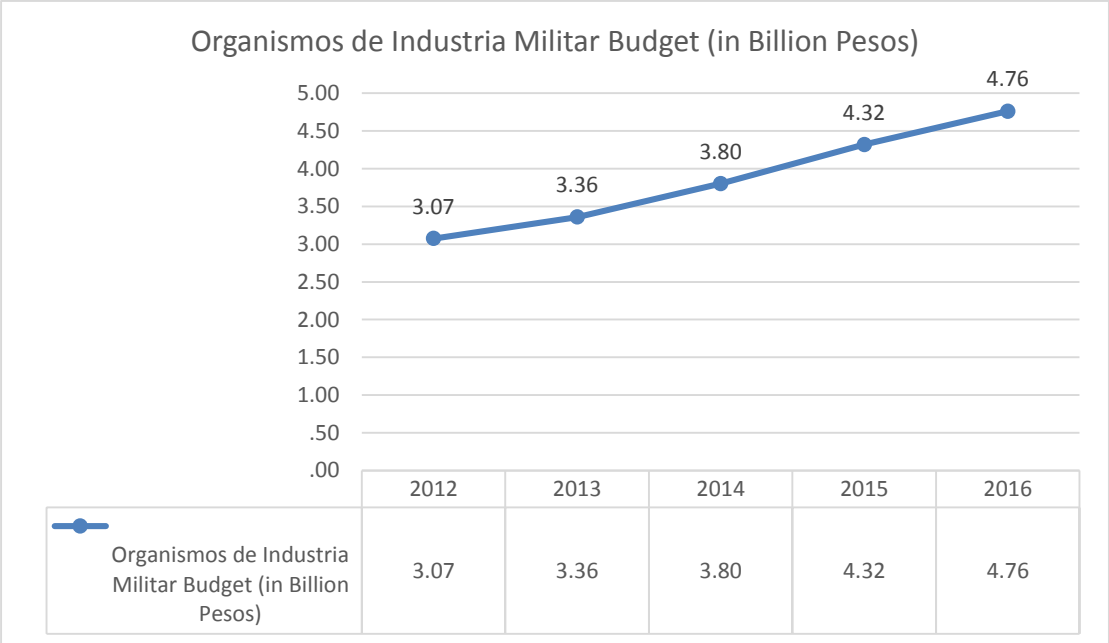
The Leopard 2A4 main battle tanks consists the backbone of the Chilean army inventory. In March 2006, Chile signed a contract for the acquisition of 140 such tanks. The first was delivered in December 2007, while deliveries completed in 2009. The total amount of the deal reached 125 million US dollars.

Military spending in Chile in the future will be mainly shaped by the need of the country to keep up with the modernization process of its armed forces and by its participation in peacekeeping missions.

Kyriazis Vasileios
Epicos Newsletter Head Editor

Chile: Defence industry Current Capabilities and International Strategic Alliances

The Chilean defence industrial base has limited capabilities, as local companies have the ability to develop and manufacture a range of equipment in the land, sea and air segments, but their ability to manufacture advanced platforms and systems is rather limited at present. Currently, domestic industry's capabilities includes the development and manufacturing of small arms and ammunitions, electronics, radars and armoured vehicles, artillery, ballistic rocket systems, anti-aircraft equipment, infantry support weapons, aerial bombs and rockets, and radar and electronic equipment. Nevertheless, Chile further works towards the expansion of its local defence industrial base. The main goal is the progressive production of enhanced sophistication military equipment in a bid to reduce foreign dependence and help with national industrialisation. Under this context, in 2016 around 4.8 billion Chilean Pesos *–CLP- (approximately 7 million US dollars) were allocated in the "ORGANISMOS DE INDUSTRIA MILITAR" the national agency in* charge of research and development in the defence industry. This amount was significantly increased compared to 2012 when it reached 3 billion CLP (approximately 4.6 million US dollars).



Source: http://www.dipres.gob.cl/

The modernisation of the country's industrial base is extensively oriented towards the development of concrete products and/or services that could be used by the local armed forces. Under this context, Chilean air capabilities are partly updated through the procurement of assets from the local aerospace industry. One such purchase was completed in 2015, when Chilean authorities approved a contract for the supply of 7 Vulcanair P68 Observer 2 aircraft. The flexible and easily reconfigurable Vulcanair P68 Observer 2 will be

deployed for several missions including: Search and Rescue, Maritime Police, Search and Reconnaissance, Medical Evacuation and Transport. The aircraft will be delivered during the course of 2016-2017.

More on that, in March 2015 one of the most prominent Chilean defence companies, Empresa Nacional de Aeronáutica de Chile (ENAER), and Finmeccanica-Alenia Aermacchi signed an industrial cooperation agreement under the form of a Memorandum of Understanding (MoU). According to the agreement, the Chilean aeronautics company will collaborate with Alenia on the logistic support of the C-27J, as well as on the new M-345 HET (High Efficiency Trainer), the most recent solution proposed by Alenia Aermacchi for the basic-advanced phase of training syllabus for military pilots.

For the naval sector, ASMAR an autonomous state-owned shipbuilding enterprise carries out the Maintenance Repair and Overhaul (MRO) of the ships belonging to the Chilean Navy. Additionally, ASMAR modernised two German-made submarines of the Chilean Navy. The modernisation included the refit of the hull, diesel engines, electric batteries and all the mechanical, electrical, electronic components and hydraulic and optical systems. Additionally, the Chilean navy is expected to procure a new ice breaker from the Chilean shipbuilder that will replace the “Contraalmirante Oscar Viel Toro” which is currently near the end of its lifespan. The new icebreaker is expected to be delivered in 2021 and will have a 13,000 tons displacement.

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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

Design and development of special machines and equipment for the aerospace industry

A company with extensive experience in the manufacturing of structures and equipment for the aeronautical sector is proposing the collaboration with a Prime contractor for the design and development of special machines and equipment that can be used in the manufacturing and/or maintenance process in the aerospace industry.

For Further Information Contact our ICO Department
Mail at: a-kintis@epicos.com

Rugged mission data recording system for monitoring and debriefing applications in modern digital ground forces

A company with vast experience in industrial rugged computers development and production and video signal processing, is proposing the development of a new rugged mission data recording system to be used in several network centric battlefield applications providing continuous monitoring (multiple video and audio signals) and training (e.g. debriefing) applications. The recording system will interface with vehicle vectronics collecting and storing video and audio from crew members and various sensors providing advanced debriefing capabilities.

For Further Information Contact our ICO Department
Mail at: a-kintis@epicos.com

Navantia signs the Future Frigate Participant Services Contract

The Commonwealth of Australia and Navantia have signed an agreement for the Risk Reduction and Design Study (RRDS) Phase for the SEA 5000 Future Frigate Program. This is part of the Competitive Evaluation Process (CEP) being conducted by the Australian Department of Defence for the SEA5000 Future Frigate Program. The Commonwealth has also entered into similar agreements with each of Fincantieri and BAE Systems.

Under the agreement, and for a period of approximately one year, the Commonwealth and Navantia will engage in an interactive process that will allow the Australian Department of Defence to assess the capability, risk and other matters associated with Navantia's proposed ship design.

This signature is related to the announcement of the Australian Prime Minister; The Hon. Malcom Turnbull, that Navantia and two other designers had been selected to participate in the RRDS stage of the CEP.

Navantia's participation in this program is a significant milestone for the future of Navantia in Australia as the opportunity to be a potential designer of the future frigates will be the most important naval surface shipbuilding program worldwide. This program has the potential to allow for the development of Navantia Australia's local capabilities and its Operations and Design Centre, which will actively participate in this design phase.

For Further Information Click Here

L-3 to Supply Electro-Optical and Infrared Designating Systems under a U.S. Foreign Military Sales Contract

L-3 Communications announced today that its Integrated Sensor Systems (ISS) sector within its Electronic Systems segment has been selected under a U.S. Foreign Military Sales (FMS) contract to provide eight WESCAM MX™-10D electro-optical and infrared (EO/IR) designating turrets to a Middle Eastern nation's Ministry of Defense. L-3's MX-10Ds will be used by the customer in support of counterterrorism operations from its newly acquired UH-60 Black Hawk helicopters. Turret deliveries to Sikorsky, the integrator for the program, began in June 2016 and will continue through February 2017.

"This is a key win in an important and emerging international market," said Steve Kantor, president of L-3's Electronic Systems business segment. "L-3 WESCAM has a well-established record of providing innovative technologies that give our customers the distinct advantage needed for their security operations."

"We are proud to provide our end user with a powerful and affordable designating solution that will work in conjunction with legacy systems to deliver a unique and essential integrated EO/IR system," added Paul Jennison, vice president of government sales and business development for L-3 WESCAM, a unit of L-3's ISS sector. L-3's imaging systems range in size from 8 inches to 25 inches in diameter and provide high-resolution, stabilized full-motion intelligence in support of low-level tactical to high-altitude, ultra long-range persistent missions.

With fully active four-axis MX™-Series stabilization, the MX-10Ds are configured with a series of high-sensitivity, multi-spectral sensors that enable precision engagement from tactical ranges during daylight, low-light and nighttime missions. The sensors include a four field-of-view thermal imager, a high-definition daylight continuous zoom TV and a low-light continuous zoom TV, as well as advanced laser designator, rangefinder and illuminator technologies.

L-3 WESCAM is a world leader in the design and manufacture of stabilized, multi-spectral imaging systems. To learn more about L-3 WESCAM, please visit the company's website at http://www.wescam.com. Headquartered in New York City, L-3 employs approximately 38,000 people worldwide and is a leading provider of a broad range of communication and electronic systems and products used on military and commercial platforms. L-3 is also a prime contractor in aerospace systems. The company reported 2015 sales of $10.5 billion.

To learn more about L-3, please visit the company's website at www.L-3com.com. L-3 uses its website as a channel of distribution of material company information. Financial and other material information regarding L-3 is routinely posted on the company's website and is readily accessible.

Epicos NewsRoom

AAR Signs Landing Gear Maintenance Contract with Asiana Airlines

For the first time, global aerospace leader AAR will provide landing gear overhaul and exchange services for Asiana Airlines. The five-year agreement covers landing gear assemblies and sub-assemblies for Asiana's 767-38EF-300 and 777-200ER aircraft.

The new partnership with the Asian carrier illustrates the growing reach of AAR's Landing Gear Services in Asia. AAR will perform the landing gear overhauls in its dedicated Miami landing gear overhaul facility.

"AAR's strong reputation, competitive shop turnaround time and proven quality has allowed us to forge relationships with new customers in the Asia Pacific region, one of the fastest-growing aviation markets in the world," said Peter Loeb, Vice President, Global Sales and Marketing, AAR Landing Gear Services.

"Asiana Airlines knows it can count on AAR's world-class standards for quality and reliability,"commented Dong-Jun Shin, General Manager, Aircrafts & Supplies Purchasing, Asiana Airlines.

About Asiana Airlines

Since its foundation in 1988, Asiana Airlines has fully committed itself to providing its customers with innovative and world-class services. As a proud member of Star Alliance, Asiana Airlines has continued to maintain its 5-star rating by Skytrax for 9 consecutive years since the year of 2007 and also received the Airline of the Year award from Air Transport World (ATW) in 2009, Skytrax in 2010, Global Traveler in 2011, and Premier Traveler/Business Traveler in 2012. With only 28 years of history, Asiana Airlines has achieved remarkable growth, operating 89 international passenger routes to 75 destinations in 24 countries. For cargo flights, Asiana Airlines operates 26 routes to 28 cities in 12 countries. For more information, visit: http://kr.flyasiana.com/C/en/main.do.

About AAR

AAR is a global aftermarket solutions company that employs more than 4,500 people in over 20 countries. Based in Wood Dale, Illinois, AAR supports commercial aviation and government customers through two operating segments: Aviation Services and Expeditionary Services. AAR's Aviation Services include inventory management; parts supply; OEM parts distribution; aircraft maintenance, repair and overhaul; and component repair. AAR's Expeditionary Services include airlift operations; mobility systems; and command and control centers in support of military and humanitarian missions. More information can be found at www.aarcorp.com.

Source: Epicos, AAR

Cubic Awarded Nearly $80 Million from Navy's FTSS IV IDIQ Multiple Award Contract to Support Aviation Training

Cubic Global Defense (CGD), a business unit of Cubic Corporation (NYSE: CUB), today announced the award of a five-year, approximately $80 million task order to support aviation training for the U.S. Navy and Marine Corps under the Navy's Fielded Training Systems Support (FTSS) IV Indefinite Delivery Indefinite Quantity (IDIQ) Multiple Award Contract (MAC). This is the first award by the Naval Air Warfare Center, Training Systems Division (NAWCTSD) using this fourth-generation IDIQ program – that has an estimated ceiling value of $1.75 billion.

Under the task order awarded by NAWCTSD in Orlando, Florida, Cubic will provide operations and maintenance support of F/A-18 and EA-18G aviation training devices and simulators at Naval Air Station (NAS) Oceana, Marine Corps Air Station (MCAS) Miramar, NAS Lemoore, NAS Whidbey Island and MCAS Beaufort. In addition, Cubic instructors will provide simulator and academic classroom training for Navy and Marine Corps pilots and other aircrew at NAS Lemoore, MCAS Miramar, and NAS Whidbey Island. In an earlier FTSS II task order, Cubic provided F/A-18 Pilot Instructors at MCAS Beaufort.

"Cubic is proud to be partnered with Naval Aviation with this new pilot and flight officer training and support contract," said Dave Buss, president of Cubic Global Defense. "When coupled with the important operations, maintenance and instructional work we currently perform with Navy and Marine Corps aircrew and training simulators in other locations, this new contract allows us to meet our customer's training needs with a set of innovative end-to-end solutions."

Cubic, which has participated in the FTSS IDIQ contracts since the original was awarded in 2000, recently announced it was one of nine companies selected to participate in the FTSS IV IDIQ MAC.

About Cubic Corporation

Cubic Corporation designs, integrates and operates systems, products and services focused in the transportation, defense training and secure communications markets. Cubic Transportation Systems is a leading integrator of payment and information technology and services to create intelligent travel solutions for transportation authorities and operators. Cubic Global Defense is a leading provider of live, virtual, constructive and game-based training solutions, special operations and intelligence for the U.S. and allied forces. Cubic Mission Solutions provides networked Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) capabilities for defense, intelligence, security and commercial missions. For more information about Cubic, please visit the company's website at www.cubic.com or on Twitter @CubicCorp.

Source: Epicos, Cubic Corporation

Rockwell Collins' Pro Line Fusion® upgrade certified for King Air 350 in Brazil

Rockwell Collins' Pro Line Fusion® avionics upgrade solution for King Air 350 turboprops equipped with Pro Line II has received supplemental type certificate (STC) validation from Brazil's National Civil Aviation Agency (ANAC). The same upgrade was certified by the Federal Aviation Administration (FAA) STC earlier this year.

Rockwell Collins' Pro Line Fusion upgrade for King Air 350 turboprops provides turn-key compliance with airspace modernization deadlines such as ADS-B and transforms the flying experience with the largest widescreen primary flight displays available. The upgrade enhances the aircraft's value with the same icon-based, touchscreen technology found on new-production King Airs. "Pro Line Fusion is a revolution in simplicity for King Air pilots across the world, helping them manage their flight operations with increased ease," said Craig Olson, vice president and general manager, Business and Regional Systems for Rockwell Collins. "Now, pilots of King Air turboprops in Brazil can experience firsthand how intuitive and convenient it is to fly with Pro Line Fusion."

Rockwell Collins' Pro Line Fusion ushers in a new era for King Air 350 owners with:

- A fully loaded package of baseline equipment for operation in modernizing global airspace: ADS-B mandate compliance, SBAS-capable GNSS, localizer performance with vertical guidance (LPV) approaches, radius-to-fix (RF) legs and more.
- Three 14.1-inch widescreen LCDs with advanced graphics, configurable windows, and touchscreen interfaces—matching the display configuration of the latest King Air models delivered from the factory.
- Market-leading high-resolution synthetic vision as a standard feature, including Rockwell Collins' patented airport dome, and extended runway centerlines with mile markers to better orient the pilot from top of descent through final approach.
- Touch-interactive maps with eyes-forward flight planning, high-resolution topography, real-time onboard weather radar overlays, obstacles, and special-use airspace and search patterns for expanded situational awareness and reduced workload.
- Geo-referenced electronic navigation charts that display own-ship aircraft position for enhanced situational awareness during approaches.
- Easy and fast database updates using a standard USB drive port on the front of the displays.

About Rockwell Collins

Rockwell Collins is a pioneer in the development and deployment of innovative aviation and high-integrity solutions for both commercial and government applications. Our expertise in flight deck avionics, cabin electronics, mission communications, simulation and training, and information management is delivered by a global workforce, and a service and support network that crosses more than 150 countries. To find out more, please visit www.rockwellcollins.com.

Source: Epicos, Rockwell Collins

CAE signs an exclusive 5-year commercial aviation training agreement with new low-cost carrier Air Seoul

CAE announced today at the 2016 Asia Pacific Airline Training Symposium that it has signed an exclusive 5-year commercial aviation training contract with Air Seoul, supporting the new South Korean low-cost carrier's Airbus A320 training needs in the region. Pilots began training on August 1, 2016 at the CAE Korea Training Centre.

"We are excited to start our new operations and thrilled about our training services agreement with CAE which allows us to provide world-class training to our crew" said Captain Kim Wung, Vice President of Operations, Air Seoul. "As the global training leader, we are confident that CAE will be at the forefront of our training needs as we grow our airline in the region".

"It is always a privilege to support start-up airlines with their new training needs and we are honored that Air Seoul has selected CAE as its training partner of choice," said Nick Leontidis, CAE's Group President, Civil Aviation Training Solutions." We are pleased to welcome the new low-cost carrier as our customer, further expanding our longstanding relationship with its parent company Asiana Airlines."

Air Seoul, a subsidiary of Asiana Airlines, officially launched its operations in the summer of 2016.

About CAE

CAE is a global leader in training for the civil aviation, defence and security, and healthcare markets. Backed by a 70-year record of industry firsts, we continue to help define global training standards with our innovative virtual-to-live training solutions to make flying safer, maintain defence force readiness and enhance patient safety. We have the broadest global presence in the industry, with 8,000 employees, 160 sites and training locations in over 35 countries. Each year, we train more than 120,000 civil and defence crewmembers and thousands of healthcare professionals worldwide.

For Further Information Click Here

Land 400 RMA contract signed

BAE Systems Australia and Patria have been selected to take part in the 12-month Risk Mitigation Activity for the Australian Army's Land 400 Phase 2 combat reconnaissance vehicle program. The contract between Australian Defence Department and BAE Systems Australia was signed on August 19.

The offered AMV35 is Patria's modern, agile, highly protected Armoured Modular Vehicle platform integrated with the combat-proven E35 turret and weapon system from BAE Systems Hägglunds.

BAE Systems and Patria are committed to embed as much Australian industry content in this vehicle as possible and to support the development of local industrial capability, with the manufacturing, technology and intellectual capability transitioning to an Australian industry. Both Patria and BAE Systems Hägglunds have successfully transferred technology and the production of the AMV and the E35 turret to several other countries, delivering considerable in-country economic advantages including long term local sustainment and upgrade activities.

For Further Information Click Here

Source: Epicos, BAE Systems