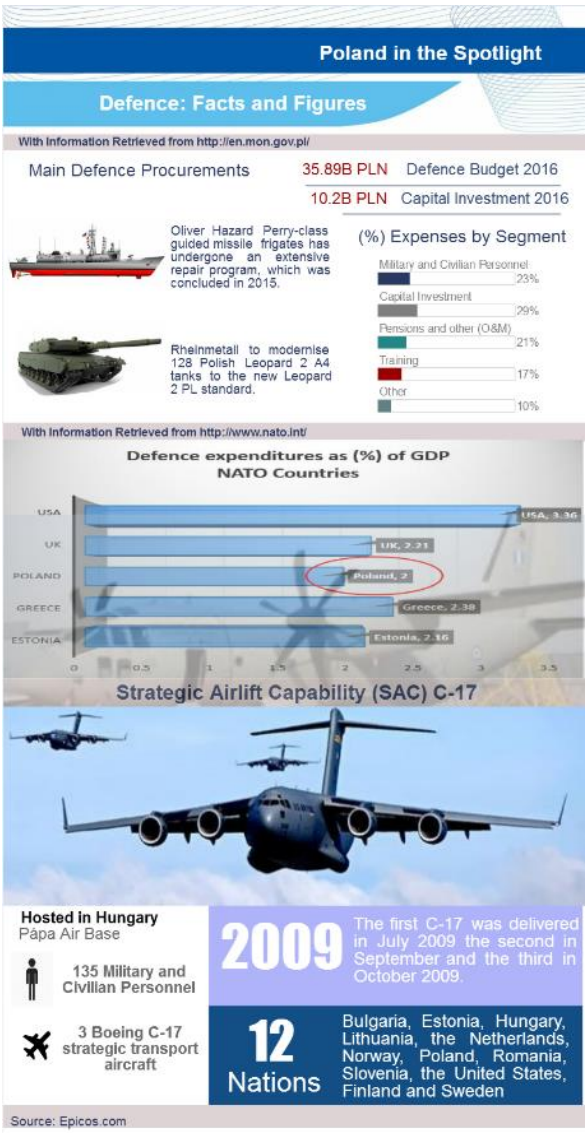
Volume 8 Number 52 – Wednesday, 28 December 2016

Part I: European Defence Spending

Part II: Epicos Newsroom

Polish Defence Budget & Future Procurements

According to official data provided by Poland's parliamentary committee of national defence, the defence budget of 2016, was to reach 35.89 billion Polish Zloty -PLN- (approximately 8.5 billion US dollars), a rise of 8.6%, compared to the previous year. As of 2016, Polish authorities are committed to spend 2% of the country's Gross Domestic Product (GDP) on defence, instead of 1.95% spent until 2016. With the implementation of the 2016 defence budget, Poland is set to join a handful of NATO members, who meet the alliance's target of investing at least 2% of national GDP on defence. Expenses on military and civilian personnel, represent 23.4% of the total military budget, accounting for 8.281 billion PLN (approximately 2 billion US dollars), while capital investment represents 28.9%, hence some 10.247 billion PLN (approximately 2.4 billion US dollars). Pensions and other Operational and Maintenance (O&M) expenditures, as well as training expenses, represent 20.7% and 17.4% of the total military budget, respectively.



The main priorities of the 2016 budget are the sustainment and development of Polish armed forces operational capabilities, the improvement of cyber security & cyber defence capabilities and the increase of the armed forces ability to fulfil missions in accordance with international (NATO) standards.

Poland's accession to NATO has benefited the county as it was somehow obliged to purchase military equipment that would be in accordance with the requirements/ technical specifications of the alliance. Additionally, Poland was able to take part in the alliance's programs, such as the Strategic Airlift Capability (SAC) C-17, an international initiative under which the 12 participant nations, acquired, manage, support and operate, three Boeing C-17 strategic transport aircraft. The first C-17 was delivered in July 2009, the second in September and the third in October of 2009.

The aircraft operate out of Pápa Air Base in Hungary, and are open to use by the participating nations. The participants include ten NATO nations (Bulgaria, Estonia, Hungary, Lithuania, the Netherlands, Norway, Poland, Romania, Slovenia and the United States) and two

Partnership for Peace (PfP) nations (Finland and Sweden).

In 2015, the defence budget's structure was more or less the same as that of 2016. More specifically, expenses on military and civilian personnel represented 20.7% of the total military budget, accounting for 7.9 billion PLN (approximately 1.88 billion US dollars), while capital investment represented 36.2%, hence 13.77 billion Zlotys (approximately 3.26 billion US dollars). Finally, Pensions and other Operational and Maintenance (O&M) expenditures accounted for 19.4% and 14.9% of the total military budget, respectively.

Throughout the years, spending on capital investment has significantly increased. In 2008, 3.4 billion PLN (approximately 806 million US dollars) were spent on capital investments, representing 17.3% of the total defence budget. In 2009, this number increased to 4.8 billion PLN (approximately 1.1 billion US dollars), amounting to 20.9% of the total budget, while in 2010, 5.5 billion PLN (approximately 1.3 billion US dollars) were spent on capital investments, representing 22.2% of the total defence budget. This upward trend continued, as the 2015 budget allocated 12.7 billion Zlotys (approximately 3 billion US dollars), while the 2016 budget allocated 10.2 billion PLN (approximately 2.4 billion US dollars) in this direction.

In the years to come, Poland is planning to procure a wide variety of defence equipment and to modernise several others. According to Katarzyna Jakubowska, the acting spokesperson for the ministry, Poland is going to procure in the future, new air defence systems, UAVs, multi-purpose helicopters, coastal defence vessels, mine destroyers and submarines.

Under this context, in October 2016, SAAB signed a Memorandum of Understanding (MoU) with Polska Grupa Zbrojeniowa (PGZ) that foresees, close cooperation between Saab and PGZ in the planning and delivery of Polish naval programs, including surface ships and submarines construction for the Polish Navy and export customers. SAAB is already present in the country, as it provides Sea Giraffe radars and the RBS15 Mk 3 missiles for the Orkan vessels.

Additionally, one Oliver Hazard Perry-class guided missile frigate, has undergone an extensive repair program, which was concluded in 2015. The Oliver Hazard Perry-class frigates (2 in total) are in service with the Polish Navy since 2000 and were formerly servicing in the US Navy.

In September 2016, Poland signed an agreement with Rheinmetall to modernise 128 Polish Leopard 2 A4 tanks to the new Leopard 2 PL standard. In order to materialise this contract Rheinmetall will form an industrial consortium with Polska Grupa Zbrojeniowa (PGZ) and ZM Bumar-Łabędy S.A. The consortium is expected to supply a prototype at the end of 2017, while the retrofit of the remaining MBTs (Main Battle Tanks) will be finished by 2020.

Finally, in 2015, the Polish Ministry of National Defence, placed an additional order for 200 8x8 Armoured Modular Vehicles (AMV), with Patria's Polish partner Rosomak S.A. Patria will deliver components for 200 vehicles to Rosomak S.A., which produces the vehicles under license from Patria. Deliveries will take place during the period 2015-2019 and the total value of the order will reach 90 million Euros.

Kyriazis Vasileios,

Epicos Newsletter Head Editor

The Netherlands: Defence Budget, Future Procurements and International Cooperation

In 2017, the Dutch government plans to increase defence spending by 200 million Euros, as it was officially announced at the opening of the Dutch parliament on 20 September. The Ministry of Defence will have almost 8.7 billion Euros available in support of its efforts. The bulk amount of these funds will be allocated to the stockpiling of spare parts and ammunition and to the recruitment of extra personnel. In 2016, defence budget was also increased by 220 million Euros, as it was stated by Dutch King Willem-Alexander in a speech ahead of the government's budget presentation. This amount of money was used in part to further improve the armed forces' operational deployability. Additionally, it was announced that extra funding will be made available on a structural basis for Dutch participation in peace keeping missions.

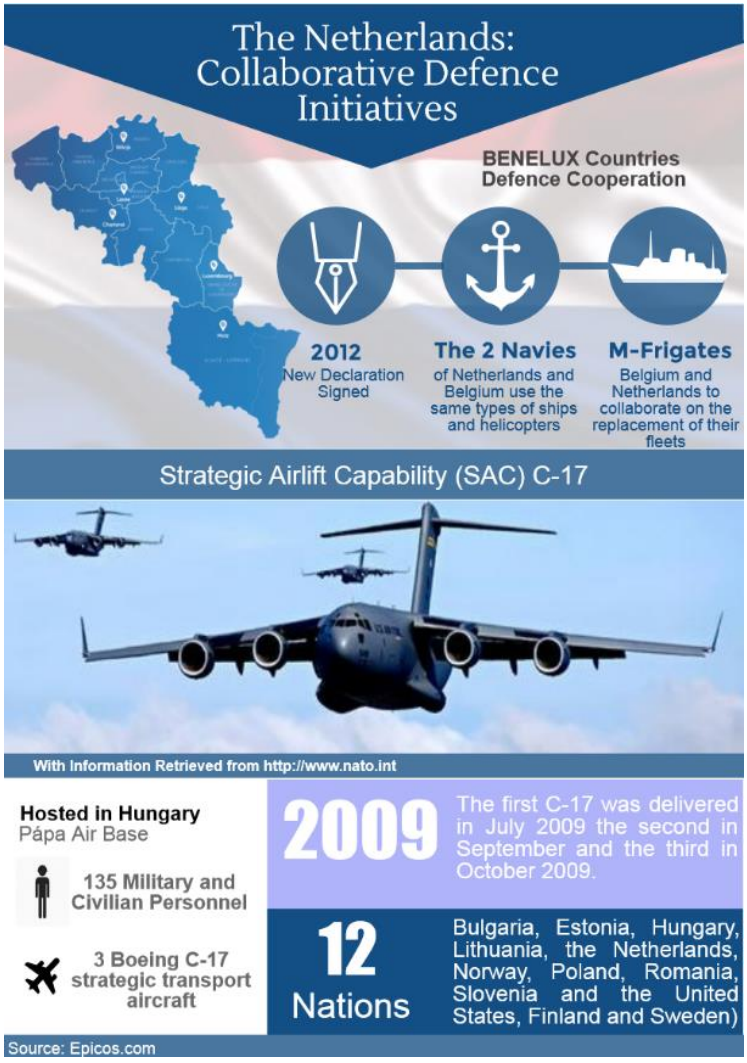
Nowadays, military operations and missions are becoming increasingly complex. Modern armed forces have to tackle with a great diversity of tasks under a wide range of circumstances. Additionally, the theatre of operations has been dramatically expanded. Operations are conducted all over the world and often within the framework of integrated multinational partnerships. Within this context, the key elements for a successful outcome are quick deployment, flexibility and the ability to react swiftly to unexpected opportunities and threats. Additionally, the process of globalisation and the relationship between internal and external security has been further intermingled meaning that many problems in Dutch society have a significant international dimension and vice versa. Under this context, national borders have without doubt lost some of their importance as the demarcation line for the security of the Netherlands territory and society. Thus, Dutch armed forces have a dual role safeguarding against threats both to the nation and the society.

This dimension was highlighted by Dutch King Willem-Alexander in his speech ahead of the government's budget presentation in which he mentioned the terrorist threat as one of the problems the world currently faces. He also added that Russia's annexation of Crimea and the conflict in eastern Ukraine has further destabilized Europe and that several other conflict hotspots, such as in Mali, Yemen and Afghanistan also pose a threat to the international legal order.

King Willem-Alexander also referred to his speech to the growing flow of refugees from Turkey to Europe that demands an active response. According to his estimations the solution to the problem should include international conflict management, refugees' reception in the region, combating people smuggling, a strict but fair asylum procedure in every country, effective policy of return, and giving to those unable to return opportunities to integrate in societies.

Netherlands defence policy is firmly oriented in opting for international cooperation within the EU, NATO and UN level. Netherlands' most important partners in the field of security are the two other BENELUX countries (Belgium and Luxemburg) and Germany.

Under this context, in February 2016, Dutch Minister Mrs Jeanine Hennis-Plasschaert and her German colleague Mrs Ursula von der Leyen signed two agreements on far-reaching cooperation measures. Under these agreements Germany will become joint user of the logistical support ship HNLMS Karel Doorman and the two countries will strengthen their ties in the area of ground-based air and missile defence.



Defence cooperation between the BENELUX (Belgium, Netherlands and Luxembourg) countries has existed for a long time and it was further reinforced with the declaration signed in 2012 between the Ministers of Defence of the Netherlands and Belgium, Mr Hans Hillen and Mr Pieter de Crem, and the Minister of the Interior of Luxembourg, Mr Jean-Marie Halsdorf. According to the declaration, the three BENELUX countries armed forces will train and exercise together more frequently, the air forces will make use of each other's airfields, the Belgian and Dutch navies will intensify their combined operations and finally Belgium's paratroopers and the Netherlands' Airmobile Brigade will cooperate more intensively.

More on that direction Belgium and Netherlands are planning to collaborate on the replacement of their current Tripartite-class mine-countermeasures (MCM) vessels and M-frigates. The navies of the two countries cooperate for several years, working together in several areas, such as materiel maintenance and combined training. Additionally, it is worth mentioning that the 2 navies use the same types of ships and helicopters and their close cooperation is further exemplified by the fact that an integrated command, common training and maintenance facilities for frigates and mine hunters (Benesam) has existed for quite some time.

Netherlands is also a member of the Strategic Airlift Capability (SAC) C-17, an international initiative under which the 12 participant nations, acquired, manage, support and operate three Boeing C-17 strategic transport aircraft. The first C-17 was delivered in July 2009 the second in September and the third in October 2009.

The aircraft operate out of Pápa Air Base in Hungary and are open to use by the participating nations. The participants include ten NATO nations (Bulgaria, Estonia, Hungary, Lithuania, the Netherlands, Norway, Poland, Romania, Slovenia and the United States) and two Partnership for Peace (PfP) nations (Finland and Sweden).

Furthermore, Netherlands is seeking to collaborate with Norway and Denmark both for the joint protection of airspace by the F-16s and the possibility of collective purchase, maintenance and training with regard to the F-35 Lightning II.

The purchase of F-35 is the biggest future procurement for the Netherlands as the country is planning to purchase at least 37 new fighter aircraft. In March 2015, the Dutch Parliament approved an order for eight F-35As, which will be delivered in 2019. The F-35s will eventually replace the F-16s currently in use by the Dutch air force.

Kyriazis Vasileios,

Epicos Newsletter Head Editor

Latvia: Defence Budget and Future Purchases

Until 2014 Latvia's defence expenditure remained stable in real terms and as a percentage of Gross domestic product at a level of around 1%. This dramatically changed in 2015, as the Country committed to increase its defence budget in order to reach 2% of its Gross Domestic product (GDP) by 2018. In 2015 defence budget increased by 21 million Euros, reaching 254 million, the equivalent of 1.02% of GDP. Defence budget was further increased in 2016 to 368 million Euros or about 1.4% of GDP. According to the Law on Medium-Term Budget Framework for 2017 and 2018, the approved budget expenditure will be equivalent to 1.7% of GDP in 2017 and 2% in 2018, reaching 473 and 590 million Euros respectively.

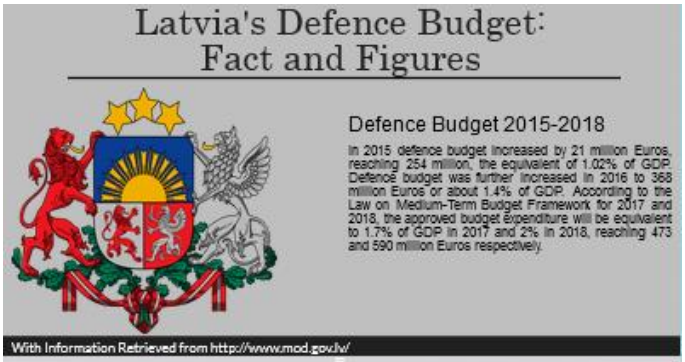
The breakdown of defence spending for 2016 according to data provided by the Latvian Ministry of Defence will be as following: 28% investment, 27% maintenance, 45% personnel. In compliance with the NATO instructions, Latvia will try to maintain a balanced defence expenditure structure by allocating less than 50% to expenditure on personnel and administration, 30% to expenditure on maintenance and a minimum of 20% to the procurement of new equipment. Therefore, according to projections in 2018 the breakdown will be as following: 41% investment, 26% maintenance, 33% personnel.

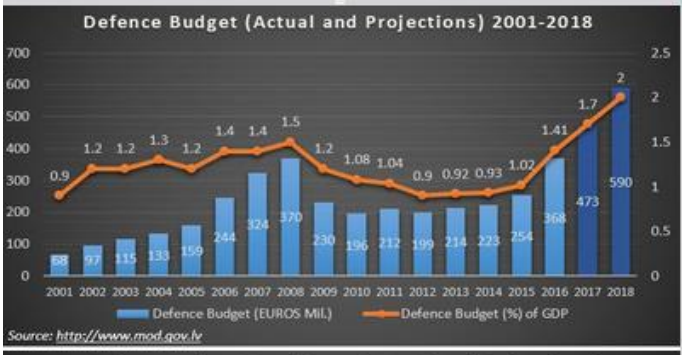
During the period 2014-2017 the following major activities was and/or will be implemented:

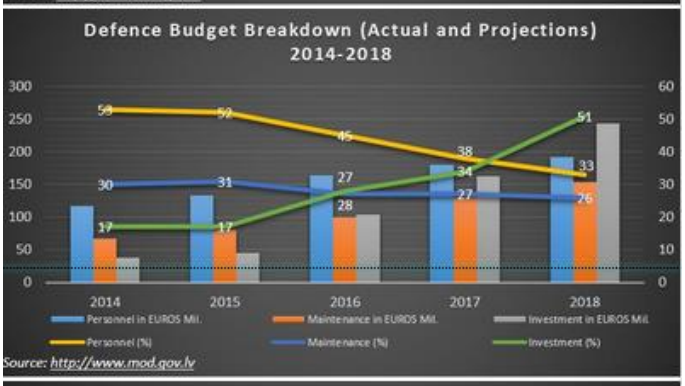
- Enhancement of the high readiness of the national armed forces and presence of allies (allocated budget- in 2015: 5.0 million Euros, in 2016: 11.5 million Euros and in 2017: 12.0 million Euros);
- Enhancement of the intelligence, air surveillance and air defence capabilities (allocated budget- in 2015: 3.7 million Euros, in 2016: 14.0 million Euros and in 2017: 26.2 million Euros);
- Enhancement of the National Guard capabilities and creation of high readiness subunits (allocated budget- in 2015: 3.3 million Euros, in 2016: 7.3 million Euros and in 2017: 30.1 million Euros);
- Reorganization of soldiers' remuneration packages (allocated budget- in 2016 and 2017: 10.0 million Euros);
- Establishment of a NATO Centre of Excellence for Strategic Communications (allocated budget in year 2014: 3.3 million Euros, in year 2015 and year 2016: 3.1 million Euros annually);
- Creation of a mechanised infantry brigade (allocated budget in year 2014: 2.2 million euros, in year 2015: 14.6 million euros and in year 2016: 18.6 million euros);
- Strengthening of the National Guard's capacities and improvement of efficient reserve system (allocated budget in year 2014: 1.4 million euros, in year 2015: 7.7 million euros and in 2016: 6.6 million euros.

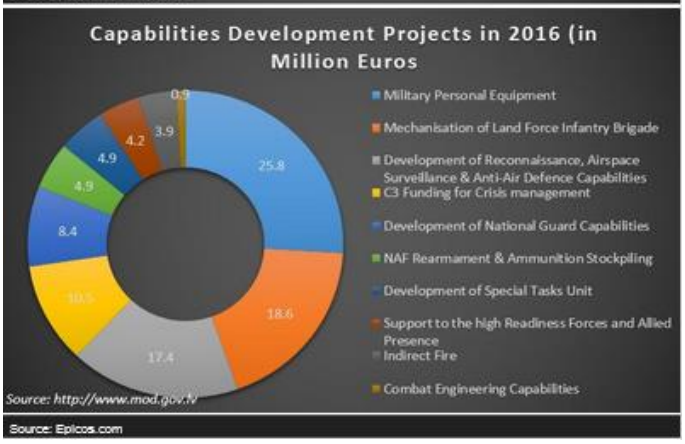
In 2016 the bulk amount of money spend on the procurement of new equipment will be allocated to the purchase of military personal equipment (25.8 million Euros). An additional 18.6 million Euros will be allocated to the used for the mechanization of land forces infantry brigade and 17.4 million to the development of reconnaissance, airspace surveillance and anti-air defence capabilities.

As it is already mentioned Latvian authorities have and will spend a significant amount of funds for the creation of an infantry brigade. Under this context, Latvia purchased 123 Combat Vehicle Reconnaissance (CVR) from UK. The vehicles will be renovated and upgraded before the delivery. The total cost of the procurement will reach 48.1 million Euros and deliveries will be concluded in 2020. Latvia will also purchase Spike anti-tank missile systems which will be installed on the CVRs.









The development of an air-defence system is also a priority for Latvia. Armed forces should have the proper capabilities to "see" beyond the country's borders. In order to achieve this, Latvia purchased three (3) TPS-77 Multi-Role Radars (MRR) from Lockheed Martin significantly enhancing its early warning and situational awareness capabilities. More on that direction Latvia purchased Mk2 missiles for a total value of 3.67 million Euros. Deliveries will be concluded within 2016, while the country retains the option to purchase further missile quantities.

Latvia purchased in September 2015 four Improved Sentinel AN/MPQ-64 F1 air defence radars from ThalesRaytheonSystems that will complement the country's existing defence network by detecting, identifying and tracking airborne threats including: fixed and rotary wing aircraft, cruise missiles and unmanned aerial vehicles. The radar is also the primary sensing component for alerting and cueing of targets for NASAMS (National Advanced Surface to Air Missile Systems).

One of the reasons why Latvia's authorities decided to enhance the country's defence capabilities is that Russia has extensively developed its military infrastructure in the direct

vicinity of Latvia's border. Under this context, Latvia is deliberately trying to enforce cooperation with other Baltic States, so as together to tackle with security challenges in a coordinated manner and to strengthen the common security in the region.

In accordance with this policy in September 2015, Defence Minister of Latvia Mr Raimonds Bergmanis and National Defence Minister of Lithuania Mr Juozas Olekas agreed to collaborate to synchronise procurement of military equipment and signed a joint communique laying out the agreement. The document will serve as a framework for the countries' close cooperation in developing combat capabilities which would strengthen regional security.

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…

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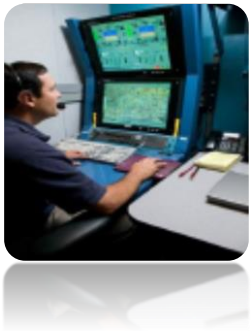
Provision and Installation of an Airborne Video Surveillance System, for Homeland Security applications, to a targeted country



A company excelling in the area of embedded systems and avionics, is willing to undertake the task of collaborating with a local partner, in a targeted country, for the provision and installation of its Airborne Video Surveillance System, to be used in Homeland Security (HLS) platforms (UAV, UGV, stationary posts). The system can be installed as stand-alone equipment, or integrated in a major HLS system.

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

Advanced Fiber Optics Cable Repair System

A company specializing in high-precision optical passive devices, equipment and fiber optic network systems, in the frame of an offset program, is proposing collaboration with a foreign company active in fiber optic equipment sales and/or manufacturing, in order to act as a local representative for its Advanced Fiber Optics Cable Repair System.

For Further Information Contact our ICO Department

Mail at: a-kintis@epicos.com

News from our A&D Business Network

AUSTAL Delivers Littoral Combat Ship 10 to US Navy

Austal Limited is pleased to announce the future USS Gabrielle Giffords (LCS 10) has been delivered to the United States Navy (USN) during a ceremony held aboard the ship at Austal USA's shipyard in Mobile, Alabama. The future USS Gabrielle Giffords is the fifth Independence-variant Littoral Combat Ship (LCS) delivered to the USN since 2009 and the fourth naval vessel delivered to the USN by Austal USA in 2016; including 2 x Littoral Combat Ships (LCS 8 and 10) and 2 x Expeditionary Fast Transport (EPF 6 and 7).

Designed in Australia by the team bidding for the Commonwealth of Australia's Offshore Patrol Vessel (SEA1180) program, the 127 metre frigate-sized Littoral Combat Ships are constructed in Mobile, Alabama utilising Austal's Module Manufacturing Facility (MMF), which offers production-line efficiencies and industry leading productivity.

Announcing the delivery, Austal Chief Executive Officer David Singleton said: "Gabrielle Giffords joins Independence, Coronado, Jackson and Montgomery as the fifth Littoral Combat Ship Austal USA has delivered to the US Navy. This vessel further demonstrates our capability to successfully deliver large, complex naval programs and reinforces our ability to transition an innovative, effective design not just across shipyards but continents.

"The Independence-variant LCS platform has gone from strength to strength, as the first LCS variant to be fitted with a Harpoon Anti-ship Missile System and the first US Navy class of vessel to successfully pass shock testing since 2008," Singleton added.

Six additional Independence-variant LCS are under construction at Austal USA under an 11 ship contract worth approximately US$4 billion. The future USS Omaha (LCS 12) and Manchester (LCS 14) are preparing for sea-trials, Tulsa (LCS 16) and Charleston (LCS 18) are in Assembly and modules for Cincinnati (LCS 20) and Kansas City (LCS 22) are underway in the MMF. Austal delivered USS Jackson (LCS 6) in August 2015 and USS Montgomery (LCS 8) in June 2016.

For Further Information Click Here

LEONARDO-FINMECCANICA Acquires Sistemi Dinamici and Becomes Stronger in Unmanned Systems

Leonardo-Finmeccanica acquired the full control of Sistemi Dinamici S.p.A from IDS S.p.A on December 23rd. The control of the company, which involved the remaining 60 percent of shares, is aimed at further strengthening the commitment of Leonardo in unmanned products thanks to the acquisition of the new unmanned lightweight helicopter SD-150 Hero programme. Leonardo now widens its unmanned helicopter portfolio, which also includes the SW-4 Solo, and consolidates its capabilities as a system integrator, developing both platforms and equipment and sensors.

Mauro Moretti, CEO and General Manager of Leonardo said: "This acquisition is a testament to the quality of our investments in the field of unmanned systems, a sector with high added value in which Leonardo is a leader in Europe. Thanks to a defined investment strategy, our portfolio is further enriched, making Leonardo even more competitive and ready to meet the future challenges in advanced technologies."

Based in Pisa, Sistemi Dinamici was founded in 2006 with the aim of developing modern helicopter technologies.

For Further Information Click Here

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Epicos NewsRoom

The BIBF signs a Strategic Partnership with Gulf Air for IT Human Capital Development

The Bahrain Institute of Banking and Finance (BIBF) recently signed a Memorandum of Understanding with Gulf Air, the Kingdom's national carrier, for cooperation between the two entities, facilitating training and development courses, in the field of Information Technology (IT) and project management for the airline's IT staff.

On this occasion, The BIBF's Deputy Director, Dr. Ahmed AbdulHameed AlShaikh said, "This partnership outlines the importance of continuous training and development, and with today's corporate requirements it becomes imperative for companies and organisations to continuously update staff on the dynamic changes in the information technology field, and to provide them with experienced and expert training, for professional development—the BIBF has entered into this alliance to facilitate the delivery of what business professionals and our corporate partners need."

On his part, Dr. Jassim Haji, Director of IT at Gulf Air said, "We are delighted to launch this partnership with the BIBF, which plays a key role in shaping the economic future of the Kingdom of Bahrain, and with Gulf Air's alliance and its heritage of developing inspired global leaders, we believe that continuous training is key to sustained development in individuals, teams and organisations. Partnering with the BIBF will bring global opportunities for our valued human capital."

Through this partnership, the BIBF and Gulf Air will cooperate to provide global learning opportunities in the IT and Project Management fields, through specialised courses and masterclasses that go beyond traditional business theory. The programmes will deliver cutting-edge, practical education in business, cyber security, networking and other areas, preparing professionals to do business efficiently and professionally.

For Further Information Click Here

Source: Epicos, Bahrain Institute of Banking and Finance (BIBF)

AN-132 Gives UOP Access to Markets of Africa and South America

Having entered the market of the Middle East, aircraft AN-132 will enhance "UkrOboronProm" entering the markets of Africa and South America. This was stated by Director General of the State Concern Roman Romanov.

"Unfortunately, during deliberate destruction of the country's defense industry, Ukraine gained reputation as an unreliable partner. Now" UkrOboronProm "directs all its forces to improve this situation. On the day of modern aircraft An-132D wheeling out, we received a number of calls from potential partners from across the world, interested in the given innovation. "UkrOboronProm" has all it takes to meet this demand,"- said the head of the State Concern Roman Romanov.

UKROBORONPROM SE "Antonov" demonstrated a new light multipurpose aircraft AN-132D. The plane was designed in a very short period – 1.5 years. Leading companies are involved in An-132D development, including Pratt & Whitney Canada and Honeywell. This is the first plane of the SE "Antonov," manufactured without Russian components.

"UkrOboronProm" represented the reform strategy of the military-industrial complex of Ukraine. It provides clear sequential steps: corporatization, audit, clusterization, technology protection and launch of the innovation platform.

Corporatization of UOP enterprises will allow creating a transparent management structure, Supervisory Board, establish common rules including those for international investors.

Reform Strategy also provides for a transparent audit, allowing investors to objectively evaluate the opportunities and prospects for cooperation with the military-industrial complex of Ukraine. This platform will unite manufacturers, startups, investments and the military.

As part of the strategy, UOP will create five clusters, with the possibility of involving private companies, namely: aviation, armored vehicles, shipbuilding, high-precision weapons, radar and communications. According to this scheme the first aviation cluster – Ukrainian Aircraft Corporation – was created on the basis of the legendary "Antonov".

For Further Information Click Here

Source: Epicos, UkrOboronProm

Rockwell Collins' 2016 annual report now available online

Chairman, President and CEO Kelly Ortberg outlines our company's plan to leverage its expertise and vision to drive sustainable growth in the Fiscal Year 2016 Annual Report, which is now available online.

In addition to Kelly's letter and the fiscal year's financial details, the report spotlights three key areas where Rockwell Collins is leading the industry forward:

- Enabling the connected aircraft: In today's aviation ecosphere, connectivity is more essential than ever. From the cockpit to the cabin, Rockwell Collins offers a full array of solutions to meet the breadth of those needs, from powerful, information-enabled avionics and in-flight entertainment systems to our ARINC global network and valuable services like our ARINC MultiLink℠ flight tracking solution.

- Driving innovations from commercial to government: In a time where governments and defense ministries are more cost-conscious than ever, our blend of commercial and government expertise uniquely positions us to provide them with ruggedized commercial technologies that maximize value while ensuring efficiency and functionality. Successes include Pro Line Fusion® on the KC-390, modernizing the C-130 with head-up displays and customized weather radar for Coast Guard missions.

- Expanding the visual realm: Our engineers are pioneering innovative new ways to enhance situational awareness through augmented reality solutions that fully immerse users in a combined virtual and real world. In a training facility, a rescue operation or in the middle of battle, situational awareness is the key to keeping people safe, connected and informed.

For Further Information Click Here

Source: Epicos, Rockwell Collins

Approved for airline service: how the A321neo received its airworthiness certification

This month's A321neo certification was the culmination of an extensive effort to confirm the "ready-for-service" status of Airbus' longest-fuselage version in its New Engine Option single-aisle jetliner family.

To receive such type certification, Airbus demonstrates that every system, characteristic and feature of an aircraft is airworthy – with the related activity involving ground-based and flight tests to measure how the jetliner performs in all conditions.
It was a recognition of Airbus' expertise and mastery of new technology, and acknowledged the engagement of employees as well as industrial partners who have worked together during the aircraft's development.

The 15 December type certification was granted for the A321neo version powered by Pratt & Whitney's PurePower PW1100G-JM engines, being jointly issued by the world's two largest airworthiness authorities: the European Aviation Safety Agency (EASA), and the Federal Aviation Administration (FAA) of the United States.

Airbus' A321neo version with the other available powerplant – CFM International's LEAP-1A engines – will be certified in the coming months.

For Further Information Click Here

Source: Epicos, Airbus

From ST to XL: defining the differences between Airbus' two generations of Beluga aircraft

While Airbus' new-generation Beluga XL oversized airlifter may resemble its Beluga ST predecessor, several key physical changes will bring additional capabilities to the movement of major aircraft sections and components within the company's production network.

The Beluga XL, which is based on today's A330 jetliner, has its enlarged fuselage "bubble" section that is six metres longer and one metre wider than on the Beluga ST – an aircraft derived from Airbus' earlier-production A300-600.

With this bigger "bubble," the Beluga XL will be able to carry larger sections of Airbus aircraft between European production sites and to the final assembly lines in Toulouse, France and Hamburg, Germany – including a full wing-set for the A350 XWB's latest A350-1000 version.

"Payload was the big driver for us," explained Jean-Marc Passuello – leader of a cross-functional Airbus delivery team responsible for the development of major component

assemblies. “We knew what the Beluga XL had to be able to carry, and that meant making some changes.”

“Among the physical differences between the Beluga ST and XL versions is the dorsal fin that connects to the vertical tailplane” added Olivier Maillard, delivery team leader for rear fuselage and dorsal fin. On the Beluga ST, this component is triangular and manufactured as a single part – but to ensure stability for the larger Beluga XL, it was increased in size and produced in three parts with a distinctive “kink” in the diagonal.

According to delivery team leader Guillaume Pages, the need for stability also led to an updated horizontal tailplane. "We had to add a metre to each side using what we call extension boxes, and the auxiliary fins on the outside of the horizontal tailplane are a metre higher than those on the Beluga ST," he said.

Pages’ team also added ventral fins as a completely new feature of the Beluga XL. Located along the bottom of the aft fuselage, they have the same stabilising function as the dorsal fin.

For Further Information Click Here

Source: Epicos, Airbus