

## Click here or visit www.epicos.com

## Volume 7 Number 48 - Wednesday, 02 December 2015

## Part I: Global Helicopter Market

- 1. Civil Helicopter Market
- 2. Military Helicopter Market
- 3. Epicos "Industrial Cooperation and Offset Projects"
- 4. Development of Helicopter Custom Design & Modification capability
- 5. Design and manufacturing of special purpose jigs and machines for the aerospace and defence industry
- 6. News from our A&D Business Network

## **Part II: Epicos Newsroom**

- 1. Air France to turn Abidjan into regional hub
- 2. Kuwait government requests extra \$20 bn for arms
- 3. NATO to keep 12,000 troops in Afghanistan next year
- 4. Pratt & Whitney, Israeli Ministry of Defense Sign Historic 15 Year F100 Engine Sustainment Contract
- 5. Embraer delivers its 1,200th E-Jet to Azul

# Civil Helicopter Market



Global helicopters market is primarily divided into two segments - civil helicopters & defence helicopters. Helicopters where mainly used for military purposes, nevertheless, this have been altered and nowadays helicopters are used in a wide range of industries, including law enforcement, construction, fire-fighting,

search and rescue, medical transport, tourism, agriculture and media. Additionally, it is worth mentioning that several other industries continue to find new and/or diversified uses for helicopters, creating a bigger demand in the commercial market.

It is needless to say that helicopters have several unique characteristics/capabilities, such as vertical take-off and landing, and the ability to fly forward, backward, and laterally, that make their use critical for several missions. Besides, this is the reason why global helicopters market has exhibited growth in revenues over the last few years.

Despite the economic crisis, the civil helicopter market has grown almost three fold in size over the past decade. Demand is mainly driven by oil & gas exploration activities, law enforcement & parapublic based applications. The global civil helicopter market is dominated by the European OEMs. According to a report published by Airbus Helicopters the civil helicopter market is dominated by European OEMs.

More specifically Airbus Helicopters captured in 2014, 44% of the market, Bell helicopter 21%, Augusta Westland 16%, Russian Helicopters 7% and Sikorsky 7%. The number of helicopters sold in the civil and parapublic markets for 2014, was 736. European companies dominate the market with their broad & well diversified product portfolios and strong, traditional focus on & deep presence across international & emerging markets.

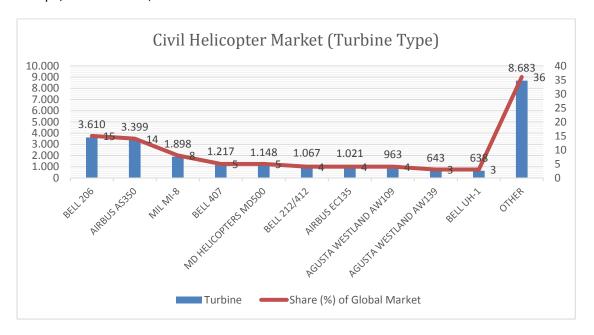


Regionally wise, North America is the region with the largest civil helicopters' fleet comprising 35% of the worlds' total. North America is followed by Europe (27% of the world's total) Asia Pacific (18% of the world's total), Latin America (13% of the world's total),

Africa (5% of the world's total) and Middle East (2% of the world's total). Regarding the number of helicopters currently in operation there are 12.054 in North America, 9.378 in Europe, 6.085 in Asia Pacific, 4.416 in Latin America, 1.808 in Africa and 546 in the Middle East.

The results presented above are reinforced by a report published in June 2014 by Airbus Helicopters. According to the same report Asia and Pacific will overtake North America as the dominant market. More specifically, Asia and Pacific will capture 21% of the total civil and parapublid market during the period 2014-2023, while North America will capture 19%.

Other important findings of this report is that compared to the decade 2004-2013, the global market is expected to increase significantly in every region, with the exception of Western Europe. Additionally, there will be a shift in sales from formerly leading 'Western World' (U.S.A., Canada, Australia & Western Europe) towards emerging regions: Asia, Eastern Europe, Latin America, Africa & Middle East.



According to the 17<sup>th</sup> annual Turbine-Powered Civil Helicopter Purchasing Outlook, 4,750-5,250 civilian-use helicopters will be delivered during 2015-2019. USA and Canada will receive 34% of these helicopters, Latin America 19%, Europe 24%, Asia-Oceania 14%, while Africa and the Middle East will receive 9%.

Kyriazis Vasileios,

## **Epicos Newsletter Head Editor**

#### With information from:

- http://helihub.com/2015/06/30/global-civil-helicopter-market-strategic-outlook-to-2025/
- www.airbushelicopters.com/website/en/ref/Key-Figures 94.html
- Flightglobal Fleets Analyzer Database
- https://aerospace.honeywell.com/about/media-resources/newsroom/honeywellforecasts-steady-global-helicopter-demand-for-next-five-years

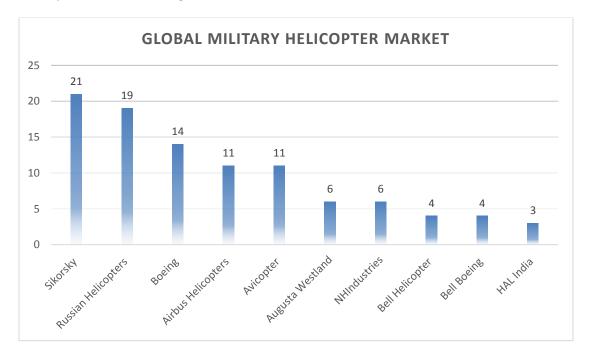
# Military Helicopter Market





The global military helicopter market is currently in a process of changing, as a new generation of compound helicopters & tilt rotorcrafts is going to help towards expanding the operational

spectrum, capabilities & performance threshold of military helicopters. This will eventually redefine their role and enhance their overall effectiveness in a wide range of military missions & operations. According to a report published by Airbus Helicopters the military helicopter market is dominated by Sikorsky which captured 21% of the global market in 2014. Sikorsky was followed by Russian Helicopters (19% of the global market) Boeing (14%), Airbus Helicopters (11%), Avicopter (11%), Augusta Westland (6%), NHIndustries (6%) Bell Helicopter (4%), Bell Boeing (4%) and HAL India (3%).



Regionally wise, North America is the region with the largest military helicopters' fleet comprising 30% of the worlds' total. North America is followed by Europe (25% of the world's total) Asia Pacific (25% of the world's total), Latin America (6% of the world's total), Africa (7% of the world's total) and Middle East (7% of the world's total).

Regarding the number of helicopters currently in operation there are 6.297 in North America, 5.220 in Europe, 5.342 in Asia Pacific, 1.346 in Latin America, 1.462 in Africa and 1426 in Middle East.

The military helicopter market will be mainly driven by the fact that emerging countries are renewing and significantly increasing their helicopter fleet. More specifically, increasing territorial disputes in Eastern Europe, Central Asia Southeast Asia, and the Middle East are stimulating market demand for upgraded helicopter capabilities.

On the other hand, budget cuts will impact the number of the military helicopter fleet of North America, Europe, and Latin America.



This ascertainment is also reinforced by a report published by Airbus Helicopters. According to the report Asia and Pacific will overtake North America as the dominant market. More specifically Asia and Pacific will capture 35% of the military market during the period 2014-2023, while North America will capture 20%. This is mainly attributed to the fact that new procurements of military helicopters will go through in countries such as India, Indonesia, Malaysia, Thailand and South Korea.

Kyriazis Vasileios,

**Epicos Newsletter Head Editor** 

#### With information from:

- www.airbushelicopters.com/website/en/ref/Key-Figures 94.html
- Flightglobal Fleets Analyzer Database

# Epicos "Industrial Cooperation and Offset Projects"

epicos.com 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

#### **Development of Helicopter Custom Design & Modification capability**



A company certified in carrying-out inspections and repairs on helicopters, as well as on helicopter emergency floats, life rafts and various equipment used in aerial operations, is willing to expand its activities, in the field of custom design and modification for helicopters, so as to address national military and civilian needs.

For Further Information Contact our ICO Department

Mail at: g-menexis@epicos.com

## Design and manufacturing of special purpose jigs and machines for the aerospace and defence industry



A company with long standing experience in the automotive industry, is proposing collaboration with a prime or lower tier company, for the design and manufacturing of jigs and/or machines that can be used for general or special purposes, in aerospace and defence equipment manufacturing and testing processes.

For Further Information Contact our ICO Department

Mail at: g-menexis@epicos.com

## **News from our A&D Business Network**



#### U.S. Air Force Pilots Train for F-35 Operations with New Virtual Technologies



As the U.S. Air Force prepares for initial F-35 Lightning II operations, pilots at Hill Air Force Base are rehearsing missions with new simulators delivered

by Lockheed Martin. Pilots are now training with four Full Mission Simulators linked together to hone their tactical employment of the F-35 against ground and airborne threats. As a complement to live flights, the Full Mission Simulators present a secure, realistic environment for pilots to develop tactics and integrate the F-35 into the Air Force's arsenal. The 34th Fighter Squadron at Hill Air Force Base is the first operational F-35A squadron and will reach combat readiness in August 2016.

"The F-35 is going to be an incredible advancement in our capability as an Air Force, and the Full Mission Simulators present an environment to adequately challenge our pilots as they prepare for combat," said Lt. Col. George Watkins, 34th Fighter Squadron Commander. "All the pieces of the technology puzzle are coming together to support the Air Force's F-35 mission readiness," said Mary Ann Horter, vice president of F-35 Sustainment Support at Lockheed Martin. "Airmen at Hill Air Force Base are launching the future of aviation, and our focus is supporting them with the most effective training and logistics technologies."

To date, 143 pilots and 846 maintainers for the Air Force have qualified through the F-35 Training System. By August 2016, more than 190 F-35 pilots and 1,000 maintenance personnel for the Air Force will be mission ready. The Full Mission Simulators are the centerpiece of the F-35 Training System designed to maximize simulation for effectiveness and affordability. Currently, 191 suppliers contribute to the F-35 Training System. The F-35 program is built on extensive industrial participation to generate economic growth in F-35 nations and deliver the best value.

The F-35 Lightning II, a 5th generation fighter, combines advanced low observable stealth technology with fighter speed and agility, fully fused sensor information, network-enabled operations and advanced sustainment. Following the Marine Corps' 2015 combat-ready Initial Operational Capability (IOC) declaration, the U.S. Air Force and Navy intend to attain service IOC in 2016 and 2018, respectively.

For additional information, visit www.f35.com.

## About Lockheed Martin

Headquartered in Bethesda, Maryland, Lockheed Martin is a global security and aerospace company that — with the addition of Sikorsky — employs approximately 126,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services.

## Alion Awarded \$25M Army Contract to Support Wireless Communications and Systems



Wireless communication using radio frequency (RF) spectrum is vitally important to successfully executing modern military operations, testing weapons systems, and training U.S. forces. Protecting the Army's use of spectrum is critical to national security, which is why the Army

Spectrum Management Office (ASMO) has awarded Alion Science and Technology, a global engineering, technology and operational solutions company, a \$25 million contract to ensure the Army's compliance with federal spectrum regulations and presidential direction while protecting wireless communications from interference.

In order to promote and protect Army access to the spectrum, Alion will provide engineering assessments, research, and analysis to ensure uninterrupted operation of all current and future RF spectrum-dependent systems for ASMO customers and programs. This will help ensure that the Army's spectrum requirements are supportable to conduct combat operations, training, and daily mission requirements around the world. Alion's analysis will also aid in responding to Department of Defense challenges resulting from the ongoing implementation of the president's National Broadband Policy.

"As the Army moves to support the President's initiative to expand our nation's leadership in wireless innovation, Alion's expert spectrum research and analysis will help ensure reliable, advanced capabilities," said Chris Amos, Alion Senior Vice President and Manager of the Technology Solutions Group. "Our five decades of experience in wireless communications will help support the uninterrupted operation of Army systems with concurrent commercial use while equipping senior Army leaders with the necessary, credible justification for Congressional testimony to protect RF spectrum-dependent systems."

Alion's expertise with analytical tools, data sources and analytical methods will help the Army address evolving spectrum challenges. Alion is adept at rapidly responding to spectrum reallocation and sharing issues and providing support for warfighters with spectrum-dependent equipment in conflict areas.

The task order was awarded under the Defense Systems Technical Area Task Multiple Award Contract (DS TAT MAC).

For Further Information Click Here

# **Epicos NewsRoom**



## Air France to turn Abidjan into regional hub

Air France-KLM expects to turn Ivory Coast's economic capital Abidjan into its west African regional hub within a decade, the airline's chief executive said on Tuesday.

"In five or ten years, it will be a strategic destination," CEO Alexandre De Juniac told AFP.

Air France-KLM's local partner airline, Air Cote d'Ivoire, will be the "recipient" for west African passengers travelling to cities across that part of the continent.

Air France-KLM flies the Paris-Abidjan route seven times per week.

De Juniac also said Kenya's capital Nairobi would become a hub for east Africa, based on its partnership with Kenya Airways.

Source: 2015 AFP, Agence France - Presse (AFP)

## Kuwait government requests extra \$20 bn for arms

Kuwait's government has asked parliament for \$20.5 billion in additional funds for defence purchases over the next 10 years, local media and a minister said Tuesday.

Kuwait is looking to upgrade its firepower amid increased security concerns in the region linked to the rise of the jihadist Islamic State group.

The oil-rich emirate is a member of the US-led coalition that has been bombing IS targets in Syria and Iraq since last year and is also taking part in a Saudi-led coalition pounding Iran-backed rebels in Yemen.

But it is unclear if the additional funds are also linked to that.

State Minister for Cabinet Affairs Sheikh Mohammad Abdullah al-Sabah told reporters a bill has been sent to parliament requesting the additional funds, but he declined to specify the amount.

Local dailies Al-Qabas and Al-Rai reported Tuesday that the amount is 6.2 billion dinars (\$20.5 billion).

Parliament is expected to review the request soon.

Special Focus: Global Helicopter Market

Epicos 2015

The government does not publish specific figures for its defence budget.

Several reports have recently linked Kuwait to several arms deals amid regional turmoil.

The Eurofighter consortium said in September Kuwait agreed to buy 28 Typhoon warplanes in a deal worth 7-8 billion euros (\$8-9 billion).

Last month, Kuwait signed 2.5 billion euros (\$2.8 billion) worth of fixed and provisional military deals led by the purchase of 24 Airbus-built Caracal helicopters.

Paris said Kuwait would purchase the helicopters for 1.0 billion euros, with an option for a further six.

Further deals included provision of French light armoured vehicles and patrol boat maintenance.

**Source**: 2015 AFP, Agence France - Presse (AFP)

## NATO to keep 12,000 troops in Afghanistan next year

NATO will keep some 12,000 troops in Afghanistan for an extra year in 2016 to prevent the country again becoming a terrorist safe haven, alliance head Jens Stoltenberg said Tuesday.

NATO's Resolute Support advice and training mission was supposed to end this year but Taliban battlefield successes, especially their recent brief capture of the northern city of Kunduz, prompted a radical re-think.

"Today, NATO allies and Resolute Support operational partners have agreed to sustain the Resolute Support presence ... during 2016," Stoltenberg said after alliance foreign ministers endorsed the decision.

"The mission ... will continue to be kept under review and, if necessary, will be adjusted to ensure its effectiveness."

Troop numbers will be "12,000 approximately," in line with current strength, he added.

US-led NATO invaded Afghanistan in 2001 shortly after the 9/11 terror attacks to oust the Taliban from Kabul. US troop numbers peaked at around 90,000.

The alliance ended combat operations at the end of 2014, leaving in place the Resolute Support mission.

Taliban militants are still mounting attacks while the Islamic State is gaining a foothold in the country.

Stoltenberg said NATO had compelling reasons to complete its mission in Afghanistan with a stable government in place able to ensure security.

"We are in Afghanistan to prevent Afghanistan becoming again a safe haven for terrorists. If Afghanistan becomes a safe haven, that will also be a threat to us," he said.

He said the 28 NATO allies were also reviewing how to provide fresh funding for the Afghan armed forces for the period 2017-20, after they put up \$4.0 billion previously.

US President Barack Obama announced in October after the Kunduz attack that he would keep the bulk of the some 10,000 US troops in Afghanistan for another year because Afghan forces "are still not as strong as they need to be."

Source: 2015 AFP, Agence France - Presse (AFP)

# Pratt & Whitney, Israeli Ministry of Defense Sign Historic 15 Year F100 Engine Sustainment Contract

Pratt & Whitney, a United Technologies Corp. (NYSE: UTX) company, has signed a historic fixed-price, fleet management program (FMP) contract with the Israeli Ministry of Defense (IMOD), in support of the Israeli Air Force (IAF), designed to provide 100 percent daily propulsion readiness for the entire Israeli fleet of F-15I and F-16I aircraft for the next 15 years.

Starting Jan. 1, 2016, Pratt & Whitney will provide full propulsion sustainment support — which includes material forecasting, item repair management and provisioning of operational, intermediate and depot-level spare parts — for the IAF's full fleet of F100-PW-229 engines. This is now the longest-term, most comprehensive performance-based logistics contract for a Pratt & Whitney fighter engine to date, and embodies the latest advancements in FMP services available to Pratt & Whitney's military customers.

"The Israeli Air Force and Israeli Ministry of Defense have enjoyed a decades-long relationship with Pratt & Whitney, over which time they have earned our confidence and trust," said Aharon Marmarosh, director, Israel Mission to the United States. "Because of Pratt & Whitney's expertise and track record of high-performance on our prior material

**Special Focus: Global Helicopter Market** 

Epicos 2015

management program, we felt confident in working with them on a full 15-year FMP program."

The FMP gives the IAF the means to perform all of its needed missions, with guaranteed propulsion system availability, and the added benefit of known propulsion maintenance cost for the next 15 years. Under the FMP model, the unprecedented length of the agreement is a key element, allowing Pratt & Whitney to drive efficiencies across the fleet, ensuring daily readiness while saving the customer money over time.

"This contract sets a new benchmark for our military customers," said Bennett Croswell, president, Pratt & Whitney Military Engines. "Pratt & Whitney is humbled and honored by the confidence Israeli leadership has placed in us and we look forward to working with local industries to provide continued, long-term support to the Israeli warfighter."

The Israeli Air Force has operated Pratt & Whitney-powered aircraft for more than 65 years, commencing in 1947 with the Pratt & Whitney "Wasp" piston-engine-powered DC-3 Dakota aircraft and followed in succession by the J52-powered A-4, JT-3D-powered tankers, F100powered F-15 / F-16 fighters, and PT-6-powered trainers. The IAF is scheduled to receive its first Pratt & Whitney F135-powered F-35I Adir aircraft in December of 2016.

**About Pratt & Whitney** 

Pratt & Whitney is a world leader in the design, manufacture and service of aircraft engines and auxiliary power units. United Technologies Corp., based in Farmington, Connecticut, provides high-technology products and services to the building and aerospace industries. To learn more about UTC, visit its website at www.utc.com, or follow the company on Twitter: @UTC.

Source: Epicos, Pratt & Whitney

Embraer delivers its 1,200th E-Jet to Azul

Embraer delivered today, in a ceremony held at the Company's headquarters, in São José dos Campos, the 1,200th aircraft of the E-Jets family. The commemorative aircraft, an E195 model, was received by Azul Linhas Aéreas Brasileiras S.A., a Brazilian airline, which operates the largest fleet of this jet type in the world.

"It's a joy to share such an important moment of the E-Jets program with our friends at Azul," said Paulo Cesar Silva, President & CEO, Embraer Commercial Aviation. "Just as the E-Jets have been key to Azul's growth and consolidation, the airline was instrumental in popularizing the E-Jets with Brazilian passengers, who have discovered a new way to fly, with live TV and without the middle seat, among other innovations. Together, both companies elevated the standards of efficiency and comfort in Brazilian aviation. The celebration of this E-Jet delivery is an expression of affection and admiration by all of us at Embraer to everyone who made Azul such a great success."

"This is a remarkable moment for Azul and Embraer. We are today the largest E195 operator in the world and we are proud of that. We transport thousands of Brazilians in a genuine Brazilian aircraft every day, always providing comfort and safety," said Antonoaldo Neves, President of Azul. "We truly believe that the decision to utilize Embraer products for the creation of Azul was key to the success of the Company. The E-Jets are recognized for reliability and flexibility."

The first delivery of an E-Jet to Azul occurred in December 2008, making it the first Brazilian airline to operate an aircraft from this family of commercial jets. The initial agreement was for 36 firm orders: 31 E195 and five E190 jets. Today, the airline has a total of 88 E-Jets in operation.

In May 2015, Embraer and Azul signed a purchase agreement for 50 E195-E2 jets, with 30 firm orders and 20 additional purchase rights. The first delivery is scheduled for the second quarter of 2020.

Embraer is the only manufacturer to develop a modern family of four airplanes specifically targeted for the 70 to 130-seat segment. Since the formal launch of the program, in 1999, the E-Jets have redefined the traditional concept of regional aircraft to operate in other markets, flying with traditional airlines, low cost and regional as well as charter companies.

The E-Jets family entered revenue service in 2004. Currently, E-Jets are flying with 70 airlines from 50 countries, holding a 60% market share, based on deliveries, in the segment of jets with capacity up to 130 seats.

About Azul Linhas Aéreas Brasileiras S.A.

Azul Linhas Aéreas Brasileiras S.A. is the airline with the greatest number of destinations served in Brazil. The company has a fleet of 140 aircraft, more than 10,000 employees, over 900 departures per day, 100+ destinations being served, and one-third of all the departures in the country. The quality of its services has been proven by many national and international awards. In 2015 Azul was named by Skytrax World Airline Awards, for the fifth time in a row, as the "Best low-cost airline in South America.". The company also received the FlightStats Award as the "Airline with best on-time performance in South America" in 2013, and was recognized as the most on-time airline in Brazil, in 2014, according to Infraero criteria. That same year, the company was named the "Best low-cost carrier in the world" by CAPA – Centre for Aviation. For more information visit www.voeazul.com.br

**About Embraer Commercial Aviation** 

Embraer is the world's leading manufacturer of commercial jets that seat up to 130 passengers. Nearly 900 aircraft from the 37, 44, and 50-seat ERJ 145 family of regional jets have been delivered to airlines since their introduction in 1996. The E-Jet family includes four larger aircraft that have between 70 and 130 seats. The E170, E175, E190, and E195 set the standard in their category with their advanced engineering, high degree of efficiency, spacious, ergonomic cabins with two-by-two seating, and attractive operating economics. Since E-Jets entered revenue service in 2004, Embraer has received almost 1,700 firm orders for this aircraft family. More than 1,200 have been delivered.

In 2013, Embraer launched E-Jets E2, the second generation of its E-Jets family of commercial aircraft comprised of three new airplanes – E175-E2, E190-E2, E195-E2 – seating from 70 to 130 passengers. The E190-E2 is expected to enter service in the first half of 2018. The E195-E2 is slated to enter service in 2019 and the E175-E2 in 2020.

For Further Information Click Here

Source: Epicos, Embraer