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The Future of Aviation Industry in the Region of Asia



Asia has become one the biggest aviation markets in the world. According to Boeing’s estimations, more than 100 million new passengers are projected to enter the market annually for the foreseeable future. Additionally, Jet fleets of Asia airlines have nearly doubled, from 2,900 to 5,850, the number of Asia airlines with jet fleets has grown from 150 to 225, the capacity that these airlines provide has grown on average by 7% annually and finally the routes to, from, and within Asia have increased 57%, from 2,200 to 3,800.

It is worth mentioning that according to Boeing Asia will be the largest travel market in the world, growing at 6.1% annually. 14,330 new airplanes valued at \$2.2 trillion.

This will automatically create a demand for new aircraft. Boeing estimates that 14,330 new airplanes will be delivered, valued at \$2.2 trillion. More specifically, there will be a need for 10,370 new single-aisle airplanes. Meanwhile, there will be a regional need for 3,590 new wide-body airplanes by 2034.

Asia market value: \$2.2 trillion



Source: Boeing

Air cargo also plays a crucial role in Asia. The region transports vast amounts of goods over difficult terrain and vast stretches of ocean. Many of the world's largest and most efficient cargo operators are located in the region, where the air cargo market is expected to grow by 5.7% per year. As a result, carriers in the region are expected to need 380 new production freighters and 570 converted freighters in the years ahead.

The Aviation Industry in Asia region has a rather interesting and challenging future. Estimations are that will be the center of attention in the future and therefore needs to be closely monitored as opportunities for growth are present.

Kyriazis Vasileios,  
Epicos Newsletter Head Editor

## China: Demand for 6,330 new Airplanes Valued at \$950 Billion



According to Boeing's estimations, published on the company's annual China Current Market Outlook (CMO), the Asian country will need approximately 6,330 new airplanes over the next 20 years. The total value of those new airplanes is estimated to be \$950 billion.

Regarding this Mr. Randy Tinseth, Vice President of Marketing, Boeing Commercial Airplanes stated that: "Despite the current volatility in China's financial market, we see strong growth in the country's aviation sector over the long term, in the next 20 years, China's commercial airplane fleet will nearly triple: from 2,570 airplanes in 2014 to 7,210 airplanes in 2034, with more than 70% of these deliveries accommodating growth."

Airplane type	Seats	Total deliveries	Dollar value
Regional jets	90 and below	190	\$10B
Single-aisle	90-230	4,630	\$490B
Small wide-body	200-300	810	\$210B
Medium wide-body	300-400	650	\$220B
Large wide-body	400 and above	50	\$20B
<b>Total</b>		<b>6,330</b>	<b>\$950</b>
		(16.6% of world total)	(17% of world total)

Among others, Boeing is forecasting demand for 4,630 single-aisle airplanes through 2034. Additionally, it is worth mentioning that China's low-cost carriers are currently responsible for about 8% of single-aisle market demand, rising to 25-30% of demand by 2034. Furthermore, Boeing estimates the wide-body segment will require 1,510 new airplanes.

One of the reasons of this demand forecasted for China is that aviation becomes more accessible to the people of the Asian country. It is indicative that people in China take just 0.2 trips per person per year, whereas in the USA they take on average nearly 2 trips per person per year. Increasing wealth in the country will automatically increase the need for more aircraft as more people will have access to air travel.

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](#)

### Design and manufacturing of advanced retractable light weight landing gear for Medium Altitude Long Endurance (MALE) Unmanned Aerial Vehicle (UAV) systems and general aviation aircraft under FAR PART 23



A company with long extensive experience in providing cutting edge technological services and products for the aeronautical and automotive markets is proposing, in the frame of an offset program, the collaboration with Aerospace and Defense Prime contractors for the design and manufacturing of advanced retractable light weight landing gear for Medium Altitude Long Endurance (MALE) Unmanned Aerial Vehicles (UAV) systems.

[For Further Information Contact our ICO Department](#)

Mail at: [g-menexis@epicos.com](mailto:g-menexis@epicos.com)

### Development of an effective Text Mining and Trends Prediction software application



A company providing solutions for corporate and/or governmental organizations critical information systems is proposing the development of a robust Text Mining and Trends Prediction software application. This application will identify trends by analyzing data which is held in unstructured formats such as documents. It will find possible applications in several research, academic, governmental or corporate organizations where fast and accurate exploitation of data hidden within large document volumes is required.

[For Further Information Contact our ICO Department](#)

Mail at: [g-menexis@epicos.com](mailto:g-menexis@epicos.com)



### SAAB Receives UK Orders for Giraffe



Defence and security company Saab has received orders from the UK Ministry of Defence for additional Giraffe AMB radar systems plus upgrades of the existing systems and associated equipment.

The order value is approximately SEK 610 million.

Deliveries will start during the second half of 2015 and continue until 2018. The Giraffe AMB radar provides a full 360° update of the air situation out to 120 km every second. It can operate in challenging environments such as mountains, complex coastal regions and wind farm areas. The upgrade will take the UK's existing systems to the same production-build standard as the new Giraffe AMB, enhancing the primary radar's performance and capacity. It also keeps the UK's radars in line with the Giraffe product roadmap. This, in turn, will enable the addition of a unique capability to spot small UAS vehicles and the capacity to screen out difficult radar 'clutter', such as birds.

"We are delighted to have agreed this significant expansion and upgrade of the Giraffe AMB fleet with the UK MoD. We are looking forward to supporting both potential mission deployments and further system evolutions based on our spiral development plan for Giraffe," says Micael Johansson, head of Saab business area Electronic Defence Systems.

Development and production will take place in Gothenburg, Sweden.

The multi-mission Giraffe AMB surveillance radar system was first acquired by the United Kingdom in 2008 as part of the Land Environment Air Picture Provision (LEAPP) programme. Since deliveries started in 2010 it has been used to provide the real-time air picture in support of airspace management on deployed operations and at major events in the UK. It has also made a vital contribution to force protection through the detection and prediction of impact of incoming rockets, artillery shells and mortars.

The Giraffe AMB is part of Saab's Giraffe product family that includes high-performance air and sea surveillance and target indication radars, covering very short to long ranges. The Giraffe also has essential command and control for ground based air defence and sense-and-warn applications.

For further information, please contact:

Saab Press Centre,  
+46 (0)734 180 018,  
[presscentre@saabgroup.com](mailto:presscentre@saabgroup.com)

[www.saabgroup.com](http://www.saabgroup.com)  
[www.saabgroup.com/YouTube](http://www.saabgroup.com/YouTube)

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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.

## U.S. Army Awards \$6.7 Billion Joint Light Tactical Vehicle Contract to Oshkosh Corporation



The U.S. Army Tank-automotive and Armaments Command (TACOM) Life Cycle Management Command (LCMC) has awarded Oshkosh Defense, LLC, an Oshkosh Corporation (NYSE: OSK) company, a \$6.7 billion firm fixed price production contract to manufacture the Joint Light Tactical Vehicle (JLTV). The JLTV program fills a critical

capability gap for the U.S. Army and Marine Corps by replacing a large portion of the legacy HMMWV fleet with a light tactical vehicle with far superior protection and off-road mobility. During the contract, which includes both Low Rate Initial Production (LRIP) and Full Rate Production (FRP), Oshkosh expects to deliver approximately 17,000 vehicles and sustainment services.

“Following a rigorous, disciplined JLTV competition, the U.S. Army and Marine Corps are giving our nation’s Warfighters the world’s most capable light vehicle – the Oshkosh JLTV,” said Charles L. Szews, Oshkosh Corporation chief executive officer. “Oshkosh is honored to be selected for the JLTV production contract, which builds upon our 90-year history of producing tactical wheeled vehicles for U.S. military operations at home and abroad. We are fully prepared to build a fleet of exceptional JLTVs to serve our troops in future missions.”

The JLTV program provides protected, sustained and networked light tactical mobility for American troops across the full spectrum of military operations and missions anywhere in the world. The JLTV production contract awarded to Oshkosh includes a base contract award and eight option years covering three years of LRIP and five years of FRP. Oshkosh will begin delivering vehicles approximately ten months after contract award.

“Because of the JLTV program, our Soldiers and Marines are getting a level of technical performance that no other vehicle can match,” said U.S. Army Major General (Retired) John M. Urias, executive vice president of Oshkosh Corporation and president of Oshkosh Defense. “Our JLTV has been extensively tested and is proven to provide the ballistic protection of a light tank, the underbody protection of an MRAP-class vehicle, and the off-road mobility of a Baja racer. The Oshkosh JLTV allows troops to travel over rugged terrain at speeds 70% faster than today’s gold standard, which is our Oshkosh M-ATV. Looking to future battlefields, we know that our troops will face a myriad of threats. Soldiers and Marines can be assured that the highly capable Oshkosh JLTV will perform the mission.”

The JLTV Family of Vehicles is comprised of two variants, a two seat and a four seat variant, as well as a companion trailer (JLTV-T). The two seat variant has one base vehicle platform, the Utility (JLTV-UTL). The four seat variant has two base vehicle platforms, the General Purpose (JLTV-GP) and the Close Combat Weapons Carrier (JLTV-CCWC).

The Oshkosh JLTV combines the latest in automotive technologies with the Oshkosh CORE1080 crew protection and TAK-4i™ independent suspension systems to provide next

generation performance. In designing its JLTV, Oshkosh leveraged its extensive experience producing and sustaining more than 150,000 heavy, medium and protected MRAP vehicles for the U.S. and its allies.

#### The Oshkosh JLTV Journey

2005: Oshkosh begins developing its next generation TAK-4i independent suspension system

2007: Oshkosh develops the Light Combat Tactical Vehicle (LCTV) technology demonstrator

2010: The Oshkosh LCTV is the first military-class vehicle to complete the Baja 1000 desert off-road race

2011: Oshkosh evolves its design and introduces the Light Combat Tactical All-Terrain Vehicle (L-ATV), the platform for the Oshkosh JLTV solution

2012: U.S. Government awards Oshkosh one of three JLTV Engineering and Manufacturing Development (EMD) contracts in August

2013: Oshkosh builds its JLTV EMD prototypes on a warm production line and delivers them to the U.S. Army for EMD testing and evaluation

2014: During EMD, Oshkosh successfully completes all requirements, testing and evaluation

2015: Oshkosh responds to the U.S. Government's JLTV Production Request for Proposal in February and Request for Final Proposal Revisions in July

2015: Oshkosh is awarded the JLTV Production contract

"Developing our Oshkosh JLTV solution has been an incredible journey," said Szews. "For the past decade, our entire team has been focused on putting our troops behind the wheel of the world's most capable light vehicle. It's our relationship with our troops and our deep appreciation for their service that inspires our best work every day. I offer my sincere thanks to our employees and suppliers for their years of dedication to reach this historic day."

#### About Oshkosh Defense

Oshkosh Defense is a leading provider of tactical wheeled vehicles and life cycle sustainment services. For decades Oshkosh has been mobilizing military and security forces around the globe by offering a full portfolio of heavy, medium, light and highly protected military vehicles to support our customers' missions. In addition, Oshkosh offers advanced technologies and vehicle components such as TAK-4® independent suspension systems, TerraMax® unmanned ground vehicle solutions, Command Zone™ integrated control and diagnostics system, and ProPulse® diesel electric and on-board vehicle power solutions, to provide our customers with a technical edge as they fulfill their missions. Every Oshkosh vehicle is backed by a team of defense industry experts and complete range of sustainment and training services to optimize fleet readiness and performance. Oshkosh Defense, LLC is an Oshkosh Corporation company [NYSE: OSK].

To learn more about Oshkosh Defense, please visit us at [www.oshkoshdefense.com](http://www.oshkoshdefense.com).

#### About Oshkosh Corporation

Oshkosh Corporation is a leading designer, manufacturer and marketer of a broad range of access equipment, commercial, fire & emergency, military and specialty vehicles and vehicle bodies. Oshkosh Corporation manufactures, distributes and services products under the brands of Oshkosh®, JLG®, Pierce®, McNeilus®, Jerr-Dan®, Frontline™, CON-E-CO®, London® and IMT®. Oshkosh products are valued worldwide by rental companies, concrete placement and refuse businesses, fire & emergency departments, municipal and airport services and defense forces, where high quality, superior performance, rugged reliability and long-term value are paramount. For more information, visit [www.oshkoshcorporation.com](http://www.oshkoshcorporation.com).



### US to deploy F-22 Raptor fighter jets in Europe

The United States soon will deploy F-22 Raptors in Europe, sending the stealth fighter jets to reassure NATO partners concerned about Russia's actions in Ukraine, a Pentagon official said Monday.

Air Force Secretary Deborah Lee James did not offer specifics about where or when the single-seat jets would be deployed, citing operational security reasons. James also would not say how many of the planes would be deployed.

The deployment comes at the request of commanders in the region, she said, adding that F-22 pilots will train with NATO partners.

The F-22 was designed for air-to-air combat -- attacking other warplanes -- but also is capable of ground attacks.

The US Air Force has about 180 F-22s, which became operational in 2005. They have been used in US-led coalition strikes on the Islamic State group in Iraq and Syria.

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

### Air New Zealand posts record annual profit

Air New Zealand on Wednesday unveiled a record annual net profit and predicted "significant" earnings growth in the current financial year.

Chief executive Christopher Luxon said the NZ\$327 million (\$212 million) result, up 24.3 percent on the previous year, was due to strong demand, cost cutting and lower fuel prices.

He said the flag carrier had achieved "superior commercial results", posting its fourth consecutive year of growth.

"I would happily stand up against any airline in the world and say that these are an absolutely outstanding set of results," Luxon told reporters.

He said Air New Zealand had a strong balance sheet, allowing it to invest in fleet upgrades and new routes, including flights to Houston and Buenos Aires beginning in December 2015.

"We're off to a good start and we feel very confident about the year ahead," he said.

Luxon did not expect China's current market woes to impact on the airline, saying it was "still a relatively small part of our network".

Air New Zealand said operating revenue for the 12 months to June 30 was NZ\$4.9 billion, up 5.9 percent.

It announced a final annual dividend of 16.0 cents a share, up 60 percent, and said 8,000 employees would each receive a NZ\$1,400 bonus.

The total number of passengers carried rose 4.2 percent, including a 9.3 percent increase in long-haul passengers.

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

### **Vector Aerospace signs another 3-year exclusive agreement with Helicopter Transport Services for engine MRO support**

Vector Aerospace a global independent provider of aviation maintenance, repair and overhaul (MRO) services, is pleased to announce it has signed a new three-year exclusive agreement with Helicopter Transport Services (HTS) to provide MRO services for their Pratt & Whitney Canada PT6T, and Turbomeca Arriel 1 & 2 engines.

We are very pleased to sign another MRO agreement with HTS – they have been an excellent customer of ours over the years, and we are happy to continue to strengthen our relationship with them,” said Chris McDowell, VP Rotary Wing Sales.

HTS Canada’s top priority is to provide solutions for customer needs,” said Denis Pilon, Chief Operations Officer at Helicopter Transport Services. “The decision to sign this contract with Vector is based on their commitment to deliver high quality service and their track record with the support provided to us on other platforms. We are pleased to have Vector’s MRO support for our PT6T and Arriel 1 & 2 engines for the next three years.

Vector has been supporting the Pratt & Whitney Canada PT6T engine since 1988 as a Distributor & Designated Overhaul Facility (DDOF) for repair and overhaul. Vector holds Transport Canada (AMO 231-91) and DAO, European Joint Aviation Authorities (JAR 145) licenses for Pratt & Whitney Canada PT6T engines. Vector is an established Turbomeca Arriel 1 and Arriel 2 repair center, having performed MRO for more than 1,400 engines since 1994. We have

#### **About Helicopter Transport Services**

With bases spread across Canada, Helicopter Transport Services operates one of the largest and most diverse fleet of helicopters in the industry. From the lightweight Bell 206 Jet Ranger to the Sikorsky CH-54 heavy lift helicopter, they are capable of flying nearly any mission, anywhere, any time.

**Information Contacts:**

Raj Rawana  
Director, Marketing and Communications  
Vector Aerospace  
Tel: 1.416.640.2138  
[raj.rawana@vectoraerospace.com](mailto:raj.rawana@vectoraerospace.com)

Chelsie Aichelberger  
Manager, Marketing and Communications  
Vector Aerospace Helicopter Services – North America  
Tel: 1.604.276.7685  
[chelsie.aichelberger@vectoraerospace.com](mailto:chelsie.aichelberger@vectoraerospace.com)

For Further Information [Click Here](#)

**Source:** Epicos, Vector Aerospace

### The Royal Thai Air Force receives four EC725s

Airbus Helicopters has completed delivery of an initial four EC725s to the Royal Thai Air Force, providing highly-capable rotorcraft for this military service's search and rescue and troop transport duties.

The order of four EC725s was signed in 2012, with the deliveries having just been completed. They are expected to begin operations later this month. Two additional EC725s were booked in 2014 for deliveries to the Royal Thai Air Force next year.

"With Thailand's investment in the modernization of its aircraft inventory, the EC725s will become a formidable asset in the Royal Thai Air Force's helicopter fleet," said Fabrice Rochereau, Airbus Helicopters' Vice President of Sales and Customer Relations in Asia Pacific.

The EC725 is an 11-ton twin-engine helicopter featuring high-performance navigation and mission systems – including a unique digital four-axis autopilot. Delivering excellent flight autonomy and seating 28 persons, this powerful helicopter is perfectly tailored for the Royal Thai Air Force's combat search and rescue (CSAR) missions, search and rescue (SAR) flights, troop transport operations and other tasks.

"We welcome the Royal Thai Air Force as a new Airbus Helicopters operator," said Derek Sharples, the Managing Director of Airbus Helicopters Southeast Asia. "They can count on our full resources to support the successful deployment of the aircraft, and proximity services from our Thailand-based customer center."

Airbus Helicopters' EC725 is a military rotorcraft of reference for the Asia Pacific region. Indonesia has ordered six units, deliveries of which started in late 2014; while Malaysia is already operating its fleet of 12 aircraft, performing numerous SAR missions at high availability rates.

About Airbus Helicopters

Airbus Helicopters is a division of Airbus Group. The company provides the most efficient civil and military helicopter solutions to its customers who serve, protect, save lives and safely carry passengers in highly demanding environments. Flying more than 3 million flight hours per year, the company's in-service fleet includes some 12,000 helicopters operated by more than 3,000 customers in 152 countries. Airbus Helicopters employs more than 23,000 people worldwide and in 2014 generated revenues of 6.5 billion Euros. In line with the company's new identity, fully integrated into Airbus Group, Airbus Helicopters has renamed its product range replacing the former "EC" designation with an "H".

For more information please contact:

Yves Barillé

Tel.: + 33 (0)4 42 85 50 94

Mob.: + 33 (0)6 07 23 49 35

[yves.barille@airbus.com](mailto:yves.barille@airbus.com)

Priscilla Yip

Tel.: +65 6592 7217

Mob.: +65 9660 7040

[priscilla.yip@airbus.com](mailto:priscilla.yip@airbus.com)

Or [Click Here](#)

**Source:** Epicos, Airbus Helicopters

### Pratt & Whitney Delivers First PurePower Engine to Irkut Corporation

Pratt & Whitney delivered the first PurePower® PW1400G-JM engine to the podding facility at Russia's Irkut Corporation. The PW1400G-JM engine was assembled and tested at the Pratt & Whitney West Palm Beach Engine Center located in Florida before being shipped to Irkutsk, Russia. The PW1400G-JM engine has been optimized for installation on Irkut's MC-21 aircraft family. Pratt & Whitney is a United Technologies Corp. (NYSE:UTX) company.

"The PW1400G-JM engine is proof of the Geared Turbofan™ (GTF) engine technology's key strengths – its adaptability and versatility – and we are excited to provide the first PurePower engine for Irkut as the engine family continues to display unprecedented levels of performance across the board," said Jill Albertelli, vice president, NGPF-30K programs. "We were able to conform this engine to meet our customer's needs and expectations to provide numerous operational benefits. The dynamic engine coupled with Irkut's MC-21 aircraft will offer airline customers dramatic reductions in fuel burn, emissions and noise compared to today's in-service aircraft."

As the PW1400G-JM engine continues rigorous testing, engine certification is expected later this year.

The PurePower engine family has completed more than 36,000 cycles of testing and 20,000 hours of testing, including 6,000 hours of flight testing.

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 systems and services to the building and aerospace industries. To learn more about UTC, visit its website at [www.utc.com](http://www.utc.com), or follow the company on Twitter: @UTC.

This press release contains forward-looking statements concerning future business opportunities. Actual results may differ materially from those projected as a result of certain risks and uncertainties, including but not limited to changes in levels of demand in the aerospace industry, in levels of air travel, and in the number of aircraft to be built; challenges in the design, development, production and support of advanced technologies; as well as other risks and uncertainties, including but not limited to those detailed from time to time in United Technologies Corp.'s Securities and Exchange Commission filings.

#### Contact

Sara Banda

Pratt & Whitney

Office: 860-565-4031

Mobile: 860-202-8644

[sara.banda@pw.utc.com](mailto:sara.banda@pw.utc.com)

Alice Straight

Pratt & Whitney

Office: 860-565-2344

Mobile: 860-830-6817

[alice.straight@pw.utc.com](mailto:alice.straight@pw.utc.com)

**Source:** Epicos, Pratt & Whitney