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The Future of Aviation Industry in the Region of Asia- Pacific





Currently the world is experiencing a rather difficult and uncertain economic period. Nevertheless, aviation is still growing as an industry. This is highlighted by the fact that the number of passengers grew by nearly 6% in 2011. This number is estimated to grow even more in 2015 as it is expected that over 3.55 billion people will travel by air. That is 877 million more than in 2010. Asia-Pacific is estimated to be the new industry's centre of

gravity. It is indicative that 212 million of 3.55 billion of travelers are expected to be generated by China alone. Additionally, in 2010 about a third of all passengers traveled on routes to, from or within Asia-Pacific. The equivalent number for North America and Europe was 31%. This number is anticipated to change in 2015, as the area of Asia-Pacific will represent 37% of the global traffic, while traffic associated with Europe and North America will fall to 29%.

The main reason is that aviation becomes more accessible to those in emerging markets. 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. In India this number is just 0.1. Increasing wealth in countries like China will automatically increase the need for more aircraft in the area of Asia-Pacific as more people will have access to air travel.



The main reason behind this is that the standard of living will be improved in the forthcoming years in

the Asia-Pacific region. As Tony Tyler, IATA's Director General and CEO stated at the Singapore Air show Aviation Leadership Summit that took place on 13 February 2012: "The Organization for Economic Co-operation and Development (OECD) estimated that in 2009 there were 1.8 billion middle-income consumers in the world-those that earned between \$10 and \$100 a day. About 500 million of those were in Asia-Pacific. By 2030, the OECD expects that there will be 4.9 billion middle-income earners-of which 66% or 3.2 billion will be in this region. That is a six-fold increase in just two decades".

Another fact that converges towards the estimation that the aforementioned region will be

Passenger aircraft ≥100 seats (excluding freighters)

	2011-2020	2021-2030	2011-2030	% of world deliveries
Asia- Pacific	4,259	4,901	9,160	34%
Europe	2,918	3,032	5,950	22%
North America	2,667	3,234	5,901	22%

Source: Airbus GMF 2011

the centre of aviation industry is that according to the Airbus' forecast the greatest demand for passenger aircraft will come from airlines in the United States and the People's Republic of China. North American and European airlines' will both receive 22% of the total, with Asia-Pacific's airlines forecast to take 34% of new deliveries. More specifically, Airbus predicts that (4,259) aircraft will be delivered to Asia-Pacific region for the period 2011-2020 and (4,901) aircraft for the period 2021-2030. This makes a total of 9160 a rather significant number when compared with the (5,950) aircraft that is predicted to be delivered in Europe.

The Aviation Industry in Asia-Pacific 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

Defence Spending in Asia and Oceania, Large Importers-New Acquisitions





During the period 2006-2010 the amount of deliveries of major conventional weapons to states in Asia and Oceania was 17% higher than in the period 2001-2005. Furthermore, 6 of the 10 largest importers for the period 2006-10 are from the region, namely India (1st), China (2nd), South Korea (3rd), Pakistan (4th), Singapore (7th) and Australia (9th). Of course the lion's

share of these imports belongs to India as it is no tall statement to say that the government of the country does not spare funds for defence, especially for Capital/New acquisitions. This trend continues as the countries of the region keep spending money. One of the latest developments that really "rocked" the global aerospace and defence market came from the region and was the announcement from the Indian government that the Rafale fighter aircraft built by France's Dassault Aviation has emerged the lowest bidder in the contest to sell the Indian Air Force (IAF) 126 medium multi-role combat aircraft.

Even before this deal, the value of which is estimated to be worth \$12 billion, India was one of the largest users and importers of conventional defence equipment. India ranks among the top ten countries in the world in terms of military expenditure. It is indicative that the country's cumulative defence budget for the period 2010-11 was approximately 31.9 billion US dollars, 40% of which was capital expenditure. According to estimates, nearly 70% of the defence requirements are met through imports, with only 30% being met through domestic production. Government stated that aims in reversing this trend and manufacture 70% or more of its defense needs indigenously. Therefore transfer of technology will be a major factor for new acquisitions, as the country is and will continue trying to develop its own defence industry.

Military expenditure of India

	2006	2007	2008	2009
In constant (2008) US\$ m.	28,465	28,866	32,334	36,600
As percentage of gross domestic product	2.6	2.5	2.6	-

Source: SIPRI Publications

China was the second largest importer of the region. Nevertheless, deliveries for the period 2006-2010 were almost half of the volume of the period 2001-2005. Another important importer of conventional arms is Pakistan. This poor country of Asia, mainly due to the conflict with India has to allocate a significant amount of funds in defence. Pakistan's' imports increased by 128% between the periods 2001-2005 and 2006-2010, according to Stockholm International Peace Research Institution (SIPRI).



Australia entered the list of top 10 importers, in 2006-10, increasing its imports by 66% compared to 2001-2005. Throughout the next decade Australia's total defence expenditure is forecast to grow with a compound annual growth rate of about 3.5%. Sustainment expenditure is planned to exhibit uniform growth over the decade with a compound annual growth rate of about 2.8%. Growth in acquisition expenditure is forecast to be more

variable, and rises at a compound annual growth rate of 4.9%.

The land and vehicles sector is forecasted to have the biggest percentage increase. Growth will differ across the period, with the compound average annual growth rate being at 6.2%. Following the completion of the M113 upgrade program in 2011-12, acquisition expenditure will begin a period of expansion, lasting from 2012-13 to 2015-16. The main projects that will contribute to this rise will be the overlander, soldier enhancement version 2 and the land combat vehicle system projects. At the end of the decade the maturation of the self propelled howitzer, soldier enhancement and overlander projects will again shift the focus of activity in the land and vehicles sector.

Kyriazis Vasileios, Epicos Newsletter Head Editor

Epicos "Industrial Cooperation and Offset Projects"

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Development of Fighter Aircraft Link-16 Data Link Training System



Fighter aircraft training requirements nowadays have evolved drastically since new and more complex systems have been added on the platforms driving the pilot to perform continuously more functions to improve the man/machine effectiveness. However, these additional systems increased the already heavy workload of the operator and forced him to be as much as possible prepared. Thus, advanced and realistic training becomes a necessity in order to ensure safer and more effective multi-system platform operation. A leading avionics

software development company is proposing the development of a Fighter Aircraft Link-16 Data Link Training System / Simulator. This system will provide the ability to train fighter pilots in Link-16 applications using realistic operational scenarios even by using live communication with real Link-16 equipped aircraft

For Further Information Contact our ICO Department

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Development of a tethered aerostat system for surveillance and reconnaissance purposes



A company with core competencies in Intelligence Surveillance & Reconnaissance (ISR), offering related consultancy services and training programs, wants to extend its business line with the development of a tethered aerostat system for reconnaissance and surveillance purposes. The company is seeking potential partners for the development, enhancement and / or marketing of the system.

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Epicos- Amazon



Globalization and the National Security State, by Norrin M. Ripsman, T.V. Paul



Since its inception as a social institution, the primary purpose of the nation-state has been to provide security within a geographically defined territory against both external and internal threats. Throughout many political and socioeconomic changes that occurred the last decades nation-states lost some of their jurisdiction. Many have posited a correlation between the spread of globalization and the decline of the nation-state. In the realm of national security, advocates of the globalization thesis have argued that states' power has diminished relative to transnational governmental

institutions, NGOs, and transnational capitalism. Initially, they pointed to declines in both global military spending (which has risen dramatically in recent years) and interstate war. But are these trends really indicative of the decline of nation-state's role as a guarantor of national security?

Gas Turbine Propulsion Systems (Aerospace Series), by Bernie MacIsaac, Roy Langton



Major changes in gas turbine design, especially in the design and complexity of engine control systems, have led to the need for an up to date, systems-oriented treatment of gas turbine propulsion. Pulling together all of the systems and subsystems associated with gas turbine engines in aircraft and marine applications, Gas Turbine Propulsion Systems discusses the latest developments in the field. Chapters include aircraft engine systems functional overview, marine propulsion systems, fuel control and power management systems, engine lubrication and

scavenging systems, nacelle and ancillary systems, engine certification, unique engine systems and future developments in gas turbine propulsion systems. The authors also present examples of specific engines and applications.

Epicos Newsroom



Switzerland lifts defence sales by a third in 2011: ministry

Switzerland boosted its exports of military equipment, mainly training aircraft and airdefence systems, by 36 percent last year from the 2010 level, official data showed on Tuesday.

The value of the exports totalled 872.7 million Swiss francs (724.1 million euros, \$973 million dollars).

A big factor behind the increase was the export of unarmed military training aircraft to the United Arab Emirates amounting to 258.1 million Swiss francs, the Swiss Department of Economic Affairs said in a statement.

Switzerland also delivered wheeled armoured vehicles to Germany and Belgium as well as air-defence systems to Germany.

Of the total, 56.8 of exports (2010: 61.5 percent) went to Europe; 5.3 percent (8.1 percent) to the Americas; 36.5 percent (29.2 percent) to Asia, 0.7 percent (0.4 percent) to Africa and 0.7 percent (0.8 percent) to Australia.

Regarding "events related to the Arab Spring", Switzerland said it had limited export licences for military equipment to North Africa and countries in the Middle East region.

"The deliveries of authorised war materials relate mostly to air defense systems, which are not suitable for use against civilians," the department said.

Source: 2012 AFP, Agence France-Presse (AFP)

Saab wins Project of the Year Award in Australia

Saab, along with BAE Systems and CEA Technologies has won the Major Company/DMO Project Team of the Year for the Anti-Ship Missile Defence project which implemented the most advanced model of the Saab 9LV combat management system.

At the Australian Defence Magazine Congress in Canberra on 21 February, the Essington Lewis Trophy for the Major Company/DMO Project Team of the Year was awarded to the Anti-Ship Missile Defence project team made up of BAE Systems, Saab Technologies Australia and CEA Technologies.

Minister for Defence Materiel, Senator Kim Carr congratulated the winning teams. "These companies have demonstrated high levels of capability, cooperation and excellence in project management," Senator Carr said. "The collaboration between government and industry on these projects is world-class."

Currently visiting the Saab companies in Australia, Saab President and CEO Mr Hakan Buskhe said, "I am delighted to receive the excellent news of this award. From my observation of

the company's capabilities during this visit I am not surprised that they would be picked for this prize but I am extremely pleased all the same."

The CEO of the Australian Defence Materiel Organisation added his congratulations saying that it reflected the on-going goodwill and collaboration between Defence and industry to equip and sustain the Australian Defence Force.

Anti-Ship Missile Defence Project

The ASMD project was undertaken by the Australia Defence Materiel Organisation to upgrade the defensive capability of the Anzac class frigates to meet 21st century missile threats. A principal tenet of this upgrade was to enable the ship to detect, track and shoot down a multiple missile raid.

To address this challenge the DMO asked the Anzac Ship Integrated Materiel Support Program Alliance comprising the DMO, Saab Technologies Australia and BAE Systems to come up with a suitable design.

The favoured design was one incorporating a phased array radar, known as CEA-PAR, which was under development by the Australian company, CEA Technologies. The design also incorporated Infrared search and track sensors from Sagem (Safran Group).

To integrate the new sensors and advanced missile capabilities of the Evolved Sea Sparrow Missile, Saab developed an upgraded version of the 9LV combat management system already on all ships of the Anzac class. The upgraded version integrates all weapons, sensors, data links and countermeasures on the ship which are controlled and displayed on a fully-redesigned operations room.

The ship's combat system performance has exceeded expectations and it has been validated by radar trials and weapons firings at high fidelity targets in Australia and Hawaii.

The DMO recently announced that all ships of the Anzac class will receive the upgraded combat system.

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Saab serves the global market with world-leading products, services and solutions ranging from military defence to civil security. Saab has operations and employees on all continents and constantly develops, adopts and improves new technology to meet customers' changing needs

Source: Epicos, Saab

Turkey plans to buy 100 US F-35 fighters: report

Turkey is planning to purchase 100 F-35 Joint Strike Fighters worth \$16 billion in an attempt to meet its future air force needs, Defence Minister Ismet Yilmaz was quoted as saying Thursday.

"Turkey plans to buy 100 F-35 Joint Strike Fighters, two of which will be delivered in 2015," Yilmaz told the daily Milliyet.

It is the first public announcement by Ankara of how much the programme will cost.

Turkey has long planned to purchase about 100 jets to replace its ageing F-4 and F-16 fleet, but increasing costs have hampered the acquisitions.

The Joint Strike Fighter, manufactured by Lockheed Martin, is the Pentagon's most expensive weapons programme ever.

The US defense department plans to buy more than 2,400 of the aircraft at a cost of about 385 billion dollars. The cost of each plane is now well over 100 million dollars.

Source: 2012 AFP, Agence France-Presse (AFP)

US durable goods orders dive in January

New orders for US durable goods made a broad-based dive in January after three straight months of gains, led by a slump in commercial aircraft orders, government data showed Tuesday.

But analysts blamed the fall on the end of a special capital investment tax break rather than a slowdown in the economy.

New durable goods orders fell 4.0 percent from January to \$206.1 billion, the Commerce Department reported.

It was the steepest decline since January 2009, when orders plunged 13.2 percent, and was much worse than the average analyst forecast of a 1.4 percent drop.

Excluding the transportation sector, new orders fell 3.2 percent.

New orders for transportation equipment were the biggest decliner, the department said, down 6.1 percent. Nondefense aircraft orders plunged 19.0 percent.

But the overall decline was broad-based, including machinery, computers and defense aircraft.

Ian Shepherdson at High Frequency Economics said the weak January number appeared to be a one-time adjustment to the December 31 expiration of bonus tax deductions for capital spending.

"Unquestionably, it looks bad, but the context is important; we see no evidence of underlying slowing in the industrial economy so we look for a rebound in February and the re-emergence of the upward trend over the next couple of months," he said.

The Commerce Department upwardly revised the December increase to 3.2 percent.

Recent reports have suggested that manufacturing, a key driver of the economic recovery, started the year on a positive note.

The closely watched Institute for Supply Management's manufacturing index rose to 54.1 percent in January from 53.1 in December, led by a jump in new orders.

Source: 2012 AFP, Agence France-Presse (AFP)

Boeing dismisses EU bid for aircraft subsidy talks

Boeing on Monday ridiculed a European offer to negotiate an end to its aircraft subsidies trade war with the United States, citing the EU's failure to comply a WTO ruling.

Recent Airbus and European suggestions that differences could be ironed out in talks with no preconditions are "risible," Boeing spokesman Charlie Miller told journalists.

The United States and the European Union have been engaged in a long-running battle over state subsidies to their respective aircraft giants, Boeing and Airbus, at the World Trade Organization.

Both sides say in separate, parallel WTO cases that the rival aircraft maker has enjoyed public financing that violates WTO regulations and distorts fair competition in the industry.

The Europeans' "sudden desire" to get around the table "is only too obvious when clearly they have lost," Miller said.

An Airbus spokeswoman, in response to Miller's comments, said the US had "offered to negotiate after unilaterally abandoning a 1992 agreement and demanding the EU abandon its reimbursable advance financing," a condition Airbus refused.

The war of words came ahead of a WTO ruling on whether or not to uphold a previous ruling in favor of the European Union.

Sources close to the matter said the trade body would issue the ruling Wednesday on Washington's appeal of a WTO finding that supported an EU complaint alleging illegal US subsidies to Boeing.

In March 2011, the Geneva-based WTO ruled that Boeing had received \$5.3 billion in illegal aid.

In the separate US complaint against the EU, the Geneva-based WTO in May gave Brussels six months to comply with findings that \$18 billion in subsidies from EU member states, including aid for Airbus to develop new aircraft -- "launch aid" -- incompatible with certain specific criteria.

In a filing made on the December 1 deadline, the European Union claimed that it had complied with the WTO ruling.

But Washington charges that the EU had not met the requirements of the WTO ruling, and on December 9 threatened to impose sanctions in retaliation, in a range of \$7-10 billion a year.

A US source close to the situation said that Washington was "likely" to seek WTO approval for sanctions against the EU "within the next few weeks."

Source: 2012 AFP, Agence France-Presse (AFP)