

September 2006

ISTAT

Jetrader

International Society of Transport Aircraft Trading

Farnborough Recap

Overheating Market

Q + A Joe Leonard
airTran

World Economy & Air Cargo
Traffic



Jetrader

Jetrader is a bi-monthly publication of ISTAT, the International Society of Transport Aircraft Trading. ISTAT was founded in 1983 to act as a forum and to promote improved communications among those involved in aviation and supporting industries, who operate, manufacture, maintain, sell, purchase, finance, lease, appraise, insure or otherwise engage in activities related to transport category aircraft.

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The ISTAT and ISTAT Foundation Officers recently completed an in depth review and assessment of our future requirements for the internal management of our organization. One of our primary objectives was to seek a management solution which would offer both the professional services and international reach our organization requires as we operate in the virtually border-free aviation industry.

After carefully researching the alternative structures, all of the options were presented to the full ISTAT Board for their consideration and conclusion. After a thorough examination of these various options, I am very pleased to announce that the ISTAT Board of Directors has voted unanimously to select SmithBucklin Corporation, to manage ISTAT's headquarter operations under the direction of the ISTAT Board of Directors. With offices in Chicago, Washington DC, and St. Louis, SmithBucklin is the world's largest association management and professional services company providing full-service management and project-based services to more than 210 trade associations, professional societies, technology user groups, foundations, and government institutes/agencies. Through the SmithBucklin+MCI global partnership, they are also able to provide the professional services we need for our diverse international membership. MCI is the largest association management firm in Europe and is headquartered in Brussels with fifteen international offices including locations in London, Geneva, Paris, Berlin, Madrid, Singapore and Dubai. With their global partnership with MCI, the depth and breadth of experience and on-demand scalability, we believe that SmithBucklin will serve ISTAT's interests well as we continue to build upon our success to date.

With this move, our headquarters will be relocating to Chicago, IL as of 5 September, 2006. ISTAT headquarters can be reached by phone at +1.312.321.5169 and by fax at +1.312.673.6579.

On behalf of the ISTAT Board of Directors, I particularly would like to thank **Dawn Foster** and her team for her dedicated service to ISTAT over the years, which has served us well and provided a solid foundation on which we will move forward. We wish them the best in their future endeavors, and greatly appreciate the professional support they are providing to us during this transition.

Thomas W. Heimsoth
ISTAT President

cover photo :: Bert van Leeuwen DVB
Bank

Dear Fellow Members,

While record heat in London threatened to melt the enthusiasm of aviation aficionados to make the journey out to the Farnborough Air Show, it was quite the opposite on the evening of July 17, 2006 as well over 900 ISTAT members and guests poured their way into the Science Museum for an evening of cocktails and conversation at what continues to be the most prominent independent event at the Air Show. I would like to thank our sponsors and also our Board members, Connie Laudenschlager and Dan Pietrzak, for spearheading this wonderful event.



As I write this column, we are making final preparations for our members' arrival at the 13th European Conference in Monaco, being held 5-7 October. This is a venue you will not want to miss. Our conference sponsors, Boeing, Avion Group, Airbus, WestLB and Goal as well as our Conference Chairman, Peter Huijbers, have committed their financial support, time and energy to develop an exciting and successful event covering many facets of the international aviation industry.

While we roll through the changes of the seasons, the changing of the clock, and, as always, the changing competitive landscape in our industry, we here at ISTAT are undergoing an internal management change that I had advised the membership earlier through a broadcast email. I would like to reiterate in this column those changes. As the ISTAT and ISTAT Foundation Officers reviewed our primary objectives, we were seeking a management solution which would offer both the professional services and international reach our organization requires as we operate in the virtually border-free aviation industry.

After carefully researching the alternative structures, the ISTAT Board of Directors voted unanimously to select SmithBucklin Corporation, to manage ISTAT's headquarter operations under the direction of the ISTAT Board of Directors. With offices in Chicago, Washington DC, and St. Louis, SmithBucklin is the world's largest association management and professional services company. Through the SmithBucklin+MCI global partnership, they are also able to provide the professional services we need for our diverse international membership. MCI is the largest association management firm in Europe and is headquartered in Brussels with fifteen international offices including locations in London, Geneva, Paris, Berlin, Madrid, Singapore and Dubai. With their global partnership with MCI, the depth and breadth of experience and on-demand scalability, we believe that SmithBucklin will serve ISTAT's interests well as we continue to build upon our success to date.

Join me in welcoming our new ISTAT management team to the organization and you can look forward to meeting them at the upcoming ISTAT events. On behalf of the ISTAT Board of Directors, I would like to thank Dawn Foster for her dedicated service to ISTAT over the years, which has served us well and provided a solid foundation on which we will move forward. If any of you would like to get in touch with Dawn, please contact her by telephone at 703-503-0629 or her email address KDOFoster@aol.com.

Please take note of the contact information for our new ISTAT headquarters:

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I continue to welcome your comments and questions at istatpres@aol.com.

Thomas W. Heimsoth
ISTAT President

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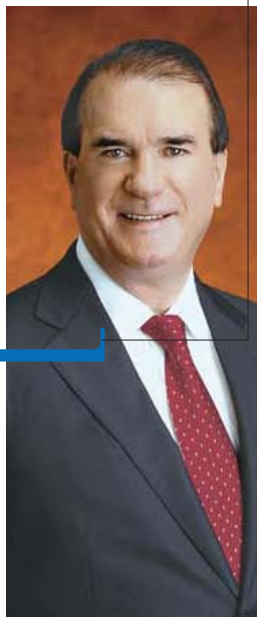


24th Annual ISTAT
Conference

March 11 to 14 . 2007
Marriott Desert Ridge Resort & Spa . Phoenix

Joe Leonard

Chairman
Chief Executive Officer
AirTran



JETRADER: Good Morning Joe, thank you for talking with the JETRADER. Fuel prices have been an important topic of conversation, could we have your forecasts for fuel prices for 2006-07?

Joe Leonard: We forecasted fuel in the 3rd quarter would be \$2.30-2.35 and we include taxes and fees. We report it all into the airplane. In the 4th quarter we are hedged at around \$2.25 a gallon. In the 3rd quarter AirTran is hedged 57% of our volume at between \$2.15 -2.20 a gallon and in the 4th quarter we are hedged 44% of our needs at between \$2.10-2.15 a gallon. In the 3rd quarter we were hedged higher than we normally do to buy us some hurricane protection.

JETRADER: How does AirTran respond to fuel prices increases?

Joe Leonard: Fuel conservation is first or the use economic fuel hedges that I talked to you about. Second, AirTran has the most technologically advanced fleet of any airline in our category. Our oldest airplane is 5 years old and the average for the fleet is around 3 years. Our 717s burn about 23% less fuel than the DC9s they replaced and the

If the general economy slows down then we expect to see air travel slow down as well but we have not seen it so far.

JETRADER: What is the impact of bankruptcy on the aviation industry?

Joe Leonard: The Bankruptcy laws need to be changed, it makes it very difficult to operate. United Airlines hung around for 3 years. One irony is that in Atlanta, United tried to get the old Eastern hanger to keep it away from AirTran. Delta ended up getting it so AirTran moved to Orlando. Now Delta has rejected that same hanger and because of their action our rents go up in Atlanta. So tell me how any of that is fair or makes sense. Bankruptcy is an enormous advantage for the airlines that take that path. Congress is now preparing to pass a bill that is going to grant four legacy carriers relief on their pension obligations. And to make matters worse they want to give additional preferences to 2 of the 4. The market place does an efficient job of sorting out the efficient from the inefficient. The laws need to be changed to shorten the period of reorganization or else liquidate them. The bankruptcy laws give a competitive advantage to the least efficient carriers.

JETRADER: What is AirTran's Competitive advantage?

Joe Leonard: It starts with our costs and we pay attention to them all of the time. We use every asset to the fullest whether it is people, facilities, aircraft or equipment. Our aircraft utilization is 11.3 hours a day, for a hub and spoke system that is pretty impressive. You can't just have cost containment but you have to deliver superior service. About 7-8 years ago we were not the airline of choice, we were sort of a second choice or for those who were very price sensitive. Today over 87% of our customers say they are likely or extremely likely to fly AirTran again. Once we get them on board we have no problem getting them to come back. Our completion factors tend to be in the 99% plus, our maintenance dispatch is great. We are very automated which differentiates us from the legacy carriers. The vast percentage of our customers' book on the Internet and now about 54% check in on the Internet or use our kiosk machines. This makes us very efficient as we can grow at a high rate without having to add people as quickly

JETRADER: How does AirTran compete against other LCCs?

Joe Leonard: What differentiates AirTran from all of the other LCC's except for US Air which is sort of a quasi LCC, is that we have an incredibly strong hub in Atlanta. No other LCC has anything that remotely resembles that advantage. Our hub is now one of the biggest in the country with over 236 flights a day. In departures it is bigger than Southwest in Phoenix or Las Vegas.

JETRADER: How does your hub and spoke system fit with point-to-point system?

Joe Leonard continued page 7

A fellow once told me the difference between bold and stupid is that if it works its bold, if it doesn't it's stupid.

Three we are installing winglets on our 737s as we speak. Four we have a very aggressive and disciplined approach to conservation. We invested \$5 million in Atlanta to have aircraft air-conditioning on every gate so we don't have to run the APUs (Auxiliary Power Unit) to cool the airplanes. We also ask passengers to pull the shades down and to open the air vents as our flights taxi into the terminal at all of our hot weather stations. That alone makes a 10 to 15 degree difference in the interior temperature. It's amazing that something that simple could have such a huge impact. We taxi out on one engine; we put ground power stations in all of our shops so the mechanics don't have to run the APU's at night to work on the airplanes. And finally we are raising prices, as cost go up you have no choice but to increase prices and we have been along with everyone else this year.

JETRADER: Do you see flexibility in raising fuel prices as we go forward?

Joe Leonard: We have seen no push back. I mean fares are still at 2000 levels so they are a bargain. We see no resistance to price increases through early fall.

737NGs are significantly more fuel-efficient than the older model 737.



World Economy & Air Cargo Traffic – Short and Long-Term Outlook

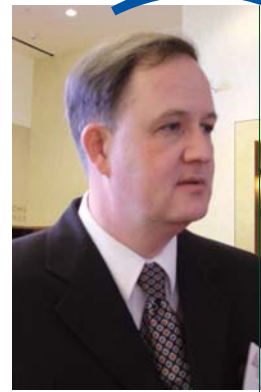
By Prof. Dr. Borislav Bjelacic

Trends in global air cargo traffic hinge largely on developments in gross domestic product (GDP). Due to increasing decentralization of production processes, world trade has grown at a higher rate than global GDP. Growth in air cargo traffic has therefore consistently exceeded GDP growth in the past. According to calculations by the WTO, global GDP grew by an average 2.8% p.a. in the period 1995 to 2005, while world trade grew by almost 6% p.a. in the same period. Thus, prospects for global air cargo traffic depend crucially on the development of the world economy. Below, we outline some of the basic development perspectives that are likely to prove momentous in the short- and in the long-term. We disregard the possibility of extraordinary events – such as natural disasters (earthquakes, floods, hurricanes etc.), infectious diseases (bird flu etc.), political unrest and war (Middle East etc.), large-scale accidents (e.g. nuclear accidents of the Chernobyl type) – upsetting fundamental trends.

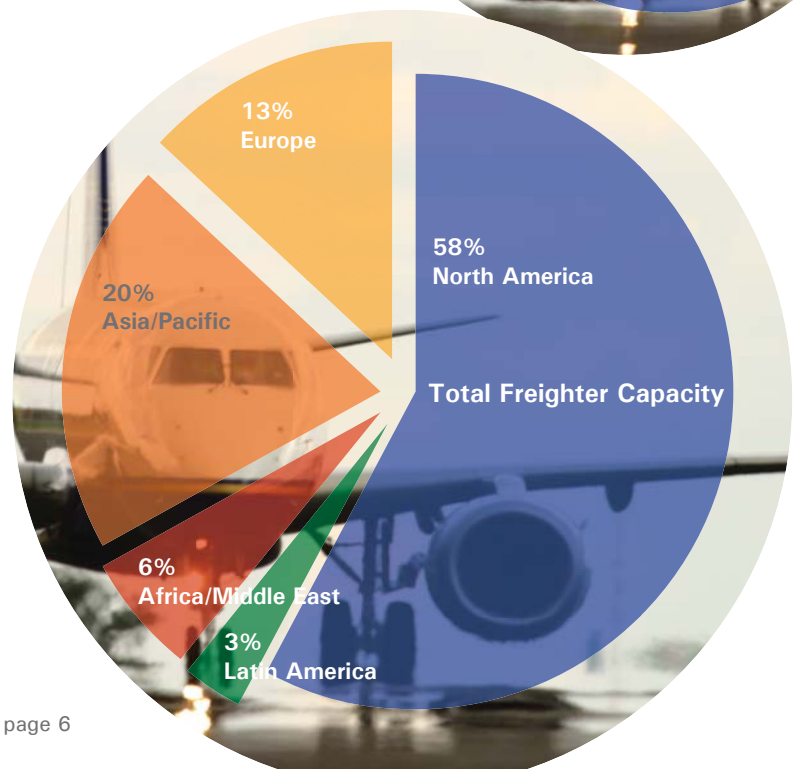
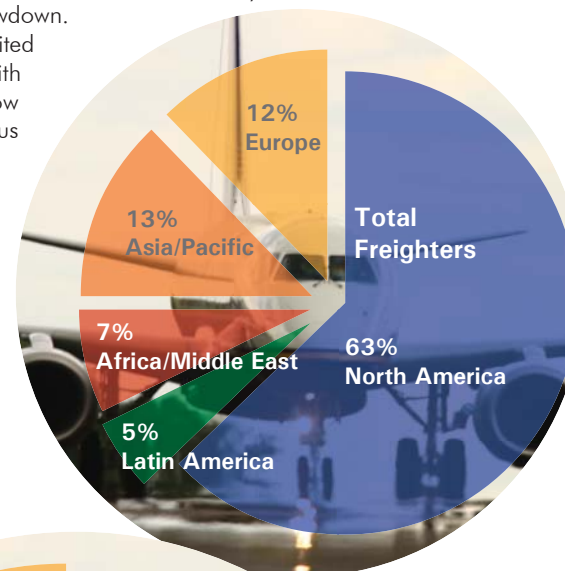
In the short run, the dominant influence will be exercised by the US economy. As the world economy's driving force, it has notched annual growth rates above 3% since 2003. Over the long haul, however, the prospects are good for China to take on this role. We already observe a very close relationship between the United States and China that is reflected in US imports, and affects air cargo traffic significantly. In recent years, US imports from China increased rapidly. China's share of total US imports scored as much as 14.5% in 2005 (chart 1). Factors giving rise to it are China's artificially low currency value, strong demand from US private households and an extended period of low US interest rates. Strong growth in goods imported from China, and the US economy's higher spending on crude oil and other commodity imports have contributed to a dramatic expansion of the US balance of payments deficit. So far, the deficit has been financed by other countries buying long-term US Treasury bonds. Among the buyers of these securities are China, other Asian exporting nations, and oil exporting countries: i.e., countries whose trade surplus has allowed them to build up large currency reserves. To date, China is heading the ranking list of those countries with the world's largest (mainly US dollar-denominated) currency reserves. In recent years, the United States has legitimately drawn attention to the artificial undervaluation of the Chinese currency and, indeed, urged the Chinese government to substantially revalue its currency. If revaluation were to occur, Chinese goods would become significantly dearer to US importers; imports (including airborne imports) would decline, and the current balance of trade deficit would decrease. Until now, the Chinese currency has seen only a rather slight revaluation, of about 3%. While the United States still desires a sizeable revaluation of the

Chinese currency, such a measure has now become more problematic for China in that it would entail a devaluation of its ample US dollar reserves. At present, it appears likely that only a general decline in consumption in the United States will cause a contraction of goods imported from China.

Whether this will happen depends on US consumers. In the past years, US consumer spending has been continually on the rise, with the consumer savings ratio approaching zero. At the same time, US household debt has increased, as reflected in the household debt service ratio. Under these circumstances, consistent and significant interest rate rises may rapidly lead to a drop in consumption and, hence, bring about an economic slowdown. Since 2001, US consumers have benefited from a low interest rate environment, with a decreasing cost of consumer loans. Low interest rates also had an advantageous effect on the US property market, driving up real estate prices and asset values. In view of this long-running trend, many consumers felt that they were getting 'wealthier', in spite of stepping up consumption. Some have taken out loans on the back of higher real estate valuations. Rising interest rates create an incentive to save, while investments in real estate become less attractive and property prices decline.



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WORLD FREIGHTER FLEET

In addition, as interest rates rise, the propensity of companies to invest recedes. In recent months, the US Federal Reserve has lifted interest rates repeatedly, to avert a rise in inflation. Most recently, the Fed recognized the danger of exaggerated increases in interest rates and recently indicated that it may take a break in raising rates. Nonetheless, it cannot be ruled out that in the event of growing inflation risk further interest rate increases may be forthcoming. The possibility persists that economic growth in the United States may decline.

The question remains open whether euro zone countries will be able to avoid contagion from a downturn in US growth. In past years, these countries exhibited rather low rates of growth but were – on aggregate – relatively successful in maintaining balance of payments equilibrium. Many of these countries are troubled by a number of structural problems that unsettle consumers, making them very reluctant to spend. Thus, at 10% currently, German consumers evince a relatively high savings rate. Only if politics in Europe can win the trust of consumers will it be possible for Europe to partially offset an economic downturn in the United States.

In the very long run, one may expect China to take over as the driving force of worldwide economic activity. According to a study by Goldman Sachs, GDP in China could surpass that of the United States from 2041 onwards. China will continue to be the world's manufacturing centre, whilst India will be a leading provider of software, and Brazil a centre of agrarian production. Hence, long-term forecasts regarding China envisage lasting growth of containerized seaborne exports and air cargo volumes (chart 2). A recent forecast by Back Aviation Solutions, covering 2005 through 2015, assumes annual growth in air cargo transport between North America and China to achieve 11.1% (and 6.2% p.a. between North America and Asia excluding China). For the same period, air cargo transport between Europe and China is projected to grow 12.7% annually (and 11.7% between Europe and Asia excluding China). Annual growth of world air cargo transport is expected to be around 6.8%. Boeing and other companies submitted similar projections.

China will grow, not only on account of its export capabilities, but also thanks to the ongoing expansion of its vast domestic market. Demographic trends provide the thrust behind this development. The paramount factor is increasing urbanization, rather than a growing population which will, in fact, only marginally edge upwards – from 1.35 billion currently to some 1.45 billion in 2030.

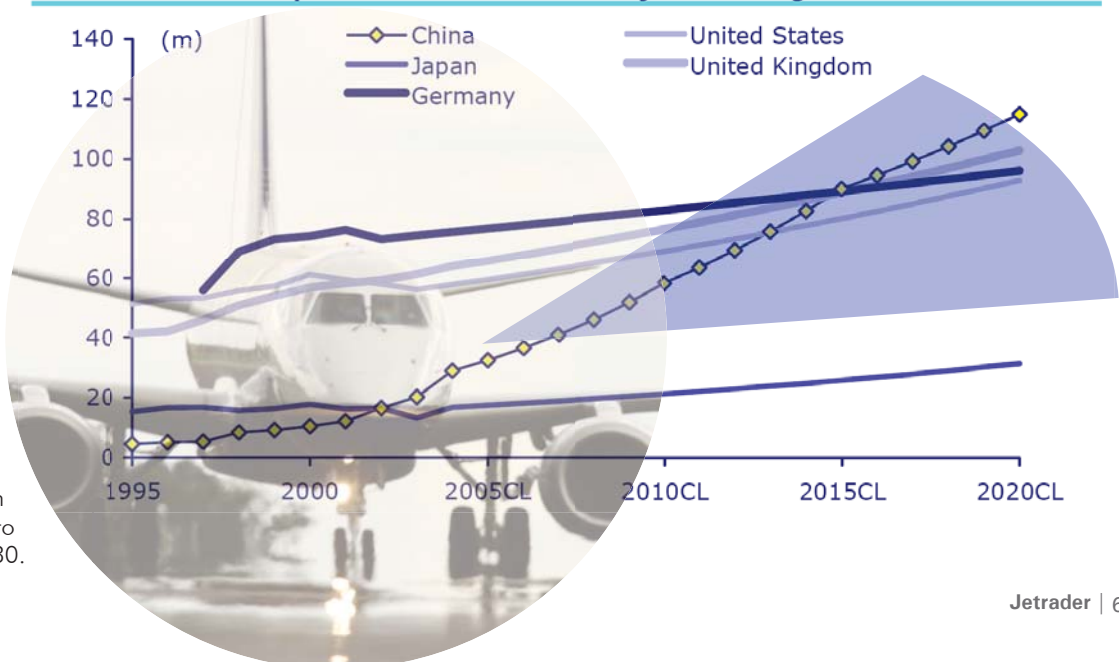
While urban residents made up 35.8% of the total population of China in 2000, they will probably represent 49.5% by 2015 and nearly 60% by 2030 (chart 3). Therefore, there will be strong demand for additional housing space and, hence, especially for steel, causing Chinese steel production to expand persistently, with increasing iron ore imports. In the wake of rising consumption throughout the population, production capacities will be increasingly dedicated to domestic demand. Since China is not particularly rich in natural resources, except for coal, imports of raw materials will continue to rise, contributing to persistently high global commodity prices. This holds true especially with respect to crude oil which is predominantly required for transport. China's demand for crude oil alone is likely to increase fivefold in the period from 2002 to 2030, soaring from today's 2 million barrels per day to an estimated 10 million barrels per day. The situation being compounded by mounting difficulties to increase production from conventional oil sources, prices are likely to remain high. Persistently high energy prices will continue to burden consumers in the United States and Europe, restricting consumption in other areas.

However, if domestic demand is to grow significantly in China, a lower savings rate is required. While US consumers virtually abstain from saving, China's average savings rate stands at a staggering 60%. This enormously high figure is largely due to the absence of a social security system, i.e. Chinese consumers feel compelled to save in order to provide for old age. In addition, much saving is earmarked for the education of offspring. The professed objective of Chinese politicians – to build systems supporting social security and education – would entail a decline in the savings rate and a boost in consumption.

Accelerating domestic consumption would have an immediate impact on air cargo traffic. As a result, China's demand for goods imported from other parts of the world would increase, thereby alleviating the pronounced current problem of unpaired air cargo flows. Which types of goods may be affected has been established in a recent study commissioned by UPS. Moreover, another survey of Chinese consumers has found that within the next ten years spending will be

“... Prospects for global air cargo traffic depend crucially on the development of the world economy ... the question remains open whether eurozone countries will be able to avoid contagion from a downturn in US growth”

Outbound tourist departures 1995-2020 for major travelling nations



World Freight continued

directed preferably toward education, travel, housing, cars and health (chart 4). Travel especially, is bound to grow in importance in the perception of Chinese consumers. In 2004, a mere 37 million Chinese traveled abroad: an increase of 43% compared to 2003 – admittedly, a year when tourism was affected by SARS (chart 5). In the long run, rising numbers of Chinese travelers will expand belly capacity and possibly bring about a balanced ratio of belly and freighter capacity in air cargo traffic.

As regards air cargo, airlines have generally become more dependent on Asian traffic overall, which is particularly pronounced regarding deployment of freighters. To see this borne out in exemplary manner, it is instructive to compare the performance in air cargo traffic of Air France Cargo, Lufthansa Cargo and Cargolux (charts 6-8). In the past 20 years, both for Air France and Lufthansa, North Atlantic and Asian traffic represented the main growth markets in air cargo. While growth rates in belly freight traffic have turned out approximately the same, pure freighter traffic has seen much larger growth on Asian than on North Atlantic routes. Growing dependence of freighters on Asia is even more distinctly evident in the case of Cargolux, which is a freighter-only operator. Here again, air cargo traffic has improved most on routes to and from Asia.

As a result, in 2004, the Asian share of total freighter traffic volumes (measured as operating revenue tonne-kilometers) was 54.7% for Air France, 63.9% for Lufthansa Cargo, and 57.0% for Cargolux (chart 9). Likewise, Asian carriers have vigorously expanded their freighter operations. About 13% of the world's freighter fleet (representing about 20% of global freighter fleet capacity) are based in Asia, which demonstrates just how important Asia is for the freighter market (chart 10). Asia is the major market for Boeing 747 freighters: 32% of the world's 747-200/-300 type freighters are currently stationed in Asia. At 63%, the figure is still higher for freighters of the 747-400 type. By contrast, only 16.7% of MD11 freighters deployed worldwide are stationed in Asia. Therefore, global deployment of 747 freighters would be affected by economic developments in Asia more than for any other type of aircraft.

All told, investors currently take a positive view on the air cargo market. Hence the relatively high number of orders for freighters, and the noticeable increase in freighter conversions recently commissioned. The rise in supply capacities in the freighter sector appears well-balanced, given the expected trends on the demand side – in contrast to developments in container shipping, where the prevalent structure of suppliers provides a check against an inordinate, speculative expansion of capacity.

In conclusion: short-term prospects for the world economy and, thus, for air cargo traffic tend to hinge on the economic situation in the United States, while in the longer term China's influence is likely to become more momentous. This assessment will only be pertinent if the possibility of extraordinary events is factored out. However, recent developments in the Middle East demonstrate (again) only too clearly that forecasting the global economic future keeps getting harder to accomplish.

**We will never
take our eye
off the cost
side. We
predicted our
costs would go
down in the
3rd and 4th
quarters and
they did.**

Joe Leonard: We do a lot of point to point but the 2 points are also connecting to Atlanta. The way we build our system is go into a new city by starting in Atlanta. Then we start expanding to Orlando or Fort Lauderdale or Tampa. Finally, we may fly other places for example Dallas Baltimore or Minneapolis Baltimore. We do a fair amount of Point to Point but only after we connect to those points serviced by Atlanta. Adding a flight to Atlanta is very safe and is very likely to be successful. Pairing cities to which we already fly is still very safe. Lastly we only open 2 or 3 new cities a year. We keep the core of the airline profitable and manage our risks carefully. All development routes cost money. You don't want to have a whole lot of that going on at one time. It can take 2 years to break even. I am suspect of the notion that you can fly from mid size city to mid size city and make that work. If it were that easy, you would see a lot more airlines trying to do that.

JETRADER: How does the Boeing 717 fit in your strategy and how does the cessation of production impact your long-term needs?

Joe Leonard: It does not affect our long-term strategy at all. We have 87 of them and they are the perfect airplane for what we want to do. We looked at the Embraer and it's a really good airplane but we already have the 717. It has better seat miles cost than the Embraer while the Embraer has little better plane mile costs. From a market development standpoint the 717 fits us perfectly. In a lot of our markets we have the smallest airplane and the lowest costs and that makes us difficult to deal with. In markets where we compete with 50 passenger regional jets, we have an enormous cost advantage.

JETRADER: How do you evaluate aircraft for your markets?

Joe Leonard: Well we only made one in 2003 and that will take us through the end of the decade. We ordered 100 737s at the bottom of the market when nobody was buying airplanes.

JETRADER: That was a gutsy move.

Joe Leonard: A fellow once told me the difference between bold and stupid is that if it works it's bold, if it doesn't it's stupid. We received a very good deal. We firmed up our 50 options so we are set through the end of the decade. By then we will have 187 airplanes, 100 will be 737s. So we have no immediate needs. We have a keen interest in the new 737 being discussed. I don't know when that will come out but we are staying abreast of the discussions. You don't want to be the last guy to buy the old technology. So we are keeping an eye on that as well as the Embraer and Bombardier as well. But right now we are in good shape. We are taking about 18 aircraft a year and we expect to grow at 25 % this year and 20% next year.

JETRADER: As the market for LCCs develops how does AirTran differentiate itself?

Joe Leonard: We start with being the only airline in the US that offers business class on every flight. We are the only airline in the country that can make that claim and we do. We market the friendliness of our people and our customers like that. We will never take our eye off the cost side. We predicted our costs would go down in the 3rd and 4th quarters and they did. We will do so again next year. Excluding fuel costs, AirTran costs are already below Southwest. Some airlines



Why Purchase Political Risk Insurance? or – “how an aircraft lease drove Gary to drink . . .” Donald G. Kenny, Sr VP, Falcon Insurance Services

Flying Dollar Aircraft Leasing was certainly flying high. They were a relatively new firm engaged in the aircraft leasing business. They had been pursuing the newly formed Ural Airlines for many months and now successfully signed a lease on 5 Boeing 737-300 aircraft.

Gary Stomachstone was Flying Dollar's newly hired CEO. He had a right to be proud of his work. This was a very big deal to close for Flying Dollar and at Gary's urging; it was their very first deal outside the US borders. Surely there would be something special in his next paycheck. He sat back on his chair, put his feet up and enjoyed a sip of the Uraldovian vodka, “Spud Sauce” he received from his friend Boris Kalisnikoff, Ural Airlines' CEO. Gary had been careful to dot all the i's and cross all the t's...The lease was for 7 years – they got a 3 month security deposit from Ural Airlines, and a healthy maintenance account had been established, Ural Airlines also furnished the necessary Certificate of Insurance adding Flying Dollar as a Loss Payee on the Hull Insurance with a Breach of Warranty clause, and they were also named as Additional Insured's under Ural Airline's Liability coverage with an appropriate Severability of Interests Clause. Now Flying Dollar could just settle back for the next 7 years and watch the \$\$\$ roll in.

UntilPoor Boris Kalisnikoff seemed to get into some difficulty with the Uraldovian Ministry of Finance. It had something to do with an obscure accounting regulation –surely they would work it all out.

In the meantime, it seemed that Ural Airlines was going to be grounded for a week or so. Boris assured Gary that there was no cause for alarm.

Well, 3 months later, Ural Airlines was still sitting on the ground and the security deposit was long ago earned by Flying Dollar with no more money on the horizon. It was time for Gary to take decisive action – Flying Dollar wanted their aircraft back. Repossession seemed like it would be a routine matter as it always was in New York. First, a little glass of the Spud Sauce seemed like a good idea.

Then the nightmare began. Ural Airlines and all their assets were confiscated by the nation of Uraldovia. Flying Dollar was not going to be discouraged. They took decisive action in Uraldovia's new court and were successful in getting the aircraft released. **Whew, close call.**

Gary earned another tumbler of Spud Sauce after such a close call. But before Flying Dollar could get pilots into Uraldovia

to retrieve the aircraft, the nation of Uraldovia now simply nationalized the company. It was owned by the state - lock, stock& barrel! Flying Dollar needed to take decisive action. With the support of the U.S. State Department, they again went into the Uraldovian court and they were successful in getting their airplanes released by the government. **Whew, close call.**

That vodka was tasting better all the time. Sure it took a few months to get the courts to hear their case, but it all ended well. Gary would get to keep his job after all. It was a very complex tasting vodka, with slight hints of licorice and the aroma of a freshly plowed potato field.

Now as the ferry crew arrived at Uraldovia's new International Airport to pick up the aircraft, they were very surprised to find that the government had detained the aircraft as evidence in some internal legal proceeding. The Uraldovian attorney they put on retainer assured them that it would be just a matter of a few days. The crew checked into the new Uraldovian Towers Hotel expecting to spend just a few days enjoying the brief Uraldovian spring weather. Gary now decided that a little slurp of Spud Sauce might just settle his stomach before he explained all this to the Chairman. Sure enough, following a drawn out investigation, it was determined that Ural Airlines was not culpable in any way. The aircraft could be released.

Gary took another swallow of Spud Sauce and had a glowing grin as he explained all this to the Chairman. (Hmm, wonder if the Chairman would like a taste of this stuff?) The Flying Dollar pilots would bring the aircraft back over the weekend. **Oops.**

There apparently was some mix up with the paper work. The aircraft could not be removed from Uraldovia until it could be straightened out. Gary has another bottle of Spud Sauce –he'd remember to ask the pilots to bring another case home on the airplane. “Not to worry” a hazy Gary was quoted as saying –“we'll get the damm airplanes back or my name isn't Garish Shtomickshtoney . . .”

The ferry crews were enjoying the splendid Uraldovian ski season. Nice dry, feathery powder. Finally they got the green light to depart with the aircraft –just in time for another gorgeous Uraldovian spring. **Hurray!**



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have reduced their costs but still operate the same old way and have not changed their management decision-making structure. So the notion that they are going to get close to us in costs is unrealistic. They have not rationalized their management structure through the bankruptcy process and they are not likely to do a lot better now.

JETRADER: Going through bankruptcy then is not a sure fire way to profitability?

Joe Leonard: That's right. A good example is Continental who went through the process a couple of times and were still floundering until Gordon [Bethune] and his team fixed the airline and made it run right. They made people like the airline and want to come back.

JETRADER: There is a transition of airlines management going from operating airplanes to providing a customer with a service they need and appreciate.

Joe Leonard: The legacy carrier employees felt they were entitled to a job. Our employees know that there is nobody coming to bail us out. They know that the legacy carriers would like nothing better than to put us out of business. We understand clearly that we have to earn those customers. Passengers are not going to come because they like us or to bail us out of trouble. And the Congress would not be passing any legislation to bail us out of trouble I can guarantee you that.

JETRADER: With the pending retirement of the Baby Boom generation, what is your forecast for hiring the employees you need?

Joe Leonard: We have no trouble hiring the people we want and need and we have been growing at a very fast rate. We announced with the Governor of Georgia our hiring goal of 2500 Georgians in the

next few years, more than Ford and GM are going to lay off. We have changed roles with Delta, and are the employer of choice and growing while Delta is laying off employees. We worry about is our management because we are growing at 20-25% a year. We are very focused on reviewing our management needs, the skills and abilities and make sure they are trained. Part of our deal with Boeing and GE was to access their in house training academies. Training is to what we devote the most attention. We have a great management team, we keep the best people and keep the organization flat because that speeds up decision making.

JETRADER: What role does ISTAT play in the airline industry?

Joe Leonard: It plays a vital role. Resources are scarce and ISTAT brings them altogether under one roof. The good news is there are not a lot of airplanes available otherwise the airlines would go buy them and start flying them again and we would find ourselves in the cycle of losing money. Airplanes are going to remain scarce and ISTAT plays a vital role in finding them and putting them into the hands of the right folks.

JETRADER: Finally, what are the big issues facing the industry in the next couple of years?

Joe Leonard: Well it's got to be fuel; there is no doubt about that. Fuel is going to stay high and could go higher. Dealing with that is the number one challenge for this industry. I am very encouraged by the airlines ability to restrain growth and am impressed with the discipline exhibited by the CEOs. If there is not discipline then the shortage of airplanes is almost as good. Virtue by lack of temptation.

We worry about is our management because we are growing at 20-25% a year. We are very focused on reviewing our management needs, the skills and abilities and make sure they are trained.

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Farnborough International Airshow 2006, a global aerospace showcase of aerospace equipment and technology. It provides a venue for the world's civil and military aerospace suppliers and their customers to meet and discuss, finalise and announce their business transactions. Over \$40bn worth of orders were announced at the show, reportedly double the business from 2004.



From Monday 17th until Sunday 23rd July 2006, hundreds of thousands of visitors attended the 45th biennial aerospace extravaganza known as Farnborough International Airshow 2006.

Over 1,480 companies exhibited at the show from 35 countries and trade visitors from around the globe did billions of dollars of business. Orders have been announced from across the aerospace spectrum, covering civil and defence products, aero-engines, the supply chain, the MRO sector, training, equipment and services.

With over 100 aircraft on display for each day of the show, there was an excellent display for customer demonstrations and for the public days.

photos :: Michael Platt, ILFC



Tight squeeze



Overheating Market

by Bert van Leeuwen, DVB Bank



The 2006 edition of the Farnborough International Airshow not only confirmed the commercial aviation market currently is “hot”. Also the British weather during the trade days was uncharacteristically “hot”. In addition, most visitors were looking forward to “hot” news from Airbus as the news everybody was waiting for at Farnborough this year without any doubt was if and how Airbus would hold its promise to give an answer to the customers’ questions and concerns about the A350. Questions and concerns that became too obvious at the March 2006 ISTAT Annual Conference in Orlando (see Scott Hamilton’s article in Jetrader June 2006)





From Monday 17th until Sunday 23rd July, tens of thousands of visitors attended the 45th biennial aerospace event known as Farnborough International Airshow. Contrary to most other airshows, Farnborough is a typical “business-to-business” event, illustrated by the fact that this year international aerospace companies used the airshow to announce an estimated \$42 billion in orders some \$37 billion was from the civil aerospace sector with the balance of nearly \$5 billion covering the defense industry. Airframe orders totaled \$35.5 billion, engine orders came to just over \$ 4 billion, with equipment and services business coming to just over \$2 billion.

As a trade visitor, not able to benefit from an escorted limo, a helicopter or a private jet, traveling to and from airshows is always a challenge. Because of business dinners in the evening and other entertainment, most of the trade visitors stay in the London hotels during the airshow. In order to avoid endless traffic jams, the train seems to be the preferred way to travel to Farnborough. As trains depart from Waterloo station, a hotel within easy travel distance of Waterloo station is convenient and avoids the hassle of early morning traffic in London. Although on the first morning of the airshow the rail system seemed to be able to cope with the visitor stream fairly well, with even some comfortable direct trains between Waterloo and Farnborough, things became a bit more challenging (and less comfortable) taking shuttle buses from Farnborough station to the airshow. Worst was the security check before entering the show. This turned out to be a real bottleneck on the first day with visitors, exhibitors and press all channeled through the same check-point, all taking a lot of time.

Upon entering the showground one of the first remarkable features were some very big advertising signs covered with white paper. Later during the morning this turned out to be part of the Airbus advertising campaign to introduce their new version of the A350. In terms of big commercial jets, Airbus also dominated the static aircraft display with the big A340-600 and the even bigger A380, sitting next to an A320 in Kingfisher livery. Boeing

showed its 777-300ER flagship in EVA Air livery but had no other commercial jets on display. A winglet modified MD82 as well as a B727 were displayed by Jet Tran. Embraer showed its 190 jet and

Bombardier its CRJ900 (or is it a CRJ705 ?) flagship in demo livery. On the commercial turbo-prop side ATR showed a very colorful ATR 42-500 in Air Madagascar livery with multi-colored prop blades and Bombardier an Austrian Arrows Dash 8 Q400.

Apart from the static display, Farnborough offers a daily flight demonstration program. During the trade-days the program is relatively limited but during the public days, after most of the business visitors already have left the show-grounds a more elaborate display program is presented, including the RAF Red Arrows display team (flying in formation with the Airbus A380 this year). Like in Le Bourget last year, the undisputed highlight of the commercial jet demo flights were the two Airbus giants, the A340-600 and the A380. Especially the A380's take-off were impressive as its four Rolls Royce Trent 900, each delivering 76,500lb of static thrust, threw up big dust clouds. Although largely irrelevant from a commercial jet trading, financing or leasing point of view, the most spectacular show was given by the Russian MiG-29M OVT fighter. Equipped with two thrust vectoring Klimov RD-33 engines, the brightly colored jets performed double back-flips, flat spins and other incredible maneuvers. The secret of the MiG of course are its thrust vectoring nozzles, that can deflect the engines thrust in almost any direction.

Back to business. The Monday morning brought the news that most ISTAT members had eagerly awaited. The answer to the question what Airbus had changed to the A350. The Airbus press conference was kicked-off by Christian Streiff, the new Airbus President and CEO. Streiff only joined Airbus on July 4th but already admitted in a refreshingly open (some say almost apologetic) tone, that the number one priority for the company is to regain the confidence of its customers and shareholders as well as to restore self confidence within Airbus. Subsequently, in more concrete terms, the two main is-

ssues in terms of Airbus' products were addressed; the A380 manufacturing issues and the position of the A350 vs. the Boeing 787 and 777.

Whereas the solution for the A380 problems focused on a detailed recovery action plan and improved communication with customers and other stakeholders, the A350 solution was clearly more spectacular. Although too early to make it an official industrial launch, Airbus apparently felt it had to keep its promise to reveal its solution to the A350 concerns by Farnborough time. This solution in the meantime is well known by all ISTAT members, the A350 XWB or Extra Wide Body. Subject to shareholder approval, Airbus' intention is to launch the A350 XWB by early October, with a projected entry into service target of mid 2012.

The A350XWB scale model and artist impressions revealed at Farnborough showed a larger aircraft, featuring a wider fuselage with ovoid cross section, new wings, a redesigned nose section as well as a longer constant diameter fuselage that

...the undisputed highlight of the commercial jet demo flights were the two Airbus giants, the A340-600 and the A380.



has lost the traditional Airbus taper at the end and now more resembles the Boeing taper.

A350XWB details were presented by Airbus' COO – Customers John Leahy and – as expected – the quiet tone of Streiff's introduction changed to a more aggressive commercial style. Clearly the A350XWB was aimed at the Boeing 787 and 777 products. Most of the A350XWB's parameters must be seen as targets for the de-

Especially the A380's take-off were impressive as its four Rolls Royce Trent 900, each delivering 76,500lb of static thrust, threw up big dust clouds.

sign phase rather than engineering results. Three versions of the XWB were announced, all offering an 8.500 nm range; the 270 seat A350-800 (e.i.s. early 2013), the 314 seat A350-900 (e.i.s. mid 2012) and the 350 seat A350-1000 (e.i.s. early 2014). Two more members of the A350 family are expected, the 9.500 nm. A350-900R and the 90 ton payload 5.000 nm. A350-900F freighter.

It will be interesting to see how the competition between the A350XWB and the B777/787 will continue and what the impact will be on the current Airbus product range. The claimed superiority of the A350XWB/787 generation over the current wide-body jets implies that types like the A330, A340 and B767 from now on – at least as long as high fuel prices prevail – may have to be considered “interim lift” until the next generation start coming off the production line. Whereas this makes the current wide-bodies very attractive as interim lease assets, longer term residual values, especially for late production samples are bound to suffer.

10. For the global airlines and lessors this all should ensure keen competition between Airbus and Boeing and consequently the opportunity to negotiate significant discounts. The Singapore Airlines order for twenty A350-900s towards the end of the airshow came as a big surprise as before it had ordered Boeing 787s as well. It seems SIA must have had “an offer they couldn’t refuse”.

An expected announcement from Airbus about the launch of the A330-200 Freighter did not materialize, but reportedly Lol’s for this type have been signed by at least a “specialized” leasing company.

Boeing had a fairly low profile at Farnborough, compared to its European competitor. The 787 Dreamliner is making steady progress and attention was focused on possible weight issues, Boeing’s ability to meet the huge demand for the product as well as the GoldCare maintenance program. Priority will be given to weight saving initiatives, with production rate increase studies postponed till the end of the year. Additional



Compared to the “Classic” A350, the XWB seems to have outgrown the direct 767 replacement market as Airbus sought to benefit from the lower seat/mile cost of a larger aircraft to compete with the 787. Whereas Boeing may have less competitive pressure at the bottom end of the range, the A350-1000 now comes closer to the B777-300ER. The 300 seat segment will become very crowded with the existing 777-200ER/LR, the new A350-900/900R and the Boeing 787-

news came on the B747-8 Intercontinental, where Boeing’s VP Sales, Marketing & In-Service Support Randy Tinseth indicated that the design may be stretched to bring its capacity to almost 500 passengers, whilst maintaining the 8.000 nm range target.



Boeing booked 72 orders, including fifty B737's, two B747-400ERFs for LoadAir, ten B747-800Fs for Emirates (who had converted its A380F order to the passenger version) and six 787 Dreamliners for the expanding lessor Pegasus (incl. 4 ordered by and to be leased to Blue Panorama).

So lots of activity a Farnborough this year. Also for the hospitality managers at the many chalets as the power for the air-conditioning systems occasionally could not cope with the heat and chalets turned into ovens. At the end of an overheated airshow day, with many press briefings, business meetings and an occasional look in the sky, the only challenge was to get back to the hotel to prepare for one of the many dinners or cocktail receptions, including on the Monday evening the ISTAT event. During the initial days of the show, the British train system clearly could not cope with a combination of extreme hot weather and a large number of already overheated visitors eager to get back to London. Occasionally this resulted in trains with an estimated load-factor of 300% and a climate similar to the worst tropical rain forest. After a seemingly endless train-ride, all the sweaty engineers, airplane

Bombardier was still evaluating whether to restore its CSeries programme or go ahead with plans to develop the stretched CRJ900X and Embraer announced the increase of the capacity of its 190 in high density configuration to 114 passengers and its 195 to 122 passengers.

On the engine front, the news focused on the engines for the A350XWB, where GE reportedly has no intention to grow its GENx to meet the capacity requirements for the A350-1000 possibly as this combination would provide in-house competition to the GE90-110/115 that has a monopoly on the B777-200LR and -300ER. A version of the GE/Pratt Alliance engine may however be offered. Rolls Royce confirmed its intention to power the complete A350 range with its Trent 1000 series.

After the order boom in 2005, Farnborough was not too much focused on this issue. According to Flight International, Airbus announced 114 orders, worth \$ 9.7 billion at the airshow, including a/o. Air Asia for forty A320's, WizzAir for twenty of the same type and CIT for five A330s and four A320s. Not included are the commitments from Singapore Airlines for twenty A350-900s, nine additional A380s and nineteen A330s as interim lift.



salesmen, parts traders, bankers and lessors that survived the train-ride eventually all had to queue the taxi line at Waterloo station, most of them undoubtedly murmuring "never again".

However, this will all be forgotten soon and planning is already well advanced for the 2008 Farnborough Airshow which will celebrate the 60th anniversary of the show and the anniversary also of 100 years of powered flight in the UK (Samuel Cody 16 October 1908 on the Farnborough airfield).

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more Reception photos next page



VIMY DONATED TO BROOKLANDS MUSEUM

By Thomas Hiniker

The ISTAT Foundation has donated its replica 1919 Vickers Vimy aircraft to the Brooklands Museum of Weybridge, Surrey, United Kingdom.

Through this gift, the historic Vickers Vimy will be returned to the place of original manufacture to be permanently preserved as a testament to the skills of the British Aeronautical industry and the strength and will of the British people



during World War I. The aircraft will be shown both as a static and flying display. The Foundation hopes that through the public display it will inspire young and old in the science, art and excitement of aviation.

The Vimy will be flown to a hangar at the Museum from its current storage location when the Brooklands Museum completes its new runway in 2007.

The Brooklands Museum of Weybridge in Surrey is based at the site where the original Vimy bombers were built in 1917. This is also the location of the famous Brooklands Motor Raceway. The aviation and motoring museum at Brooklands symbolizes the first great era of aviation and motoring achievement of the 20th Century. The Museum displays numerous motor cars and early aircraft and includes a recent arrival of a complete Concorde. When the grass strip is completed, the Vimy will be flown on occasional flights and public displays.

The Vimy was donated by the Foundation to Brooklands in August and put on its first public display by Brooklands on August 27 at the annual Wings and Wheels display at Dunsfold Park Aerodrome in Surrey. The largest airworthy bi-plane in the world, this aircraft has had an illustrious history in its own right and was much admired by the many aviation and motor enthusiasts at the Dunsfold Park event.

VIMY continued next page



Dear Friends,

We have some exciting things going on at the ISTAT Foundation these days. Our programs are growing and developing rapidly. The Foundation Board of Trustees is in need of an individual who has had direct experience in college administration.

This individual will be invited to join the ISTAT Foundation Board to guide planning and administration of its growing internship and scholarship programs. In addition to helping us chart a course for selecting and approving applicants, this person will be invited to attend the Foundation's quarterly Board meetings held in conjunction with ISTAT Conferences.

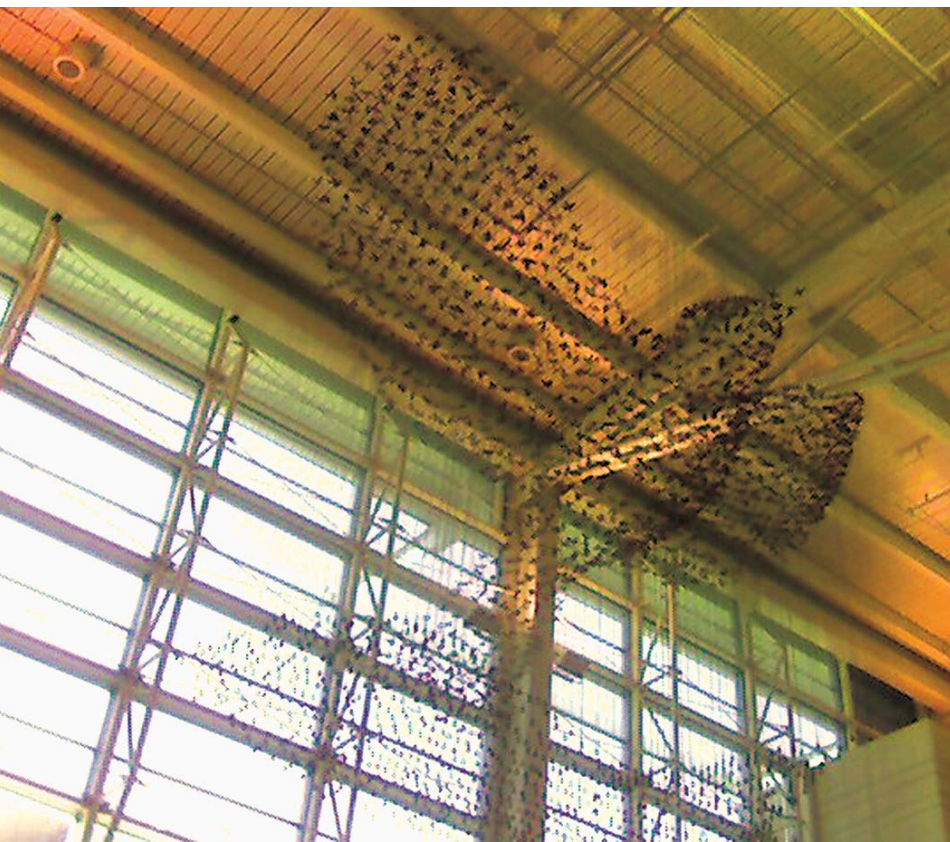
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Best,
Robert Brown
(415) 296-5252



Vimy at Dunsfold
Airshow on 27th
August

LOOKING UP at Chicago MDW



VIMY *continued*



Tom Hiniker

An accurate replica built in California in 1994, the project was fathered by Peter McMillan, who became fascinated by the possibility of re-creating an example of the first aircraft to fly directly across the Atlantic. Upon completion of the replica, McMillan and others also created a re-enactment of the aircraft's historic flights from England to Capetown and the Trans-Atlantic flight emulating the first Atlantic crossing by Alcock and Brown in 1919.

The design of the Vimy is essentially the same as that used by the Vickers Aviation Company of Brooklands, based on the original drawings and with the same dimensions but using updated and longer lasting materials.

Brooklands Museum has a fascinating display of airplanes and motor cars with its related history and should be a must stop for ISTAT members traveling through London.

The ISTAT Foundation is dedicated to advancing education and interest in all aspects of aviation.

NOTE :: See January '06 JETRADER for full story which can also be seen online at www.ISTAT.org.

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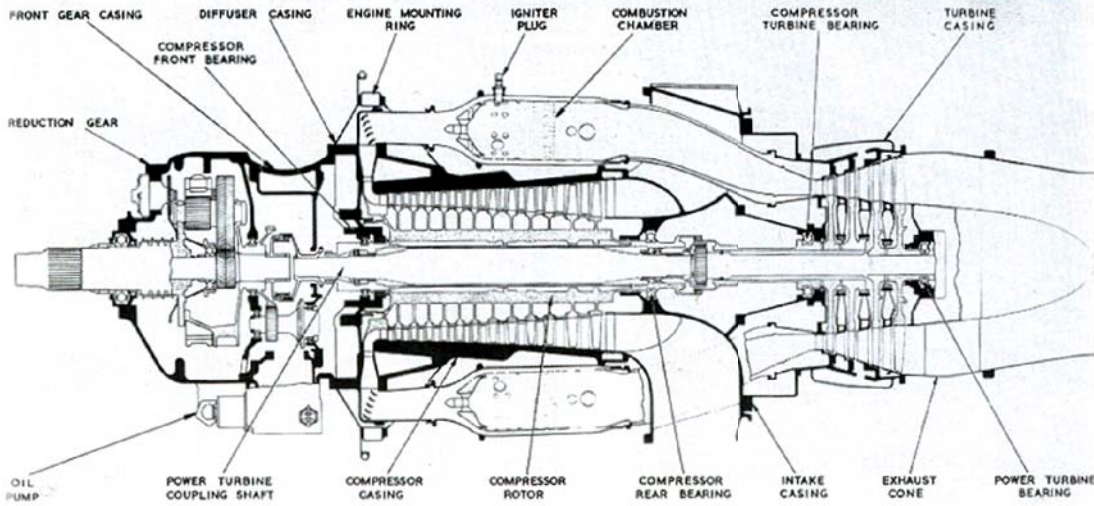
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What's
wrong
with this
picture?

Those of you who are familiar with the insides of gas turbines will quickly note that the compressor of the Bristol Proteus 755 turbo-prop engine is installed backwards! No, the mechanics assembling it were sober because that was how the designer intended it to be built. The air intake (not shown), at the front behind the propeller shaft was an annular duct running inside the length of the cowling, the air then did a 180 degree turn via separate ducts between the eight combustion chambers; forward through the twelve axial stage compressor followed by a final centrifugal impeller for another 180 degree turn into the combustion cans and finally through the four turbine stages; two front ones drove the compressor and the rear two free turbines the propeller via an 11:1 reduction gear box. The rated power was 3,650 shaft horse power plus 1,220 pounds of thrust; its specific fuel consumption at cruise was 0.495 lb per equivalent horse power per hour, compared to 0.95 for the then under development twin spool turbo-jet engines.



Bill Bath

If you have managed to follow this convoluted description thus far, it leads into the story of the British pioneering efforts in the development of the jet engine; it is also about the two camels that emerged from a committee's attempt to design a horse. It did eventually produce a respectable horse with the Proteus, but it got ambushed by nature, which lead to a

fourteen month delay into regular passenger service when it could have wiped the North Atlantic clean of the competition by the newest American aircraft with their unreliable Wright turbo-compound piston engines. (At one time Pan Am had 38 with failed pistons from their DC-7Cs sitting at Heathrow, waiting to be air freighted back to the Miami engine overhaul shops).

So what were the two camels? Early on in WWII, it was decided that the British concentrate on building only combat aircraft with the U.S. filling the requirement for passenger models, such

as the DC-3 Dakota (C-47), Curtiss Commando (C-46) and in 1942, the DC-4 (C-54), as well as combat aircraft. In 1943 the British formed a committee to recommend the types of commercial aircraft to be manufactured after the war, not only for the proposed two national airlines to be created from the old Imperial Airways and a mélange of smaller airlines, (British Overseas Airways Corporation and British European Airways), but also for world markets. The committee was chaired by Lord Brabazon of Tara, a famous early pioneer pilot.

Type I was to be a very large airliner capable of flying passengers in great luxury non-stop from the UK to New York. The committee members believed that only the well-off and government employees (!) could ever afford to fly. The Bristol Aeroplane Company got the contract to build two prototypes, due to its development work on very large stressed skin structures and state-of-the-art materials laboratory; initially it was to have a fuselage diameter of 25 feet (5 ft more than the B747), two decks, eight piston engines and a wing span of 230 ft. Eighty enclosed sleeping berths, a thirty seven seat movie theatre, plus a promenade and bar for passing away the sixteen hours westbound, gave each passenger 250 square feet of space; the same as a typical

This is the story of British pioneering efforts to develop the jet engine - it is also about the two camels that emerged from a committee's attempt to design a horse.

History Continued

New York studio apartment. Remember this was in November 1944. The committee wanted a narrower fuselage for up to 80 passengers; B.O.A.C. wanted to carry only 25; the narrow fuselage prototype eventual flew in September 1949 with the eighteen cylinder Centaurus sleeve valve radial engines, (I saw it at the 1951 show). The second prototype was due to have eight Proteus 600 engines coupled in pairs driving contra-rotating propellers. If it had been completed, its cruising speed would have been 330 mph, instead of 260 and 10,000 lbs lighter. However, the Proteus 600 turbo-prop was not only suffering multiple failures in the test cell, it was 800 lbs overweight, and 550 shaft horse power below design specification before installation losses.

The aircraft was very advanced for its time, with an A.C. electrical system; high pressure 4,000 p.s.i. hydraulics for the fully powered flight controls; electric engine controls, and gust alleviation servos for the wings, triggered by a detector on a long probe sticking out of the nose.

Meanwhile Saunders-Roe, obviously being a bit peeved that the flying boat had not been included in the committee's report, persuaded the government to support a pressurized double deck aircraft with ten Proteus engines, capable of flying non-stop from Southampton to New York. At that time Southampton was the departure port for the trans-Atlantic liners. It was designed to carry 100 passengers at a cruising speed of 395 mph. Like the Brabazon, eight of the engines were coupled in four nacelles, driving contra-rotating propellers, with each of the remaining two in its own nacelle at the outboard position on each wing.

Using fly-by-wire technology, only one of the three under construction ever flew. With a wing span of 220 feet and the 146 ft double-bubble hull sitting 24 feet above the water line, it finally flew in August of 1952, (I also saw this spectacular aircraft do a low level fly-by in September at that year's Farnborough).

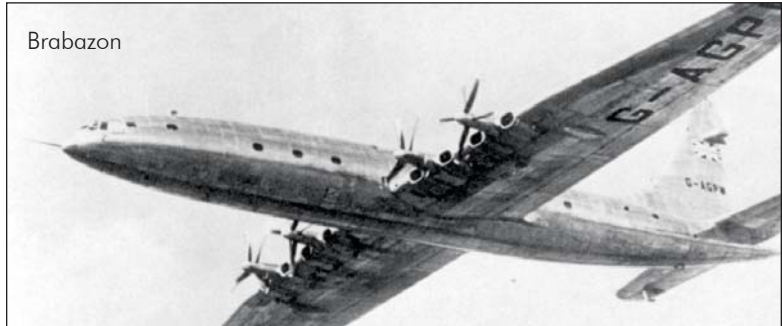
None of the leading airlines, including B.O.A.C., wanted such large aircraft, as they would be limited to very few destinations that could justify the high operating and maintenance expenses. What was wanted was a medium sized four engine design with about 100 seats that could serve all of those major cities between London-Tokyo, or Sidney, or both east and west Africa down to Johannesburg. The Bristol Britannia 100 powered by a redesigned Proteus met the bill for the committee's Type III model. Subsequently a more powerful and reliable version of the Proteus was certified, which fully achieved design and weight specifications for a stretched version of the Britannia, which could fly non-stop from London to New York against the standard headwind with 130 passengers.

In April of 1956 I was sent to Bristol (reluctantly) for training on the Britannia, together with half a dozen other flight engineers and my days with the Boeing B377 Strato-cruiser were over; our job was to make the proving flights for the aircraft's commercial operating certificate. That's when Mother Nature stepped in. Another crew on the very first proving flight was off the West African coast at 20,000 feet in a cloudless sky when the engines started to go silent; needless to say the cockpit was anything but. They descended a few thou-

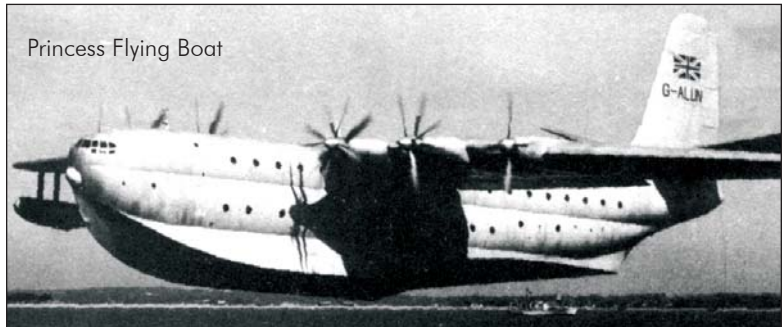
sand feet and had no trouble restarting all four engines again. Bristol said when in that area, fly a couple of thousand feet lower or higher. The BOAC fleet captain said no, find out the problem. With the ignition on at flight level 200 off West Africa the engines would quit and start with a thud, which would not be reassuring for the passengers; so a miniature TV camera was fabricated with which to see inside the air intake duct. At FL200 with not a cloud in sight, ice was building up into large snow balls where the intake ducts did the 180 degree turn to enter the compressor; they were breaking loose and quenching the flame in the combustion cans. Why not elsewhere? The high temperature at sea level with the consequent high rate of water evaporation meant the invisible droplets did not freeze until FL200. The result was the fourteen month delay to entry into service with glow plugs in (I believe) four of the cans. We all had bumps, as they were called, in heavy rain. My worst was thirty three on several attempts to land at Darwin during a cyclone; with no alternate airport within range we had no choice but get down somehow. Our extra fuel was known as an island reserve and there wasn't much left at shut-down.

Why the 180 degree turns in the air intake and compressor exit? To make a short engine to fit inside of the Brabazon II and Princess wings in front of the main spar. Although the Brabazon II never flew, and only one Princess, the UK government refused to cancel these programs so Bristol could modify the Proteus with a straight through airflow in those long Britannia nacelles. The government was there to help British civil aviation.

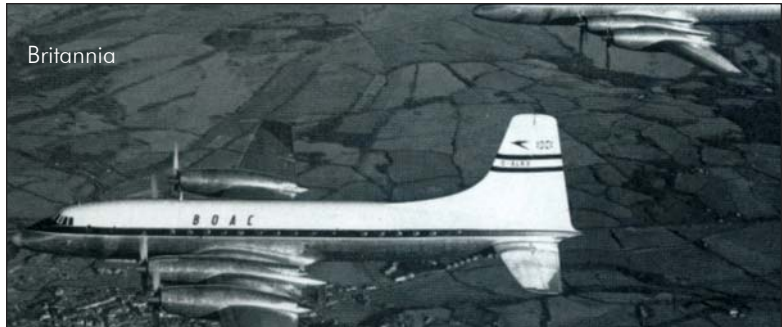
Brabazon



Princess Flying Boat



Britannia





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Air Cargo Management Group (ACMG) is pleased to welcome three new staff members:

Alan B. **Hedge**, Research Director Aviation, formerly American Airlines Manager of Regulatory Affairs, and Research Director at the Campbell-Hill Aviation Group consulting firm, joined ACMG in Seattle. Alan holds a BS in Electrical Engineering from Stanford University, and an MBA from the University of North Carolina.

Steve **Bowen**, Research Analyst has joined the firm in its Seattle offices as a research analyst. He holds a BS in Business Administration/Marketing from Sonoma State University.

Tara **Flynn**, Conference Coordinator has joined ACMG as Coordinator of the company's annual events: the CARGO FACTS Aircraft Symposium, and the Air Cargo, Express & Freighter Aircraft Workshop.

United Services Names Charles Doyle Managing Director – Sales and Service; Rick Wysong Takes on Additional Responsibilities

United Services, United's maintenance and engineering division, announced today the appointment of Charles E. **Doyle** as managing director, Sales and Service for United Services. He will be responsible for commercial and government MRO sales, aircraft sales, parts leasing, and line maintenance sales and will manage the Customer Service group, as well as promotions and communications to outside airline customers.

Doyle began his career with United in 1985 managing contracts for the maintenance sales group. He also held subsequent positions managing the engine shop, airframe maintenance, and purchasing. Prior to his appointment, he was managing director of Materials Management. He will report to,

Rick **Wysong**, Vice President Takes on Additional Responsibilities

Rick Wysong, vice president materials, engineering and planning has added responsibility for sales, marketing, and business development. United Services is aligning its sales planning function with other maintenance planning and strategy functions.

Stephen Carter to reinforce A J Walter Aviation's expansion programme

Stephen **Carter** has been named Company Secretary for aviation components specialists, A J Walter Aviation. Stephen acts as in-house counsel for aircraft purchases and customer contracts. He helps produce management and financial accounts and is responsible for the successful implementation of special projects, including the new IT system. Stephen has been involved with A J Walter Aviation since 1988.

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