

ISTAT

February 2007

# Jetrader

International Society of Transport Aircraft Trading



Q + A Randy Martinez  
World Airways

'06 OK for Airbus  
Trends +  
Aircraft Valuation + Insurance



# 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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International Society of Transport Aircraft Trading  
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Dana **Henninger**, Member Services, [dhenninger@ISTAT.org](mailto:dhenninger@ISTAT.org)  
401 North Michigan Avenue, Chicago, Illinois 60611 USA  
T +1 312-321-5169 F +1 312-673-6579  
E [istat@istat.org](mailto:istat@istat.org) W [www.istat.org](http://www.istat.org)

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Barbara **Rogers** . Stephen **Iverson** publishers  
Ajax News . 1060 N Union Street . Gary IN 46403 USA  
[barbara@ajaxnewservice.com](mailto:barbara@ajaxnewservice.com)  
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Dear Fellow Members,

As the New Year kicks off, we look to the promise of an exciting year for our industry. ISTAT provides each of us with opportunities to meet with our colleagues, helping us to achieve our personal goals as well as learn more about the activities in the aviation industry as a whole.

The premier event for our industry is the ISTAT 24th Annual Conference to be held 11-13 March 2007 in Phoenix, Arizona at the JW Marriott Desert Ridge Resort & Spa. John Vitale, Conference Chair, has assembled a strong program which will offer all of our industry members something of interest and value to help you in your business. The conference is an ideal time to network with over 800 fellow ISTAT members from around the globe. I'd like to thank Fred Klein who is spearheading our Annual Conference sponsorship efforts this year as well as all of our sponsors who provide the financial support for our programs.

On behalf of the entire ISTAT Board of Directors, I'm pleased to announce that Wolfgang Mayrhuber, Chairman of the Executive Board & CEO of Deutsche Lufthansa AG will be the recipient of the prestigious ISTAT Award. This distinguished award is given annually to a commercial aviation industry leader who has excelled in innovation, entrepreneurship and leadership. Mr. Mayrhuber will be in attendance to receive the award and address the general assembly on The Effects of Consolidation and Alliances on Fleet Planning.

The Annual Conference also marks the beginning of the New Year for the ISTAT Board of Directors. During the conference, we will elect the new Directors who will step in to lead our organization. As a volunteer lead organization, we are truly indebted to those who give of their time and talents to make ISTAT a stronger community for our entire membership. We thank those board members whose terms are expiring and will be rotating off the Board - Bill Cumberlidge, Allco Finance Group; Dinesh Keskar, Boeing Commercial Airplanes; Nick Popovich, Sage-Popovich, Inc., and Gary Spulak, Embraer Aircraft Holding, Inc. While we will miss their guidance and volunteer contributions, this is an opportunity to welcome new members.

The role of the Board of Directors is to serve as stewards of the organization. Towards those ends, the Board recently held a strategic planning session. Strategic planning prepares an organization to respond to future changes, enables the organization to understand the environment in which it currently exists, and provides the basis for an organization to make advancements in how it conducts its business. Going forward you'll be hearing more from the Board about the plans coming out of this meeting and how it will impact our organization.



Finally, this is my last column as ISTAT President. It has been a privilege to serve as President of our Society over the last two years. I would like to thank the membership, our Board of Directors, and especially the Officers of ISTAT, on whom I have so heavily relied, for all of your support and commitment to our Society. I look forward to seeing you in Phoenix.

Board Photo above, front l/r John Vitale, Tom Heimsoth, Fred Klein, Mike Platt and Greg May; row 2, Mark Pearman-Wright, Anthony Diaz, Connie Laudenschlager, Roland Moore, Nick Popovich, Israel Padron and Peter Huijbers; row 3, Daniel Pietrzak, Ron Pietrzak, Bob Brown and Gary Spulak. Not pictured: Bill Cumberlidge, Dr. Dinesh Keskar and Fred Bearden

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**Randy Martinez**  
President + CEO  
World Air Holdings



**Jetrader>** Good Morning Randy, I want to join the ISTAT membership in thanking you for making time for this interview. As an ACMI operator how does the surge in fuel prices affect your business?

**Randy Martinez>** It doesn't have a lot of impact. Our consolidated companies fuel exposure runs around 9-10 % of our total fuel consumption and that is primarily for the scheduled service we do for North America as well as our ferrying activity and positioning flights. So we are protected from the fuel marketplace. Having said that, fuel is a concern for our customers and so we focus on being fuel efficient so that we can be good stewards of their dollars.

**Jetrader>** Will fuel prices affect the growth of your industry?

**Randy Martinez>** Yes and No. Fuel prices will drive through to the customer base and increase prices for everyone. But right now on the cargo side, supply does not meet demand and we have not had difficulty placing our aircraft recognizing we have a small fleet. There is a lot of demand for our aircraft and the additional cost is being passed through to the consumer.

**Jetrader>** What do you see as the growth of Cargo worldwide and in the Atlantic market?

**Randy Martinez>** We are very bullish on worldwide cargo growth. We agree with the long-term forecasts of over 3000 total aircraft over the next 20 years with a good portion of that growth in the wide body market in which we compete. Studies show a 6 % annual worldwide growth and we agree with that figure. We want to increase our participation and have added more MD11 freighters to our certificate and have converted a couple to bring us up to 6. We have also announced a letter of intent to acquire three 747-400s. When I look to the future, World Airways will continue to operate in MD11 and 747-400 freighters. Both of these markets have proven to be very viable. A few years ago I would have told you that the MD11 was an aircraft that was not truly appreciated by the wet lease customers out there, but they have now seen it in action and it has become a very good aircraft for the companies that don't need the volume or weight that a 747-400 can give them.

**Jetrader>** There are not many MD11 aircraft available, are there?

**Randy Martinez>** There's not. Federal Express and UPS bought up many of the available MD11s freighters. We are fortunate to be in that marketplace and we plan on staying there.

**Jetrader>** What is the future of the DC10 Freighter?

**Randy Martinez>** We have 2 DC10 freighters on lease through '08 and then we will return them to the lessors. We find that it is not a very competitive freighter in today's marketplace.

**Jetrader>** What airplane are you looking at for future growth?

**Randy Martinez>** Right now the cargo of World Airways is looking for more MD11s as well as more 747-400s. I can see us going beyond 3 747 units certainly. Down the road I think the 777 will be a fabulous freighter but right now it is a little expensive for us. With North American Airlines, they are not currently involved in the freighter market. But I have said publicly that subject to the proper analytics we would look at the 757/767 freighter markets. As a Charter company it is beneficial to do business in both the freight and the passenger market. World Airways has succeeded in remaining competitive for 59 years by participating in both of these markets.

**Jetrader>** And North American flies to all of those garden spots of the world!

**Randy Martinez>** Both of our companies fly to places a lot of people would prefer not to go, but that is a part of our culture. We pride ourselves in going where many others prefer not to go. We do that day in and day out without much of an infrastructure and it's a credit

to our people who make this happen. In a typical quarter, we fly to over 60 countries and over 150 airports worldwide.

**Jetrader>** With the available freighter conversion slots booked through 2010, what impact will the limited availability of freighters have for the cargo market?

**Randy Martinez>** You are not far off on your statistics. The feeder stock to go into those conversion slots is becoming hard to find. This is driving the supply demand equation and is why I don't think that fuel will have a long-term impact on the growth potential of the worldwide cargo market. There are a lot of older cargo aircraft that will have to be retired in the coming years. But it is an issue we watch. We are not a real big company and we buy our aircraft in small numbers. New aircraft are frankly out of our price range for the business model we have.

**Jetrader>** Does the ongoing consolidation of cargo operators open new opportunities for World Air? And how does the bankruptcy process change the competitive environment?

**Randy Martinez>** For them and their employees, which is a good thing. It has made it a more competitive landscape both with the scheduled carriers and smaller airlines. In our market there have been a number of carriers that have gone through chapter 11 and been able to restructure their cost structure, which has improved their competitive advantage against us. We have been fortunate to not have to go through that. We work very hard to keep our fixed cost structure competitive for the market we compete in. I am frequently asked why we haven't merged World Airways and North American Airways. The answer remains the same: these airlines compete in different markets and they require different cost structures. They use different size aircraft and it is important for us to be right-sized from a product standpoint and a cost structure for the markets we serve. We see many start-ups because there is a lot of money from the private equity markets in particular. But this is a tough industry and hard on start-ups. Volume drives a lot of your efficiencies. We saw that ourselves. A few years ago we were a 10-plane company and now we are 27 planes with continues growth expectations. These increased numbers certainly increase efficiencies.

**Jetrader>** On the passenger side, do you see increased opportunity in the specialty (Charter, Sports, Petroleum) side?

**Randy Martinez>** We became involved in the West Africa scheduled service through niche markets. Our aircraft work well there and there were no direct flight from the US by a US carrier. There are further growth opportunities that we are watching. Frankly our limitation is aircraft capacity. All of our planes are busy so we don't have near term expansion plans. As we add aircraft we will be in a better position to take advantage of these opportunities. We are actively working on code sharing with other carriers. On the other wet lease business tour operators are being impacted by the LCCs and the restructured legacy carriers, it is a weakening market. There are growth opportunities for the oil industry. The growth on the passenger side has to continue for us in the commercial market which complements our wonderful military airlift business, which is a foundation customer of ours. But we need to continue to diversify the commercial side particularly with the passenger business.

**Jetrader>** You said World is capacity constrained, how is the Iraq surge going to affect you?

"We always start with looking at the market we serve. With a smaller company like ours, having too many types of aircraft can get unmanageable from an operations and a cost standpoint... We are really focused on efficiencies."





**Randy Martinez**> Only in a positive way. We are the single largest provider of passenger airlift capacity to the Department of Defense and we are proud of that. Both of our airlines fly a lot of business for the US military and that was one reason we acquired North American, for the products they brought to our portfolio with the military. The surge capacity will have some pickup but it will just flow into the large number of troops that we move on an annual basis anyway.

**Jetradar**> What are World Airways and North American Airlines competitive advantages?

**Randy Martinez**> World Airways, going on 59 years of continuous operation, competes very well in the wide body marketplace. Our focus in World Airways is on the MD11 market and we will grow the 747-400 freighter market. World needs to continue to compete in the Cargo and Passenger market but the commercial passenger opportunities are limited by the size of the aircraft. We have some marketplaces where they work such as our 3 round trips a week from Houston, Texas to Luanda, Angola flights for SonAir, the subsidiary of Sonangol, the national oil company of Angola. And the large aircraft work well with the military. There are other opportunities we are exploring. But World's growth will be in the cargo market.

On the North American side we have a different product with the 757/767. The common cockpit for our air crews lowers our operating costs. These aircraft are very popular with the military and compete well in the commercial passenger market. We see this in our wet lease success such as our relationship with Air Jamaica and Isair to name a few. On the scheduled service side these aircraft work well for the Atlantic flights to West Africa.

**Jetradar**> Do you see a recession in the industry and how will World respond to it?

**Randy Martinez**> We are very conscious of the capacity in our system. We are under capacity for our existing business partly due to plan and partly due to difficulty in acquiring the aircraft type we fly. We don't bring in aircraft to fly the peaks. As for the industry, there is a lot of new capacity going into the system and that is the basis for the talk of consolidation and restructuring in an effort to bring costs in line with future capacity requirements. We have more of a challenge in the US versus the rest of the world specifically Europe and the Pacific. Their margins are better than we have here and that is related to the capacity excess.

Equipment decisions are going to be based on when the new aircraft now being developed will be operational. Some of the challenges of Airbus have hit the aircraft marketplace. Today the 767 is one of the most popular models to plug the gap between until the arrival of the 787 and ultimately the A350. The delays of the A380 have tightened up the market for the 747-400 and the MD11 freighters. Right now we are facing a unique market, which is good for the lessors and not so attractive for those of us who have to lease these aircraft. From my perspective the market place is driven more by the availability of the more desirable aircraft. As to the recession I don't have a good answer other than I don't see a major downturn on the horizon.

**Jetradar**> When choosing aircraft, what parameters are important to World?

**Randy Martinez**> We always start with looking at the market we serve. With a smaller company like ours, having too many types of aircraft can get unmanageable from an operations and a cost standpoint. At

North American we have the 757/767 with a common cockpit and that is a very nice mix of aircraft and gives them the opportunity to compete in a lot of markets. At World we expect to be down to two types in the future as well, the MD11/747-400, and that is right for their markets as well.

We are really focused on efficiencies. We lease our aircraft and we like to stagger our leases to maximize flexibility in our fleets. We like to keep the leases as short as possible although when you look at the 747 and having to convert those aircraft then we are looking at about 7 to 10 years for those leases. The industry is going to 2 engine aircraft and that makes sense in many areas. The 747-400 is an exception to the wide body freighter market, as there are not many competitors to it yet.

**Jetradar**> With the imminent retirement of the Baby Boomers in the US how is World prepared to replace them?

**Randy Martinez**> It is going to be an issue for our country and I am not sure companies are looking at that as aggressively as they should. We are fortunate to have a pretty low attrition rate. We try to create a culture that attracts people by the way we run our business. Everyone of our employees is under some kind of profit sharing plan. We stress the importance of our people to our business success and have a set of core values that place a high value on how we treat each other and to make sure run our business with great integrity. This allows us to retain our people and gives us an advantage when we recruit them. Attracting the right employees will be critical going forward.

We are also expanding our development opportunities for the talented young folks coming out of these great university programs. They all want to understand what opportunities they can have with your company and it is a bit more of a challenge for us as a smaller company. We run a lean operation and so we are somewhat restricted in what we can offer as development opportunities. But we are committed to offering all of our employee's professional training as well as personal development we try to offer them a view of what they can potentially achieve in our company.

**Jetradar**> Bob Brown and Warren Willits of the ISTAT Foundation are developing an ISTAT Internship program for students. University of North Dakota and Purdue University have some really talented aviation majors and they are trying to find ways of exposing them to the real world of the aviation industry. Is there a spot in your organization for one or two interns?

**Randy Martinez**> We have been doing that for a number of years. We have partnered with Clayton State, Georgia and Embry-Riddle University, Florida and typically have two interns at our headquarters and we have hired a number of them after they completed their studies.

**Jetradar**> What role does ISTAT play for the industry?

**Randy Martinez**> They play a wonderful role. I attended my first European ISTAT in Monaco last fall and being able to meet others in the industry is priceless. The panels were informative and it is a great place to find out what is going on in the aircraft market, hearing how our colleagues are dealing with the challenges we all face is great. It is a wonderful forum and the regular attendance of many of the members highlights the importance of ISTAT to the industry.

**Jetradar**> What challenges do you see facing the Aviation industry in the next 18 months?

**Randy Martinez**> The biggest is security and what the Department of Homeland Security will require going forward. There are new regulations pending in how we look at cargo. That will cause a lot of issues as to how we run our business. Secondly, there is going to be additional consolidation and the attendant turmoil that surrounds that. Not only among the big guys but also in the markets we compete in. There is some roll up that could be beneficial.

**Jetradar**> Are you going to be an acquirer or acquiree?

**Randy Martinez**> We always look for opportunities. We started a strategic alternative review last fall and we are going through the process looking at how we might grow our business. We will have more clarity in the coming months and will announce progress as we make decisions. We have had a lot of growth over the last few years and I believe that we can continue that.

**Jetradar**> Thank you, Randy, for taking the time to talk to the ISTAT Membership. See you in Phoenix!



# Manufacturer Support Programmes

By Phil Seymour



**What are the principles of MSPs, will they reduce maintenance costs? What do you need to consider and how are other industry players viewing their impact?**

**IBA** has benefited from being involved with reviews of these types of programmes and offers the following advice: Firstly a word of warning – the devil is in the detail of these support contracts – they may be different in terms of what they cover, the duration and the “portability” of the benefits and or payments accrued, so when you hear your colleagues saying “we are covered under an MSP” do not assume that everything is covered - check the details.

## Background

Manufacturer’s offering to support aircraft and engines throughout the life cycle is not a new service to aviation – the corporate/business aircraft market has always provided similar schemes. This has been predominantly based on the premise that purchasers of equipment such as a Gulfstream GV do not operate fleets of aircraft and do not employ airline style overheads to provide maintenance and technical services and spares support. They expect that to be provided by the OEM.

As a consequence most appraisal firms add value to aircraft which are subsequently sold with up to date enrolment to the MSPs. So having accepted that there is an established model, how does this transform into commercial aviation?

In the past many MROs and some OEMs have offered schemes such as “power by the hour”, “fleet hour agreements” to provide airlines with an element of fixed pricing and steady payments rather than peaks of expenditure and uncertain costs.

However, many stop short of being “cost guarantees” and tended to be relatively short period arrangements to cover specific planned maintenance tasks. For example an airline may arrange to make monthly payments to an engine shop to cover the expected cost of forthcoming overhauls. The extent to which they cover all replacement parts and labour is down to negotiation. For example the airline may be willing to accrue for the basic shop visit costs but may not to include Life Limited Parts or require a fixed price/cost guarantee contract. Clearly in this case the MRO will need to add the cost of the risk it is taking to the basic shop visit price.

With the “new” OEM based support programmes there is a major change of emphasis in the marketing and business model of the OEM – a change of philosophy. In the past the OEM/MRO has benefited from unscheduled maintenance events and/or more frequent scheduled events at the expense of the airline. There has not necessarily been an alignment of interests – in simple terms, for the OEM/MRO the poorer the technical performance of an airline and its aircraft/engines the more profits they have made. The basic principle with the new MSPs is that the more reliable and less frequent the unscheduled/scheduled maintenance events occur the longer the period of uninterrupted income. At component level this means that an MRO/OEM is incentivised to incorporate the most reliable and “highest” level of work on the basis that the component will stay on wing longer and earn more revenue. I think we will all agree that for

the airline this is in its best interest.

The major shift is that there is now a push that the payments do not just provide certainty for the airline but can add value for owners/lessors by providing security and long term control via the OEM.

For some airlines with established maintenance, technical services and logistics there could be concern that their roles could become redundant, for those without such infrastructures they could provide the turnkey solutions that they have sought for many years.

## The Additional Value

The theory is that as well as providing a compelling argument for the Chief Technical Officer, the Chief Financial Officer may also find benefits of improved residual value: if the owner lessor is willing to provide better financing terms because of the better residual value this could equate to lower lease charges.

The OEMs are hopeful that the MSPs are not just seen as a saving fund for major expenditure but can provide solutions to the many issues that occur whenever aircraft are transferred - whether at the end of the lease or when an aircraft is sold.

IBA is often involved on such aircraft transfers and we often ask:

- If only.....
- If only the history of this aircraft was all in one place
- If only we had the manufacturers approval for all repairs and modifications
- If only the airline had kept the manufacturer updated with all of the changes it had made
- If only the manuals and publications were updated with all of the airlines modification and revision status
- If only all of the parts and the certification was collated into an easy to access file

The proposition is that under an MSP the OEM will have all of the answers. They will not be distributed around various departments at the airline, MRO and hidden in various workpacks – the data will be collated, cross related and easily found.

So aircraft transfers will be easier, quicker and there will be fewer arguments between lessors and lessees regarding incorrect or inadequate data. Lessors spend a huge amount of time and money managing such aircraft transfers and this will potentially reduce to zero or close to it.

Appraisers have traditionally provided future residual values on the basis of “half life” values with financiers needing to provide relatively aggressive payments to cover the expectation of a half life return. Providing that the benefits and or payments are “portable” (assignable/transferable to the owner/lessor) then there is little reason to produce a half life value – a full life value can be assigned.

As mentioned at the outset – the appraiser must be satisfied that the benefits/payments accrued are indeed “portable” and that the following elements are included:

## Major Cost Exposure

**Airframe** – major check labour and parts. Interiors are usually excluded due to the huge variation but IBA would require an understanding of how the airline accrues for such expenditure.

**Engines** – major shop visits (overhaul, performance restoration) labour and parts including LLPs/QEC parts

**Landing Gear Assemblies** – major shop visits of the complete assembly including wheel, brake and tyres

**Auxiliary Power Unit (APU)** – major shop visits

**Components** – what are the exclusions should any such part require replacement. Some items such as so called “insurance” items may not be included (flight controls) and again IBA would want to know how such costs are budgeted for.

Principles of MSPs continued next page

# No Extra Charge For Impossible Situations.

You can't fly on automatic pilot when you're structuring aircraft financing, restructuring financial commitments, or managing aircraft on operating leases. That's why the financial and technical professionals at SkyWorks Capital and JetWorks Leasing approach each assignment with an open mind, creating a customized flight plan designed to avoid turbulence and maximize value for our clients. We have the experience, expertise and creativity to uncomplicate the complicated and make the impossible possible.

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## Aircraft Records

Records and certification for all maintenance tasks, repairs and modifications to the aircraft and engines should be accounted for with copies held at the OEM/MRO.

## Service Bulletins/upgrades and modifications

As mentioned above the theory is that the alignment of interests improves the residual value – for this to work there must be a minimum level of modification work that will be applied to the structure, components and engines to improve reliability and maintenance cost economics

## Maintenance Planning

Differences between the MPD and specific AMS for the aircraft and engines should also be available, accurate and up to date.

An Understanding of any lease/loan obligations If aircraft are leased rather than owned outright there will be various return conditions associated with them which need to be understood in terms of where they stand with respect to the overall aircraft and engine maintenance status.

## The MSP

The Appraiser will need to assess whether the terms of the MSP allow transfer of outstanding accruals and benefits to the next lessee and/or owner of the asset to fully allow allocation of increased aircraft value.

## Conclusion

MSPs can provide a level of “cost certainty” for airlines as well as providing an improved residual value.

By Phil Seymour, Managing Director, IBA Group, Ltd. [phil.seymour@ibagroup.com](mailto:phil.seymour@ibagroup.com) Aircraft and Engine manufacturers are promoting their lifetime support programmes – brands include Boeing's GoldCare and Rolls Royce TotalCare. For the purpose of this article we will refer to these schemes as MSPs (Manufacturer Support Programmes) to avoid any specific references.



## The Next Downturn –

## Predicting Aircraft Valuation Trends

Few industries amplify the impact of the economic cycle as forcefully as the airline industry. For every yin of the economic boom when the industry is able to string several profitable years together, there is the much dreaded – but never surprising – yang of the economic downturn nipping at the heels and claiming yet a few more airlines (and related companies) each recession. Aircraft valuations, in particular, are very sensitive to the economic cycle. For the aircraft financing and leasing community that is dependent on aircraft collateral, the importance of future aircraft valuations is self evident. However, because aircraft are the principal asset bolstering the industry, variations in aircraft valuations have wide ranging implications that resonate throughout aviation.

**Supply and Demand in a Cyclical Industry**

Basic economic theory states that supply and demand are key determinants of the price and quantity sold of a good or service. Aircraft are no different. Aircraft base values can be derived with a fair degree of accuracy as these generally assume a “reasonable” balance of supply and demand. However, the cyclical nature of the airline industry and its vulnerability to exogenous factors such as 9/11 and SARS, which amplify volatility in the shorter term, means that supply and demand are not normally in balance. Developing an index that attempts to measure the level of supply and demand in order to statistically ‘explain’ cycles in the valuation of aircraft would therefore be helpful to the aircraft financing and trading community.

**Aircraft Valuation Index**

The basic framework of supply and demand can be used to develop a valuation index. While airlines use available seat miles (ASMs) and revenue passenger miles (RPMs) as supply and demand metrics within the industry, in developing the Aircraft Valuation Index the use of aircraft seats and not ASMs presents a more stable and predictable variable. ASMs are dependent on aircraft utilization and aircraft stage lengths, and therefore are vulnerable to slight changes in either metric. However, the supply of seats in the industry can be predicted with far more certainty, hence making aircraft seats a more reliable variable for developing such an index.

RPM growth is sensitive to the global economy and patterns of consumer spending thus making it less predictable than aircraft seats. However, we believe that this metric is the best indicator of demand.

The Aircraft Valuation Index is, therefore, comprised of: a. Supply: the existing inventory of worldwide passenger aircraft + aircraft produced by manufacturers in the relevant time period – aged aircraft listed as stored – retired, scrapped and converted aircraft; and, b. Demand: historical and forecast world RPM growth calculated by applying air traffic multiples to world GDP growth.

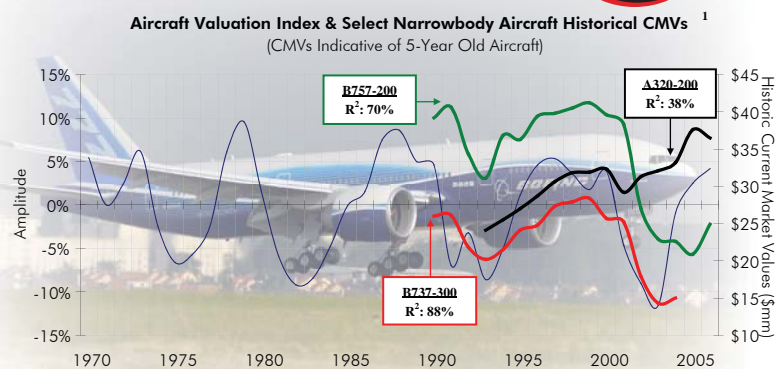
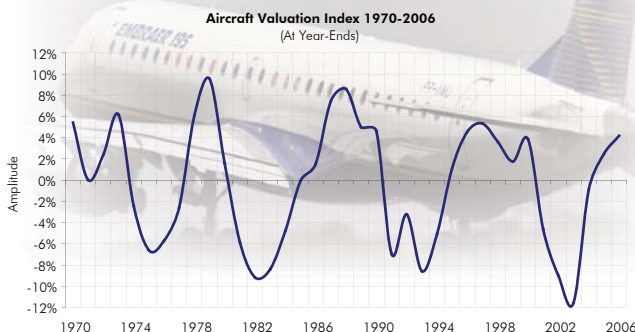
Figure 1 shows the Aircraft Valuation Index as derived by detrending the cumulative difference between the annual percentage changes in demand (RPMs) and supply (seats), indicating where valuations currently sit within the cycle and where aircraft prices are headed.

It is important to note that the Index does not directly measure the amount of fluctuation in the values of specific aircraft. Rather, it indicates the cumulative differential between the long term supply and demand for aircraft, with positive values indicating that cumulative demand is outstripping cumulative supply. One of the central observations of this metric is that,

**Aircraft valuations, in particular, are very sensitive to the economic cycle.**

1

2



<sup>1</sup> Historical current market values are shown in nominal  
Source: AVITAS JET Value Blue Book for respective year



contrary to the assumption behind appraisal base values, long term supply and demand are never in equilibrium but for quick crossover points. The intransigence of large and complex workforces, tooling, supply chains and lengthy production lead times makes it impractical, if not impossible, for the supply of new aircraft to mirror fluctuations in worldwide demand.

### Historical Aircraft Values vs. Aircraft Valuation Index

When superimposing historical current market values of aircraft on the Aircraft Valuation Index, both narrowbody aircraft and widebody aircraft display a significant level of correlation (with a few exceptions, which are generally explainable by exogenous forces). Figure 2 shows the Aircraft Valuation Index in relation to current market values (CMVs) of narrowbody aircraft. In the case of the Boeing 737-300, the correlation between the Aircraft Valuation Index and aircraft current market values is striking. The result is particularly meaningful given the large and diversified operator base for this aircraft type. (Correlation is measured by the indicator R2, or coefficient of determination, which measures the amount of change statistically "explained" by the Index over the measured time period. Note further that the levels of correlation are calculated using the following year's appraisal value, further supporting the predictive value of the Index.)

The A320-200, on the other hand, outperformed the Index over the illustrated time period which we believe is due in part to the disproportionate growth of business models predicated upon point-to-point services and high utilization of aircraft, which generally favor new generation aircraft like A320s and B737 NGs (not illustrated).

Figure 2, left

CMVs of widebody aircraft (not illustrated) also result in a high level of correlation to the Aircraft Valuation Index with B747-400s and A330-200s having R2 of 75% and 66% respectively. The A330-200 slightly outperformed the Aircraft Valuation Index over the analysis period, which we believe reflects the relative growth of long-haul point-to-point services and an increased likelihood of a freighter afterlife.

Arif Husain  
is Vice President,  
JetWorks Leasing, LLC

Steven T. Gaal  
is Managing Director  
& COO, SkyWorks  
Capital, LLC



Arif Husain Steven T. Gaal

### Projecting the Aircraft Valuation Index

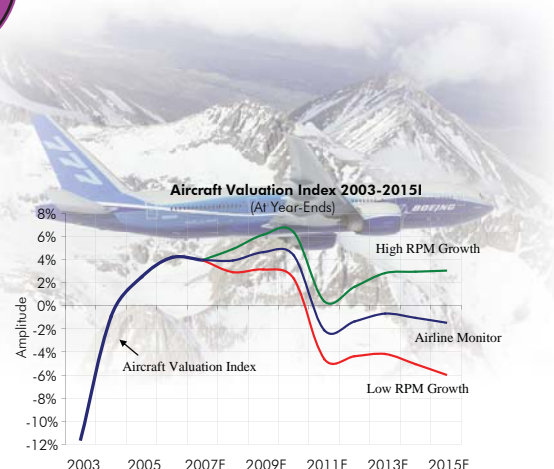
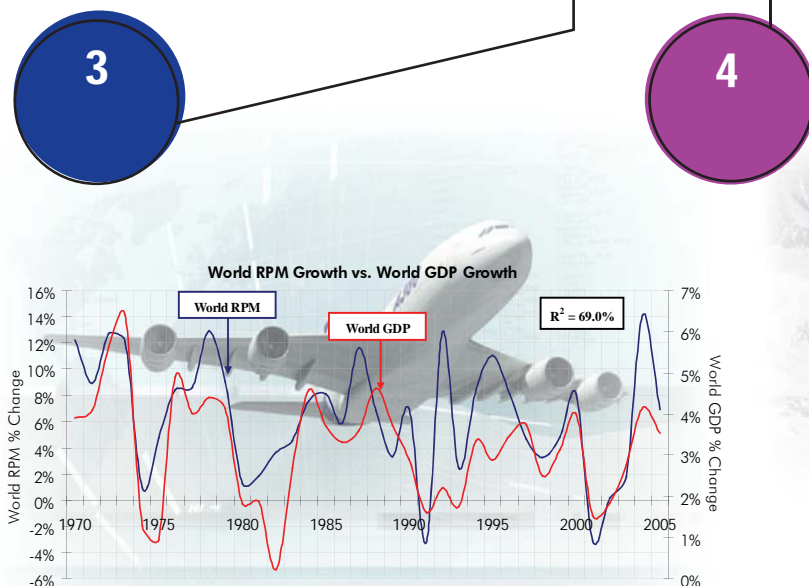
While the supply side of the equation – aircraft seats in the market at any given time – can be forecast with relative accuracy due to inertia in the supply of aircraft, the demand for air travel (and hence aircraft) remains the more illusive. As Figure 3 depicts, worldwide growth of GDP has a significant correlation with RPM growth and thus is a key determinant of demand for aircraft.

See Figure 3

Furthermore, a high level of correlation between GDP growth and RPM growth and a significant causal link between RPM growth and fluctuations in the Index ensure that the correlation between the Aircraft Valuation Index and World GDP is also relatively high See Figure 4

**Worldwide growth of GDP has a significant correlation with RPM growth and thus is a key determinant of demand for aircraft.**

Valuations Trends continued page 10



Based on the foregoing discussion, it is evident that forecast RPM growth is the key variable on which the behavior of the Aircraft Valuation Index depends. Using the Airline Monitor's projected RPM growth as the base case, Figure 5 applies high and low RPM growth scenarios by adding and subtracting 0.5% RPM growth from the base over the projected period to illustrate the Aircraft Valuation Index through 2015. See Figure 5.

## "Wildcard" Likely to Impact Magnitude of Next Downturn

A key consideration in assessing the next downturn is the fact that pilot contracts at four US major airlines become amendable between May 2008 and January 2010. Prolonged negotiations, in which the pilot groups expect to reap the rewards of an industry that may be at peak profitability, and to compensate for the sacrifices made during the previous downturn, could potentially exacerbate the next downturn. See Figure 6.

## Summary

Appraisers assume a reasonable degree of equilibrium in supply and demand to derive their long-term base valuations for aircraft. However, the impracticality of adjusting supply (new aircraft production) to demand (RPMs) means that steady state equilibrium in supply and demand will not coexist the vast majority of the time. This analysis derives an Index that gauges the relationship between supply and demand to determine shorter term trends in the valuations of aircraft.

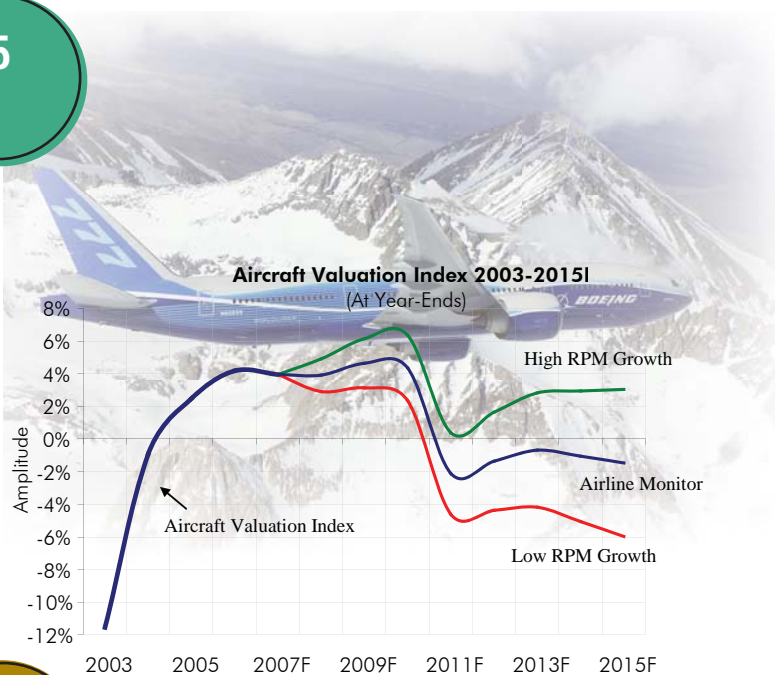
Barring an exogenous event that shifts the consensus view of the current business cycle, the Aircraft Valuation Index suggests that aircraft valuations will peak at the end of this decade just when four U.S. major airlines are likely to be in labor negotiations, the results of which may very well impact the degree of volatility in aircraft prices during the next downturn.

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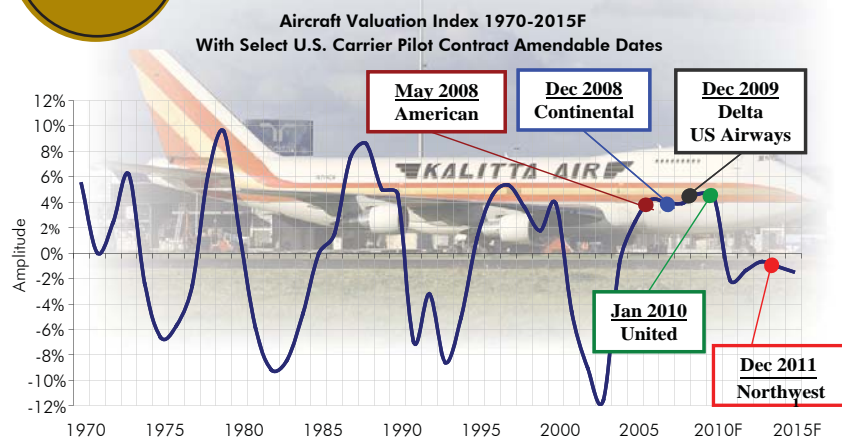
SkyWorks Capital and JetWorks Leasing are located at 283 Greenwich Ave., 4th Floor, Greenwich, CT. 06830, Tel. 203-983-6677.

Company websites are [www.skyworkscapital.com](http://www.skyworkscapital.com) and [www.jetworks.aero](http://www.jetworks.aero)

5



6



<sup>1</sup>The expiration date of the Northwest Pilot Contract is tentative. Source: Respective company reports.



**ARIEL AVIATION**

**Neil Whitehouse** FRAeS  
President & CEO  
ISTAT Certified Senior Appraiser  
[whitehouse@arielaviation.com](mailto:whitehouse@arielaviation.com)

Established 1993

**+1 914 693-8574**

Appraisals  
Asset Management  
Consulting  
Technical Services  
Funding & Acquisitions  
Sales & Marketing  
Litigation Experts

**Ken De Jaeger**  
Managing Director  
ISTAT Certified Appraiser  
[dejaeger@arielaviation.com](mailto:dejaeger@arielaviation.com)

[www.arielaviation.com](http://www.arielaviation.com)



## Meet the New ISTAT Team

The new ISTAT team is ready to help with all of your member needs! Feel free to contact us!

### Administration

**Ron Pietrzak**, Executive Director  
1.312.673.4782  
rpietrzak@istat.org  
**Julianne Bendel**, Transition Director  
1.312.673.5757  
jbendel@istat.org  
**Ben Barclay**, Coordinator  
1.312.673.5923  
bbarclay@istat.org  
**Dana Henninger**, Member Service Associate  
1.312.673.4780  
dhenninger@istat.org

### Convention Services

**Cynthia Cortis**, Senior Manager  
1.312.673.4908  
ccortis@istat.org  
**Sarah Stauffer**, Coordinator  
312.673.5826  
sstaufer@istat.org  
**Adam Levy**, Conference Associate  
1.312.673.5982  
alevy@istat.org

### Financial Management

**Alan Leyva**, Accounting Manager  
1.312.673.5938  
aleyva@istat.org  
**Erin Powers**, Client Accountant  
1.312.673.4831  
epowers@istat.org

### Marketing

**Amanda McLafferty**, Senior Manager  
1.312.673.5945  
amclafferty@istat.org  
**Jennifer Altstadt**, Marketing Manager  
1.312.673.4995  
jaltstadt@istat.org  
**Tina Chang**, Marketing Associate  
1.312.673.4942  
tchang@istat.org

### Conference Registration

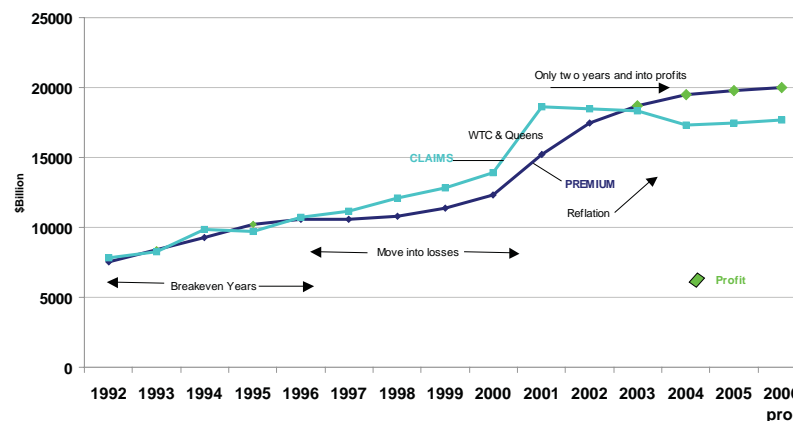
**Maggie Madrigal**, Registration Coordinator  
1.312.673.4921  
mmadrigal@istat.org  
**Nicole Anderson**, Registration Associate  
1.312.673.5977  
nanderson@istat.org

**Aviation insurance** has always been a cyclical business, with alternating periods of feast and famine for insurers (although some of the long-term participants would probably remark that the 'feasts' of the past were more like packed lunches).

Things changed dramatically after 9/11. Rate hikes pushed the annual airline premiums up to over US \$3 billion from approximately US \$1.35 billion the previous year and new capacity in the form of commercial capital providers entered the market.

The 'old' cyclical market, having achieved its peak, would have begun its descent to lower rating at this point. This was not the case post-9/11, as the new capital providers made it clear that they would only remain if there were potential for a good return on their capital. Modest rating reductions were the order of the day for the next three years and this has coincided with a sustained period of low claims, allowing the market to return to profit far quicker than would hitherto have been the case.

Historical Moving 10 Year Cumulative Statistics  
Worldwide Airline Hull and Liability Insurance

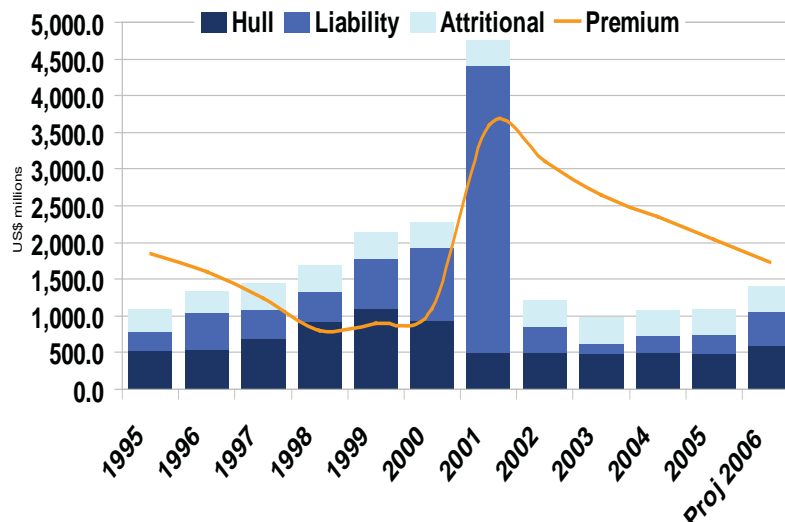


2005 witnessed acceleration in the size of rate reductions, however this was partially offset by growth in exposures (average fleet values and passengers carried). Many insurers have recently viewed an annual market premium of US \$2 billion as the 'line in the sand' that they would not cross. This was tested but not quite crossed for most insurers by the end of the 2005.

The lack of significant claims has continued so far in 2006 and this profitability has added to the attraction of the class for new capacity to the market and this has put mounting pressure on the established markets.

The first half of 2006 saw a premium reduction of approximately 8.5% but the important final quarter (as this is when the majority of renewals take place) is, at the time of writing (mid-December), indicating premium reductions in excess of 20% due to competition for market share.

It can be seen however from the graph below that premium and claims are becoming ever closer.



**Peter Barleycorn** is a senior aviation insurance market analyst at Jardine Lloyd Thompson. JLT is a leading risk management adviser and insurance and reinsurance broker with a major global specialty in the field of aviation insurance. Peter is based in London and will periodically provide readers of Jetrader with an update on conditions in the aviation insurance market and provide insight into how this market will impact ISTAT membership. This is the first of such market updates.

Peter.Barleycorn@JLTRE.COM  
tel 44 207 466 1300



We are now reaching the stage where the prospects for underwriting profit are marginal and a major aviation catastrophe or rash of high valued hull losses leading to substantial claims will impact the market.

The 'line in the sand' has been washed away by a very strong tide and we await the market's reaction to ever reducing premium rates.

# 2006

Believe it or not,  
wasn't all bad for Airbus



“It was the best of times, it  
was the worst of times...”

—Charles Dickens.

This is the famous, oft-repeated quote that in many ways could apply to Airbus in 2006. While not the best of times—2006, after all, is only the second best year for orders (after 2005) for Airbus, last year was certainly the worst of times. Yet the famed Dickens quote goes on and the application to Airbus could arguably apply as well ...





“...it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair....”

# After

the record-breaking year in 2005 for 1,111 orders, capping a five year run of beating the pants off arch-rival Boeing, 2006 began with high hopes and expectations. While nobody, inside or out of Airbus, Boeing, expected 2006 orders to match 2005, Airbus officials looked forward to the delivery and introduction into service of its flagship A380 superjet. Airbus was, and remains, absolutely convinced that the A380 is a correct strategy (“it was the age of wisdom”) and management looked forward to launch customer Singapore Airlines proving their point (“it was the epoch of belief”).

Plenty of critics, while not doubting the technological achievement, thought Airbus had placed the wrong bet with the wrong airplane at the wrong time (“the age of foolishness”).

As the months marched on, Airbus struggled with its proposed A350, which had proved to be a disappointment against Boeing’s hot-selling new 787, but by Spring officials were optimistic they had finally gotten the airplane right in what was nonetheless rather derisively called the “fourth iteration” of the plane. (“It was the spring of hope” and “the season of Light.”)

These hopes were soon dashed when Steven Udvar-Hazy, the powerful chairman of International Lease Finance Corp., Airbus’ biggest client and a customer for the A350, publicly criticized the design as inadequate to the 787. This began a crescendo of worldwide criticism that sent Airbus back to the drawing board yet again.

Shortly after this, the epoch of belief gave way to the epoch of incredulity. A second delay of the A380 was announced, followed by the resignations of the widely disliked Noel Forgeard and the well-respected Gustav Humbert, the chairman and CEO of Airbus, respectively. (Forgeard was also the co-CEO of parent EADS.) Humbert’s replacement, Christian Streiff, was recruited to take a top-to-bottom look at Airbus, the A380 program, and recommend changes. He fired the A380 program head, the well-liked and highly-regarded Charles Champion. Streiff proposed a program called Power8 to completely make over the company, but lost a power play with the EADS board for complete autonomy to implement it. The board, which felt Airbus autonomy was what got the company into trouble in the first place, accepted Streiff’s resignation after only 100 days on the job. Louis Gallois, the man who succeeded Forgeard as co-CEO of EADS, took on the additional responsibilities of CEO of Airbus.

A third delay of the A380 was announced, putting the program a full two years behind schedule. Federal Express later canceled its order for 10 A380 freighters, and ILFC’s Hazy eventually canceled his order for five A380Fs, though switching them to passenger models. ILFC and Virgin Atlantic deferred delivery of their orders for several years. (“It was the season of despair.”)

A fifth iteration, Version 5.0, of the A350, the XWB, was announced at the Farnborough Air Show. But it was still a metal fuselage to the 787’s composite approach and the ever-influential Hazy remained lukewarm. It was back to drawing board once more. (“It was the season of Darkness.”)

Airbus continued next page

## Power8, In Airbus' words

A brief description of the module (and responsibility for the module) is as follows, with the executive sponsor:

**1. Develop faster** (Tom Williams, EVP Programs) – Aims to re-engineer overall development process and to reduce development cycle times by two years. The first results will apply on the A350 and work on this is already underway within the A350 team.

**2. Smart Buying** (Henri Courpron, EVP Procurement) – Reduce general procurement spending, streamline logistics (from 80 warehouses to 4-8 logistics centers), increase low-cost sourcing, reshape supply base, re-design aircraft components/systems jointly with suppliers.

**3. Maximize Cash** (Hans-Peter Ring, CFO) – Focuses on financial working capital, i.e. pre-delivery payments received from our customers, management of accounts payable and receivable, and creating a cash-mindset in the company.

**4. Reduce Overheads** (Hans-Peter Ring, CFO) – Overheads are costs and positions not directly influenced by fluctuations in product delivery, support or development. For Airbus, this means all personnel-related general procurement costs (e.g. travel costs, facilities, IS support), and staff. The target is to reduce these costs by 30% by 2010. Each function has nominated a representative to work with the module team on opportunities to reduce costs for their business areas.

**5. Lean Manufacturing** (Karl-Heinz Hartman, EVP Operations) – Analyzing all processes to eliminate waste in the system, and ensure the efficient and effective use of resources. The lean manufacturing team has been visiting all Airbus factories to assess their current ways of working against lean manufacturing criteria.

**6. Restructure Industrial set-up** (Karl-Heinz Hartmann, EVP Operations) – Explore ways to avoid the duplication of capital expenditure by restructuring our industrial set up, for instance through the consolidation of our production base.

**7. Streamline FALS** (Tom Williams, EVP Programs) – Explore ways to streamline and optimize our final assembly lines.

**8. Focus on Core** (Harald Wilhelm, Chief Controlling Officer) – A detailed definition of our core and non-core activities, so as to benchmark our non-core activities with a view to reducing costs and maximizing cash.

Source: Airbus

## Airbus continued

In December, Version 6, a composite model, was finally, at long last, given the industrial launch.

Boeing, meanwhile, could do nothing wrong, or so it seemed. While going into 2006 forecasting between 500-600 orders, the company will come very close to matching the 2005 tally of 1,002. The 787 and a new version of the 747, the -8, sold well. The newly launched 777 freighter also was a rousing success. The 737 line hummed along, rivaling sales of the A320 for the first time in years.

The worst of times led many in the industry to say that Airbus will be second fiddle to Boeing for years to come. Even Streiff, the short-lived CEO, said it would take Airbus 10 years to recover.

Boeing, which knows something about setbacks, says Airbus will come back a stronger competitor than ever. It took Boeing seven years to recover from the production snafus, management turmoil and strategic missteps.

Despite the setbacks, or perhaps because of them, insiders think such talk is overblown. Barry Eccleston, president and CEO of Airbus North America, is one.

Asked when Airbus would be "back," he replied, "I would suggest that that's today."

"We have a record level of production to deliver between 425-430 airplanes this year, ahead of Boeing; therefore we have record turnover; we have a record backlog, around about 2,600 airplanes, a record for us and more than Boeing; it's the second best ever year for orders, 600-700 this year

at the end of November; and we've had a very, very strong year of orders coming in stronger than [our rate of] production."

Eccleston certainly acknowledges the trouble. "Through this year we have had a number of challenges and we're addressing those challenges," he says. "The A380: the problem is not the airplane. The airplane is certified. It's the first time ever for joint certification, the first time for ESAS (the new European aviation authority). The problem is the wiring. We've identified the problem and we've identified the solutions. We are on track to deliver the plane in October 2007."

The second challenge, Eccleston says, "was the world-publicized redesign of the A350. We [now] formally launched that program, so we have an answer to the 787. The -1000 competes with the 777. To the issue of, what's your response to the 787? we have that. This is the airplane the customers have asked us to do (and that's why it's 2013)."

Management was the third challenge and Eccleston says this, too, has been fixed.

Christian Streiff's Power8 program was adopted by the EADS board, even if he wasn't, and it is being implemented by Streiff's successor, Louis Gallois.

"The EADS board immediately bought into Power8," Eccleston says. "The first five modules have firm plans in place. The last three more relate to the industrialization process and are still in review. They have sponsors for all of them." Airbus took a page from Boeing's book written by CEO James McNerney, in which key senior execu-

### Design Features

<Retaining the general features of the technically proven A330-200 passenger variant: Same fuselage, engines, spare parts, ETOPS 180mn, Noise Stage IV certified

<Benefiting from the inherent qualities of Bly By Wire aircraft: Same pilots, mechanics, handling characteristics

<Versatile main deck freighter interior

<Courier area with barrier wall: adapted from A380F

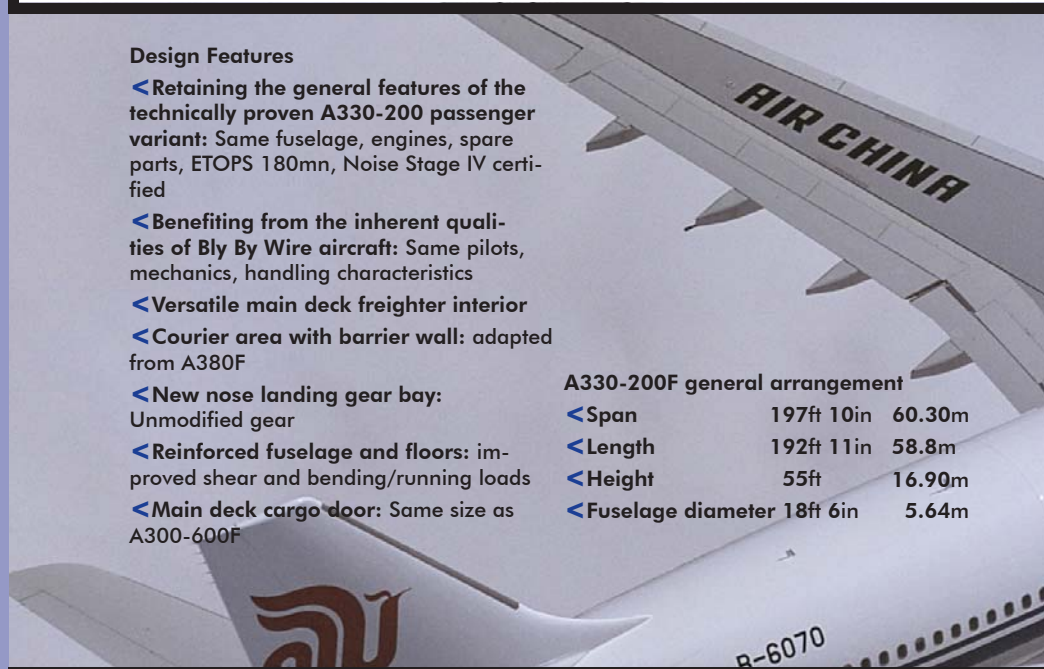
<New nose landing gear bay: Unmodified gear

<Reinforced fuselage and floors: improved shear and bending/running loads

<Main deck cargo door: Same size as A300-600F

### A330-200F general arrangement

<Span	197ft 10in	60.30m
<Length	192ft 11in	58.8m
<Height	55ft	16.90m
<Fuselage diameter	18ft 6in	5.64m





tives became "sponsors" of cost-cutting and efficiency initiatives.

(A full description of Power8 is in a sidebar to this story.)

In the meantime, Airbus has a major challenge convincing airlines that its current twin-aisle product line is not obsolete or uneconomical. The market was quick to conclude that the popular A330 is not competitive to the 787 and will be made obsolete by the A350 XWB. The A340 line barely made a blip on the sales chart in 2006, far outsold by the 777 series.

Eccleston is hearing none of it with regard to the A330, while acknowledging the A340 has been reduced to a niche airplane.

"I think they are very competitive airplanes," he says. "The first availability of the A330 is 2009. The A330-200 is a remarkable success. We see a huge amount of interest in the A330-200. The A330F will be available in 4Q2009. Northrop Grumman and EADS are bidding on the KC-X tanker [for the US Air Force, using the A330 platform]. The 330 is not an obsolete airplane. There's a lot of interest in its own right today and we see it continuing right alongside the A350.

"The best example I can give you is Northwest Airlines. They ordered the 787 but continue to take A330."

Some have suggested that Airbus put the GENx on the A330 to create an "enhanced" version, but this won't happen, Eccleston says. "We looked at it for tanker program, but there are very significant changes and high cost."

The 253-seat A330 (three class) fits in the gap between the 270-seat A350-800 and the 200-seat A321, according to Eccleston.

"We continue to offer the A340 but the airplane has been challenged by fuel prices. We see a lot of interest in specialized niche markets. It's a fair assumption that the 340 is a niche airplane," he says.

Airbus has been working on an A320E (Enhanced), evaluating among other things adding blended winglets and new engines. The winglets are out after studies and it's premature to consider new engines, such as proposed by Pratt & Whitney for the geared turbo fan.

Instead, aerodynamic improvements will be the first steps.

"I'll call it small steps of mankind rather than large leaps," Eccleston says. "We thought we should investigate winglets. We found we got quite a bit improvement at slow speed and take-off and a little improvement at cruise, but it required additional wing loading—basically that program didn't work."

Cleaning up the wing-roots, pylons and air inlets at end of wing will improve aerodynamics in the area of about 1%. Airbus is also embarking on a new design for the interior, reducing weight 120lbs. Engine makers CFM and IAE have also small improvements.

But the geared turbo fan, Eccleston says, "is a very interesting technology but it needs to be matured before putting on the production."

## Don't forget the A330F

The delays and controversies over the Airbus A380 and A350 programs overshadowed the second-best year ever for the company. It also overshadowed the launch of the A330-200F.

What launch? You might ask. We did, too. During a meeting with Gustav Humbert in May, when he was CEO of Airbus, Humbert told us that the A330F would be launched in June. This slipped in the wake of the controversies, with the expectation that the program would be announced at the Farnborough Air Show.

It was, but the news was lost in the relaunch of the A350 as the XWB, the continuing questions surrounding the A380 and the management turmoil that resulted in the resignations of Humbert and Noel Forgeard, the chairman of Airbus and co-CEO of its parent, EADS.

Mark Pearman-Wright, who is with Airbus' A330F marketing team, clarified the situation for Jetrader.

"We did launch the freighter and there was an announcement but it got overwhelmed by the A350 XWB launch," Pearman-Wright says. "There are two launches—you go to the market, the authority to offer and that's what happened in July. The industrial launch is early 2007. We'll have a bunch of orders to announce early [this] year."

Lessor Aercap had been reported to be a launch customer for 20 A330Fs but in the end, the company ordered A330-200Ps instead. Pearman-Wright nonetheless sees Aercap and other lessors as natural owners of the A330F.

The A330F, he says, will enable operators to double frequencies on long-haul routes, an advantage over the 747 that can carry greater payloads but over sometimes shorter distances.

"One analysis shows low frequency operations of three a week for 747; the A330 could double that. That alone is a huge opportunity for somebody to start to increase frequency," Pearman-Wright says. "The A330 will be a good airplane to increase the frequency and market."

Pearman-Wright says the A330 has a cost base and cost structure compared to any existing freighter that is at least as good unit costs. He says that even though it is half the size of the 747, the A330 has the same unit costs. "The economics are absolutely a no-brainer."





Neil Whitehouse

## So what is the ISTAT Appraisers' Program all about? (... and anyway, what does it have to do with me?)

At 1,815 feet 5 inches, Toronto's CN Tower is the world's tallest freestanding structure on land. Being twice the height of the Eiffel Tower, the CN Tower is an awe-inspiring sight. What is not apparent is that 62,540 tons of its 130,000 tons mass is foundation. It is the tower's foundation that allows it to soar towards

the heavens. The greater the height the stronger the foundation needs to be. We know the truth of this as parents and as business people.

The foundation stones of ISTAT are strong and deeply set. As with the foundation stones of people and organizations, they are a combination of values and tradition.

In 1983, the late Joe Murphy, then founder and publisher of Air Transport World, Mort Beyer, Jim Bryan and George Dutton, were the moving force behind the creation of the International Society of Transport Aircraft Traders. Two months later, in January 1984, the ISTAT Appraisers' Program was created with Jim Matthews as its head. Jack Feir became the first Chairman of the Appraisers' program International Board of Governors in 1991 and created the program as we know it today.

Over time, the Society grew to a couple of hundred members and then, with an almost heroic effort by then Board Member Frank Price, membership doubled. ISTAT's growth in recent years is astounding. We have become an institution, an industry forum where a renowned member's words spoken in a conference panel can (and did) have significant, trans-Atlantic reverberations.

As the Society and the number of Appraisers has grown, Appraisers, who had been 38% of the membership in 1983, and 26% in 1991, are now 2.7%. While some of the newer members will have some knowledge of the foundations of the Society and the importance of the Appraisers' Program to the essence of the Society, many are not so aware.

So what value does the Appraisers' program give to the Society as a whole and to individual members? To answer that we have to go back to the way things were before ISTAT, the ISTAT foundation stones, what has been achieved and how those achievements are protected and enhanced over time.

Aircraft trading and appraising wasn't exactly like the Wild West frontier before ISTAT. There were no reported shootings in the streets, although there were some traders and appraisers who probably were lucky they didn't get shot. An appraisal was pretty much whatever someone said it was, or what someone needed it to be. This did not just make life very difficult for honest brokers it was an open field for the unethical and dishonest to take advantage.

ISTAT's founders understood that a commitment to solid values and high ethical and technical standards was the fundamental difference between anarchy and honor. At ISTAT's inception in 1983, the Society's Code of Ethics was adopted and begins, "It is felt by all members of our Society that we promote among members and those employed by our business, the highest ethical standards."

There are so many aspects of aircraft transactions that routinely utilize ISTAT Appraisers' Programs appraisal terminology and standards of practice. The manner in which an aircraft value is determined and how its value may be adjusted for physical condition are now, thanks to the ISTAT Appraisers' Program, generally accepted standard practice. Even those who appraise aircraft but are not ISTAT accredited, often mimic the ISTAT standards.

ISTAT Certified Appraisers are required to establish values in many leases and financial documents. ISTAT Certified Appraisers are qualified in courts and tribunals around the world. The ISTAT Transport Aircraft Appraisal Program Handbook definitions are considered authoritative in courts.

ISTAT is trusted. The ISTAT Appraisers' Program is trusted. ISTAT Certified Appraisers are trusted. These are earned trusts.

An ISTAT Certified Appraiser can be trusted to execute her or his professional duties at a high level of expertise. An ISTAT Certified Appraiser can be trusted because she or he has had their references checked, passed rigorous exams and found to be competent. The appraisal report exam is graded in accordance with the Unified Standards of Professional Appraisal practices (USPAP), the creation of eight major U.S. appraisal companies. USPAP is recognized by the U.S. Congress through the Savings and Loan Bail-out Bill of 1989.

ISTAT's members benefit from being a living part of our Society's commitment to high ethical standards. The ISTAT Appraisers' Program has defined good ethical practices, set them out in ten pages of small type, examined every Appraiser on their detail and caused them to live through daily compliance.

Famed speaker, Zig Zeigler, says that the six foundation stones of success are: Honesty, Character, Integrity, Faith, Love and Loyalty.

The pride we feel as members of ISTAT and as ISTAT Certified Appraisers rests on fundamentally the same set of values. While Appraisers continue to become an ever smaller minority of the ISTAT membership, our value should not be measured by our numbers or by the cost of a budget line-item, but by the contribution the ISTAT Appraisers' Program makes to the honor, character, integrity, dignity and competence of the Society as a whole and to each and every member.

The ISTAT Appraisers' Program cannot thrive in a vacuum. As we become proportionately smaller in numbers, we need proportionately greater support from the Society and individual members. For example, the ISTAT Board can provide separate, priority listings for ISTAT Certified Appraisers in the ISTAT web site. When you consider purchasing appraisals and other related expert services for your company, you could make ISTAT certification a part of your decision. You can help keep the foundation stones of ISTAT solidly in place as we confront the unknown challenges around the next corner of our ever-changing industry and ensure the continuing, extraordinary success of ISTAT and the Appraisers' Program.

Neil G. Whitehouse, FRAeS, is an ISTAT Certified Senior Aircraft Appraiser, a Member of the International Board of Governors and a Fellow of the Royal Aeronautical Society. He is President & CEO, Ariel Aviation, Inc., and may be contacted at 914-693-8574 email :: [whitehouse@arielaviation.com](mailto:whitehouse@arielaviation.com) [www.arielaviation.com](http://www.arielaviation.com)



# Airbus A330-200 Appraisal . Doug Kelly, Avitas

tele +1 703 476-2300 . email [doug.kelly@avitas.com](mailto:doug.kelly@avitas.com)

## Background

The Airbus A330-200 was officially launched in November 1995 and is a version of the twin-engine, wide-body A330-300, shortened by 17.5 feet. The A330-200 is capable of transporting 253 passengers in a three-class configuration up to 6,650 nautical miles. The MTOW ranges from 507,100 pounds to 513,700 pounds. Apart from the fuselage shrink, and a strengthened wing, the aircraft features a redesigned, enlarged tail fin and an A340 center fuel tank, holding an additional 41,500 litres of fuel. Three engine types are available: the PW4000 from Pratt & Whitney, the Trent 700 from Rolls-Royce and the CF6-80 from General Electric.

## Current Market

AVITAS is of the opinion that the market for the A330-200 is stable to firm, with 240 aircraft in service among more than 50 operators, as of October 2006. As of December 2006, AVITAS was aware of four A330-200 aircraft being advertised as available for sale or lease. There is only one aircraft in storage, which is a corporate version for Qatar Airways Amiri Flight. The backlog consists of 92 firm orders and a further 20 options. This does not include the 20 aircraft recently ordered by AerCap Holdings or the six by Pegasus.

Monthly operating lease rates are reported to be in the \$600,000 to the high \$700,000 range. The A330 200 remains a desirable aircraft, especially among the operating lessors who own over 50% of the fleet, and rates are likely to improve as the commercial aircraft market continues to recover.

## Geographical Distribution

A review of the geographical distribution of the aircraft shows Europe is home to approximately 42% of the in service fleet

## Engine Choices

Presented below is the A330-200 current fleet and backlog by engine manufacturer. Rolls-Royce engines have been selected for the greatest number of aircraft already delivered and on firm order. While having a choice of several engine manufacturers is beneficial when marketing new aircraft, it results in fragmentation of the fleet and often poses problems when trying to place aircraft in the secondary market.

## A330-200 Current Fleet & Backlog by Engine Manufacturer 10/2006

engine manufacturer	in service	firm orders	options	in storage	total
<b>Rolls Royce</b>	99	24			123
<b>General Electric</b>	82	32	10	1	125
<b>Pratt &amp; Whitney</b>	59	18	10		87
<b>Undecided</b>		18			18

**Grand Total** 240 92 20 1 353

source: BACK Aviation Solutions

## Outlook and Future Asset Risk Analysis

The A330-200 should be a highly marketable and economical asset with values remaining stable into the foreseeable future.

With regard to future competing aircraft types, the A350 was formally launched in 2004 with deliveries starting in 2010; now

Appraisals continued next page

## CONSULTING

- Strategic Planning
- Industry Forecast
- Airline Planning

## TECHNICAL

- Inspections & Audits
- Redeliveries & Repossessions
- Maintenance Cost Studies

## VALUATIONS

- Aircraft & Engine Values
- Asset Management
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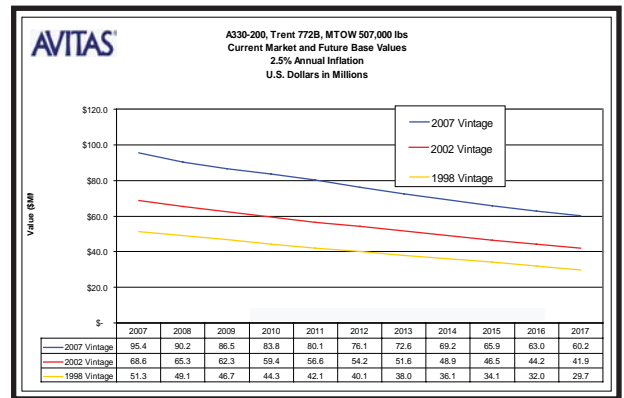
fax: 703.860.5855

redesigned as the A350XWB, its entry into service is not now expected until 2012 at the earliest.

The Boeing 787 Dreamliner, an advanced technology design aimed at the 200/250-seat market was launched in 2004. This program will undoubtedly pose a threat to future values of the A330 200. Boeing has secured over 400 orders for the type with first deliveries in 2008, giving it a considerable advantage over the A350XWB.

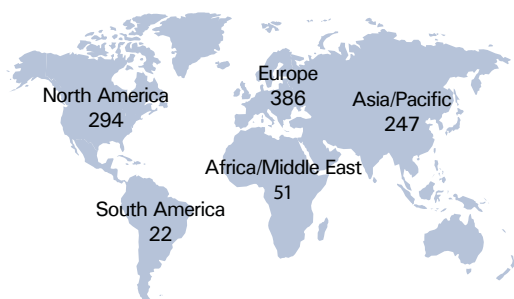
#### Aircraft Value

AVITAS' opinion as to the value of the A330-200 aircraft is presented in the chart, right, in millions of U.S. dollars. Future Base Values- 2008-2017 are in then-current dollars using a 2.5% inflation rate compounded annually. The 2007 figures are current market values.



## 2 Boeing 737-800 Appraisal . Fred Klein, Aviation Specialists Group

#### Geographic Distribution



#### Boeing 737-800 CFM56-7B26

##### Aircraft Specifications

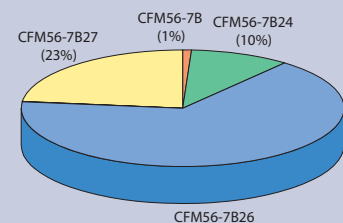
Length	129.5 feet
Wing span	112.6 feet
MTOW (000)	155.5-174.2 lb
Range (nm)	3,060 w/ 162 pax
Capacity (typical/max)	162/189 pax
Typical OEW (000)	91.3 lb
Fuel capacity	6,875 USG

##### Aircraft Demographics

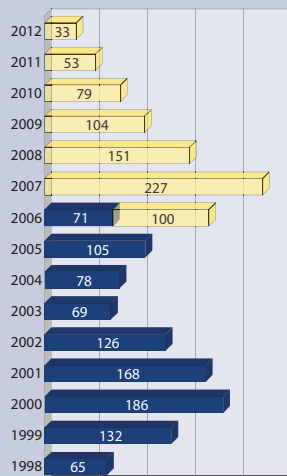
Total in service	1,000
Outstanding orders	803
Operators	80
Average age	4.4
Years manufactured	since 1998

Fourth Quarter 2006

#### Engines - % of fleet aircraft



#### Deliveries - Actual & Scheduled



Demographics are as of June 2006 and are for passenger aircraft except where specifically noted.



telephone +1 703 736-9700  
email avspecgroup@aol.com

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006
Current Market Value	29.0	31.0	33.0	35.0	37.2	39.3	41.0	42.6	44.3
Base Value 2006	26.6	28.4	30.2	32.1	34.1	36.2	38.4	40.7	44.3
2007	25.6	27.3	29.1	31.0	32.9	35.0	37.1	39.4	42.9
2008	24.6	26.3	28.0	29.8	31.7	33.8	35.9	38.0	41.6
2009	23.6	25.2	26.9	28.7	30.6	32.5	34.6	36.8	40.2
2010	22.6	24.2	25.8	27.6	29.4	31.3	33.3	35.5	38.8
2011	21.7	23.2	24.8	26.5	28.3	30.1	32.1	34.2	37.5
2012	20.7	22.2	23.7	25.4	27.1	29.0	30.9	32.9	36.1
2013	19.8	21.2	22.8	24.3	26.1	27.8	29.7	31.7	34.8
2014	18.9	20.3	21.8	23.3	24.9	26.7	28.5	30.5	33.5
2015	18.0	19.3	20.8	22.3	23.9	25.6	27.4	29.2	32.2
2016	17.1	18.4	19.8	21.3	22.9	24.5	26.2	28.1	31.0
2017	16.3	17.5	18.9	20.3	21.8	23.4	25.1	26.9	29.7
2018	15.4	16.7	18.0	19.4	20.8	22.4	24.0	25.7	28.5
2019	14.6	15.8	17.1	18.4	19.9	21.3	22.9	24.6	27.3
2020	13.8	15.0	16.2	17.5	18.9	20.3	21.9	23.5	26.2
2021	13.0	14.2	15.3	16.6	18.0	19.3	20.9	22.4	25.0
2022	12.2	13.3	14.5	15.7	17.0	18.4	19.8	21.4	23.8
2023	11.4	12.5	13.7	14.9	16.1	17.5	18.9	20.3	22.7
2024	10.6	11.7	12.8	14.0	15.2	16.5	17.9	19.4	21.7
2025	9.8	10.9	12.0	13.2	14.4	15.6	16.9	18.4	20.6
2026	9.1	10.1	11.2	12.3	13.5	14.7	16.0	17.4	19.5

**Stretched Next Generation replacement for the 737-400 which began deliveries to launch Hapag-Lloyd in second quarter 1998. Fits into the Boeing product line just below the 737-900 and utilizes CFM56-7 engines. Has upgraded systems, revised empennage, larger wing, higher MTOW, greater fuel capacity and range than 737-400. Winglets are available at the factory and by retrofit at a catalog price of \$800K.**

**Values are without winglets. 2006 list price is \$66.0 - \$75.0 million.**

Values in U.S.\$ millions for a typical aircraft. Used aircraft are built in June, new aircraft in fourth quarter 2006. Values assume single or small lot transactions, not launch orders or large purchases and that aircraft/engines/major components are in average condition and half-life/half-time status. Future Base Values assume 2.5% annual inflation. These values may change with the passage of time and exclude the effects of any attached leases. See text on facing page for possible value notes.



# Purdue Aviation Technology leading the way in partnerships between academia and industry **Part I**

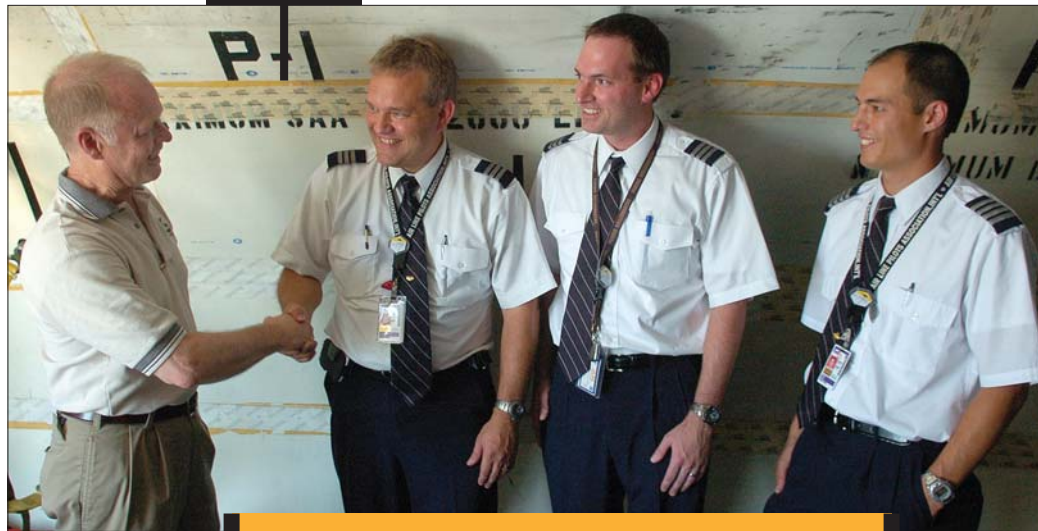
In September 2006, Purdue University welcomed a Boeing 727-100 jet freighter into its fleet of laboratory aircraft, a gift from a well-known corporate entity in aviation, FedEx. This aircraft — the first all-cargo jet donated to Purdue — provides an excellent airline-class laboratory for aviation students, as well as those in other technology fields, and is a powerful and tangible example of the extraordinary and mutually beneficial collaboration that results when academia and industry work together.

Although the aviation industry has gone through a tumultuous period worldwide following September 11, 2001, it is still vitally important for both the United States and world economies that we continue to attract students to, and prepare them for, careers in aviation. According to the U.S. Bureau of Labor Statistics, demand for air travel is expected to grow, and the Federal Aviation Administration is forecasting strong growth in passenger, flight and fleet activity, increasing the anticipated demand for our aviation technology graduates by 26 percent or more in the next five years. Currently, the aviation and aerospace industries account for 11 percent of the gross national product of the United States, and there are still more than 10,000 daily airline departures across our nation.

One of the most effective means of preparing for this expected growth is by creating partnerships between industry and academia in what becomes a mutually beneficial endeavor. In Purdue's case, for example, the aircraft donated by FedEx allows students to apply classroom learning to meaningful experiential situations analogous to those they will encounter in working with transport-category aircraft throughout their careers in aviation. Moreover, our students will now acquire increased knowledge of the transportation logistics industry, by virtue of their experiences with a jet freighter. In turn, the donation enables Purdue — which for decades has been a leading producer of aviation technology graduates — to prepare an even better-trained work force that will be able to solve the problems and meet the challenges of both today's and tomorrow's aviation industry.

## The genesis of Purdue's quest to establish partnerships

During the last 10 years, Purdue's Department of Aviation Technology has experimented with closing the gap between academic learning in the classroom and focused and applied experiences in the workplace. Our efforts have created a successful educational model for partnering industry with academia. We will explore this concept in depth in Part 2 of this article in the April issue of *Jetrader*, but we note



**Professor Tom Carney**, head of Purdue's Aviation Technology program, greets FedEx flight engineer **Harley Troyer**, Class of '95, First Officer **Jason Steiner** '95 and **Capt. Ming Lowe** '92, an All-Purdue alumni crew that delivered the FedEx airplane to the Purdue Airport August 1, 2006.

here that this innovative learning and applied research process has resulted in the creation of a new, energized experience for students, exposing them to a unique way of applying the knowledge gained through their traditional university studies.

In addition, this educational model has established a high-yield industrial resource for the execution of R&D on key challenges within the business sector. For its part, the university is able to accomplish its pursuit of excellence through monetary and gift-in-kind support, without which the traditional funding sources are increasingly inadequate.

**Find out more about this innovative approach and some end results in Part II of this article, to be published in the April issue of *Jetrader*.**



**<Ken De Jaeger**, has joined **Ariel Aviation** as Managing Director and Partner with Neil Whitehouse in the New York-based aviation advisory company. Ken is an aircraft design engineer with an MBA and extensive finance and asset management background. Starting at Northrop Grumman he moved to the Douglas Aircraft Company as an airline analyst and sales engineer. At Boeing Capital Corporation (formerly McDonnell Douglas Finance Corporation) he was Manager Equipment Portfolio. He joined FINOVA as Director, Project Management, led the Asset Management Group at DaimlerChrysler Capital Services and consulted with Compass Capital Corporation structuring transactions and selling aircraft. He is an ISTAT Certified Appraiser. Direct +1 203 604-8064 [dejaeger@arielaviation.com](mailto:dejaeger@arielaviation.com)



**<Michael Platt** is the Chief Investment Officer of **Aircastle Advisor LLC** a subsidiary of **Aircastle Limited** (NYSE: AYR) and will join the company February 2007. He will be responsible for directing and executing the company's investment activities as CIO, and he will also serve as an integral member of the leadership team. Mr. Platt will be based at the company's headquarters in Stamford, CT and report directly to CEO Ron Wainshal.

Prior to joining Aircastle, Mr. Platt was a member of the senior management team at International Lease Finance Corporation ("ILFC"). During his 15 year tenure with ILFC, Mr. Platt's responsibilities included managing key airline relationships across the world and leading market development efforts in important growth areas such as India and Japan. He also headed the firm's asset sales efforts. Prior to that, Mr. Platt was also legal counsel to ILFC and to McDonnell Douglas Finance Corp. In March 2007, Mr. Platt will be appointed President of the International Society of Transport Aircraft Trading at its upcoming Annual Conference in Phoenix.

Aircastle Advisor LLC, 300 First Stamford Place, Stamford CT 06902  
+1 203 504-1036  
[www.mplatt@aircastleinv.com](mailto:www.mplatt@aircastleinv.com)



## **<<<Mercury Aviation Partners launches organization to service institutional aircraft investors!**

ISTAT members **Michael Stern**, **Israel Padron** and **Patrick Harris** successfully launched Mercury Aviation Partners, LLC (MAP) in December 2006.

Michael Stern has 28 years of experience building profitable, high performing businesses managing billions of dollars of equipment. Israel Padron is an aircraft leasing and marketing professional with 30 years of experience. He has closed more than 200 aircraft purchase and leaseback transactions throughout his career. Israel is an active board



## **Brief CV Aviation Attorney Roland Moore**



**<Roland Moore** started his airline career with Eastern Airlines in New York as an accountant and financial analyst. As in-house counsel and Eastern's director of legal affairs for 21 years, he also served as special legal counsel to Pan American World Airways, Continental Airlines, Carnival Air Lines, International Air Leases and Aero Peru and as Vice-President and General Counsel of Bar Harbor Airways (Maine), Provincetown-Boston-Naples Airways (PBA) and Continental-Eastern Express commuter operations.

Roland was appointed special counsel to the Eastern Estate Trustee and disposed of its fleet of Boeing, Douglas, Airbus and Lockheed aircraft. He authored most of the aircraft purchase, lease and sale agreement for Eastern involving some 140 aircraft.

With over 700 aircraft and engine transactions, he represents numerous foreign and domestic airlines, operating lessors and lessees in placing aircraft and engines around the globe, including clients such as BTM Capital (Bank of Tokyo/ Mitsubishi), BAX Global, Inc., and GE Capital. His clients include the Republics of Kazakhstan and Eritrea, acquiring Boeing 767 and 737 aircraft from US financial institutions including GE, Lehman Brothers and Boeing Capital.

Roland was an adjunct professor of business and aviation law at Embry Riddle Aeronautical University, and is a noted lecturer on international law in aviation transactions. He is a former Chairman of the State of Florida Governor's Aviation Advisory Committee, and is the immediate past Chairman of ISTAT. He earned his law degree from the University of Miami, and attended graduate school at Harvard.

member of ISTAT Patrick Harris is an aviation advisor with over 27 years of experience and participated in more than \$2 billion of aircraft related transactions.

MAP is headquartered in Buffalo Grove, IL. MAP's principal business is portfolio and asset management. MAP's activities are centered on financial engineering, debt and equity arranging, structuring and restructuring, remarketing and trading. MAP's clients are institutional investors, airlines and lessors. Clients benefit from MAP's proactive asset management capabilities that include, contract compliance, maintenance oversight, physical inspection, aircraft delivery, redelivery, repossession, and return to service. MAP is built on the foundation of a professional management team drawn from the largest aviation industry participants who over a period of thirty years: advised on the largest airline bankruptcy in history, managed aircraft portfolios valued in excess of \$3 billion, managed more than 300 aircraft movements, sold more than 100 aircraft and participated in the placement of \$3 billion of new financings and the restructuring of more than \$16 billion of debt.

For further information, please contact: Michael Stern at +1-847-821-1162 or [mstern@mercuryaviation.net](mailto:mstern@mercuryaviation.net)

For more information visit our web site at [www.mercuryaviation.net](http://www.mercuryaviation.net)



# FLIGHT 509-302

Flying in the Queen of the Sky . Part One



London, Heathrow, October 30, 1954: BOAC Boeing B377 Stratocruiser G-AKGG was being prepared for flight when we checked into the operations office to meet the five other flight crew members; two pilots, the senior flight engineer, navigator and the radio operator who would use his morse key to communicate with the three weather ships stationed across the Atlantic. Back then we had no HF radio, transponder or radar; the navigator would use Loran C from stations in Iceland, Greenland and eastern Canada, and a sextant if the stars were visible.

Dan Godfrey, the first engineer, was a veteran from the Boeing 314 flying boat days; he looked like central casting had sent him with his wire rimmed glasses and chewed two inch pencil stub behind the ear. He had experienced it all and dealt with it; by contrast I had just turned 24 and had only passed junior grade some five months earlier, after the mandatory six route flights under check engineer supervision.

Having studied the fuel and flight plan to Shannon where we would take on maximum fuel for Goose Bay in Labrador, Dan started his preflight checks at the panel, while I did the walk around checks and manually pull through each of the rubber filled sheet metal 16.5 feet propellers to carefully look for dents. I climbed onto the wing and used a dip stick in each tank to verify the correct fuel load; then under the wing I took fuel samples from the tank drains looking for water contamination, and only then signed off the fuel agent's load sheet. Almost ready to start engines there are some forty passengers on board; the usual stars of stage and film, plus a few industry and government biggies. Now I opened the trap door in the cockpit floor, clambered down the ladder into the lower 41 section and through the door into the cargo hold to get the three landing gear lock pins from the ground crew chief and cranked close the cargo door. The FEO has finished his forty item check list and the captain gave the command to start engines. Looking from a side window the off-duty FEO counted aloud up to twelve blades as number three engine was rotated; oil draining into a lower cylinder can cause a hydraulic lock and damage a connecting rod, only then did the FEO turn on the ignition and advance the fuel lever; we start with a rumble and a cloud of exhaust smoke. With all four engines running, after-start check lists are called out and we taxied out with all crew members doing their pre-take off checks; sitting behind the FEO I verified his actions and also that of the first officer.

At the runway hold, each engine in turn was set at 30 inches of Hg and its four dual magnetos checked for less than 50 rpm drop as half of each one is momentarily shut off; that's 32 times for the four engines. A series of instrument, pressures and temperature checks was audibly made and the ignition checked on the Janitrol anti-icing heaters in the wings and tail; leave on too long when not airborne and there could be a wing fire. At long last we lined up for take-off, and after the captain started to push

Recently **Jetrader** asked me to give a brief description of a typical 1950s trans-Atlantic flight in the days of those piston-engine queens of the sky that the advertisements claimed "flew above the weather". I was reluctant at first, as I feel strongly that my column should be about the pioneers of aviation and their flying machines and not about those who simply did it for a living. However, after digging through a dusty carton in the far corner of the basement and retrieving one of my log books, I concluded that the difference between what all flight crews experienced back then, and generally today -with exceptions of course- warranted a deviation from the rule.

the throttles forward the FEO set the engines at 60 inches Hg with his left hand and with his right hand crossed underneath, he toggled the electric propeller trim switches on his left side to prevent the engines over speeding as the plane gathered speed, and still face the instrument panel.

The flight to Shannon takes two hours, but on landing number two propeller stuck in reverse; a prop change was called for. Seventeen hours later in a replacement aircraft (G-ALSC), we took-off for the ten hour flight to Goose Bay. Our first altitude at maximum weight is around 13,000 feet, so the Connies and DC6s are scooting past at higher altitudes. As we emptied the center wing fuel tank and ate into the wing tanks, we cleared the captain to step climb to higher flight levels and with the turbo superchargers now earning their keep near 20,000 feet, we start to haul in those other makes that thought we had been left behind in the clouds below. Half way across some of the engines 35 gallon oil tanks were around half empty, so we transferred oil from the 56 gallon tank in the lower 41. (Safety note: the crew large oxygen bottle is strapped to the top of this oil tank right under the first officer). We also usually go down there to trim the voltage of the four inverters when they drift from their 115vac, 400Hz settings. Like all piston powered aircraft of that era, the Stratocruiser's generators are 28vdc but ac is required for some flight instruments and systems.

Back in the cabin, the six course meal and countless bottles of wine and liquors have put the passengers in a very relaxed mood; the VIPs have been invited up to the cockpit, the hardier ones will pass the night down stairs in the bar chatting up the stewardess and the film star or two if on board. Soon the Pullman coach type beds are hinged down from the upper wall and ceiling by the steward; the seats also converted into six foot beds; sheets and blankets tucked in; the curtains drawn for privacy and the lights dimmed. Only the drone of the massive 28 cylinder P&W 4360 cubic inch engines and occasional bump from some disturbed air, says we are airborne on our way to New York.

### Stratocruiser sleeping berth



In the approach to Goose Bay we are talked down in a Ground Control Approach by a radar operator sitting in a hut near the runway -there is no ILS- and it is snowing heavily; with Gander closed by weather this is it. Now two things saved our necks; the old fashion approach lights stuck on an 800 yard line of wooden poles offset to the left hand side of the runway, and our veteran FEO instead of me was at the panel. Picking up the lights through the snow the first officer—who was about three or four years my senior- called out tentatively to the captain we were too low; the FEO looked up yelled out an oath and slammed the throttles forward and called rated power, the nose came up and we traversed the remaining distance to the runway threshold at approximately ten feet or so above the snow banks. He then pulled the throttles back to idle and we touched down. The captain made no comment. Taxing in to the ramp, the purser who had been sitting just behind the cockpit came in visibly shaken, asking what happened; he said he saw the approach lights flash by above the wing tip.

Postscript: At 03:23 a.m. on Christmas day eight weeks later, landing in a light fog at Prestwick, the same captain undershot the runway. The left wing failed, caught fire and folded back; the right wing still having lift, rolled the fuselage inverted on top of the burning wing, trapping the 24 passengers and one cabin crew member. Meanwhile section 41 with the cockpit crew had broken off and skidded down the runway. The crew only suffered bruises and cuts, with the rest of the cabin staff, who had been sitting right behind the torn off cockpit, getting out of the burning cabin into fresh air. Glare from the approach lights in the fog, and the failure of the first officer to turn on the landing lights were cited as contributing factors in the accident.

Watch for Part Two in Jetrader April '07





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Sandra Patino  
aviation management  
2006 ISTAT Foundation  
Scholarship Recipient

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EA/EOU



In the last *Jetrader* I spoke at length about the importance of the technical records associated with each of your aircraft. I explained that keeping these records in good order is crucial to ensuring swift asset transfer at handover time and avoiding sizeable costs incurred by unnecessary delays. I recounted horror stories of entire record stores being destroyed, costing several million dollars to replace and of dissatisfied employees holding records to ransom until their issues are resolved.

This edition, I want to detail the technological advances in records scanning that can help protect you if the worst happens but can also, much more significantly, ensure that the day-to-day maintenance, operation and profitability of your asset continues uninterrupted, from each lease to the next.

The majority of lessors already experiment with scanning records to some extent. In the event of a technical query arising at any point of an aircraft's lease, it is common for the lessor to scan the relevant documents and email them to the interested party, resolving the query. A common example would be an engineer scanning, or photocopying, and collating the most pertinent documents during the asset management schedule of the aircraft. In this way, the necessary few documents are easily accessible across the globe, fulfilling ad-hoc requirements as and when they occur.

However, back to birth scanning of technical records is much rarer, with most lessors dismissing the process as time-consuming with limited rewards. Electronic copies of entire aircraft histories can obviously provide a secure back-up if the worst were to happen to the physical documents, however the seemingly low probability of a records disaster renders the whole process ineffective and inefficient, both in terms of time and money.

The most rudimentary form of scanning is that touched upon above, where each individual document is scanned and the aircraft's entire history is stored on a disk, acting as an electronic back-up if documents were to go missing or be irreparably damaged. This method has proved popular, and is a simple and effective way of ensuring your documents are protected, however there are pitfalls and disadvantages to be aware of.

Firstly, if the scanning process – which is actually much more complex than most imagine – is not completed properly by skilled individuals, the quality of the documents can be affected to the point of illegibility, rendering them useless. Secondly, if your scanning is outsourced to individuals untrained in the intricacies and importance of aircraft documentation, there is a very real risk that your stores of physical documents will be damaged or returned to you in disarray, with papers thrown back together regardless of category, date or, in extreme cases, even regardless of aircraft.

But the real disadvantage of simple, back to birth scanning of this kind is in its inaccessibility. At a conservative estimate, a narrowbody aircraft generates approximately 5,000 documents per year of operation, so scanning the entire aircraft history of a 15-year old B737 would result in around 75,000 documents being stored to a disk. With only the most basic indexing, or none whatsoever, and no search facility this represents an engineer's nightmare, where searching for that particular AD that will prove compliance could require days or even weeks of painstakingly clicking through thousands of documents.

This of course would prove most problematic at handover time where searching for required documentation amongst 75,000 on-screen records, or by physically

searching through the hundreds of dusty boxes packed into your warehouse, could delay the start of your asset's new lease. The substantial initial costs of having several trained eyes searching for the documents could be dwarfed by the eventual costs of delays in handover.

It was with these issues in mind that I started up Waviatech, with a vision to address these problems and enable technical staff to use back to birth scanning to obviously protect the asset's documents, but also to facilitate smoother and faster transitions and to actually increase the marketability of the aircraft.

We have created a tool called Stream to enable instant, user-friendly, searchable, indexed and flexible access to aircraft technical records from anywhere across the globe. We provide an end-to-end service where our teams of aircraft records specialists will travel to any worldwide location, will scan the documents to an extremely high quality and will restore the documents to the order and condition they were found in. With their years of aircraft records experience, little or no supervision of our professionals is required, there is minimal or no disruption to the aircraft's current operator and our clients receive daily updates on the progress of the project.

Once the documentation has been captured electronically, it is indexed using industry-standard terminology, and is then made fully text-searchable using powerful Optical Character Recognition (OCR) software. The results are then handed to you on a disk, which works in any PC with no software download required, or access to the records can be gained through our secure online portal thus allowing you to distribute login information to anyone interested in the records.

We are also able to import records stored in CD (such as previously scanned records in bulky PDF format) or microfilm format to Stream, and have successfully converted over 20 aircraft from these formats into single, fully searchable disks that can be copied and distributed to all relevant parties.

Stream's user-friendly disks and online access make it possible for aircraft to be marketed well in advance of the lease end and to multiple parties across the globe simultaneously, with no interruption to current aircraft operations. Also, any issues of concern can be identified and addressed early on, minimising any delays to handover.

It is this custom design that we believe is Stream's core strength. Stream is designed for aviation people, by aviation people. We recognise that aircraft records need to be accessible not only for the engineers that ensure an aircraft's airworthiness, but also for potential lessees or buyers who wish to satisfy themselves as to the maintenance history of the aircraft. For leasing company staff tasked with delivering aircraft to new operators or indeed for any party with a vested interest in the maintenance history of the aircraft.

In conclusion, the only true way to protect the value of the historical records is to scan each and every page, a crude but effective way to protect the asset in unforeseen circumstances. In practice this is rare, with most owners scanning or photocopying selected documents at annual intervals.

Specialised services such as those provided by our company enable a fast and effective way of scanning back to birth records whilst at the same time our trained staff gain an in-depth understanding of their content without interruption to current operator. Furthermore, this large volume of scanned material can now be accessed and utilised by anybody wishing to have their questions answered by using the Stream tool – from anywhere in the world.



ISTAT member  
Karl Scanlon,  
Waviatech's  
Director of  
Products and  
Services, talks  
to JETRADER  
about the im-  
portance of his-  
torical records  
management.

email  
karl.scanlon@  
waviatech.com



## Quick Guide to the Latest Portable Document Scanners

We recommend the extremely light and highly rated new range of document scanners from Canon and Fujitsu. These provide a great balance of size and performance and can even be checked in at the airport (provided you have a suitable protective case!). The technology is getting better and better, all leading to significant time savings for your technical staff whilst on location at your lessee.

Canon [www.canon.com](http://www.canon.com)

**Model DR3080CII**  
**Cost \$3,100**

**Model DR5010C**  
**Cost \$4,200**

Fujitsu [www.fujitsu.com](http://www.fujitsu.com)

**Model Fi-5120C**  
**Cost \$1,200**

**Model Fi-5530C**  
**Cost \$4,100**

**11-13 March 2007**

**JW Marriott Desert Ridge Resort & Spa  
Phoenix, Arizona**

Note: Schedule and speakers subject to change. Current as of 18 January 2007.

Sunday, 11 March

**7:00 a.m. – 3:00 p.m.**

**ISTAT Foundation Golf Tournament** – All net proceeds to benefit ISTAT Foundation.

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**1:30 p.m. – 5:00 p.m. Appraisers' Continuing Education**

**2:30 p.m. – 5:00 p.m. ISTAT Board of Directors' Meeting**

**6:00 p.m. – 8:00 p.m. Opening Night Reception**

Sponsored by Boeing



**Monday, 12 March 2007**

**8:00 a.m. – 9:00 a.m. Continental Breakfast**

Sponsored by Aviation Capital Group



**9:00 a.m. – 9:10 a.m. Opening of Conference and Welcome**

Thomas Heimsoth, President, Willow Aviation Services LLC

John Vitale, President & CEO, AVITAS, Inc.

**9:10 a.m. – 9:20 a.m. Appraiser Program International Board of Governors – Chairman's Update**

Fred Bearden, President & CEO, Aircraft Information Services Inc.

**9:20 a.m. – 10:00 a.m. New Aircraft Programs**

Frederico Curado, Executive Vice President, Airline Market, Embraer

**10:00 a.m. – 10:30 a.m. Coffee Break**

Sponsored by Morton Beyer & Agnew



**10:30 a.m. – 11:15 a.m. New Aircraft Programs**

John Leahy, Chief Operating Officer, Customers, Airbus

**11:15 a.m. – 12:00 p.m. New Aircraft Programs**

Trung Ngo, Vice President, Marketing and Communications, Bombardier Aerospace Regional Aircraft



**12:00 p.m. – 2:00 p.m. Lunch** Sponsored by Lufthansa Technik

**2:00 p.m. – 2:45 p.m. The Effect of Consolidation on the World Fleet**

Doug Parker, Chairman & CEO, US Airways, Inc.

**2:45 p.m. – 4:00 p.m. Financing the New Aircraft Needs**

Moderator: Gerry Laderman, SVP, Corporate Finance & Treasurer, Continental Airlines, Inc.

Panelists: Walt Skowronski, President, Boeing Capital Corporation; Birgitt Garitz, Managing Director, Global Head of Aviation, WestLB AG; Robert Gates, Director, Merrill Lynch; Mark Streeter, Vice President, JP Morgan Securities; John Slattery, Managing Director, Head of Aviation Capital – The Americas, RBS Greenwich Capital

Monday, 12 March



**4:00 p.m. – 4:30 p.m.**

**Afternoon Networking & Refreshments**  
Sponsored by Q Aviation

**6:00 p.m. – 8:00 p.m. Reception**

Sponsored by Embraer

**10:00 p.m. Club ISTAT**

Sponsored by Automatic, Bombardier and FedEx Express



**BOMBARDIER**





Tuesday, 12 March

**Tuesday, 13 March 2007**

8:00 a.m. – 9:00 a.m. Continental Breakfast  
Sponsored by CIT



9:00 a.m. – 10:30 a.m. Aircraft Valuation Panel

**Moderator:** Doug Runte, RBS Greenwich Capital Markets

**Panelists:** Fred Klein, President, Aviation Specialists Group, Inc.;

Phil Seymour, Managing Director, IBA; Pete Seidlitz, President, Bristol Associates, Inc.; Doug Kelly, Vice President, Asset Valuation, AVITAS, Inc.; Clive Medland, Senior Vice President, Simat, Helliesen & Eichner, Inc.; Robert Agnew, President & CEO, Morten Beyer & Agnew

10:30 a.m. – 11:00 a.m. Coffee Break

Sponsored by Morten Beyer & Agnew

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11:00 a.m. – 11:45 a.m. New Aircraft Programs

Scott Carson, President, Boeing Commercial Airplanes



12:00 p.m. – 2:00 p.m. Lunch

Sponsored by GECAS

2:00 p.m. – 3:00 p.m. The Role of Airline Groups During the Life of an Airplane

Wolfgang Mayrhuber, Chairman & CEO, Deutsche Lufthansa AG

3:00 p.m. – 4:30 p.m. Operating Lessors' Panel

**Moderator:** Perry Flint, Editor, Air Transport World

**Panelists:** Steven F. Udvar-Hazy, Chairman & CEO, ILFC; Klaus Heinemann, CEO, AerCap; R. Stephen Hannahs, Group Managing Director & Chief Executive, Aviation Capital Group; Franklin Pray, President & CEO, AWAS

4:30 p.m. – 5:00 p.m. Afternoon Networking & Refreshments

Sponsored by Pratt & Whitney



**Pratt & Whitney**

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6:00 p.m. – 7:00 p.m. Cocktail Reception

Sponsored by ILFC

7:00 p.m. – 10:00 p.m.

**President's Gala Dinner**, honoring ISTAT Award

recipient Wolfgang Mayrhuber, Chairman of the Executive Board & CEO, Deutsche Lufthansa AG. Sponsored by AerCAP

**Gala Table sponsors:** Airbus; Automatic LLC; Aviation Capital Group; Avitas; Boeing; Bombardier; CIT; DVB Bank; Embraer; FedEx; GECAS; ILFC; Jetworks Leasing Company; Lufthansa Technik; Morton, Beyer & Agnew; Pratt & Whitney; Q Aviation; Sage-Popovich; SH&E; Universal Asset Management

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Board of Directors' Dinner Sponsored by Universal Asset Management

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**BOMBARDIER**





Susan Thompson is  
Partner & Head of Global Air  
Transport Practice,  
Odgers Ray & Berndtson

With over 40 years combined international experience of living in Hong Kong, London and now Scotland - during my career I have been so fortunate, to meet many fascinating people from a diverse range of cultural backgrounds, values and education.

Personally as a head-hunter, I welcome the emphasis that is now being placed on 'diversity', in the appointment of executive and non-executive directors, to the boards of multinational companies.

In today's corporate environment there is an increasing demand for openness, transparency and participation in the top team, as well as, an adherence to the corporate governance code, which requires boards to have different views, different perspectives and different ideas.

Each board appointment must have the central aim of improving the company's prospects, and setting the right tone at the top of the organisation. A 'monoculture' will not always test its own assumptions.

Diversity reduces the risks arising from everyone thinking the same. Groups with a wider skill base, knowledge or experience, will undoubtedly generate and ratify higher quality responses to problems.

Boards can sometimes be caught out by mood shifts in the press, or in a regulator, causing bias in investors' judgement of a company's management. The composition of a Board sends messages to its customers, clients, investors and employees, who may choose a company on the basis of its perceived outlook and corporate 'values'.

In my experience it is evident that sometimes individuals tend to appoint in their own 'image', and as a result the debate on diversity has to be sufficiently intense to break through this comfortable status quo. The question is how to imbue a sense of confidence and will in boards, to seek out new, talented and diverse individuals?

**Gender** Currently, women make up just 4% of listed company directors and more than 99% of all listed companies are led by men. Figures for ethnic minorities are more elusive. What seems to be lacking is both confidence and reluctance, still saying "I know we should have a woman on the board, but I don't think my director's are ready yet". This is increasingly puzzling, as directors' work with women every day, heading company divisions or providing corporate finance, audit or legal advice.

Dear ISTAT Members,

In December, the Foundation awarded 17 academic scholarships to students with need from eight different countries. These scholarships, along with 13 educational grants made during the year, brought the total Foundation giving to \$185,000.

During the first quarter of 2007 we shall be busy promoting our new internship program and fundraising. Our internship committee, headed by Warren Willits, is hard at work putting aviation students together with ISTAT member firms for summer '07 internships. To those participating firms, thank you!

Please expect a call soon from a Foundation board member soliciting your financial support. Our major donors, or Roundtable Members, were the Foundation's primary supporters last year. We have some special events and recognition for our Roundtable Members planned for the annual meeting in Phoenix.

During the conference, I hope you will have a chance to meet some of our scholarship award winners that will be attending. These students and many more are meeting their academic financial needs with your help. I'm sure you will be impressed with the caliber of our award winners!

We are members of a vibrant industry. A primary reflection of our commitment to and our appreciation of this business is our desire to help young people get involved. Thanks in advance for considering our request.



Robert Brown  
Chairman, ISTAT  
Foundation

**Ethnicity** Whilst efforts are currently being made to encourage people to join boards and urge boards to widen their searches, to include people from ethnic minorities, there is sometimes still a long way to go, in terms of 'new and old faces'.

**Personality** It is vital to remember that you are recruiting a team and the parts should be complementary and homogenous. This requires an awareness of the contribution and characteristics of different personality types on the board.

I recognise that all of the above issues are somewhat contentious, however, there is real evidence that a diverse board can bring about competitive advantage, as diversity is much more about effectiveness, than equal opportunity!

With so many changes in today's business world, we must recognise that not every 'non-traditional' person is necessarily right for a board, nor is being 'different' enough in itself. Hence, the importance of diversity to each company and in my opinion, it should certainly be pondered."

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For information, contact:  
Shawn Eckert: [seckert@excioncorp.com](mailto:seckert@excioncorp.com)  
Andreas Punzel: [apunzel@excioncorp.com](mailto:apunzel@excioncorp.com)

[www.excioncorp.com](http://www.excioncorp.com)  
4626 East Shea Boulevard, Suite C-160 Phoenix, Arizona 85028 +1.888.392.4666

**THE LONGBOW GROUP LLC**  
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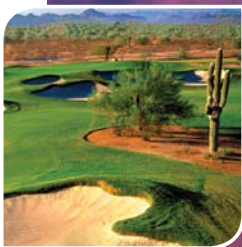
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