AVMARK INC.®
FOUNDED IN 1962
WORLDWIDE AVIATION MARKETING AND MANAGEMENT SERVICE

OCTOBER 2013

Newsletter

USA

EXECUTIVE OFFICE
PO Box 189
Vienna, VA 22183 – USA
Tel: +1-240-582-0119
Fax : +1-202-618-6267
enquiries@avmarkinc.com

PUBLISHING OFFICE
523 Stephens Avenue
Missoula, MT 59801 – USA
Tel: +1-406-274-3521
mrmotomontana@msn.com

EUROPE

AVMARK ESPAÑA
Gran Via de les Cortos
Catalnes 712, 6, 5
Barcelona 08013
SPAIN
Tel: +34-93-245-0659
enquiries@avmarkinc.com

LATIN AMERICA

AVMARK-SLEM S.A.
Avda. Carlos Julio Arosemena Km 2.5
C.C. La Linea, Oficina 3
Guayaquil
ECUADOR
Tel: + 593 4 222 0640
Fax: + 593 4 220 6726
Cell: +593-9-979-2586
enquiries@avmarkinc.com

ASIA & ASIA-PACIFIC

AVMARK ASIA-AMS
70 A Boat Quay
Singapore 049859
Tel: +65-65-38-38-35
Fax: +65-65-38-38-10
enquiries@avmarkinc.com

Market Comment

Is the Very Large Aircraft Finished or Just Getting Started? Some people forecast the end of the line for the **Boeing** 747, which was launched in April 1966, first flew in February 1969, and entered service in January 1970. The ñQueen of the Skiesò is now deemed too large for most markets. They can be fitted with form 380 to 560 seats, but no airline has crammed that many seats in the plane since the Japanese flew the -400D on high-density domestic routes. With the expansion of hub airports, improved air traffic control technology and more point-to-point flights, there are no longer any U.S. domestic 747 services because high-fare business travelers want more than one flight a day. Airlines fly multiple round trips with smaller widebodies, and now even the 200-seat 737-900ER has the range for trans-con services. The same facts influence intercontinental airlines; except for Blue Riband trunk routes, most airlines would rather fly multiple 777 or A330 flights than a single 747 or A380. In the 1970s and 1980s, some international airlines purchased the 747 for its 6,000 mile range and flew the plane half empty. When the 777 and A330 were granted Extended range Twin Operations (ETOPS) permission, they could fly 747 routes with many fewer empty seats, and less fuel burn.

Boeing reacted to the A380ôs threat to its claim to be the greatest and grandest airliner by stretching and re-winging its 747-400. Unfortunately, development of the 747-8 was delayed by two years because **Boeing** diverted engineers to the faltering 787 program. Since the launch of the 747-8, the manufacturer sold more freighters than passenger planes. When the air cargo market fell flat, several airlines cancelled some orders and the backlog shrank. So far in 2013, **Boeing** sold five 747-8Fs to **Cathay** and **Silk Air**, but lost five -8F orders placed by **Dubai Aerospace International. Korean Air** purchased five 747-8I passenger planes in October, for a net increase of five 747-8 sales, and a backlog of 28 747-8Is and 28 747-8Fs. **Boeing** has delivered 56 747-8s to date.

Boeing reacted to slow sales and cancellations by cutting its production rate from two per month to 1.75 per month (from 24 to 21 per year), in April. It announced in October that it will produce 18 747s per year (an average of 1.5 planes per month) starting in early 2014, with the intention to ramp up production in two years. At 18 planes per year, **Boeing** will build down its backlog of 56 in three years. This year it built some new 747s and flew them into storage as soon as they left the

Table of Contents

Market Comment 1

AIRCRAFT & ENGINE ORDERS

Airbus 4
Boeing 8
Regional 12
Engine News 15
Order Changes 16
Leasing Companies 17

AVIATION BUSINESS

Airline News 18
Technical 21
Cargo Pallet 22
Military Market 24

AIRCRAFT DELIVERIES, SALES & LEASES

Airbus 25
Boeing 27
Regional Jet 29
Turboprop Aircraft 29
Antiques & Junque 30
Accidents & Safety 31

PUBLICATIONS & FORMS

Avmark Capabilities
Avmark Publication Samples
Current Avmark Publications
Publication Form

plant. They were delivered to customers months after being completed. **Boeing** currently has two white-tail 747-8Fs (-87UF SN 37564 which was cancelled by **Atlas Air,** and -8HVF SN 37670, customer unknown) in storage. **Boeing** remains committed to the 747, and sees a market for both the freighter and passenger version. The 747 is the largest freighter in production today and it has no competition in the offing, so its future seems assured. The market for the passenger -8I Intercontinental is more tenuous. The two biggest customers for the passenger -8I, **Lufthansa** and **Korean Air** are also A380 operators. The 747-8I is the aircraft of choice for VVIP and government operators. **Boeing** has delivered eight of nine ordered executive 747-8s, while **Airbus** has one VVIP A380 on order. The manufacturerôs VP and General Managerð 747 Program, **Eric Lindblad,** stated the ñproduction adjustment better aligns us with near-term demand while stabilizing our production flow, and better positions the program to offer the 747-8é when the market recovers. It doesnôt change our confidence in the 747-8 or our commitment to the program.ò The company expects average long-term growth in the air cargo market to begin returning in 2014. It forecasts global demand for 760 very large airplanes (747-8 and A380) over the next 20 years (38 aircraft per year divided among two builders), valued at $280 billion. The launch of the 407-seat 777-9X is expected to cannibalize the passenger market for the 747-8, when it is introduced in 2019. The 747-8 typically seats 467 people in a three-class cabin and is currently list priced at $356.9 million.

The U.S. Air Force is in the market for two new Air Force One presidential aircraft. Its two modified 747-200-based VC-25s will be 30 years old in 2017. The **Air Force** requires a four-engine replacement, making **Boeing** and **Airbus** the only possible sources. **Boeing** wants the contract and submitted a reply to the **Air Force** while **Airbus** has not. It appears the European company was burned in the tanker competition and is at a disadvantage in this contest as well. Why spend a lot of development dollars for just two planes? Other companies have submitted offers to buy airplanes and modify them to be used as **Air Force One** lending some appearance of competition.

Both Boeing and Airbus said airlines flying into slot-constrained airports like **Heathrow** will need very large jets to keep pace with passenger demand as the global economy strengthens. However, **Airbus** is also looking at cutting A380 production since it has not sold one superjumbo this year and lost three orders from **Lufthansa.** It bravely boosted production

to 30 per year, but its sales have not matched its build rate. **Airbus** won a provisional order for 20 A380s from **Doric Lease Corp.** at the **Paris Air Show** in June. The contract is expected to be signed at the **Dubai Air Show** in November. **Doric's** CEO **Mark Lapidus** said he was trying to time the market, recognizing that airlines were not going to buy during the ógreat recession.ô ñThis is now changing because growth is coming back. We are now in a growth mode, not in a survival mode.ò He forecasted ñsignificantly more orders for the plane in the next 12 months,ò after talking with several airlines. **Airbus** had a backlog of 148 undelivered A380 orders as of September 31, but 21 of them were very soft ófirmô orders from three airlines. **Kingfisher** has been grounded for a year, but its five orders are still on the books. **Virgin Atlantic** negotiated cancellation rights for its six A380s when it delayed their delivery to the end of the decade. The airline, now tied to **Delta,** may opt for the latest generation of 350-seat twin-jets instead of the four-engined behemoth. Another soft customer was **Hong Kong Airlines,** which bought 10 A380 for delivery in 2015 at **Paris Air Show** in 2011, but the deal was blocked by the **Chinese Government.** In December 2012, CEO **Yang Jianhong** told the press, ñThe carrier is discussing changing at least some of its 10 on-order A380s for A330s, and delaying deliveries.ò

Airbus is aggressively marketing the 525-seat double-decker, but many airlines are attracted to the smaller and lighter, two-engine A350, which can carry from 270 up to 350 passengers in three-class configuration. The manufacturer faces gaps in the A380 production line for 2015, which may force it to build white-tail jets list priced at up to $400 million. **Airbus** will be loath to tie up that much capital, but it has a two-year lead time for some large metal forgings, and cannot easily adjust the production schedule. Thus it is forced to ñreview the situation and strategyò for the A380 in the words of an unnamed industry source. One unpleasant option is to reduce production below 30 per year and build through its 148-plane backlog more slowly. It can also discount prices further to fill slots in 2015 and beyond. **Tom Williams**, Executive VP for Programs said, ñClearly we would want to keep A380 production around 30 aircraft per year; however, we will never build ówhite tails'. We are pragmatic and we will adapt production rates and our cost structure in line with demand; small variations are not a crisis.ò A cut in rate will boost production costs per unit, and delay the long awaited financial breakeven date past 2015. Another option would be to accelerate delivery of planes scheduled for later in the decade in order to reach breakeven on time. Mr. **Williams** said the manufacturer would look at making ñsmall advancementsò, but can the customers swallow the added capacity like a pig in a boa constrictor? **Airbus** foresees a total market for 1,334 very large aircraft valued at $519 billion, over the next 20 years, an average of 67 per year. This seems optimistic considering both manufacturers are having a hard time delivering 50 per year between them right now. **Tim Clark,** President of **Airbus'** largest A380 customer **Emirates** confidently said, ñThere will always be a market for a 500-plus seater. As the economy returns to a degree of normality é the rebound will be a lot faster and more aggressive than in previous decades, and this time next year we could be having a different discussion.ò **Emirates** ordered 90 A380s (more than one third of the firm orders), and has taken delivery of 37 of them. It wants **Airbus** to build a bigger A380. ñWe have always been an advocate of stretching the airplane,ò he said. ñOn most routes a bigger plane would work quite nicely.ò He promotes the launch of the 100 seat stretch, and Mr. **Lapidus** agrees. ñI think the A380 will get stretched. If [**Doric** is] very successful, it will happen sooner rather than later.ò When **Airbus** has 500 orders for the A380, ñthe market will say very loudly to **Airbus**, you have to make that 650-700 seater aircraft.ò Mr. **Williams** commented, ñWe are not in any rush to make any decisions to change the design of the A380.ò The trend is for airlines to buy bigger aircraft as traffic grows. **Boeing** stretched the 100-seat 737-100 to the 210-seat 737-900ER, and both

manufacturers have stretched their widebody twin-jets to more than 350-400 seats. The next capacity jump for airlines is to the 500-plus seat aircraft that are already in service.

Airbus Orders

Airbus Sold 178 New Aircraft in September. This monthôs orders were led by **Vueling**, which signed its commitment for 62 A320s. Its sister airline in the **International Consolidated Airline Group, British Airways,** ordered 18 A350-1000s. **BOC Aviation** purchased 10 A320s and 15 A321s. **Delta Air Lines** ordered 30 A321ceos (current engine option) and 10 high-gross-weight A330-300s. The airline cancelled five A319s and two A320s that its merger partner, **Northwest,** ordered. **Lufthansa** purchased 25 A350-900s and cancelled three A380-800s. The airline said the orders were ñfirm optionsò which needed to be reconfirmed. It now has 10 A380s in its fleet and four in backlog. The three A380s were list-priced at $1.2 billion and the A350-900s had a list price of $7.2 billion ($288 million each). As of the end of the month, **Airbus** sold 1,112 new aircraft, but its backlog was diminished by 50 cancelations. The manufacturer surpassed its full-year target of more than 1,000 passenger jet sales by the end of the third quarter. **Airbus** sales chief **John Leahy** recently told an industry conference, ñWe have an internal target of 1,200 (orders) but I think we could even do a little better than that,ò in 2013. **Airbus'** backlog stood at nearly 5,300 aircraft at the end of September, representing more than eight years of production. **Airbus** delivered 51 jetliners, comprising 40 A320 Family aircraft, eight A330s, and three A380s, which brought total deliveries to 445 aircraft to more than 80 customers in 2013.

Airbus Orders, Deliveries and Backlog September 2013

SEP ORD	SEP DEL	SEP CANX	TOTAL ORD	TOTAL DEL	BACK LOG
			A318		
-0-	-0-	-0-	79	79	-0-
			A319		
-0-	7	-5	1,523	1,385	138
			A320		
72	26	-2	6,468	3,446	3,022
			A321		
45	7	-0-	1,861	845	1,016
			A330		
10	8	-0-	1,266	1,016	250
			A350		
43	-0-	-0-	725	-0-	725
			A380		
-0-	3	-3	259	111	148
This Month			**This Year**		**BL**
170	51	-10	**1,062**	**445**	5,299

Airbus sold 13,374 aircraft and delivered 8,075 as of September 30, 2013. Fifty orders have been cancelled. Total orders, deliveries and backlog include cancellations and order changes. Airbus expects to deliver from 600 to 610 aircraft in 2013.

Delta Air Lines announced its order for 30 A321ceos for use on domestic routes and 10 A330-300s for international routes in September. The 40 **Airbus** jets are worth almost $5.6 billion at list prices. The airline selected CFM56-5B engines from **CFM International** to power its A321s and CF6-80E1 engines from **GE** for its new A330s. Deliveries of **Delta's** new A330s will start in 2015, and its first A321ceo is scheduled for 2016 delivery. All of the A321s will feature Sharklets and will be built in

Airbus' new assembly plant in Mobile, Alabama. The carrier currently has 158 **Airbus** aircraft that it inherited from **Northwest Airlines,** in its fleet of more than 700 airplanes.

International Consolidated Airlines Group SA (IAG) Shareholders approved the purchase of 62 A320s for **Vueling** and 18 A350-1000s for **British Airways (BA)** at a meeting in Madrid. **IAG** also ordered six 787-9s and 12 787-10s. The total order is valued at $17 billion at list prices. The first 787 deliveries will start in 2017, and the A350-1000s will follow a year later. All 36 long-haul jets will be in service with **BA** by 2021. **Vueling** ordered 30 standard A320s and 32 A320neos. When they are delivered, it will have 125 jets in service.

Lufthansa purchased 25 A350-900s and optioned another 30 A350s. The airline has the option of switching to the -1000 model. The A350-900s have a list price of $7.2 billion ($288 million each) and the first A350s are due for delivery in 2016. They will be powered by **Rolls-Royce** Trent XWB engines. In May, the flag carrier purchased 100 A320 family airplanes, valued at about $10 billion at list prices. **Lufthansa** currently operates 18 A330-300s, 48 A340s and 10 A380s on long-haul routes and plans to replace its 13 747-400s and 24 A340-300s. If the airline needs to cut capacity further, it could start retiring its fleet of 24 A340-600s. The airline now has firm orders for 295 aircraft, worth ú36 billion ($48.8 billion) at list prices. It cancelled three A380-800s, list-priced at $1.2 billion, in September. The airline said the orders were ñfirm optionsò which needed to be reconfirmed.

Airbus Won 168 Orders Worth $15.3 Billion at the 15th **Aviation Expo China** in Beijing in October. **BOC Aviation** announced it bought 10 A320 and 15 A321 aircraft, split between current and new engine options. They are scheduled for delivery from 2015 to end of 2019. The Singapore-based aircraft leasing subsidiary of **Bank of China** said it bought 13 ceo and 12 neo aircraft, but did not yet specify the exact breakdown of aircraft and engine types. This new order was placed less than a year after **BOC** signed a purchase agreement for 50 A320 family aircraft. The lessor will make an announcement on the engine decision for these aircraft in the future, the press release said. **BOC Aviation** has now ordered 206 new A320 Family and six A330 aircraft, of which 125 have already been leased to 41 airlines and another 11 have been committed to lease. **BOC** has also purchased and leased-back 39 **Airbus** aircraft with airlines. The lessor has a portfolio of 229 owned and managed aircraft and another 108 aircraft on firm order.

VietJetAir, Vietnam second largest carrier, signed a Memorandum of Understanding (MoU) for up to 92 A320 family aircraft. It committed to lease eight more A320s from leasing companies. The airline ordered 14 A320ceo (current engine option), six A321ceo, and 42 A320neo (new engine option), and took purchase rights for 30 additional A320 family aircraft. The commitment was valued at $9.1 billion at list prices. **VietJetAir** currently operates nine leased A320s. It was founded in 2007, and started operations on December 24, 2011. **VietJetAir** was the first private airline in Vietnam to operate domestic and international flights. Today it flies to 11 domestic destinations, plus international services to Bangkok. The airline intends to enter the very crowded Southeast Asian low-cost-carrier market against **AirAsia, Lion Air, Jetstar** and **Tigerair**.

New Eastern Chinese Carrier Qingdao Airlines signed a firm order for five A320ceo and 18 A320neo aircraft. The deal is subject to approval from the Chinese government. The first of the A320ceos will be delivered in 2016. **Qingdao** will lease a fleet of A320s and begin operations in 2014. The airline was launched in June 2013 and is based in the coastal city of Qingdao, Shandong Province.

Zhejiang Loong Airlines, based in Hongzhou, the capital city of Zhejiang Province in Eastern China, signed a Memorandum of Understanding (MoU) for 20 A320 family aircraft, including 11 A320ceos and nine A320neos. The airline was recently approved by the **Civil Aviation Administration of China (CAAC),** and will begin operating regional flights from Hangzhou to Chengdu, Chongqing, Shenzhen and Xiôan. **Zhejiang Loong** plans to expand into international routes by 2016, **Airbus** said. The A320neo incorporates new more efficient engines and large Sharklet wing tip devices. At the end of August 2013, firm orders for the neo stood at 2,348 from 42 customers, making it the fastest selling commercial airliner ever, underlining its market leadership position.

SAS signed a Memorandum of Understanding (MoU) for four A330-300 Enhanced and eight A350-900s in June, 2013. The airline optioned six more A350-900s. In October, **SAS** and **Airbus** signed the final contract for the long-haul aircraft. The A330s will be delivered in 2015 and 2016 and the A350s will be delivered from 2018. The aircraft will be financed by export credit financing and sale and leaseback transactions.

JetBlue Airways placed the 10,000th order for an Airbus A320 Family aircraft in late October. The airline purchased 15 A321ceo (current engine option) and 20 A321neo (new engine option) aircraft. The A321ceos will enter service by 2017, and the first of the 20 new A321neos will arrive in 2018. The 35 A321s are valued at $4 billion at list price. The airline opted to convert eight of its 11 A320ceo and 10 of 40 A320neo orders to eight and 10 orders for the larger A321ceo and A321neo, respectively. The airline retains three A320ceo and 30 A320neo orders. **JetBlue** will operate the A321s on its premium service on the New York-Los Angeles and New York-San Francisco markets. Nearly 2,400 neo aircraft have been sold since the

Airbus Officially Offered its New Low-Weight A330-300 wide-body at the 15th **Aviation Expo China**. The manufacturerôs President and CEO **Fabrice Brégier** made the announcement on the first day of the **Beijing Airshow** in October. He said, ñThe new lower weight A330-300 variant, specially designed for regional and domestic use, is **Airbus'** solution for markets with large populations and fast growing, concentrated air traffic flows.ò China will be one of the most important markets for this new version of the A330. ñWe see strong pent-up demand for efficient and reliable wide-body aircraft connecting mega cities such as Beijing, Shanghai, Chengdu and Guangzhou.ò The A330 regional will carry twice the number of passengers as a single-aisle aircraft, so it will reduce congestion at airports, and alleviate the shortage of pilots. The current A330-300s are intended for long-range services of up to 6,100 nautical miles (nm). The new A330-300 regional will be optimized to seat up to 356 passengers in economy class and will fly up to 3,000 nm. It will offer significant cost savings through a reduced operational weight of around 200 tonnes (35 tonnes less than the standard A330-300). The reduction in fuel burn per seat and maintenance costs will result in an overall cost reduction of up to 15 percent compared with the long-range A330-300. The A330-300 regional will benefit from the latest A350 and A380 technologies, including dual heads-up display on the flight deck and the latest navigational systems. The cabin will be fitted with light-weight seats, high broadband wi-fi, and the newest in-flight entertainment, LED and full color mood lighting, the manufacturer asserted. The engines will be de-rated and the extra 56 seats will be fitted where galleys and crew rest areas were. **Airbus** said it has strong interest from Chinese airlines and it should have a launch customer by early 2014. The first A330 regional should enter service in 2015. **Airbus** forecasts a market for several hundred over the next 10 years. The aircraft is well suited for use in India, the Middle East and Southeast Asia, said Mr. **Brégier.**

programôs launch two years ago. **JetBlue** will be the first airline to take delivery of an A320 Family aircraft from **Airbus'** newest assembly facility, currently under construction in Mobile, Alabama. The first plane will be handed over in 2016. **Airbus** forecasts the facility will produce between 40 and 50 aircraft per year by 2018. The airline also launched the Sharklet retrofit program where airline operators will install Sharklets on their current A320ceo Family fleets.

Airbus Announced its First Jet Order from Japan Airlines (JAL) in October. The flag carrier is buying 18 A350-900s and 13 A350-1000s, and took options for a further 25 aircraft. The first A350 will join **JAL's** fleet in 2019 and the last is scheduled for delivery in 2025. The deal is worth $9.5 billion at list prices. The A350s will replace 777s on long-haul routes. This is **JAL's** first order for **Airbus** aircraft, although its merger partner **Japan Air Service** bought A330s in the 1980s. The A350-900s comfortably seat more than 300 passengers in a three-class layout and can serve routes as long as 8,100 nautical miles (nm). The A350-1000s will seat 350 passengers and can fly up to 8,400 nm. The A350 XWB models are equipped with **Rolls-Royce** Trent XWB engines. The first A350-900 will fly commercially in the second half of 2014. With this latest commitment, **Airbus** has sold 756 A350 XWBs to 38 customers worldwide.

The JAL A350 Order followed an intense battle between **Airbus** and **Boeing** to sell new long-haul jets to Japanôs two biggest carriers over the next decade. Both **ANA—All Nippon Airways** and **JAL** have relied on **Boeing** widebodies for their international services for decades. **Boeing** cemented its relationships with the two airlines by contracting with Japanese suppliers to build wings for the 767, 777 and 787. It controlled more than 80 percent of the Japanese airliner market, until now. **Airbus** has tried hard to break **Boeing's** widebody monopoly for decades. It nibbled around the edges with its sales of A300B2s and -600Rs to the now defunct **Japan Air System** and A380s to **Skymark Airlines.** Analysts said the **JAL** order was a serious blow to **Boeing**. They claim the problems with the 787 as a leading factor in **JAL's** defection. Also the **Japanese Government's** influence in the flag carrier quickly diminished after the airline went public after a government bailout in 2010. **All Nippon** intends to buy around 25 new jets to replace its fleet of older 777s after 2020. The airline is evaluating the 777-8 and 777-9 as well as the A350, an airline spokesman said. Some people think that **ANA** will be a launch customer again for the new **Boeing** jet, but it is not a done deal. **ANA** CEO, **Shinichiro Ito,** told the press the airline would consider possible delivery delay risks when choosing replacements for its older 777s.

Airbus' Latest Global Market Forecast (GMF) reports that air traffic will grow at 4.7 percent annually over the next 20 years (2013-2032), requiring over 29,220 new passenger and freighter aircraft valued at nearly $4.4 trillion. Passenger aircraft valued at $4.1 trillion will account for 28,350 deliveries and, approximately 10,400 efficient aircraft will replace existing ones. Airlines currently operate 17,740 passenger jets, and by 2032, the worldwide fleet will double to nearly 36,560 airplanes. Economic growth and urbanization will drive the increase in traffic. The number of megacities will double from 42 today to 89 by 2032, and 99 percent of the worldôs long-haul traffic will travel between or through these cities. The average size of aircraft has grown by 25 percent recently as airlines ordered larger aircraft to carry the increased traffic. **John Leahy**, **Airbus** Chief Operating Officer ï Customers, said, ñBy 2032, Asia-Pacific will lead the world in traffic, overtaking Europe and North America. Today on average, a fifth of the population of the emerging markets take one flight annually, and by 2032, this will swell to two thirds. The attraction of air travel means that passenger numbers will more than double from todayôs

2.9 billion, to 6.7 billion by 2032.ò Domestic traffic in India is growing at the fastest rate (nearly 10 percent), followed by China and Brazil at seven percent each. Asia-Pacific will account for 36 percent of all new passenger aircraft demand, followed by 20 percent in Europe, and 19 percent in North America. **Airbus** predicts that the Very Large Aircraft market (A380 and 747-8I) will require 1,334 new aircraft valued at $519 billion. The Twin Aisle market (A330, A350 XWB, 777 & 787) will need 6,779 aircraft valued at $1.82 trillion. The Single Aisle market will account for 71 percent of new deliveries ï 20,242 aircraft valued at $1.80 trillion. The global success of low-cost carriers (LCC) in Europe, Asia, the Middle East and Africa is opening new markets and boosting the number of first time flyers from these regions. By 2032, LCCs will increase their traffic market share to 21 percent from todayôs 17 percent.

The Second A350 XWB (SN 003) completed its first flight of approximately five hours on October 14. The A350 XWB test aircraft has no cabin but is equipped with heavy flight test installation. The second test aircraft flew four months after the first prototype took off from Toulouse. Flight test aircraft (SN 001) has flown some 70 test flights for approximately 330 hours. These flights have been devoted to the identification and freeze of all flap and slat configurations, loads and aero-elastic testing and evaluation of the aircraftôs handling characteristics and systemsô operation throughout the operational envelope, **Airbus** said. Three more A350 test aircraft will join SN 001 and 003 to perform 2,500 hours for certification. The first A350-900 will be delivered to **Qatar Airways** in the second half of 2014. Sales chief **John Leahy** suggested at the **ISTAT** conference, that **Airbus** may stretch the A350-1000 still further to reach the seating capacity of the newly launched 777-9.

Aeroflot ordered 18 A350-800s and four A350-900s in June 2007. The press recently reported that the previously undisclosed price for the 22 Airbus A350s was $3.1 billion ($140.9 million each). This is half the list price of $306.5 million each. The airplanes were scheduled for delivery between 2014 and 2017, but they were delayed until 2018 through 2023. An industry insider said **Aeroflot** adjusted its order so that it will now receive eight A350-800s and 14 A350-900s. This change is not reflected in the September **Airbus** ***Orders and Deliveries*** webpage.

Aeroenlaces Nacionales SA, trading as **VivaAerobus,** will replace its fleet of 19 737-300s with 40 A320neos and 12 standard A320s by 2016. The deal is worth $5 billion ($96.15 million each) at list price. The airline will announce the engine selection at a later date. **VivaAerobus**, Mexicoôs fourth-biggest carrier, announced the purchase on October 21. In the last two years, **Aeromexico,** the largest airline, ordered Boeing 737-MAX while **Interjet** and **Volaris** picked A320neos from **Airbus**. The airline was set up in 2006 by **Irelandia Aviation, (**owned by **Tony Ryan,** the founder of **Ryanair)** and Mexican transportation company, **IAMSA**. **Barclays** Plc is working with the airline to offer shares to the public. **Airbus** said that more than 500 **Airbus** aircraft were in operation throughout Latin America and the Caribbean. The manufacturer sold more than 800 aircraft in the region and had a backlog of nearly 400 to be delivered. In the last 10 years, **Airbus** tripled its in-service fleet, and delivered more than 60 percent of all aircraft operating in the region.

Boeing Orders

Boeing Sold 127 New Aircraft in September, including 84 737s and 43 787s**. WestJet**, Canada, confirmed its commitment to buy 65 737-MAX aircraft and **Air Lease Corporation (ALC)** purchased 33 787s and four 737-MAXs. **GECAS** bought 10 787-10s, and a **Business Jet / VIP Customer**

contracted for one 737-700BBJ. **Alaska Airlines** purchased five 737-900ERs and the **United States Navy** ordered its 15th 737-700C-based C-40A Clipper. **Air Europa** picked up another eight 737-800s and it cancelled four 737-800s early in the month. **Westjet** dropped 15 737-700s late in September. To date, **Boeing** lost 119 737 orders. It sold 1,023 new aircraft this year and lost 133 existing orders, for a net total of 890 orders, as of September 30.

Boeing September 2013 Orders, Deliveries

SEP ORD	SEP DEL	SEP CANX	TOTAL ORD	TOTAL DEL	BACK LOG
			737		
84	39	-19	11,222	7,755	3,467
			747		
-0-	2	-0-	1,525	1,474	51
			767		
-0-	3	-0-	1,108	1,057	51
			777		
-0-	12	-0-	1,467	1,139	328
			787		
43	6	-0-	979	89	890
This Month			**This Year**		**BL**
127	62	-19	**890**	**476**	4,787

Boeing sold 23,831 aircraft and delivered 19,044 as of September 30, 2013.
The Current Program includes sales and deliveries of 737s, 747s, 767s, 777s and 787s.
Sales totals are net – minus 133 cancellations. Boeing expects to deliver from 635 to 645 aircraft in 2013,

Boeing delivered 62 aircraft in September, including six 787s. It also handed over 39 737NGs, two 747s, three 767s, and a dozen 777s. This was the first time it delivered double digit numbers of 777s, which are produced at a rate of 8.3 per month. Some of the 777s were hold-overs from August, when six 777s were pushed out the door. The manufacturer increased its commercial aircraft deliveries in the third quarter by 14 percent compared to the same period a year earlier. It delivered 170 commercial aircraft in the quarter, compared to 149 in 2012. It completed 112 737 Next Generation aircraft, and 23 787s, despite being plagued by technical issues throughout the year. **Boeing** handed over 12 787s a year ago and 16 in the second quarter of 2013. It also delivered four 747s, five 767s and 26 777s in the period. The company delivered 42 military aircraft, including two C-17s and two P-8 Poseidons in the third quarter, compared to 33 deliveries for the third quarter of 2012.

WestJet signed a contract to purchase 25 737-MAX-7s and 40 737-MAX-8s on September 26. The first will be delivered in September 2017. The order was valued at $6.3 billion at current list prices. The new airplanes will be used to replace older 737NGs in **WestJet's** fleet. The 737-MAX aircraft will be powered by **CFM International** LEAP-1B engines. The **WestJet** order brings the total number of 737 MAX orders to date to 1,567 airplanes.

GE Capital Aviation Services (GECAS) completed its order for 10 787-10 Dreamliners that was announced at the **2013 Paris Air Show**. The order was valued at $2.9 billion ($290 million each) at list prices. The new 787-10 will carry from 300 to 330 passengers for up to 7,000 nautical miles (12,964 km). To date, the 787-10 has accumulated 102 orders and commitments from five customers worldwide.

With the Dreamliner purchase, **GECAS** has ordered 598 aircraft from **Boeing** since 1995, including 737s, 747s, 757s, 767s, 777s and 787s. It has received 451 **Boeing** airplanes.

Air Lease Corporation (ALC) completed an order for 30 787-10 and three 787-9 Dreamliners, valued at $9.4 billion ($284.8 million each) at list prices. The commitment was originally announced during the **2013 Paris Air Show** in June. The 787-9 completed its first flight in September and the first one is scheduled for delivery in mid- 2014. The lessor also ordered four 737-MAXs. **ALC** had previously ordered a dozen 787-9s, 15 777-300ERs, 78 737-800s and 80 737-MAX-8/-9s. The first 787-10 will be delivered in 2018.

Alaska Airlines exercised options to purchase five 737-900ER (extended range) aircraft. The five new airplanes are worth $481 million at current list price. Two of the aircraft will arrive in 2015 followed by two more in 2016, and the last in 2017. This order adds to the 30 737-900ERs on firm order for delivery by the end of 2017, as well as 37 737-MAXs. **Alaska** expects to have 134 aircraft in its all-**Boeing** 737 fleet by the end of 2014.

Air Europa Ordered Eight More 737-800s. The delivery dates were not announced. At the **Paris Air Show** in June 2005, the Spanish carrier ordered 12 737-800s and optioned a dozen more. Presumably, they exercised some of those options. In December 2012, the Palma de Majorca-based leisure airline cancelled three orders. The press reported that the airline had taken delivery of three new 737s, but was regularly canceling outstanding orders or selling delivery positions to third parties to adjust its growth plans to account for slowing traffic. In September, **Air Europa** cancelled four 737-800s. It is assumed that the airline dropped near-term deliveries and picked up eight mid-decade production slots. The airline has taken delivery of 24 737-800s and now has 10 in backlog.

The Commercial Aircraft Corporation of China (Comac) C919 may not enter service until late this decade. Officials told the Chinese press that the first flight was delayed by one year, until 2015, which will push the first delivery to around 2017 or 2018. Sources from the state-owned aircraft manufacturer and its Western suppliers said the company was still struggling with the complex project. The **Comac** C919 was intended to compete with the **Airbus** A320neo and **Boeing** 737-MAX families of aircraft, but they will enter service before the C919. The C919 will be cheaper to buy, but it may not match the fuel efficiencies and lower maintenance costs of its competitors, which could be cheaper to operate. China wants to develop a domestic commercial aircraft to prove it can compete with the West in high-tech industries such as aerospace. The project is delayed by a shortage of local aerospace design and engineering talent, and few domestic technology companies to support the project. One Western supplier said China wants to learn how to build a viable and safe aircraft, and become more competitive in the long-term, even if the C919 is not as technologically advanced as the A320neo or 737-MAX. **Comac** Vice President **Luo Ronghuai** said at the **Aviation Expo**, ñWe want the best products and technologies from our suppliers, and that has caused some delay. We've used new technologies. As such, it's hard to say whether there will be some setbacks.ò He pointed to the problems **Airbus, Boeing** and **Bombardier** had with their newest airplanes. The company is proceeding cautiously during the development stage so that the C919 will meet international testing and certification standards. **Comac** is building an ñiron birdò ground test airframe which will be used to check systems and flight controls and identify any problems in the development phase. Western companies are already sending engines, landing gear, flight deck controls, etc, to Shanghai for installation on the test bed. The ground tests should be completed in 2014. **Comac** has received commitments to buy 400 C919s.

Aerolineas Argentinas, the Argentine flag carrier, signed a contract for 20 737-800s, worth $1.8 billion ($90 million each) at list prices, in October. The 737s will be used to modernize its fleet. **Aerolineas** currently operates a fleet of 26 leased 737NGs.

El Al Israel Airlines purchased two more 737-900ER (Extended Range) airplanes in October, for a total of eight. The order comes just two weeks after the Israeli flag-carrier took delivery of its first 737-900ER. **EL AL's** 737-900ERs feature the **Boeing Sky Interior**, which have modern sculpted sidewalls and window reveals, LED lighting to enhance the sense of spaciousness, and larger pivoting overhead stowage bins. The order is the latest chapter in a partnership between **Boeing** and **EL AL** that stretches back to the early 1960s. The airline operates an all-**Boeing** fleet of nearly 40 airplanes including Next-Generation 737s, 747-400s, 767s and 777s, and serves more than 40 destinations worldwide from its base in Tel Aviv.

Also in October, Unidentified Customer(s) bought 42 737s, and one **Business Jet/VIP Customer** ordered one 737 BBJ, raising this yearôs total number of 737s sold to unnamed clients to 244, and the number of **BBJ** sales to two. **Boeing** lost a dozen 737 orders in late October, for a total of 131 737 cancellations. The manufacturer sold 907 new 737s, and a total of 1,110 aircraft in 2013.

Korean Air finalized the order for five 747-8 Intercontinentals and six 777-300ER (Extended Range) jetliners that was announced during the **Paris Air Show** in June. The Korean flag carrier also ordered one more 787-9 Dreamliner. The combined order was valued at $3.9 billion at current list prices. With this order **Korean Air** expanded its backlog of 747-8 Intercontinentals and 777-300ERs to 10 each, and its 787 backlog to 11. It is currently the only airline in the world to order both the passenger and freighter variations of the 747-8. The airline also is the first carrier to simultaneously operate 747-8F and 777F freighters. It currently has 91 **Boeing** passenger airplanes in its fleet, consisting of 42 737NGs, 15 747-400s and 34 777s. The airline also operates an all-**Boeing** cargo fleet of 20 747-400Fs, three 747-8Fs and three 777 Freighters.

Commercial Aircraft of China sold 20 C919s to **ICBC Financial Leasing**, the finance leasing arm of the **Industrial Bank of China.** This sale brings total orders for Chinaôs homegrown 150-seat jet to 400. The first flight of the C919 is expected to be in 2015.

Chinese Airline and Leasing Customers committed to buy around 200 737-MAX aircraft, worth approximately $20.7 billion at list prices. The orders must be approved by the **Chinese Government.** A **Boeing** spokesman declined to comment on the deal. **China Aviation Supplies** will divide the orders among airlines that already operate the 737NG, such as **Air China, China Eastern Airlines** and **China Southern Airlines.** Chinese lessors associated with the country's banks will also buy some of the MAX aircraft. **Boeing** said it had orders for 1,567 737 MAX at the end of October.

Vietnam Airlines intends to buy 19 more 787 Dreamliners valued at more than $4 billion at list prices. The airline has already ordered eight 787s. All of the airlineôs 787s will be powered by **General Electric** GEnx engines. **Boeing** has not commented on the possible deal.

Regional Report

Lion Air in CSeries Talks with Bombardier. The Indonesian budget carrier is talking about a potential order for up to 100 CSeries CS300 jets. An order could be finalized and announced at the **Farnborough Airshow** in July 2014. **Export Development Canada** could help finance the deal, and deliveries could start in 2016. **Lion Air** President **Rusdi Karana** praised the CSeries and said, ñWhat theyôre doing is not a normal aircraft. This one is very special. The aircraft is suited for our operations,ò during a visit to **Bombardier's** facilities near Montreal. The airline expects to use the 150-seat CS300 on long thin routes in Indonesia and internationally. The plane fills a gap between the 72-seat ATR 72s and the 189-seat 737-800s and 215-seat 737-900ERs. **Lion Air** recently ordered 234 Airbus A320s and ordered 201 **Boeing** 737-MAXs in February 2012. The airline also ordered five **Boeing** 787-8s for **Malindo Air**, a joint venture with Malaysiaôs **National Aerospace and Defense Industries**.

Embraer September 30, 2013 Orders & Deliveries

Type	Total Orders	Total Options	Total Deliveries	Current Backlog
E170	192	27	186	6
E175	315	463	175	140
E190	560	176	482	78
E195	145	22	123	22
E-Jet-E2	50	50	-0-	50
Total	**1,362**	**838**	**966**	**396**

Type	3rd Quarter Deliveries	2013 Deliveries
Light Exec Jets	21	52
Large Exec Jets	4	14
Embraer 170	1	3
Embraer 175	9	12
Embraer 190	9	31
Embraer 195	-0-	12
Total	**19**	**58**

Bombardier revealed that **CDB Leasing Co.,** China, was a previously undisclosed customer for up to 30 CSeries passenger jets. **CDB** purchased five CS100 and 10 CS300 aircraft, and took options for 15 additional CSeries jets. If all the options are exercised, the deal will be worth $2.07 billion at list prices. The order was originally placed in July 2012. The manufacturer expects to complete airworthiness testing for the CSeries within 11 months, including nearly 2,500 flight hours.

Luxair, the national carrier of Luxembourg, ordered its seventh **Bombardier** Q400 NextGen turboprop valued at $32.2 million at current list prices. The airline optioned one Q400 NextGen as well. If it is confirmed, the deal will be valued at $65.78 million. **Luxair** currently operates six Q400s. **Bombardier** has now sold 476 Q400 and Q400 NextGen turboprops.

Bombardier is talking with **American Airlines** about an order for up to 70 regional jets. The deal was stalled by the blocked merger with **US Airways.** The sale is a must-win for the Canadian manufacturer. They need the sale to maintain their production rate. Since December 2012, **Delta** has ordered $1.85 billion worth of CRJ900s, while **Embraer** has sold E-Jets worth $9 billion. **American** operates 213 **Embraer** regional jets and 59 **Bombardier** aircraft.

Embraer S.A. delivered 19 jets to the commercial aviation market during the third quarter of 2013, and 25 planes to the executive aviation market, for a total of 44 aircraft. The manufacturer delivered 21 light jets and four Legacy 650s in the quarter. The company sold 25 E190-E2s and 25 E195-E2s to **International Lease Finance Corporation (ILFC).** The sale was announced as a Letter of Intent (LOI)

at the **Paris Air Show** in June, and it includes options for an additional 25 E190-E2s and 25 E195-E2s. The company lost one E170 order, 25 E175 options, three E190 orders, and 28 E190 options during the quarter, and it gained two E195 orders and two options. The firm order backlog totaled $17.8 billion at the end of the quarter.

Aurigny Air Services, the Guernsey-based regional carrier, signed a firm contract for one EMBRAER 195. Delivery is scheduled in the first quarter of 2014. The E195 will be the first jet in **Aurigny's** fleet. It currently flies three ATR 72s on six daily frequencies to **London Gatwick Airport.** The E195 will be fitted with 122 slim seats in single-class layout. The E-Jet will enable **Aurigny** to add two **Gatwick** frequencies and offer much-needed additional capacity.

Belavia of Minsk, Belarus, ordered two EMBRAER 195s with the first to be delivered in the first quarter of 2014. The firm order was included in **Embraer's** 2013 third quarter backlog. The aircraft will join two E175s already operating at the airline. The E195s will replace two of the airlineôs six 737-500s as part of its fleet renewal program.

Danish Leasing Firm Nordic Aviation Capital (NAC) ordered 15 more ATRs and optioned another 25 aircraft at the **European Regional Association (ERA) General Assembly** meeting in Salzburg. The value of the 40 aircraft was $1 billion ($25 million each). This year, **NAC** ordered a total of 130 ATR aircraft, including 50 firm ATR -600 series aircraft, and options for 80. It currently manages a fleet of some 90 ATRs, and over the next four years, it will expand its portfolio to up to nearly 150 after the delivery of its firm **ATR** aircraft. Twenty-five percent of **ATR's** total backlog will be delivered to leasing firms.

The Commercial Aircraft Corporation of China (Comac) expects to receive certification of its ARJ21 regional jet next year, allowing the company to deliver the first aircraft to launch customer **Chengdu Airlines** by the end of 2014. A series of major tests were completed this year and the certification process is moving forward. The first ARJ21 flew in 2007, and four ARJ21 flight test aircraft have completed more than 2,000 flights and approximately 4,000 hours in the air. The program has completed about 70 percent of the necessary flight tests, including the minimum unstick speed tests, stall tests and high crosswind flight tests. The regional jet will undergo natural icing tests, and some additional high humidity flight tests in the next few months. At the **Aviation Expo, Comac** admitted to facing many challenges. It took three years to satisfactorily complete the landing gear emergency release tests because of the technical problems encountered. The **Civil Aviation Administration of China's (CAAC)** will certify the ARJ21 in China and the U.S. **Federal Aviation Administration** is conducting a shadow certification process. Its representatives will fly on the regional jet in the coming months, showing confidence that the aircraft is safe. It will take two years before the aircraft gets validated by the U.S. **FAA** after certification by the **CAAC.** Progress on the 11-year old program was slowed by a shortage of engineers and an ambitious development schedule. The airframer lacked experience in building a jet airliner and the **CAAC** has not certified a commercial jet before, therefore both were unfamiliar with the process. **Comac** has won 252 commitments for the ARJ21, mostly from Chinese airlines and leasing companies.

Garuda, Indonesiaôs national carrier, signed a leasing agreement to acquire 35 ATR 72-600s from **Nordic Aviation Capital (NAC),** worth $840 million. The leasing agreement includes 25 firm aircraft and options for 10 additional ATR 72-600s. The first two ATRs will be delivered in November 2013, the European manufacturer said. The 72-600s will be configured with 70 seats and powered by **Pratt &**

Whitney PW127M engines. **NAC** Chairman **Martin Moller** said, ñSouth East Asia is definitely providing us with huge leasing potential and the ATR 72-600s perfectly match the requirements for short-haul travel in terms of low operating costs, comfort and ability to operate in small airfields and remote areas.ò The aircraft leasing company ordered 35 and optioned 55 ATR -600 series aircraft worth $2.1 billion at the 2013 **Paris Air Show.** It bought another 15 at the **ERA** meeting in October. **NAC** has now placed cumulative firm orders for 50 -600 series turboprops and options for 80 more, for a total of 130.

Russia's United Aircraft Corp. suggested that it could assemble **Sukhoi** Superjet 100 and **Irkut** MS-21 passenger jets in India. **Yevgeny Popov**, head of the **Economic Development Ministry**ôs department of Asia and Africa said Russia was considering various projects to promote its airliners, including their production in other countries. Mr. **Popov** spoke at 19th meeting of the **Russian-Indian Intergovernmental Commission on Trade, Economic, Scientific, Technical and Cultural Cooperation** in Moscow. Assembling the passenger jets in India could cut production costs by 40 percent, Mr. **Popov** said. Russia and India are already cooperating on the design and production of a military transport for the **Indian Air Force**. **Antonov** in the Ukraine currently ships aircraft kits to **HESA** in Iran which assembles the IRAN-140 turboprop.

Mitsubishi Heavy Industries (MHI) started the final assembly of the first flight-test Mitsubishi Regional Jet at its aerospace systems works in Nagoya, Japan, in October. The aircraftôs mid-fuselage was trucked from **MHI's** Tobishima facility, approximately 30 km away. The company said other sections of the fuselage, main wings and other structural components will arrive soon, after which electrical wiring, hydraulic and other systems will be installed. The vertical and horizontal stabilizers are being built at **MHI's** Oye plant, in Nagoya, and will be installed on the airframe, followed by the **Pratt & Whitney** PW1200G geared turbofan engines. In August, **Mitsubishi Aircraft** delayed the MRJôs first flight by more than a year, to the second quarter of 2015. First delivery was also pushed back to the second quarter of 2017. This was the second delay in the original first flight scheduled in the second quarter of 2013. **Mitsubishi Aircraft** sold 15 MRJs to launch customer **All Nippon Airways,** and 100 to U.S.-based **SkyWest Airlines** and 50 to **Trans State Holdings,** for a grand total of 165 firm sales. The three MRJ customers also hold 160 options between them.

The Xian Aircraft MA60 is set to receive type certification from the **Civil Aviation Authority of Nepal (CAAN)**, which will allow the Chinese-made turboprop to start flying in the country. A team from **CAAN** was in China to verify the aircraftôs flight performance, structure, engines, design and limitations, **Xian Aircraft** said**.** The **CAAN** team stated that its validation of the MA60 was conducted successfully. **Nepal Airlines** ordered two MA60s and four **Harbin** Y12s from **AVIC International** in December 2012. The airplanes will be financed by the Chinese government. The MA60 suffered three accidents recently, causing regulators to question its safety. Myanmarôs civil aviation department grounded the MA60 after two **Myanmar Airways** MA60s skidded off the runway after landing, and a **Merpati Nusantara Airlines'** MA60 landed hard in Indonesia. The aviation authorities conducted a ñspecial auditò of the type.

Engine News

Rolls-Royce welcomed **Japan Airlines'** decision to buy 31 **Airbus** A350 XWB aircraft, which are powered by Trent XWB engines. The manufacturer stated the Trent XWB was the worldôs most efficient engine flying today, and will power 18 A350-900 and 13 A350-1000 aircraft. The Trent-powered A350 XWB operated its first test flight on June 14. The Trent XWB engine benefits from a close relationship with Japanese partners **Kawasaki Heavy Industries (KHI), Mitsubishi Heavy Industries (MHI), IHI Corporation,** and **Sumitomo Precision Products (SPP)** as well as other Japanese suppliers.

South African Airways (SAA) intends to upgrade the **Rolls-Royce** engines on its aging **Airbus** A340-300s and A340-600s to cut fuel costs. Chief Executive Officer **Monwabisi Kalawe** talked with **Rolls** about making the jets more efficient to reduce the state-owned carrierôs losses. **Rolls** has upgrades available, and it sent engineers to Johannesburg to perform some tests. ñIf this works, we could save between one and five percent,ò Mr. **Kalawe** said. **Rolls-Royce** said the improvement should generate a saving of around $200,000 per aircraft per year. **SAA** will choose between the **Boeing** 787 Dreamliner and the **Airbus** A350 to replace its fuel hungry long-haul fleet. The airline tender requests for up to 23 aircraft for delivery from 2017.

CIT Aerospace chose **Rolls-Royce** Trent engines for the 10 **Airbus** A350 XWB and 13 Airbus A330 aircraft that it ordered in January 2013. The A330s will be fitted with Trent 700 engines, and Trent XWB engines will power the A350 aircraft that **CIT** recently purchased, as well as five A350 XWBs it previously ordered. **Rolls-Royce** said the Trent XWB was specifically designed for the A350, and is the fastest selling Trent engine ever, with more than 1,400 already sold. The XWB variant powers both the A350-800 and -900, and was awarded **European Aviation Safety Agency (EASA)** type certification in February. The engine is installed on the two A350-800 flight test aircraft that flew in June and October respectively. The first A350 XWB will enter service in 2014.

Lufthansa chose **Rolls-Royce** Trent XWB engines worth $1.5 billion to power 25 Airbus A350-900 aircraft. The contract includes **TotalCare** service support and options for a further 30 A350 XWBs. The sale continues a close relationship between **Rolls-Royce** and **Lufthansa,** which has 60 Trent-powered Airbus A380s, A330s and A340s either in service or on order. **Rolls-Royce** is also a joint-venture partner with **Lufthansa Technik AG** in the **N3 Engine Overhaul Services** maintenance business.

Rolls-Royce Trent 1000 Engines have powered the first test flight of the **Boeing** 787-9, the second member of the 787 Dreamliner family. The aircraft flew for five hours on September 17, and continues a series of firsts for the Trent 1000, which powered the first flight test 787-8 in December 2009. The first **RR** powered 787 entered service in October 2011. The engine will also power the first 787-9 to be delivered to launch customer **Air New Zealand** in 2014. A further engine upgrade, the Trent 1000-TEN (Thrust, Efficiency and New technology), is being developed for the newly launched 787-10. It will enter service in 2016. The 787-10 is expected to use at least 25 percent less fuel than other aircraft of its size. The Trent 1000-TEN will be an option on all **Boeing** 787 variants**.**

ICBC Financial Leasing ordered **IAE International Aero Engines AG** V2500 engines for the 17 firm and three optioned A320s that it ordered. This brings the total number of V2500 engined aircraft ordered by **ICBC Leasing** to 37. The new deal is valued at $430 million, and the A320s will be delivered from 2015 to the end of 2017. **ICBC** will lease V2500 engined aircraft to operators worldwide.

Vietnam Airlines chose **GE** GEnx engines for the eight 787-9s it has ordered. The airline purchased 40 engines to be delivered by 2015. The aircraft and engines are valued at approximately $1.7 billion ($212.5 million each). **ILFC** will have **GE** GEnx engines on three of its 41 787-9s. Another eight of the 787-9s will be powered by **Rolls-Royce** Trent 1000s and **ILFC** has not made an engine selection for the other 30 787-9s.

JetBlue Airways delayed delivery of 24 **Embraer** E190s from 2014 to 2018 until 2020 to 2022; at the same time it ordered 35 A321s valued at $4 billion. The airline is switching to larger, more fuel-efficient airplanes. **JetBlue** now plans to operate only 60 E190s. Presumably the other 16 firm orders and 100 options will be cancelled. The deferred aircraft are valued at $1.11 billion at catalog prices. This was the fourth time that **JetBlue** has canceled or delayed E190 orders since 2006. At **Paris Air Show** in June 2011, it said it would not buy more than 75 E190s. It currently operates 130 A320s, one A321 and 59 E190s.

Order Changes and Cancellations

Airbus Order Shuffle. In September, **Lufthansa,** the German flag-carrier, cancelled three of its 17 A380 orders when it purchased 25 long-haul A350-900s. It also dropped three options. The airline signed for 15 **Rolls-Royce** Trent 900-powered A380s in December 2001 and agreed to buy another pair in 2011. A spokesman, **Helmut Tolksdorf,** said, ñThe cancellations result from our conservative growth and fleet plans.ò **Lufthansa** told investors that its fleet wonôt grow beyond 400 aircraft through 2016, 80 fewer than previously planned. **Delta Air Lines** cancelled the last five A319s and two A320s that **Northwest** ordered before its merger with **Delta** in 2008. The airline upgraded to the larger A321. **LATAM** switched nine A320 orders to nine A321 orders. The airline group now has 45 A320s and 19 A321s in backlog. **Wizz Air** also exchanged 26 A320 orders for 26 A321s in September. The Hungarian low-cost carrier now has 44 A320s and 26 A321s that will be delivered over the next few years. The airline needed more capacity on some routes. **Intrepid Aviation** dropped another A330-200F freighter order and picked up its 11th A330-300. The lessor still has three A330Fs on order.

Kingfisher Airlines Orders Still 'Firm.' Airbus still shows that **Kingfisher** has firm orders for 24 A320s, five A330-200s, five A350-800s and five A380s, even though it has been grounded for a year. The airlineôs licenses were revoked in January 2013, and lessors have reclaimed most of its fleet. The airline owes the Indian airports millions of dollars in landing fees and some managers are now under indictment for fraud. Oddly, some Indian investors are betting on a return and have been buying up large blocks of the airlineôs stock at fire sale prices.

Boeing's Order Cancellations and Changes. In August, **Travel Service Airlines** dropped one 787 order, the first of that type to be cancelled this year. In September, **Westjet** dropped 15 737-700 orders when it purchased 65 larger 737-MAX-8s and MAX-9s which will be delivered between 2017 and 2027. **Air Europa** dropped four 737-800s that were ordered in 2005 and 2006. **Aviation Capital** exchanged two 737-700 orders for the larger -800 model. It now has 18 -700s and eight -800s in backlog. **Air Berlin** cancelled eight 737-800s that were ordered in 2007. The airline has 28 -800s yet to be delivered. **Air Lease Corp. (ALC)** dropped four 737-800 orders that it placed in 2011. The lessor still has 65 -800s on order. **Russian Technologies (Rostec)** adjusted its 50 737 commitment. It originally chose 13 737-700s, 29 -800s and eight -900ERs, and it will now take delivery of 10 -700s, 34 -800s and six -900ERs. Their first -800 was delivered in September. **CIT Leasing Corp.** switched one -900ER order to the -800 type. It now has unfilled orders for 13 -800s and five -900ERs. **Lion Air** chose two smaller

-800s in place of two -900ERs. The airline has 13 -800s and 97 -900ERs in backlog. **British Airways** is the customer for two 777-300ERs that were previously listed as ñundisclosed.ò The first of the 777s was delivered in September. **Singapore Airlines** transferred its 10 787-8 and 10 787-9 orders to **Scoot.**

BOC Aviation placed six **Airbus** A321 aircraft with **EVA Airways**, and will deliver them between March and August 2015. **EVA Air** is renewing its narrow-body fleet to expand its regional routes. The aircraft will be equipped with CFM-56 engines. This is **BOC's** first placement from its order of 35 A320s and 40 A321s, which will be delivered from 2015 to 2019. **BOC Aviation** will lease six **Boeing** 737-800s to **SpiceJet** to expand its routes in the Indian domestic market. **SpiceJet** took delivery of the first 737 in September, and the other five will be delivered in 2014. **BOC** has a portfolio of 229 owned and managed aircraft and another 108 aircraft on firm order.

Leasing Companies

GE Capital Aviation Services (GECAS) signed an agreement to lease four **Boeing** 737-MAX-8 aircraft to **Travel Service.** Two of the new aircraft are scheduled for delivery in early 2018, and two in early 2019. The deal is the first announced lease of 737-MAX by any lessor. The planes will come from the 75 737-MAXs that **GECAS** ordered in September 2012. The four planes are valued at $414 million at current list prices.

Garuda Indonesia and **ICBC Financial Leasing** signed two agreements for aircraft financing worth $1.7 billion. The airline will sell and lease back five **Boeing** 777-300ERs with **ICBC** after they are delivered from May 2014 through September 2015. **ICBC Financial Leasing** will lease six **Airbus** A320-200 to **Citilink**. The six A320s will join the **Citilink** fleet from June through December 2014 through an operating lease.

AVMARK INC.
WORLDWIDE AVIATION MARKETING AND MANAGEMENT SERVICE

International Lease Finance Corp. (ILFC) signed a 12-year lease agreement with **SriLankan Airlines** for three A350-900 aircraft. The A350s will support the airlineôs long-haul fleet renewal. **SriLankan** also placed direct orders for four A350-900s with **Airbus.** The A350-900s will be powered by **Rolls-Royce** Trent XWB-84 engines and will be delivered between July and September 2016. **ILFC** currently leases two A330-200s and one A340-300 to **SriLankan.**

Air Lease Corporation (ALC) announced the long term lease of one **Boeing** 737-700 (SN 33015) to **Georgian Airways**, based in Tbilisi, Georgia. The aircraft is scheduled for delivery in October 2013. The flag carrier operates scheduled services to many destinations in Europe, the Mediterranean, the Middle East and Russia, with **Boeing** 737s and **Bombardier** CRJ regional jets. **ALC** will long-term lease one new 737-800 to **Ukraine International Airlines** in April 2015**.** The 737 will be fitted with winglets, the Boeing Sky Interior, and CFM56-7B engines.

AWAS Leases. The Dublin-based lessor will lease another two new A320s with **Aeroflot.** These will be the seventh and eighth A320s that the lessor has placed with the Russian flag carrier and the aircraft will come from **AWAS'** existing new order pipeline. The new A320s will be delivered to the airline in the first half of 2014. **AWAS** will long-term lease one new **Boeing** 737-800 from its backlog to **Aeromexico.** It will also purchase and lease-back one 737-800 that the airline ordered directly from the manufacturer.

FLY Leasing purchased its seventh and eighth new **Boeing** 737-800s, and placed them on long-term leases to leading Asian airlines. The purchase was financed with **FLY's** unrestricted cash and its acquisition facility. **FLY Leasing** purchased/leased back its first new **Boeing** 787-8 aircraft with **LATAM** in a deal announced in July. The purchase was financed with funding from a European bank and **FLY's** own cash. This year, **FLY** has purchased 10 aircraft valued at more than $570 million and raised its portfolio to 101 narrowbody and eight widebody aircraft, leased to 58 airlines.

SMBC Aviation Capital will lease two **Airbus** A320-200s to **Aeroflot Russian Airlines** from its direct order book with **Airbus**. The lessor will also lease four of its backlog of 737-800s to **Garuda Indonesia. SMBC** owns and manages 344 aircraft, valued at over $10 billion, which are operated by airline customers in more than 40 countries around the globe. It is committed to purchase another 57 aircraft worth over $3 billion from **Airbus** and **Boeing** in the coming years.

Avolon announced that its fleet reached 179 aircraft serving 37 customers in 24 countries. The international lessor added eight aircraft to its fleet this quarter, and now its aircraft (owned or under management) exceed $6 billion in value. **Avolon** secured commitments for an additional $1.1 billion of debt capital. The lessor also recently arranged $636 million worth of **Fixed Rate Asset Backed Notes** for a newly established special purpose company, **Emerald Aviation Finance Limited. Emerald** will use the proceeds to acquire 20 aircraft from **Avolon**.

Airbus Said Asian and Middle Eastern Banks are taking a larger share of the $100 billion global aircraft financing market. ñSome European lenders have halved their lending availability for the aviation sector,ò said **Francois Collet**, **Airbus** Vice President for Structured Finance. After the continentôs debt crisis, ñThey have tried to fill the gap by bringing in other regional and local banks and working together in syndicated deals. Traditional banks are now playing the role of arrangers,ò he said. French banks **BNP Paribas, Societe Generale, Natixis** and other European lenders said they had to reduce their exposure to risky and dollar-denominated assets such as shipping and aircraft financing to meet tougher capital rules and shore up reserves. The **Development Bank of Japan, Sumitomo Mitsui Financial Group** and **Mitsubishi UFJ Financial Group** have jumped in to fill the gap. Chinese, South Korean and Middle Eastern lenders such as **National Bank of Abu Dhabi** are also rushing to finance aircraft purchases and leases. Mr. **Collet** said, ñWe see Southeast Asian banks developing expertise and thereôs a lot of interest from Japan and South Korea gaining an interest in the sector. They clearly want to grow outside of their region.ò Airlines are diversifying their funding sources as the industry grows. Airlines are also tapping the capital markets for aircraft financing, which now accounts for about 14 percent of the total. Conservative pension funds and insurance companies are now looking at the sector, attracted by reasonable stability and the long-term nature of the financing, Mr. **Collet** said.

Airline News

American Suit Dropped. The **State of Texas** reached a settlement with **American Airlines** and dropped its challenge to the merger of **American** and **US Airways**. In August, **Greg Abbott,** the stateôs attorney general, joined five other states and the **Justice Department** to block the merger, citing fears that that the consolidation would lead to higher fares and fees. The Fort Worth-based airline agreed to maintain present levels of service in Texas and to keep the headquarters in the state. **American** is a major employer in Texas. The **Justice Department's** anti-trust trial over the merger is scheduled to begin November 25.

Indigo Partners Will Buy Frontier Airlines from Republic Airways Holdings in a deal that will close in December. The private equity firm will pay $36 million in cash to **Republic**, and assume $109 million in debt for all the outstanding shares of **Frontier.** The sale is dependent on labor agreements with **Frontier's** flight attendant and pilot unions, as well as third-party commercial agreements. **Indigo** was a majority shareholder of **Spirit Airlines,** but sold its 12.1 million shares in **Spirit** in July. It will invest additional funds in **Frontier** after the deal closes. **Republic's** order for 20 A319neos and 60 A320neos will be transferred to **Frontier,** and **Indigo** will reimburse $32 million of pre-delivery deposits to **Republic.** The holding company purchased **Frontier** out of bankruptcy in 2009 for $109 million and assumed $1 billion in liabilities. It merged **Frontier** with **Midwest Airlines** in April 2010. After a successful restructuring **Republic** offered **Frontier** for sale. **Indigo** will change the airline into an ultra-low-cost carrier under the tutelage of **William Franke,** an aviation pioneer who was CEO of **America West** and invested in **Volaris,** Mexico, **Wizz Air,** Hungary, and **Tiger Airways,** Singapore. Mr. **Franke** said, ñThe objective is to offer a consumer options so the consumer has low fares, and then can choose what he or she wants to add to that base fare in exchange for services. That has been the manner of running **Spirit,** for **Ryanair** in Europe, and weôve taken that model to other markets as well.ò Denver-based **Frontier** offers flights to more than 80 cities in the United States, Costa Rica, the Dominican Republic, Jamaica, and Mexico, and will expand to new markets based on demand, he said. **Republic** remains focused on its fixed-fee flying for US mainline carriers, including **American, Delta Air Lines, United Continental Holdings Inc.,** and **US Airways,** after its brief and expensive foray into running airlines on its own behalf.

SAS – Scandinavian Airline System sold 80 percent of **Widerøe's Flyveselskap AS** to an investment partnership of **Torghatten ASA, Fjord1 AS** and **Nordland Fylkeskommune**. The transaction was completed during September and was worth approximately SEK 2 billion ($315 million), including aircraft related transactions.

IATA Posts October Jet Fuel Prices. The association updates the worldôs average jet fuel price each week**.** On October 11, the average price of fuel was $2.987 per gallon. The fuel price was $3.024 per gallon on September 13. The October price was 0.9 percent lower than in September, and was 9.1 percent less than in October 2012. The price of fuel is affected by location. It was only $2.93 in the Middle East region and was as high as $3.05 per gallon in Latin America. **IATA** forecast that the global airline industryôs fuel bill will total $124.5 billion in 2013. This was a decrease of $3 billion over 2012.

Indian Government Approved Etihad Airways Investment in Jet Airways. The Abu Dhabi-based airline will invest 20.6 billion rupees ($332 million) in exchange for 24 percent of **Jet.** India relaxed its airline ownership rules last year, and in April, **Etihad** was the first foreign carrier to announce its intentions to invest. **Jet Airways** is Indiaôs biggest publicly traded carrier. Traffic is expected to triple to 452 million by 2020. This market prompted **Tata Group** to found a low-cost airline with **AirAsia**, Malaysia, and a full-service carrier with **Singapore Airlines. Etihad** will purchase 27.26 million shares of **Jet**. It bought three pairs of takeoff and landing slots at **London Heathrow Airport** from **Jet** for $70 million in February and will buy a majority stake in the **Jet Privilege** frequent-flier program for the $150 million. **Jet** will use the funds to buy new airplanes and pay down its debt. The airline will need to cut its costs to compete with the new low-cost carriers in the Indian market. **Etihad** could help to feed **Jet's** network, and coordinate potential aircraft deals. **Jet** operates 11 A330s, 59 737NGs and six 777-300ERs. It has no new airplanes on order.

Half of the money will be used to reduce **SAS'** debt and the rest will strengthen **SAS'** cash position. **SAS** will sell the remaining shares in **Widerøe** in 2016. The regional airline operates 41 **Bombardier** Dash 8s.

TAM Airlines will join the **oneworld** alliance on March 31, 2014. This will add Brazilôs largest airline to one of the worldôs largest global airline alliances. Brazil is Latin Americaôs biggest economy and largest market for air travel. The announcement follows **LAN Colombia's** joining as an affiliate member of **oneworld** on October 1. The airline can now offer the allianceôs full range of services and benefits. **LAN Colombia** and **TAM** are members of the **LATAM Airlines Group.**

Air New Zealand (ANZ) received approval from the **Australian Government** to increase its share of **Virgin Australia** to 25.9 percent. **ANZ** Chief Executive Officer **Christopher Luxon** said, ñThe opportunity to take our shareholding in **Virgin** to 25.9 percent and the recently extended **Tasman Alliance** with **Virgin,** mean we can confidently work with **Virgin** to provide a strongly competitive, Australasian and international airline network.ò **Virgin Australia's** other major shareholders are **Virgin Group, Etihad Airways** and **Singapore Airlines**. The **New Zealand Government** currently owns 74 percent of **Air New Zealand**, but it intends to sell a minority stake in the company in the coming years.

India's Foreign Investment Promotion Board will consider **Singapore Airlines'** proposal to set up a joint venture airline with the **Tata Group**. The two partners plan to form a full-service airline based in New Delhi. **Tata** will own 51 percent of **Tata SIA Airlines,** and **Singapore** will own the rest. They will invest $51 million and $49 million, respectively.

Luxembourg is trying to sell its 35 percent stake in **Cargolux** to Chinese investors, **Henan Civil Aviation Development and Investment Company (HNCA)**. ñThe **HNCA** company, being one of the potential candidates which have expressed their interest in the **Cargolux** stake, is in close talks with Luxembourg,ò the government said. In December, 2012, **Luxembourg** bought back the shares in the freight airline from **Qatar Airways** for the original sale price of $117.5 million, after a dispute over how to run the airline. Luxembourg flag carrier **Luxair** owns 43.4 percent of **Cargolux** and state-owned Luxembourg banks **BCEE** and **SNCI** hold 10.9 and 10.7 percent, respectively. After buying back the shares, the government has been actively trying to resell them.

LOT Polish Airlines gave **Boeing** until the end of the year to pay up or go to court. The companyôs Chairman **Sebastian Mikosz** told the local press, ñWe are holding negotiations because **Boeing** is our very important partner and we are ready to take any steps possible within the bounds of the law to defend the interests of the company.ò **LOT** recently delayed some of its 787 flights after checks showed two of the planes lacked fuel filters. It will add the cost of emergency aircraft rentals to the $32 million list of compensation claims which it presented to **Boeing.**

Etihad Airways also raised its equity stake in **Virgin Australia Holdings** to 19.9 percent by a series of recent on-market purchases of **Virgin Australia** shares. Abu Dhabiôs flag carrier now owns more than 515 million shares and has reached the threshold approved by Australiaôs **Foreign Investment Review Board.**

Aegean Airlines, Greece, won **European Union** approval to buy **Olympic Air,** because anti-trust regulators saw that **Olympic** would close down if the deal was blocked. **Aegean** will buy the flag carrier for ú72 million ($96.4 million), and it claimed the purchase was crucial for both airlines due to the decline in domestic traffic in recession-wracked Greece. **EU** Competition Commissioner **Joaquin Almunia** said, ñIt is clear that, due to the on-going Greek crisis and given **Olympic's** own very difficult financial situation, **Olympic** would be forced to leave the market soon in any event. Therefore we approved the merger because it has no additional negative effect on competition.ò The **EU** decided that no airlines were likely to enter the Greek market to compete with **Aegean** and **Olympic**, and that there was no other buyer for the international carrier. **Aegean** tried to buy **Olympic** in 2011 but the purchase was blocked by the **EU** competition authority. Since then the two airlines dropped a number of overlapping routes. **Olympic Air** will be a subsidiary of **Aegean,** and the two airlines will separately operate aircraft and flights under the two logos and brands. The transaction was completed by October 18, 2013. **Olympic** was founded in 1957 by the shipping magnate **Aristotle Onassis**, and was taken over by the **Greek Government** and run into the ground. **Aegean Airlines** started operations in March 1999 with two **AVRO** RJ100s. It is now the largest airline in the country, having surpassed **Olympic** in size and traffic in 2009. It joined the **Star Alliance** in June 2010.

Aeroflot Group founded a budget airline and named it **Dobrolet**, after the Soviet joint-stock company established in 1923 that was the predecessor of **Aeroflot**. **Dobrolet** will be based in the Moscow region and operate a fleet of the new **Boeing** 737-800NGs in one class configuration. The low-cost carrier will start flying in spring of 2014, and it will serve popular destinations in European Russia. It will cut costs by 40 percent through direct ticket sales and installing the maximum number of seats in the planes. It will follow the low-cost business plan of charging for checked bags, more comfortable seats, priority boarding, as well as inflight food. **Aeroflot** owns 100 percent of the new company, and it will invest around $100 million over the first two years. The airline will take delivery of eight 737s in the first year, and will grow by eight aircraft per year. **Dobrolet** will compete with **easyJet** and **Wizz Air** which have entered the Russian market. **Dobrolet** means ñgood flierò in Russian and it expects to carry 1 million passengers in 2014 and up to 10 million people by 2019. Its parent, state-owned **Aeroflot,** flew 17.7 million people in 2012, and had revenues of $8.1 billion.

Technical

Aviation Partners Boeing (APB) received an order from **Copa Holdings, S.A.** for up to 100 **Split Scimitar Winglet Systems (SSW)** for Next-Generation 737 aircraft. Once all their 737NGs are fitted with **Split Scimitar Winglets, Copa** expects to save over $21 million in annual fuel costs while reducing its CO2 output by more than 63,000 tons per year. **Copa Airlines** has 27 737-800s on order for delivery by 2018 (10 more are on option), and it has 15 737-700s and 46 -800s in service. Many of the 737NGs are already fitted with **APB Blended Winglets.** The airline serves 65 destinations in 29 countries in North, Central, and South America, and in the Caribbean. **Copa Holdings** is also the parent of **Copa Airlines Colombia,** which operates three 737-700s. **APB** said the **Split Scimitar Winglet** program was the ñculmination of a five year design effort using the latest computational fluid dynamic technology to redefine the aerodynamics of the **Blended Winglet** into an all new **Split Scimitar Winglet**. The unique feature of the **Split Scimitar Winglet** is that it uses the existing **Blended Winglet** structure, but adds new strengthened spars, aerodynamic scimitar tips, and a large ventral strake. This

advanced technology winglet is the ultimate winglet in terms of performance, without increasing existing wing span.ò **APB** has now taken orders and options for over 550 **Split Scimitar Winglet** systems since launching the program. Over the last 10 years, **APB** has sold more than 7,000 Blended Winglet Systems and delivered nearly 5,000 to more than 200 airlines.

Aviation Partners Boeing sold **Split Scimitar Winglet (SSW)** to **Alaska Airlines** for its fleet of 111 Next Generation 737s. The winglets are expected to save 58,000 gallons of fuel a year per aircraft, and save $20 million in operating costs. **APB** said the **Split Scimitar Winglets** will enter into service by the end of this year, and **Alaska Airlines** plans to install its first **Split Scimitar Winglet** by next summer.

APB announced it would offer the **Split Scimitar Winglet (SSW)** on the **Boeing Business Jets (BBJ)** family of aircraft. The retrofit to the existing **BBJ Blended Winglet** will require the strengthening of internal winglet structure, and replacement of the aluminum winglet tip caps with new aerodynamically shaped ñScimitarò tip caps. This revolutionary design was flight tested in 2012 on a BBJ and confirmed significant drag reduction over the basic **Blended Winglet** configuration.

Airbus Launched the Sharklet Retrofit Program for in-service A320 Family aircraft in October. Operators of older in-service A320 Family aircraft will be able to benefit from Sharklets starting in 2015. The retrofit includes reinforcing the wing structure and adding the Sharklet wing tip device. As part of the upgrade, the retrofit will lengthen the aircraftôs service life and thus maximize the operatorsô return on investment for the Sharklet retrofit, **Airbus** said. Sharklet retrofitted aircraft will see a reduction in fuel costs by up to four percent and an increased range of up to 100 nautical miles. More than 4,000 A320 Family aircraft can be fitted with Sharklets, and **Airbus** has secured commitments for around 200 shipsets from several airlines. **Airbus** will initially deliver kits for A319 and A320 models and will evaluate a retrofit for the A321 at a later stage.

AVMARK INC. WORLDWIDE AVIATION MARKETING AND MANAGEMENT SERVICE

Jet Aviation Basel, Switzerland, is getting ready to deliver the first **Boeing** 787 for a private customer by the end of the year. VIP customers have ordered 12 executive 787s to date. **Jet Aviation** sent a team of Part 145 licensed engineers to receive training at **Boeing's** facilities. The engineers have already completed an advanced 787 structural repairs training course provided by **Boeing**. **Jet Aviation Basel's** VP and General Manager **Neil Boyle** said, ñThe all-composite structures of the **Boeing** 787 present a unique set of requirements for interior completions. We have invested heavily in the new technologies of the **Boeing** 787 to master their impacts on the completions process for VIP aircraft.ò

Lufthansa Technik is finishing cabin installation work on two VIP projects in its Hamburg hangars. The first one, a BBJ 2, will be delivered back to the unnamed customer in December 2013. The second, a 767-4FSER (SN 34205) will be handed over to the **Bahrain Ameri Flight** at the beginning of 2014. **Lufthansa Technik** said, ñThe ultra-modern cabin design for the BBJ 2 was created by a renowned international design bureau in London. The interior contains several innovation highlights, like a steam shower, an open cooking opportunity, an air humidification system and lower cabin altitude. Additionally, the aircraft is equipped with **Lufthansa Technik's** state-of-the-art inflight entertainment and cabin management system, including GSM connectivity and live-TV.ò The 767-400 was delivered in March 2008, and parked since then. This type of aircraft was a new and special experience for its skilled VIP specialists. The cabin design for this aircraft was created by its own VIP interior design department, **Lufthansa Technik** said.

AJW Aviation signed a three year power-by-the-hour repair management agreement with Las Vegas-based **Allegiant Air.** The comprehensive support contract covers **Allegiant's** new fleet of nine A319s and nine A320s that it is buying from **easyJet** and **Iberia**, respectively. Three of the A319s and six A320s have been delivered and the rest will enter service by the end of 2014.

Aeronautical Engineers (AEI) redelivered the forth high-gross-weight (HGW) 737-400SF (SN 25261) to the **ASL Aviation Group**, for operation by **Air Contractors**. Another two passenger planes are undergoing freighter conversions at **Commercial Jet's** Miami and Dothan facilities. **AEI** redelivered the second of four HGW 737-400SF (SN 26300) 11 Pallet freighters to **Allied Air,** Nigeria. It was built in 1994. **Allied Air's** 737-400SFs support its **DHL** and other customer contracts in West Africa. Its third aircraft is another HGW 737-400 (SN 26081) built in 1993 and is currently undergoing freighter modification at **AEI's** authorized conversion center, **Flightstar Aircraft Services** in Jacksonville, Florida. **AEI** redelivered the first of two HGW 737-400SFs (SN 25052) to **Kahala Aviation**. The 11 Pallet freighter was built in 1991 and has been leased to **Jet Time A/S**, a Danish charter airline. The conversion was performed at **Commercial Jet Services** in Dothan, Alabama. **AEI** completed 14 of a scheduled 23 freighter conversions in 2013. The 737-400SF has a maximum range of about 2,800 nm and the ability to carry payloads of up to 48,000 lbs.

Aeronautical Engineers was selected by **FITS Aviation** of Sri Lanka to provide two MD-82SF 12 Pallet Configuration conversions. The first aircraft is an ex-**Alitalia** MD-82, (SN 53217) built in 1993 and will soon undergo freighter modification at **Commercial Jet** in Miami, Florida.

Cargo Pallet

The Airbus Cargo Global Market Forecast postulates that worldwide air freight traffic will grow by an average of 4.8 per cent annually over the next 20 years, and require the doubling of the global freighter fleet to nearly 3,000 aircraft. Worldwide air cargo will require around 2,700 new and converted aircraft, and half of these will be needed to replace the fleet of old cargo aircraft. The other half will be used to satisfy projected growth in the industry. Airframers will build 870 new freighters worth approximately $234 billion, while around 1,860 aircraft will be converted from passenger aircraft. By 2032, 175 current freighters will still be in service. Belly freight in passenger aircraft will remain largely unchanged at around half of commercial air freight on international traffic. **Airbus** forecasted that the mid-size freighter category will be the core of the future fleet replacement and long term growth. Asia-Pacific (including China and India) currently represents 36 percent of the world freight traffic, and will increase to 42 percent by 2032. China is driving air cargo growth. It currently represents 15 percent of the air cargo market, and this will rise to around 22 percent by 2032. The combined developed nationsô share of traffic accounted for 51 percent of the total traffic in 2012. While cargo traffic will continue to grow, their share of the market will drop to 45 percent by 2032. The fleet of 380 small freighters account for about 23 percent of the world fleet today and the number will grow to more than 600 aircraft by 2032, representing around 21 percent of the total. Mid-size freighters represent about 45 percent of todayôs fleet. Their numbers are expected to nearly double to 1,290 units by 2032 from 744 in 2012. The large freighters represent about 32 percent of the fleet today and will reach over 1,000 aircraft by 2032, slightly increasing its share of the world freighter fleet.

Boeing Capital Corporation leased two MD-11BCFs (Boeing Converted Freighters) to U.K.-managed **AV Cargo,** the successor to the former **Avient Ltd**. The first of the cargo tri-jets was turned over in

May 2013, and the second aircraft began revenue service recently. They are based in Liege, Belgium, and fly to West Africa. The airline will receive its third MD-11BCF in early 2014. The MD-11BCFs feature an updated flight deck and cargo-handling system, better fuel efficiency and increased operating capabilities. **Boeing** has converted more than 100 passenger MD-11s into 90-ton capacity freighters, and another 75 were built as cargo aircraft. **Frank Duckstein, Boeing Capital's** director of asset management said, ñConversion extends the aircraftôs useful life beyond its passenger service and, thanks to the superior economics and operating performance. It allows us to place into service a good cargo asset despite a soft market.ò

PEMCO World Air Services (PEMCO) redelivered the second special mission 737-400C Combi to **Safair** for operation in Africa. The Combi will be used to support global humanitarian and charitable relief organizations. **Fuerza Aérea Colombiana (FAC)** received its second 737-400 Combi. The aircraft will be used for special missions in support of various **Colombian Air Force** and humanitarian efforts. The **PEMCO** 737-400 Combi has a ñSwiss army knifeò cargo loading system, capable of simultaneously carrying four and a half pallets of freight in multiple configurations, and seventy-two passengers.

Israel Aerospace Industries' (IAI) Bedek Aviation Group signed licensing agreements with **Boeing** covering modifications of the 767-200/300 and the 747-400, including passenger to freighter conversions. The agreements apply to 72 767-200/300 BDSF (Bedek Special Freighter) aircraft and 29 747-400 BDSF aircraft that were previously converted by **IAI** for various customers. The agreement covers future **IAI** conversions as well. **Bedek Aviation Group** has been a **Boeing** licensee for passenger to freighter conversions of the 737-300/400 since 2010.

Singapore Technologies Engineering (ST Engineering) received an order for 17 passenger-to-freighter (PTF) conversions from **FedEx Express** in the third quarter. This brought the total number of aircraft contracted for the **Boeing** 757-200 PTF conversion program to 119. Seventy of the conversions were performed on **FedEx** aircraft.

Military Market

Boeing started final assembly of the third KC-46A test aircraft for the **U.S. Air Force's** next-generation aerial refueling tanker program. The program is on schedule to complete production of four test aircraft by the third quarter of 2014. **Boeing** is also assembling its second refueling boom. The company is on track to deliver the first batch of 18 KC-46A tankers by 2017. The first test aircraft will be rolled out in early 2014 and the first fully provisioned KC-46A tanker will fly in early 2015. The first delivery of a production aircraft to the **Air Force** is planned for early 2016. **Boeing** expects to build 179 tankers by

The Indian Air Force's (IAF) fourth **Boeing** C-17 Globemaster III was delivered to India on October 19. A fifth one will be handed over to the **IAF** this year, and **Boeing** will deliver five more C-17s to India in 2014 to complete the contract. The **IAF** uses the C-17 to airlift troops and large cargo, and to deliver humanitarian supplies. Recently, the **IAF** used its C-17s to support **Cyclone Phailin** relief efforts. **Boeing** will complete production of the C-17 Globemaster III in the fourth quarter of 2015. The company will build 20 more C-17s for customers outside the U.S. It delivered 223 to the **U.S. Air Force** and a total of 35 to Australia, Canada, India, Qatar, the United Arab Emirates, the United Kingdom and the 12-member Strategic Airlift Capability initiative of NATO and Partnership for Peace nations.

2027, if all options under the contract are exercised.

Alenia Aermacchi will deliver the first C-27J Spartans to two new customers, Chad and Australia shortly. The aircraft are in the final stages of assembly at the company's Caselle site in Turin. Chadôs first tactical transport is largely complete, and its **Rolls-Royce** AE2100 engines are installed. The plane will be painted and test flown ahead of the delivery in mid-December. The fuselage of Chadôs second aircraft will arrive at Caselle shortly. Training of **Chad Air Force** technicians and flight crew is already under way. The **Royal Australian Air Force's** first Spartan is undergoing fuel tests at Caselle, and will start flight testing and other acceptance trials in late October. It will be delivered in early 2014. The **Australian Government** ordered 10 C-27Js in May 2012. The next two aircraft are in final assembly at Caselle, and a fourth fuselage is being built at **Alenia's** plant in Capodichino, near Naples. **Alenia** began work on the fuselage of aircraft SN 190 at the Naples factory. It is listed as a õWhite Tailö, but the airframer said it would announce an order soon. The **U.S. Air Force's** last three C-27Js are being built at the Turin plant. The **U.S.A.F.** will take delivery of the C-27Js in 2014, and will place them immediately into storage at **Davis-Monthan Air Force Base** in Tucson, Arizona. A dozen new C-27Js are already at the **309th Aerospace Maintenance and Regeneration Group (AMARG)** facility. In 2012, the **Air Force** decided the Spartan was no longer needed since the war in Afghanistan was winding down. It cancelled the rest of the $2.04 billion contract for 78 C-27Js (with training and support) that was signed in June 2007. The **U.S. Government** is considering transferring the surplus transports to other government agencies such as the **Coast Guard**, **Forest Service**, or **Special Operations Command**. The **Air Force** spent $567 million ($27 million each) on the 21 Spartans since 2007. It is still taking delivery of new aircraft because they were too near completion for termination to be cost-effective. The C-27s are going into Type 1000 storage, the most extensive aircraft preservation capability provided at **AMARG,** an **Air Force** spokesperson said.

The 328 Group formally handed over the 17th and last Dornier 328 turboprop to **Sierra Nevada Corporation (SNC)** to be used by the **United States Air Force** on July 9th, 2013. This marked the completion of a four-year contract worth more than $200 million, including spare parts support. The **U.S. Air Force Special Operations Command (AFSOC)** accepted the aircraft in three tranches from 2009 to July 2013. **The 328 Group** purchased 15 of the aircraft outright from various sources, while **SNC** acquired two of the aircraft. The 328 aircraft were designated the C-146A, and are used by **AFSOC** to support special operations missions around the world. Apparently the aircraft are assigned to **524 Special Operations Squadron** based at **Cannon AFB**, which supports detachments around the world. The planes are painted in generic ñairlinerò scheme with a white fuselage and several stripes in two blue colors, but have military registrations.

AIRCRAFT DELIVERIES & SALES

Airbus

Airbus A319. **Airbus** delivered seven A319s in September, including two -112/Ws (SN 5781 & 5789) to **Texas Aviation Group** for lease to **American Airlines**. **American** also leased two -112/Ws (SN 5786 & 5788) from **CIT Aerospace. CIT** leased one -113 (SN 5765) to **Sichuan Airlines,** and **Sichuan**

took delivery of **Tianjin FAL**-built -133 (SN 5650). **Taca International Airways** accepted one -132/W (SN 5406). **SMBC Aviation Capital** leased -112 (SN 3905) to **Atlantic Airways** in October.

EVA Air, Taiwan, leased its first Sharklet equipped A321-211/W (SN 5808) from **GE Capital Aviation Services (GECAS).** The aircraft was handed over during a ceremony in Hamburg in October. The airplane is the first of eight A321/Ws that will be operated by **EVA Air** under a lease agreement from **GECAS. UTair** took delivery of its third new -211 (SN 5779), and **JetBlue** received its first of 30 A321s in late October.

Airbus A320. **Airbus** delivered 26 A320s in September. **Qantas Airways** took delivery of five -232/Ws and leased three (SN 5701, 5717 & 5732) to **Jetstar Japan,** and two -232/Ws (SN 5775 & 5780) to **Jetstar Airways.** Elsewhere in the Asia/Pacific region, **Hainan Airlines** leased **Tianjin FAL**-built -214 (SN 5656) to **Beijing Capital Airlines. SMBC Aviation Capital** leased -214 (SN 5777) to **Citilink**, Indonesia, and -214/W (SN 5759) to **China Eastern Airlines. Air China** accepted another **Tianjin FAL**-built -214 (SN 5664). **China Southern Airlines** acquired one **Tianjin FAL**-built -232 (SN 5671), and leased -232 (SN 5756) from **Air Lease Corp. Air Astana** took delivery of one -232/W (SN 5734). **AirAsia** received one -216/W (SN 5762) and leased it to **Thai AirAsia. Airbus** delivered one -232/W (SN 5744) to **IndiGo**, India. **AWAS** leased one -214/W (SN 5773) to **Star Flyer,** Japan, and the first of three new -214/Ws (SN 5742) from its new order pipeline to **VietJet Air. Spring Airlines** leased -214/W (SN 5778) from **GECAS.** It was the airlineôs first A320 equipped with Sharklet wing tip devices, and features a 180-seat, economy-class cabin. In the Middle East, **GECAS** leased -214/W (SN 5746) to **Middle East Airlines (MEA),** and **Air Arabia** took delivery of -214/W (SN 5772). In Europe, **Lufthansa** accepted its 62nd -214/W (SN 5769), and **easyJet** received -214/W (SN 5785). In the Americas, **LATAM Airlines Group**, the holding company of **LAN** and **TAM** airlines, took delivery of two -214/Ws (SN 5748 & 5752) for **TAM. Airbus** delivered one -232/W (SN 5782) to **JetBlue,** and one -233/W (SN 5776) to **Volaris,** Mexico. **Aviation Capital Group** leased one -214/W (SN 5754) to **Avianca Brasil.**

VietJetAir leased its ninth A320-214/W from **AWAS** in October. It was the second of three Sharklet-equipped -214/Ws that are coming from **AWAS'** order backlog. **SMBC Aviation Capital** delivered a new -214 on lease to **China Eastern Airlines.** This aircraft was part of the lessorôs order book.

Airbus A321. **Airbus** delivered seven A321s in September, including two -231s (SN 5751 & 5763) to **US Airways** for a total of 88. **Finnair** took delivery of its first of five -231/Ws (SN 5758). It was equipped with Sharklet wing tip devices. The five A321/Ws will replace **Finnair's** four **Boeing** 757s. **Sichuan Airlines,** the largest all-**Airbus** operator in China, received its first -231/W (SN 5470) equipped with Sharklets. It will be the first A321 with Sharklets to be operated in China. **Aeroflot** acquired -211 (SN 5755), and **Philippine Airlines** accepted its third of 44 -231s (SN 5787). **BOC Aviation** leased -231 (SN 5767) to **Asiana** in September and one -231 (SN 5774) to the Korean airline in October.

Airbus A330. **Airbus** delivered three -200s and two -300s in September. **Air China** received its 28th -243E (SN 1444), and **Philippine Airlines** accepted its ninth -343E (SN 1449). **CIT Aerospace** leased -243 (SN 1452) to **Virgin Australia,** and it leased -343 (SN 1445) to **Cebu Pacific Air**. **Air Namibia,** Windhoek, Namibia, leased its first -243 (SN 1451) from **Intrepid Aviation Group.** The airline will lease a second A330s from **Intrepid.** The A330 features a two-class cabin and seats 244 passengers. The airline currently flies four A319s on regional routes, as well as two A340-300s on services to

Frankfurt. **Garuda Indonesia** took delivery of the first of 18 -343Es (SN 1446). It is fitted with **Rolls-Royce** Trent 700 engines and a two-class premium cabin. **Garuda** operates 10 recently acquired A330-200s, and six early versions of the -300. **Singapore Airlines** leased one -343E (SN 1447) from **AerCap Ireland,** and one -343E (SN 1453) from the **Commonwealth Bank of Australia. Singapore** transferred two of its A330 orders to the lessors before delivery.

Airbus A380. **Emirates** received its 37th -841 (SN 127) in September. **Air France** took delivery of its ninth of 12 -861s (SN 115), and **British Airways** accepted its second of 12 -841s (SN 121). On September 24, **British** put its first A380 into service on the Heathrow-Los Angeles route.

Boeing

Boeing 737 NG. **Boeing** delivered 39 737s in September, including three -8H4/Ws (SN 36912, 36914 & 36933) to **Southwest Airlines,** and three -924ER/Ws (SN 42739, 42816 & 42817) to **United Airlines. American Airlines** received two -823/Ws (SN 31178 & 33490), and sold them for lease back. **Delta Air Lines** took delivery of its first extended range -932ER (SN 31912). It is part of **Delta's** 100-airplane order placed in 2011 to renew its single-aisle fleet with more fuel-efficient airplanes. The airline also operates 10 -700s and 73 -800s. **GOL Airlines** accepted two -8EH/Ws (SN 39624 & 39625) for a total of 84. **GECAS** leased one -86N/W (SN 38043) to **Garuda Indonesia Airways** and one -86N/W (SN 38045) to **Skymark Airlines,** Japan. **Air Lease Corporation** leased -89P/W (SN 41306) to **China Eastern Airlines,** and one -89L/W (SN 41307) to **Air China. COPA Airlines** leased -8V3/W (SN 39885) from **Aviation Capital Group. Xiamen Airlines** leased -85C/W (SN 41791) from **ILFC. Avolon** took delivery of -846/W (SN 40954) and leased it to **JAL Express. AWAS** leased a fourth new -81D/W (SN 39433) to **Solaseed Air** in September. It is **Solaseed's** eighth -800. **Boeing** delivered one -7ZX/W BBJ (SN 40119) to **Maleth-Aero AOC, Ltd.,** and -7ZW/W BBJ (SN 43826) to **Wells Fargo Northwest,** trustee bank. **Aviation Capital Services (ACS)** took delivery of its first -8LJ/W (SN 41195) and leased it to the Russia's flag carrier, **Aeroflot.** This is the first of 50 737NGs that **Aviation Capital Services** has on order, including 737-800s and 737-900ERs. **ACS** is a subsidiary of the state corporation **Russian Technologies (Rostec). Malaysia Airlines** leased -8H6/W (SN 39333) from **Babcock & Brown Asset Management (BBAM),** and received -8H6/W (SN 40150) from its own backlog. **Lion Air** acquired two -9GP/Ws (SN 38736 & 38737) for a total of 77. **Shanghai Airlines** accepted one -76D/W (SN 39305) and -86D/W (SN 38059), and **Shenzhen Airlines** took delivery of two -87L/Ws (SN 39136 & 39157). **China Southern Airlines** accepted two -81B/Ws (SN 38953 & 38954), and **China Eastern Airlines** received -89P/W (SN 39728). **Air China** received -89L/W (SN 40021), and leased it to **Dalian Airlines. Hainan Airlines** accepted its 65th -84P/W (SN 39203), and it has three more on order. **Boeing** delivered one -85R/W (SN 39067) to **Jet Airways**, and one -8F/P-8I Poseidon (SN 40615) to the **Indian Navy.** In Europe, **Air Berlin** received its 74th -86J/W (SN 39383), and **Norwegian Air Shuttle** obtained its 69th -8JP/W (SN 39024).

UTair, one of Russia's top three largest national carriers, received its first directly purchased Next-Generation 737-8LP/W (SN 41707). The airline

EL AL Israel Airlines took delivery of its first of eight Next-Generation 737-958ER/W (SN 41552) airplanes in October. **EL AL's** -900ER seats 172 passengers, with all passengers able to enjoy the option of power sockets for their laptops and USB connections. The Israeli flag carrier operates an all-**Boeing** fleet of nearly 40 airplanes including a short and medium-haul fleet of 737-700s and -800s, and a long haul fleet of 747-400s, 767s and 777s.

currently has 40 Next-Generation 737s on order to be delivered in the next several years. The new -800 seats 162 passengers and features the new Boeing Sky Interior.

SMBC Aviation Capital delivered two 737-8AS/Ws (SN 33597 & 33621) on lease to **Nok Air**. The company also delivered a new 737-800 on lease to **Xiamen Airlines**. These aircraft are part of the lessorôs direct order book.

Boeing 747. **Boeing** delivered two 747s in September. **Volga-Dnepr UK** accepted its fourth of five -8HVF (SN 37669), and **Cargolux Airlines** received its ninth -8R7F (SN 35822). The **Cargolux** -8F was stored at Marana for four months before delivery. The **Volga-Dnepr** -8F was leased to **AirBridge Cargo Airlines.**

In October, BOC Aviation leased its eighth and final 777-3ALER (SN 41527) to **Thai International Airways**. **GE Capital Aviation Services** leased one -36NER (SN 41818) to **Kenya Airways.** It is the largest airplane in the carrierôs fleet and is fitted with 400 seats in two classes. **Kenya Airways** is set to take delivery of a further two 777-300ERs in 2014. One of them will be leased, the airline said. Over the next eight years, the flag carrier plans to add 63 aircraft to its current fleet of 44 airplanes. The airline now operates an all-**Boeing** long-haul fleet of four 777-200ERs, one -300ER and six 767-300ERs.

Boeing 767. **Boeing** delivered three 767s in September, including the first of 46 767-3S2F freighters (SN 42706) to **FedEx Express.** The 767s will be used to modernize **FedEx's** fleet with more efficient freighters. **United Parcel Service (UPS)** received its 59th and final -34AF (SN 37878). **UPS** is equipping its 767Fs with **Aviation Partners Boeing (APB)** winglets. **Air Astana** took delivery of its first -3KYER (SN 42220). The airline has two more on order ð the last two passenger -300ERs in **Boeing's** backlog.

AVMARK INC.
WORLDWIDE AVIATION MARKETING AND MANAGEMENT SERVICE

Boeing 777. **Boeing** delivered 12 777-300ERs in September, including two -367ERs (SN 41429 & 42143) to **Cathay Pacific Airways,** for a fleet total of 31 -300ERs. **Air China** received two -39LERs (SN 38680 & 41441), and **Singapore Airlines** took delivery of two -312ERs (SN 42235 & 42236). **British Airways** accepted -336ER (SN 38430), and **Etihad Airways** acquired -3FXER (SN 41700). **China Southern Airlines** accepted two ï F1B freighters (SN 41632 & 41633). Both airplanes had been stored for several months before delivery in September. **Emirates** leased its ninth -F1H (SN 42230) from **Dubai Aerospace Enterprise**. The lessor has four more on order. **FedEx Express** acquired its 21st of 29 ï FS2s (SN 37730).

Etihad Airways signed a letter of intent to purchase five **Boeing** 777-200 LRs from **Air India. Boeing's** longest range passenger aircraft will support **Etihad's** new route from Abu Dhabi to Los Angeles and other services to the Americas. The planes will be delivered in early 2014, and will be re-fitted in **Etihad's** three-class cabin configuration.

Boeing 787. **Boeing** delivered six 787-8s in September, including two -8s (SN 38611 & 38619) to **British Airways** for a total of four. **All Nippon Airways** took delivery of one -8 (SN 42245) for a fleet total of 23, and **Hainan Airlines** received its third of nine -8s (SN 34944). **LAN Airlines** accepted its fifth -8 (SN 38484). **Boeing** delivered the first of 14 787-8s (36227) to **Qantas/Jetstar.** The 787 is powered by two **General Electric** GEnx-1Bs. The 787s will replace **Jetstar's** A330-200s on long-haul domestic and international routes, and in turn, the A330s will replace 767-300ERs in **Qantas** fleet.

Jetstar expects to have three 787s delivered by the end of the year**.** Two more will enter service in 2014 and the last eight are due in 2015. The prototype 787-9 (SN 41988) first flew on September 17.

In October, Royal Brunei Airlines took delivery of its first 787 Dreamliner (SN 34785), the first for an airline in Southeast Asia. It entered service in mid-October. The airline has for more 787-8s on order. **China Southern** accepted its fourth of 10 -8s (SN 34833), and **Air India** received its ninth of 27 -8s (SN 36286). **Aeromexico** acquired its second -8 (SN 35307) late in the month.

Embraer Delivered the 1,000th E-Jet on September 13. The E175 (SN 17000370) was handed over to **Republic Airlines** during a ceremony at São José dos Campos, Brazil. The subsidiary of **Republic Airways Holdings, Inc.** will operate the aircraft on behalf of **American Eagle**. **Republic** ordered 47 E175s in January 2013 and optioned to buy another 47 aircraft. **Embraer** President & CEO **Frederico Curado** said, ñThis is truly a remarkable milestone given that we delivered 1,000 airplanes in less than ten years. This makes **Embraer** E-Jets among the most successful aircraft programs in the history of commercial aviation.ò **Republic Airways Holdings** took delivery of its first ERJ145 in 1999, and it received the 400th production E-Jet in 2008. The airline operates the largest fleet of E-Jets in the world. The E-Jets family entered revenue service in 2004 when the first aircraft was delivered to **LOT Polish Airlines. Embraer** E-Jets currently hold a 50 percent market share and account for 62 percent of deliveries in the 70-130 seat segment. Since January 2013, **Embraer** has sold more than 330 E-Jets and the improved E-Jet E2s.

Regional Jet

Bombardier delivered three CRJ900LR NextGens (SN 15279, 15292 & 15293) to **Delta Air Lines** in September, and they were leased to **Endeavoir Air.**

Embraer. **Republic Airlines** took delivery of three EMBRAER 170-200 LRs (E175) (SN 17000370, 17000371 & 17000372) in September. The airplanes will be operated for **American Eagle. Azerbaijan Airlines (AZAL),** the national airline of Azerbaijan, received the third of four EMBRAER 190-100 IGWs (E190) (SN 19000631). The last will be delivered by the end of the year. **GECAS** received E190 (SN 19000608) in September and put it into storage. **Austral**, Argentina, accepted E190 (SN 19000639).

Sukhoi delivered **Sukhoi** Superjet 100-RRJ-95B (SN 95021) to **Moskovia Airlines** in August. **Gazpromavia**, Russia, received its first VIP RRJ-95LR (SN 95033) at a ceremony at the **MAKS 2013** air show in Moscow on August 28. **Interjet,** Mexico, will take delivery of RRJ-95B (SN 95034) later this year.

Turboprop Aircraft

ATR. **LIAT** took delivery of its first ATR 42-600 (SN 1006) in September**.** Two more ATR 42s (SN 1008 & 1010) are being prepared for delivery to **LIAT. Aer Arran** accepted ATR 72-600 (SN 1105), and **Virgin Australia Regional Airlines** received one -600 (SN 1107). **Air Lease Corp.** leased one -600 (SN 1108) to **Kal Star Aviation**.

Firefly, Malaysia Airlines' regional subsidiary carrier took delivery of its first new ATR 72-600 in October. It is the first of 20 latest generation ATRs (plus 16 options) ordered by **Malaysia** in December 2012. **Firefly** currently operates 12 ATR 72-500s, and has an exclusively ATR 72 aircraft fleet. **Jet**

Time received its first of six new ATR 72-600s (1110) in October. This aircraft was leased from Danish leasing company **Nordic Aviation Capital (NAC).** All the ATR 72-600 aircraft will feed **Scandinavian Airlines System's (SAS)** regional route network, and they will all be painted in **SAS** livery. The next five ATR 72-600s will be delivered by early in 2014.

Kingfisher Airlines returned seven ATR 72-200s (SN 750, 759, 762, 767, 776, 777 & 782) to lessors in September.

Bombardier. **Qantas** leased two 8Q-402 NextGens (SN 4449 & 4450) to **Sunstate Airlines,** in September**. WestJet Encore** registered two more Dash 8Q-402 NextGens (SN 4453 & 4456).

Viking Air delivered one DHC-6-400 floatplane (SN 874) to **Regent Airways,** Bangladesh, in September. Two DHC-6s (SN 878 & 882) were flown from the factory in Victoria, BC, to the U.S. for installation of mission equipment and re-delivery to the **United Arab Emirates Air Force.** The **UAE AF** will receive its first modified -400 (SN 876) shortly. **Malaysian Airlines'** subsidiary, **MAS Wings**, accepted its first passenger -400 (SN 880) in September and its second (SN 883) in October. **Viking Air** is completing two -400s (SN 884 & 885) for the **Vietnamese Navy.**

Antiques and Other Junque

Emirates Airline retired two of its 10 **Airbus** A340-541s, and is breaking one of them (SN 394) for spares in Ras al-Kaimah. Its parts will be used to support the remaining eight in service. The second will be retained as a back-up aircraft in Dubai. The planes are being replaced with more fuel-efficient twin-jets on long-haul routes. **Emirates'** first ultra-long range A340 was delivered in 2003, so it was only 10 years old when it was scrapped. **Emirates** President **Tim Clark** said, ñWeôve taken a big hit to retire them, but [their poor economics means] thereôs no point in flying them. They were designed in the late 1990s with fuel at $25-30. They fell over at $60 and at $120 they havenôt got a hope in hell.ò If the airline cannot find buyers for its remaining eight A340-500s, ñtheyôre going to the knackerôs yardò, he said. Further, Mr. Clark said, **Emirates** has ñzeroedò the aircraftsô book value. The -541 seats 258 passengers and is powered by **Rolls-Royce** Trent 500 engines. It has a range of 9,000nm (16,650km). **Emirates** bought the A340-541 because it was the only airplane that could fly nonstop to the U.S. West Coast or the east coast of Australia, Mr. **Clark** said. ñUnfortunately for **Airbus**, nobody foresaw fuel doing what it did.ò **Airbus** delivered 32 A340-541s from 2003 to 2010, and it is still operated by **Arik Air, Etihad, Singapore Airlines, TAM**, **Thai Airways,** and several are government transports. **Singapore** is trading in its five -541s to **Airbus,** and **Thai Airways** stored three of its four -541s in 2012.

Werner Aero Services completed its teardown of a recently purchased A319. The components were recertified and are being made available through **Werner Aero's** leasing and pooling programs. The company has been in business for over 20 years, and specializes in single-aisle aircraft.

Accidents and Safety

From Aviation Safety Foundation

Twenty-One Fatal Air Crashes have taken 151 lives as of late October. The 10-year average is 28 fatal air crashes and 641 deaths. There was a jump in the number of accidents this month, when six turboprops crashed.

Croatia Airlines' Bombardier DHC-8-400 (9A-CQC, SN 4258) was damaged at **Zürich-Kloten Airport**, Switzerland, when it landed with its nose gear retracted. None of the 65 occupants were injured in the September 27 incident. The airplane will be repaired.

Alitalia's Airbus A320-216 (EI-EIB, SN 4249) suffered damage in a landing accident at **Roma-Fiumicino Airport**, Italy, on September 29. The right hand main landing gear did not deploy, and the flight crew attempted to lower the gear several times prior to landing at Rome. The aircraftôs right wing, right engine and tail section were severely damaged, but none of the 151 people on board were injured. The three-year-old aircraft will most likely return to service.

Associated Aviation's Embraer EMB-120RT (5N-BJY, SN 120174) crashed after takeoff from **Lagos-Murtala Muhammed International Airport,** Nigeria, on October 3. Fifteen of the 20 people on board the plane were killed. The black box was recovered. Air crashes are fairly common in Nigeria. The **Aviation Ministry** suspended the operating licenses of **Associated Aviation** and **Dana Airlines**, whose 727-200 crashed near Lagos in 2012 and killed the 153 people on the plane and 10 more on the ground. **Dana** resumed flying in January, only to be grounded again in October. The ministryôs spokesperson said, ñThe suspension is to make room for maintenance and operational checks.ò **Dana** said it will ñcontinue to cooperate with the aviation authorities and abide by all local and international safety regulations.ò

The U.S. Air Force' Bombardier DHC-8-200 (registration and serial unknown) was operating a maritime counter-drug patrol mission in the Panama-Colombian border area when it crashed near Acandí, Chocó Province, Colombia. Four occupants were killed and two were injured.

Nok Air Mini's Saab 340B (HS-GBG, SN 453) suffered a runway excursion at **Udon Thani Airport**, Thailand, on October 6. None of the 28 occupants were injured when the aircraft ran off the right side of the runway into the grass. The nose landing gear collapsed and damaged the fuselage.

MASwings' de Havilland Canada DHC-6 Twin Otter 310 (9M-MDM, SN 804) was destroyed on October 10, when it struck a house to the right of the runway at **Kudat Airport,** Malaysia. The copilot and one passenger died, four others were injured.

Lao Airlines' Avions de Transport Régional ATR 72-600 (RDPL-34233 SN 1071) crashed into the Mekong River while on approach to Pakse, Laos, on October 16. All 44 passengers and five crew members were killed in the accident. The seven-month-old airplane was trying to land in poor weather.

Europe Airpost's Fokker F-27-500F cargo plane (I-MLVT, SN 10373) was severely damaged when left hand **Rolls-Royce** Dart 532-7 engine suffered an uncontained failure after takeoff from **Paris-Charles de Gaulle Airport**, France, on October 25. The propeller blades sliced through the airplaneôs

fuselage, but the pilots carried out a safe emergency landing. The 45 year-old F-27 was operated by **Miniliner**.

SkyJet's British Aerospace BAe-146-200 (RP-C5525, SN E2031) was substantially damaged in a runway excursion accident at **Balesin Airstrip**, Philippines, on October 19. There were no serious injuries among the 75 passengers and crew. The 28-year-old airplane was flying a charter to the **Balesin Island Club** when it overran the runway and came to rest partially submerged in sea water.

AVMARK INC.
WORLDWIDE AVIATION MARKETING AND MANAGEMENT SERVICE

AVMARK INC.®
FOUNDED IN 1962 WORLDWIDE AVIATION MARKETING AND MANAGEMENT SERVICE

AVMARK CAPABILITIES

Since its establishment in 1962, AVMARK has been providing consulting management services to all sectors of the aviation community. From offices in Washington DC and Singapore, together with associates based in United States (North America), Ecuador (South America), Spain (Europe), Congo (Africa), New Delhi (India and Asian Market), we serve a worldwide clientele. Our staff is comprised of professionals with extensive, successful careers in technical, commercial and managerial areas of aviation enterprises; combining real world operational experience with sophisticated analytical tools to provide our clients with the most effective solutions to their problems.

ASSET MANAGEMENT PROGRAMS

Aircraft appraisal, inspection and technical monitoring; analysis of market conditions and forecast of values; assistance with aircraft acquisitions and placement; valuation of facilities, equipment and other assets.

AIRLINE IMPROVEMENT PROGRAMS

Our staff undertakes corporate reviews of entire airlines or specific aspects of airline operations, advising airline executive management, government and international organizations (i.e. World Bank), on various aspects of airline restructuring and/or privatization. Specific issues addressed include airline valuation, strategic planning, scheduling and fleet planning, market development, revenue management, operations and maintenance efficiency. We also provide a full range of services for start-up carriers.

ECONOMIC & TECHNICAL ANALYSES PROGRAMS

We prepare traffic/operation forecasts and financial analysis for airport and other facilities planning; competitive evaluation of performance/design characteristics and market potential for new aircraft; critical assessment of capability, marketing strategy and opportunities for suppliers of products and services; and air service needs related to tourism development.

PUBLICATIONS

We publish the *AVMARK Newsletter* monthly; containing market information, various analyses and commentary; also reports all orders, purchase sales and leases of new and used transport aircraft. We also publish several other statistical compilations from our extensive database on aircraft, carriers, traffic, costs and operations.

AVMARK's Transport Aircraft Values (TAV); reports current fair market values by year of build and projects the future value of all transport category aircraft.

AVMARK's Historic Jet and Turboprop Values; summary of the then current fair market values as published in the AVMARK Newsletter for all jets and turboprops in service.

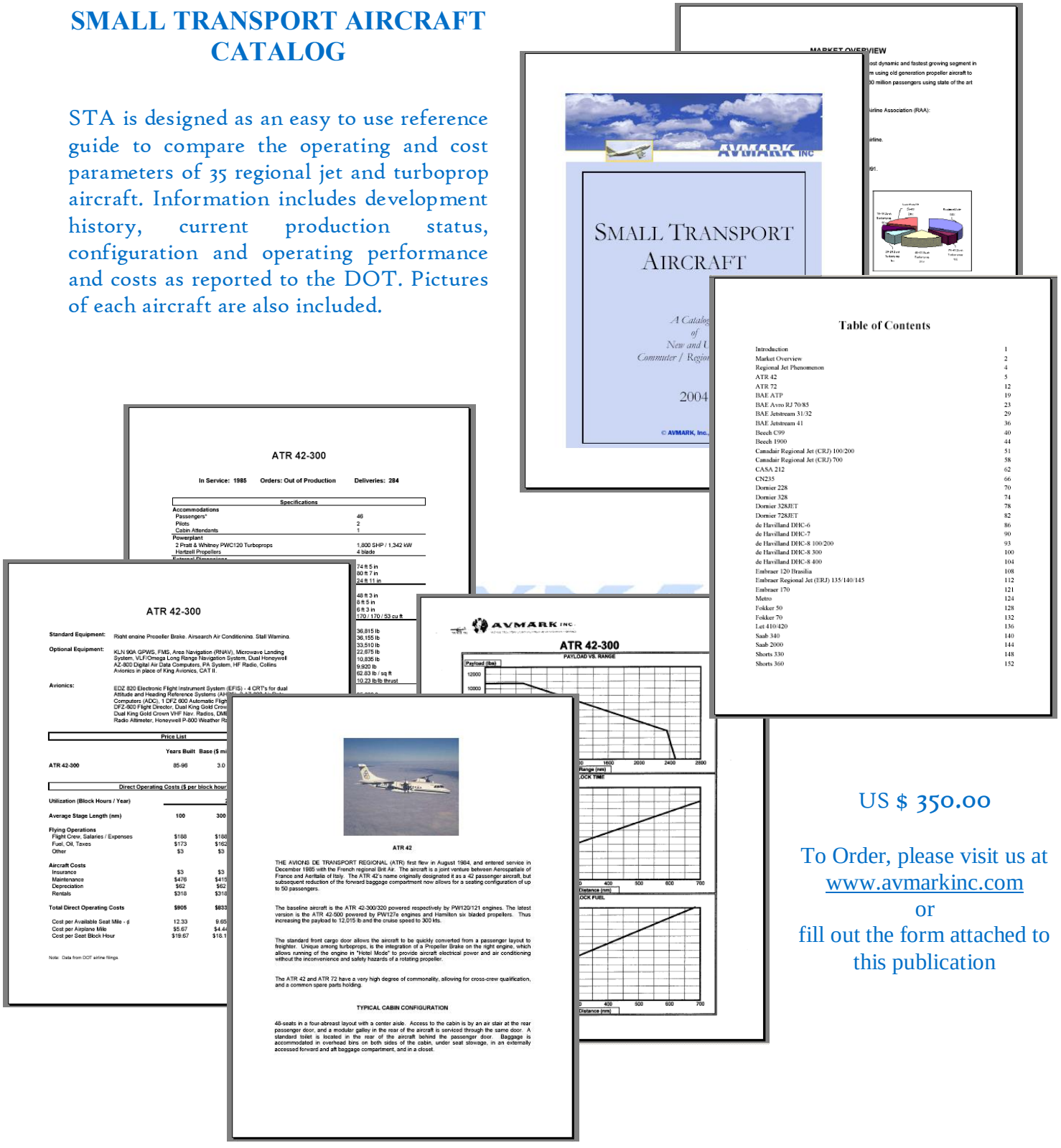
AVMARK's Small Transport Aircraft Catalogue (STA); designed as an easy to use reference guide to compare the operating and cost parameters of 35 regional jet and turboprop aircraft.

AVMARK INC.®
FOUNDED IN 1962 — WORLDWIDE AVIATION MARKETING AND MANAGEMENT SERVICE

Sample of Avmark Publications

SMALL TRANSPORT AIRCRAFT CATALOG

STA is designed as an easy to use reference guide to compare the operating and cost parameters of 35 regional jet and turboprop aircraft. Information includes development history, current production status, configuration and operating performance and costs as reported to the DOT. Pictures of each aircraft are also included.



US $ 350.00

To Order, please visit us at
www.avmarkinc.com
or
fill out the form attached to this publication

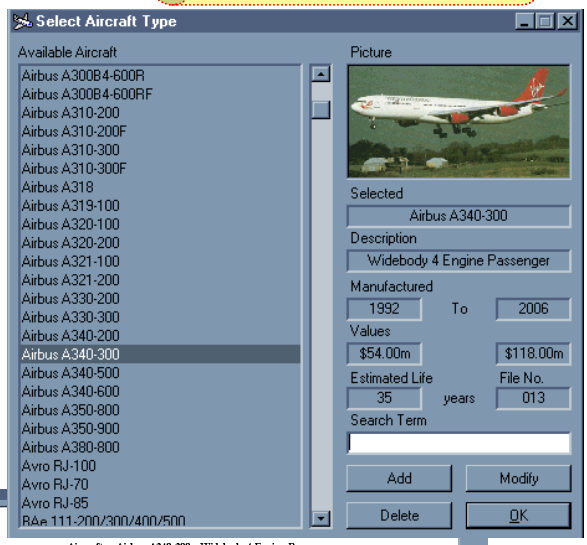
AVMARK INC.®
FOUNDED IN 1962 — WORLDWIDE AVIATION MARKETING AND MANAGEMENT SERVICE

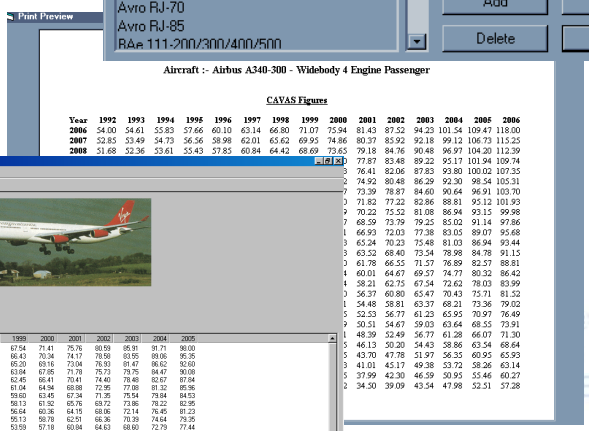
Order your personal copy of the 2013 TRANSPORT AIRCRAFT VALUES (TAV) today.

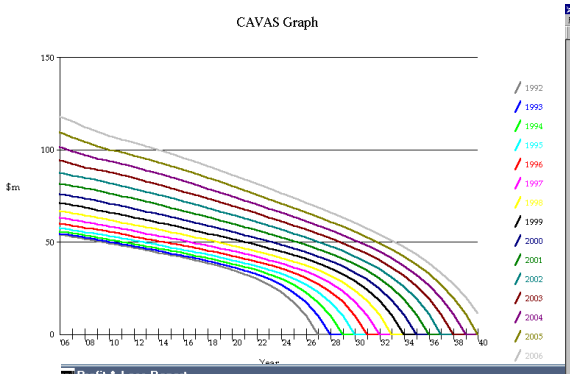
Sample of Avmark Publications

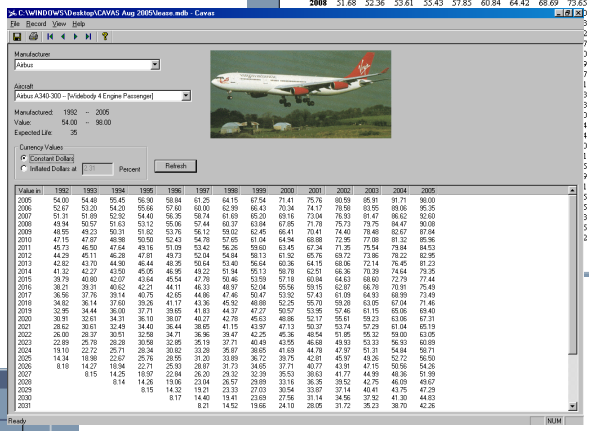
TRANSPORT AIRCRAFT VALUES (TAV)

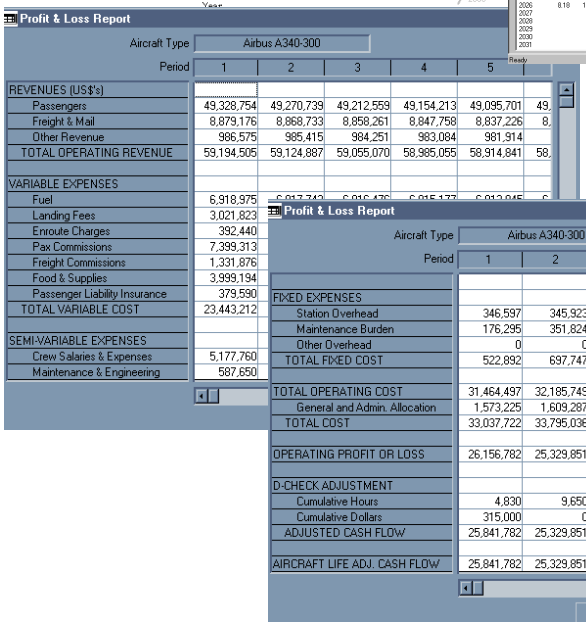
TAV reports current fair-market values by year of build and projects the future value of 116 transport category aircraft. The future values are based on an economic model that projects the values based on the earning stream of approximately 130 different types of aircraft for their useful lives. The model takes into account the operating cost and characteristics of each aircraft, worldwide and future traffic volumes, fare levels and current and future fleet compositions. The values are presented in both constant and then-current dollars.











US $ 1,499.00 (1 year)

To Order, please visit us at
www.avmarkinc.com
or
fill out the form attached to this publication

AVMARK INC.
FOUNDED IN 1962 WORLDWIDE AVIATION MARKETING AND MANAGEMENT SERVICE

Current Avmark Publications

The AVMARK Newsletter: **$445 US per year (Monthly issue)**

Published since 1962, the AVMARK Newsletter reports all orders, purchase sales and leases of new and used transport aircraft. The Newsletter analyzes regulatory, economic and operational factors affecting the market for lease rates & value of transport aircraft. The Newsletter is a monthly ñsnapshotò of the industry & contains graphs & charts on major trends & developments.

Transport Aircraft Values: **$1,499 US (One year)**

Reports current fair-market values by year of build and projects the future value of all transport category aircraft. The future values are based on an economic model that projects the values based on the earning stream of approximately 130 different types of aircraft for their useful lives. The model takes into account the operating cost and characteristics of each aircraft, worldwide and future traffic volumes, fare levels and current and future fleet compositions. The values are presented in both constant and then-current dollars.

Historic Jet and Turboprop Values and Lease Rates: **$350 US (One Issue, PDF Version)**

Historic Jet and Turboprop Values is a summary of the then-current fair-market values as published in the AVMARK Newsletter for all jets and turboprops in service. The prices are based on reported transactions and on AVMARKôs experience in consulting, appraisal and fleet evaluation. The prices indicated are for the oldest of the type, in standard configuration in half-time maintenance condition. Price information is available from 1969 and Operating lease rates are available from 1988.

Small Transport Aircraft Catalog: **$350 US per Year (Current)**

STA is designed as an easy to use reference guide to compare the operating and cost parameters of 35 regional jet and turboprop aircraft. Information includes development history, current production status, configuration, and operating performance and costs as reported to the DOT. Pictures of each aircraft are also included.

Samples of all publications are available upon request.

AVMARK INC.®
FOUNDED IN 1962 WORLDWIDE AVIATION MARKETING AND MANAGEMENT SERVICE

Publication Form

AVMARK, Inc.
PO Box 189, Vienna, VA 22183 – USA
Tel: +1-240-582-0119
www.avmarkinc.com

I would like to receive copies of the following AVMARK publications. My check in the amount of USD $_____ (including appropriate S&H) is enclosed.

	PUBLICATIONS	PERIOD	ISSUES/VERSION	PRICE
1.	___The AVMARK Newsletter	ONE YEAR	12 / Electronic	$445.00
2.	___Transport Aircraft Values	ONE YEAR	1 / Paper	$1,499.00
3.	___Historic Jet & TP Values & Lease Rates	ANNUAL	1 / PDF Version	$350.00
4.	___Small Transport Aircraft Catalog	CURRENT	1 / PDF Version	$350.00

Name Title Date

Company

Address: Number & Street or P.O. Box

City/State Postal Code Country

Telephone Fax

E-mail (used for sending Electronic copy of Publications)

Signature

PAYMENT:

Mail Order Form and Payment to AVMARK, Inc. at the above address. Order by phone +1-240-582-0119 or email us at enquiries@avmarkinc.com using **VISA, MasterCard, Discover, or AmEx**.

CC Type: VISA / MasterCard / Discover / AmEx; CC #: _____Exp Date: _____

Wire transfer information available upon request.

For Office Use Only:
CC Approval #: _____ Date: _____

Customer No.: _____ Invoice No.: __