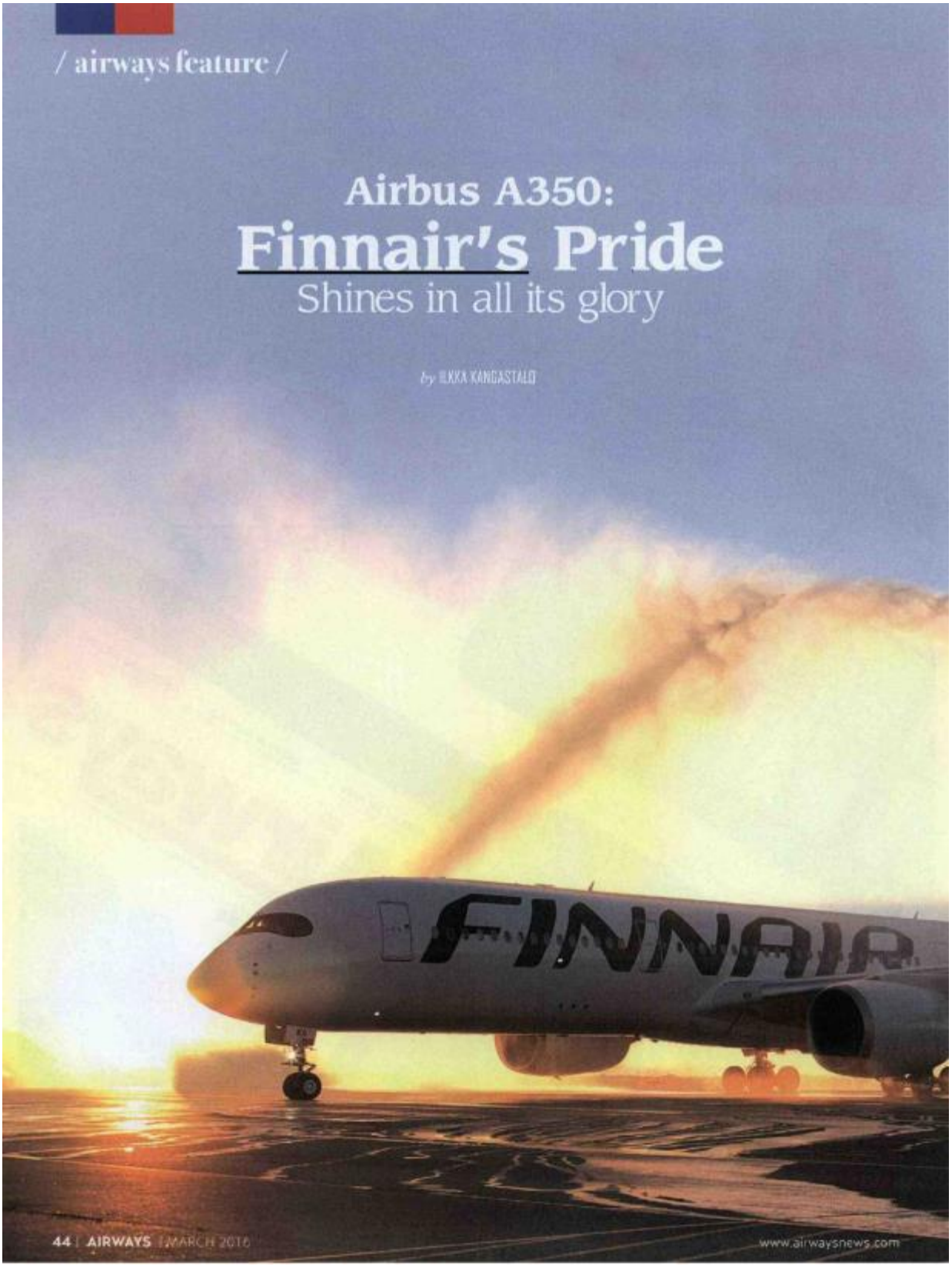
Airbus A350:
Finnair's Pride
Shines in all its glory

by ILKKA KANGASTALO



FINNAIR, A SMALL Nordic airline from a small Nordic country, is currently upgrading its long-haul fleet. Finnair's (AY) first Airbus A350 was delivered on October 7, and there are many more to come.

It was a day to remember. The brand new airliner taxiing slowly toward the gate, with the setting fall sun right behind it. The fire trucks giving it their usual water cannon salute. It was a thrilling moment at Helsinki-Vantaa Airport (HEL).

Something like this will not happen again in a while, I found myself thinking: a new aircraft type, the first to be delivered to this airline, and the first operational aircraft of its type for a European airline. The last such event in Helsinki took place in 1990, when Finnair received its first McDonnell Douglas MD-11.

"It is a very fine aircraft," says Antti Lehto, a senior training Captain with 17,000 hours of commercial flying for Finnair who, over the past 10 years, has been flying long-haul, mostly to Asia.

Antti Lehto flew his first long-haul trip with the A350 at the end of October, flying from Helsinki to Shanghai (PVG) and back. The aircraft, OH-LWA, performed well.

"We flew 40 minutes quicker from Shanghai to Helsinki than I did when I flew the same route with the Airbus 330," he says. "The A350 effortlessly flies at Mach 0.85, compared to the 0.81 of the A330."

On the way back, Lehto communicated on company frequency with another Finnair Crew coming from Beijing (PEK). It turned out that, for his A350, Lehto had ordered the same amount of fuel as the other Captain, whose A340 was flying an approximately 660 nautical miles (1,220 km) shorter trip.

Finnair had started expanding its long-haul network in early 2000. It added new destinations in Asia and adjusted its European destination timetables to enable smooth passenger transfers with short layover times. Asians, especially the Chinese, were increasingly traveling for leisure, as Europeans already had been. Finnair wanted a share of this.

At a small airport like Helsinki-Vantaa, it is easy for a single airline to arrange smooth connections for its traffic. The airport is not congested at all and, with a third runway added in 2002 and excellent snow-how in semi-arctic winter conditions, Finnair's gateway has been working very well.

PHOTO: AUTHOR

Most of Finnair's Asian wide-body traffic lands in the afternoon, at around 15:00. The airline's European connections leave immediately after, and the shortest transfer times are of an hour or even less.

Helsinki is at or very close to a Great Circle Route between Japanese/northern Chinese and Central European airports. This places it much closer to Asia than any other Western European airport, which enables Finnair to keep a 24-hour rotation on Asian routes.

When Finnair's Asian traffic started to grow, some 10 years ago, all of its long-haul traffic was handled with a small fleet of MD-11s, which suited the network very well. Being able to carry large payloads, the MD-11s never had a problem bringing full loads of passengers and cargo from Bangkok (BKK) to HEL (4,625nm/8,566km), even in strong headwinds during winter.

Finnair did not hide its satisfaction with the MD-11 fleet and would have liked to operate more of them. But the production line was closed and the large cargo operators had purchased all the used MD-11s they could get their hands on. Finnair was able to lease a few more, but then things started to change.

A NEW FLEET IN (ALMOST) ONE GO

In 2006, Finnair took a very bold step when it signed an order for eight new Airbus A350 aircraft—and four Airbus 340s at the same time. The A340s were introduced to cope with the increased need for capacity of the rapidly growing Asian network. The original idea had been to keep its old MD-11 fleet until the A350s had started to arrive. But things did not quite go that way.

When Airbus introduced its original A350 idea, some large customers immediately requested a better performance for the new aircraft, and the A350 was taken back to the drawing board. It soon became obvious that deliveries would be vastly delayed, more than Finnair had planned. The airline's MD-11s were still fine aircraft, but got through too much precious aviation fuel. All of a sudden, Finnair did not want its MD-11s anymore; they were all sold, or returned to the lessors.

As the MD-11's replacement was still years away, Finnair needed aircraft to take care of the growing Asian market. An obvious option was to get more A340s and, in addition, a similar fleet of Airbus A330s. Eventually, Finnair did end up flying A340s and A330s for several years—and it still does. The A340s will be phased out, but the A330s will remain part of the fleet for at least a few more years.

Finnair had generated good business by flying belly cargo from Asia to Europe. The MD-11s carried 25 to 30 tons on every flight, but that capacity was slashed when the A330s were brought into service. This severely affected profits, especially on routes with flight times of more than 8.5 hours, like those to Tokyo (NRT), Bangkok, and Hong Kong (HKG). The bigger payload of the new A350s will solve that problem.

Finnair was one of the first airlines to order the original A350, and Airbus was very happy to get that deal. The road to actual delivery has been long and winding, but the new aircraft have now started to come in. OH-LWA bears Manufacturer Serial Number (MSN) 18. Qatar Airways (QR) and Vietnam Airlines (VN) received the first 17 aircraft—in December 2014 in the case of QR (*Airways*, April 2015) and June 2015, in the case of Vietnam.

Finnair's total A350 order is for 19 aircraft. Three will be delivered by early 2016, and then seven more by the end of 2017. The eight remaining aircraft will be delivered between 2018 and 2023.

PHOTO: JOE PRIES - MIA

The first deliveries have been slightly delayed, according to *Airways* sources, mainly because of seat quality issues.

A PILOT'S VIEW

"Of all the commercial airliner types that I have flown, the Airbus A350 has the flight characteristics closest to those of a glider," says Antti Lehto.

This must be taken as a compliment, since, in his free time, Lehto is an active glider Pilot, and owns some very advanced ones.

Lehto was transferred to the A350 from Finnair's A330/A340 fleet. Since he already had a type rating for the A330, his transition training was very smooth. The A330 and A350 are considered to be the same aircraft type and ground training only takes nine days.

"Finnair requires 500 flight hours on the A330 to qualify to attend transition training. Pilots coming from the A340 need different, longer transition training, with different content," Lehto says.

At the time of writing, Lehto had flown one trip from Helsinki to Shanghai and several familiarization flights to European destinations.

"I like it very much, it is a wonderful aircraft!" he says, with obvious enthusiasm.

"The cockpit is spacious, and a very sophisticated working environment. The ventilation works well, and the ergonomics are good. It feels a bit like driving a new car. It even smells like a new car," he grins.

On a more serious note, Lehto is impressed with the A350's new technology.

"With the A330, if you have an engine-out situation at takeoff, with a low airspeed and a very asymmetrical thrust, you have to give almost full rudder," he says. "Not so with the A350. There are sideslip sensors on the aircraft's nose, just in front of the cockpit windows. They provide lots of useful information and assist the Pilot in engine-out situations or when landing or taking off in crosswind. They even help to control the aircraft when taxiing.


PHOTO: AUTHOR

The Airbus A350 XWB glass cockpit offers plenty of space for pilots. When the picture was taken, maintenance was in progress before a long-haul flight to Shanghai.

"Landing is very similar to the A330, but the auto-braking system of the A350 is a lot more sophisticated. There is a brake-to-vacate function. You tell it which runway exit you want to take after the landing roll, and it brakes automatically to set the speed to that exit. That works just fine."

From a Pilot's point of view, there are strong similarities with the A330, and Lehto and many other Finnair Pilots will continue to fly both types. "They have the same flap settings, speeds, engine failure procedures, and fly-by-wire logic of the A330s. Most procedures are exactly the same or are at least very close to those we were used to."

Of course there are differences, too. Almost 25 years have passed between the two aircraft designs. Nowadays, more computer-aided technology is available, and a quick look at the cockpit of the A350 will tell you that this is a most modern aircraft. The A350 has six very large LCDs, which have the same features as those in the A330, but with more icing on the cake.

The man-machine interface has been kept close to that of the A330, but a lot of progress has been made inside.

"The biggest difference in the interface is in how the aircraft's flight management and display systems are used. But, if you give them a closer look, they are still somewhat similar to those on the A330. They have all the same things, but some of them are in different places. Different menus

PHOTO: AIRBUS 4


5 PHOTO: FINNAIR


6 PHOTO: FINNAIR


PHOTO: AUTHOR 7

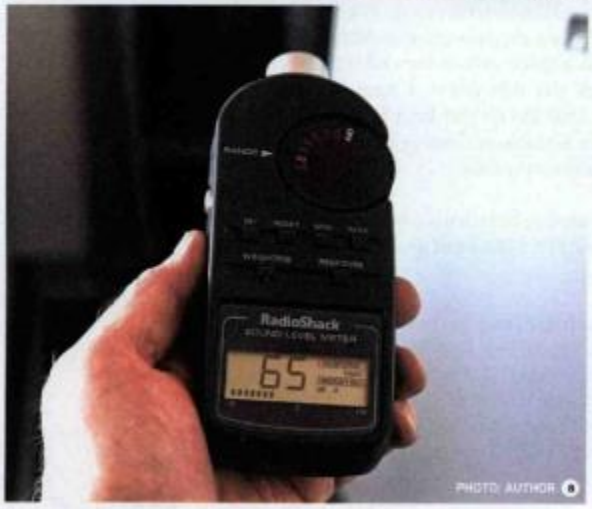


PHOTO: AUTHOR 8

4 After completing its maiden flight from Toulouse, France, on September 17 2015, Finnair's first A350 XWB entered into the final production phase - which included further ground checks and flight tests.

5 The A350 XWB features the latest LED lightning technology, which can emit a range of up to 16.8 million different colors. The lighting and colors can be customized to fit the time of day, destination or season.

6 Economy class offers a 3-3-3 seating configuration, with 31 inches of seat pitch.

7 After delivery of its first aircraft, Finnair commenced A350 XWB commercial services with a European tour, starting at Amsterdam and Oslo on October 9. These legs were flown for crew familiarization purposes during little over a month. AY841 on 9 October (HEL-AMS) had an enthusiastic crew on board.

8 Sound level measuring in progress. Notice the low value registered.

with different labeling, but the original ideas are still there."

It is easy to see that Antti Lehto is in good spirits about the new aircraft that he will be flying for some years before his retirement.

But then he surprises me with another reason for his positivity—one completely separate from the brand new hardware.

"Financially, Finnair had been going through very hard times for almost 10 years," he says. "Now the economy is getting better and this new aircraft feels like it is partly our own."

Finnair had been stagnating for years, laying off people, cutting wages and retirement benefits, and trying to cut costs wherever possible. The employees had negotiated with the company and had finally agreed to many cuts in order to save jobs. Most of the staff, while keeping their jobs, had their pay cut.

Lehto says that all those sacrifices are starting to pay off. The company is getting back on its feet economically. The arrival of the new aircraft makes it feel that weathering the hard times was not in vain. The employees feel that, to a certain extent, they have helped finance the new aircraft.

Dispatch reliability has been good, now that Finnair has operated its first aircraft for two months. "Based on our history, the


PHOTO: AUTHOR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known maturity issues are at the level that one could expect of a new aircraft," says Pekka Helenius, Manager Mechanical Systems Engineering, Finnair. "Most of them are no more than nuisances."

IT LOOKS NEW AND IT IS NEW

Many people on Finnair's staff are rather excited about this new generation aircraft. It sure is nice, clean and shiny, with the interiors devised by Finnish designer Vertti Kivi. All cabins are surprisingly light in color. The fabric-covered Economy seats are a very light gray. It will be interesting to see how long they will stay that way.

The Business Class has 46 herringbone–laid seats, four to a row. The seats are Zodiac Cirrus full-flat ones. They are very roomy and give an excellent feeling of privacy. The modern inflight entertainment offerings can be watched on 16in touchscreens.

9 The A350 XWB's 19,6 ft. (5.97 m) fuselage width provides space for the widest economy seats (46 cm) of any jetliner in its category, giving passengers more personal space and more spacious cabin storage.

10 The Business Class Section offers amplitude and full-flat seats. The Finnish Marimekko design is well presented.

11 Business class passengers can enjoy a 16-inch IFE screen. The Rudder-installed camera offers stunning views that are a treat for aviation enthusiasts.

Because of the herringbone layout, the window seats are farther away from the window than usual, making it more difficult to enjoy the scenery while the seatbelt sign is switched on. Not exactly ideal for those who like to take in the view. This will not ruin the day, however, since the seats are very comfortable. They are quite wide, making sleeping in them comfortable even for passengers with broad shoulders.

In 2015, Finnair introduced a new class called Economy Comfort. The A350 has it. It is not a separate class as it is in many competing airlines; it is a more loosely configured Economy Class. Comfort features regular Economy seats located toward the front of the cabin, with four inches extra legroom and some amenities—and that´s it. OH-LWA has 43 Economy Comfort seats.

Something very remarkable happens in the interior during flight: quietness. In the front section of the Business Class, I personally measured the lowest sound pressure level ever in an airliner: 65 dB(A). Most of the usual airflow noise is absent, though a low rumble from the engines is audible. Airbus has done a very good job here.

The Economy Class is also quieter than what we are used to, but with a lower margin. If you sit well behind the engines, you can still hear their noise.

The Cabin Attendants working in Business Class have to warn passengers that conversations held in the galley may be easily heard in the cabin, at least in the front rows. That means that passengers have to be a bit more cautious about what they say there!

A GROWING AIRLINE

With the arrival of the new aircraft, Finnair announced that it will hire 1,000 new people over the next five years, starting immediately. One hundred new Pilot jobs and 300 new Cabin Crew ones will open up very soon. News like this is very welcome in Finland's recession-troubled economy.

Finnair appears to have a promising future with the new aircraft. It can carry a decent amount of freight from all of Finnair's current Asian destinations, and operating costs are dropping. Financially, the A350XWB is a very good deal for the carrier. Although whether the aircraft meets the manufacturer's specs has not yet been proven, the initial numbers seem to be promising.

Finnair is aiming for growth. With new wide-body aircraft arriving very soon, it will also need more narrow-body ones to increase traffic on its European feeder network. As a first step, Finnair will lease two Airbus A321 narrow-bodies for one year, including part of the Flight Crew, from May 2016 onwards.

Finnair seems to have a winning strategy, motivated staff, and, at least for most of its network, the right equipment.