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Special Section

Airline Mergers and Consolidation



INSIDE

21

Carriers can quickly recover from irregular operations

46

Singapore Airlines makes aviation history

74

High-speed trains impact Europe's airlines

Singapore Airlines: A True Pioneer

For Singapore Airlines, introducing the Airbus A380 super jumbo jet into its fleet and making aviation history was a smooth ride because of its upfront preparations.

■ By Apurva Mathur | *Ascend* Contributor

On Oct. 25, Singapore Airlines made history when it took to the skies with the new Airbus A380. While bringing the largest-ever commercial airplane online seemed effortless from outward appearances, it took a great deal of cooperation among many areas across Singapore Airlines' operations. It required a strong management team that had a customer-centric vision. It took years of planning to ensure an all-around smooth entry into its fleet. And it took a great deal of creativity and innovation to ensure its A380 service was unique to the industry.

It's a true testament to the professionalism associated with Singapore Airlines in running an organization ready for any and all of the industry's biggest challenges. And it is also a tribute to Airbus, which has introduced an airplane that looks very different than any other ever built, but at the same time, if well managed, can be easily integrated into an airline's fleet.

According to Capt. S.L. Leong, deputy chief pilot of the A380 program for Singapore Airlines, "The introduction of any new aircraft type is always challenging; none more so than the A380. While Airbus has strived to maintain its "family concept," the introductions of some of the innovation on the aircraft, especially the electronic flight bag, has required new processes and new ways of doing things. Our challenge is to minimize any disruptions from these new processes and ensure a smooth introduction of this aircraft into service.

Singapore Airlines won't stop with only one of the world's largest aircraft. It has 18 more on order and six on option. In January, the carrier will take delivery of its second A380 for its Singapore-London route. The airline plans to use these 569-ton aircraft on high-density long-haul routes to airports that are slot restricted. And although the A380



All photos courtesy of Airbus

The first A380 for launch customer Singapore Airlines was painted in Hamburg, Germany, in preparation for its October delivery.

was designed to accommodate 555 passengers, Singapore Airlines' three-class configuration of the A380 has only 471 seats, giving its customers a spacious, comfortable ride.

While the carrier's preparations made for a smooth introduction of the A380, it faced a few challenges, as expected with any new aircraft.

"The key challenge has been to manage the shortfall in planned capacity due to the late

delivery of the aircraft," said Capt. Leong. "By now, we should have had six A380 aircraft in operation. The shortfall has been managed primarily by deferring retirement of some Boeing 747-400 aircraft and short-term dry leasing of aircraft."

Maintenance has also presented a challenge. The carrier has put together a comprehensive plan to ensure that inventory of



On April 11, the first A380 entered Airbus' paint hanger in Hamburg, Germany.



The painting of Singapore Airlines' first A380 took 21 days and used more than 2,200 liters of chromate-free paint.

spare parts is well stocked and maintenance personnel are performing more checks during aircraft down times in between longer turn times and in the evenings. Despite the capacity constraints, true to Singapore Airlines' efficiency, its operations continue to run with on-time departures of 92 percent this year, 0.3 points better than last year.

Despite a couple of minor challenges, the aircraft sports features that are, to date, exclusive to the A380 (see related article on page 8).

The weight and balance function on the A380 is fully automated. This is different than other aircraft, where the take-off weight center of gravity is calculated by load control-

lers. The A380 loads the required fuel to obtain the optimal center of gravity for optimal flight performance.

There are many new devices that have been introduced to assist with pilot training on the A380. The 2-Dimensional Maintenance/Flight Training Device, or 2-D MFTD, is used to get a comprehensive integrated training view of the A380 cockpit. One look at the 2-D MFTD makes it clear that there is a step function improvement in the technology that is being used to train for the A380. Such devices earlier were used only for familiarizing the crew with the cockpit, but with the A380, they are used like a simulator, less the motion and vision. Thus, crew not only learn the systems but also the procedures with flying the A380.

Another new device in the cockpit of the A380, which spans 79.8 meters wingtip to wingtip and can carry more passengers than any other aircraft (the wings are so large that each one can shelter approximately 2,800 people), is the class 3 electronic flight bag. The onboard information system, or OIS, is also innovative and different and will provide aircraft performance computations as well as a suite of other applications such as eCharts, eLog Book and Electronic Flight Folder.

Airbus has taken another novel idea into the design of the keyboard cursor control unit to allow better interaction between the pilot and flight management system. The new system includes a trackball and a qwerty keypad, enabling cockpit crew the option of direct point-to-point navigation with the click of a trackball rather than typing it into the flight management system.

The new aircraft also is unique with the mezzanine level of the cockpit. Unlike the Boeing 747, the only other commercial aircraft with an upper deck, the cockpit on the A380 is located in between the upper and lower decks, allowing for easier operations by the cockpit crew.

Pilot training on the A380 is straightforward and no different than any other aircraft type, which has a simple design, even though behind the cockpit is a super jumbo aircraft with a height of 24.1 meters (equivalent to the height of five giraffes) and a fuselage length of 72.7 meters (equivalent to the length of two blue whales). Singapore Airlines pilots have undergone a three-week ground school conversion training course in Singapore followed by four weeks of simulator and aircraft training at Airbus headquarters in Toulouse, France. It's the same amount of training pilots receive for any other wide-body aircraft, such as the Boeing 747. Approximately 40 cockpit crew have undergone training, and Singapore Airlines will conduct future schooling at its Singapore training facilities using its A380 full flight simulator and flight training device.

On the cabin crew side, the story is very similar in that preparation for the introduction

of the A380 requires preparation no different from any other new aircraft type into the fleet. Singapore Airlines plans to have more than the minimum crew complement required per government regulation — at least 18 crewmembers. Of course, there are new features and gadgets on the A380 that are typical whenever a new aircraft is launched, but the training requirements are not any more complicated for the cabin crew. There is an extra day of safety training to enable cabin crew to safely evacuate a double-deck aircraft.

In addition to training and service requirements specific to the new aircraft, realignment of crew numbers is required to ensure the correct numbers are trained for various aircraft types without compromising aircraft recency (each cabin crewmember can fly a maximum of three aircraft types in accordance with Singapore government regulations). For the entry into service of the first aircraft, about 300 crewmembers were affected. Cabin crew will continue to be triple fleeted, thus allowing no major rostering differences for A380-trained crew.

On the ground, Singapore Airlines had to prepare its staff to ensure smooth operations including embarkation and disembarkation of passengers using direct upper deck access, or DUDA, a third arm of the gate bridge. Singapore Airlines Engineering Company, the engineering

arm of SIA, also made preparations to maintain the A380, training 59 licensed aircraft engineers and 173 technicians to care for the new aircraft type. SIAEC has also invested US\$16.2 million in tooling and ground support equipment, and it built a new hangar with a roof height of 44 meters to accommodate the giant tailfin of the A380.

Singapore Airlines has undergone all the preparations and training necessary to successfully operate the A380, but perhaps most importantly, it has made special provisions to ensure its customers have a memorable, enjoyable experience.

The carrier's A380 cabin has been fitted with unique seats to ensure maximum comfort. Panasonic has provided the latest in-flight entertainment equipment, giving passengers numerous entertainment options. And the airline promises a new product, "Singapore Airlines Suites," which it describes as a class beyond first. Its business class will be modeled on the new cabin product launched in October 2006, to worldwide acclaim, which offers a fully flat bed, a wide sofa-style seat and direct access from every seat to the aisle in a spacious one-two-one configuration.


For Singapore Airlines, it was more than just preparing and training staff to operate a huge aircraft. The carrier has taken this

opportunity to auction its much-sought-after tickets on its inaugural flight, donating the proceeds to four charities:

- Community Chest of Singapore,
- Sydney Children's Hospital, Randwick,
- The Children's Hospital at Westmead in Sydney,
- Médecins Sans Frontières, also known as Doctors Without Borders.

Singapore Airlines Chief Executive Officer Chew Choon Seng said the first commercial A380 flight is a landmark in aviation history as well as a once-in-a-lifetime experience on an aircraft that marked a new chapter in air travel.

"While we will celebrate the event, we also wish to remember the people who are less fortunate and can be assisted by the charities to which all the proceeds will go," Chew said in a recent press release.

The airline that prides itself to be "the first to fly the A380," Singapore Airlines has taken the challenge head on in a manner that is only becoming of the carrier. The professionalism and efficiency with which SIA has approached this massive undertaking is testament to its focus as a pioneer in aviation history. 

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+count it up

120 billion

The amount in U.S. dollars the industry fuel bill is expected to grow in 2007 (26 percent of operating expenses at US\$61 a barrel) due to growth, hedging at higher prices and an increase in refinery margins, according to IATA.

500 million

The amount in U.S. dollars the industry lost in 2006 as a result of high oil prices, according to the International Air Transport Association.

43

The number of airlines worldwide now offering common-use self-service kiosk technology, and more than 100 airlines are currently developing CUSS, according to the International Air Transport Association.

112 billion

The amount in U.S. dollars the industry fuel bill grew (26 percent of operating expenses at US\$66 a barrel) in 2006, an increase from US\$44 billion (14 percent of operating expenses) in 2003, according to IATA.

2.5 billion

The amount in U.S. dollars the International Air Transport Association expects the airline industry to profit in 2007, the first profit since 2000. Europe is expected to achieve the largest profit with a projected US\$1.5 billion.

4.8

Percentage of the average annual growth rate of international freight volumes between 2006 and 2011, which is supported by economic growth, globalization and trade.