

August 2016

A380

A380 commercial and in-service status

- **319 net orders from 18 customers**, including one leasing company, representing a 90% share of the Very Large Aircraft (VLA) market.
- **194 A380s** have been delivered to date to **13 operators** since October 2007 :
(6 Qatar Airways, 14 Lufthansa, 10 Air France, 82 Emirates, 12 Qantas, 19 Singapore Airlines, 10 Korean Air, 5 China Southern Airlines, 6 Malaysia Airlines, 6 Thai Airways, 12 British Airways, 4 Asiana Airlines, 8 Etihad).
- More than **100 A380 routes** are operated by 13 airlines.
- Today **230 airports** can accommodate the A380 around the world.
- The A380 fleet has flown more than **2.9 million flight hours** in more than **350 000 revenue flights**, carrying over **130 million passengers**
- Today the A380 fleet makes over **300 flights per day**, carries more than **3 million passengers / month**.
- An A380 takes-off or lands every **3 minutes**.
- 54% of A380 capacity is from/to/within the Asia-Pacific region, 17% is on regional flights with Asia
- The Very Large Aircraft **market potential** is around **1 500 aircraft** over the next 20 years (of which Airbus targets some 50% of this market)

A380 unbeatable economics

- A380 systems are two generations ahead of the 747, resulting in them being lighter weight and having significantly lower maintenance costs.
- **Composite materials account for 25%** of structural weight of the A380 (this compares to 3% on the 747-400, not more than 5% on the 747-8, 11% on the 777).
- Use of composite over traditional materials on the A380 yields a 15 tonne weight saving.
- Weight saving systems and materials combined with the latest generation engines from Rolls Royce and Engine Alliance mean the A380 has the lowest fuel burn per seat of any wide-body aircraft.
- In terms of **cash operating cost per seat**, compared to the A380 the 747-8 costs 43% more, the 777-300ER 30% more and the 777-9X 15% more
- A380 boosts contribution to profit by up to 65% per flight compared to the nearest competitor

A380 superior performance

Better take-off, landing and climb performance.

- Compared with the 747, the A380:
 - offers 900nm more range than the 747-400 (400nm more than the 747-8) (in 4-class configuration, 544 pax)
 - needs shorter runways to take off (17%) and land (11%)
 - offers the same cruise Mach number
 - has a 20kt lower approach speed (the same as an A320)

A380 for sustainable growth

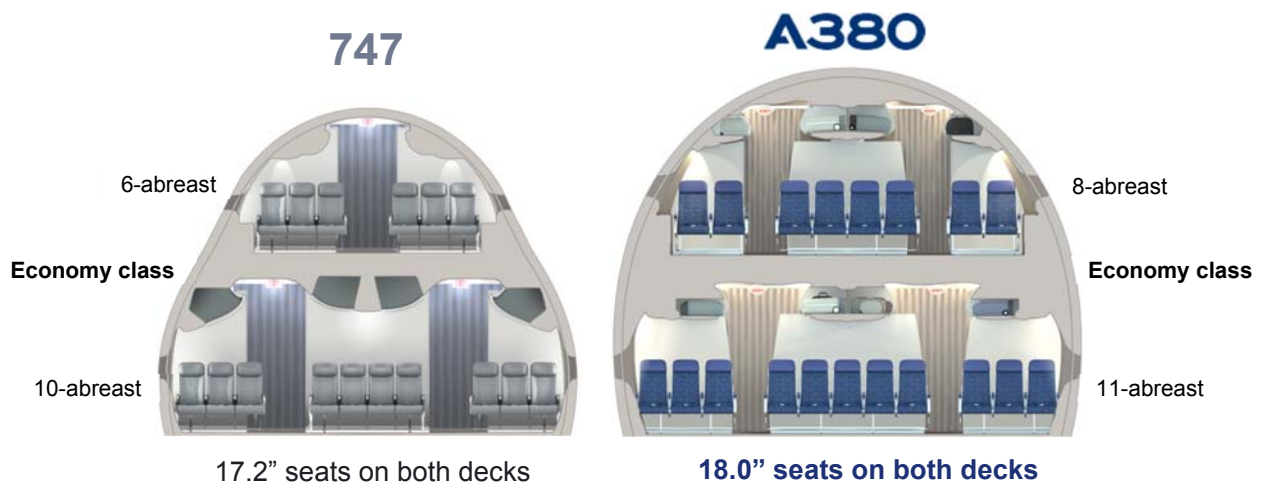
- Half the noise of the 747 at take off whilst bringing 60% additional capacity.
- At 544 seats layout - 4-class, the A380 has: 40% lower fuel burn per seat than 747-400
- CO₂ emissions are reduced in-line with fuel burn, other emissions are significantly below international guidelines.
- A380 maximises efficiency of existing airport infrastructure - adapting for the A380 reduces or defers the need for airports to invest in the duplication of existing infrastructure by maximising the efficiency (through its higher capacity) of existing runway slots and terminal stands.

A380 the best cabin in the sky

Comfort

- The widest main deck cabin, the first wide-body upper deck: comfort for all
- The total cabin surface area of the A380 is 550 m²,
 - Main Deck (MD) cabin, the widest of any airliner, is 20" (51cm) wider than the B747 cabin
 - Upper Deck (UD) cabin, the first full widebody UD cabin ever, is 71" (180cm) wider than the B747 cabin:
- The best cabin in the sky, optimizing revenues and offering high comfort levels with an 18 inch seat in Economy at 11-abreast
- 18" wide economy class seats at 11-abreast compared to 17" on the 747 at 10-abreast
- The quietest cabin in the sky (half the noise of the 747-400)
- Making magic out of light with larger windows and cabin mood lighting
- 6 air inlets (compared to 4 typically) for quiet, draught free cabin air delivery
- The lowest number of passengers per temperature control zone of any aircraft flying today. The cabin is split into 15 different temperature control zones, the temperature in each can be varied between 18 and 30 degrees c

**The A380 cabin cross section:
20" wider than 747 on the main deck and 70" wider on the upper deck**
















Efficiency

- 15% additional stowage volume per passenger for cabin baggage compared to the 747-400
- Wide stairs for fast passenger boarding
- Direct upper deck servicing allows same turn-around-time as existing wide-body aircraft

Services

- A single simple and intuitive touch screen interface for cabin crew to control all cabin systems
- 3rd generation In-Flight Entertainment (IFE) and connectivity with more content
- Fibre-optic IFE backbone for faster access and streaming.

A380 current operators' layouts

Airline	N. of seats (classes)	Upper Deck configuration	Main Deck configuration
 SINGAPORE AIRLINES	441 (4-cl) 379 (4-cl)	60 B/C + 88 Y/C 86 B/C	12 Suites+ 36 PY/C+ 245 Y/C
 Emirates	491 (3-cl) 519 (3-cl) 615 (2-cl)	14 Suites + 76 B/C 120 Y/C + 58 B/C	401* Y/C 429* Y/C 437 Y/C
 QANTAS	484 (4-cl)	64 B/C + 35 PY/C + 30 Y/C	14 F/C + 341 Y/C
 AIRFRANCE	516 (4-cl)	80 B/C + 31 PY/C + 53 Y/C	9 F/C + 343 Y/C
 Lufthansa	509 (4-cl)	8 F/C + 78 BC + 35 Y/C	52 PY/C + 336 Y/C
 KOREAN AIR	407 (3-cl)	94 B/C	12 F/C + 301 Y/C
 CHINA SOUTHERN	506 (3-cl)	70 B/C + 76 Y/C	8 F/C + 352 Y/C
 MALAYSIA AIRLINES	494 (3-cl)	66 B/C + 70 Y/C	8 F/C + 350 Y/C
 THAI	507 (3-cl)	12 F/C + 60 B/C + 58 Y/C	377 Y/C
 BRITISH AIRWAYS	469 (4-cl)	53 B/C + 55 PY/C + 104 Y/C	14 F/C + 44 B/C + 199 Y/C
 ASIANA AIRLINES	495 (3-cl)	66 B/C + 106 Y/C	12 Suites + 311 Y/C
 QATAR AIRWAYS	517 (3-cl)	8 F/C + 48 B/C + 56 Y/C	405 Y/C
 ETIHAD AIRWAYS	498 (3-cl)	11F/C+ 70B/C	417 Y/C

A380 facts

- The first A380 flight took place in Toulouse on 27 April 2005 and the A380 entered into commercial service with Singapore Airlines in October 2007.
- A380 is the largest civil aircraft (max seating capacity of 853 vs 660 in 747-400 or 605 in the 747-8) in history, with a maximum take-off weight of 575 tonnes (vs 397t for 747-400 or 448t for 747-8).
- A380 was launched in December 2000; 34 years after 747 (1966).
- Emirates completed the world's longest nonstop flight on an A380 between Dubai and Auckland on 2nd March 2016 after traversing 14,200 kilometers. It took 17 hours and 15 minutes.
- Each A380 consists of around 4 million individual components with 2.5 million part numbers produced by 1500 companies from 30 countries around the world.
- 19.000 bolts are inserted inside the fuselage to attach each of the 3 main parts, plus 4.000 to attach both wings.
- Each A380 is equipped with **500 km of electric cables**.
- A380 wing area is **845m², 54% more than 747-400. This enables the A380 to land 20 knots i.e. 35kmh slower** than a 747 at its maximum landing weight of 386 tonnes, and contributes to reduce noise around airports.
- The span of the horizontal stabilizer is 30.4 m, this is just a bit less than the wing span of the wings of the A320 that is 34.9 m.
- The volume of the three decks (including cargo/baggage hold) is **1,570 m³, enough space for 35 million ping-pong balls**.

- The two passenger decks of the A380 have a total area of **550 m²**, the same as **three tennis courts (singles), or 1¼ basketball courts** (usable floor area is 50% higher than in the 747-4).
- **5000 light** scenarios on board, using a wide choice of fluorescent and LED technology.
- The aircraft has **220 windows**.
- During take-off the wing will flex upwards by over **4m**.
- The wing span is **79.8m** and the wings are swept at an angle of **33.5 degrees**. The maximum design load on the 6-wheel body gear is 260 tonnes - equivalent to **200 VW Golfs**. The weight of the **external paint** of the A380 (topcoat plus primer) is **531 kg**. The 280,000 lb of take-off thrust across the wing is the horsepower equivalent of around **2,500 family cars** (at 110 hp each).
- The engine's 116 inch (2,95 m) diameter fan blades suck in over **one and a quarter tons of air** every second.

A380 basic data

Dimensions

Overall length	72.7 m
Height	24.1 m
Fuselage diameter	7.1 m
Maximum cabin width	Main deck: 6.5 m Upper deck: 5.8 m
Cabin length	49.9m
Wingspan (geometric)	79.8 m
Wing area (reference)	845 m ²
Wing sweep (25% chord)	33.5 degrees
Wheelbase	31.9 m
Wheel track	14.3 m

Operating data

Maximum takeoff weight	560 t / 575 t
Maximum landing weight	386 t / 394 t
Maximum zero fuel weight	361 t / 369 t
Maximum fuel capacity	320 000 litres
Engines	Rolls-Royce Trent 900 or Engine Alliance GP 7200
Engine thrust range (lb slst)	70 000
Typical passenger seating	544 4-class
Range (w/max. passengers)	8,200nm 15,200 km
Long Range Cruise	M 0.85

A380 quotes

"Our customers love the A380, and it is one of the most efficient aircraft to operate today in terms of fuel burn per passenger". (Tim Clark- Emirates CEO –Feb 2014)

"The business case for the A380 was based on high-volume routes when frequency was not in a critical issue in a slot constrained airport like Heathrow, and it's absolutely perfect in that environment" (about BA A380 - Willie Walsh, Chief Executive of International Airlines Group –IAG- Oct 2014)

"The A380 is a vital piece in the jigsaw for the airport. It's part of our constant drive to encourage the quietest and greenest planes to come to Heathrow " - Matt Gorman - Heathrow Airport Sustainability Director – Sept 2014)

"Our message is that with the A380 you have the lowest unit cost out there, and it will remain the lowest cost versus , the 777-9X and the 777-300ER," Mark Lapidus – Amadeo CEO– Jul 2014

"The aircraft is the largest in the world, it has the ability to shake the market. Looking at it from another perspective, whether it's in the domestic or international market, it raises the brand and influence of China Southern". Si Xian Min, China Southern, Chairman-Sep 2014

"A380 is a great aircraft in terms of noise and fuel efficiency per seat". Sheikh Ahmed bin Saeed Al Maktoum. Emirates Chairman- Nov 2013

"Since Qantas introduced the A380 in October 2008, there has been unprecedented demand for seats on these aircraft"- Alan Joyce - Qantas CEO - Oct 2011