

# World Airlines

rival Boeing had studied the joint development of a single, very large commercial transport – but this partnership dissolved in 1994.

Airbus confirmed the full go-ahead for the project last December and officially named the aircraft A380, with the backing of commitments from six customers for 48 orders. The decision signalled the launch of the baseline 555-seat passenger version designated the A380-800. Airbus said it adopted the A380 designator as the "8 suggests double decks, one on top of the other".

The baseline model is dubbed the -800 which is also offered as a freighter (-800F). Future planned models include a longer-range version, the -800R, as well as a 656-seat stretch the -900, and a 480-seat shrink, the -700. Airbus says that the use of -700/800/900 suffixes (rather than the traditional -100/200/300) reflect a commitment to airlines that the three models will be "fully developed aircraft" at service-entry and not subject to the introduction of incremental performance enhancements which previously saw the initial version become quickly dated.

The four-engined A380 is available with a choice of powerplants in the 70,000-78,000lb-thrust bracket, with R-R offering the Trent 900 and the GE-P&W Engine Alliance the GP7200.

The Trent 900 is the lead certification engine and has been selected by Qantas, SIA, Virgin and leasing company ILFC. Air France and FedEx have chosen the GP7200. The Trent-powered A380 is scheduled to make its maiden flight in late 2004, and enter service with SIA in March 2006. Air France will receive the first GP7200-powered A380 in late 2006. EADS co-chairman Manfred Bischoff believes there is a market for 750 A380s in the next 15 years. "We expect to break even at 250, and to see a return in 2011".

The freighter, for which Emirates and FedEx Express have already announced commitments, is due to enter service in 2008. The freighter will have large cargo doors on both decks and a 150t payload capability, and its strengthened airframe design will provide the basis for the stretched A380-900.

## Production

Five sites competed for the A380 final assembly line before Airbus France's Toulouse plant was selected last year. A new production plant, dubbed the Aeroconstellation complex, is being constructed in Toulouse to house the final assembly line.

Airbus Deutschland in Hamburg will have responsibility for all internal cabin finishing as well as delivery of aircraft to customers in Europe and the Middle East. Other customers' aircraft will be fitted out in Germany, but delivered from Toulouse, due to runway limitations at Hamburg, to enable long-range deliveries.

The division of work on the A380 is similar to earlier programmes, with Airbus France responsible for the cockpit and centre fuselage section, Airbus Deutschland for the forward and rear fuselages and vertical stabiliser, Airbus España for the horizontal tailplane, and Airbus UK for the wing.

Because of their size, however, Airbus is delivering sections to Toulouse by a novel combination of sea, river and road. The transport process starts in Hamburg with loading of fuselage sections onto a

## AIRBUS A380

	A380-800	A380-800 Freighter
Length (m)	73	73
Wingspan (m)	79.8	79.8
Height (m)	24.07	24.07
Cabin width (m)	6.55	6.55
Max take-off weight (kg)	560,000	583,000
MTOW option	-	590,000
Max landing weight (kg)	386,000	427,000
Operating empty weight (kg)	277,000	252,000
Max zero fuel weight (kg)	358,000	399,000
Max payload (kg)	83,000	150,000
Powerplant	4 x 70,000lb GE-PW	4 x 78,000lb GE-PW
	Engine Alliance GP7200	Engine Alliance GP7200
	or 4 x 70,000lb	or 4 x 78,000lb
	R-R Trent 900	R-R Trent 900
Standard fuel capacity (l)	310,000	310,000
Normal operating speed (Mach)	0.85	0.85
Max cruise speed (Mach)	0.89	0.89
Max cruise speed (kt)	340	340
Max cruising altitude (ft)	43,000	43,000
Take-off field length (m, Sea level/ISA)	2,050	2,900
Landing field length (m, Sea level/ISA)	2,900	1,900
Accommodation (1-class)	822	-
Accommodation (3-class)	555	-
Design range/typical load	14,200km/555 pax	10,400km/150t payload

purpose built roll-on/roll-off vessel. The ship then picks up a shipset of wings from Mostyn, UK, continuing to St Nazaire, France, where the forward fuselage will be unloaded to be mated with the cockpit section. This combined subassembly is reloaded and joined by the centre section, also built at St Nazaire.

The ship continues to Bordeaux to join the horizontal tailplane and belly fairing which will have arrived from Spain. The entire aircraft shipset is then loaded onto roll-on/roll-off barges for transport to the highest navigable point upstream, about 80km inland, then carried by night on secondary roads to Toulouse. Production will eventually settle at one aircraft per week.

Airbus plans to raise 40% of the A380's \$10.7 billion development funding from risk-sharing companies which will finance their own work. The rest will come from the Airbus shareholders – 30% from their governments in the form of repayable loans and 30% from shareholders' own resources.

Potential risk-sharing partners include: Belairbus (Belgium); Eurocopter (France/Germany); Finavitec (Finland); GKN Aerospace (UK); Hurel Dubois (France – up to 2%); Latecoere (France); Saab (Sweden – up to 5%); and Stork Aerospace (Netherlands).

Airbus has begun issuing contracts for A380 components, with Goodrich selected to provide the main landing gear and Messier-Dowty the nose gear. Rockwell Collins will supply the Ethernet avionics communication infrastructure, while Goodrich will also supply the escape slides. P&WC will supply its new PW9XX APU.

Orders: 48

Deliveries: 0

## E2 and future projects

After Boeing's sonic cruiser high-subsonic speed

airliner concept emerged earlier this year, Airbus revealed that it was also working on a concept for high-speed subsonic travel, dubbed E2, but says it still needs to be convinced that such an aircraft is feasible from an economic and environmental standpoint.

Airbus sees such an aircraft as complementary to, rather than as a replacement for, the existing long-haul widebody aircraft. Airbus's focus for a nearer-term replacement in the 200/250-seat market is still the A330-200, or "other A330 derivatives".

Airbus has held the first in a series of meetings with its engine suppliers to outline concepts for potential development of its 100- to 800-plus-seater aircraft. The meetings are broadly aimed at evaluating future concepts from 2010 onwards to coincide with the period following entry-into-service of the A380. In some cases, however, the talks are also thought to be reviewing options for nearer-term plans – particularly what to do in the wake of the decision to shelve the A330-500 as a replacement for the A310 and A300. The meetings are also reviewing proposals for longer-term plans beyond 2015 and 2025.

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## An-70T

Although this four-engined propfan-powered airlifter was initially designed for military transport roles, a commercial version is also planned. The An-70T had its maiden flight in December 1994, but the programme was thrown into turmoil after