

interview

Jean Michel Gicquel

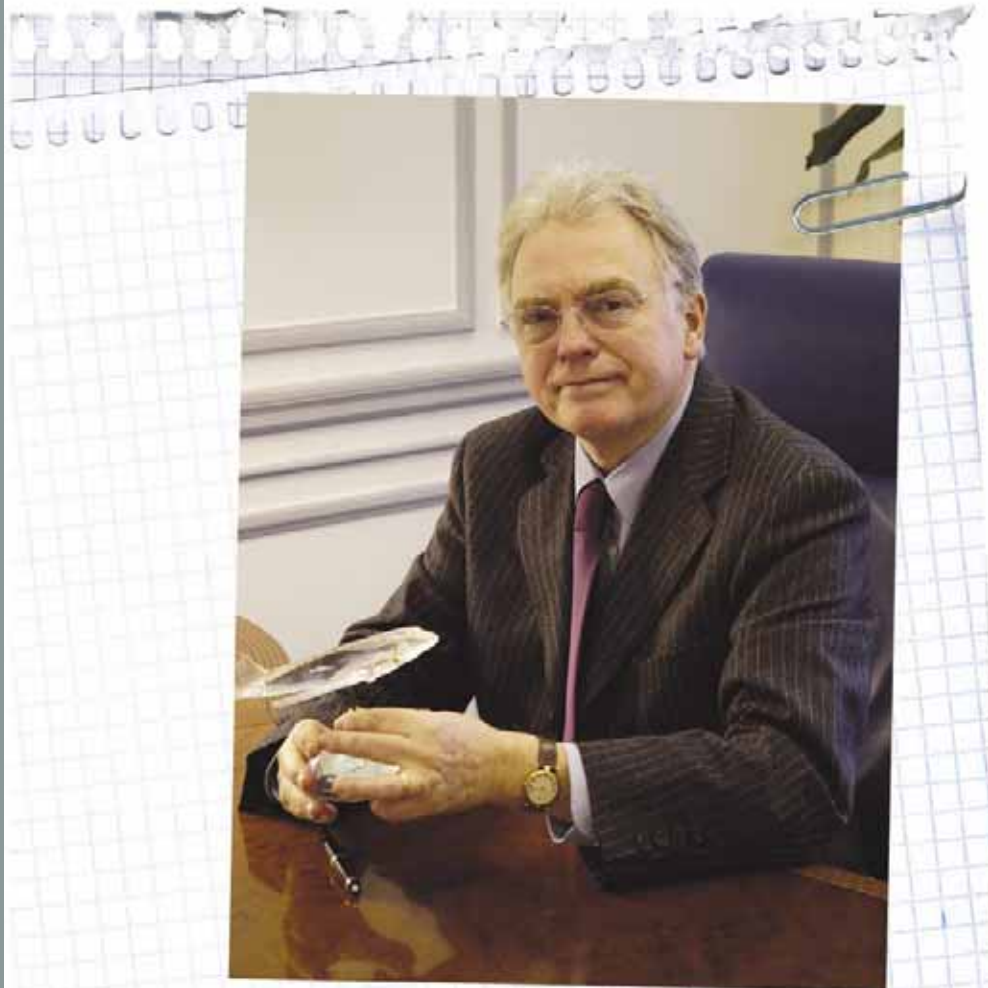
Chairman and CEO of
La Réunion Aérienne and
of La Réunion Spatiale

If it can be said that European cooperation with regard to aircraft construction, as evidenced by the company EADS and the Airbus consortium, has been a success, then the arrival of the A380 - the largest aircraft ever constructed, and capable of carrying 800 passengers in the future - is a real landmark.

The insurance sector throughout the world is preparing to confront the challenge of insuring this aircraft. In order to do this there would be nothing better than to know the opinion of one of the world's greatest experts in this line of business regarding the characteristics of these new aircraft, especially from the point of view of safety and insurance, and which new hazards could constitute a threat.



“ *The situation of airline insurers has improved substantially* ”



Jean Michel Gicquel was born in 1940. He is married and has 2 children

- Chairman and CEO of LA REUNION AERIENNE and of LA REUNION SPATIALE, 50 rue Ampère - 75017 Paris, an International Insurance and Reinsurance Group specialized in the underwriting of aviation risks (since 1953), and of space risks (since 1983), and a leader in those fields.
- Vice-President of the executive committee of IUA (International Union of Aviation Insurers).
- Vice-President of « Commission des Assurances Transports » (COMAT) of Fédération Française des Sociétés d'Assurance (FFSA).
- Chairman of the « Aviation and Space » Study group of COMAT.
- Chairman of the Aviation Technical Committee of CEA (Comité Européen des Assurances).
- Corresponding member of ANAE (Académie Nationale de l'Air et de l'Espace)

More than 39 years of experience in this field.



Commonality of the AIRBUS family

If you had to define EADS' principal milestones in a few words, what would you highlight? Has it been a success story? What did the arrival of aircraft such as the Airbus 319, 320, 321 or 340 - the last one with a capacity for 250 passengers - mean for the market.?

The principal milestone for Airbus was certainly the launch of the short/medium range A320 in 1984 : it was the first commercial aircraft with Fly by wire controls and side stick and a wide fuselage section.

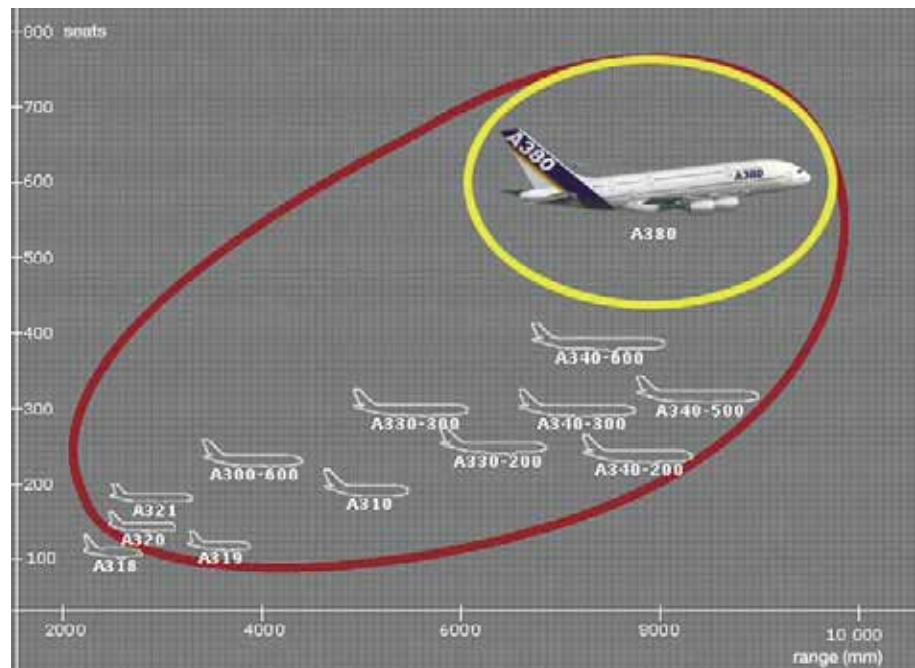
It was also the first model of a family of aircraft with same cockpit and flight characteristics.

It was soon followed by a stretched version, the A321 in 1985 and two shortened models : the A319 in 1992 and the A318 in 1999.

Another important date was the entry into service of the first Airbus four engines long range A340, in 1993. This aircraft was developed together with medium haul version, the twin engined A330.

Finally the A380 program launched in December 2000 completed the last segment of aircraft (with more than 400 seats) where Europe was not present and for which Boeing has been the only supplier for the past 30 years with the B747.

EADS is a young company born in year 2000 from the merger between major Aerospace manufacturers in France (Aerospatiale Matra S.A.), Germany (Daimler Chrysler Aerospace AG) and Spain (Construcciones Aeronauticas S.A.). It owns 80 % of the Airbus consortium whilst the 20 % balance are owned by BAE systems of the UK.



Source Airbus : According to Airbus, pilots transferring from the new generation Airbus family will easily be able to familiarise themselves with the A380

EADS and Airbus are definitely a success story as they have both concretized European cooperation into an efficient body. That cooperation goes back to the 1920's through various projects culminating with the Concorde programme in the 1960's. Airbus was formed in 1970 between Aerospatiale of France and Deutsche Aerospace. CASA became a member in 1971 and British Aerospace in 1979. By that time the European Aerospace Industry was for the first time in a position to challenge the U.S monopoly in commercial airliners.

The first Airbus model ever, the A300, entered service in 1993 ; it was soon after operated by a major US airline: Eastern under the chairmanship of famous astronaut Frank Borman.

Today Airbus captures about 50 % of orders for commercial airliners of more than 100 seats and has more than 3300 aircraft in service.

What is the current situation of the European aviation industry?

The European Aerospace industry seems to continue to recover from September 11th 2001, SARS and the economic downturn. Air traffic is back to the 2001 levels in Europe. ICAO anticipated annual traffic growth is over 5 % for years to come and in 2004 Airbus has exceeded Boeing for the second consecutive year in terms of orders and deliveries.

The European industry is number 2 globally behind the USA and its market share is regularly increasing with about 40 % share versus 44 % for USA. So the future looks promising even if 2004 was another challenging year for the airline industry with the dramatic increase in fuel prices.

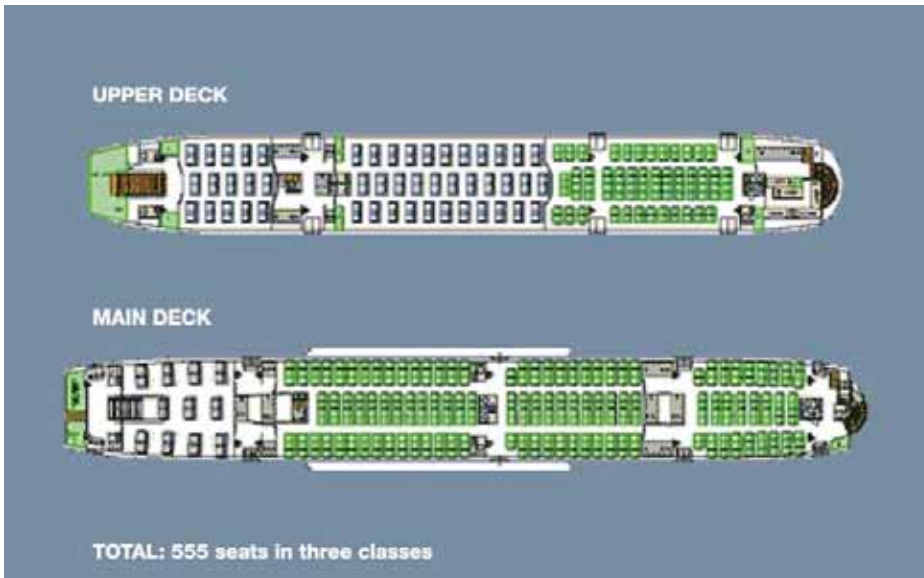
The Airbus A380 will be the biggest and most modern commercial aircraft ever developed. Has thought ever been given as to whether the international

Interior of the AIRBUS



(Source Airbus)

Configuration of the 555 seater



(Drawing source Airbus)

insurance industry is in a position where it will be able to meet the challenge of insuring it on a large-scale and long-term basis?

As long as I can remember the Aviation insurance market has always met the challenge of a fast evolving technology in air transport. And this time the A380 does not appear to be more challenging for insurers than it used to be in the early seventies with the advent of the first BOEING747 wide body, or the SST Concorde.

The Boeing 747 insurance value and passenger seating capacity were both twice those of the then biggest aircraft in service : the DC8-63. Today's gap is far less as our market currently handles insurance values of 250 million USD (EUR 207,36 million) or more: the A380-800 insurance value is expected to remain within a 25 % margin, as compared with existing highest valued aircraft. The same applies to seating capacity : the passenger standard version is for 555 seats in a 3 class configuration, likely to increase to 650 + in a single economy class, as for example, will

be operated by Emirates on certain routes. Even this version remains within a 5 to 10 % margin as compared with some current seating exposures on B747 aircraft.

What are the principal technical characteristics that differentiate the Airbus A380 from other previous Airbus models? What differentiates it from the large-capacity passenger aircraft project being developed by the North American company Boeing?

The A380 first obvious feature is that it is a much larger aircraft than any other passenger airliner ever built : 560 tons of MTOW for the A380-800 and 590 tons for the freight version 800 F and a wing span of nearly 80 meters ! It is supposed to be environmentally friendly with low noise, low emissions and low fuel burn. But other features are also interesting :

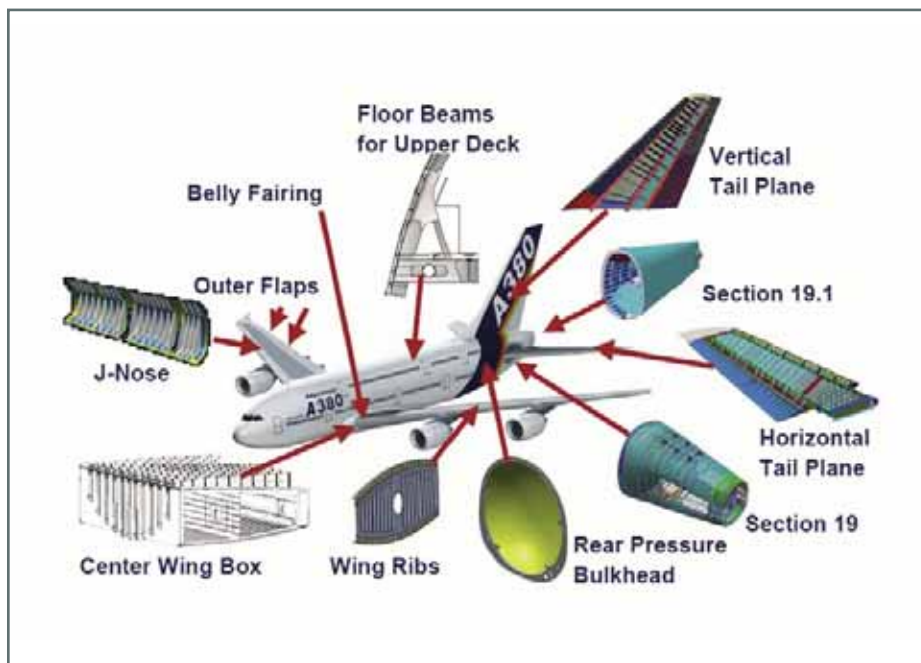
- ▶ 40 % of the A380 structure and components use carbon composites and principally carbon fiber reinforced plastic (CFRP) used for the center wing box, rear pressure bulkhead (as in the A340-600) and upper deck floor beams.
- ▶ A notable innovation will be the use of GLARE, which is a laminate made of alternate layers of aluminium and strong fiber glass and offers improved tolerance to metal fatigue, corrosion or fire whilst weighing 10 % less than aluminium.

Whilst the "cross crew qualification concept" remains enabling quick qualification from other Airbus types. The A380 offers an enhanced man/ machine interface and an improved situational awareness for the pilot thanks to 8 large display units and new safety functions like :

- ▶ Taxi cameras showing on the navigational display the airport map with runways



CRFP technology of A380



(Source Airbus)

and taxiways, aircraft and other aircraft positions and the path to be followed.

- ▶ A vertical display of the aircraft flight plan over ground relief showing the minimum safe altitude, as a red bar, A very efficient way to avoid CFIT (controlled flight into terrain).
- ▶ An Aircraft Environment Surveillance System (AESS) produced by Honeywell which concentrates the information from the weather radar, the EGPWS (Enhanced Ground Proximity Warning System) and TCAS (Traffic and Collision Avoidance System).
- ▶ Improved thrust awareness with a direct reading of the percentage of used thrust as compared with maximum thrust available.
- ▶ Screens which actually show flaps and spoilers actual configuration.

As far competition, Boeing has apparently not yet decided to go the route of very

large aircraft as their latest forecast suggests that aircraft with over 400 seats will not capture more than 400 aircraft in the next 20 years as opposed to 1500 according to Airbus. The new Boeing project, the 7E7 "dreamliner" concentrates on a mid size aircraft with 250 passengers, offering long range capabilities and its competition at Airbus is the recently launched A350 programme.

The A380 will be able to carry up to 800 passengers. Will it be necessary to increase the cover limit for airline companies?

The 800 seats configuration is not expected until the arrival of the A380-900. For the stretched version, the standard seating will be just over 650 seats. Again this seating is within 10 % of high density market currently operated B747, for example by Japan Airlines.

Current available liability limits for airlines of USD 2 billion (EUR 1.66 billion) and up to USD 2,5 billion (EUR 2.07 billion)

anyone occurrence for each aircraft are only bought by a few number of airlines. It's not expected a large demand in excess of those amounts, but if this was the case, the market would certainly adapt and offer increased capacity, obviously at a price.

The world aviation insurance market is composed of various segments: commercial aviation, general aviation, space-related risks and satellites, parts and airplane manufacturing and the specialised war market. Commercial aviation (airlines) accounts for 36% of the total market and between 1989 and 1999 recorded premium income of USD 12.18 billion (EUR 10.10 billion) and losses amounting to USD 13.97 billion (EUR 11.58 billion) - in other words a loss ratio of 114%. Premiums increased by 15% in 2000 and by 30% in 2001, with renewed price increases in 2002 and 2003. Taking these factors into account, do you think that the insurance market has the capacity to cover these types of planes?

The situation of airlines insurers has substantially improved since the tragic events of September 11 2001. At the end of last year, the airline insurance market for 2003 and previous underwriting years was profitable with a credit balance in excess of USD 2 billion (EUR 1.66 billion) including the estimated cost of September 11th. The actual loss ratio is thus closer to 80 %.

This situation reflects the premium increases charged after September 11th, but also a dramatic reduction of fatal accidents in the past 3 years due to safety improvement. The A380 is expected to be even safer and reliable than its predecessors and it is not expected to cause any special concern.

After 9/11, aviation insurers started to annul a good number of clauses referring to various cover extensions, etc.

Isn't it possible that there will be a review of the scope and type of cover and policy clauses with the introduction of these mega-planes?

When looking at aviation insurance market future challenges, we must clearly differentiate between those risks which are inherent to the normal operation of an aircraft and related activities, and those resulting from deliberate hostile acts, and especially terrorism.

I think that the aviation insurance market will meet the challenge of new technology which ultimately aims at better efficiency and better safety. The customer base is large enough to provide a reasonable spread and mutualisation of large losses.

I expect the frequency of those losses to continue to decrease whilst the cost of individual accidents is likely to increase.

Aviation insurers must be able to measure their exposures, the probability of an occurrence and the likely cost of an accident. They will be able to answer our clients needs in the long term and provide continuity in coverage.

There is however a type of exposure that insurers are not able to assess and for which they cannot offer a satisfactory long

term and global answer : this is terrorism, and especially that new dimension of terrorism which is not different from war, where aircraft are used as mass destruction weapons.

There is too much uncertainty here about the means which may be used : nuclear, biological, chemical ; about the consequences and likely cost ; about the level of risk which is largely influenced by a government foreign policy and anti-terrorism efficiency.

When war has been declared and is effective, it is not and has never been insurable: only governments can finally provide a protection in such circumstances.

With regard to prevention measures, are there any design problems concerning the rapid evacuation of this type on aircraft and are there any new difficulties from the insurance point of view?

The A380 provides two passenger decks, joined by staircases, with nearly 200 passengers on the upper deck and 355 on the main deck.

Emergency exits include 16 oversized doors, 6 on the upper deck and 10 on the main deck with each door to accom-

modate two lanes of evacuees.

The "90 seconds rule" for evacuation demonstration will apply for certification. One question is whether Airbus will be required by the authorities to conduct a full scale evacuation test based on the two decks being considered as one single entity or if the two decks may be considered as independent (two cabins, one above the other with little or no communication).

I understand that technology is now evolving toward the use of evacuation simulation in the aviation sector (it is already used in other sectors such as maritime) which may provide an improved analysis of various evacuation scenarios.

Is Réunion Aérienne taking any steps in order to guarantee the insurance of this aircraft?

La Réunion Aérienne leads the EADS Aviation insurance programme. The first A380 went out of assembly line on last December 27th and is thus already insured for ground risks. Insurance will cover the first flight which took place on april 27th 2005, and then a comprehensive flight test programme before entry into service in the spring of 2006 with launch customer Singapore A/L. ■



Production of the A380



Airbus' final assembly building for the A380 is located in Toulouse, France, and is one of the world's largest.



Toulouse, France: Computer image of the new A380 assembly line



The A380's first equipped fuselage section was unveiled at Hamburg, Germany in March, 2004.



The first A380 wing was removed from its main assembly jig at Airbus' factory in Broughton, North Wales (UK) on November 4, 2003



The first A380 belly fairing leaves the Airbus site at Puerto Real, Spain, enroute to the Airbus site at Saint Nazaire, France. (October 2003)