Presented by

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The Airbus A380 - Towards a New Future for Air Transport

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The future has arrived

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A380 Family

159 firm orders

16 customers

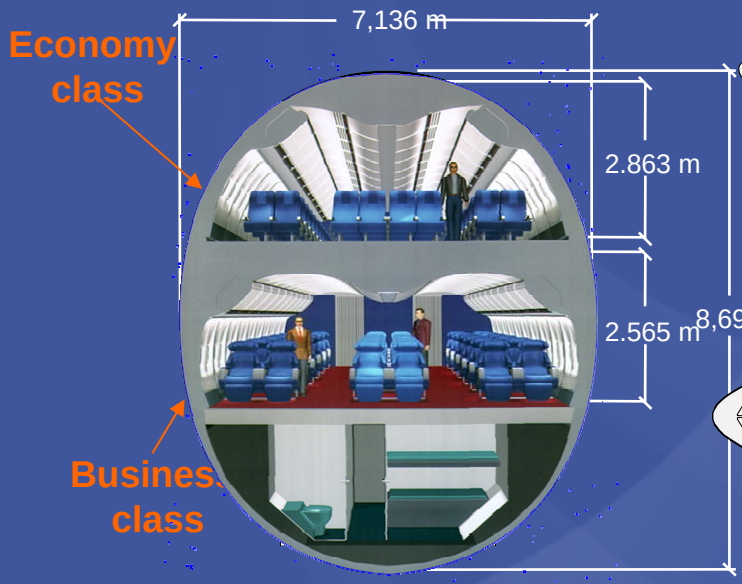
(end April 2006)

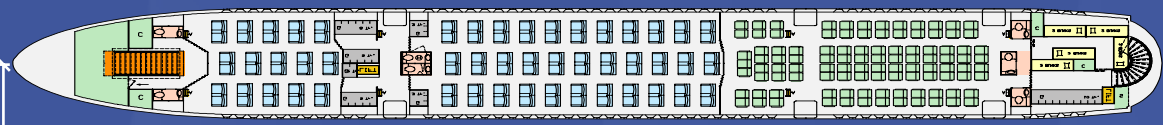
21st Century flagship

560t
555 seats
8000 nm
EIS 2006

590t
150 t
5620 nm
EIS 2008

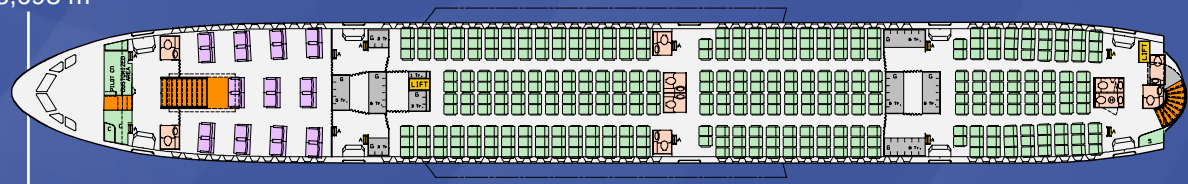
A380 Cabin layout





96 Business

103 Economy



22 First

334 Economy

- 2 full decks
- 4 aisles


A380 main deck, Economy Class seating configuration

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Providing more capacity, more comfort

Upper deck - true widebody cabin

2-2-2 business class, common product with Airbus long range family

Main deck - the widest cabin ever

wider seats in every class

Large innovation potential

The lowest cost by far

Advanced systems & manufacturing processes

Advanced materials

Advanced powerplant

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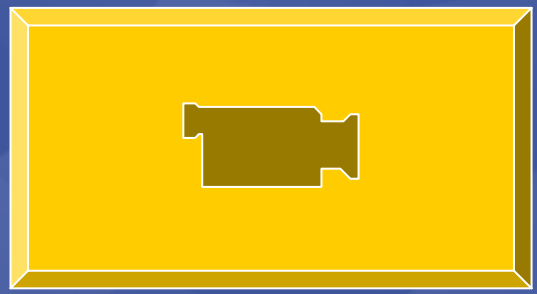
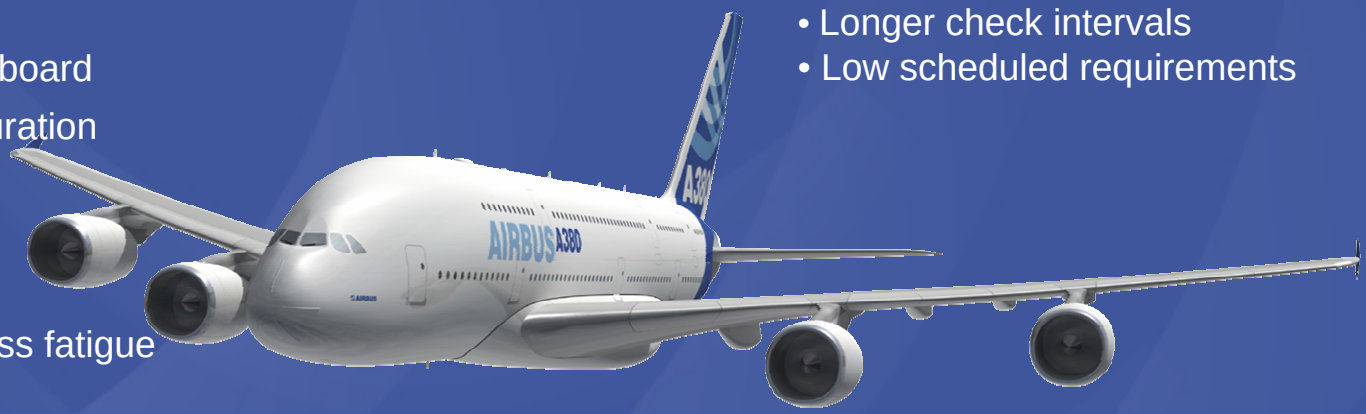
A380 in 300 seconds



A380 maintenance advantages

Integrated Modular Avionics
- Common hardware
- Software upgrades onboard
- Flexibility for reconfiguration

Maintenance Programme
- Longer check intervals
- Low scheduled requirements



Structures
- GLARE and CRFP for less fatigue and corrosion
- Laser Beam Welding
- Standard repair procedures

Onboard Maintenance
- Cockpit server for all Manuals
- E-logbook, Airman, PMATs

Electrical system
- Variable frequency
- New Interactive Maintenance

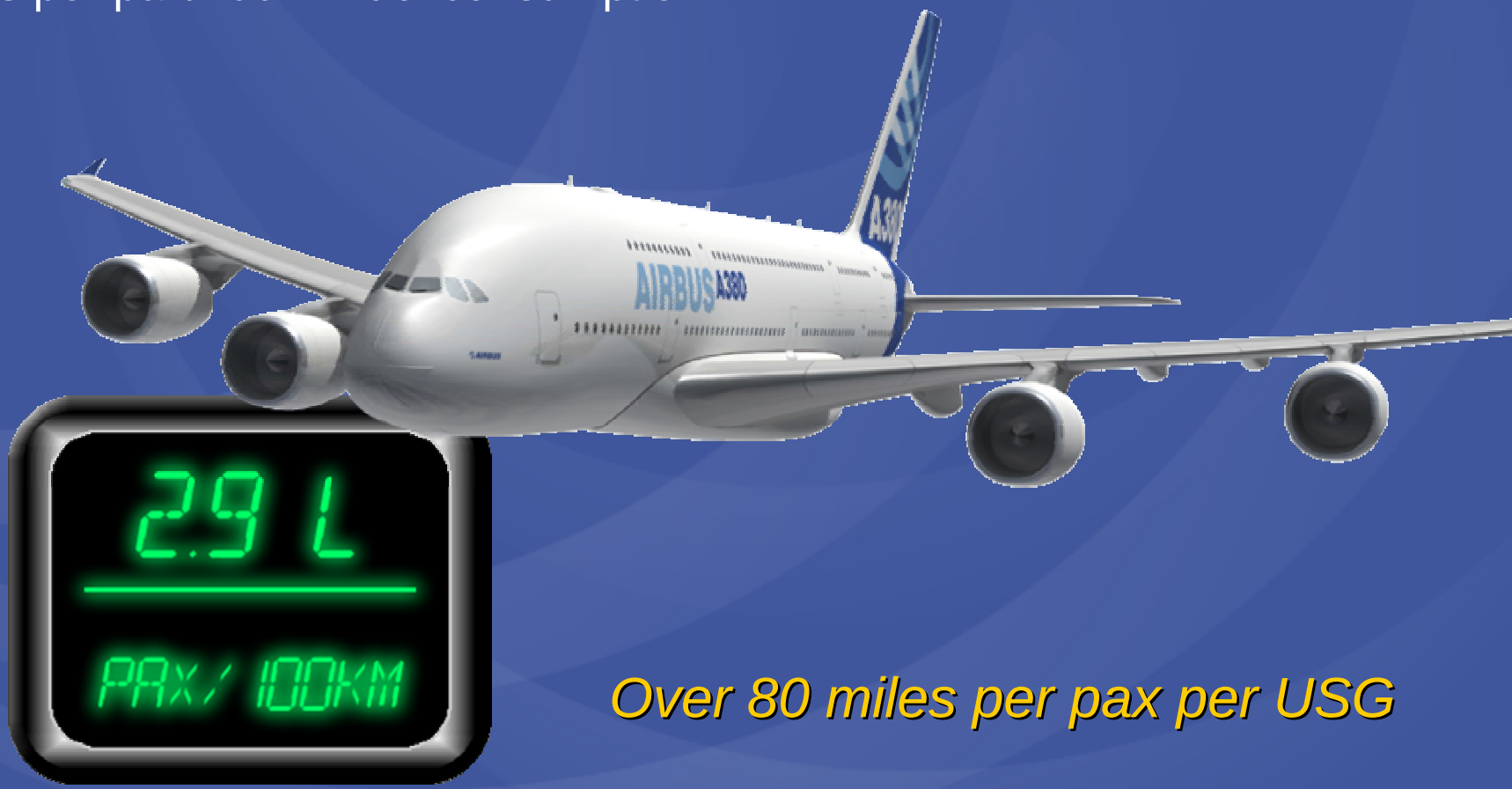
Fly-By-Wire
- New Electro-Hydraulic Actuation
- Superior redundancy for High dispatch reliability

New Hydraulics
- Only 2 circuits, 5000 psi
- Maintenance free accumulators

Leading to 25% lower DMC per seat than the 747-400

The GREEN GIANT for our planet

The first long-haul aircraft with less than
3 litres per pax/100km fuel consumption*

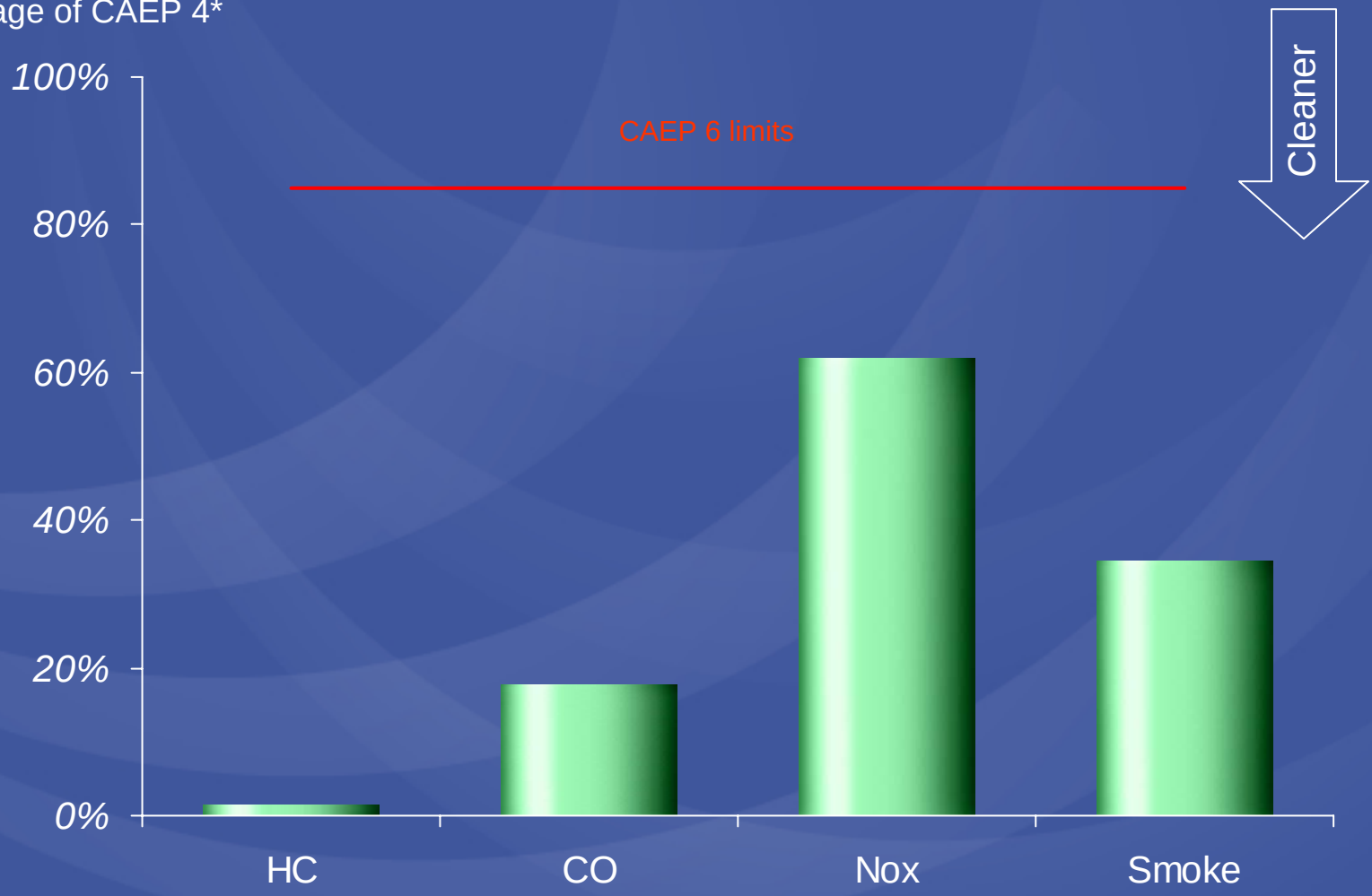


Over 80 miles per pax per USG

* 5000 nm sector, Typical International Flight Profile, 555 pax

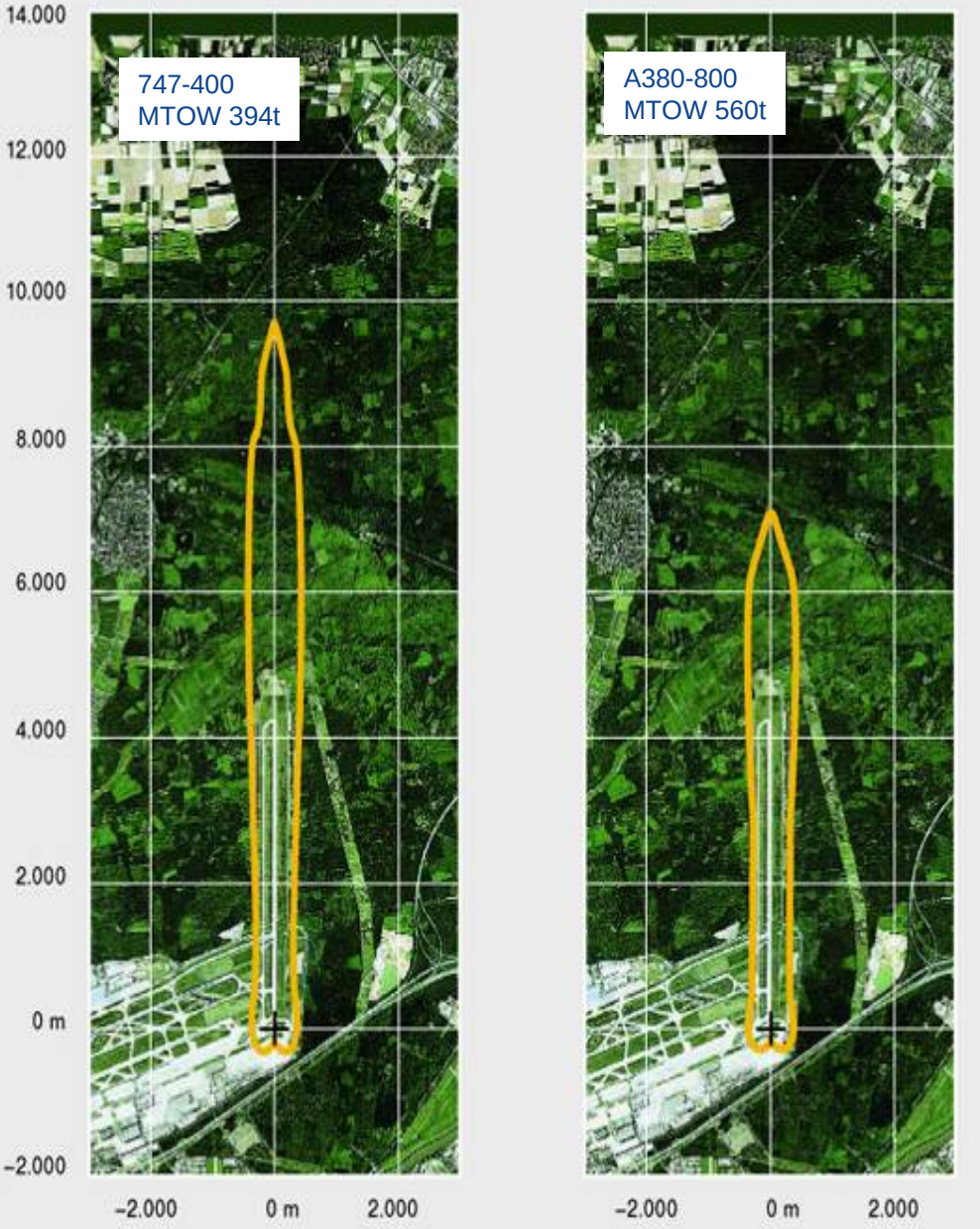
A380 and the environment

Trent 970 emissions as %age of CAEP 4*



** Preliminary emissions certification data*

A380 vs. 747-400 noise contour



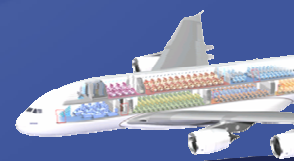
85dB(A) Noise Contour for take-off at FRA as calculated by Lufthansa

with input of Boeing and Airbus nominal noise data for same take-off conditions

The A380's double advantage

1 *The technology effect:* half the noise per movement

2 *The capacity effect:* fewer movements



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A380 likely routes
Current customers

SINGAPORE AIRLINES · EMIRATES · QANTAS · malaysia AIRLINES · AIR FRANCE · LUFTHANSA · ETIHAD · 中国南方航空(集团)公司 CHINA SOUTHERN AIRLINES (GROUP)

KOREAN AIR · virgin atlantic · FedEx Express · Thai · QATAR AIRWAYS القطرية · ups · KINGFISHER

Subject to change, based on current A380 customer and airport statements - Status as at end of 2005

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2010 airport readiness status

By end 2010, 69 airports will be ready for the A380

Welcoming the A380

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A380 airport compatibility is proven

Large airports, for operational checks

Small airports, for performance testing

Medellin, Colombia

Pointe-à-Pitre, Guadeloupe

Tarbes, Southern France

Iqaluit, Canada

More than 20 airports already visited

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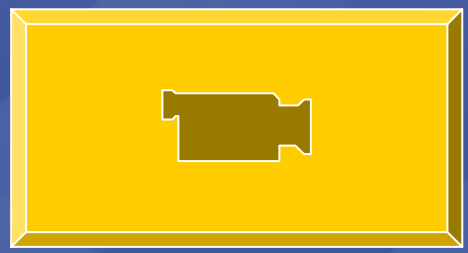
A380 First flight



A380 Flight tests

- From 27th April 2005 to 8th June 2006

- Aircraft flying : MSN 1, 4, 2, 7, 3
- 430 flights
- 1416 flight hours
- More than 100 pilots, including some 50 airline pilots

A380 Flight tests

- Test objectives
  - Check of the aircraft behaviour
    - Direct and normal flight control law
    - Effect of speed, Mach number, altitude, aircraft weight and centre of gravity position
    - All flight phases, from take-off to landing.
  - Check of the adequate functioning of the various aircraft systems during the various flight phases.

- Main results
  - Excellent aircraft behaviour
  - Control laws, and auto flight already very mature
    - Aircraft behaviour close to simulator
    - Successful autoland on flight 17, 35 days only after first flight
  - Major systems working as intended during normal operations.
  - Early safety checks carried out flawlessly
    - Landing gear gravity extension
    - Ram air turbine extension and functioning
    - Engine relight

Water trough tests

- 1 acceleration + 1 deceleration at ~70 kt

Frankfurt Airport compatibility checks – 29th October 05

Hot & high campaign in Medellin (Colombia)

Cold weather campaign in Iqaluit (Canada)

Cabin evacuation test – 26th March 06

- Certification requirement : Evacuation must be fulfilled in less than 90 seconds using half the number of doors
- Result : 873 people evacuated in ~80 seconds

Video A380 Evacuation Test

Cabin Virtual First Flight – 10th May 2006

- TEST OBJECTIVES :
- Test all cabin functions on ground with a representative passenger and crew loading during 5 hours on MSN 2.
- 474 passengers
- 22 crew members

Major R&T impacts from Flight Physics

High Reynolds Number W/T Testing

*Reduction scatter in the performance figures through the development and application of High Re Test techniques: better prediction and therefore less margins for Performance guarantee (Conventional Tunnel = +/-0.75 % vs +/- 0.25 % in Cryogenic Tunnel) – To be translated into **1.3 dc (0.5 %) drag benefit***

1st

Integrated Wing Design

- VHBR Engine Integration
- High Speed Wing Design
- Advanced CFD Simulation

*More In-board loaded wing gave **weight reduction** of **4000kg** (for a slight increase in induced drag) through improved understanding of High Reynolds/Mach wing aerodynamics plus a **drag reduction** of **3-4 dc** (1.5%) through improved wave & installation drag handling.*

Methodology for Wake Vortex Prediction

*Validated methodology for wake vortex prediction and enabling A380 classified in the same category as B747 (instead of super heavy: +2NM) Benefits for marketing & **Airport capacity**.*

Nacelle anti-ice Cyclone concept

*50% reduction in Nacelle Anti-Icing system weight (**100kg**) plus reduced in Anti-Ice System **Maintenance***

1st

Advanced Load Control

***Reduction of 2200kg of wing weight** through further improvements in Aircraft load control (fatigue/manoeuvre/ turbulence Wing Loads alleviation)*

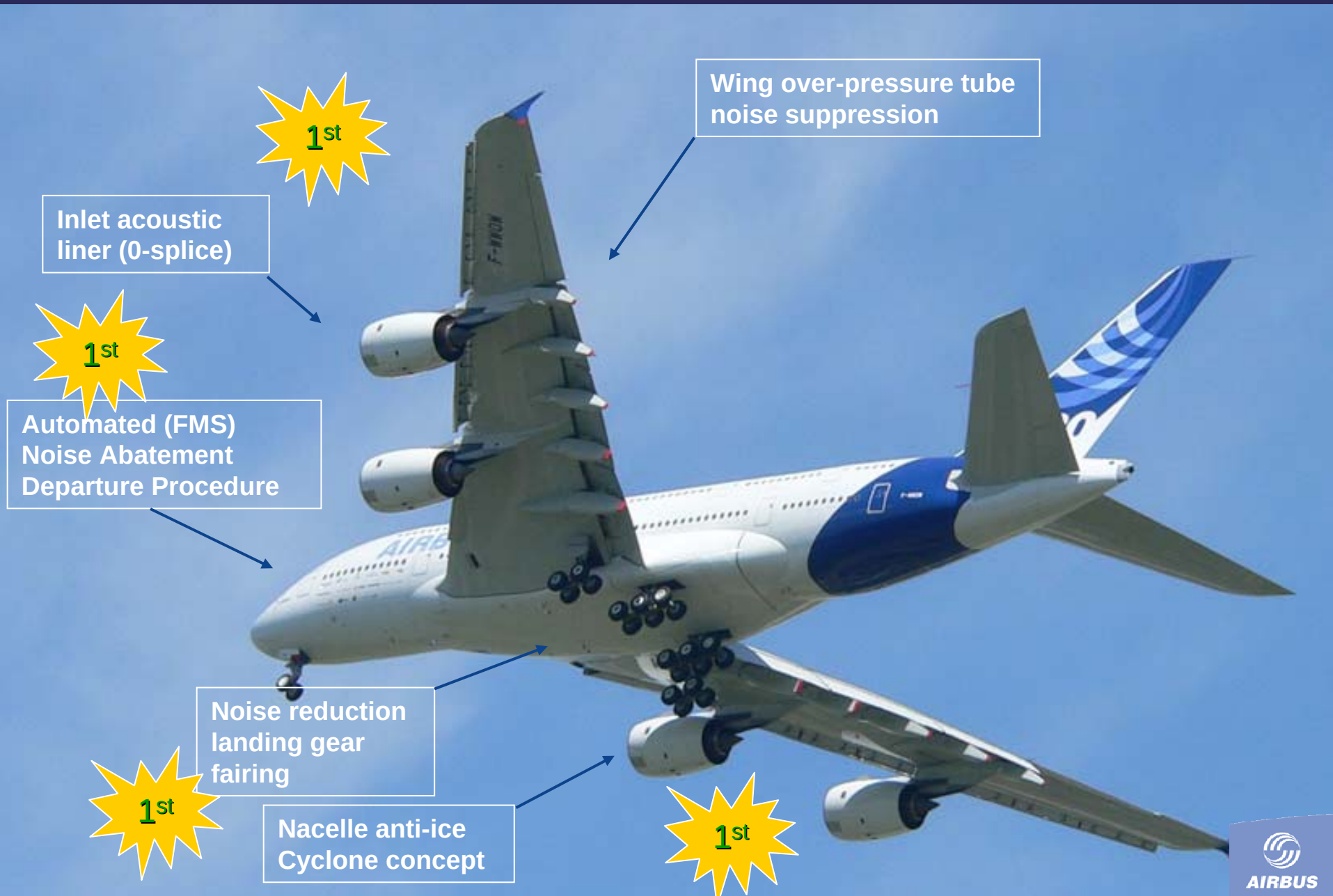
Optimal Tail and Empennage

*Variable thickness distribution of VTP/HTP gave mass reduction of **350kg**, improve tail flow saved approximately **1.5dc (0.5% of drag).***

Droop Nose

Lower drag, improved lift / drag ratio for take-off performance, tailored maximum lift.

Major R&T impacts from Powerplant



Major R&T impacts from Structure

Major R&T impacts from Systems

1st

Integrated and modular avionics (IMA)

AFDX high speed bus network

Dual air conditioning pack

New concept based on two redundant pack

Cockpit

Interactive man /machine interface

Electrical generation

Solid state power controllers

Variable frequency power generation

1st

Vehicle flight control

Enhanced vehicle control laws
e.g. “Brake to Vacate”

Electro-hydraulic actuators

Two hydraulic (5000 psi) + two electrical channel architecture

On board maintenance systems

Based on open world network

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A380 – first feedback

An excellent aircraft, already well appreciated by pilots and which will be very soon appreciated by passengers

The A380: flying today…

… an all-new, 21st century design

… on track in payload and range - and making much less noise

… achieved JAR and FAR certification - to the latest standards

… with true development potential - a future-proof family

… it will be the flagship of the 21st century !

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Thank you
Thank you
AIRBUS

Major R&T impact on A380

Flight Physics

- High Reynolds number, low-drag wing design
- More inboard loaded wing

Structure

- Upper skin fuselage in GLARE®
- Composite centre wing-box (biggest in the world)
- Composite rear fuselage (Section 19)

Systems

- 2 hydraulic (5000psi) + 2 electrical channel architecture for flight controls and landing gear
- Integrated and modular avionics architecture (IMA)
- On-board maintenance system
- Variable Frequency Generators (VFG)

Powerplant

- Zero-splice nacelle inlet acoustic treatment

Cabin

- Advanced double-deck cabin design
- Advanced flexible fuselage payload systems

Business Performance & Integration

- Overall aircraft configuration
- Concurrent Engineering
- KBE for wing design

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Some misperception…

- Correctly pointing out A380's lower fuel / seat (than any 747)
- The figures on A380 emissions* are, however, as follows:

A380 vs 747-400
(RR engines)

HC	-96%
CO	-59%
Nox	-25%
smoke	- 9%

* Preliminary emissions certification data from RR

A380-800 / RR Trent 970
vs
747-400 / RR RB211-524H-T

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