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**FACTS & FIGURES: A350 XWB ECO-EFFICIENCY****FUEL CONSUMPTION:**

The A350 XWB has been designed to be eco-efficient from gate to gate, which means lower noise and emissions at every single stage of the journey.

Compared to current generation long range twins, the A350 XWB saves up to 25% fuel burn thanks to an intelligent use of materials, state of the art aerodynamics, advanced systems and new generation engines.

With the A350XWB, 10.5 million litres of fuel will be saved per year

= the fuel consumption of around 7500 mid-size cars

= 27,300 tonnes less of CO<sub>2</sub> produced/ year

= the CO<sub>2</sub> absorption of almost 2 million trees /year

As part of Airbus' alternative fuels strategy, certified alternative fuels is compatible with the A350 XWB, with no change at all to the engines or the aircraft architecture

**GOING BEYOND REGULATORY REQUIREMENTS**

Compared to current regulation of the Committee on Aviation Environmental Protection (CAEP6) the A350 XWB achieves comfortable margins: 99% below Hydrocarbon (HC) limit, 86% below Carbon Monoxide (CO) limit, 60% below smoke limit, 35% below Nitrogen oxide (NOx) limit. Even in the frame of more stringent constraints applied from 2013 (CAEP8), the A350 XWB compliance margins remain high.

A350 XWB is also a quiet neighbour. It is up to 16 decibels below the regulation (ICAO chapter 4 limits).

**USE OF HAZARDOUS SUBSTANCE DRAMATICALLY REDUCED**

Environmentally friendly, biodegradable or recyclable materials are preferred for the A350 XWB. For example:

- Chromates are removed as much as possible from the industrial processes and products.
- A Lithium-Ion battery replaces the previous generation Nickel-Cadmium battery. This new battery also has a 3 times longer lifetime and lower maintenance requirements.
- Outside the aircraft, we use chromate free primer paint. Based on the car industry experience, the new base coat/clear coat system uses less paint, therefore less solvent. In addition, less detergent is required for cleaning.
- In the aircraft, we use water-based paint wherever possible, one of the most environment friendly types of paint available.

**END OF LIFE**

More than 20 years before recycling an A350 XWB, the process to recycle composite materials is being developed. Thanks to recycling feasibility studies led on composite parts of the A380 static cell, we are already able to automatically dismantle a section of an aircraft and separate all composite material.

**ECO-EFFICIENT BY DESIGN:**

A lighter aircraft burns less fuel and therefore emits less CO<sub>2</sub>.

- Over 70% of the A350 XWB's airframe is made from advanced and lighter materials combining composites (53 %), titanium (fully recyclable) and advanced aluminium alloys. The weight-efficient aircraft's Carbon Fibre Reinforced Plastic (CFRP) fuselage results in lower fuel burn as well as easier maintenance.
- With 5 additional years of technology development the A350 XWB benefits from simpler and often lighter systems compared to the 787. For example: 2 hydraulic circuits, as opposed to 3 or a much simpler electrical architecture that required therefore less power.
- The Trent XWB engine is a step ahead of any other engine in this category guaranteeing low fuel burn, reduced emissions and high performance characteristics.
- A350 XWB aerodynamics were designed using advanced computational fluid dynamics methods proven on the A380. The use of variable camber and differential flap setting optimizes the shape of the wing throughout the entire flight, providing complete load control and eliminating the need for heavy structural reinforcements.

**OPTIMISED AIR TRAFFIC MANAGEMENT AND OPERATIONS**

Several flight management functions are included as standard on the A350 XWB reducing journey time, fuel burn, emissions and noise. For example:

- Automatic Noise Abatement Departure Procedure (NADP) optimises the thrust and flight path to reduce the noise over crowded areas.
- Required Navigation Procedure (RNP) optimises and shortens tracks.
- Continuous Descent Approach (CDA) allows the aircraft to descend continuously to the destination airport with no intermediate steps and to stay longer at higher altitude, reducing fuel burn and CO<sub>2</sub> emissions.

**THE A350 XWB FINAL ASSEMBLY LINE: AIRBUS' GREENEST EVER**

The building can produce 55% of its own energy thanks to:

- 22,000 m<sup>2</sup> of solar panels generating the equivalent amount of electricity needed to light 83,000 m<sup>2</sup> of offices.
- 6,300 m<sup>2</sup> of windows (equivalent to 24 tennis courts) that limit the use of artificial light.

An energy management system has been implemented that optimizes the use of liquids and power according to the demand and working hours (weekends, nightshifts, etc.)

Around 10,000 m<sup>3</sup> of materials present on the site were recycled during the construction work, reducing the traffic by nearly 1,000 lorries.

Airbus invested nearly two billion Euros in environmental research and development in 2012. More than 90% of Airbus R&D investments have environmental benefits.

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