Contact details:

Project Manager: Bruno COSTES
Tel: +33 5 61732672
Fax: +33 5 61932744
Email: bruno.costes@airbus.com

Project description:

Background

With the increasing number of retired aircraft – more than an estimated 6,000 within the next twenty years – the safe management of their end of life, both in terms of the environment and public health, has become a crucial issue. Usually, aircraft that are more than 30 years old end their life either stored on the airfield or outside the European Union. Spare parts can also be recycled and reintroduced in the market by scrap merchants or small maintenance companies. This latter option poses serious threats to the environment as it is very often conducted in an unsafe manner. Moreover the use of second-hand spare parts could create considerable safety risks.

Objectives

Currently, there are no procedures for decommissioning aircraft in safe and environmentally responsible conditions (e.g. existing End of Life vehicle (ELV) rules are not aircraft specific). Hence, the project’s objectives were threefold. First, it would demonstrate, by full-scale experimentation on aircraft’s, that 85-95% of their components – instead of the most business practices that allow only for recovery rates of 60%, mostly of aluminium, the other materials being eliminated – can be easily recycled, reused or recovered. Second, the project would set up a new standard for safe and environmentally friendly management of End of Life Aircraft (ELA). It would cover the entire process, from storage at the pre-decommissioning phase, disassembling and dismantling, to the recycling or elimination of the materials. Finally, the project would launch a European network that is able to further disseminate the dismantling process.

Results
The PAMELA project demonstrated the possibility of recycling up to 85% of plane components, a significant advance on the earlier rate of 60%. These activities were carried out in response to the high number of planes that will be retired within the next few years and its environmental and economic impact.

While the “smart and safe dismantling” method used during the project was simple, it had to respect the aircraft as well as the environment, health and safety (EHS) regulations. The project demonstration consisted of a succession of trials using available tools for deconstructing the plane that are adapted to the level of sorting required. All the operations were timed and all the parts removed from the plane weighed in order to establish the recycling rate. Besides the increased valorisation ratio up 85% in weight, the project demonstrated a re-use and recycling ratio of up to 70% in weight and a reduction of landfilled waste (less than 15% instead of 40-50%). Promising results were also achieved for metallic material recycling, especially aluminium, with savings in energy up to 90% and in mining resources.

An economic study compiled all collected data alongside current economic and social conditions in order to come to conclusions about the benefits that could be achieved in the current market.

The implementation of an End of Life Aircraft management platform is of major economical and social interest for Europe.

Further information on the project can be found in the project's layman report (see "Read more" section).

Environmental issues addressed:

Themes

Waste - Waste recycling
Waste - End-of-Life Vehicles (ELV’s) and tyres

Keywords

waste recycling, air transportation

Target EU Legislation

- Waste

Natura 2000 sites
Not applicable

Top

Beneficiaries:

Coordinator: AIRBUS France
Type of organisation: International enterprise
Description: Airbus France consists of four manufacturing sites, along with three final assembly lines and the company's headquarters in Toulouse. The manufacturing sites form the Centres of Excellence for aircraft nose sections, centre fuselages and engine pylons and nacelles. Around 11,500 people are employed at sites in Toulouse, where the final assembly of all Airbus aircraft takes place except for the A318, A319 and A321 (which is performed in Germany).

Partners: SITA (Groupe SUEZ), France EADS SOGERMA, France EADS CCR, France and Germany Préfecture des Hautes-Pyrénées, France

Top

Administrative data:

Project reference: LIFE05 ENV/F/000059
Duration: 01-MAR-2005 to 30-OCT -2007
Total budget: 3,242,694.00 €
EU contribution: 1,159,961.00 €
Project location: Île-de-France(France) Aquitaine(France) Midi-Pyrénées(France)

Top

Read more:

Project web site: Project's website
Publication: Layman report Title: Layman report (FR) Year: 2007 No of pages: 2
Publication: Layman report Title: Layman report (EN) Year: 2007 No of pages: 2
Video link: The A380 - Recyclable by design