

Sun-Powered Aircraft To Support Sustainable Development

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Swiss adventurer Bertrand Piccard is constructing a solar-powered plane to fly around the world. His aim is to support sustainable development by demonstrating what renewable energy and new technologies can achieve.

ESA is assisting by making available European space technologies and expertise through its Technology Transfer Programme.

Bertrand Piccard made the first non-stop around the world balloon-flight in a Breitling Orbiter in 1999 with Brian Jones from Britain. Now together again, and with a team of 60 specialists, they are constructing an

aircraft named Solar Impulse that will be powered only by sunlight.

"Solar Impulse will promote the idea of a new aviation era using cleaner planes powered by the almost infinite energy of the Sun rather than the dirty, finite reserves of fossil fuels," says Bertrand Piccard.

"Although in its present design the craft will never be able to carry many passengers we believe that Solar Impulse can spark awareness about the technologies that can make sustainable development possible."

ESA's Technology Transfer Programme is providing technological expertise while the Swiss Federal Institute of Technology (EPFL) in Lausanne is the 'Official Scientific Advisor' for the project.

"The sun is the primary source of energy for our satellites as well as for Piccard's plane. With the European space industry we have developed some of the most efficient solar cells, intelligent energy management systems and resourceful storage systems," says Pierre Brisson, Head of ESA's Technology Transfer Programme.

"We will make available this expertise, together with our advanced technologies, to support Piccard's effort to demonstrate the potential of sustainable development."

On its round the world flight, planned for 2010, the single-pilot Solar Impulse will be flown by three pilots flying in shifts: Bertrand Piccard, President and initiator of the project; Brian Jones, responsible for the sustainable development programme; and André Borschberg from Switzerland, the Solar Impulse Chief Executive Officer.

The conceptual design is now in progress and a model of the plane was shown at the June Le Bourget air show. For the plane to be ready for flight in 2010 the following schedule must be kept:

- 2006-2007: detailed design and assembly of the plane
- 2008: first test flights and night flights
- 2009: solar flights of several days' duration
- 2010 round-the-world flight

The round the world trip will take place in five stages, each of which will last three to five days. It will fly from west to east and between 10° and 30° north of the Equator to take advantage of the prevailing winds and sunlight.

Source: ESA

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