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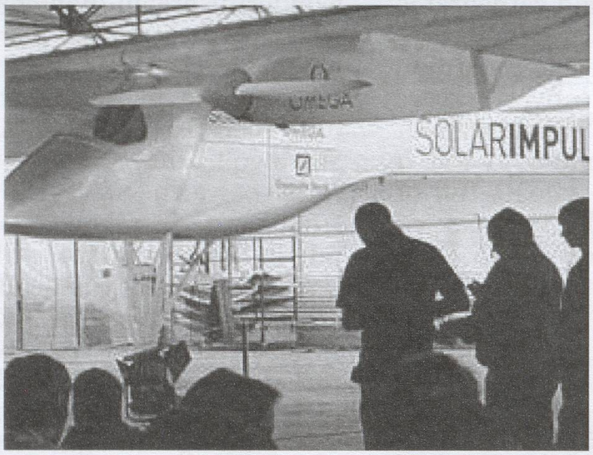
Piccard's solar power dreams take flight

Swiss adventurer Bertrand Piccard has unveiled the prototype of his Solar Impulse airplane, with which he later plans to make the first ever sun-powered global flight.

The sleek Solar Impulse has a huge wingspan, the equivalent of a Boeing 747, but weighs less than the average car. More than 12,000 solar cells are mounted onto the wing, supplying energy to four electric motors. During the day the cells will also charge polymer lithium batteries, allowing the aircraft to run at night. The prototype should soon make its first test flights, starting at Dübendorf and then moving to the Payerne airbase in western Switzerland. A first complete night flight is planned for 2010. Based on the results of these test flights, a new plane will be constructed for the big worldwide launch, scheduled for 2012. The total budget for the project is €70 million (SFr107 million).



Bertrand Piccard's Solar Impulse

Piccard, who in 1999 co-piloted the first non-stop hot air balloon flight around the world, said that he had great respect for an airplane that would be so difficult to handle because of its size, light weight and sensitivity to turbulence.

The test phase is being led by former Swiss astronaut Claude Nicollier. Nicollier and his team have designed an instrument, built by Omega, that will ensure the plane does not bank too far to the left or right and that the flight direction, particularly at approach to landing, is correct.

Nicollier and his team recommended that the limit be set at 10 degrees. Lights already start blinking on the device if the aircraft banks up to five degrees to warn of a potentially critical situation.

But he is confident that the plane will work. "We are going to have problems, but I'm sure we'll resolve them and I'm convinced the project will be successful," said Nicollier.

The small amount of power will mean that the plane will only have an average airspeed of 70 kilometres per hour. For this reason the round-the-world trip will be split into five stages. These will each be five days long because the small cockpit is unpressurised. Sleep will be hard to come by. The plane would also have to avoid storms and rain because this would not allow energy to be collected.

The plane involves a lot of Swiss know-how. Scientists at the Federal Institute of Technology in Lausanne have been a driving force in the project, while Swiss companies have also been taking part.

The public can now get involved by adopting the aircraft's solar cells.

For Piccard, Solar Impulse should most of all, however, serve as a source of environmental inspiration. "If we fly day and night around the world with no fuel and only solar power, nobody will be able to claim any more that it's impossible to use renewable energies for cars or heating systems," he said.

from swissinfo

Radiation levels from phones skyrocket

The Swiss are exposed to ten times more radiation from mobile phones and other electronic devices than they were 20 years ago.

However, the authors of a study aid the average strength of radio-frequency electromagnetic fields, 0.22 volts per metre, was still well under the permitted limits in Switzerland.

Researchers from Bern and Basel universities measured the impact on individuals by strapping electromagnetic-detection devices to 166 volunteers.

The study found mobile phones, mobile phone masts and cordless phones were the main culprits for the increase. Electrosmog from radio and television stations and Wi-Fi signals plays only a minor role.

The authors said individuals are responsible for generating much of the radiation themselves and recommend that people cut down on calls from their mobile devices and buy phones with cords for home use to reduce exposure.

They added there was still insufficient evidence that this type of radiation was harmful, but the results of an international study looking into the impact on health were expected by the end of this year.

The Swiss study was funded by the National Science Foundation and has been published in the magazine "Environmental Research".

from swissinfo

The average girl would rather have beauty than brains – because she knows the average man can see much better than he can think.