

Swiss unveil stratospheric solar plane

7 December 2016



Raphael Domjan (right) and Thierry Plojoux in front of SolarStratos on December 7, 2016 in Payerne, Switzerland

Just months after two Swiss pilots completed a historic round-the-world trip in a Sun-powered plane, another Swiss adventurer on Wednesday unveiled a solar plane aimed at reaching the stratosphere.

The SolarStratos, a sleek, white two-seater aircraft with long wings covered with 22 square metres (237 square feet) of solar panels, is set to become the first manned [solar plane](#) to make a stratospheric flight, according to Raphael Domjan, who is behind the project.

"Our goal is to demonstrate that current technology offers us the possibility to achieve above and beyond what fossil fuels offer," he said in a statement, after unveiling the plane at the Payerne airbase in western Switzerland.

"Electric and solar vehicles are amongst the major challenges of the 21st century," said the youthful 44-year-old with short, blond hair, adding that the SolarStratos "can fly at an altitude of 25,000 metres (82,000 feet)."

SolarStratos is scheduled to begin test flights next February, while medium altitude flights are planned for next summer, and the first stratospheric flights should take place in 2018, the statement said.

To keep down the weight, the plane will not be pressurised, and Domjan will wear a spacesuit, also powered by solar energy, which will also mark a world first, it added.



Raphael Domjan says: "Electric and solar vehicles are amongst the major challenges of the 21st century"

'Reach space'?

The statement also claimed the craft could "reach space."

"Travelling to the stratosphere will take approximately five hours: 2.5 hours to reach space, 15 minutes of broad daylight and stars, then three hours to return to Earth," it said.

The stratosphere lies above Earth's lowest atmospheric layer, called the troposphere.

At middle latitudes, the stratosphere runs from a lower boundary of about 10,000 metres to an upper boundary of about 50,000 metres.



SolarStratos is scheduled to begin test flights next February

Solar Impulse 2 flies over the pyramids of Giza on July 13, 2016 prior to landing in Cairo, Egypt

Aeronautics engineers use a rough benchmark called the Karman line, located at about 100,000 metres above sea level, for defining the boundary between Earth's atmosphere and space.

Until now, reaching the stratosphere has until now required large quantities of energy or helium.

The announcement came after two of Domjan's compatriots, Bertrand Piccard and Andre Borschberg, completed the first-ever round-the-globe trip in a solar plane last July, in a bid to showcase the possibilities for the future of renewable energy.

But the SolarStratos aircraft, could do so leaving only "the equivalent environmental footprint of an electric car", Wednesday's statement said.

Solar Impulse 2 circumnavigated the globe in 17 stages, covering a remarkable 43,000 kilometres (26,700 miles) across four continents, two oceans and three seas, in 23 days of flying without using a drop of fuel.

The project "opens the door to new scientific knowledge, at an affordable price, exploration and the peaceful use of our [stratosphere](#)," said Roland Loos, who heads SolarXplorers, the organisation in charge of developing the project.

Domjan meanwhile launched his SolarStratos project in 2014, two years after he became the first person to sail around the world in a fully solar-powered boat.

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He insisted Wednesday that the new aircraft's ability to pierce the stratosphere "opens the door to the possibility of electric and solar commercial aviation, close to space."

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