PRESS RELEASE

SEGULA Technologies joins forces with the SolarStratos project to fly a 100% solar-powered aeroplane into the stratosphere

SEGULA Technologies provides thermal engineering services for the solar aeroplane (© SolarStratos)

Paris, 24 September 2020. The goal of the SolarStratos project is to develop electric and solar aviation and promote renewable energies. Global engineering group SEGULA Technologies recently joined the venture as a scientific and technical partner.

Launched in 2015 by Swiss explorer Raphaël Domjan, the SolarStratos project consists of building a two-seater aircraft powered only by solar energy, capable of flying into the stratosphere, i.e. an altitude of between 12 and 50 kilometres. Built in 2016, the 24.8-metre wingspan experimental aircraft is powered by photovoltaic cells on the wings that charge the lithium-ion batteries in the electric motor.

After numerous test flights, the goal is now to climb even higher, ultimately targeting the stratosphere, the final objective of the project. At a record altitude with an electric and solar aeroplane, the first stratospheric flight will be both a technical and human challenge, since the expedition will last approx. six hours, during which the plane and pilot will be subjected to extreme outside temperatures down to -70°C and intense solar flux.

To make this feat possible, SEGULA Technologies is currently working on thermal optimisation of the cockpit to ensure the pilot's vital comfort.

Drawing on its expertise in digital simulation from its automotive activities, the Group is involved in thermal, electrical and mechanical engineering for the project. This involves, among other

things, modelling the thermal environment of the cockpit subjected to these extreme stratospheric conditions, assessing the pilot's thermal physiological state, developing a digital dummy reproducing the pilot's thermal sensation and identifying possibilities for heat recovery in the aircraft.

"The thermal comfort of the pilot is crucial for facing such extreme temperatures," confirms Raphaël Domjan, inventor and pilot of SolarStratos. "SEGULA Technologies' recognised expertise in thermal engineering and digital simulation plays a major role here, and we are pleased that this collaboration will provide us with innovative solutions to move our adventure forward."

"SolarStratos is an incredible adventure led by a committed, daring and exacting team that we're proud to be a part of. We hope that its success will demonstrate the extraordinary potential of solar and electrical energy, ultimately leading to the development of environmentally friendly aviation," explains Jean-Luc Baraffe, Director of Research and Innovation at SEGULA Technologies.

The first SolarStratos stratospheric flight should take place as of 2022.

PHOTOS

Click on the following high-definition photos to download them:

The Solarstratos solar aeroplane on its first double flight, August 2020 (Credit : © SolarStratos)

Cockpit of the Solarstratos aircraft (Credit: © SEGULA Technologies)

Solarstratos during a test flight (Credit: © 2020 Fred Merz/ Monday13/ SolarStratos)

About SEGULA Technologies

SEGULA Technologies is a global engineering group that contributes to increasing competitiveness in all major industries: Automotive, aerospace and defence, energy, rail, marine, pharmaceutical and petrochemical industries. The Group operates in more than 30 countries with 140 offices worldwide and maintains close customer relationships thanks to the expertise of its 13,000 employees. As a leading engineering specialist that puts innovation at the heart of its strategy, SEGULA Technologies carries out major projects ranging from technical studies to industrial applications and production.
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