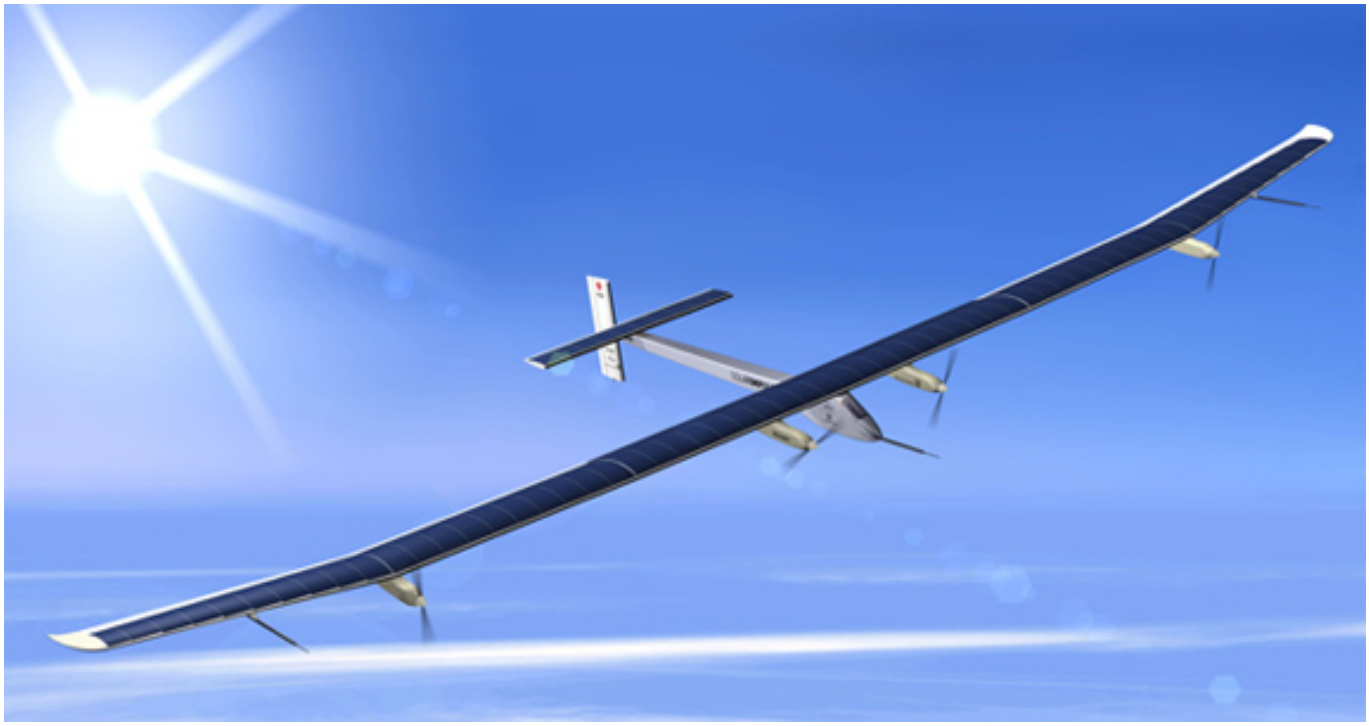
HB-SIA achieves first solar-powered night flight

Jason Lomberg, Technical Editor

Back in April, we reported [1] on the Impulse HB-SIA [2], a solar-powered aircraft piloted by balloonist Bertrand Piccard. Powered by 11,628 monocrystalline silicon cells, and with a wingspan equivalent to an Airbus A340 (63.4 m), the HB-SIA is an impressive piece of work. Yesterday, the craft achieved an important milestone [3]: the first solar-powered night flight.

Piloted by Andre Borschberg, the HB-SIA took off on 7/7 [4] from Payerne air base in Switzerland at 07:51 local time. The craft reached a maximum altitude of 8,564 m and stayed aloft for a total of 26 hours and 9 minutes. About two hours before sunset, the HB-SIA switched to battery power in preparation for night flight.



Borschberg, a former Swiss air force pilot, was ecstatic, to say the least. “It was unbelievable, success better than we expected. We almost thought to make it longer,” he said.

The HB-SIA weighs a mere 1,600 kg and achieves energy conversion efficiency of 22%. The four 10 HP motors (located beneath the wings) propel the craft to an average speed of 70 km/h (44 mph). During Wednesday's historic flight, the HB-SIA hit a max speed of 68 knots (ground speed), or 78.25 mph.

What's next for Captain Piccard? The next milestone will be crossing the Atlantic, followed by a round-the-globe flight by 2012. The ultimate goal is to achieve "impossible things" with renewable energies.

"We are on the verge of the perpetual flight," said Piccard.

Source URL (retrieved on *10/25/2014 - 9:34pm*):
http://www.ecnmag.com/blogs/2010/07/hb-sia-achieves-first-solar-powered-night-flight?qt-recent_content=0

Links:
[1] http://www.ecnmag.com/Blogs/2010/04/Solar-powered-Craft-Aims-for-Perpetual-Flight/
[2] http://www.solarimpulse.com/en/documents/hbsia.php?lang=en&group=hbsia
[3] http://www.reuters.com/article/idUSTRE6671WK20100708
[4] http://www.flightglobal.com/articles/2010/07/07/344142/solar-powered-aircraft-takes-off-for-first-night-flight.html