SOLAR AIRSHIP ONE

By Pete Lobner, re-printed from the Lynceans Web-site with kind permission

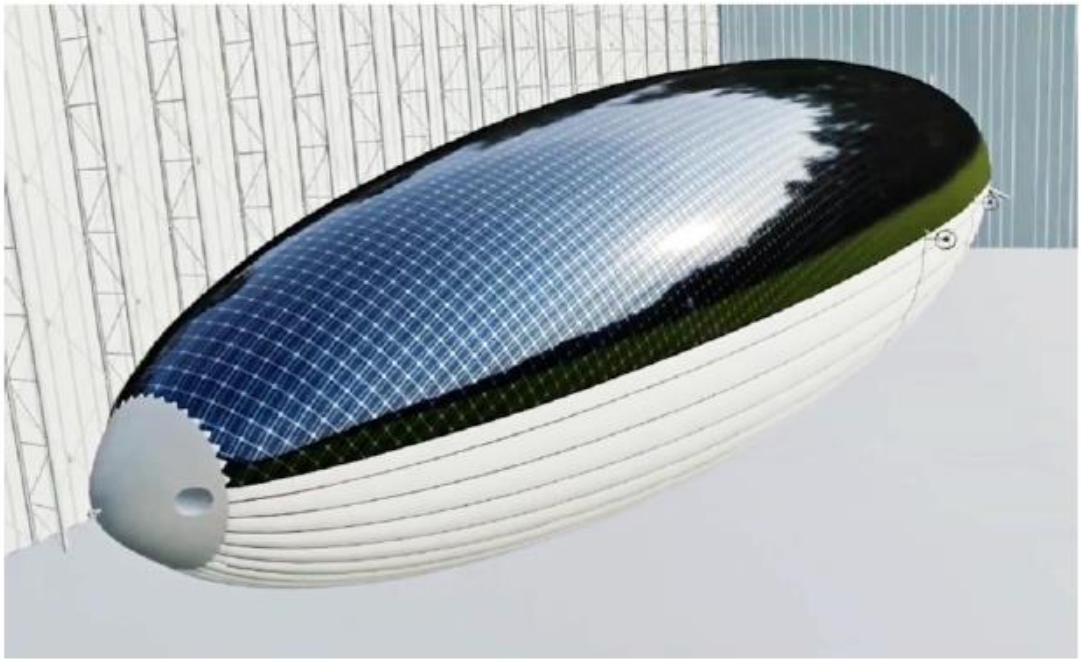
Announced in January 2023, Solar Airship One is an ambitious project to build an all-electric rigid airship and fly it around the world non-stop in 2026. Euro Airship leads the Solar Airship One project team, with support from main industrial partner firms, including Capgemini, La Poste Groupe and Orange.

The general shape of Solar Airship One bears a family resemblance to Euro Airship's earlier rigid airship designs, Corsair and DGPAtt. Like the earlier designs, Solar Airship One incorporates systems for thrust vectoring propulsion, variable buoyancy control, anticipatory steering and automatic de-icing. These features enable all-weather operation and eliminate the need for heavy support infrastructure on the ground. Solar Airship One is sized and optimised for the primary mission of flying around the world with a small crew, on a 40,000 km (24,855 miles) West-to-East, equatorial route, in 20 days at an average altitude of 6,000 meters (19,685 ft), while generating zero CO_2 emissions.

The crew for the globe circling Solar Airship One flight is expected to include Swiss explorer Bertrand Piccard, French acrobatic pilot Dorine Bourneton and former French astronaut Michael Tognini.

Piccard already has flown twice around the globe, first on the 1999 non-stop flight of the *Breitling Orbiter 3* balloon (a Rozière helium / hot air balloon), and second on the 2015 – 2016 flight of the solar- powered, fixed-wing *Solar Impulse*.

General Characteristics of Solar Airship One	
Parameter	Data
Types	Rigid, Variable Buoyancy
Length	151m (495ft)
Diameter, Max	About 30m (98ft)
Envelope	Double envelope, with 15 helium gas cells that are individually managed, automatic de-icing
Volume	53,000 cu m (1,871,677 cu ft)
Variable Buoyancy Systems	Compressed air ballast & water ballast system
Power Source	4,800 sq m (51,667 sq ft) photovoltaic array covers the entire upper surface of the hull, hydrogen-oxygen fuel cells store energy during the day & support airship operation through the night.
Propulsion	4 x flank-mounted, electric motor-driven, shrouded, thrust vectoring propellers
Altitude, Cruise	6,000 m (19,685 ft)
Range	about 40,000 km (24,855 miles)
Endurance	About 20 days
Speed, Average Cruise	About 83 kph (51.8 mph)



Rendering of the completed Solar Airship One, showing the solar array installed on the top half of the hull, over the light-colored outer fabric skin, a reinforced nose cap, and flank-mounted shrouded propellers.