

Airship One: hybrid airship / semi-buoyant aircraft concept

Peter Lobner, 5 August 2019

This very unconventionally shaped craft, designed in 2007 by Gosha Galitsky, an industrial designer from Örebro, Sweden, is hard to define. It may be a heavier-than-air, semi-rigid, hybrid airship, or it may be a semi-rigid, semi-buoyant aircraft, both capable of vertical takeoff and landing (VTOL). In either case, Airship One is a stunning design exercise for a very stylish modern airship.



Source. Tuvie.com

Basic design characteristics of Airship One are as follows:

- Semi-rigid structure: an aluminum and fiber composite airframe, carbon fiber paneling and strong PVP (Polyvinylpyrrolidone) fabric.
- Semi-buoyant: two-thirds of the lift is aerostatic, from the buoyancy of the lifting gas. The remainder is generated by propulsive thrust from vectored ducted fans during VTOL and

- hover, and by aerodynamic lift from the wings during forward flight.
- Hybrid solar-electric power system: 125 m² (1,356 ft²) solar panels mounted on the hull and wings can support the power needs during cruise flight, a battery provides energy storage, and a small bio-diesel generator provides supplementary power during takeoff and landing.
 - Very low carbon footprint
 - Electric propulsion: four DC electrically powered vectoring ducted fans provide propulsion during cruise and lift during hover and VTOL.
 - High cruise speed: 193 kph (120 mph)
 - Large payload capacity: 30 metric tons (33 short tons)
 - Cargo bay can accommodate two full-trailer containers
 - Two-level passenger compartment with luxury accommodations for 25 passengers.
 - Minimal need for infrastructure.

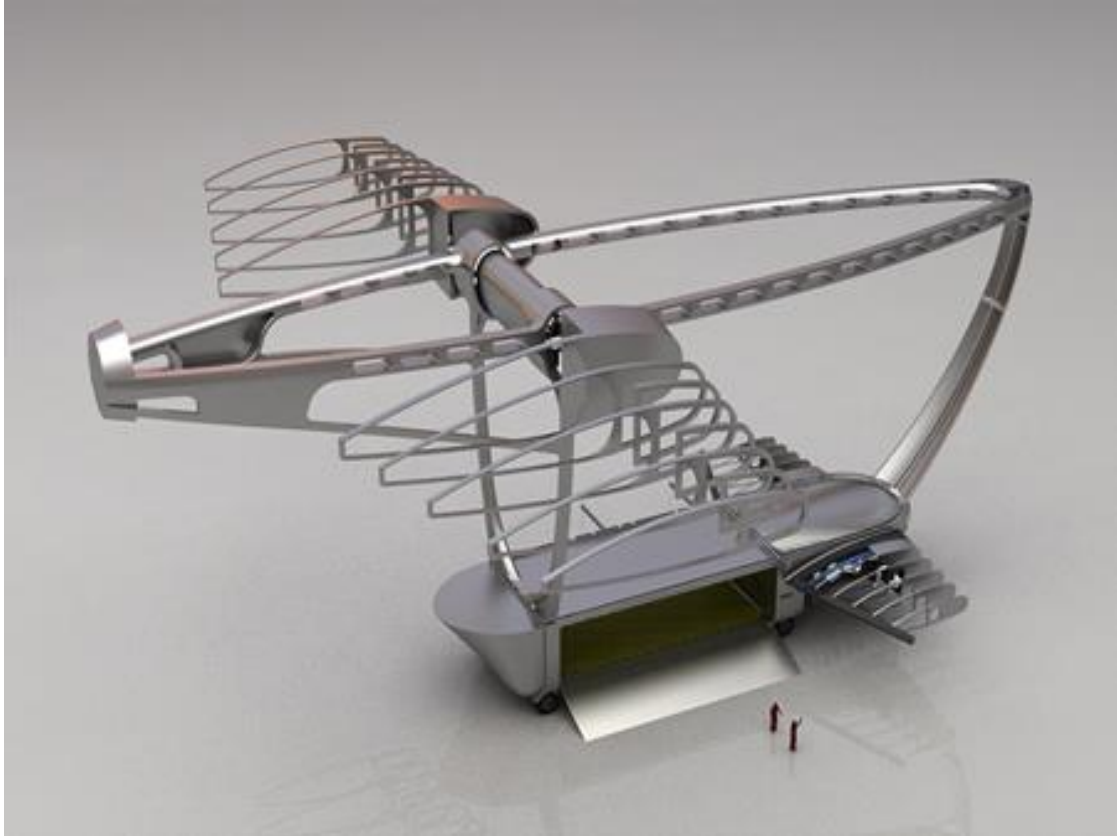
You can read more about Airship One on the Tuvie website here:

<http://www.tuvie.com/airship-one-a-hybrid-between-an-airplane-and-a-semi-rigid-airship/>

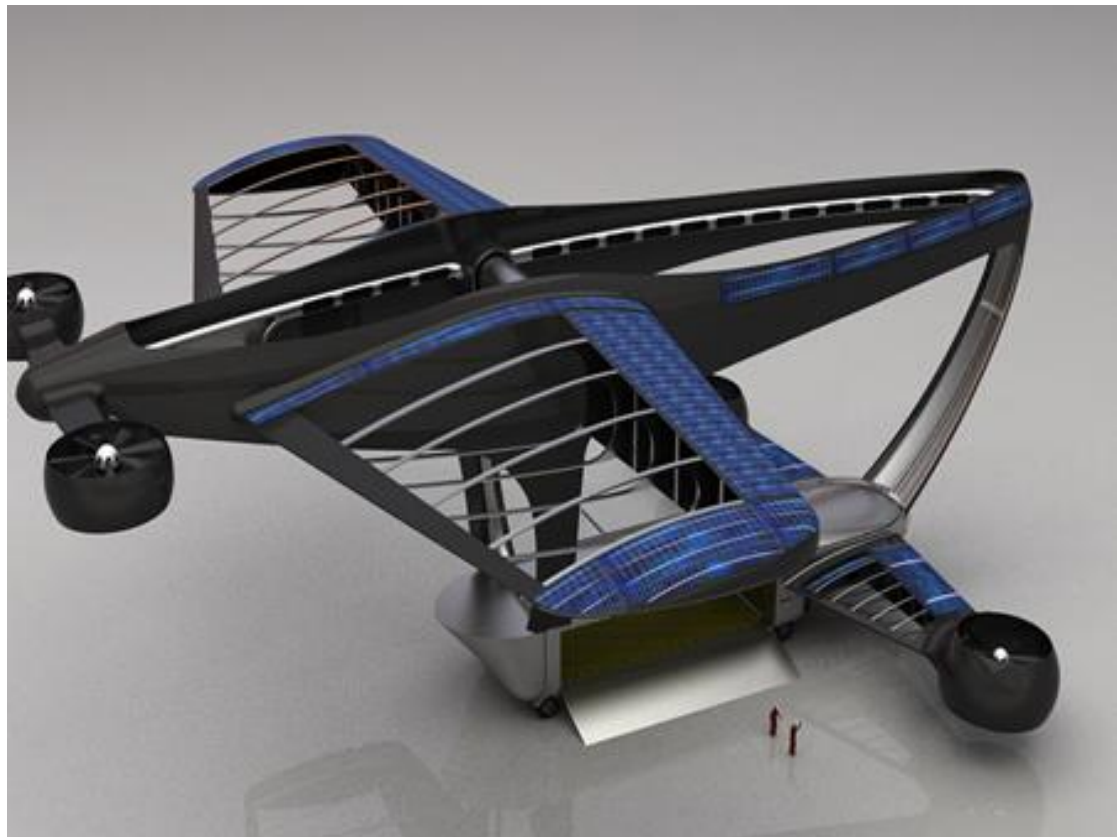
Airship One is only a concept and there are no current plans to actually build one. Nonetheless, designer Gosha Galitsky created the following series of graphics showing a build sequence from the structural frame to the complete airship. These are all from the Tuvie website listed above.

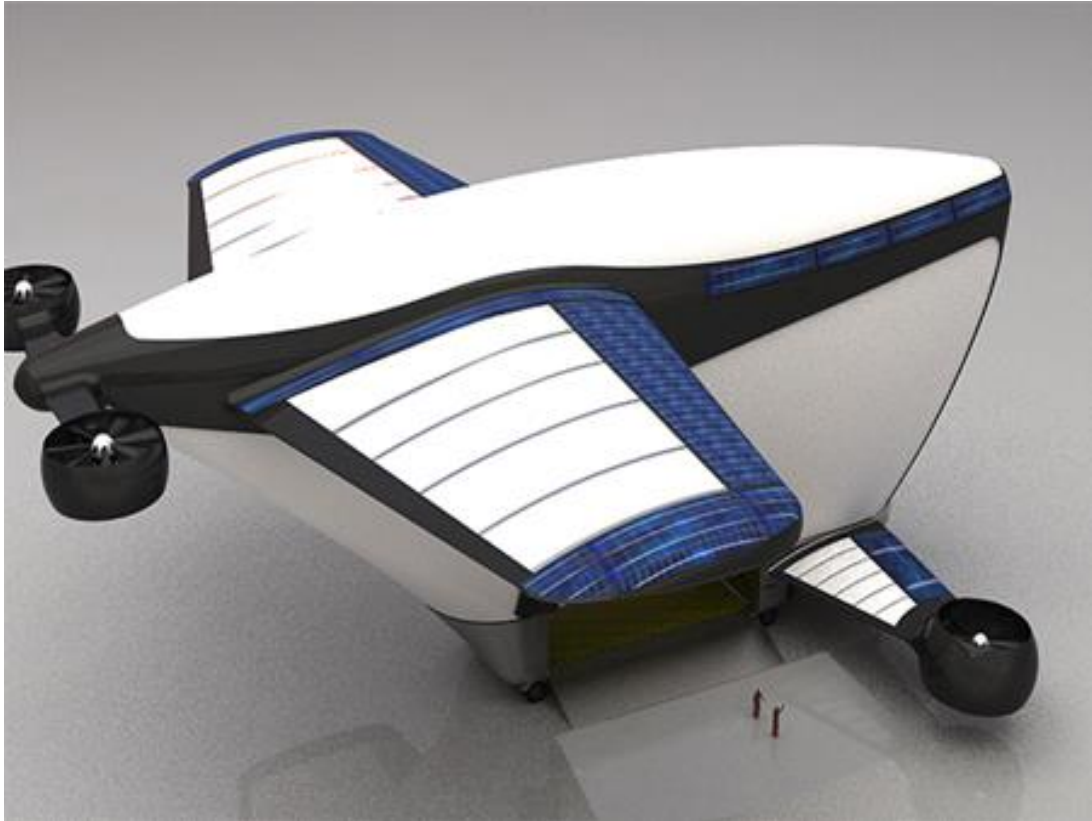
You can view a more detailed construction sequence and additional details on Airship One in a short 2007 video by Galitsky at the following link:

https://www.youtube.com/watch?v=LRTxD_WGSEM



Source. Tuvie.com





Source. Tuvie.com





30 metric ton cargo capacity; cargo handling from side-mounted cargo bays. Source: Screenshot from video



The stub wing supporting the rear thrust vectoring propulsors has limited rotation about the longitudinal axis of the airship. Source: Screenshot from video