

## Aeolus - personal airship concept

Peter Lobner, updated 8 February 2022

Christopher Ottersbach developed a tall, graceful airship design concept as part of his intermediate examination at the Hochschule für Bildende Künste in Braunschweig, Germany. His concept, named Aeolus, was presented to the public in April 2008 as a vehicle that could enable a crew of two to four people to stay airborne on a pedal-powered journey of up to two weeks while being independent from any sort of infrastructure.



*Rendering of Aeolus in flight.*

*Source: Christopher Ottersbach via Tuvie.com (2009)*

Aeolus has an unusually tall, aerodynamically shaped gas envelope that likely is pressure stabilized. The airship's center-of-mass is well below the center-of-buoyancy, which should contribute to good stability in flight. The airship is propelled by two large, four-bladed propellers that are cantilevered from the gondola on transverse

outriggers and are driven by pedal-power generated by the crew. The airship is steered with a rudder located near the top of the gas envelope's trailing edge. A small shrouded propeller below the rudder provides lateral thrust for directional control at low speed, when aerodynamic control surfaces typically are ineffective.

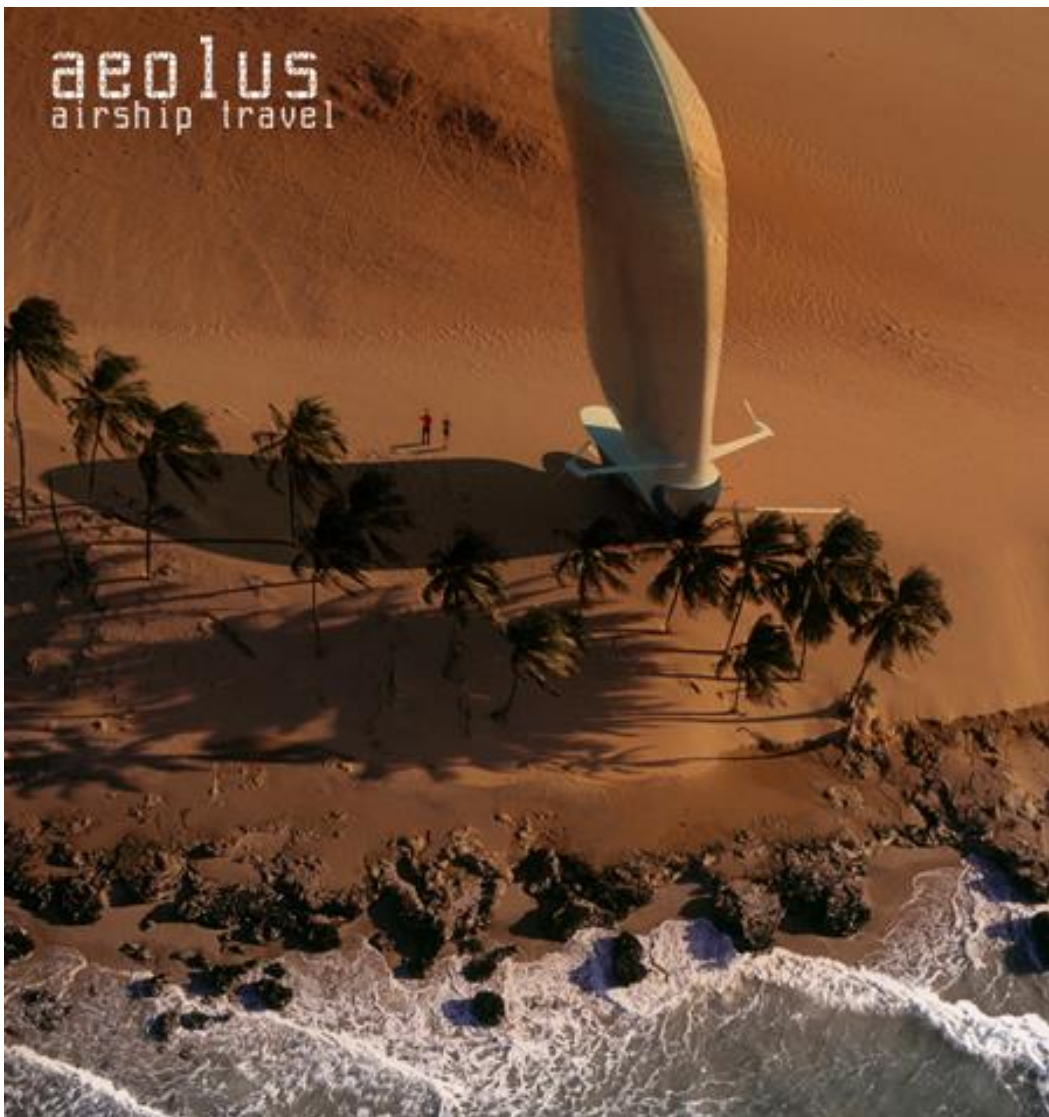
Aeolus would be well-suited for drifting with the prevailing wind. Pedal-power limits the total power available for propulsion or maneuvering to about 0.25 hp (186 watts) maximum per person for short durations of up to about 10 minutes, or about half that power for longer durations (i.e., an hour or more).



*Rendering of Aeolus flying above a remote desert landscape.  
Source: Christopher Ottersbach via Tuvie.com (2009)*

The vertical shape of the airship reduces its landing footprint, enabling it to land on a small clear site. Due to the limited power available for maneuvering, a landing probably would be attempted only in calm conditions.

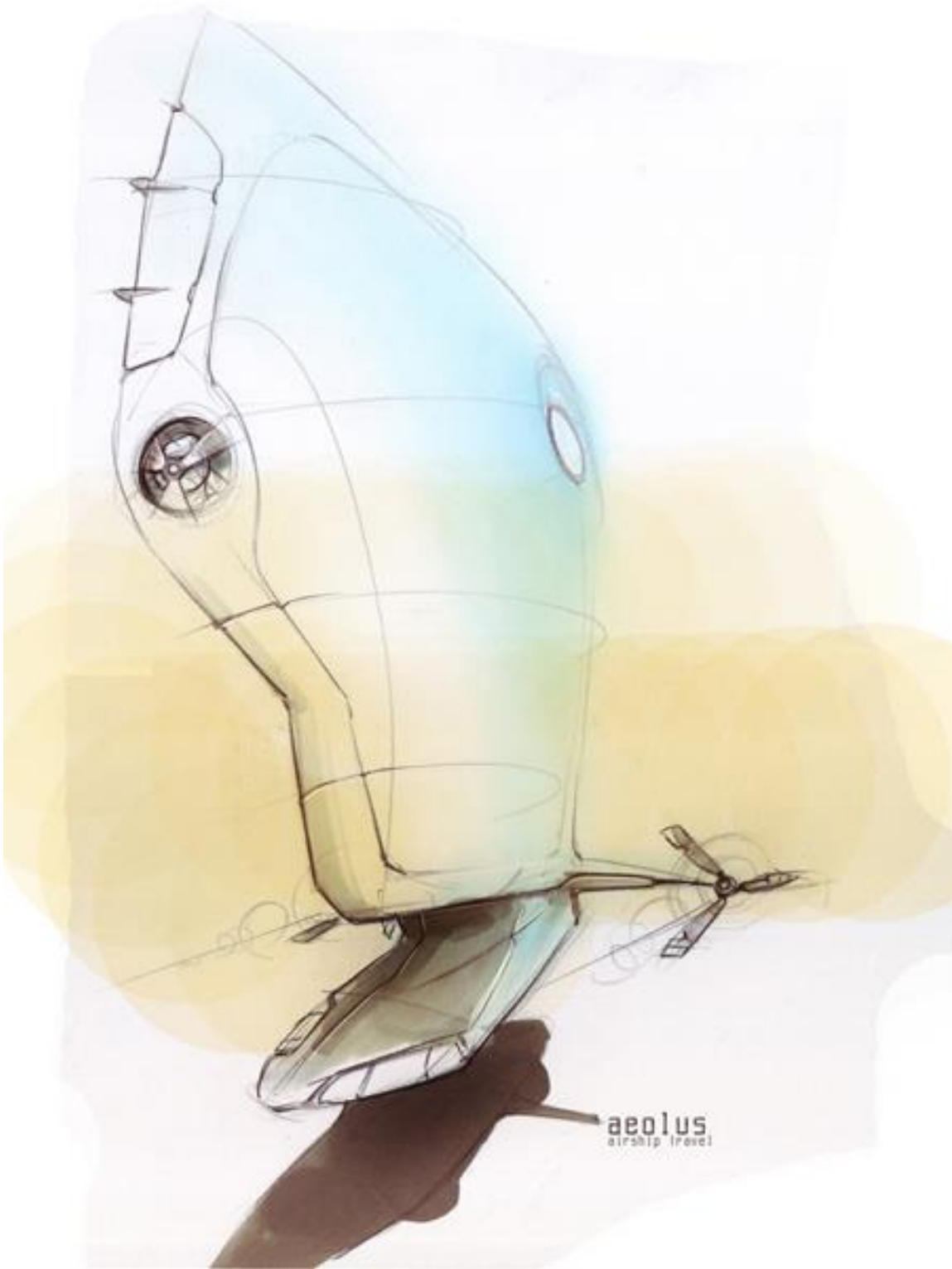
Unlike a sailboat that can take down its sails after docking, the Aeolus' sail-shaped gas envelope stays up and inflated at all times. After landing, the airship needs to be moored so the it can weathercock into the wind to reduce wind loads on the gas envelope and structures and prevent being damaged or blown over by strong lateral winds or wind gusts.



*Rendering of Aeolus after landing on a remote tropical beach.  
Source: Christopher Ottersbach via Tuvie.com (2009)*



*Aeolus profile view (bow is left).  
Source: Christopher Ottersbach via Tuvie.com (2009)*



*Aeolus stern quarter view.*  
*Source: Christopher Ottersbach via Tuvie.com (2009)*



Aeolus enables a small group of intrepid air travelers to access exotic and untouched places without leaving traces of their routes in and out. However, doing it on pedal-power could be quite arduous when maneuvering power is needed. Some thin film solar arrays on the gas envelope and on-demand electrically-generated propulsion power would go a long way to improving the chances of getting to the intended destination while still generating zero carbon emissions.

### **For more information**

- “Aeolus Airship Travel Vehicle Concept with Aerodynamic Shape, Tuvie, 2009: <https://www.tuvie.com/aeolus-airship-travel-vehicle-concept-with-aerodynamic-shape/>
- Mike Chino, “Awesome Aeolus Airship Sets Sail for Greener Horizons,” Inhabit, 13 January 2009: <https://inhabitat.com/awesome-aeolus-airship-by-christopher-ottersbach/>
- Andreas, “The Aeolus airship concept,” Airshipworld Blog, 25 February 2009: <http://airshipworld.blogspot.com/2009/02/aeolus-airship-concept.html>

### **Other *Modern Airships* articles**

- *Modern Airships - Part 1*: <https://lynceans.org/all-posts/modern-airships-part-1/>
- *Modern Airships - Part 2*: <https://lynceans.org/all-posts/modern-airships-part-2/>
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