

# Andrew Winch Designs - Halo luxury airship

Peter Lobner, updated 18 March 2022

## 1. Introduction

Halo is a giant, luxury, residential airship concept designed in 2015 by Andrew Winch Designs, London, UK (<https://winchdesign.com>), based on an Aeroscraft variable buoyancy airship, likely the ML868, being developed by Worldwide Aeros Corp. (Aeros) in Montebello, CA.



*Rendering of a Halo airship flying over Monaco. Source: NUVO, 2017*

Aeros developed a prototype Aeroscraft, known as *Dragon Dream*, under a Defense Advanced Research Projects Agency (DARPA)-funded contract. *Dragon Dream* was “float tested” in January 2013, validating the variable buoyancy design concept known as Control of Static Heaviness (COSH), which is embodied in all subsequent Aeroscraft airship designs. *Dragon Dream* received a Federal Aviation Administration (FAA) R&D Airworthiness Certificate as an

experimental airship in early September 2013 and made its first flight later that month.

Building on the prototype and later design work done by Aeros, Andrew Winch Designs estimated that the first Halo airship could be flying within 10 years of the first order, at a starting price of \$330 million. The target market clearly is the rich and famous.

## **2. Description of the Halo airship**

Technical characteristics, based on the Aeroscraft ML868:

- Rigid airframe, lightweight composite materials and skin
- COSH variable buoyancy system decreases lift by compressing the helium lift gas and allowing heavier ambient air to enter the airframe. Lift is increased by releasing compressed helium and expelling heavier air from the airframe.
- Dimensions: Length 770 ft; width 296 ft (wingtip to wingtip); height: 183 ft (235 x 90 x 56 meters)
- Propulsion: Four vectorable propulsors
- Payload: 250 tons (500,000 pounds; 226,796 kg)
- Range: nearly 6,000 miles (9,656 km)
- Cruise speed: 130 mph (209 kph)
- Flight altitude: below 12,000 feet (3,658 meters); cabin pressurization is not needed
- Capable of hovering and vertical takeoff and landing
- Inflatable air cushion landing system (ACLS) allows the airship to land and move over almost any surface, including water

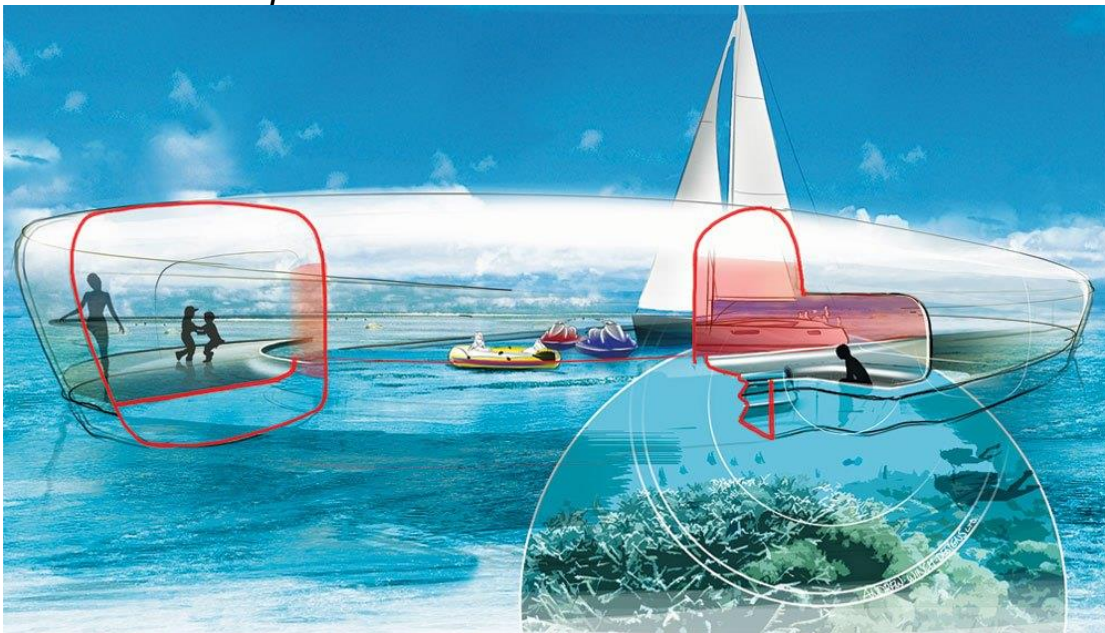
Passenger (resident) accommodations include the following:

- The living space has been designed in a circular ring (a halo), surrounding the central cargo bay
- Two-levels with 43,000 ft<sup>2</sup> (3,995 m<sup>2</sup>) of living space (just less than an acre)
- The halo includes open-air observation terraces along the perimeter and transparent floor sections on the lowest level to provide a view directly below.

- 20 staterooms, work and conference spaces, spa, cinema, nightclub
- The lowest level of the “halo”, which would be buoyant like a yacht, can be lowered to sea level to create a “private island.” The transparent floor sections provide viewing of the sea life below.



*An open-air observation terrace on the halo.*



*The halo lowered into the sea.*

*Source, both graphics: Robb Report, 2014*

## Cargo facilities:

- Large central cargo deck can hold cars, helicopters, boats and other vehicles and equipment for use by the residents
- From a hover, the cargo handling systems can lower and recover a large yacht up to 180 feet (54 meters) long. A helicopter also can be lowered and recovered.
- The COSH variable buoyancy control system manages airship overall buoyancy during these heavy load transfers from a hovering airship.



*Rendering of a Halo airship flying over Monaco harbor.  
Source: [businessinsider.com](http://businessinsider.com), 28 October 2015*

### 3. For more information

- “Halo – The World’s Largest Flying Residence,” Winch Design: <https://winchdesign.com/news/halo-the-worlds-largest-flying-residence>

- John O’Ceallaigh, “Meet Halo: A \$330 million luxury airship of the future with a ballroom, open-air viewing deck, and space for a helicopter,” Business Insider, 28 October 2015:  
<https://www.businessinsider.com/halo-the-airship-of-the-future-2015-10>
- Bill Springer, “Halo Airship Concept Creates A Whole New Category Of Luxury,” Forbes, 30 October 2015:  
<https://www.forbes.com/sites/billspringer/2015/10/30/halo-airship-concept-creates-a-whole-new-category-of-luxury/?sh=751040624b3c>
- Bailey Barnard, “Ultimate Gift Guide 2014: The High Life,” Robb Report, 1 December 2014:  
<https://robbreport.com/motors/aviation/ultimate-gift-guide-2014-high-life-224411/>
- Holly Vestad, “Winch Design’s Halo Airship – A palace in the sky,” NUVO magazine, 17 December 2017:  
<https://nuvomagazine.com/transport/winch-designs-halo-airship>

## **Video**

- “Halo \$330 Million Dollar Airship,” (1:28 min), Topical Twelve, 28 October 2015:  
<https://www.youtube.com/watch?v=34mEw8la-hk>

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

- *Modern Airships - Part 1*: <https://lynceans.org/all-posts/modern-airships-part-1/>
  - Aeros – Aeroscraft Dragon Dream
  - Aeros – Aeroscraft ML866 / Aeroscraft Generation 2
- *Modern Airships - Part 2*: <https://lynceans.org/all-posts/modern-airships-part-2/>
- *Modern Airships - Part 3*: <https://lynceans.org/all-posts/modern-airships-part-3/>