ADASI – tethered aerostats

Peter Lobner, 19 June 2023

1. Introduction

Abu Dhabi Autonomous Systems Investment (ADASI), which is headquartered in the UAE, was established in 2007 with the support of the Gulf Cooperation Council (GCC, a political and economic alliance of six Middle Eastern countries—Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman), as an end-to-end solution provider within the autonomous systems industry. ADASI products include a variety of unmanned air and ground vehicle systems, including the first family of tethered aerostat systems to be developed, assembled and tested within the GCC. The ADASI website is here: https://adasi.ae

ADASI's family of tethered aerostats are designed and built to meet the distinctive requirements of the region, including its extreme climate, while operating with a variety of payloads at altitudes up to 457 m (1,500 feet) above mean sea level (AMSL) on missions lasting up to five days. ADASI plans to develop their aerostat in three sizes.

This article provides a brief overview of the ADASI tethered aerostat systems.

ADASI 200. Source: ADASI

2. ADASI tethered aerostat systems

ADASI aerostat systems available in three sizes, each of which is comprised of the following elements:

- a conventional, blimp-shaped, payload-carrying aerostat that can be configured to carry a variety of sensors and systems
- an unmanned mooring system
- a powered tether with a fiber optic data line
- a ground control station

These aerostat systems are designed to be deployed and recovered by a ground crew of three and to operate continuously for up to 5 days without helium replenishment.

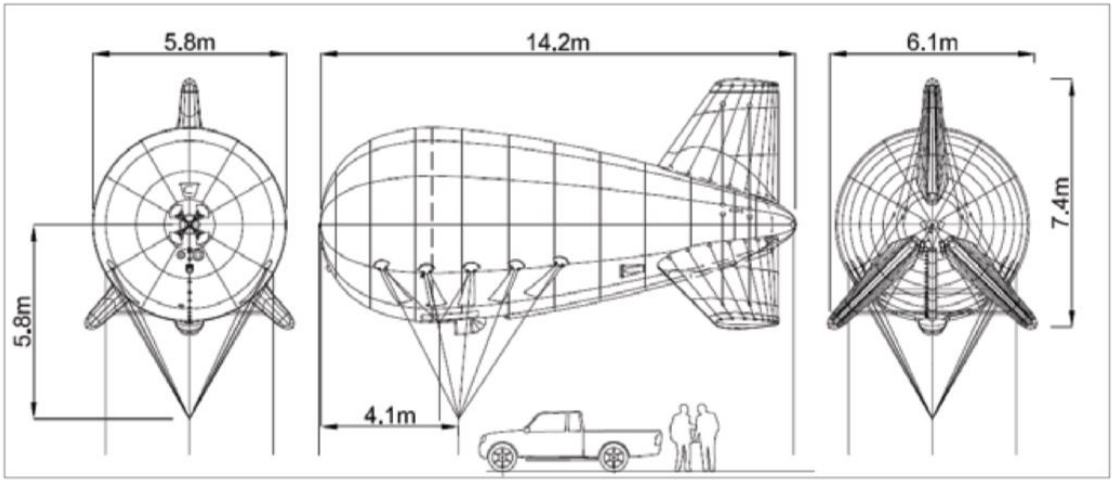
General characteristics of ADASI tethered aerostat systems

Parameter	**Aerostat 200**	**Aerostat 300**	**Aerostat 400**
Length	14.2 m (46.6 ft)	17 m (55.8 ft)	19 m (62.3 ft)
Diameter, max	5.8 m (19.0 ft)		
Volume	200 m^3 (7,063 ft^3)	300 m^3 (10,594 ft^3)	400 m^3 (14,126 ft^3)
Payload weight, max	70 kg (154.3 lb) *	About 90 kg (198.4 lb) (Est. similar to TCOM 17M)	About 140 kg (308.6 lb) (Est. 2X Aerostat 200)
Typical payload	Single payload: EO/IR sensor such as a FLIR UR8500 or WESCAM MX10, **OR** A small ground search radar *	Robust single payload: EO/IR sensor such as FLIR Systems Star SAFIRE III, WESCAM MX15, or Goshawk 2, **OR** A small radar, such as Selex Galileo Gabbiano X-band system	One or two payload modules: • EO/IR system • Radio relay package • Ground search radar • Passive electronic warfare package
Operating altitude	> 305 m (1,000 ft)	Up to 457 m (1,500 ft)	Up to 457 m (1,500 ft)
Endurance	5 days	5 days	5 days

Data from ADASI Product Brochure except as noted.
** From ADASI press release, Umex 2016.*

Aerostat 200

The Aerostat 200 is a conventionally-shaped tethered aerostat with a general arrangement as shown in the following graphics.

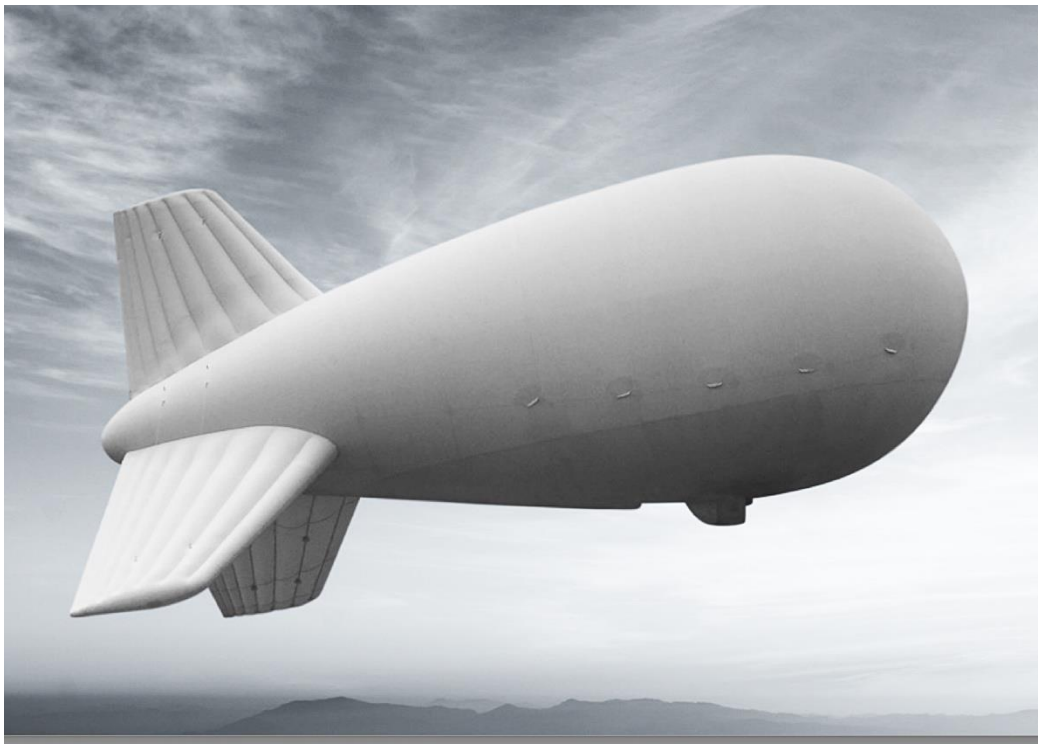


Aerostat 200 3-view diagram.
Source: ADASI Product Brochure

Aerostat 200 docked on its mooring station.
Source: ADASI

ADASI Aerostat 200 at its mooring.
Source: ADASI

Aerostat 200 on display at the Dubai Airshow 2013.
Source: https://defense-arab.com/vb/members/2610/ (December 2013)



ADASI Aerostat 200. Source: ADASI

ADASI Aerostat 300 and Aerostat 400

These tethered aerostats have not been displayed publicly. Their development status is not known.

3. For more information

- ADASI product brochure, "Aerostat 200/300/400 – Persistent Protection, Dependable Performance," ADASI: https://files.adasi.ae/s3fs-public/2021-06/ADASI%20AEROSTAT%20ENG_0.pdf
- "منطاد شركة اداسي الاماراتية الجديد , Aerostat 200," (in Arabic, with photos from Dubai Airshow 2013), Defense Arab, 24 December 2013: https://defense-arab.com/vb/threads/75276/
- "Abu Dhabi's ADASI showcases advanced unmanned systems at Umex (Unmanned Systems Exhibition) 2016," Emirates News Agency, 6 March 2016: http://wam.ae/en/details/1395292468607

Video

- "ADASI: AEROSTAT," (1:05 min, describing a different range of aerostat sizes than in the ADASI product brochure), posted by Tasazun Council, 2 August 2014: https://www.youtube.com/watch?v=SyUAqm5Jvto

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