

Aero-T – SkyGuard tethered aerostats

Peter Lobner, 19 June 2023

1. Introduction

Established in 2016, Aero-T is a subsidiary of RT LTA Systems Ltd. (<https://www.rt.co.il>), the Israeli based designer, developer, and manufacturer of the tactical Aerostat family SkyStar™. Aero-T also is



a joint venture between RT Aerostat Systems and the Israeli airship and aerostat manufacturer Atlas LTA Advanced Technology Ltd. (www.atlas-lta.com/tethered-aerostats). Rami Shmueli, the CEO of RT LTA Systems, also is the CEO of Aero-T.

Aero-T was formed with the goal of developing and manufacturing the SkyGuard family of larger, conventional, blimp-shaped tethered aerostats at a new production facility in Katzrin, in the Golan Height in northern Israel. Following the RT LTA Systems “one-stop-shop” business model, Aero-T is developing the complete aerostat system in-house, including the aerostat (balloon), tether, ground handling equipment and ground control station.



*SkyGuard 1 side view at its mooring.
Source: Screenshot from Atlas video (January 2021)*

In July 2017, Aero-T signed a MoU with Garware-Wall Ropes Ltd. (GWRL), a leading manufacturer of technical textiles for both the Indian domestic and international markets, affirming their intention to combine their capabilities for manufacturing and supply of advanced aerostats for India's defense forces.

“The MOU between GWRL and Aero-T envisages intention of the parties to establish future co-operation between both companies to facilitate a fully-indigenised development, production, delivery and maintenance support for advanced aerostats required for both military and civilian use. The intended co-operation will entail GWRL establishing an aerostat envelope production facility and Aero-T providing the technology, know-how, integration, acceptance and continuous support for the aerostats development & production. Simultaneously, there will be co-operation with Indian R&D establishments, such as DRDO/ADRDE and the end customers to understand their needs and co-develop customized solution.”

2. SkyGuard 1

Aero-T reports that the SkyGuard aerostat system is based on proven technologies developed and demonstrated by RT LTA in their Skystar line of tactical tethered aerostats systems.

The first member of the SkyGuard family of tethered aerostats is SkyGuard 1, which is a medium-size, 22 meter (72 feet) long, blimp-shaped aerostat that can be configured with multiple payloads, enabling it to support a wide for a wide range of missions. Aero-T's business goal is to produce “the best-in-class medium size aerostat.” In its size range, the SkyGuard 1 is a counterpart to the TCOM 22M tethered aerostat.

Aero-T completed and demonstrated the first production SkyGuard 1 medium-size aerostat system in January 2021.



*Aero-T first SkyGuard 1 aerostat.
Source: RT LTA Systems via The LTA Society (Aug 2016)*



Source: UAS Weekly (2018)

General characteristics of the SkyGuard 1 tethered aerostat

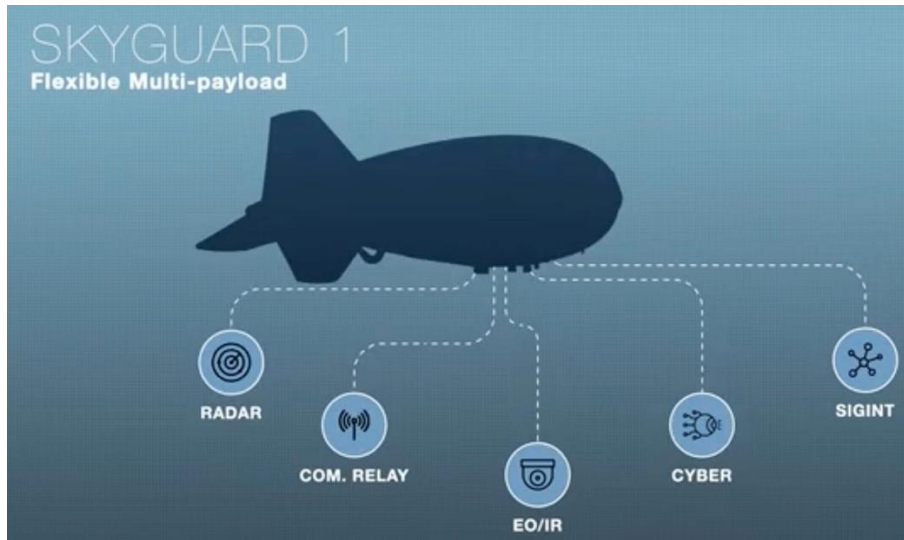
Parameter	SkyGuard 1
Length	22 m (72 ft)
Payload weight, max	Multiple payloads totaling up to 90 kg (198.4 lb) (or 100 kg / 220.4 lb – sources vary)
Operating altitude	Up to 1,000 m (3,280 ft)
Operating wind speed	Up to 50 kph (31 mph)
Endurance	14 days



SkyGuard 1 bow quarter view at its mooring.



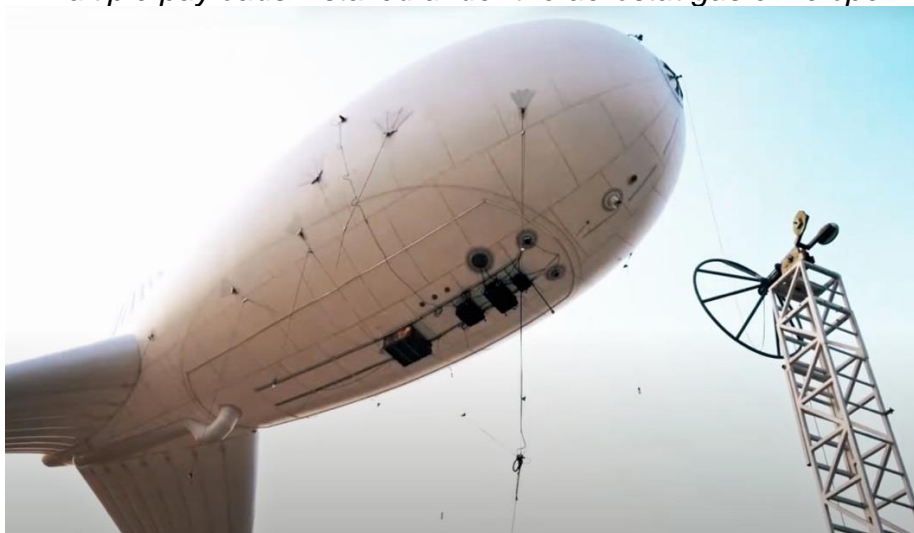
*SkyGuard 1 deployed above its mooring station.
Source, both photos: Screenshot from Atlas video (January 2021)*



SkyGuard 1 can be configured with multiple payloads.



Multiple payloads installed under the aerostat gas envelope.



*Multiple payloads supported from a rail mounting system.
Source, three graphics: Screenshots from Atlas video (2021)*

3. For more information

- “Aero-T Completes Development And Production Of First SkyGuard 1 Aerostat System,” UAS Weekly, 16 January 2018: <https://uasweekly.com/2018/01/16/aero-t-completes-development-production-first-skyguard-1-aerostat-system/>
- “RT LTA Enters The Large Aerostats Market With A New Subsidiary ‘Aero-T’,” Jewish Business News, 25 July 2016: <https://jewishbusinessnews.com/2016/07/25/rt-lta-enters-the-large-aerostats-market-with-a-new-subsidiary-aero-t/>
- “Garware - Wall Ropes Ltd. and Israel’s Aero–T ink MOU to explore mutual co-operation for manufacturing advanced Aerostats for Indian Defence,” Garware - Wall Ropes Ltd. press release, 5 July 2017: https://www.garwarefibres.com/wp-content/uploads/garware-pfds/PressReleases/Press_Release-GWRL-Aero-T%20MOU.pdf

Video

- “SkyGuard - 1 - Tethered Aerostat,” (1:06 min), posted by Atlas LTA Advanced Technology, 24 January 2021: <https://www.youtube.com/watch?v=nC6AD-24LBw>

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 - RT LTA Systems aerostat
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