PERSISENT ELEVATED AWARENESS

Advancing the Next Generation

Elevated Awareness

TCOM

TCOM'S INTEGRATED C5ISR SOLUTIONS ENABLE INFORMATION DOMINANCE TO FULLY SUPPORT THE NETWORKED SOLDIER OF TOMORROW

VALUE OF THE AEROSTAT

Unrivaled elevated persistent awareness simplified

Tethered Aerostats provide significant value, supporting a wide range of payloads (from Comms to ISR and EW). Applicable across the joint force, aerostats provide persistent, cost-effective elevated awareness using a variety of sensors to enhance warning, mitigating anti-access/ area-denial (A2/AD) threats.

AEROSTAT SYSTEM COMPONENTS AND ADVANTAGES

Advantages of Lighter-Than-Air (LTA) Tethered Platform

Range: High altitude provides extended line of sight with operational altitudes from 1,000 ft to over 16,000 ft. Persistence: Up to 30-day flight duration provides mission endurance. Fiber-optic powered tether enables high bandwidth and secure data transmission. Affordability: cost per platform and flight hour is superior to other platforms.

TCOM AEROSTAT BENEFITS

- Tethered Aerostat capabilities make valuable contributions to detection, deterrence, and the kill web at a fraction of the cost of the alternatives
- Aerostats can play a key role in an integrated elevated awareness and payload delivery network
- Simple, low cost, and resilient component of ISR networks and Kill Chain in highly contested regions
- Contributes to a resilient Common Operating Picture (COP)
- Competition: Persistent collection and warning enables Deterrence; Crisis: Persistent awareness enables decision advantage, denying enemy initiative; Conflict Phase: Targeting and Fire Control resilience
- Aerostats underpin asymmetric networks, contributing to decision advantage and complicate the enemy's decision making, employing a host of payloads including RF/EM countermeasures

TCOM HISTORY – OVER 50 YEARS OF DEVELOPMENT, PRODUCTION, OPERATION AND MAINTENANCE SUPPORT, AND TRAINING EXPERIENCE

Founded in 1971 and headquartered in Columbia, MD with manufacturing and test facilities in Elizabeth City, NC. TCOM is the only company with the in-house ability to Design, Produce, Integrate, and Test complete aerostat systems. Deployed worldwide, TCOM provides situational awareness in demanding environments.

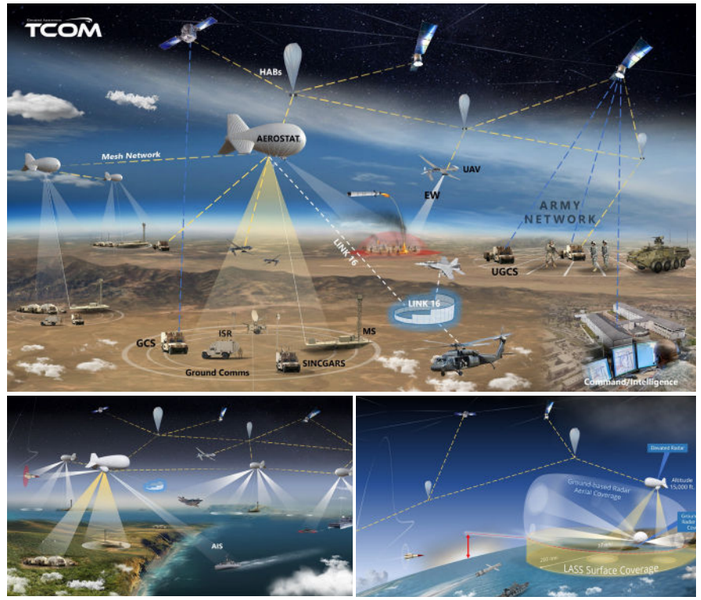
We are proud to have offered the first surveillance aerostats to the U.S. Military for force protection in Afghanistan and Iraq and provide surveillance aerostats to US government and US allies and partners world-wide. We are the Program of Record under US Army, PD-Aerostat as well as Envelope Designer and Supplier for Advanced Airships and High-Altitude Balloons (HABs).

WITH OPERATIONS IN OVER 18 COUNTRIES AROUND THE WORLD, TCOM IS THE GLOBAL AUTHORITY IN AIRBORNE PERSISTENT SURVEILLANCE SOLUTIONS.

EVOLVING AIR & MISSILE DEFENSE THREATS

Closing the Radar Horizon Gap

Elevated radar expands the detection horizon adding valuable time in kill chains against hypersonic and other threats. TRL-9 solutions provide near-term capability and longer-term complementary resilience as space-based sensors still under development are fielded. With up to 30 days in flight duration, Aerostats provide low cost mission endurance and persistent 360-degree coverage.



MULTI-DOMAIN AWARENES SYSTEM OF SYSTEMS

The TCOM Aerostat System of Systems offer a low risk, state-of-the-art, high performing and affordable persistent awareness solutions. In this era of rapid technology development, maintaining security is an evolving mission against revolutionary threats and changing targets. TCOM Elevated Awareness Solutions are custom-tailored to meet our customer needs for today and tomorrow. TCOM, a long-time global leader in lighter-than-air platforms, is proud to offer a full line of elevated awareness solutions. Combining custom selections of the world's most advanced sensors, customer-specific communications, and intelligent user interfaces with a broad range of airborne platforms, TCOM awareness solutions provide unparalleled capability and cost-effectiveness.

TCOM FAMILY OF AEROSTATS – TACTICAL AND STRATEGIC MISSIONS

Aerostat Model	12M°	17M°	22M°	28M°	34M™	55M°	71M°	74M™	117M™
Nominal Payload Capacity (lbs) STP	60	300	445	850	1,550	2,000	4,750	7,000	18,000
Payload Power	500 W	2 kW	2 kW	5 kW	5 kW	23.5 kVA	23.5 kVA	70 kVA	130 kVA
Nominal Alt (ft)	1,000	2,000	3,000	5,000	5,000	7,500	15,000	11,500	16,000
Flight Duration	7 days	14 days	14 days	30 days	30 days	30 days	30 days	30 days	60 days
Typical Set Up	2 hrs	2 hrs	6 hrs	12 hrs	24 hrs	4 weeks	4 weeks	120 hrs	8 weeks
Wind Speeds – Operational (kts)	40	40	55	55	55	70	70	70	80
Wind Speeds – Survival (knots)	50	55	70	70	75	90	90	100	90
Helium Volume	12M° 6K	17M° 13K	22M° 28K	28M° 58K	34M™ 82K	55M° 300K	71M° 630K	74M™ 670K	117M™ 2500K

- Persistent airtime up to 30 days on station
- Ability to carry diverse and heavy payloads: up to 15,000 lbs
- High available payload power up to 100 kVA
- Range of operational altitude is 1,000 to 22,000 ft.
- Broad geographic coverage:up to 130,000 sq. mi.
- Secure high bandwidth data/ comms link
- Fixed location reduces air traffic issues
- Mobile deployment of smaller systems trans-portable by helicopter

	Platform	Cost/Flight Hour^	Sortie Duration
	E-3 Sentry*	$53,300	7.3 Hours
	P-8 Poseidon*	$29,900	5.2 Hours
	RQ-4 Global Hawk*	$18,700	21 Hours
	MQ-9 Reaper*	$5,350	15 Hours
	71M Aerostat	$1,100	30 Days
	28M Aerostat	$350	14 Days

*Source: CBO's June 2021 report Usage Patterns and Costs of Unmanned Aerial Systems.

Recurring costs per flying hour, which are the annual operating and maintenance costs of a fleet divided by the number of flying hours that fleet accumulated during a year.

INNOVATION ON AEROSTATS AND HIGH ALTITUDE BALLOONS (HABS)

- Payload agnostic – ease of integration
- Manpower/Sustainment (Autonomy)
- Mobility/Expeditionary
- Improved software which has increased Operational Availability/Survivability Steerable Sensors
- Resiliency
- Adaptable Sensor Payload
- Comms Redundancy with HABs
- Data Storage/Transmission–Front End Processing
- Perform extended range C2 at altitude

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TCOM's ISR Air Surveillance Systems are the Solution.

Elevated Awareness TCOM