



U.S. Air Force: \$64 Million for Secret Stratospheric Balloon Project

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The **U.S. Air Force** has awarded a **\$64.4 million** contract (negotiated procedure without competitive bidding) to specialist company **Aerostar** for the development of a high-altitude balloon prototype designated "**Swamp Gas**".

The contract, managed by the Air Force Life Cycle Management Center at Wright-Patterson Air Force Base, Ohio, calls for the development of a *minimum viable product* prototype (an initial functioning, testable product) to address a so-called "**High-Altitude Balloon Operational Urgency**", an urgent operational requirement coming directly from the field that calls for accelerated acquisition timelines compared with traditional standards.

Key Project Details

- **Funding and timeline:** Work will be completed by **March 23, 2028**. Nearly the entire amount was obligated immediately, drawing \$57.7 million from fiscal year 2025 research and development funds and \$6.3 million from 2026 funds.

- **Maximum secrecy:** At present, specific details regarding the balloon's mission, end users, payloads, and operational areas remain top secret. Development activities will take place in Arlington, Virginia.
- **A curious name:** The project revives a famous historical reference. In 1966, Air Force consultant J. Allen Hynek attributed a series of UFO sightings in Michigan to "swamp gas" (*swamp gas*), a phrase that became a popular-culture catchphrase. The Air Force has not clarified the reason behind this choice of code name.

Aerostar's Capabilities and the "Drone Mothership" Concept

Aerostar is a leading manufacturer of stratospheric balloons capable of operating well above normal commercial flight corridors:

- **Thunderhead:** The larger model can fly between **16,800 and 22,900 meters** (55,000 to 75,000 feet), remaining aloft for more than 60 days, carrying up to 90 kg of equipment, and serving as a true "**mothership**" capable of carrying multiple drones simultaneously.
- **Lightning:** A smaller, tactical variant (operating between 50,000 and 78,000 feet for up to three days), designed to carry individual payloads or a single drone and rapidly launched by small teams without the need for runways.

Integration with Apollo-R Solar Drones

Recent tests conducted by Aerostar paired the *Lightning* balloon with the ultra-long-endurance solar drone **Apollo-R** (designed by Icarus). Russ Van Der Werff, Vice President of Stratospheric Solutions at Aerostar, highlighted that:

- The **Apollo-R** is a solar-powered, recoverable unmanned aircraft system (UAS), designed to fly under its own power after separating from the balloon and land at a designated recovery point.
- However, depending on mission requirements, the Apollo-R can also be employed in an expendable configuration (a one-way munition), with an estimated cost in the low six-figure range.
- Aerostar platforms integrate mesh-networking radios (*mesh-networking*) with ranges exceeding 160 km (100 miles) and transmission speeds of up to 40 Mbps, allowing the balloon to act as a high-altitude communications relay node (*communications relay node*) to

significantly extend drones' operational range, including beyond line of sight (BLOS).

Ukrainian forces are using balloons to transport kamikaze drones over long distances, then launching the drones toward their targets after delivery. [#Ukraine](#)
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Strategic Context and Employment in the U.S. Armed Forces

High-altitude balloon technology offers crucial advantages in terms of flexibility, lower costs compared with satellites or large surveillance aircraft (such as the Global Hawk), and extremely high survivability due to its ability to operate above conventional air defenses and remain on station for weeks.

Several U.S. military branches and agencies are actively investing in this technology:

- **U.S. Army:** The U.S. Army is a leader in the field and has tested balloons carrying Apollo-R drones during recent international exercises, including *Orient Shield 26* in Japan (Hokkaido), *African Lion 26* in Morocco (also launched from logistics support vessels such as the *USAV Maj. Gen. Charles P. Gross*) and *Valiant Shield 2026* in Guam. The Army's objectives include developing multi-domain sensor system (MDSS) architectures and the ability to deploy swarms of drones, loitering munitions (*loitering munitions*) and air-launched effects (*air-launched effects*, or ALE).
- **Other global players:** Similar surveillance and deception technologies using aerostatic balloons are also being employed in the conflict in Ukraine and in the programs of countries such as China and Poland (which is working to strengthen its early-warning radar network).