



STRATOFLY RESEARCH

- Stratofly Research LLC

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Market Need

- Lack of low-cost, easy navigable access to the stratosphere and troposphere
 - Large(group 4 & 5) drones and manned airplanes are cost inefficient for long duration high altitude flights
 - Current Altitude controlled HABs (large superpressure and zero pressure balloons) are cost inefficient for HAB constellations
 - Balloon size complicates launch logistics for non-skilled operators
 - Requires significant volumes of LTA gas (helium shortage + rising prices, significant safety concerns with hydrogen)
- A major lack of in-situ weather data above cruising altitude of planes (>35k ft.), over the oceans (71% of Earth's surface), and in the southern hemisphere and polar regions



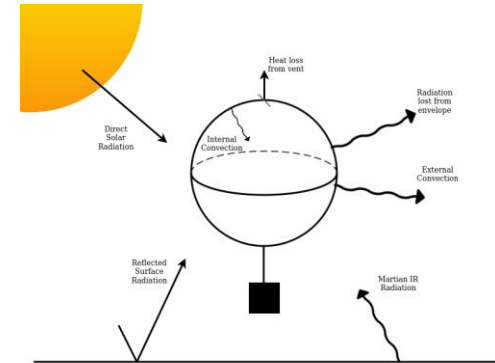
Gaps in HAB Technology

- **Lack of medium-sized altitude controlled (AC) High Altitude balloons (HAB) platforms**
- **Weather balloons** - typically lift <3 kg (15+ kg possible)
 - Rarely altitude control
 - Short flight time (typically < 2 hours, 2 days possible)
- **Supre Pressure (SP) and Zero Pressure (ZP) balloons** - typically lift 50-100 kg (3000+ kg possible)
 - Frequently use altitude control, long duration
 - Large, expensive, and more complicated launch/recovery
- **Pico Balloons** - typically lift <1kg
 - Typically, cheap low-cost sensing (no altitude control)

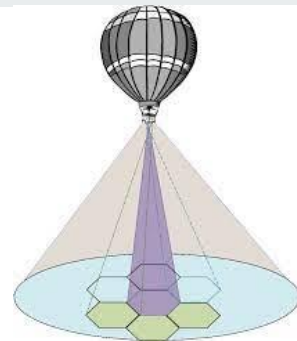


Solution Technology

- HABs rely on solar and IR Radiation to generate lift
 - Solar Balloon - relies on solar radiation for heat
 - IR Balloon - Earth's emitted IR radiation for heat
 - Passive lift, no LTA gas (helium/hydrogen) required
- **Mechanical Vent (Patent Pending)** regulates temperature
 - Allows for continuous accurate altitude control
- Adjust altitude to follow trajectories
 - Leverage Opposing Winds
 - Autonomous path planning



Business Model

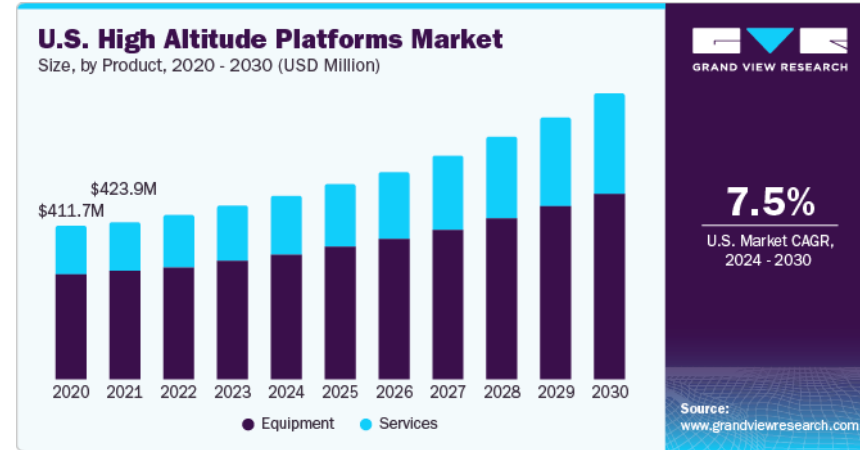


- Direct sale of free-lift HABs from warehouse to consumer
- Contract-based missions for altitude-controlled balloons
 - Determine best altitude control HAB for mission requirements
 - Develop unique CONOPS: mission plan, trajectory forecasting and planning, operational logistics, etc.
 - Optional add-on where we execute launch and recovery for customer
- Selling of meteorological data from balloon constellations to the weather forecasting, airline industry, and government partners



Market Analysis

- **The Weather Forecasting Industry** is growing at a CAGR (compound annual growth rate) of 12% and is estimated to surpass \$40 billion by 2040.
- **Unmanned Aerial Systems Technology** is growing at a CAGR of 14% and is estimated to surpass \$50 billion by 2030.
- **Remote Sensing Technology** is growing at a CAGR 12% and is estimated to surpass USD 55.36 billion by 2032.



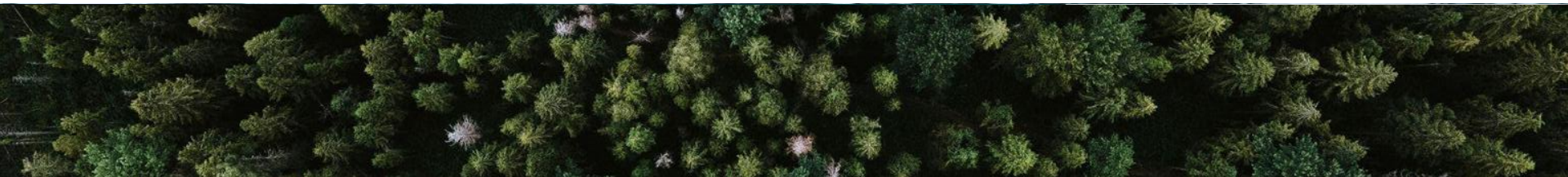
Competitive Landscape

- **Totex** - Largest Manufacturer of Weather Balloons
- **Aerostar** - Long Duration Large Altitude Controllable Super Pressure Balloons
- **Near Space Corporation** - Custom Large High-Altitude Balloons and Inflatable Structures
- **WorldView** - Long Duration Super Pressure Balloons for Aerial Imagery
- **UrbanSky** - Medium Duration Altitude Controlled ZP Balloons for Atmospheric Sensing
- **Windborne Systems** - Medium Duration Altitude Controlled ZP Balloons for Imagery and meteorological data collection



Funding Needs

- **Currently seeking investment** for commercialization of our HAB platforms
 - Envelope Material Acquisition
 - Automate HAB envelope manufacturing
 - Vent Manufacturing
 - Minimal payload development (closed system)
 - Develop software for external integration
- Plan to have 3 different types of MVPs within a year
 - At which point will be seeking significant additional funding for HAB constellation development



Current Status and Milestones

- Received a technology asset development grant to further develop our vent patent with the University of Arizona
 - Conducting R&D on new balloon envelope materials and developing new manufacturing methods to improve balloon quality and performance
 - Developing methods for commercialization of our technology
- Applying for small business government grants



Regulatory Compliance (FAA Part 101.1 Section D)

- Most of our HABS are exempt from regulations due to the following:
 - 1. HABS under 6 pounds
 - 2. Flights with multiple payload packages carried by one balloon must weigh less than 12 pounds in combined total.
- Launching/operating of larger balloons requires following the unmanned Free Balloon Regulations.



Vision

R&D

R&D of material and manufacturing process,
Development of commercialization technology,
market research and establish brand presence

2025

2026

Direct Sales and Contracting

Grow COTS Free lift Balloon Product Line. Provide
altitude controlled balloons by contract to defense,
government, industrial, and research partners.
Continue to improve proprietary balloon navigation
algorithms

2027

Payload as a Service

Establish dedicated launch sites both for customers
and to maintain domestic balloon constellations.
Continued R&D for multi-agent balloon
constellations

2028

Data + Payload as a Service cont'd

Expand balloon constellation coverage. Begin initial
offerings of high-fidelity meteorological and
atmospheric data





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