# Dossier: CESIUMASTRO INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,799,789.00

**Award Date:** 2023-06-15

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

CesiumAstro Inc. is a US-based company specializing in advanced communications solutions for space, airborne, and terrestrial platforms. Their primary business is developing and manufacturing active phased array antennas and complete communications payloads that enable high-throughput, multi-beam connectivity in challenging environments. The company aims to solve the limitations of traditional, single-beam antennas and fixed-function payloads, offering a software-defined, multi-mission platform configurable in orbit. CesiumAstro's unique value proposition lies in its vertically integrated approach, designing and building everything from RF chips to complete communications payloads, providing customers with greater flexibility, scalability, and performance at a lower cost and faster time-to-market compared to traditional space-qualified hardware.

**Technology Focus:**

* Active Phased Array Antennas:\*\* CesiumAstro's core technology revolves around active phased array antennas that offer dynamic beam steering, multi-beam operation, and frequency agility. They are capable of electronically steering beams without physical movement, enabling simultaneous communication with multiple satellites or ground stations.
* Software-Defined Payloads:\*\* The company develops software-defined radio (SDR) based payloads that are reprogrammable in orbit, allowing for mission flexibility and adaptation to changing requirements. This includes capabilities like dynamic waveform selection, beamforming optimization, and interference mitigation.

**Recent Developments & Traction:**

* Series B Funding (October 2021):\*\* Raised $60 million in a Series B funding round led by Airbus Ventures, with participation from Kleiner Perkins, L3Harris Technologies, and others. This funding was intended to scale manufacturing and accelerate product development.
* Partnership with L3Harris Technologies (Ongoing):\*\* CesiumAstro is partnering with L3Harris to develop advanced communication solutions for defense and commercial space applications. This collaboration leverages CesiumAstro's advanced RF technology and L3Harris's expertise in space systems.
* Deployment of Saddleback Payload (2023):\*\* CesiumAstro launched its Saddleback payload to orbit, showcasing its fully active phased array antenna capabilities for resilient communications and demonstrating on-orbit reprogrammability.

**Leadership & Team:**

* Shey Sabripour (CEO):\*\* Experienced entrepreneur with a background in aerospace engineering and previous experience at companies like Raytheon.
* Kittle Hoagland (President):\*\* Previously held leadership positions at Lockheed Martin and brings extensive experience in space systems and business development.

**Competitive Landscape:**

* Kymeta:\*\* Kymeta develops flat-panel antennas for satellite communications. CesiumAstro differentiates itself through its active phased array technology that offers greater flexibility, beam steering capabilities, and higher throughput, especially suitable for demanding applications.
* SatixFy:\*\* SatixFy focuses on developing chips for satellite communications. While SatixFy specializes in chip-level solutions, CesiumAstro offers vertically integrated, end-to-end communication payloads, giving them greater control over performance and integration.

**Sources:**

1. [https://www.cesiumastro.com/](https://www.cesiumastro.com/)

2. [https://news.satnews.com/2021/10/26/cesiumastro-collects-60-million-in-series-b-funding/](https://news.satnews.com/2021/10/26/cesiumastro-collects-60-million-in-series-b-funding/)

3. [https://spacenews.com/cesiumastro-launches-software-defined-payload-to-orbit/](https://spacenews.com/cesiumastro-launches-software-defined-payload-to-orbit/)

4. [https://www.prnewswire.com/news-releases/cesiumastro-expands-leadership-team-with-addition-of-kittle-hoagland-as-president-301650389.html](https://www.prnewswire.com/news-releases/cesiumastro-expands-leadership-team-with-addition-of-kittle-hoagland-as-president-301650389.html)