# Dossier: THINKORBITAL INC.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $973,957.00

**Award Date:** 2024-10-10

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

ThinkOrbital Inc. is a space technology company developing autonomous, modular, single-stage-to-orbit (SSTO) space stations and in-space manufacturing capabilities. Their primary business is to provide affordable and scalable infrastructure in low Earth orbit (LEO) to support various activities, including research, manufacturing, space tourism, and eventually, deep space exploration staging. ThinkOrbital aims to solve the problem of limited and expensive access to LEO by dramatically reducing the cost per kilogram to orbit and offering flexible, reconfigurable space station platforms. Their unique value proposition lies in their toroidal space station design, capable of being assembled in orbit from smaller, launchable modules, and their autonomous, reusable launch system, aiming to achieve cost-effective, routine space access and facilitate a thriving in-space economy.

**Technology Focus:**

* ThinkPlatform:\*\* A modular, toroidal space station design capable of supporting up to 10,000 kg of payload. The toroidal shape allows for greater interior volume and radiation shielding compared to traditional cylindrical stations.
* Autonomous Assembly:\*\* Utilizes advanced robotics and AI-driven systems to autonomously assemble the ThinkPlatform in orbit from individual modules, reducing the need for extensive astronaut intervention and lowering operational costs.
* Reusable Launch Vehicle (RLV):\*\* They are developing a single-stage-to-orbit (SSTO) rocket, aiming for full reusability to substantially decrease launch costs. Target specifications include a payload capacity to LEO exceeding several tons with high flight frequency.

**Recent Developments & Traction:**

* Seed Funding Round (October 2022):\*\* Raised $1.2 million in seed funding to advance the development of their modular space station technology. The round was led by SpaceFund.
* Signed a Space Act Agreement with NASA (2021):\*\* Partnering with NASA to explore commercial space capabilities and validate the technical feasibility of their toroidal space station concept.
* Completed key design reviews:\*\* Showcasing significant progress in engineering design and prototyping. Specifics are difficult to quantify without access to proprietary information, however, public statements suggest milestone completions.

**Leadership & Team:**

* Sebastien de Halleux (CEO):\*\* Previously a Co-founder & CPO at PlayFab (acquired by Microsoft), bringing extensive experience in building and scaling technology platforms and cloud services.
* Key team members have backgrounds in aerospace engineering, robotics, and AI, including experience at NASA and other space companies (specific names not consistently publicized in available online sources).

**Competitive Landscape:**

* Nanoracks:\*\* Offers commercial services on the International Space Station (ISS) and is developing its own commercial space station, Starlab.
* Axiom Space:\*\* Is also building a commercial space station, aiming to detach from the ISS and operate independently.

ThinkOrbital's key differentiator is their approach to a truly scalable, modular station design and an independent SSTO launch capability. Unlike the other companies mentioned, they are working on both an in-space and a launch system solution which could offer more cost-competitive and flexible services in the future, if successful.

**Sources:**

1. [https://spacefund.com/thinkorbital-inc-raises-1-2m-seed-to-advance-in-space-manufacturing/](https://spacefund.com/thinkorbital-inc-raises-1-2m-seed-to-advance-in-space-manufacturing/)

2. [https://www.thinkorbital.com/](https://www.thinkorbital.com/)

3. [https://www.crunchbase.com/organization/thinkorbital](https://www.crunchbase.com/organization/thinkorbital)

4. [https://www.bizjournals.com/seattle/inno/stories/news/2022/10/21/thinkorbital-space-station-venture-capital.html](https://www.bizjournals.com/seattle/inno/stories/news/2022/10/21/thinkorbital-space-station-venture-capital.html)