TARSEC

Texas Aerospace Research and Space Economy Consortium

To: Gwen Griffin, Chair, Texas Space Commission
Norman Garza, Executive Director, Texas Space Commission

From: Stephanie Murphy, Chair, Texas Aerospace Research and Space Economy Consortium (TARSEC) on behalf of the TARSEC Executive Committee

Subject: TARSEC 2024 Biennial Report

I am pleased to submit the 2024 Biennial Report of the Texas Aerospace Research and Space Economy Consortium (TARSEC). As Chair of TARSEC, I am proud to present the accomplishments, initiatives, and forward-looking strategies that define our mission. TARSEC was established in 2023 under the visionary leadership of Governor Greg Abbott to position Texas as the global leader in aerospace innovation and economic integration. This report details our progress, the challenges we address, and the strategies we implement to strengthen Texas's standing in the space industry. We will also be making recommendations for changes to the existing legislation to enhance our effectiveness. Together, we are shaping the future of aerospace in Texas, fostering collaboration between government, academia, and industry to achieve groundbreaking advancements.

1.0 Introduction

The Texas Aerospace Research and Space Economy Consortium (TARSEC) is a key initiative established to position Texas as a global leader in the space industry. Formed in 2023 under the Texas Space Commission by Governor Greg Abbott, TARSEC unites academic institutions, government agencies, and industry leaders to accelerate aerospace innovation, foster economic growth, and solidify Texas as a hub for space research and development. This document serves as TARSEC's first biennial report, summarizing our partial-inaugural year's activities, accomplishments, and future directions.

1.1 Executive Leadership

The TARSEC Executive Committee, comprised of representatives from higher education institutions and industry leaders across Texas, drives our initiatives. We intend to collaborate closely with the Texas Space Commission (TSC) to provide funding recommendations, research priorities, and strategic initiatives aimed at bolstering Texas's aerospace capabilities. TARSEC's value is that it serves as a critical research and advisory arm of the Texas Space Commission, working to advance the state's aerospace and space capabilities and integrate these industries into the Texas economy. We will also recommend legislative updates in section 2025 to clarify and enhance that collaboration.

1.2 2024 Executive Committee Members:

Name	Title/Association	Status
Stephanie Murphy	CEO & Executive Chairman, Aegis Aerospace Inc.	Active/Chair
Brian Freedman	President, Bay Area Houston Economic Partnership	Active/Vice Chair
Jack Fischer	SVP, Production & Operations, Intuitive Machines	Active/Secretary
Dr. David Alexander	Professor, Physics and Astronomy, Rice University	Active/Treasurer
Dr. Robert Ambrose	Professor, Mechanical Engineering, Texas A&M University	Active
Dr. Daniel T. Jaffe	VP, Research, University of Texas	Active
R. Matthew Ondler	Chief Strategy Officer, Axiom Space Inc.	Active
Shey Sabripour	Founder & CEO, CesiumAstro Inc.	Active
Bill Weber	CEO, Firefly Aerospace	Inactive

2.0 Activities and Objectives of TARSEC

2.1 TARSEC Role and Mission

We aim to position Texas as the global destination for aerospace research, technology, and innovation. By fostering collaboration among government, academia, and industry, we accelerate advancements, expand economic opportunities, and integrate space and aeronautics into Texas's economy. Our mission is supported by a robust ecosystem that promotes cutting-edge research, workforce development, and sustainable growth for the betterment of all Texans and humankind.

2.2 Key Activities in 2024

In our inaugural year, TARSEC's primary focus was to lay a strong foundation. We successfully elected officers, developed bylaws, and established operational procedures. Although the selection and awarding of research grants remain a priority for 2025, we made significant progress in building a sustainable framework and fostering collaboration.

- **Established Meeting Cadence:** We implemented a regular meeting schedule to conduct business and plan consortium activities. Highlights include:
    - August 26, 2024: Officer and TSC Liaison elections
    - September 3, 2024: General Business
    - September 26, 2024: Strategic planning workshop, meeting with Dr. Bonnen
    - October 17, 2024: General Business
    - December 13, 2024: Proposal discussions and biennial report planning
    - December 20, 2024: General Business and biennial report planning

- **Established Vision and Mission Statement:**
    - **Vision:** Position Texas as the global destination for aerospace research, technology, and innovation.
    - **Mission Statement:** The Texas Aerospace Research and Space Economy Consortium (TARSEC) is committed to collaboration among government, academia, and industry to accelerate aerospace innovation, expand economic opportunities, and integrate space and aeronautics into the broader Texas economy. We will cultivate a robust ecosystem that supports cutting-edge research, workforce development, and sustainable growth for the betterment of all Texans and humankind.

- **Elected TSC Liaison and Committee Chairman/Vice Chairman/Secretary/Treasurer**
    - In the inaugural meeting of the TARSEC Executive Committee on Aug 26, 2024 the committee unanimously elected Stephanie Murphy as the Texas Space Commission Liaison and Chair and Brian Freedman as Vice Chair. Jack Fischer was elected Secretary and Dr. David Alexander was elected Treasurer.

- **Established Draft Executive Committee Bylaws**
    - Draft bylaws are shown in Attachment 1. These are subject to review by the TARSEC General Counsel and will be submitted to TSC for final adoption.

- **Established services contract with TAMU**
    - A master inter-agency cooperation contract between Texas Space Commission and the Texas A&M University System was approved October 8, 2024 to provide administrative and staff support to TARSEC. The Texas A&M Space Institute is designated the Performing Party for the purposes of executing this contract. The contract defines the terms and conditions under which the Institute will be reimbursed by the Commission for costs incurred by the Institute in providing administrative and staff support to TARSEC.

- **Established relationship with TARSEC Counsel**
    - In October 2024, Julie Masek, Assistant General Counsel at Texas A&M, was assigned to support TARSEC through the Inter-Agency agreement established between TSC and Texas A&M University System.

- **Workshops and Membership Growth:**
    - We hosted two successful workshops in November 2024—one in San Antonio and one in Houston. ~350 total attendees participated, contributing to discussions on technology forecasting, research priorities, and funding opportunities. These events significantly expanded our consortium membership and strengthened our statewide presence.

2.3 Key TARSEC Objectives

TARSEC's key functions and objectives include:

- ***Identifying Research Opportunities to advance Texas's aerospace capabilities**: TARSEC's primary role is to identify and recommend research opportunities within Texas that can advance the state's aerospace and space, research and innovation capabilities.
- ***Providing funding and research recommendations to the TSC**: Leveraging their extensive experience in the aerospace industry and academia, the TARSEC's role is to provide focus and recommendations in support of the TSC's grant awards and activities.
- **Strengthening partnerships amongst Texas industry, academia and government:** The role of TARSEC is to convene participants from across the space sector in Texas and to foster collaboration among them.
- **Enhancing Texas's Position as a global aerospace leader:** TARSEC aims to solidify Texas's role as an international aerospace leader and hub for space activity by promoting:
    - Robust infrastructure and resources foundational to aerospace activities
    - World-class research and development
    - Civil, commercial and military aerospace activities
    - Enhanced workforce development and STEM education
- **Boosting Economic Integration and Investment in space industries:** TARSEC seeks to integrate aerospace and space industries more deeply into the Texas economy. This involves:
    - Fostering collaboration between academia, industry, and government
    - Supporting the retention and growth of space-related businesses in Texas
    - Attracting international, venture-capital and traditional investment in space-related businesses, infrastructure and research and development

  **Written in HB3447*

The TARSEC Executive Committee (EC) believes another critical role is to help establish the on-going process and framework to solicit, evaluate, prioritize, and award funding for proposals that align with TARSEC and TSC research priorities. The EC, as an advisory role to the TSC, is not attenuated by the Open Meetings Act. This freedom allows the EC to engage the full expertise of the committee, iterate and explore options, and more rapidly provide solutions and recommendations to the TSC. We will be recommending to the TSC a process for all future funding allocations in the first quarter of 2025.

In addition, the EC stands ready to support the TSC in future funding rounds by leveraging its internal expertise and its extensive network of subject matter experts. Ways in which this support could be realized include:

- Providing expert advice on SEARF proposals to facilitate the balanced distribution of funds between different types of requests based on an understanding of capability and knowledge gaps within the State of Texas.
- Making EC members available for reverse site visits or physical site visits to help evaluate large proposals that the TSC wishes to consider as finalists.
- Provision of white papers to the TSC identifying the gaps and opportunities in particular areas or technologies to inform funding decisions by the TSC.
- Detailed consultation about implementation of a more robust and considered proposal review in future funding rounds.
- Consultation about improvements to future RFPs and Announcements of Opportunities to align them with the goals of the TSC and the anticipated selection methodology.
- Advice about selection of subject matter experts for program assessment of major funded programs or of the overall effort.

3.0 Synopsis of Funding and Research Opportunities identified by TARSEC

3.1 Emerging Technology Workshop- San Antonio

The first TARSEC workshop was held in San Antonio at the Hyatt Riverwalk. Over 155 attendees participated in sessions that included technology forecasting, government needs, and the ongoing SEARF application process. Speakers included leaders of the Texas Space Commission and local subject matter experts from the San Antonio region. There was a special session on emerging technologies, with the audience participating in generating comprehensive lists of where Texas is strong today in space technology and where Texas should invest for the future. These two lists are described in the next two sections.

During the emerging technologies portion of the workshop, the following questions were used to frame the discussion:

3.1.1 Emerging Technology Participant Input: In which technology areas is Texas strong today?

The following topics were generated in a live brainstorming session. Short descriptions have been added based on the conversation in the room.

Start up space companies	Start up space companies are thriving alongside large and established players in the Texas aerospace economy. Companies listed during the workshop included CesiumAstro, Firefly, Aegis Aerospace, Intuitive Machines, Axiom Space, Lunar Resources, Way2Space, and Icon. These companies are working as prime contractors to the government, or on commercial space missions. They are in both partnership and competition with large aerospace companies that are thriving in Texas, such as Lockheed Martin, Northrup Grumman, Raytheon, Boeing, Collins, Oceaneering, and Jacobs.
Human spaceflight	NASA's Johnson Space Center has long been the home to human spaceflight. Beyond mission control and astronaut training, Johnson has a 2,000 person+ engineering directorate that develops technology for human spaceflight, and a biotech focus on astronaut health and performance. Texas has now added regular sub-orbital flights in west Texas with Blue Origin, and SpaceX is beginning flights in south Texas. Texas has multiple spaceports from which companies are planning to fly humans into space.
Space robotics	NASA Johnson pioneered the use of robotic systems to assemble the International Space Station, and future commercial space stations like that proposed by Texas-based Axiom Space will expand this capability. NASA Johnson prototyped future robotic systems for the Lunar surface and will manage future robotics contracts for the Artemis program. The US Space Force has payload integration and operation work that uses robots on the ISS, and commercial space testing is now available through Aegis. Texas A&M leads a space robotics institute that includes UT Austin, Prairie View A&M, UT El Paso and the Southwest Research Institute focused on in-space operations.
Space qualification and testing capabilities	The workshop audience was mixed on space test capabilities. Many identified the deep and expansive set of test equipment that NASA Johnson has today. Others identified areas of the state without access to needed equipment. Companies near NASA Johnson reported a need for updated equipment, and better access.
Rare Earth materials, mines, & refining	Texas has much needed natural resources in the markets for rare Earth materials. The audience mentioned mines and refining capabilities in the San Antonio and Fort Worth areas.
Houston space fund	The aerospace economy is strong in Texas with investment funds focused entirely on this sector. One identified by the audience is the Houston-based Space Fund.

Spaceports in Texas	The Texas aerospace economy has spawned multiple spaceports, defined as locations from which spacecraft can be launched or recovered from space. These include: Houston SpacePort Midland International Air and SpacePort Launch Site One, west Texas Starbase, Boca Chica
Home of astronauts	NASA's Johnson Space Center is home to the government operated astronaut program. All NASA astronauts are trained and managed at NASA Johnson. Axiom Space has flown three private astronaut missions to the ISS, and similarly does training and development of these astronauts in Texas. Blue Origin operates sub orbital flights of private astronauts at its space port in west Texas. Companies such as Way 2 Space are offering training programs for private astronauts in Texas.
Propulsion Focus	Advanced propulsion technologies have been developed in Texas, such as the maturation of the methane engine at NASA Johnson, Intuitive Machines and SpaceX. Further advances are underway in areas from SCRAM jet hypersonic technologies to quantum-based propulsion systems.
Hypersonic focus, re-entry	Re-entry of spacecraft into Earth's atmosphere creates high pressures and temperatures as the highspeed surfaces of the vehicle encounter friction with air. Texas companies like Venus and researchers at the Texas A&M National Aerothermal Lab study these conditions and are developing new materials and geometries to enable hypersonic flight. NASA's Johnson Space Center managed the Space Shuttle re-entry and provided technology for Mars landings of heat shields and parachutes.
Space medicine	Texas is the leader in space medicine, with the UTMB Space Medicine program focused on training and preparing space medical professionals. The field includes new companies developing medical devices, and the Translational Research Institute for Space Health financed by NASA and managed at the Baylor College of Medicine. Space physicians operate at NASA Johnson caring for astronauts in flight and in training.
Sub-orbital flights	Blue Origin conducts human sub-orbital flights of the New Shepard vehicle at its west Texas spaceport. These flights extend above the Karman line that is the defined boundary of space on Earth. Venus Aerospace is developing the Rotating Detonation Rocket Engine (RDRE) for single engine takeoff and hypersonic flight.
Ground control	NASA's Johnson Space Center has managed human missions with government astronauts since the 1960's. The mission control room used during Apollo has been designated as a historic site, and new control rooms are used for ISS operations. Commercial companies have developed their own mission control rooms, including those at SpaceX, Axiom Space, Aegis Aerospace, and Intuitive Machines.
Cyber	San Antonio is a hub for cyber security development, housing multiple military bases, including the Air Force's 67th Cyber Space Wing. The region includes companies such as Cisco, Leidos, Cloudfare, Crowdstrike, Fortinet and Zscalar.

Space electronics	The audience was mixed on the present level of electronics work in Texas. The Forth Worth region is well known for aircraft avionics manufacturing, and NASA Johnson has capabilities to assemble and test electronics for space. Other members of the audience felt the state is understaffed for the touch labor and manufacturing needed for spacecraft electronics and behind other regions.
Spacesuit design & manufacturing	NASA Johnson Space Center has a soft goods lab able to make fabric coverings and space suit components. Axiom Space has the NASA contract to design and develop the new space suit for the lunar surface missions with government astronauts.
Space mission planning	NASA Johnson Space Center has been planning space missions since the 1960's, from high level architecture studies to space walk and robotic operation timelines.
Curation of astromaterials	NASA Johnson Space Center is home to astromaterials returned from the Moon, asteroids and comets. The Apollo missions returned 382 kg of samples that are managed by NASA Johnson. Recent robotic missions to asteroids and comets have returned additional samples. NASA Johnson has multiple programs for loaning these samples to international researchers.
Drilling on the Moon	The Apollo Lunar Surface Drill was used by astronauts to collect core samples. The modular and battery-operated drill was able to collect core samples in 40-inch hollow tubes. The resulting holes were used to emplace thermal sensors to study the Moon's thermal properties. The Apollo Lunar Surface Experiment Package included a seismic sensing system developed for acoustic imaging of the regolith, which became the standard for Earth-based exploration in the Texas oil and gas industry.
Space Habitation	NASA Johnson Space Center has built numerous prototypes of surface habitats over the last 50 years. These have been used for design purposes, as well as long duration human studies. Companies like Texas-based ICON have advanced this process using locally collected materials, such as might be done with the lunar regolith, using an additive manufacturing approach.

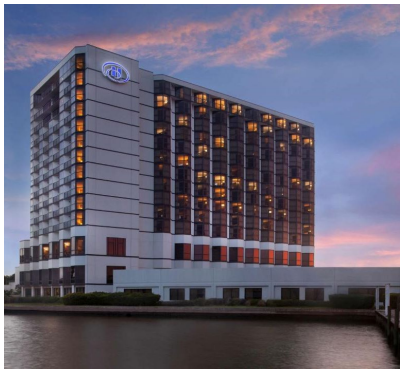
3.1.2 Emerging Technology Participant Input: What are the Future Space Technologies for Texas?

After compiling the above list of emerging technologies where Texas leads today, the workshop then turned to the future. The following table shows the ideas generated by the workshop participants.

TARSEC Workshop **San Antonio** 12-Nov-24	**What are the future Technologies for Texas?**	
	Quantum Encryption ISRU and surface mining Lunar surface construction Space robotics and automation Space nuclear Space farming Machine Learning Cyber security	Cryogenics In-space manufacturing, additive Space materials Space biology, health Lunar surface habitats Space data sciences Space mechanisms vendors Artificial Intelligence Space Medicine

3.2 Space Research Workshop- Houston

The second TARSEC workshop was held in Houston at the Clearlake Hilton. Over 184 attendees participated in sessions that included space research forecasting, government needs, and the ongoing SEARF application process. Speakers included leaders from the Texas Space Commission and subject matter experts from the Houston region.



3.2.1 Space Research Participant Input: What Areas of Space Research are led by Texas Today?

Translational space health research

Texas leads the world in research associated with human health and performance in space. This research work started over 60 years ago at NASA's Johnson Space Center with early concerns for astronaut health during micro gravity and lunar missions. Safety and performance issues were studied for long duration missions on the International Space Station, and Lunar gravity impact on suit function and physiology are being studied for the Artemis program. Local industry and academia are funded by the Human Research Program headquartered at NASA Johnson,

	through funding of the Translational Research Institute for Space Health at the Baylor College of Medicine.
Robotics and Autonomous Systems Research	Texas leads the US in space robotics, having used a team of humans and machines to assemble the International Space Station, operates daily missions on the ISS with robots performing handling tasks on payloads, and flew the first humanoid robot into space. NASA Johnson leads robotics research for the Lunar surface, including human rovers, lander offloading, logistics, and construction. Autonomy for the Gateway spacecraft is also being developed at NASA Johnson, based on decades of software and automation research. The US Space Force has selected Texas A&M to lead their Space Strategic Technical Institute (SSTI) for in-space operations, combining forces with UT El Paso, UT Austin, Prairie View A&M and the Southwest Research Institute (as well as Purdue, USC, UNM, and CMU, out of state). The Texas A&M University Space Institute's Moonscape / Marscape facility, now under construction, will provide the world's best infrastructure for testing surface robotics and automation research.
Space medicine	NASA conducts research on humans during missions to the International Space Station. Experiments on plants and other animals are also flown in space for research purposes by NASA. This work is lead in Texas at NASA Johnson. Sub-orbital flights by Blue Origin have included space medical research objectives, and SpaceX commercial orbital flights have included human research as well. Axiom Space has flown private astronauts to the ISS who have used the station infrastructure to conduct medical research. Texas leads this area of research.
Space communications	Communication for human spaceflight missions has been routed to mission control at NASA Johnson for decades. Commercial companies in Texas like Axiom, AEGIS, Blue Origin and SpaceX now have their own mission control infrastructure. The communication to space is routed to a network of ground station around Earth, or the new constellation of StarLink satellite developed by SpaceX. Research in quantum communication, laser-based communication, software-defined radios has been funded by NASA STMD, with researchers at Texas universities. The main communication market for space is in providing data for use on Earth.
Space cyber security	The US Space Force is proposing a future SSTI to be focused on cyber security research for space missions. Texas has several cyber institutes across the state including academic research teams at Texas A&M, UT El Paso, UT San Antonio, and UT Austin. There is a strong overlap with Air Force requirements and space research would be dual use.
Life support and environmental control	As the home to human spaceflight, NASA Johnson hosts a wide range of test facilities for conducting life support research. This includes pressure-controlled chambers, centrifuges, and longer duration test cells where life control systems can be studied in experiments with human test subjects. This includes habitat scale systems, down to space suit control systems for a single person. The space research is funded by NASA STMD and aligns with many of the US Air Force programs in San Antonio for pilot health and performance. Cockpit pressurization, high-g suits and extreme

	altitude thermal, radiation, and pressure conditions present human physiological risks similar to spaceflight.
Guidance, navigation, and control	There are many pockets of excellence across the country in GNC technologies, but Texas has decades of experience in these subjects in NASA labs, industry and academia. The recent landing on the lunar surface by Intuitive Machines was a GNC feat, including switching to backup systems in late stages of the process. Spacecraft docking research started in the 1960's for the Gemini Program, then was used by the Apollo Program, Skylab program and Shuttle Program. Today, spacecraft rendezvous and dock with the ISS on a regular basis, with robotic cargo vehicles (SpaceX, Northrup, Progress) delivering logistics and scientific payloads multiple times a year. These same approaches are being planned for the Axiom Space Station that will replace the ISS in 2030. Commercial space missions are now investing in refueling, serving and other robotic functions that require close proximity navigation. The US Space Force uses similar proximity operations and invests in GNC research at Texas universities.
Re-entry	Earth Re-entry (and entry to the Mars atmosphere) involves high velocity fluid dynamics resulting in extreme pressure and temperature on a spacecraft's exterior. This space research has a strong overlap with hypersonic research underway in Texas. SpaceX uses a supersonic re-entry of its spacecraft during which it restarts engines and performs deep throttling operations. Hypersonic research underway at Texas A&M has applications to commercial missions, including sub orbital flights by Blue Origin and Venus Aerospace.
Gravity offloading and neutral buoyancy	Texans have pioneered multiple approaches to emulating reduced gravity systems for human and robotic testing. This research over decades has evolved from neutral buoyancy pools, parabolic flights of aircraft, and flat floors that have frictionless motion in a plane. The newest approach developed in Texas includes an overhead robotic system able to lift and carry test subjects with full offload to emulate the zero gravity conditions of orbit. These robotic approaches can also deliver fractional gravity offload to emulate the approximately 1/6 gravity of the Moon.
Space architecture	Space architecture research involves the unique habitation needs of humans in reduce gravity. In orbit the lack of gravity makes conventional cockpit or home layouts obsolete. The pressurized needs for habitation on the moon drive different geometry than terrestrial architecture.
Astronomy and astrophysics	Texas is home to the McDonald Observatory, situated on Mount Locke and Mount Fowlkes in the Davis Mountains of west Texas. The observatory includes the Hobby-Eberly Telescope, an 11meter mirror that is one of the largest in the world and operated by the University of Texas. Astronomy research is underway at multiple universities across Texas (Rice, UT, TAMU, Baylor, Texas Tech) and at not-for-profit institutions like the Southwest Research Institute (San Antonio), and the Lunar and Planetary Institute (Houston).
Space environmental research	Researchers across Texas are studying the effects of radiation on humans and spaceflight equipment. The cyclotron at Texas A&M has been used for decades to test and certify electronics for spacecraft. Planetary

	geologists are studying samples brought back from space and housed for curation at NASA's Johnson Space Center. The research includes studying the effects of lunar dust on mechatronic systems and human tissues.
Space human factors research	Humans come in all shapes and sizes, and so research on how to adapt spacecraft, space suits and other equipment is needed to adapt to people. This space research aligns with commercial automotive and US Air Force, and US Army research also underway in Texas.
Planetary geology	Planetary geology is the study of the solid objects in our solar system, including planets, moons, asteroids, and comets, and how they change over time. It involves investigating the composition, structure, processes, and history of these celestial bodies. This research is underway at several Texas universities, NASA Johnson, and not-for-profit institutes like SwRI and LPI.
Space Propulsion	Texas is a leader in new forms of propulsion for space. There is significant overlap with aircraft propulsion being performed at Lockheed and Venus Aerospace, as well as hypersonic research at Texas A&M. In space, new forms of electric propulsion and quantum propulsion are being studied at universities and by researchers at the Limitless Space Institute.

3.2.2 Space Research Participant Input: What Are Future Areas of Space Research for Texas?

After completing the above list of current research topics where Texas leads today, the workshop turned to look to the future. We asked the audience to help create a list of future research topics for space, and generated the list shown in the following table.

TARSEC Workshop **Houston/Clearlake** 19-Nov-24	**What are future space research topics for Texas?**	
	Data sciences	Space medicine
	Cyber security	Lunar surface mobility
	Lunar materials research	Quantum computing, comm & prop
	Radiation affects	In-space additive manufacturing
	Robotics and automation	Space construction & logistics
	Artificial intelligence / Mach Learning	Semi conductor research in space
	Space agriculture	Pharmacuetical research in space
	Lunar mining and resource extraction	Space materials research
	Space medicine	Space data sciences

4.0 Legislative Recommendations

To strengthen the TSC and TARSEC's combined roles and impact, TARSEC will be submitting legislative recommendations in early 2025.

5.0 Prospective Grants or Funding for Consortium Members

During the current biennium, the Consortium itself secured $750,000 in funding from the Texas Space Commission to support a variety of task orders outlined in the agreements between the two

organizations (See Attachment 2). At this time, no additional immediate funding commitments have been identified from other external sources.

As the Consortium comprises well over 150 members, it is not currently feasible to ascertain which individual institutions may have sought or received separate funding from the TSC or other entities. However, the Consortium is aware of a total of 215 funding-related submissions to the TSC, of which 102 originated from academic institutions. Further evaluation is underway to determine the status and outcomes associated with these submissions.

6.0 Research Accomplishments Associated with TARSEC

None for this reporting period.

7.0 TARSEC Looking Ahead

As we enter 2025, our focus shifts to implementing the frameworks we established, guiding the award research grants towards priorities for Texas, and continuing to enhance Texas's position in the aerospace economy. With a strong foundation and an engaged network of stakeholders, TARSEC is well-positioned to lead the state into a new era of aerospace innovation and economic growth.

In 2025, TARSEC will establish membership procedures that allow TARSEC to proactively recruit additional private sector leaders and partners to diversify perspectives and resources. We will expand our reach through developing partnerships with emerging space companies and startups outside Texas so that we can mutually benefit from the state's infrastructure. Another goal in 2025 is to partner with venture capital firms and angel investors specifically for early-stage aerospace innovations to encourage entrepreneurial activity and new technology development in Texas.

In addition to the areas identified in the workshops, TARSEC recommends Texas focus on the following areas:

- Supporting and bringing more civil aerospace work to Texas, including continuing to fund the International Space Station through NASA, as it is the resource that enables the commercial space economy in low earth orbit to develop with a focus on Texas companies.
- Attract United States Space Force and other Department of Defense work and locations within the state.
- Develop infrastructure or "heat map" of facilities, resources, and supply chain information for the state to help identify strengths, gaps and needs.
- Consider state and federal policy initiatives in support of commercial space sector.
- Grow international activities to attract foreign companies to Texas and provide opportunities for Texas companies abroad.

Together, we are driving Texas forward as the undeniable leader in the aerospace industry.