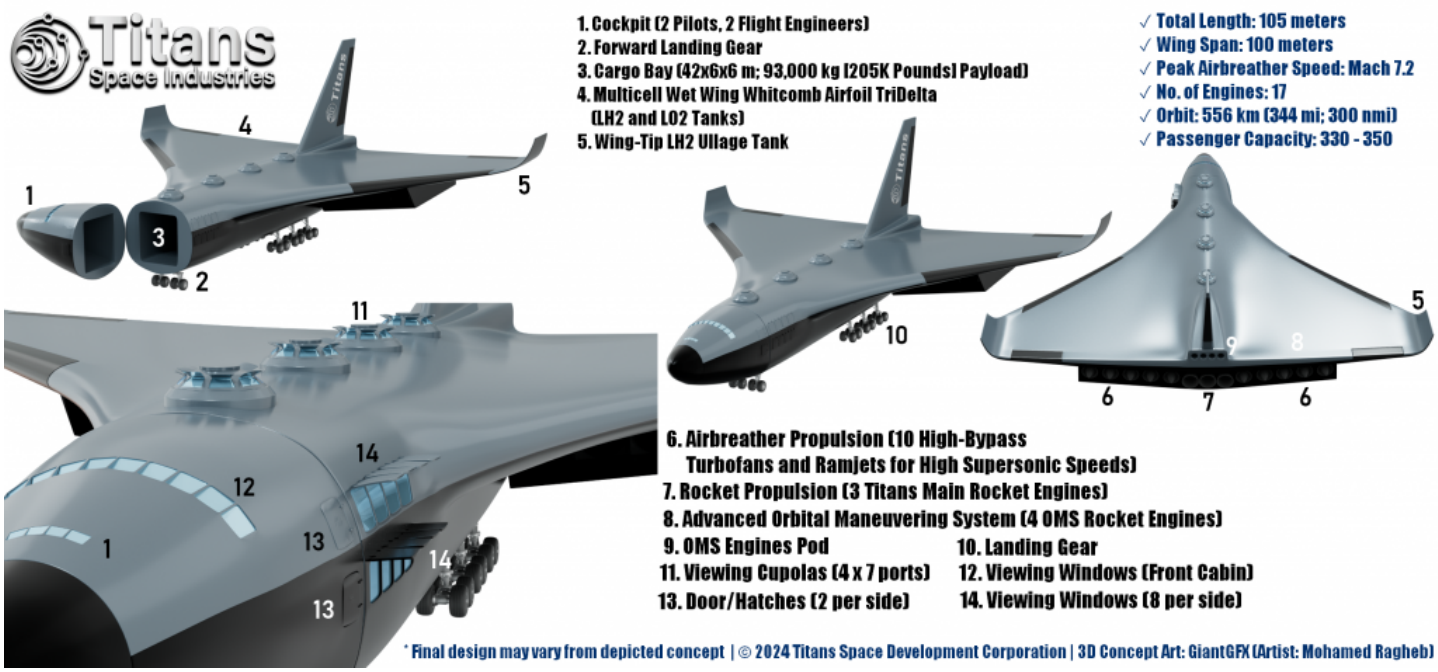
University of Oklahoma’s Hypersonic Spaceplane Capstone Project Sponsored by Titans Space Industries

- Senior Aerospace Engineering Students at University of Oklahoma Will Study Aerodynamic Behavior of the Titans Spaceplane at Low and Subsonic Speeds.



Oklahoma City, Oklahoma Sep 14, 2024 (Issuewire.com**)** - Titans Space Industries (TSI) is proud to announce its sponsorship of the University of Oklahoma’s School of Aerospace & Mechanical Engineering capstone project titled, “Low Speed and Subsonic Characteristics of a Hypersonic Spaceplane.” This collaboration marks a significant step in Titans Space's commitment to fostering innovation and education within the aerospace industry.

The capstone project, conducted by senior aerospace engineering students at OU, will explore the aerodynamic characteristics of a **revolutionary rapidly reusable hypersonic spaceplane**, the Titans Spaceplane, specifically focusing on low-speed and subsonic conditions.

The findings from this research will contribute directly to the development of Titans Space's cutting-edge spaceplane, an advanced vehicle inspired by the 1970s Rockwell Star-Raker concept, but enhanced with modern engineering, technologies, and materials. During OU's assessment and screening process, Titans Space provided original Star-Raker studies and reports authored by Rockwell engineers in the 1970s. Titans Space benefits from 50 years of advancements in aerospace technologies, engineering, and materials.

Some of the most important specs about the Titans Spaceplanes are:

- At 105 meters long, the Titans Spaceplane will be the largest winged vehicle to fly.
- At 330-person capacity, the Titans Spaceplane will be the largest space travel vehicle, ever - capable of orbital and sub-orbital flights, starting at $25,000 per person.
- The Titans Spaceplane is the 4th largest rocket-powered vehicle after the Starship, Saturn V,

and N-1, and - It will be the 2nd-largest space transport vehicle in operation after Starship.
- At ~100 metric ton payload capacity, it will have the 2nd-largest payload vehicle in operation after Starship.
- With its ten turbofans, the Titans Spaceplane will have a dry thrust of ~750,000-850,000 lbs at takeoff.
- It will be the first airplane to use turbofan engines at speeds up to Mach 3 and use the first LOX/H2 rocket engines developing over 1 million lbs thrust each.
- The intended thrust in pure rocket mode is 3 million pounds from three Titans' Main Rocket Engines.

For a comparison of the Titans Spaceplane vs Sierra Space's Dream Chaser and SpaceX's Starship, please visit this link.

Titans Space's Chief Technology Officer, Franklin Ratliff, and CEO and Chief of Spacecraft Design, Neal S. Lachman, will lead Titans Space's involvement in the project, bringing their extensive experience and visionary outlook to guide the students in their research.

Srikanth Bashetty, Ph.D., Assistant Professor, School of Aerospace and Mechanical Engineering, Gallogly College of Engineering, The University of Oklahoma, stated: "As the Aerospace Engineering Capstone Coordinator at the University of Oklahoma, I am excited to partner with Titans Space for our aerospace capstone project. Their sponsorship will offer our students valuable experience and opportunities to innovate and excel. We eagerly anticipate the advancements and solutions our students will develop with the support of Titans Space."

Neal S. Lachman, CEO of Titans Space Industries, commented: "We are thrilled to support the next generation of aerospace engineers at the University of Oklahoma. This capstone project aligns perfectly with our vision for the future of space travel. The work being done here will not only advance the development of our spaceplanes but also push the boundaries of what is possible in aerospace engineering. At Titans Space, we believe that spaceplanes and spaceships, not vertically launched rockets, are the key to unlocking a large-scale space economy in the near future."

Neal S. Lachman, who founded a commercial satellite broadband company in 1999, brings decades of experience in space technology entrepreneurship to the company.

TSI established the **Titans Space Development Corporation in Oklahoma** on August 1, 2024. Titans Space will announce numerous projects and initiatives in the coming weeks and months, signaling the start of its developments in the United States.

Franklin Ratliff, Chief Technology Officer of Titans Space Industries, added: "This collaboration with OU represents a unique opportunity for both Titans Space Industries and the students who will be involved. We are excited to see how their fresh perspectives can influence the design and capabilities of our spaceplanes. This partnership is a critical step in our journey to create multi-purpose spaceplanes capable of everything from satellite launches and space tourism to military applications and disaster relief missions."

Franklin Ratliff is a seasoned aerospace and aerodynamics expert with more than 40 years of experience. His expertise in aerospace engineering has been instrumental in the development of TSI's spaceplanes, ensuring they are at the forefront of innovation and performance.

The Titans' spaceplanes are engineered for versatility, capable of adapting their payload bays for a

variety of missions. They can be configured for military (transport and cargo drop) point-to-point operations, large-scale cargo transport (e.g. disaster relief), and satellite and spacecraft launches.

The spaceplanes will be fitted with modular passenger cabins for large-scale space tourism operations.

The spaceplanes will offer unique space experiences, ranging from a suborbital return flight around the Earth (called EarthLoop), where passengers can enjoy an hour of weightlessness, for $125,000 per person, to an extended two-and-a-half-day ultra-luxurious orbital adventure for $10 million per person. Due to the nature of the Titans Spaceplane flights, all passengers become official astronauts.

*The accompanying images showcase the 3D concept art of Titans Space's **Genisis spaceplane**, a versatile spacecraft intended for space tourism, manufacturing, and research.*

Dr. Chris Shove, Chief Strategy Officer of Titans Space Industries, who arranged the collaboration with OU, said: “The partnership with OU is a natural extension of our strategic goals. By working closely with the University’s faculty and students, we are ensuring that the future of space travel is shaped by some of the brightest minds in the field. Our recent visits to Oklahoma and discussions with local officials have only reinforced our belief that this region is poised to become a hub for aerospace innovation.”

Dr. Chris Shove, formerly a tenured associate professor at the University of Oklahoma, has deep ties to the academic community. His experience in both academia and the aerospace industry has been key in forging partnerships like this one, bridging the gap between theoretical research and practical application.

Doug Kohl, Chief Operating Officer of Titans Space Industries, stated: “We’re excited about what this partnership means for both Titans Space and the future of aerospace. Oklahoma is proving to be an invaluable partner in our mission to develop the most advanced spaceplanes in the industry. The insights gained from this capstone project will be instrumental in refining our designs and ensuring that our vehicles are not only groundbreaking but also reliable and safe for a wide range of missions.”

Doug Kohl previously served as a program manager for a leading aerospace firm and as an operations engineer for NASA's Space Shuttle program and Blue Origin.

Eric Kolte, Chief Development Officer of Titans Space Industries, added: “This collaboration is a testament to our commitment to innovation and education. By working with the bright minds at OU, we will be able to merge academic research with real-world applications. It’s collaborations like these that will drive the future of space exploration and make space more accessible to everyone.”

Eric Kolte is a senior aerospace executive and spacecraft operations expert with extensive experience in managing large-scale aerospace projects.

The collaboration between TSI and OU is a significant milestone in Titans Space's mission to redefine space travel and explore the full potential of spaceplanes as the future of aerospace transportation.

About Titans Space Industries

TSI, a division of Titans Universe, comprises a vast portfolio of incredible, revolutionary space infrastructure that will allow safe and efficient end-to-end space transportation, including spaceplanes, spaceships, and space stations for space tourism, commercial, and industrial purposes, as well as for

research, governments, and military usage.

For more information on Titans Space Industries and the Titans Spaceplane project, please visit TitansSpace.com.

About the University of Oklahoma's School of Aerospace & Mechanical Engineering capstone program

The AME Capstone Program is an essential component of an AME undergraduate education. This semester-long project takes students out of the classroom and places them in a student team tasked with designing a product for a real client. Students must take knowledge acquired during the previous three-and-a-half years and apply it in a real-world setting while improving crucial skills for the workforce such as teamwork, data interpretation, communication, problem-solving, ethical decision-making, and timely project completion, all within budget.

For more information, please visit this link.

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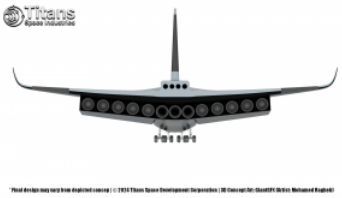
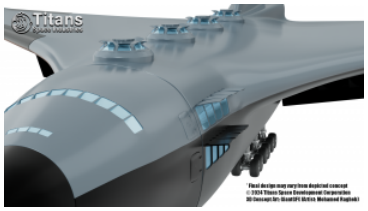

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