

Member Spotlight

Aegis Aerospace

Aegis Aerospace is a pioneer of Space Testing as a Service (STaaS™). STaaS enables Aegis' customers to completely focus on their science and technology, while the company provides turn-key services for arranging and successfully completing the customer's desired space-based test program or experiment. This includes integrating the customer's flight hardware or experiment in one of the Aegis' test platforms, flight certifying the experiment hardware, coordinating the launch, and performing the space operations and data collection necessary to make the mission a success. In some cases, customers also ask Aegis to assist with the design and development of their flight articles. Commercial space testing services are currently available for low Earth orbit (LEO) using Aegis' Multi-purpose ISS Experiment (MISSE) platform, and for the lunar surface using its Regolith Adherence Characterization (RAC) platform as well as its lunar surface Space Science Test and Evaluation Facility (SSTEF).

STaaS is the primary line of business for Aegis' Commercial Space Services organization, which is led by Mark Shumbera. Mark has been in the space business for over 20 years. He started with Lockheed at NASA's Johnson Space Center (JSC) in 1987 and has seen the industry change dramatically with lunar exploration starting again and the commercial space sector going strong. After working as an integration and safety engineer at Lockheed, Mark progressed through several management positions at MEI Technologies, a company focused on government services contracting, spaceflight services, as well as spaceflight hardware design, development, test and evaluation. In 2006, MEI Technologies spun off a startup biotech company that Mark led as President until its sale in 2019, when he transitioned into the commercial space market as the director of business development for Alpha Space Test and Research Alliance. Alpha Space focused on providing external orbital testing for customers using the MISSE platform that the company designed and built.

In August of 2021, Alpha Space and MEI Technologies merged and became Aegis Aerospace. Both companies were owned by Stephanie Murphy, who remains the owner of Aegis. This brought together the commercial space capabilities of Alpha Space and the robust spaceflight experiment integration expertise as well as the engineering design, development, test and evaluation (DDT&E) capabilities MEI provides to NASA and the DoD. With the rich legacies that both entities bring to Aegis Aerospace, the company is well positioned for the future with a combined capacity for both supporting government programs while also providing commercial space services. Its goal is to provide turn-key commercial space services, spaceflight product development, and engineering services for civil and commercial space, as well as the defense industry. To date, Aegis Aerospace has flown 135 space missions, including 35 free flying satellites and 606 payloads. They're nearing three million payload operations hours, and have 72 payloads and experiments in orbit at this very moment.

"Almost anyone who has any kind of material, sensor, experiment or new technology that they want to test or use to study the Moon is a potential customer for our Space Testing as a Service using either our RAC or SSTEF platform," shared Shumbera. RAC is focused on enabling our customers to study the interaction of regolith with their material samples. The first RAC has 15 new material samples from NASA, academia and commercial entities and will be turned over within weeks for

flight on the CLPS 19D mission. The RAC platform will gather and downlink data on the interaction of regolith with the customer-provided material samples. SSTEf is more capable than RAC with power, commanding and data downlink available for customer-provided hardware. Its primary focus is on technology demonstrations and active experimentation on the lunar surface. The first SSTEf, which is already fully booked with seven experiments is nearing its critical design review (CDR). SSTEf's customer-provided experiments include new solar cell technologies and a new protective coating for them, a video processing unit, an RF antenna and additively manufactured materials. Shumbera stated "Aegis commercially purchased from Intuitive Machines the transit and landing on the Moon for the first SSTEf mission in 2025 using funding from a NASA Tipping Point solicitation award. Additional commercial missions are in work, so anyone in the LSIC community who is interested in being included on RAC or SSTEf for one of our future lunar surface missions should contact Aegis".

Aegis Aerospace engages with LSIC to stay involved in the community, and to keep abreast of the needs of the community to help to extend lunar exploration and eventually develop habitats. While Shumbera and the whole Aegis Aerospace team respect the unknowns (and they acknowledge that there are many) about the Moon and its harsh environments, they're dedicated to providing commercial access and reliable services cost effectively. They are excited that there's finally a clear path back to lunar exploration, and that the plan is for humans to stay. "We're planning to continue our work and commercially help to enable NASA, our customers, and our nation build on exploration to accomplish something tangible on the lunar surface. It's exciting to be at the very start of something that will be permanently on the Moon," shared Shumbera.

For more information about Aegis Aerospace, visit their website here: <https://aegisaero.com/>