Shackleton Energy Company Signs MOA to Utilize the International Space Station For Development and Testing of New Payload Retrieval System

Lunar mining company signs Memorandum of Agreement to develop a new class of reentry vehicles to enable rapid return of time-critical experiments from Low Earth Orbit back to Earth, paving the way for Shackleton’s aerobraking systems that will enable transport of water from the Moon to propellant depots in Low Earth Orbit.

Austin, TX (PRWEB) February 27, 2015 -- On 19 February 2015, the Center for the Advancement of Science in Space (CASIS) signed a Memorandum of Agreement (MOA) with Shackleton Energy Company (SEC) to design, develop and test in space a variety of new, highly capable reentry vehicles enabling on-demand, rapid return to Earth of time-critical experiments from Low Earth Orbit (LEO). CASIS was tasked by NASA in 2011 to manage the U.S. National Laboratory on the ISS.

SEC’s re-entry vehicles (technically described as Mini Space Brakes—MSBs) will be developed using novel aerobraking and flight dynamics control systems. The SEC team will leverage US federal technology investments and work closely with CASIS, NASA Centers, FAA, DoD and private partners to achieve its goals. With this MOA, CASIS intends to support SEC with facilitation of payload integration activities, launch to ISS and deployment of MSBs from the station to test these miniaturized, highly intelligent, deployable maneuvering reentry vehicles (RV) for the purposes of providing real flight data to guide optimization of a compact, lightweight, low cost commercial on-demand reentry capability.

Once ready, MSBs will be used to create a new commercial package delivery service from space to Earth. This service will enable researchers to quickly, and gently return small samples and components from the ISS within hours after release from the station. SEC plans to work with scientists whose time critical experiments require immediate retrieval upon landing or experiments that cannot wait for routine capsule return. The commercial product line of MSBs will be called “Oryx” for a unique exotic, agile, fast moving antelope species living in remote places of the world.

Developing Oryx for use in LEO applications is about small payload recovery, and the ISS provides the optimal platform for carrying out the initial demonstration of this emerging technology and commercial capability. Over time, as confidence and capability grow, SEC will ramp up to much larger downmass systems. Eventually, this technology will enable SEC to demonstrate on-demand recovery of SEC crewmembers from space either for contingencies or special operations. These larger, much more capable orbital lifeboats—called Assured Crew Return Vehicles (ACRVs)—will become the lifeblood of SEC commercial propellant depot operations in space and provide support to other participating spacefarers who do not have readily available means of on-demand return to Earth. MSB technology will also be a critical enabler to pave the way for very large aerobraking systems that will be required to economically fly water in SEC’s tankers from the Moon to SEC’s fuel depots in LEO.

Commenting on the announcement, Dale Tietz, CEO of SEC said:

“This is a brand new capability that Shackleton Energy brings to the table in partnership with CASIS and NASA. Now we can expand ISS utility even further by allowing time critical payloads to be returned to Earth within hours by the push of a button. The benefits are enormous and we believe developments such as this are sorely needed and contribute to the beginnings of a new wave of space utilization for all humanity. When MSB
testing is complete we will inaugurate a new FEDEX-like business capability of benefit to all space customers, wherein CASIS primed the pump for the new venture.”

Dr. Peter Lee, SEC Chief Medical Officer and Flight Surgeon, said:

“Having been involved as a Principal Investigator with several ISS medical experiments, I understand the need for scientists to get their experiments back to Earth as quickly as possible. When in service, Shackleton Energy’s Oryx-class vehicles will provide unique mission capability. I am very encouraged we can provide NASA and the science community just what they need at very attractive prices and availability.”

Dr. Jeff Hoffman (MIT), former NASA Hubble repair astronaut and SEC Advisor for Human Space Operations, said:

“Quick payload return from space is the missing ingredient for new science, security and commercial applications only now being considered for implementation. Shackleton Energy intends to offer these services to all peaceful nations from any source in space, including planets and asteroids. ISS is a marvelous testbed to wring out the technology and operations with human assistance on orbit. This is a fantastic opportunity for a public–private partnership that will not only advance space technology but will also advance the ability of government and private organizations to conduct operations together. What makes this even more exciting for me is that this reentry technology is scalable to larger robotic and even human dimensions. What a ride that would be!”

Aaron Kemmer, CEO of Made In Space, Inc., said:

“As potential future customers of Shackleton Energy’s Oryx return vehicles, this opens up a new world of possibilities for our 3D printer technologies on ISS. The rapid delivery service back to Earth will be a complementary component of our on-station manufacturing capabilities. Made In Space, Inc. looks forward to working with Shackleton Energy.”

About

Shackleton Energy Company (SEC)

Shackleton Energy was established to address the very specific challenge of providing more affordable access to and more affordable operations in space for everyone—and do it privately using low cost lunar-derived fuel sold in space. Today, space missions are very expensive because they have to lift from Earth not only the payloads, but also the additional fuel and tankage for in-space operations. With fuel depots, Shackleton Energy will significantly reduce that burden on tomorrow’s spacefarers. The company’s success will enable opening the space frontier to multitudes of new missions and opportunities, thereby improving life here on Earth and beyond. For more information visit www.shackletonenergy.com.

Center for the Advancement of Science in Space (CASIS)

The Center for the Advancement of Science in Space (CASIS) was selected by NASA in July 2011 to
maximize use of the International Space Station (ISS) U.S. National Laboratory through 2020. CASIS is dedicated to supporting and accelerating innovations and new discoveries that will enhance the health and wellbeing of people and our planet. For more information, visit www.iss-casis.org.

About the ISS National Laboratory

In 2005, Congress designated the U.S. portion of the International Space Station as the nation's newest national laboratory to maximize its use for improving life on Earth, promoting collaboration among diverse users, and advancing STEM education. This unique laboratory environment is available for use by other U.S. government agencies and by academic and private institutions, providing access to the permanent microgravity setting, vantage point in low Earth orbit, and varied environments of space. For more information visit: http://www.nasa.gov/mission_pages/station.
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