

Overview of the OrbitBeyond Z-01 Lunar Lander Mission

Jon Morse, Chief Science Officer, OrbitBeyond
jon.morse@orbitbeyond.com

OrbitBeyond is planning to touch down its Z-01 lander on the lunar surface in Q3 2020 as part of NASA's Commercial Lunar Payload Services (CLPS) program. The Z-01 lander has ~40 kgs of payload capacity and will carry a suite of payloads that includes several NASA instruments to characterize the lunar regolith and radiation environment, along with a retroreflector. Among the non-NASA payloads is a small (<10 kg) rover built by Ceres Robotics that will travel tens to hundreds of meters from the lander during the one lunar-day mission. The landing site is currently baselined to be near Annegrit crater, north of Mons Le Hire, in the vast lava plains of Mare Imbrium. Aspects of the landing site and planned surface operations will be reviewed. Finally, we summarize the OrbitBeyond strategy for subsequent lunar missions having order-of-magnitude larger payload capacities, precision landing capabilities and enhanced mobility to explore polar regions for resources and to conduct lunar science.