

IAF HUMAN SPACEFLIGHT SYMPOSIUM (B3)
Commercial Human Spaceflight Programs (2)

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SPACESHIP TWO: A SUBORBITAL VEHICLE FOR HUMAN SPACEFLIGHT AND MICROGRAVITY
RESEARCH**Abstract**

Virgin Galactic, a privately funded company based in the United States, is on-track to become the world's first commercial space-line. Virgin Galactic is currently testing SpaceShipTwo, a reusable vehicle designed to reach space altitudes on frequent, affordable, and safe suborbital voyages.

Virgin Galactic's vehicles have been designed with the intention of setting new standards for human spaceflight safety, frequency, flexibility, and cost. Galactic's suborbital spaceflight system consists of two vehicles: WhiteKnightTwo is a four-engine, dual-fuselage jet aircraft capable of high-altitude heavy lift missions, including but not limited to fulfilling its role as a mothership for SpaceShipTwo, a suborbital spaceplane designed to safely and routinely transport people and payloads to space and back. SpaceShipTwo will fly operational flights out of Spaceport America in New Mexico, USA, and can be utilized as a platform for tourism, science, technology development, and education by a variety of commercial and government customers.

Virgin Galactic's current vehicle, named VSS Unity, is undergoing flight test at our facilities in Mojave, CA, USA. Unity made its maiden flight to space on December 13, 2018 reaching almost three times the speed of sound and an apogee of 82.7 km. The flight was piloted by Mark "Forger" Stucky and Frederick "CJ" Sturkow who received their FAA Commercial Astronaut wings in Washington D.C. after the flight. CJ, as a four-time Space Shuttle pilot, became the only person to have been awarded NASA and FAA wings. On February 22, 2019 Unity reached space for a second time reaching speeds of Mach 3.04 and an apogee of almost 90 km. This flight carried three people into space - pilots Dave Mackay and Michael "Sooch" Masucci, and Galactic's chief astronaut trainer Beth Moses. Beth is the 571st person to fly to space and the first woman to fly on board a commercial spaceship.

This presentation will provide a status update on the flight test program as well as a technical overview of SpaceShipTwo.