

Suborbital Flight Testing with NASA Flight Opportunities

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Value of Suborbital Flight Testing

- Exposure to relevant environment (break thru TRL4 barrier)
 - Microgravity & martian/lunar gravity
 - Exo-atmospheric re-entry and high altitude drop
 - High altitude loiter, thermal/radiation exposure
 - Entry, Descent & Landing (EDL)
- Actual flight heritage
 - Helps identify new potential investors and customers
- What we look for: Lunar, commercial LEO & suborbital
 - Over 650 payload test opportunities since 2011
- Flight providers
 - Blue Origin, BlackSky Aerospace, Masten Space, Near Space Corporation, Raven Aerostar, UP Aerospace, Virgin Galactic, World View, Zero Gravity Corporation



June 2013: Early testing of 3D Printing in Space
Made In Space, Inc.

Exploring New Opportunities

FO will consider opportunities to invest/partner with SBIR-developed technologies that have NASA mission interest and can be advanced through a test opportunity in a relevant suborbital environment.

- SBIR Phase II-E
 - FO as External investor, matched by SBIR (P2-E: min \$25k and max \$375k).
- SBIR CCRPP
 - FO as External investor, matched by SBIR (CCRPP: min \$500k and max \$1M).
- SBIR Phase III
 - Flexible, also allowed for Phase I awards. No SBIR match.
- Tech Flights
 - Stand alone annual solicitation by Flight Opportunities (targeted Q1 CY2020)
 - 2019 issue: Max \$500k for topic 1 (Lunar), max \$300k for topic 2 (LEO/suborbital)



May 2018: PlanetVac sample return technology tested on Masten lander
Honeybee Robotics

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