

Top 5 in NASA's 3D-Printed Habitat Competition revealed

NASA has announced the top winning projects for NASA's 3D-Printed Habitat Competition, which seeks to create habitable structures on the surface of Mars. NASA, in collaboration with Bradley University of Peoria, Illinois, has selected the five teams to share a \$100,000 prize in this latest stage of the competition.



Winner: Team Zopherus of Rogers, Arkansas, is the first-place winner in NASA's 3D-Printed Habitat Challenge, Phase 3: Level 1 competition.

Winning teams successfully created digital representations of the physical and functional characteristics of a house on Mars using specialised software tools. The teams earned prize money based on scores assigned by a panel of subject matter experts from NASA, academia and industry.

The judges interviewed and evaluated submissions from 18 teams from all over the world and selected the following teams:

1. Team Zopherus of Rogers, Arkansas - \$20,957.95
2. AI. SpaceFactory of New York - \$20,957.24
3. Kahn-Yates of Jackson, Mississippi - \$20,622.74
4. SEArch+/Apis Cor of New York - \$19,580.97
5. Northwestern University of Evanston, Illinois - \$17,881.10



Winner: Team AI. SpaceFactory of New York is the second-place winner in NASA's 3D-Printed Habitat Challenge, Phase 3: Level 1 competition.

The competition started in 2014 and is structured in phases. Phase 1 of the Design Competition required teams to submit architectural renderings and was completed in 2015. Phase 2, the Structural Member Competition, focused on material technologies, requiring teams to create structural components. It was completed in 2017 with \$1.1m prize purse.

Phase 3 (current), the On-Site Habitat Competition, challenges competitors to fabricate sub-scale habitats, and has five levels of competition – three construction levels and two virtual levels. For the virtual levels, teams must use building information modeling software to design a habitat that combines allowances for both the structure and systems it must contain.

The construction levels challenge the teams to autonomously 3D-print elements of the habitat, culminating with a one-third-scale printed habitat for the final level (\$2m prize purse).



Team Kahn-Yates of Jackson, Mississippi, is the third-place winner in NASA's 3D-Printed Habitat Challenge, Phase 3: Level 1 competition.

"We are thrilled to see the success of this diverse group of teams that have approached this competition in their own unique styles," said Monsi Roman, programme manager for NASA's Centennial Challenges.

"They are not just designing structures, they are designing habitats that will allow our space explorers to live and work on other planets. We are excited to see their designs come to life as the competition moves forward."

"As NASA advances deep space exploration, reliable life-supporting habitats will be essential. But creating a structure on the surface of Mars is an extraordinary challenge considering the extensive limits on transporting materials and the differences in atmosphere and landscape," stated NASA in its press release.



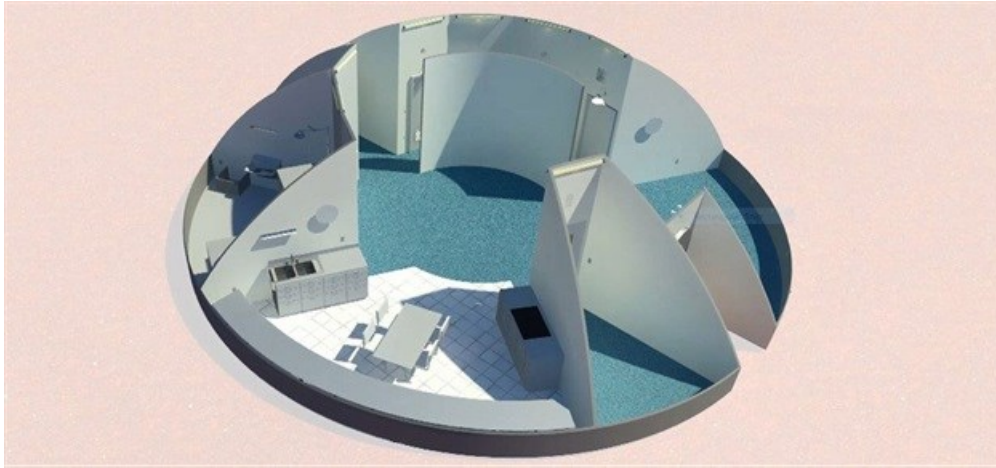
Winner: Team SEArch+/Apis Cor of New York is the fourth-place winner in NASA's 3D-Printed Habitat Challenge, Phase 3: Level 1 competition.

The 3D-Printed Habitat Challenge aims to further the progression of sustainable shelters that will someday occupy the Moon, Mars or beyond by pushing citizen inventors to develop new technologies capable of additively manufacturing a habitat using indigenous resources with, or without, recyclable materials.

"We are encouraging a wide range of people to come up with innovative designs for how they envision a habitat on Mars," said Lex Akers, dean of the Caterpillar College of Engineering and Technology at Bradley University, NASA's partner in this challenge.

"The virtual levels allow teams from high schools, universities and businesses that might not have access to large 3D

printers to still be a part of the competition because they can team up with those who do have access to such machinery for the final level of the competition."



Winner: Team Northwestern University of Evanston, Illinois, is the fifth-place winner in NASA's 3D-Printed Habitat Challenge, Phase 3: Level 1 competition.

The 3D-Printed Habitat Challenge is developed through a partnership with NASA's Centennial Challenges programme and Bradley University. Bradley has partnered with sponsors Caterpillar, Bechteland Brick & Mortar Ventures to administer the competition. NASA's Centennial Challenges program is part of the agency's Space Technology Mission Directorate, and is managed at NASA's Marshall Space Flight Center in Huntsville, Alabama.

Foster+Partners, in collaboration with Branch Technology, won the first prize in the NASA 3D-Printed Habitat Challenge's Phase 2: Level 1 Compression Test Competition, organised by NASA and Bradley University.

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