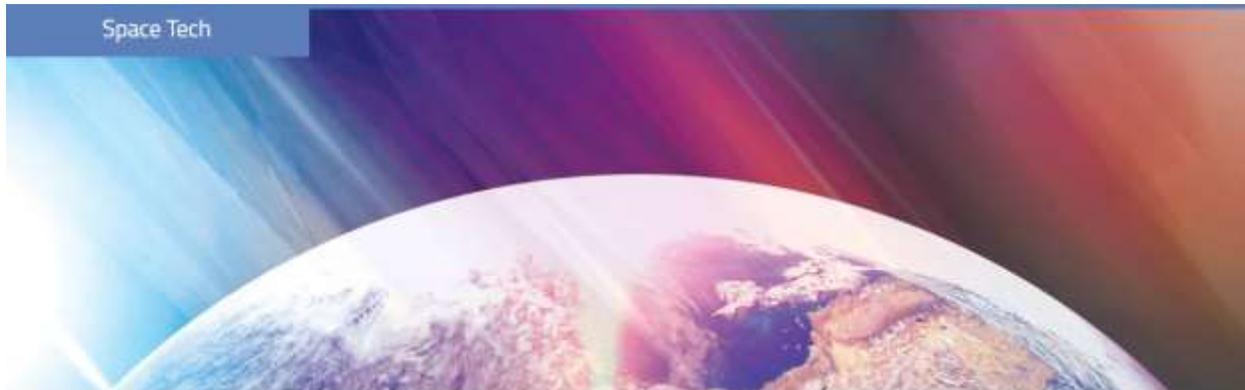




September 18, 2018

New Dominion's Inorganic Additive for Lithium Battery Electrolytes Selected as One of the Top 25 National Semi-Finals in the NASA iTech Competition, Cycle III



Sept. 18, 2018

NASA iTech Semifinalists Rethink Terrestrial Technologies for Space

https://www.nasa.gov/directorates/spacetech/itech/Top_25_Semifinalists_for_Innovative_Space_Tech_Ideas_2018 in the "X-factor" category: "You have something—you know you do—something so cool something so revolutionary that we didn't even know to ask for it, "but NASA has got to know!" If that's your response, and your innovation doesn't fit with another Cycle III category, this is the category for you!"

Embargoed until Sept. 18, 2018 at 4:00PM ET

NASA iTech Semifinalists Rethink Terrestrial Technologies for Space

Artificial intelligence, nanotechnology and 3D printing are just a few of the technology threads pitched during the third cycle of the [NASA iTech](#) competition. With an eye on how these promising ideas could benefit space exploration, NASA has selected 25 competition semifinalists.

An initiative by NASA's [Space Technology Mission Directorate](#) (STMD), iTech aims to find innovative ideas that have the potential to overcome critical technology hurdles facing future exploration of the Moon and Mars, even though many were originally meant to solve important problems here on Earth.

These game-changing ideas may come from small or large businesses, academia and other government organizations, giving participants a unique opportunity to present their solutions to NASA.

"NASA iTech is a one of a kind agency activity," said Kira Blackwell, the NASA iTech program executive for STMD. "We encourage innovators and startups to consider dual use technologies with terrestrial and space-based applications. We are excited that the winners from our 'Shark Tank' style [Ignite the Night](#) events in Denver and Houston are part of the top 25 semifinalists, whose applications demonstrate the greatest technical viability, likely impact on space exploration and potential for commercialization."

In July, NASA iTech issued a [call for ideas](#) within five space exploration focus areas: Big Data and Data Mining, Artificial Intelligence and Autonomous Robotic Capabilities, Revolutionary Concepts for Communications, Medical Breakthroughs, and X-Factor innovations.

The top 25 2018 NASA iTech Cycle III semifinalists (in alphabetical order) are:

- 1. ActivArmor LLC** – Pueblo, Colorado
A 3D printed waterproof, breathable and hygienic alternative to traditional plaster casts and splints that allows for increased customization.
- 2. Analytical Space** – Cambridge, Massachusetts
Data relay network solution to dramatically expand the utilization of Earth observation technology and provide satellites with more opportunities to downlink data.
- 3. Apptronik, Inc.** – Austin, Texas
Versatile human-like robotic platform capable of performing a variety of critical tasks for future crewed and uncrewed exploration missions.
- 4. Aptage** – Austin, Texas

A novel approach to project management that enables measuring and updating project uncertainty to quantitatively represent the risk of missing cost and schedule targets.

- 5. Artimus Robotics** – Boulder, Colorado (*Winner of the NASA iTech Ignite the Night event in Denver*)
Robots and machines made with artificial muscles that utilize a unique materials system to create simple, lightweight and cost-effective electromechanical actuators.
- 6. Cemvita Factory, Inc.** – Houston
Bionic plant module that mimics the complete photosynthesis process and offers onsite, in-situ manufacturing of essential life support elements.
- 7. Cognitive Space** – Manvel, Texas
A software framework that can be maintained, improved, diagnosed and reconfigured easily to allow for autonomous satellite operations.
- 8. Danish Aerospace Company North America** – Houston (*Winner of the NASA iTech Ignite the Night event in Houston*)
A water purification technology that removes biological and chemical activity using a passive membrane.
- 9. DataMi, LLC** – Denver
Analytic techniques to automate and predict large data sets.
- 10. Delfin** – Houston
A virtual advisor built from natural language processing algorithms.
- 11. Devali, Inc.** – Cedar Park, Texas
Biometric analysis socks with user interfaces to track, monitor and study various body measurements.
- 12. Exostretch - University of Houston** – Houston
Flexible and stretchable lithium ion batteries.
- 13. International Game Technology PLC** – Reno, Nevada
A rover that can reconfigure using artificial intelligence software and onboard 3D printing.
- 14. Ion Power Group, LLC** – Navarre, Florida
Nanotechnology capable of producing clean, high-voltage electricity during the day and night.
- 15. Lazarus 3D** – Houston
Space medicine training and research models made with 3D printed materials.

- 16. Matroid, Inc.** – Palo Alto, California
Computer vision software product focused on detecting faces and objects in video and image libraries.
- 17. New Dominion Enterprises, Inc.** – San Antonio, Texas
Safer and longer lasting lithium ion batteries that resist heat-related power loss.
- 18. NSEP Technology, Inc. (NTI)** – Alexandria, Virginia
Nano-structured propellants capable of enabling superior launch systems.
- 19. Olympus Advanced Technologies, LLC** – Erie, Pennsylvania
A precise frequency control and timing solution for small satellites to advance payloads, subsystems and mission operations.
- 20. One Milo, Inc.** – Miami
Compact devices that enable rapid diagnostic testing – using samples of blood, urine or saliva – and wirelessly send results to a smartphone application.
- 21. PharmaJet, Inc.** – Golden, Colorado
A portable and handheld needle-free injection technology.
- 22. Spectrabotics LLC** – Colorado Springs, Colorado
An artificial intelligence toolset for spectral image processing.
- 23. SUNY University at Buffalo** – Buffalo, New York
An advanced manufacturing process to create a silica-carbon aerogel with a smaller pore size, enhanced durability and increased infrared radiation absorption.
- 24. The Matrixx Power Suit Company, LLC** – Astoria, New York
An exercise training suit designed to improve physical performance in the areas of strength, speed, endurance, rehabilitation, weight loss and general health maintenance.
- 25. Tinman Kinetics** – Littleton, Colorado
Semantic language technology that could be used to address the psychological challenges and complexities of distance, time and isolation in space.

A panel of subject-matter experts from NASA will further review the top 25 Cycle III semifinalist selections based on their relevance, likelihood of success and potential positive impact on space exploration and life on Earth.

The top 10 finalists for Cycle III will be announced no earlier than Oct. 1, 2018. These 10 finalists will be invited to present their ideas to NASA leadership, space industry leaders and potential investors at the NASA iTech Cycle III Forum to be held in Hartford, Connecticut, on Oct. 25-26, 2018.

For information about the NASA iTech initiative, visit:

<https://www.nasa.gov/directorates/spacetech/itech>

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