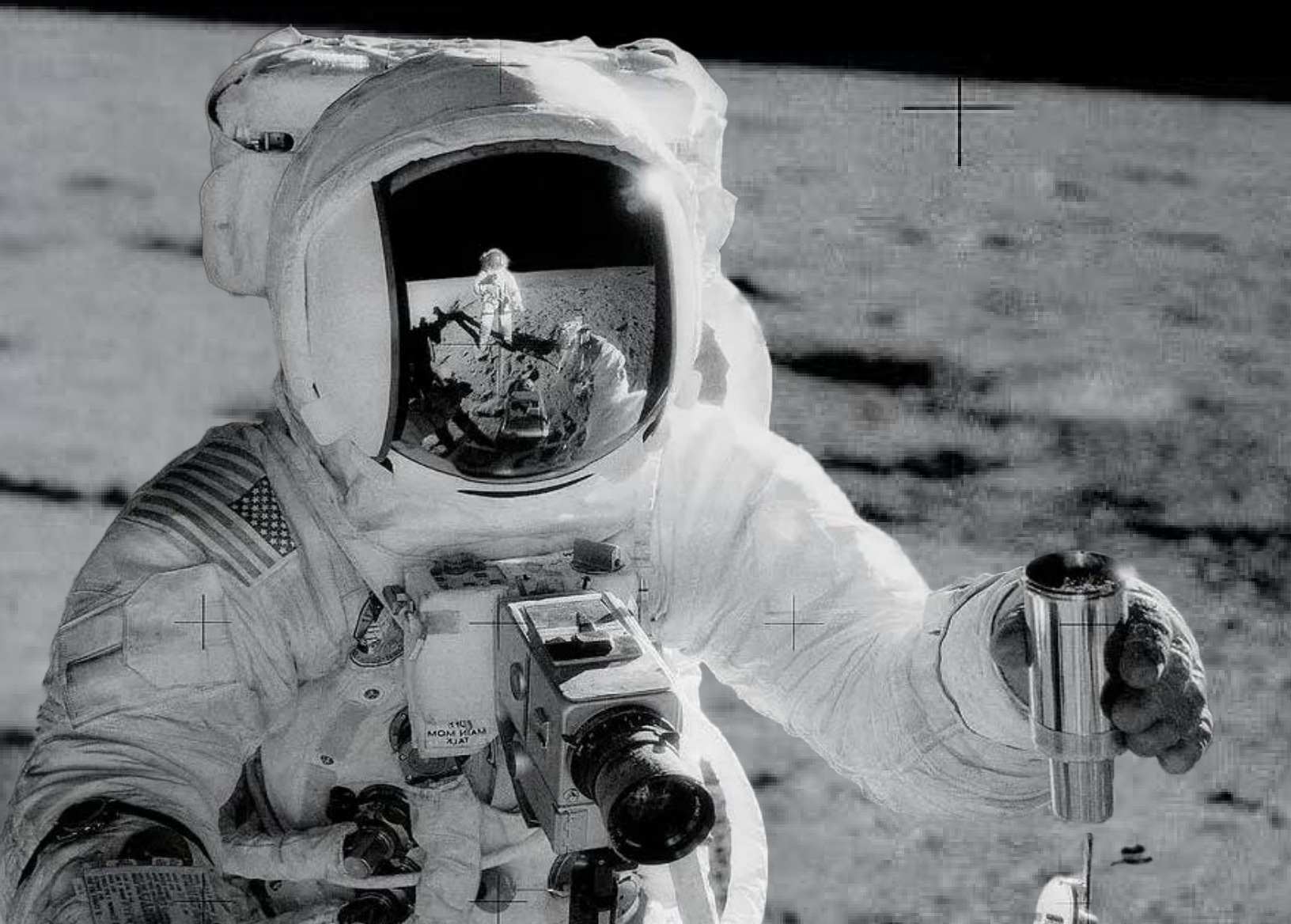
National Aeronautics and Space Administration

SPINOFF 2026

50th Anniversary



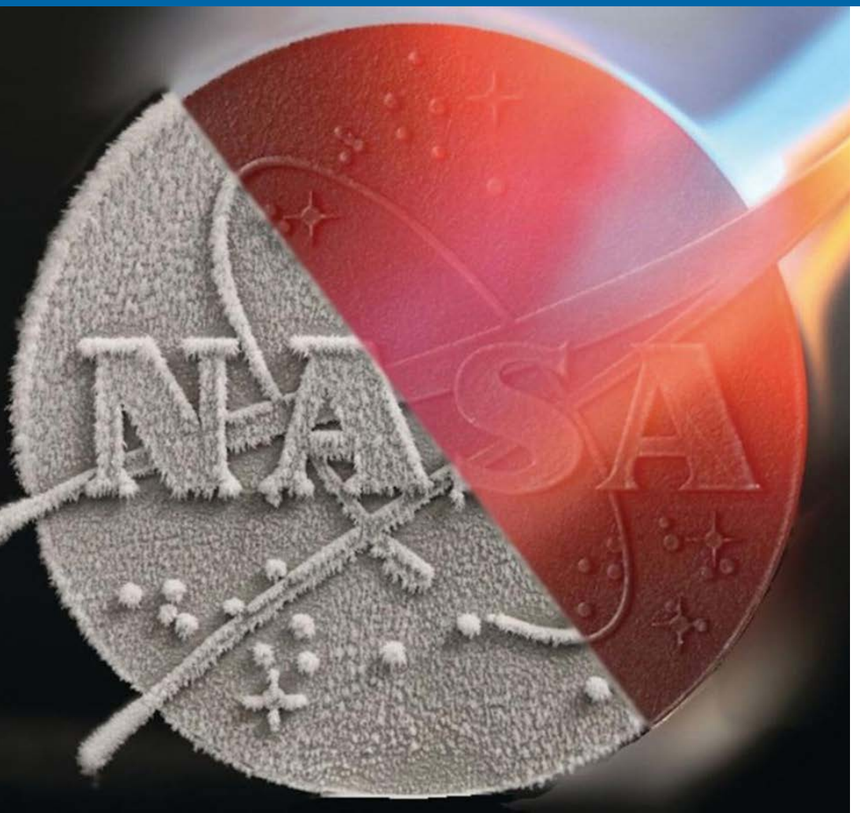
SPINOFF 2026

On the Cover

Astronaut Alan Bean holds an environmental sample container filled with lunar soil during the Apollo 12 mission of November 1969. Astronaut Charles Conrad Jr., who took this picture, is reflected in Bean's helmet visor. Credit: NASA

3D Printable Alloy Can Take the Heat

A NASA-developed metallic alloy fills a big materials gap for printed parts



GRX-810, a new alloy developed by Glenn Research Center, will make lightweight, durable metal parts needed for space travel. Under a co-exclusive license for NASA's patented alloy, Elementum 3D of Erie, Colorado, is making it available for commercial space, aviation, and other industries on Earth.

Feeding People Through Disasters

NASA satellite data helps build maps for first responders, including chefs and other food support

Washington-based World Central Kitchen uses data from satellites in low Earth orbit to build maps supporting staff and volunteers distributing food and water in disaster areas. The nonprofit gets the data through NASA's Earth Observing System, which has its Project Science Office at Goddard Space Flight Center.

Filtering Out Risk

Environmental stewardship for businesses begins with NASA data

The World Wide Fund for Nature, whose U.S. headquarters is in Washington, D.C., uses Earth-observation data managed by Goddard Space Flight Center in its Risk Filter Suite. The platform informs businesses' understanding of the natural resources they require and tracks risks to those resources.

Extraterrestial Medical Diagnostics

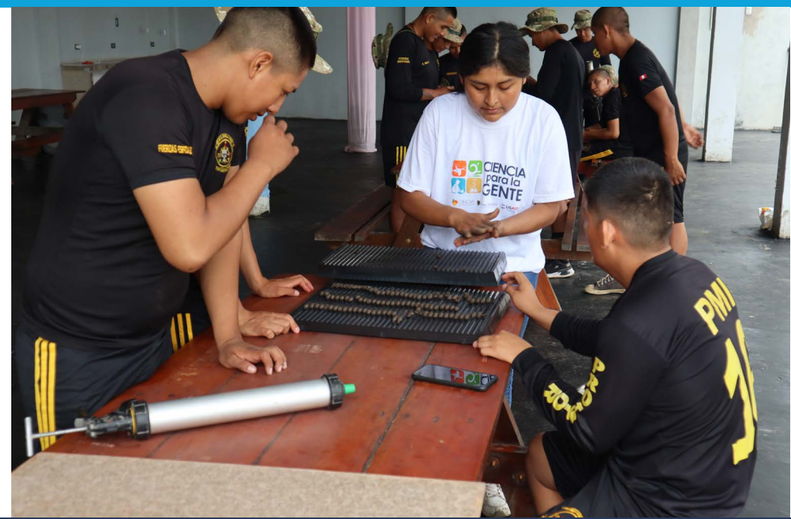
Miniature laboratory technology tested by NASA returns fast blood test results

A portable device made by Boston-based 1Drop Diagnostics US can test a single drop of blood for numerous medical conditions. Glenn Research Center prepared the technology for testing on the International Space Station, and it now supports medical research on Earth.

Drone Company Makes It Rain Forests

Flying Forests cofounder builds on NASA science and technology experience

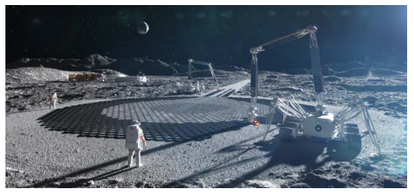
At Ames Research Center, Lauren Fletcher learned about building hardware around plant and animal biology. Later, he applied those lessons to create seedball-launching drones that are helping to reforest the planet, including at his latest company, Flying Forests of Reno, Nevada.



Mission: Home

Texas community is 3D printed like a Martian habitat

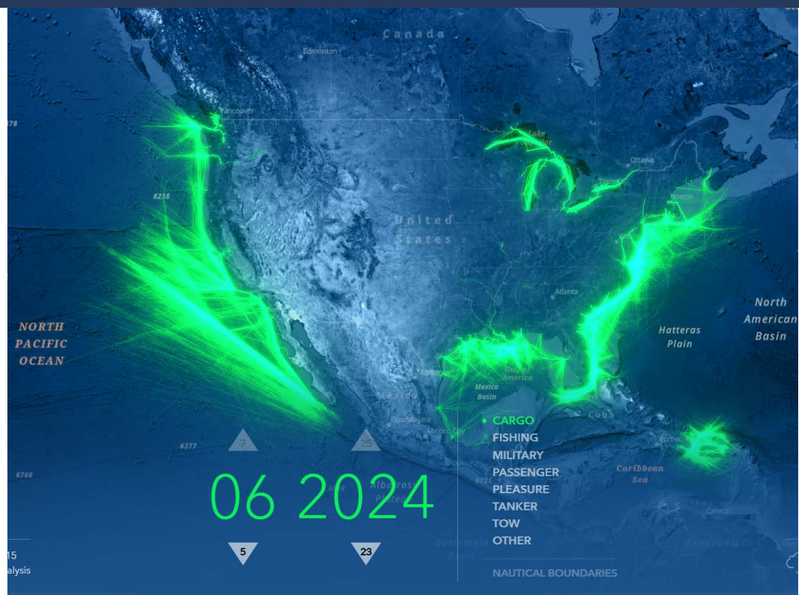
After 3D printing a model Martian habitat at Johnson Space Center, ICON built a 100-home community outside of Austin, Texas, where the company is headquartered.



Mapping a World of Data

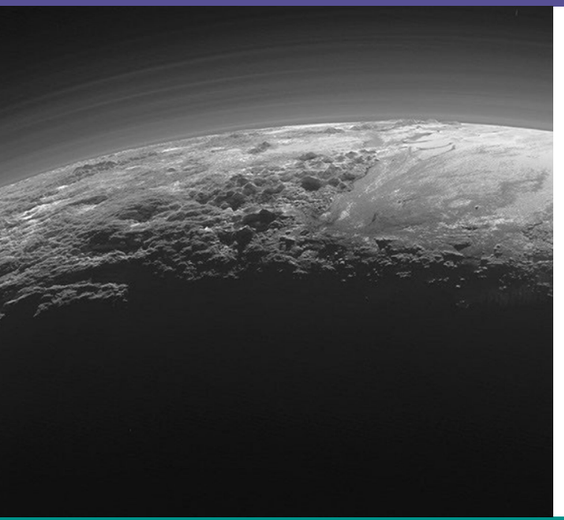
Easy access to NASA data helps businesses and individuals

Esri's Living Atlas offers a bird's-eye view of Earth by combining free Earth-observation data from Goddard Space Flight Center with other resources. Continual updates by the Redlands, California-based company feed into apps that monitor everything from air quality and wildfires to hurricanes and shipping traffic.



From Pluto to Farms and Pharmaceuticals

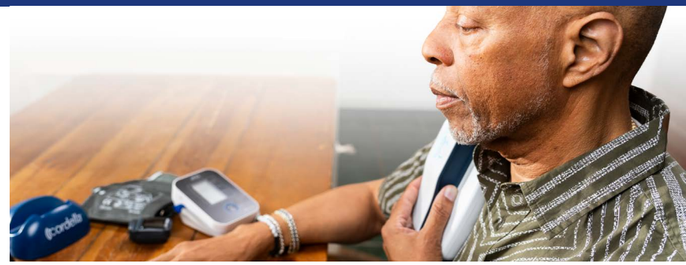
Water-finding filter for dwarf planet helps out on Earth



A filter technology used in numerous NASA spectrometers, including the one Goddard Space Flight Center built for the Pluto-exploring New Horizons probe, is at the heart of Chandler, Arizona-based VIAVI Solutions' MicroNIR, a handheld spectrometer that analyzes materials and ingredients on Earth.

NASA Invention Goes Straight to the Heart

Pulmonary artery pressure sensor helps avert heart failure, keep patients out of hospital



Two engineers at Glenn Research Center developed a tiny, implantable transmitter and handheld reader. Endotronix of Naperville, Illinois, now part of Edwards Lifesciences, licensed the patent and used it to develop a heart monitor that warns heart failure patients of an impending crisis.

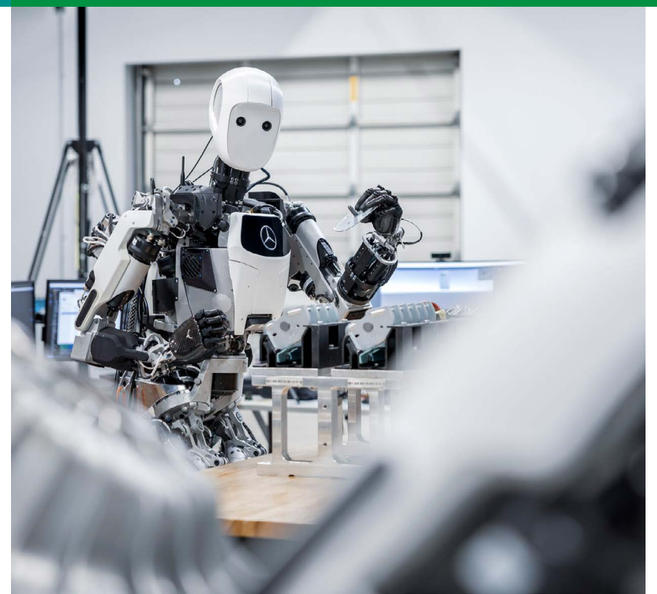
Saving Lives at Sea and on Land

Emergency rescue thanks to satellite-based locator beacon

Satellites carrying Search and Rescue Satellite-Aided Tracking technology act as the link between emergency beacons and worldwide search and rescue teams. ACR Electronics of Fort Lauderdale, Florida, manufactures locator beacons according to specifications developed in part by Goddard Space Flight Center, contributing to more than 63,000 rescues.

Humanoid Robots Assist Assembly Lines

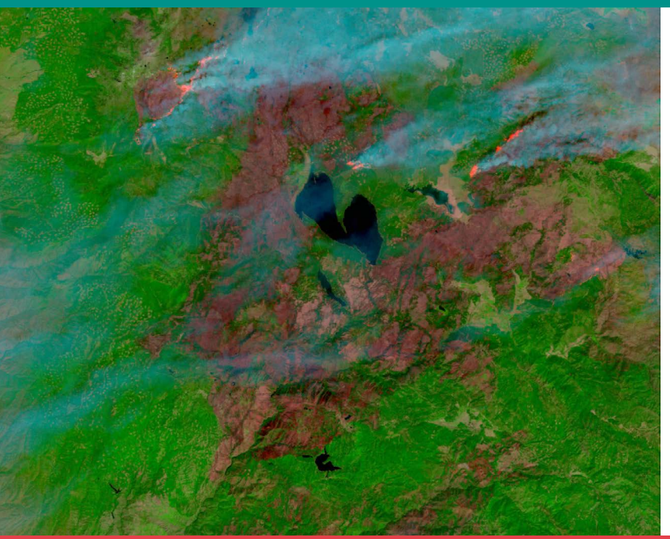
Apollo robots work in environments designed for people — on Earth and in space



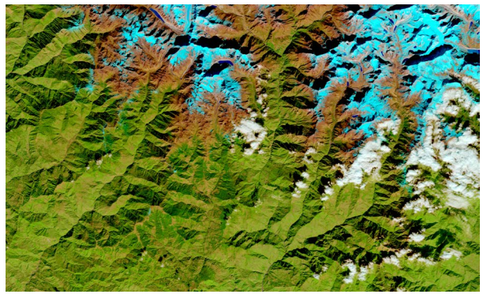
A humanoid robot from Austin, Texas-based Apptronik is the result of numerous collaborations with Johnson Space Center, including SBIR contracts. The Apollo robot is currently working in factories on Earth.

Planet in a Program

Joint effort yields open-source artificial intelligence foundation models of the entire planet



Engineers at Ames Research Center and IBM, headquartered in Armonk, New York, worked together to build artificially intelligent foundation models of the planet based on Earth-imaging and weather data, creating living digital models of the globe that can be trained for countless applications.



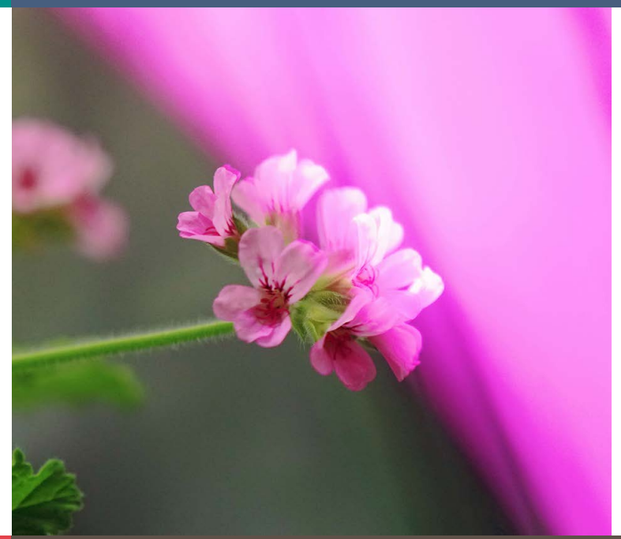
Keeping Cool, Containing Flame

New fire-retardant insulation enhances battery safety and more

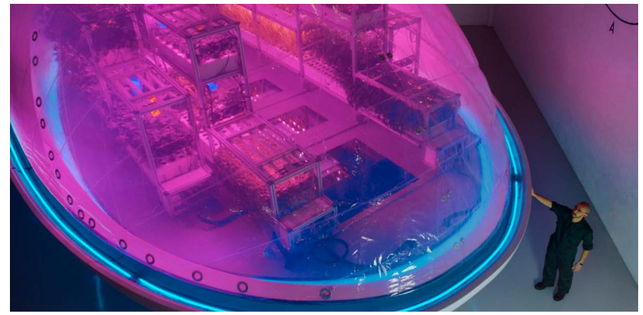
Funding from the Astronaut Scholarship Foundation helped launch the Oros outdoor clothing line that incorporates aerogel insulation. Lessons about aerogel created by Kennedy Space Center led to a new non-toxic, fire-retardant formula. Now Portland, Oregon-based Solarcore has spun off from Oros to offer industry an ultra-thin insulation.

Lunar Gardening Device Grows Health, Beauty Ingredients

Cosmetics industry leaders turn to planting system designed for space



Barbara Belvisi founded Interstellar Lab, whose U.S. office is in Merritt Island, Florida, while consulting with experts at Ames Research Center. Her early designs became the Earth-based BioPod for precision agriculture, before going on to inform NuCLEUS, in-space farming tech that won NASA's Deep Space Food Challenge.



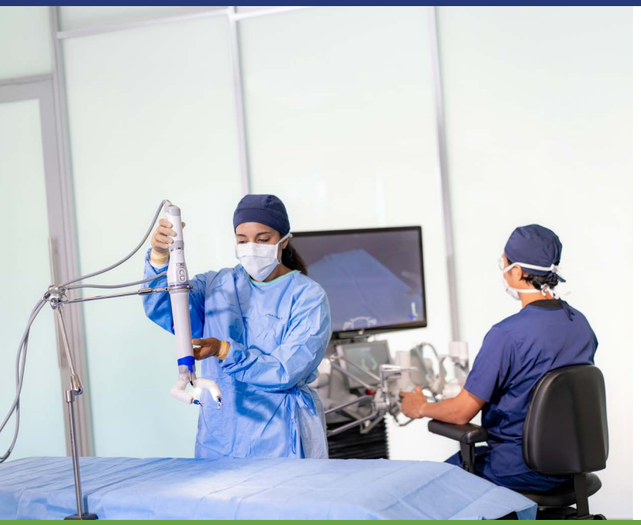
Lunar Lattices and Their Earthly Impact

Novel 3D printing process enables lightweight structures in space and on Earth

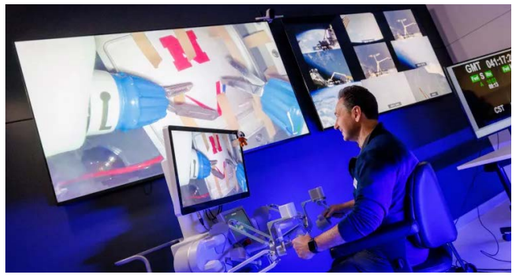
Winning a 3D Printed Habitat Challenge at Marshall Space Flight Center and outfitting a model lunar habitat have helped Chattanooga, Tennessee-based Branch Technology evolve its signature Freeform 3D Printing technique, which it uses to manufacture custom terrestrial products, including wall panels and cladding.

Robots in the Operating Room

Small, minimally invasive, portable surgical robot developed with NASA support



Virtual Incision of Lincoln, Nebraska, used funding from Johnson Space Center to develop a mini surgical robot that's now authorized for colectomies. A version of the device designed for space successfully performed a demonstration on the International Space Station.



A Better Seat for the Seated

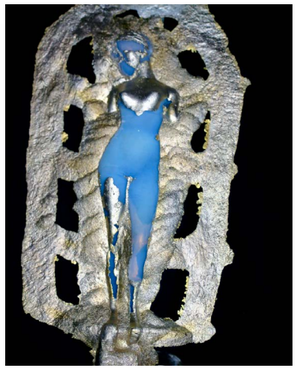
Experience meeting NASA requirements helped design innovative wheelchair cushion

Kalogon was founded in Melbourne, Florida, by a former NASA contractor, who used experience working on the Commercial Crew Program based at Kennedy Space Center to design a wheelchair seat that helps prevent blood clots and deep vein thrombosis.

Aerogel Art Attracts Attention

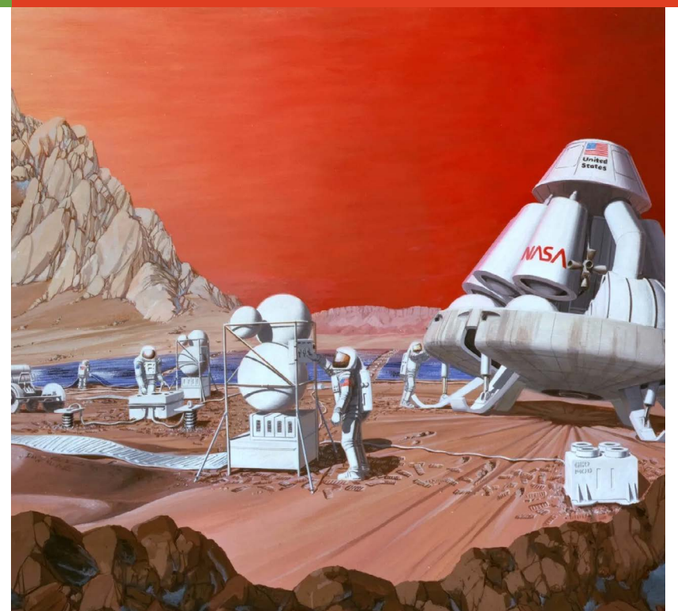
Comet-catching NASA technology enables exotic works of art

Lessons learned during visits to an aerogel lab at the Jet Propulsion Laboratory helped Ioannis Michaloudis of Limassol, Cyprus, build a career as an aerogel artist. The material is difficult to work with but has many unusual and striking qualities.



Machines from Mars Make Beer Bubbly

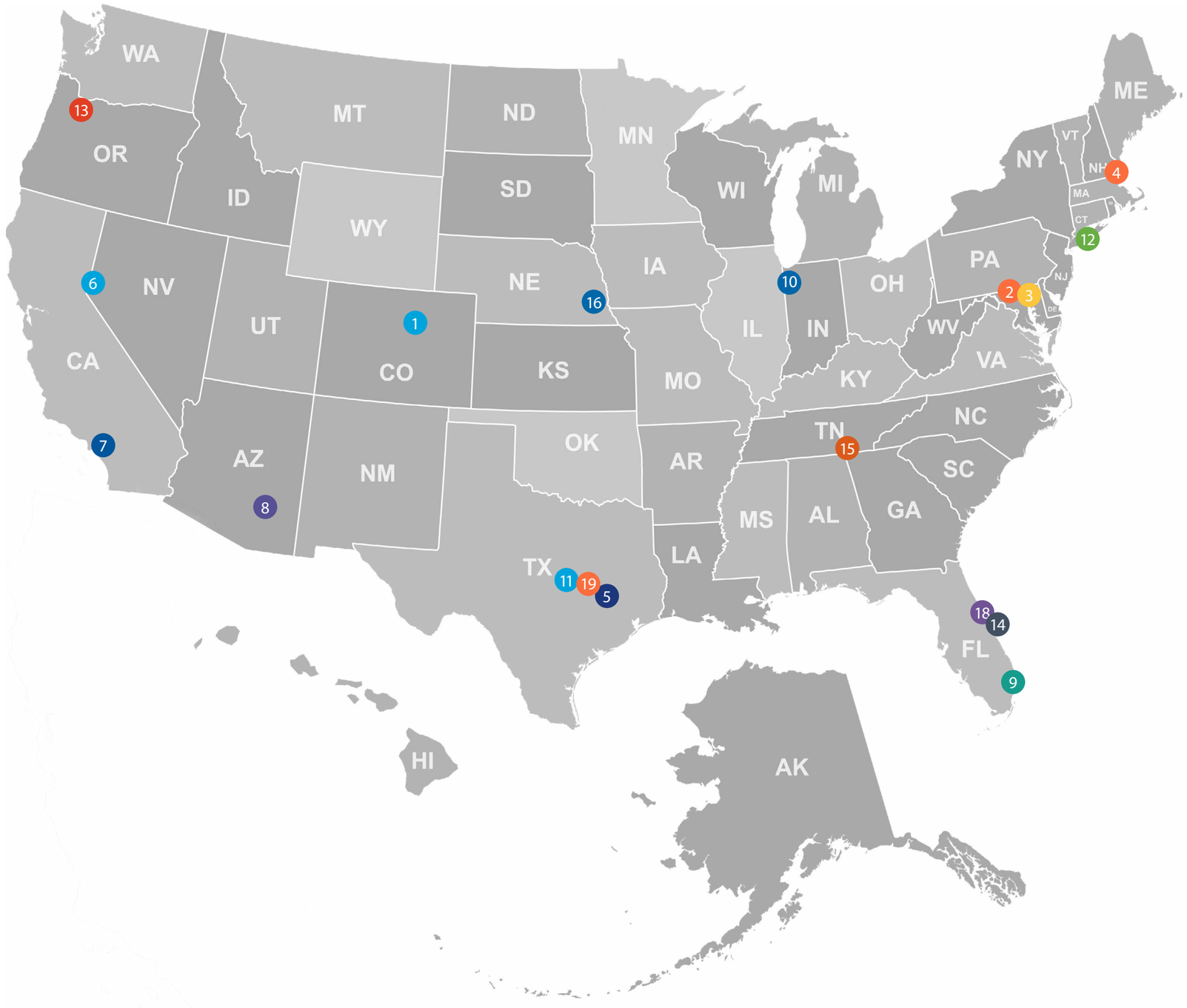
Carbon-capture technology repurposed for breweries spreads and finds new applications



Earthly Labs of Austin, Texas, now part of Chart Industries, built small-scale carbon-capture technology based on a license from Pioneer Energy. Pioneer had developed the technology based on work the company's founder did for Johnson Space Center to enable the separation and combination of elements on Mars.

NASA SPACE TECH WHERE YOU LIVE

	Article/NASA Center	Company, Location
1	3D Printable Alloy Can Take the Heat	
	Glenn Research Center	Elementum 3D, Erie, CO
2	Feeding People Through Disasters	
	Goddard Space Flight Center	World Central Kitchen, Washington, DC
3	Filtering Out Risk	
	Goddard Space Flight Center	World Wide Fund for Nature, Washington, DC
4	Extraterrestrial Medical Diagnostics	
	Glenn Research Center	1Drop Diagnostics US, Boston, MA
5	Mission: Home	
	Johnson Space Center	ICON Technology, Austin, TX
6	Drone Company Makes It Rain Forests	
	Ames Research Center	Flying Forests, Reno, NV
7	Mapping a World of Data	
	Goddard Space Flight Center	Esri, Redlands, CA
8	From Pluto to Farms and Pharmaceuticals	
	Goddard Space Flight Center	VIAVI Solutions, Chandler, AZ
9	Saving Lives at Sea and on Land	
	Goddard Space Flight Center	ACR Electronics, Fort Lauderdale, FL
10	NASA Invention Goes Straight to the Heart	
	Glenn Research Center	Endotronix, Naperville, IL
11	Humanoid Robots Assist Assembly Lines	
	Johnson Space Center	Apptronik, Austin, TX
12	Planet in a Program	
	Marshall Space Flight Center	IBM, Armonk, NY
13	Keeping Cool, Containing Flame	
	Kennedy Space Center	Solarcore, Portland, OR
14	Lunar Gardening Device Grows Health, Beauty Ingredients	
	Ames Research Center	Merritt Island, FL
15	Lunar Lattices and Their Earthly Impact	
	Marshall Space Flight Center	Chattanooga, TN
16	Robots in the Operating Room	
	Johnson Space Center	Virtual Incision, Lincoln, NE
17	Aerogel Art Attracts Attention	
	Jet Propulsion Laboratory	Ioannis Michaloudis, Limassol, Cyprus
18	A Better Seat for the Seated	
	Kennedy Space Center	Kalogon, Melbourne, FL
19	Machines from Mars Make Beer Bubbly	
	Johnson Space Center	Earthly Labs, Austin, TX



Spinoffs of Tomorrow

When a company, academic institution, nonprofit, or individual has a technology problem, NASA might just have the solution in the agency's patent portfolio. The Technology Transfer staff helps anyone consider which of the 1,300-plus patented technologies might be exactly what they're looking for.

Here are two examples that are ready to find a new home on Earth.

To learn more about the technologies in this section or any others — and get started licensing — contact Agency-Patent-Licensing@mail.nasa.gov.

Signal Combiner for Wireless Communication

A frequency multiplexer combined with an analog-to-digital converter increases efficiency

This efficient way of combining primary and secondary signals with minimal loss and noise delivers the best opportunity to receive a desired signal that's not easily distinguished from background noise. While this new technology forms part of a radio for satellite ground stations, it is also poised to be an important piece in telecommunications devices, including cellphones, Wi-Fi, hot spots, satellites, and future wireless technologies.

Water Decontamination

Safely eliminate bacteria growing in drinking water systems

Biofilms can clog or interfere with water system functions, and bacterial ingestion can be harmful to human health. This microwave-based technology developed to purify contaminated water on the International Space Station eliminates bacteria that grow inside systems. It can be used for technology that generates drinking water and in equipment utilizing cooling loops and heat exchangers. It also removes bacterial contamination on a variety of surfaces.

Will the next spinoff be yours?

Our technology is ready for you at technology.nasa.gov

Our portfolio includes:

- More than 1,300 patented technologies
- Hundreds of innovations now in the public domain
- More than 1,200 software codes

Whether you're looking to start a new company using NASA technology, enhance an existing product, or create a new product line, you can gain a competitive edge in the marketplace by putting NASA technology to work for you.

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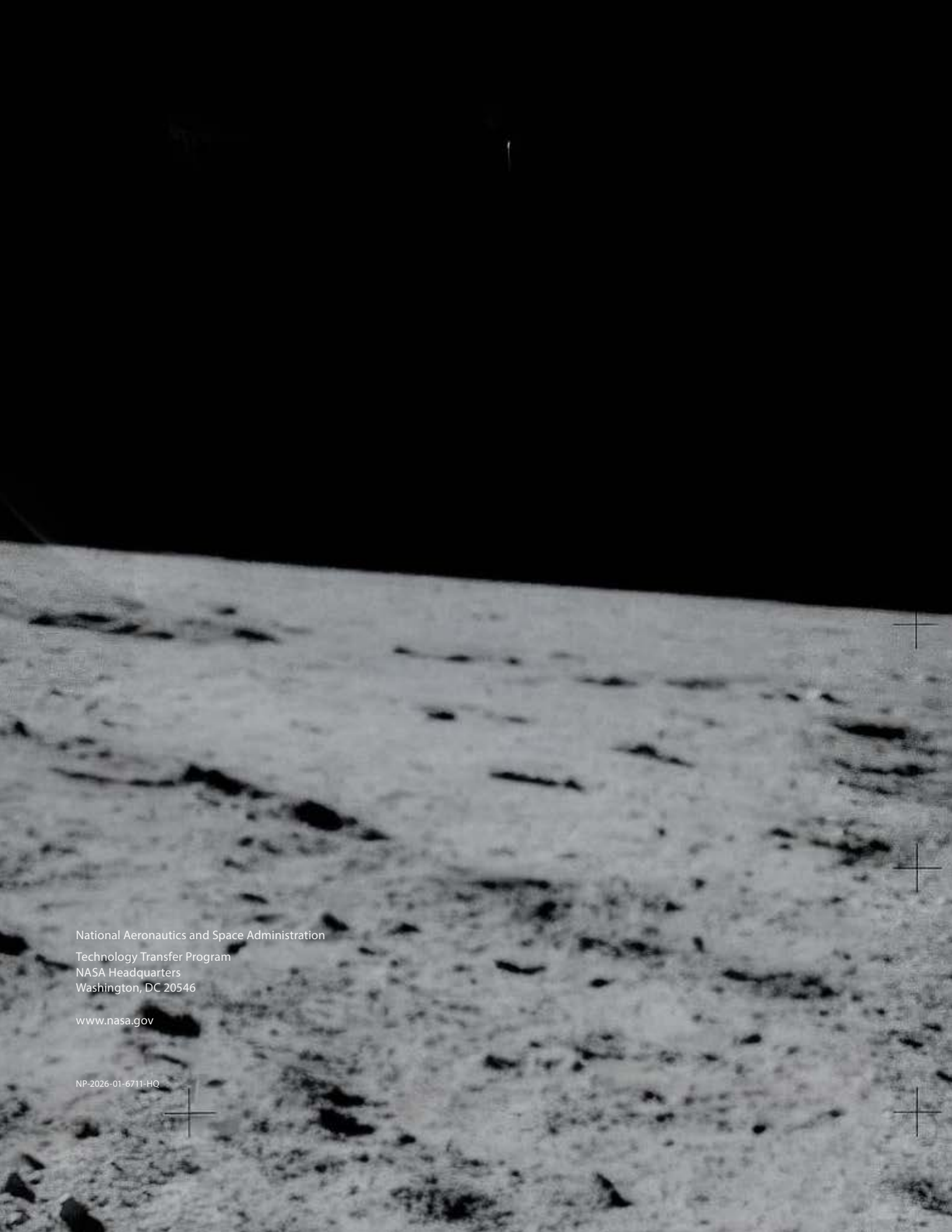
Sensors

NASA **TECHNOLOGY TRANSFER** PROGRAM

BRINGING NASA TECHNOLOGY DOWN TO EARTH



National Aeronautics and Space Administration

Technology Transfer Program
NASA Headquarters
Washington, DC 20546

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