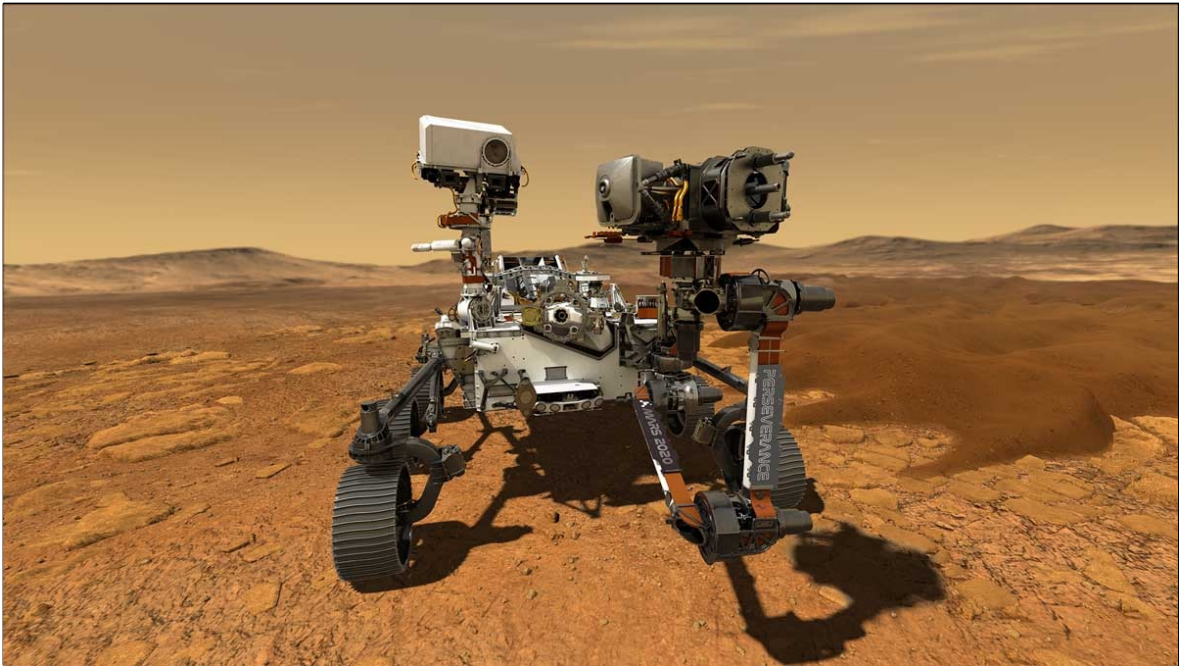
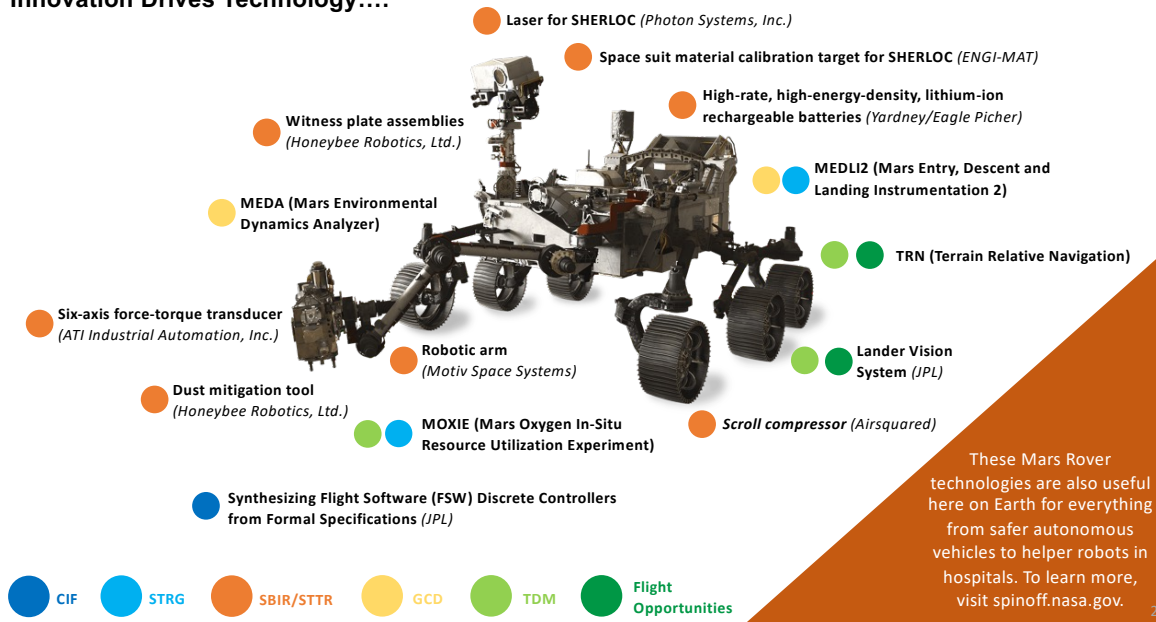
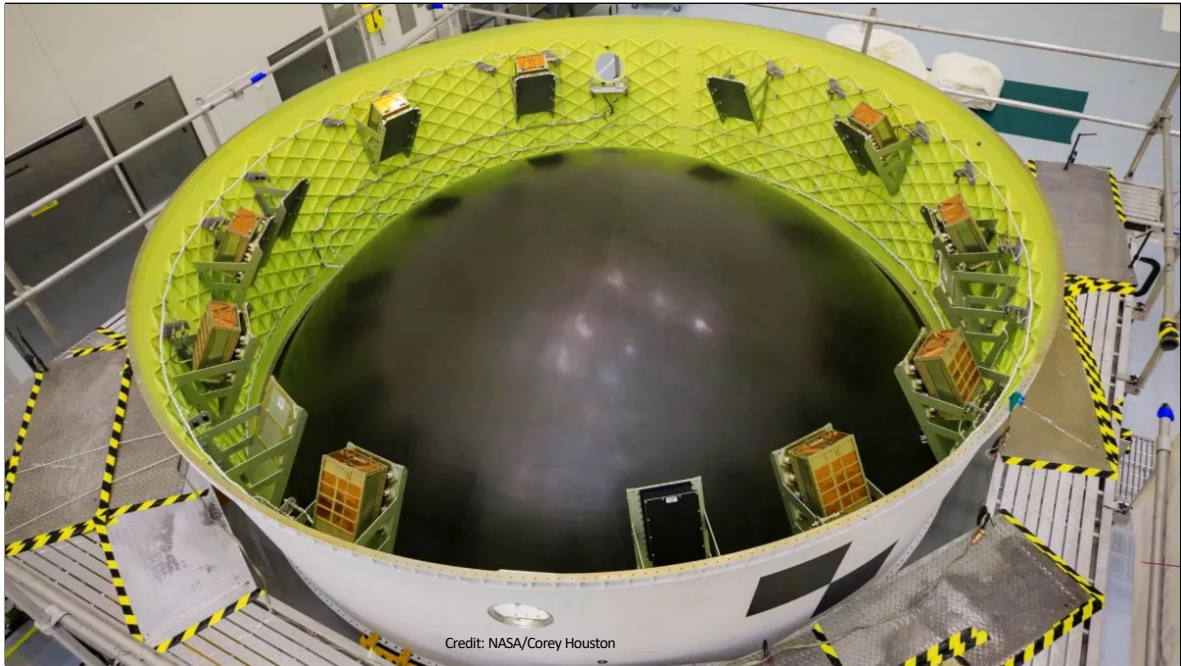




Source: <https://mars.nasa.gov/mars2020/>

Innovation Drives Technology....





Source: <https://www.space.com/nasa-artemis-1-moon-mission-cubesats> (image credit to NASA/Corey Houston)



<https://www.nasa.gov/webbfirstimages>

Good ideas can come from
anywhere.

And we use all the tools at our
disposable to find the best ideas from
diverse sources and to nurture them
to become true innovations.

The Early-Stage Innovation and Partnerships (ESIP) Portfolio empowers a community of innovators pioneering aerospace research and transformative technology ventures. It enables NASA's mission and invigorates our economic future.

Working together, ESIP amplifies the value and impact of STMD's and NASA's early-stage technology development and tech commercialization programs. Each of ESIP's programs and activities play an important role in this work.

 NIAC	 STRG	 CIF/ECI	 PCC	 ESIC	 SBIR/STTR	 T2
NASA Innovative Advanced Concepts	Space Tech Research Grants	Center Innovation Fund / Early Career Initiative	Prizes, Challenges, & Crowdsourcing	Early-Stage Innovation and Commerce	Small Business Innovation Research / Small Business Technology Transfer	Technology Transfer
Nurtures visionary ideas that could transform future NASA missions by engaging America's innovators and entrepreneurs as partners in the journey.	Challenges the spectrum of academic researchers to making science, space travel, and exploration more effective, affordable, and sustainable.	Stimulate and encourage creativity and innovation within the NASA Centers and Early Career leaders.	Makes opportunities available for public participation in NASA research and technology solutions to support.	Advances joint priorities and innovative pilots to under-represented communities, academic research and public private partnerships.	Engages small businesses, research institutions, and entrepreneurs in technology R&D that meet NASA needs and could be commercialized.	Ensures that innovations developed for exploration and discovery are maximizing the benefit to the Nation and enabling spinoffs.
30+ grants annually	300+ grants with dozens of universities	~140 projects across NASA Centers	>40 Activities	~10 pilot investments/ projects	>500 contracts with hundreds of small businesses	>1,500 Active Patents & >700 Licenses
Cross-Cutting Activities Diversity, Equity, Inclusion, and Accessibility (DEIA) • I-Corps and Entrepreneurial Projects						

Common Challenges for Nurturing Innovation

- (1) How to gather the best ideas from wherever they are
- (2) How to encourage ecosystems and collaboration for impact
- (3) How to balance investing in those things that could have near term payoff and those things that might require more patience and risk
- (4) How to move ideas forward to real commercial or infusion impact and
- (5) How to be at the cutting edge in building innovation capacity to deliver more than we have been able to in the past.

ESIP Strategic Framework

Vision

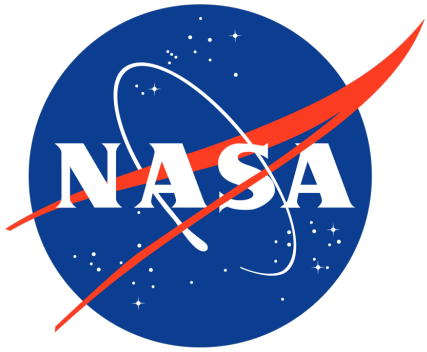
American aerospace innovation enables NASA's mission and invigorates our economic future

Mission

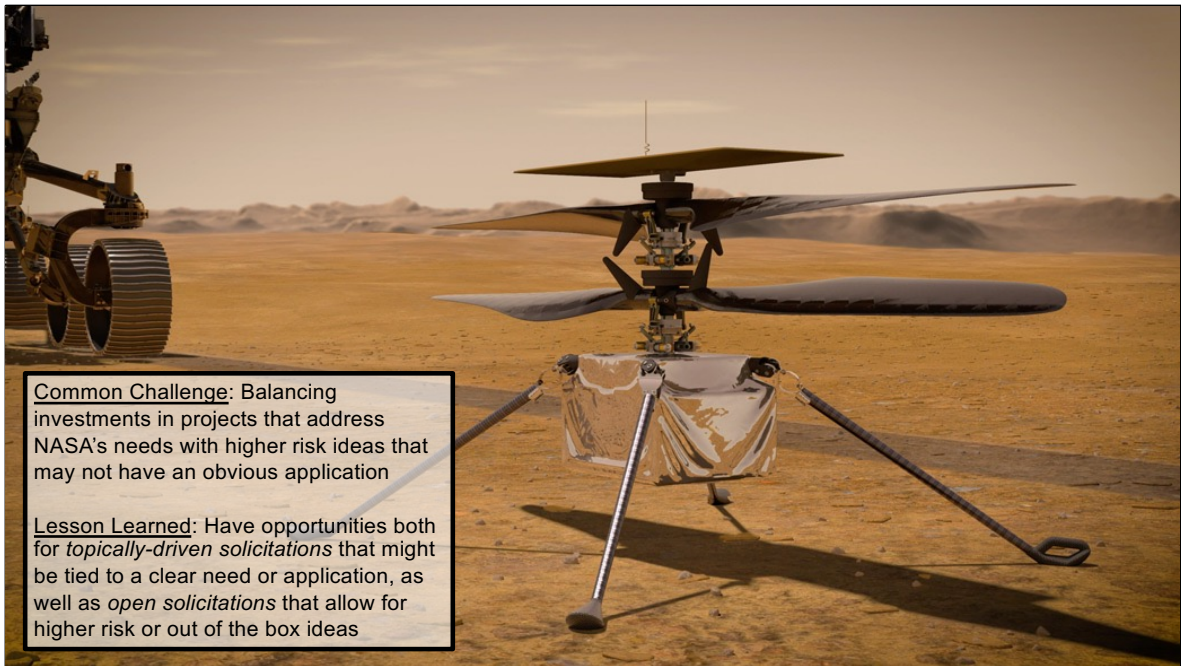
Empower a community of innovators spearheading aerospace research and game-changing technology ventures

Goals

 Goal 1	 Goal 2	 Goal 3	 Goal 4
Early-Stage Investments	Breadth of Innovators	Transition Pathways	Program Champion
Curate a diversified portfolio of ambitious, risk-informed early-stage technology investments	Build and nurture diverse communities across the portfolio's R&D cycle	Expand access to new and existing technology transition pathways	Grow support for the portfolio by communicating its transformative impact and potential

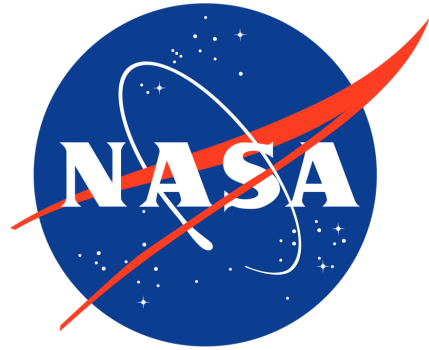


Goal 1: Early Stage Investments



<https://www.nasa.gov/feature/jpl/6-things-to-know-about-nasas-ingenuity-mars-helicopter>

Goal 2: Breadth of Innovators



MEMBER UNIVERSITIES

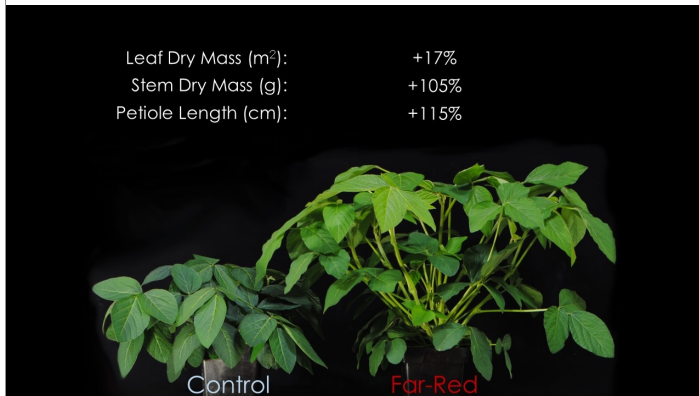
Berkeley
UNIVERSITY OF CALIFORNIA

Stanford
University

Utah State
University

UC DAVIS

UF UNIVERSITY of
FLORIDA



Common Challenge: Being the hub-and-spoke of the ecosystem

Lesson Learned: Harness the power that NASA has in convening different research communities by (1) using solicitations and funding opportunities to incentivize collaboration between innovators and (2) providing the NASA expertise to glue it together.

More info: <https://cubes.space/divisions/fpsd>

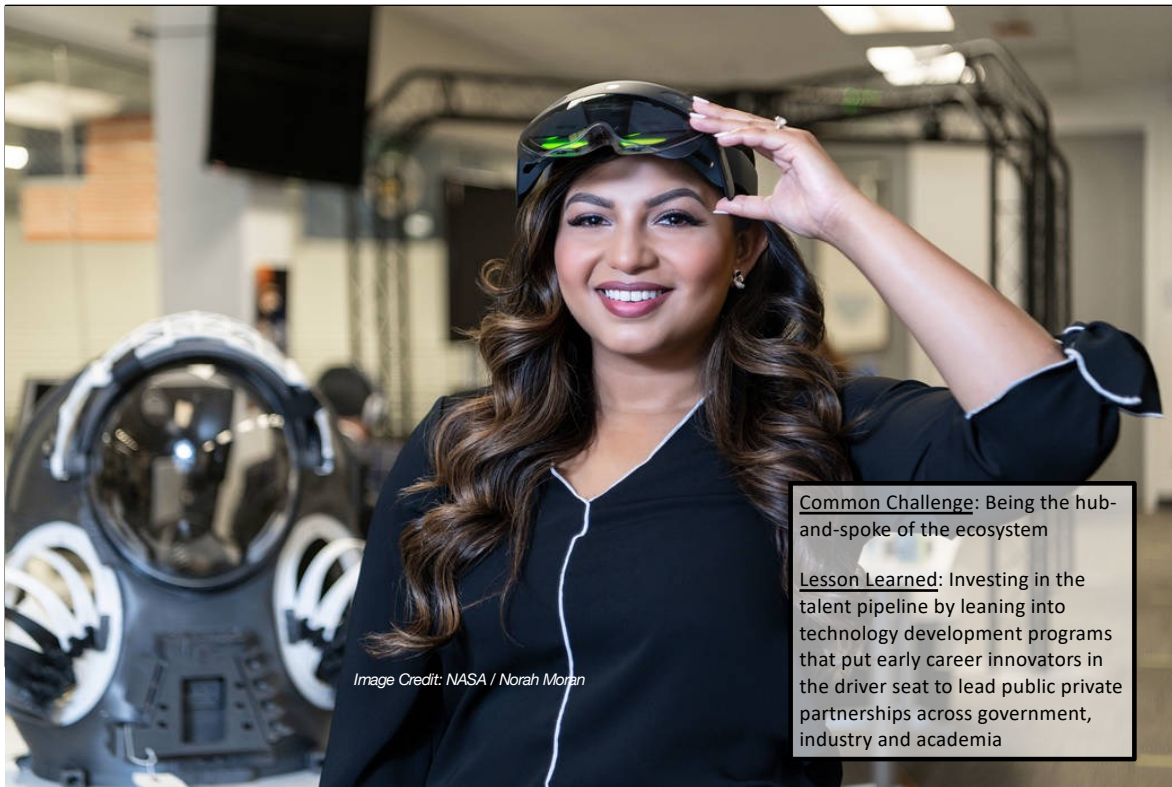
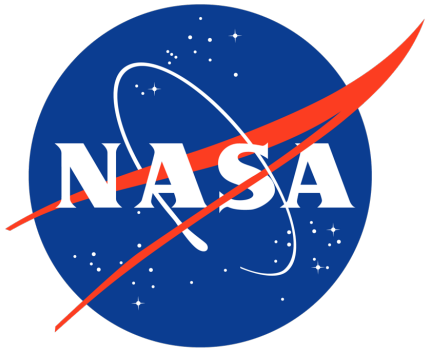


Image Credit: NASA / Norah Moran

Common Challenge: Being the hub-and-spoke of the ecosystem

Lesson Learned: Investing in the talent pipeline by leaning into technology development programs that put early career innovators in the driver seat to lead public private partnerships across government, industry and academia



Goal 3: Transition Pathways

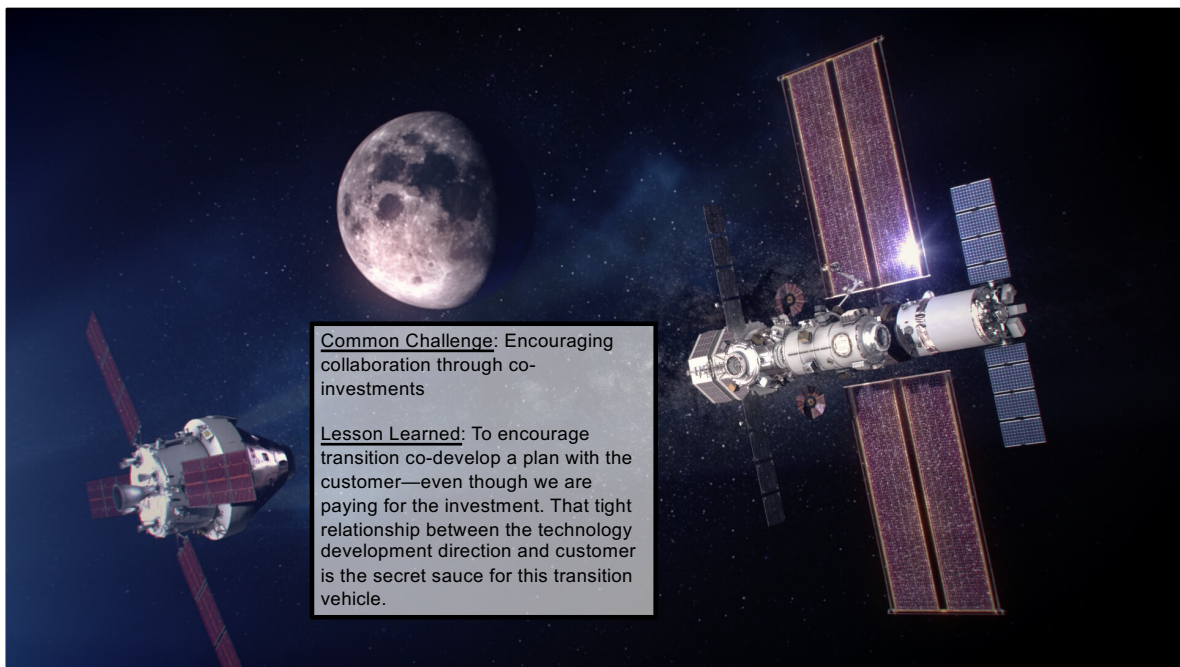


SKYRE's H2RENEW™ is available on the commercial market

Common Challenge: Encouraging collaboration through co-investments

Lesson Learned: It's important for potential customers to have "skin in the game", whether through funding or other forms of support. Require matching funding.

Image cleared for use in SBIR success story: <https://sbir.nasa.gov/success-stories/electrochemical-system-recovers-hydrogen-and-helium-rocket-engine-tests>



<https://science.nasa.gov/science-news/biological-physical/nasa-selects-proposals-to-conduct-fluid-physics-flow-boiling-experiments-on-the-international-space-station>



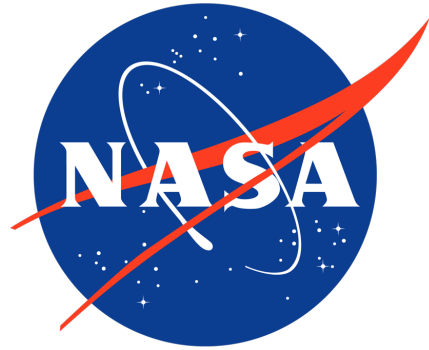
Common Challenge: Transitioning ideas to the next phase – training people and teams and ensuring ownership.

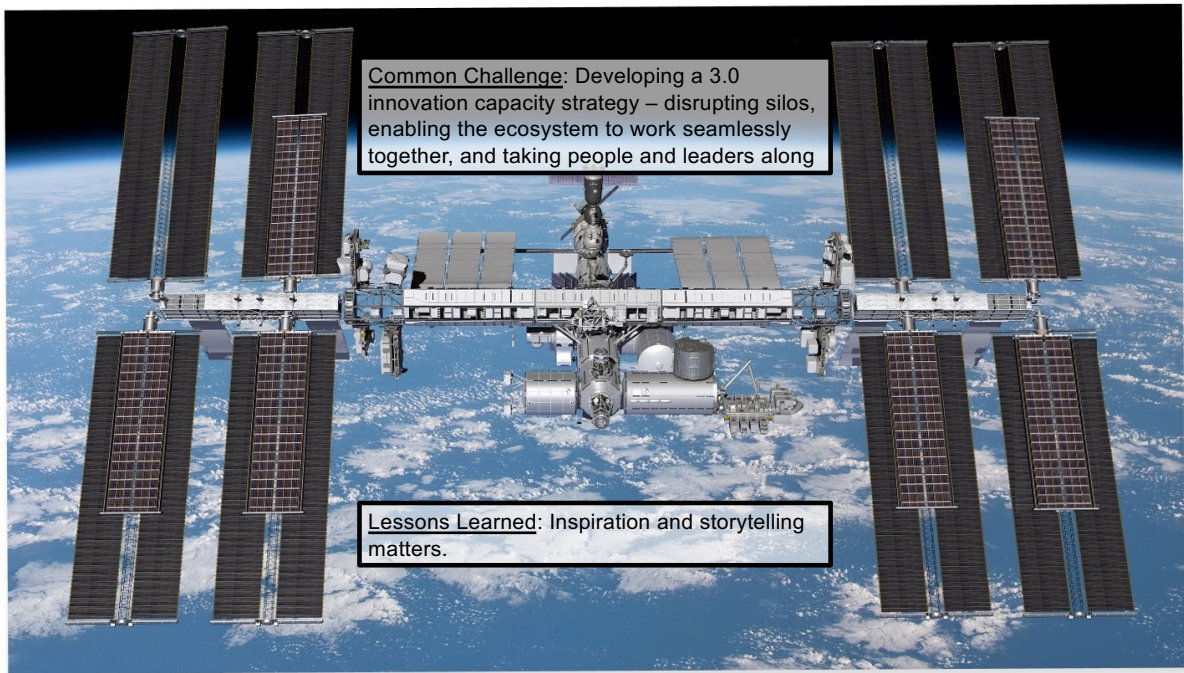
Lesson Learned: Actively engage the ecosystem to encourage spinoffs of our technologies to other applications.



<https://technology.nasa.gov/virtual-event/startup-nasa-series-canopy-aerospace>, <https://canopyaerospace.com/>

Goal 4: Program Champion





<https://www.nasa.gov/feature/new-solar-arrays-to-power-nasa-s-international-space-station-research>

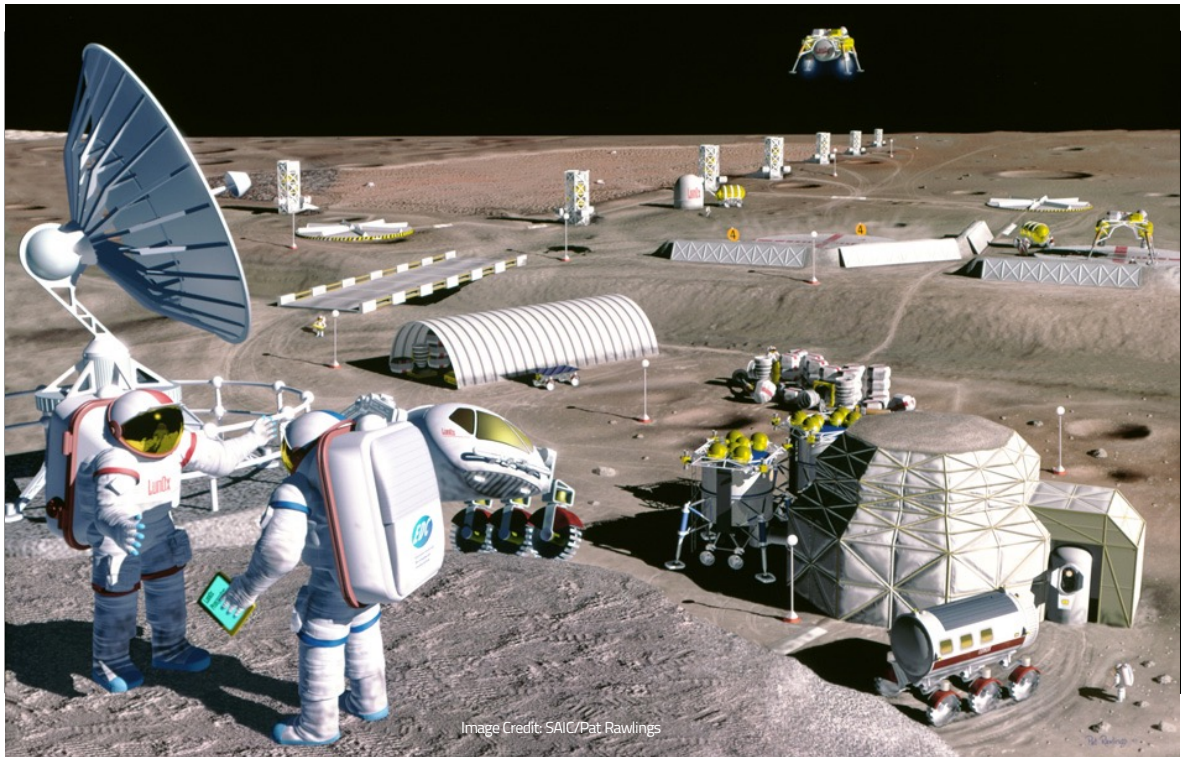


Image Credit: SAIC/Pat Rawlings

<https://www.nasa.gov/specials/apollo30th/back.html>