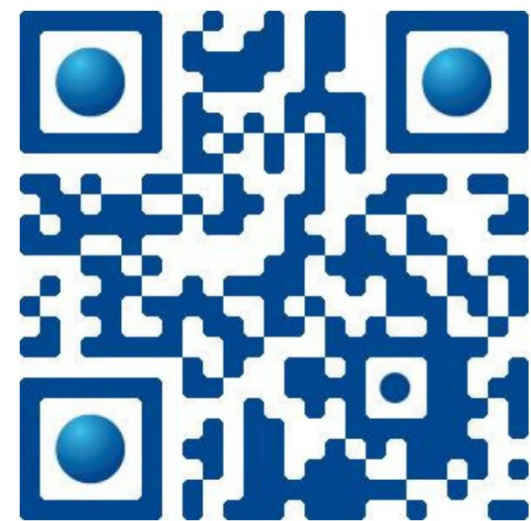


# "Space for you. Space for all."

-She Ili Brunswick, COO, Space Foundation



Find your  
place in the  
global space  
ecosystem!

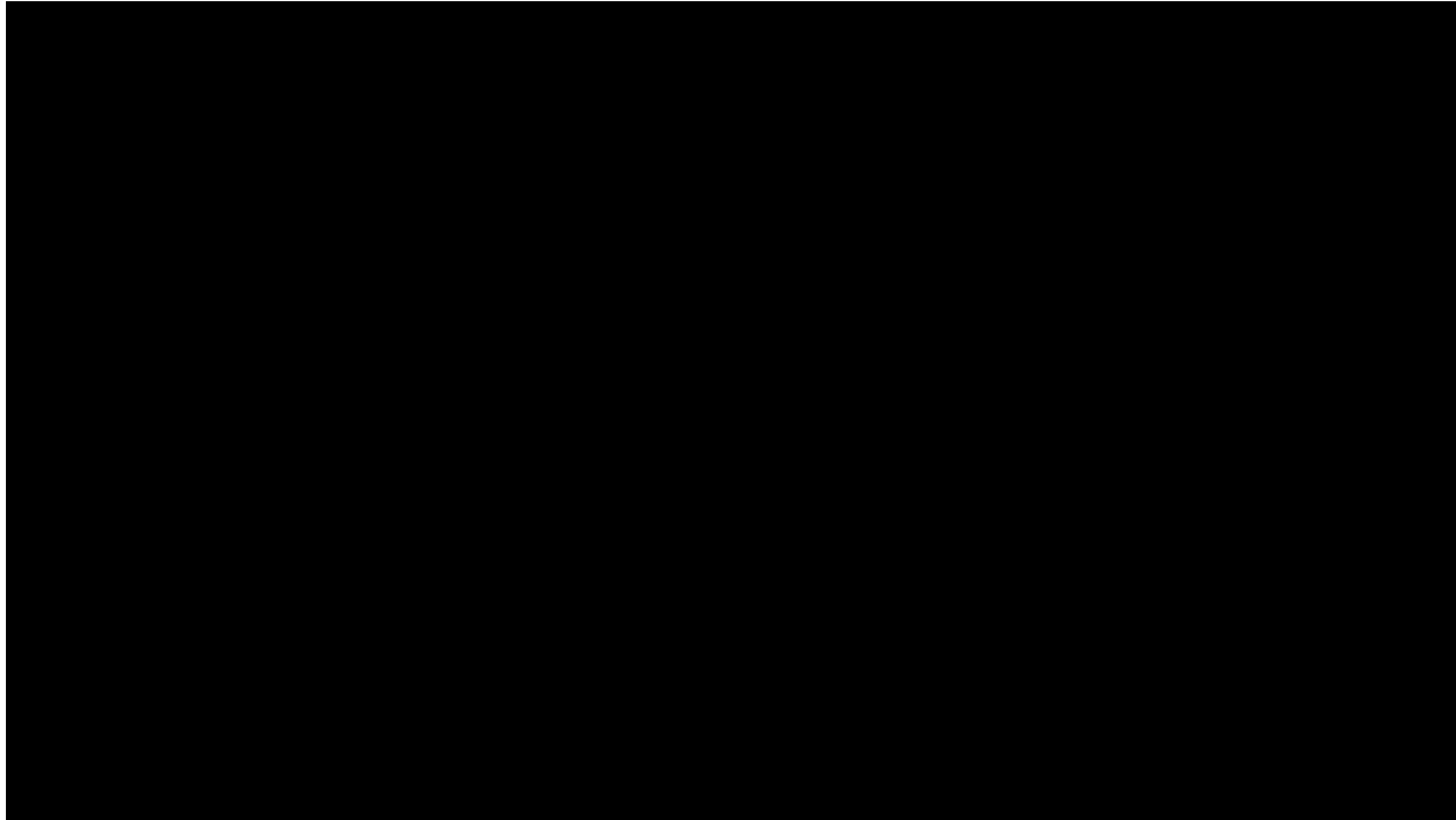


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# Space is Cool



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# What is Space Foundation



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# What is Space Foundation?

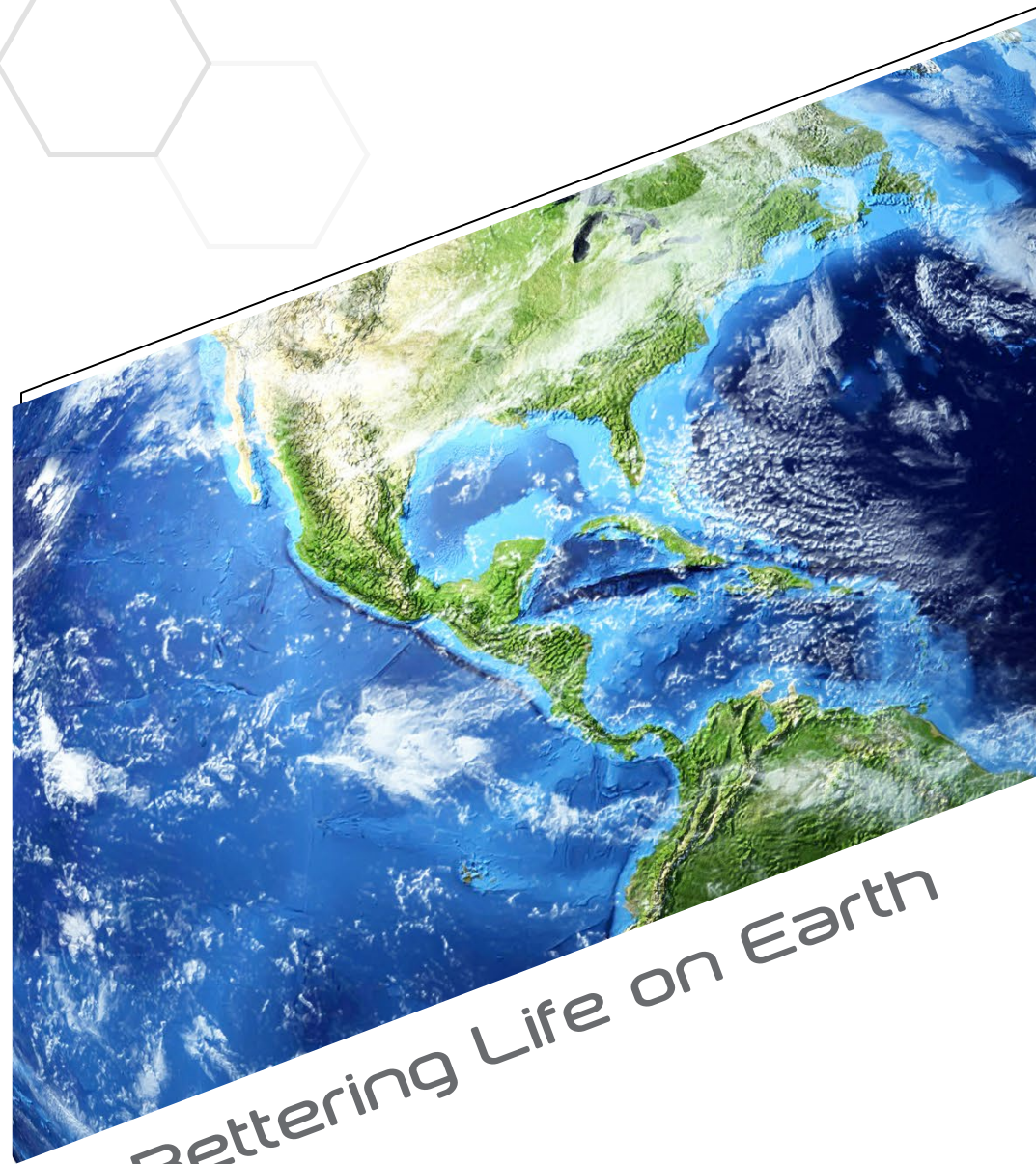


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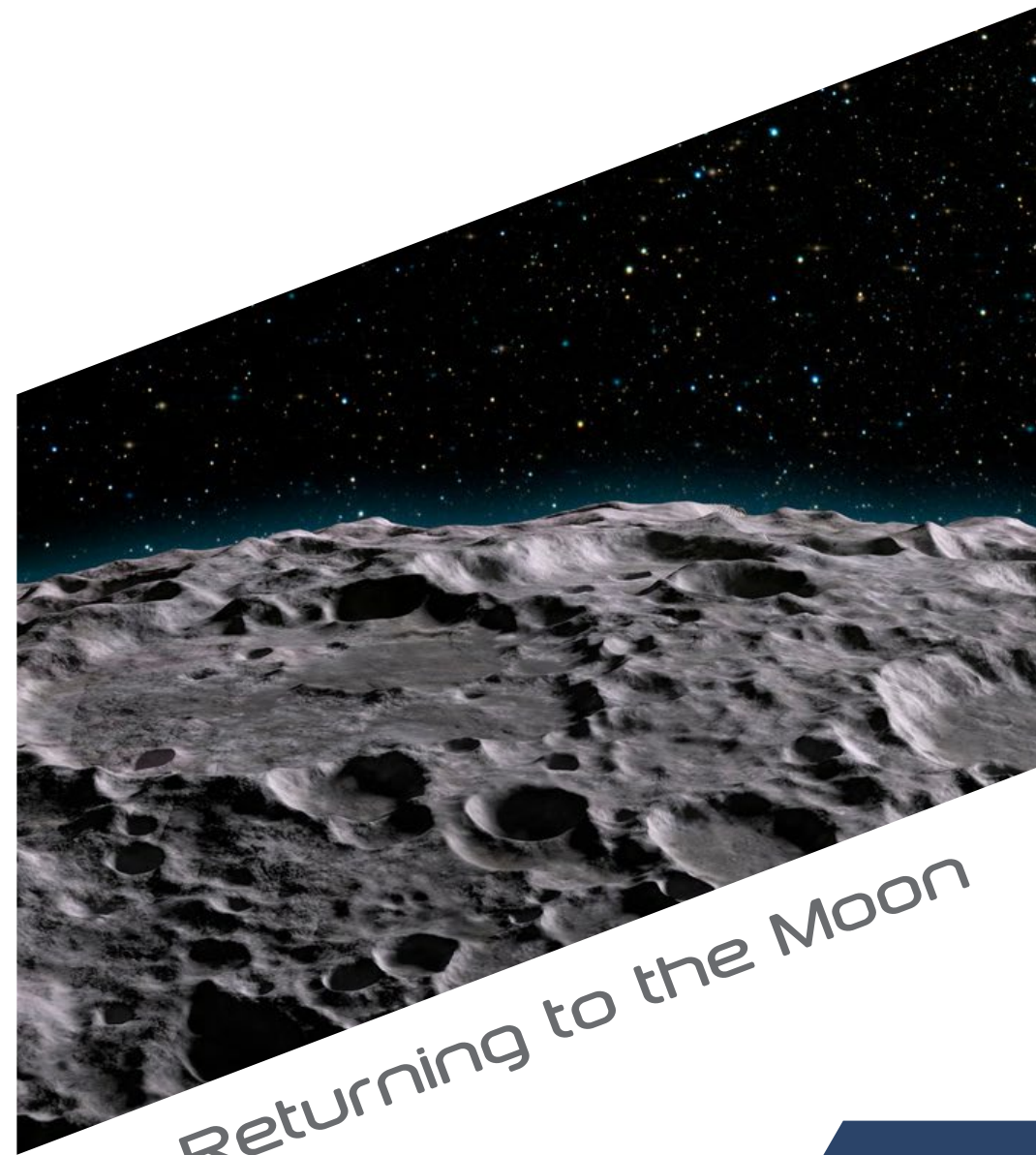
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# Global Space Ecosystem



Bettering Life on Earth



Returning to the Moon



Journeying to Mars

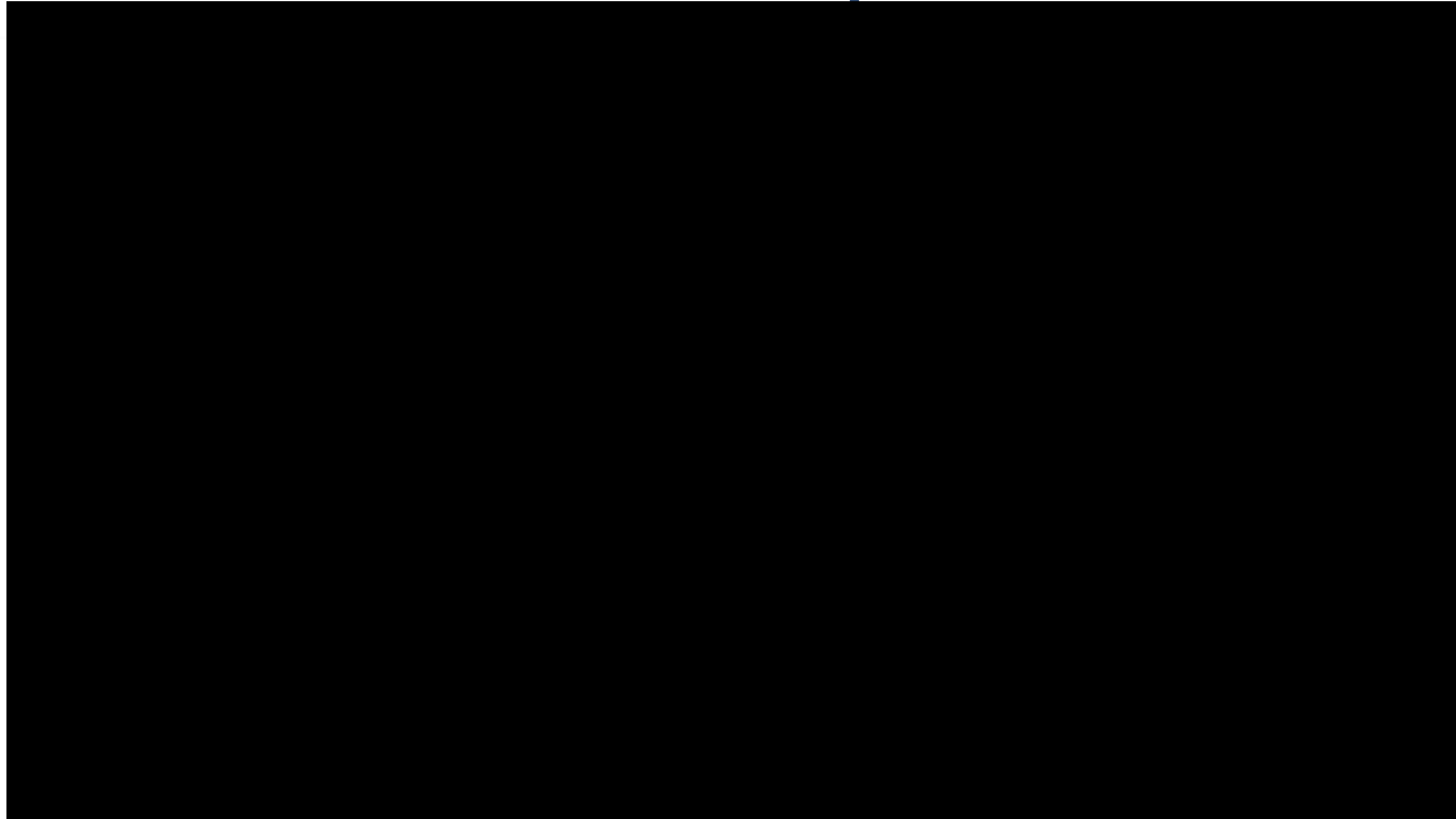


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# Global Space



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# The Space Economy Opportunities

\$447+ billion global market

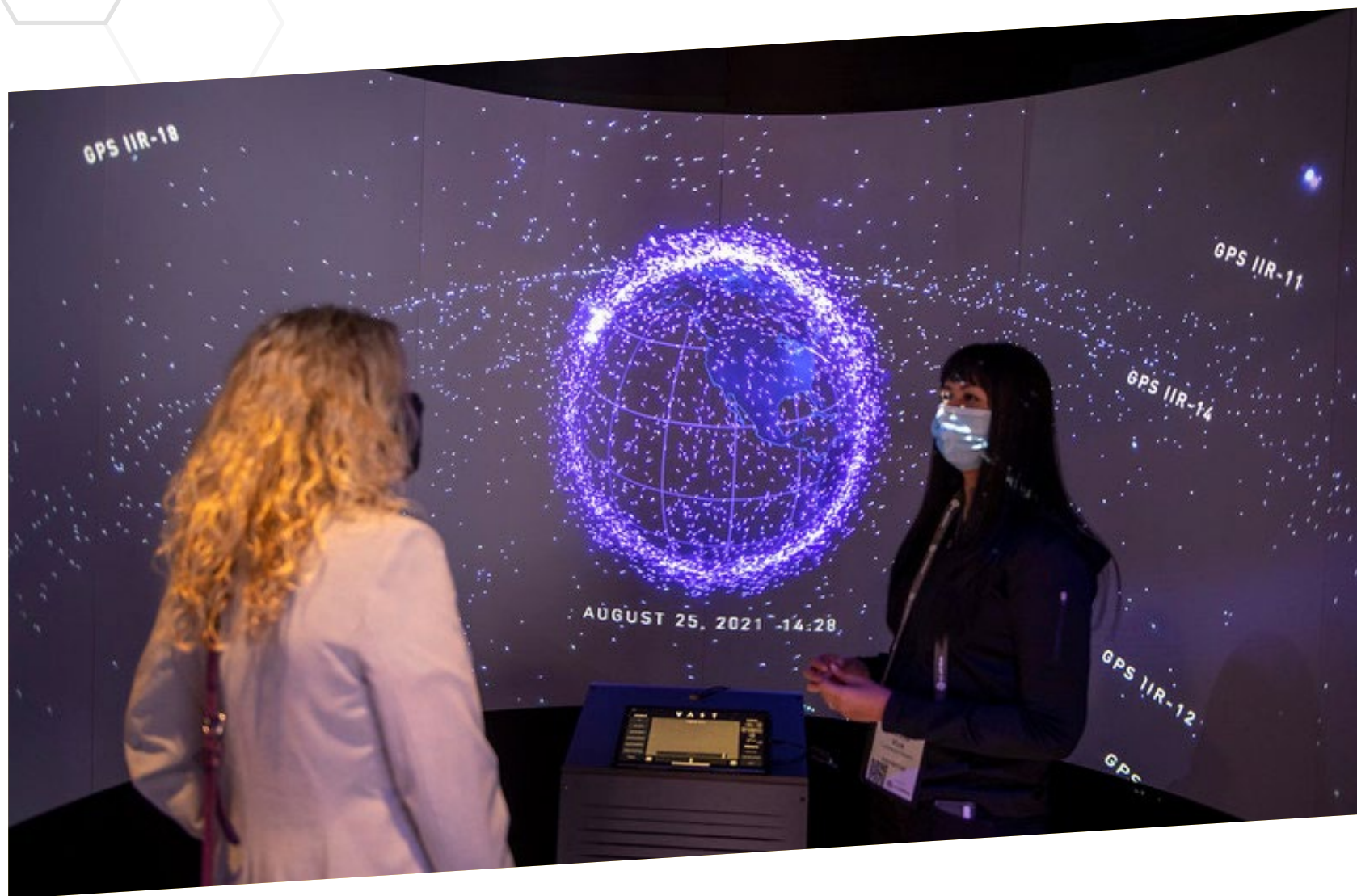
\$1-3 trillion growth expected by 2040

85+ nations operating in space

Record investment \$8.9 billion

Space-related mergers, buyouts and equity financings totaled \$18.2B

Commercial 80%, Government 20%



Sources: The Space Report, Space Capital, Bank of America and Morgan Stanley global projections



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# Space Technology in Your Life



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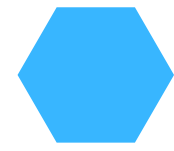
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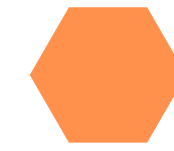
# Technology Trends to Watch



Data Analytics



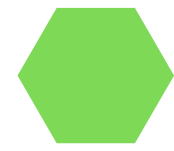
Telecom



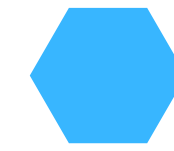
Satellite Service & Repair



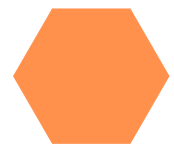
Energy & Energy Storage



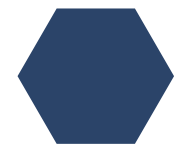
Miniaturization of Materials



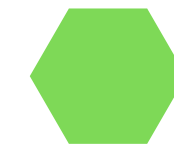
Cybersecurity



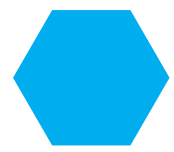
Biometrics & Health



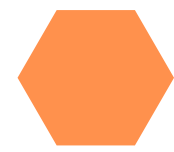
Textiles & Advanced Manufacturing



UAV Market



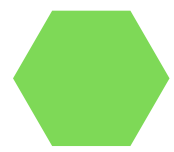
Creature Comforts



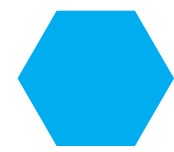
Environmental Assessment



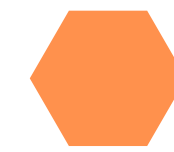
Robotics



Debris Monitoring



Artificial Intelligence



Virtual Reality



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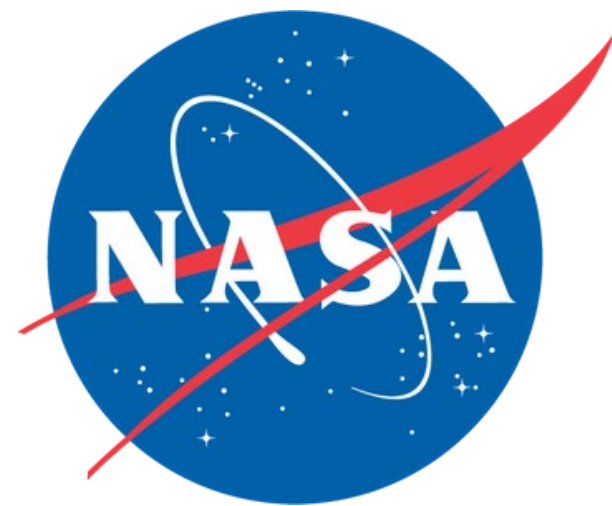


# Space Innovation Gap

## Space Transfer & Space Insertion

For a full listing of available NASA patents and patent applications available for licensing, visit:

<http://technology.nasa.gov/patents>



For ESA patents and patent applications available for licensing, visit:

[https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/ESA\\_s\\_Technology\\_Transfer\\_and\\_Patent\\_Office](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/ESA_s_Technology_Transfer_and_Patent_Office)



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# Connecting Space to Everyday Life on Earth



Space-based inventions are integral to every facet of daily life

- Cell phones
- Athletic shoes
- Cordless tools

Space-based technology is responsible for improving lives

- Weather prediction
- Fire retardant clothing
- Breast cancer detection

Space-based innovation can help better life on Earth

- Earth observation
- Food and natural resources
- Medical cures



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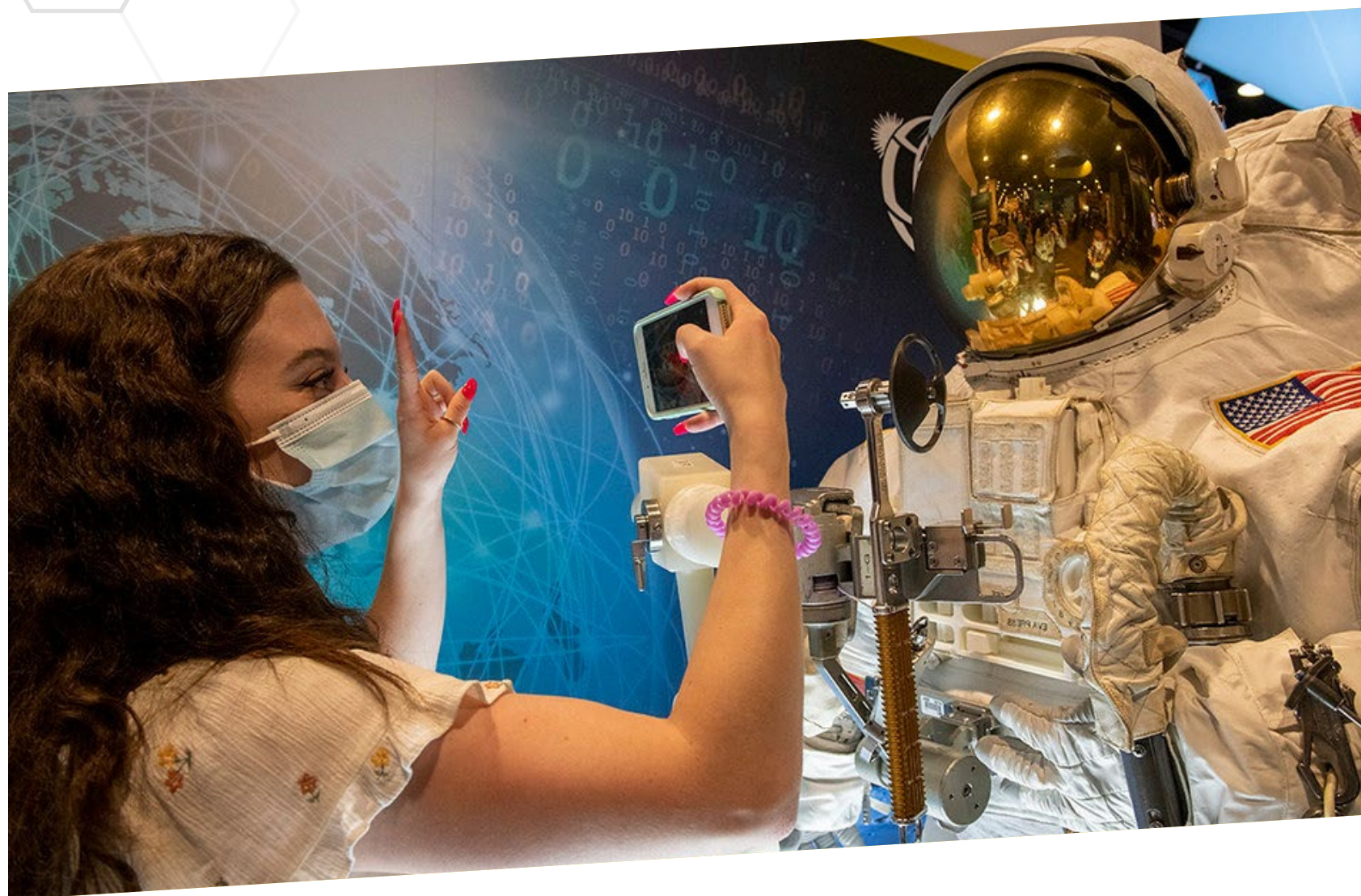
# Connecting Space to Everyday Life on Earth



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# Connecting Space to You and Me



Everyone can find a place in the space ecosystem

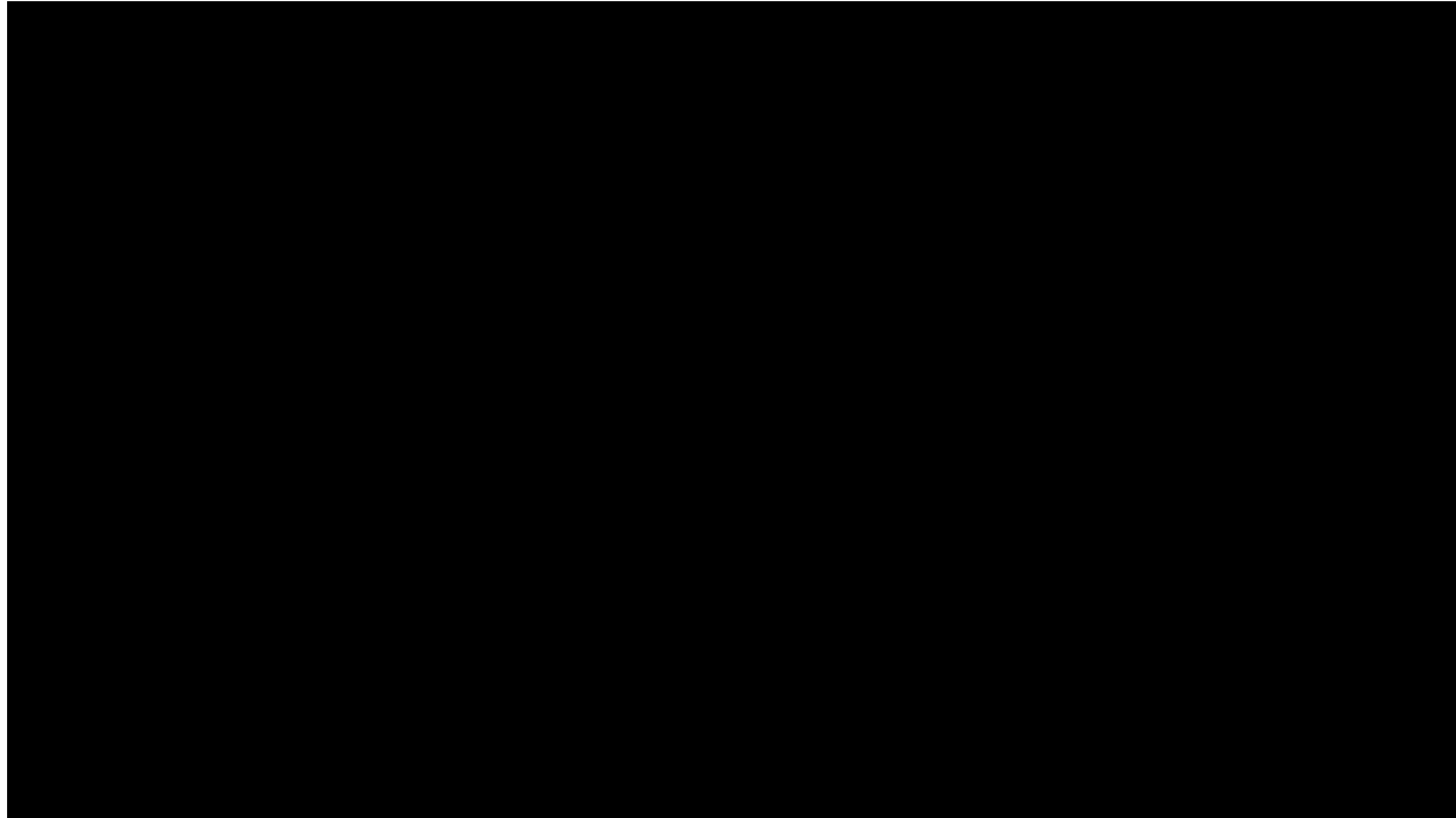
- Non-STEM laborers, trade workers and artists
- Business entrepreneurs and administrators
- STEM professionals



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# Space Related Careers Video



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# Workforce Development Roadmap



New Generation space leaders during speed mentoring at 36th Space Symposium

## Awareness

There is no better TIME to join the space ecosystem.

## Access

The space ecosystem is accessible to ALL people.

## Training

Adopt a culture of LIFELONG LEARNING for all ages.

## Connections

“The future of the space ecosystem is PARTNERSHIPS.

## Mentorship

The space ecosystem UNITES the planet and humanity.



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# Networking and Mentorship



Women's Global Gathering 36th Space Symposium

## United Nations Space4Women Network

- Webinars and mentorship programs inspire next-generation space leaders.

## Space Generation Advisory Council (SGAC)

- A global network for students & young professionals.

## Women in Aerospace (WIA)

- 2000+ members increase leadership capabilities and visibility.

## WomenTech Network

- Global community promotes gender diversity and tech opportunities.

## To d'Aérs

- International network promotes sustainable space studies, research and development.

## Women's Global Gathering at Space Symposium

- Annual event features commercial and government leaders from 40+ countries.



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# Space Ecosystem Challenges



36th Space Symposium Attendees in the International Center

## Work Force Shortage

- Open jobs exceed unemployed workers
- Retiring baby boomers are leaving gaps
- Underserved and untapped workforces

## Skills Deficit

- Perceptions cannot be limited to astronauts
- Space must be integrated into core curriculum
- A culture for life long learning must be adopted

## Innovation Gap

- NASA patents available for tech transfer
- Enterprises rely on suppliers for tech insertion
- Workforce diversity is a source of new ideas



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# Center for Innovation and Education



New Generation Space Leaders at the 36th Space Symposium



A life long learning platform offering workforce development and economic opportunity for students, teachers, entrepreneurs and professionals in the global space ecosystem.



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# What's Next?



Teachers



Families



Communities



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# Join Us

**JOIN THE WORKFORCE:** find your place in the space ecosystem -- [www.spacefoundation.org/cie](http://www.spacefoundation.org/cie)

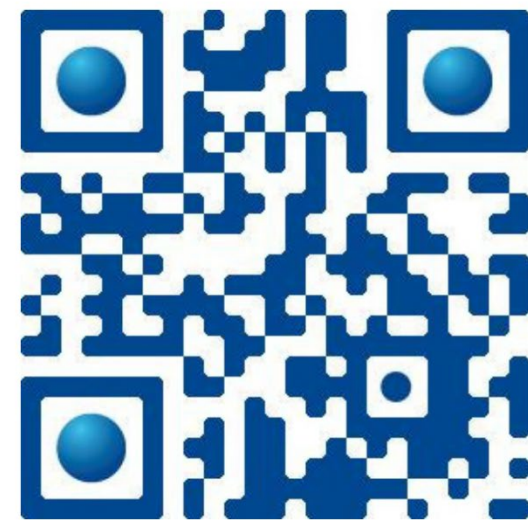
**PARTNER:** collaborate, sponsor and fund programs -- [www.spacefoundation.org/join-us](http://www.spacefoundation.org/join-us)

**DONATE:** contribute to our mission -- [www.spacefoundation.org/donate](http://www.spacefoundation.org/donate)

**PARTICIPATE:** connect with the space ecosystem 365 days a year -- [www.space-symposium365.org](http://www.space-symposium365.org)

**CONNECT WITH SHELL:** network to success -- [www.linkedin.com/in/shellbrunswick](http://www.linkedin.com/in/shellbrunswick)

Find your  
place in the  
global space  
ecosystem!



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# Ba c k u p   S l i d e s



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# Teachers



Students engaged with NOAA Science on a Sphere at Space Foundation Discovery Center

Space Foundation International Teacher Liaisons

Make it hands-on/ Immersive

Embrace technology

Make learning:

- Fun
- Engaging
- Relevant



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# Families



Take your family to places that encourage space inspired activities

Go out stargazing

Follow Space inspired programs and information



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# Community



Sponsor a school, class, enrichment programs

Find ways to get involved in your local school

- Volunteer to be a science fair judge
- Be a guest speaker, mentor, role model
- Find out if students can take a field trip to your facility

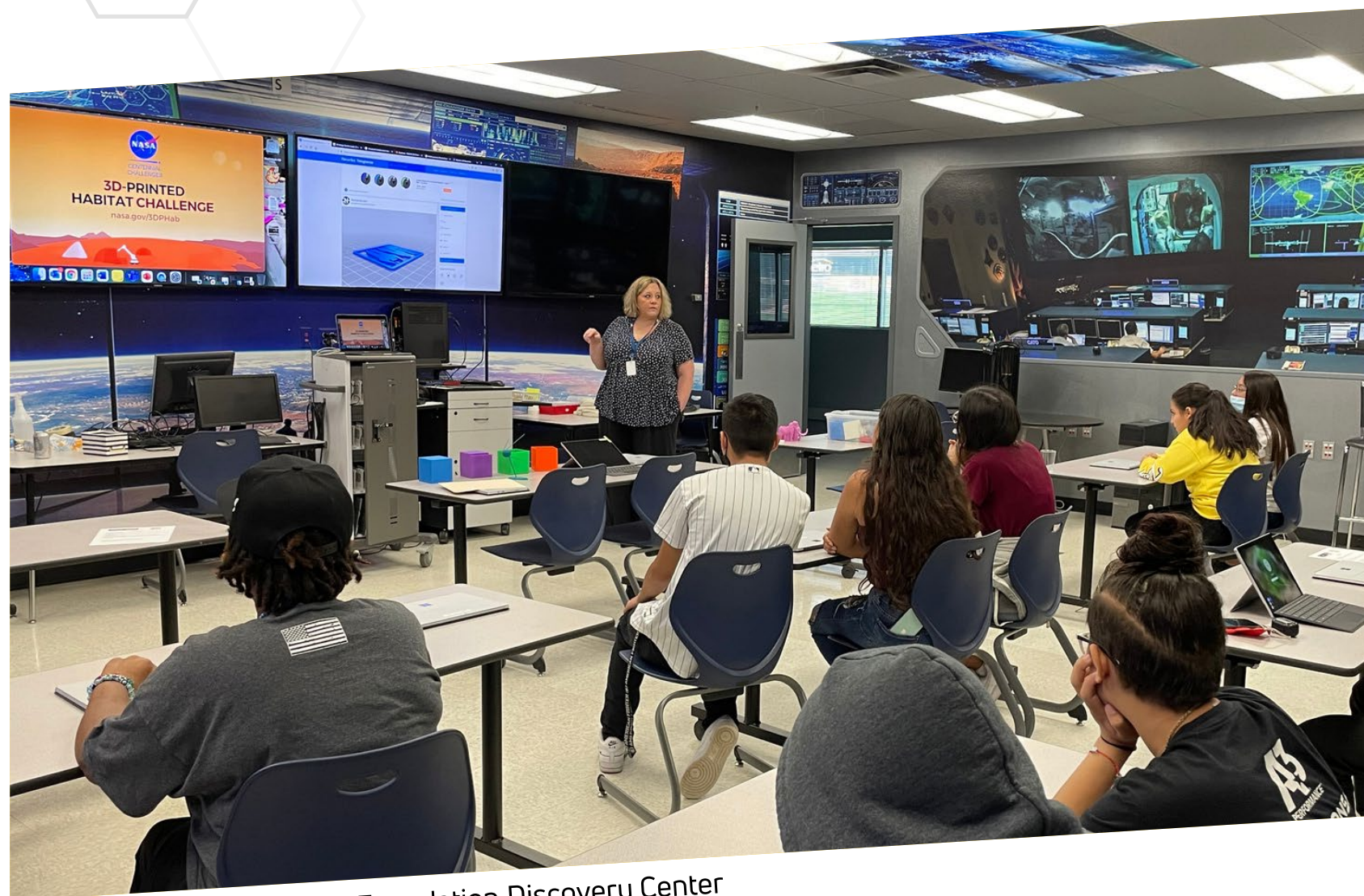


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# CI&E - Who We Serve



3-D printing class at Space Foundation Discovery Center

## Building Today's Workforce: professionals

- Global space agencies — workforce development initiatives
- Governments — policy education and advocacy
- Space professionals — corporate networking and mentoring programs
- Small businesses — custom-designed training
- Entrepreneurs — space commerce workshops
- Young professionals — leadership and mentoring programs

## Building the Next Generation Workforce: students

- Communities — space-inspired STEM events
- Teachers and educators — professional development
- Junior space entrepreneurs — real world inspiration and mentoring
- Students — immersive live and online space-inspired experiences



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# How Space Foundation Delivers



Business meeting at 36th Space Symposium



Partnerships



Sponsorships



Grants



Fundraising



Donations



Endowment



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# Space Commerce Entrepreneurship Program

**Audience:** Entrepreneurs, small businesses, inclusive of minority, women, veterans

**Sponsor:** U.S. Department of Commerce, Minority Business Development Agency

**Purpose:** Launching entrepreneurs and small businesses into the space industry

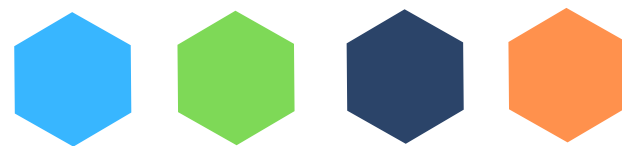
**Outcome:** Jobs, careers, and public private enterprise and government contracts

## Workshops

- 275+ underserved entrepreneurs and small businesses have participated to date
- Workforce Development Roadmap: Awareness, Access, Training, Connections, Mentorship
- Collaborate with universities, incubators/accelerators, regional communities
- 18 scholarships to attend Space Symposium awarded to date

## Online Webinar and Guest Speaker Series

- 15 free, self-driven, on-demand videos
- Space commerce expertise to grow a business
- Featured interviews with entrepreneurs



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# Success Story: Global Engineering Startup

## Small Business Referred by Department of Commerce MBDA

- Commercial engineering company
- Heritage: Latino entrepreneurs
- Small business founded in 2018

## Workforce Development Roadmap

- Awareness: Attended regional Space Commerce Entrepreneurship workshops
- Access: Learned about opportunities in space ecosystem
- Training: Gained strategy and skills for conducting business in the space sector
- Connections: Networked with 150+ enterprises at Space Symposium
- Mentorship: Business life cycle guidance from space professionals

## Startup Pivots Business Strategy to Gain Interest from Large Enterprises

- Pivot from targeting U.S. government to pursuing global commercial projects
- Pivot from selling parts and components to selling comprehensive solutions
- "Space Foundation helped us find our place in space."



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# Space-Inspired Curriculum and Teacher Development

## JUNIOR SPACE ENTREPRENEUR PROGRAM

**Audience:** 10-18-year-old students, teachers, school administrators, mentors

**Sponsor:** Lockheed Martin, NASA, Junior Achievement

**Purpose:** Prepare the next generation to contribute to the space industry

**Outcome:** Students inspired to pursue careers in the space sector

## Professional Development for Educators

- Cultivating next-gen space contributors
- Integrating space-inspired curriculum
- Practicing immersive hands-on activities
- Learning about space commercialization
- Embracing 21st century, future-proof essential skills



Winner of Fast Company Honorable Mention for 2020  
World Changing Ideas Award



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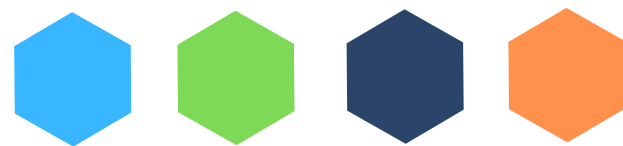
# Success Story: STEM School in Colorado

## Pilot: Public Charter K-12 School

- 50 high school students
- Immersive week in space education, entrepreneurship and personal growth
- Supported by Lockheed Martin, NASA and Junior Achievement
- Goal: prepare students for studies and careers in the space ecosystem

## Junior Space Entrepreneur Program: Mission to Mars Pilot

- **Awareness** of challenges in sending astronauts to Mars and returning safely
- **Access** to NASA tech transfer and insertion for space commercialization
- **Training** for STEM and non-STEM, building prototypes, business planning
- **Connections** to real world space practitioners and opportunities
- **Mentorship** for students by space pros on essential skills and pitching investors



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Symposium  
365



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