

# Space Grant and Space Technology Mission Directorate Working Group Meeting

*April 28, 2023*

# Topics

- Welcome, Meeting Objectives
- STMD Upcoming Funding Opportunities, TechPort Overview and Funding Opportunities Tool
- I-Corps
- COSMIC: Consortium for Space Mobility and ISAM Capabilities
- Future Meeting Topics, Cadence

# STMD BY THE NUMBERS FY 22

**>3300** proposals evaluated

**>150** planned flight demonstrations

**~750** proposals selected

**>175** patent licenses to companies

**>1650** active technology projects

**>1000** transitions since 2011

**>900** academic collaborations  
with >175 unique organizations

**>1300** industry collaborations  
with >700 unique companies





	Title	Solicitation/ Activity Type	Topic/Open	Frequency	Applicant / Audience	Size (\$ max) (based on lifecycle \$)	Volume of Annual Awards
NIAC	NASA Innovative Advanced Concepts (NIAC) Phase I	Grant / Internal Awards	Open	Annual	Government, Industry, Academia	Small	Few
	NASA Innovative Advanced Concepts (NIAC) Phase II	Grant / Internal Awards	Open	Annual	NIAC Phase I Awardees	Medium	Few
	NASA Innovative Advanced Concepts (NIAC) Phase III	Contracts	Open	Annual	NIAC Phase II Awardees	Large	Few
CIF/ECI	Center Innovation Fund (CIF)	Internal Awards	Open	Annual	NASA Centers	Small	Many
	Early Career Initiative (ECI)	Internal Awards	Open	Annual	NASA Early Career Researchers	Large	Few
STRG	NASA Space Technology Graduate Research Opportunities (NSTGRO)	Grant	Open	Annual	Graduate Students, US Universities	Small	Many
	Early Career Faculty (ECF)	Grant	Topic	Annual	Early Career Faculty at US Universities	Medium	Few
	Early Stage Innovations (ESI)	Grant	Topic	Annual	US Universities	Medium	Few
	Lunar Surface Technology Research (LuSTR) Opportunities	Grant	Topic	Annual*	US Universities	Large	Few
	Space Technology Research Institutes (STRI)**	Grant	Topic	Every Other Year	US Universities	Large	Few

Size Legend: Small: <\$500k, Med: \$500k-\$1M, Large: >\$1M) | Volume Legend: Few: <20, Medium: 20-50, Many: >50) | \*\*Every-Other Year Cycle



	Title	Solicitation/ Activity Type	Topic/Open	Frequency	Applicant / Audience	Size (\$ max) <i>(based on lifecycle \$)</i>	Volume of Annual Awards
<b>I-Corps</b>	NASA Innovation Corps (I-Corps) Pilot	Grant	Open	Open	Academia / Higher-Ed / Non-Profit Research Institutions	Small	Few
<b>SBIR/STTR***</b>	SBIR/STTR Phase I	Contracts	Topic	Annual	Small Businesses	Small	Many
	SBIR Phase II	Contracts	Topic	Annual	SBIR Phase I Awardees	Medium	Many
	STTR Phase II	Contracts	Topic	Annual	STTR Phase I Awardees	Medium	Medium
	SBIR Ignite Phase I	Contracts	Topic	Annual	Small Businesses	Small	Few
	SBIR Ignite Phase II	Contracts	Topic	Annual	SBIR Ignite Phase I Awardees	Medium	Few
	SBIR/STTR Sequentials	Contracts	Topic	Annual	SBIR/STTR Phase II Awardees	Large	Few
	CCRPP	Contracts	Open	Annual	SBIR Phase II Awardees	Large	Few

**Size Legend:** *Small:* <\$500k, *Med:* \$500k-\$1M, *Large:* >\$1M) | **Volume Legend:** *Few:* <20, *Medium:* 20-50, *Many:* >50) | \*\*\*Universities are required partners for STTRs



	Title	Solicitation/ Activity Type	Topic/Open	Frequency	Applicant / Audience	Size (\$ max) (based on lifecycle \$)	Volume of Annual Awards
SBIR/STTR***	SBIR/STTR Phase II – E	Contracts	Open	Open	SBIR/STTR Phase II Awardees	Small	Medium
	SBIR I-Corps	Contracts	Open	Annual	SBIR Awardees	Small	Medium
	SBIR/STTR Phase III	N/A	N/A	Open	Phase I/Phase II Awardees	N/A	N/A
PCC	Crowdsourcing Contenders	Internal Awards	Open	Annual	NASA Employees	Small	Few
	NASA@WORK Projects	Crowdsourcing	Topic	Open	NASA Employees	N/A	Many
	NTL Projects	Prizes, Challenges, Crowdsourcing	Topic	Open	Public	Varies	Many
	Centennial Challenge Projects	Prize	Topic	Ad-Hoc	Public	Large	Few
Tech Transfer	Invention Disclosure	Invention Disclosure	Open	Ad-Hoc	Internal Audience	N/A	N/A
	Software Release	Software Release	Open	Ad-Hoc	External and Internal Audiences	N/A	N/A
	Patent Licensing	Patent Licensing	Open	Ad-Hoc	Industry	N/A	N/A

**Size Legend:** Small: <\$500k, Med: \$500k-\$1M, Large: >\$1M) | **Volume Legend:** Few: <20, Medium: 20-50, Many: >50) | \*\*\*Universities are required partners for STTRs



# EXPLORESPACE TECH



**NASA Technology Portfolio Management System**

Dillon Gresham – Senior Software Engineer

Tech  Port

<https://techport.nasa.gov>

# What is TechPort?



- <https://techport.nasa.gov/>
- TechPort is a public portfolio of 16,000+ active and completed NASA technology projects
- TechPort specifically captures research and development activities that fall under the categories of applied research and experimental development
- Project records hold:
  - Anticipated Benefits
  - Technology Readiness Levels
  - Taxonomy Area Classification
  - Library items
  - Target Destinations
  - States and Organizations with work
  - And a lot more...



# TechPort Users and Key Benefits



## ➤ NASA Leadership

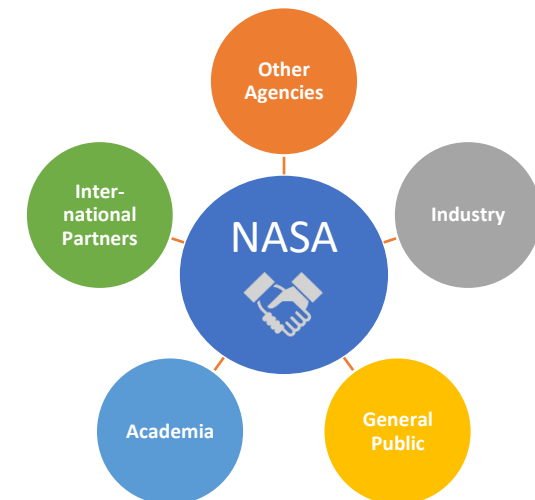
- Discover insights about NASA's technology portfolio across fiscal years.
- Create specialized analyses and understand trends.
- Quickly respond to inquiries and data requests (e.g. OMB, Congress).
- Ensure opportunities for underrepresented partners.

## ➤ Technology Innovators and Collaborators

- Discover the technologies being developed at NASA.
- Create new technologies and evolve existing technologies by building off prior work.
- Build partnerships between NASA, industry, academia, other agencies, and international partners.
- Identify and contact potential partners with common challenges and complementary expertise.
- Identify similar efforts during proposal preparation and review cycles.

## ➤ General Public

- Engage on “what’s new” with NASA technology.
- Visualize the results from the use of public funds.
- Realize the benefits of the Open Data policy for Federal Agencies.



# Collaboration and Partnership Development



TechPort provides a powerful networking and collaboration platform to find partners working in similar or complementary domains.

Small Business Innovation Research/Small Business Tech Transfer

## Collaborative Sensing and Mapping for IVA Robots, Phase II

Active Technology Project 14 views

**Project Description**

Metis Technology Solutions proposes to further mature its online, bi-directional, and robust collaborative SLAM and sensor co-registration technology known as Astrobee Localization and Collaborative Multi-layered Mapping (A-LCMM). The technology allows any Intra-Vehicular Activity (IVA) robot to collect data about its surrounding environment and share it with other robots via a central server to perform localization and mapping tasks. Sensors equipped to each IVA robot can be co-registered and fused with a collaboratively generated physical map of an environment which is stored on a central server. This fused multi-layered map of the environment consists of layers in which individual sensor data is registered with the physical map of the environment. The system is sensor and camera agnostic, meaning that any sensor and camera can be ingested by the system. This system not only eliminates the need for a ground team to manually update Astrobee maps, but also enables autonomous state assessment operations in space habitats which fill the technical gap identified in the Integrated System for Autonomous and Adaptive Caretaking (ISAAC) project. Developed hardware are [More](#)

**Anticipated Benefits**

Current IVA robot programs such as Astrobee have the potential to directly benefit from this technology. IVA robots must be able to perform autonomous state assessment activities such as surveillance, reconnaissance, and leak identification which future orbiting facilities such as Lunar Gateway will require. The developed technology will allow for Astrobee to advance its localization and mapping capabilities as well as provide real-time sensor data of the environment from multiple robots simultaneously.

Commercial space habitats like Axiom Station would directly benefit from this technology. IVA robots will play a critical role in automating tasks onboard commercial space habitats. With the ability to perform autonomous state assessment, surveillance, and reconnaissance of a space habitat, it significantly reduces the required human and financial resources required to maintain a space station.

**Project Library**

All Items Primary Image Download (514.2 KB)

**Primary U.S. Work Locations and Key Partners**

Organizations Performing Work	Role	Type	Location
Metis Technology Solutions, Inc.	Lead Organization	Industry Women-Owned Small Business (WOSB)	Albuquerque, New Mexico
Ames Research Center (ARC)	Supporting Organization	NASA Center	Moffett Field, California

**Organizational Responsibility**

**Responsible Mission Directorate:** Space Technology Mission Directorate (STMD)

**Lead Organization:** Metis Technology Solutions, Inc.

**Responsible Program:** Small Business Innovation Research/Small Business Tech Transfer

**Project Management**

**Program Director:** Jason L. Kessler

**Program Manager:** Carlos Torrez

**Project Managers:** Ryszard L. Pisarski, Jose V. Benavides

**Principal Investigator:** Thomas C. Zurales

**Project Duration**

Start: May 2022 End: May 2024

**Technology Maturity (TRL)**

Start: 3 Current: 3 Estimated End: 4

Applied Research Development Demo & Test

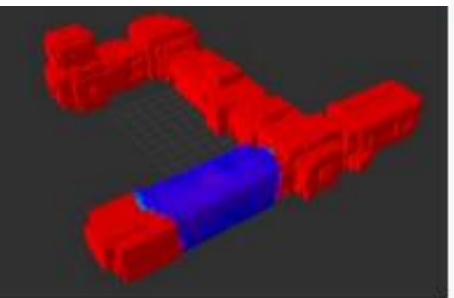
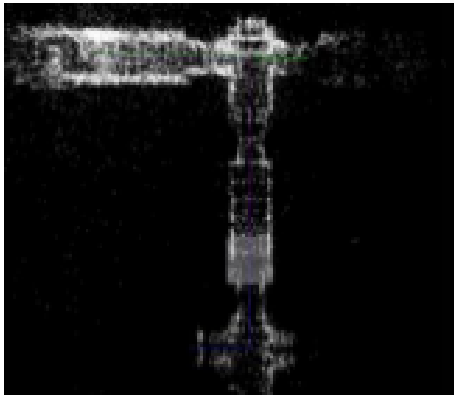
**Technology Areas**

Primary: TX04 Robotic Systems

**Target Destination**

The Moon

[Suggest an Edit](#)



TechPort

Home Taxonomy Framework About Us Help

Search Projects Advanced Search

Home > Search Results

## Search Results

Sort Order: Relevance > Words and Phrases: No Selection > Technology Area: TX04 Robotic Systems, ... > Technology Maturity: Start TRL 3-9, Curren... > Target Destinations: The Moon >

Supporting Organizations: Women-Owned Small Bus... >

**Analysis of your search results**

5 Projects Found Modify Search

**Key Stats:**

- 1 Active
- 4 Completed
- 0 Partnerships

**Technology Maturity:**

**Technology Areas Represented:**

TX01	TX02	TX03	TX04	TX05	TX06
TX07	TX08	TX09	TX10	TX11	TX12
TX13	TX14	TX15	TX16	TX17	

**Export:** PDF

[More search result reports](#)

Listing 1 - 5 of 5 Page 1 of 1 Show Hide

**Collaborative Sensing and Mapping for IVA Robots, Phase II** Active

This is a project within the Small Business Innovation Research/Small Business Tech Transfer Program

Metis Technology Solutions proposes to further mature its online, bi-directional, and robust collaborative SLAM and sensor co-registration technology known as Astrobee Localization and Collaborative Multi-layered Mapping (A-LCMM). The technology allows any Intra-Vehicular Activity (IVA) robot to collect data about its surrounding environment and share it with other robots via a central server to perform localization and mapping tasks. Sensors equipped to each IVA robot can be co-registered and fused with a collaboratively generated physical map of an environment which is stored on a central server. This fused multi-layered map of the environment consists of layers in which...

**Responsible Mission Directorate:** Space Technology Mission Directorate (STMD)

**Lead Organization:** Metis Technology Solutions, Inc.

**Primary Technology Area:** TX04 Robotic Systems

**Start:** May 2022

**End:** May 2024

**Program Director:** Jason Kessler

**Program Manager:** Carlos Torrez

**Project Manager:** Ryszard Pisarski, Jose Benavides

**Principal Investigator:** Thomas Zurales

**SOUL System Maturation, Phase II** Completed

This is a project within the Small Business Innovation Research/Small Business Tech Transfer Program

Busek Co. Inc. proposes to advance the maturity of an innovative Spacecraft on Umbilical Line (SOUL) System suitable for a wide variety of applications of interest to NASA, DoD and commercial missions. SOUL is a small (<10kg) robotic, self-propelled, self-navigating, autonomous vehicle equipped with a tool (e.g. gripper, light, camera etc.)...

**Lunar Navigator - A Miniature, Fully Autonomous, Lunar Navigation, Surveyor, and Range Finder System, Phase II** Completed

This is a project within the Small Business Innovation Research/Small Business Tech Transfer Program

Microcosm will use existing hardware and software from related programs to create a prototype Lunar Navigation Sensor (LNS) early in Phase II, such that most of the effort can be spent in extensive field-testing, making corrections as needed, and critical evaluation of the LNS performance on Earth and projected performance on the Moon. By...

# Strategic Framework



TechPort displays a rollup of NASA's envisioned technology future states.

Provides key information on the types of technologies NASA intends to develop, and where the current gaps are.

**GO: Develop nuclear technologies enabling fast in-space transits.**

*Initial Parallel Path for Nuclear Thermal Propulsion and Nuclear Electric Propulsion Technologies for future Cis-Lunar, Mars and Deep Space Exploration Missions.*

**NEP / Chemical Spacecraft**

- HALEU
- 2 MWe Class
- $\geq 1200$  K Fuel
- $\geq 30\%$  efficient Brayton
- $>500$  K heat rejection

**NASA NTP Spacecraft**

- HALEU
- $> 2700$  K Fuel to support
- $> 900$  s  $I_{sp}$

**DRACO Spacecraft**

- High  $\Delta$ -velocity orbit maneuvering
- Strategic placement of space platforms
- Cis-lunar and Mars transportation staging
- Asteroid rendezvous and sample return
- Robotic and piloted deep space planetary missions including  $<750$  day (TBR) Human Mars round trip
- MWe Class Nuclear Electric Propulsion

- Cis-lunar and Mars transportation including  $<750$  day (TBR) Human Mars round trip
- Synergy with Department of Defense cis-lunar operations
- High thrust stage for fast outer planet, robotic science missions

*All activities depicted not currently funded or approved. Depicts "notional future" to guide technology vision.*

**TechPort**

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Home > Framework

## Strategic Framework

Charting the horizon of NASA technology development

**Space Technology Mission Directorate (STMD)**

STMD rapidly develops, demonstrates, and transfers revolutionary, high pay-off space technologies, driven by diverse ideas.

NASA's Space Technology Mission Directorate (STMD) organizes the agency's technology investments into the Strategic Framework, with the goal of addressing its desired outcomes through technology development. The framework is comprised of 18 Capability Areas, grouped into four categories of investment called Thrusts: Go, Land, Live, and Explore.

Each strategic outcome includes an Envisioned Future that further describes possible futures enabled by achieving the outcome. NASA is engaging the community to validate and improve the end state described in these Envisioned Futures, and update the framework as appropriate. STMD will use these updates to collect technology gaps, prioritize, and plan future content and investments.

Read more about STMD Envisioned Futures 715.7 KB

Feedback Evaluate the Envisioned Futures Priorities

**Go**

Rapid, Safe, and Efficient Space Transportation

- Space Nuclear Propulsion**: Develop nuclear technologies enabling fast in-space transits. (2.1 MB PDF, Watch)
- Cryogenic Fluid Management**: Develop cryogenic storage, transport, and fluid management technologies for surface and in-space applications. (1.9 MB PDF, Watch)
- Advanced Propulsion**: Produce advanced propulsion technologies that enable future science/commercial/exploration missions. (2.3 MB PDF, Watch)

**Land**

Expanded Access to Diverse Surface Destinations

- Precision Landing and Hazard Avoidance**: Develop capabilities to enable lighting-independent precise landing on any terrain. (5.0 MB PDF, Watch)
- Entry, Descent, and Landing to Enable Science Missions**: Develop capabilities enabling small to large missions to efficiently enter any atmosphere within our solar system. (2.8 MB PDF, Watch)
- 20t and Lunar/Mars Global Access**: Develop capabilities to support global access to the moon and Mars including accurate prediction of plume surface interaction. (3.2 MB PDF, Watch)

**Live**

Sustainable Living and Working Farther from Earth

- Advanced Habitation Systems (AHS)**: Keep astronauts healthy and productive while living in space and planetary vehicles. (2.4 MB PDF, Watch)
- In-Situ Resource Utilization**: Develop scalable ISRU production capabilities including sustainable commodities on the lunar and Mars surface. (2.8 MB PDF, Watch)
- Power and Energy Storage Systems**: Develop sustainable power sources and other surface utilities to enable continuous lunar and Mars surface operations. (2.6 MB PDF, Watch)
- Thermal Management Systems**: Develop thermal management technologies that enable surviving the extreme lunar and Mars environments. (1.9 MB PDF, Watch)
- Excavation, Construction, and Outfitting (ECO)**: Develop methodologies for moving regolith for in-situ purposes such as commodities extraction and constructing infrastructure like landing pads and other structures using in-situ resources. (3.6 MB PDF, Watch)

**Explore**

- Advanced Avionics**: Develop advanced avionics to
- Advanced Manufacturing**
- Autonomous Systems and Robotics**

# TechPort Funding Opportunities Tool



- TechPort's Funding Opportunities tool allows users to filter for NASA opportunities that best fit their needs based on:
  - Role or organization
  - Funding needed
  - Technology maturity
- Learn which opportunities are the best fit for you at <https://techport.nasa.gov/opportunities>
- NASA does not collect or store information provided by users of this page

## Funding Opportunities

### Interested in developing technology with NASA?

Tell us about the types of opportunities you are looking for. Please note, this page is for informational purposes only, and solicitation dates are subject to change. This information does not constitute a solicitation. To respond to a funding opportunity listed, please access and respond according to the provided solicitation link. NASA does not collect or store any of the information provided by users of this page.

#### Your roles or organization:

- General Public / Innovator
- Small Business
- Large Business
- Non-Profit or Research Institution
- International
- NASA
- Undergraduate Student
- Graduate Student
- High School Student
- Other Academic Researcher
- Minority-Serving Institution

#### Funding Needed

\$0 - \$15,000,000

#### Technology Maturity ⓘ

TRL 1 - 9

These opportunities might be a good fit for you:

Clear all filters

34 results found

Funding Opportunity	Average Project Funding	Average Duration (Months)	Frequency	Next Opportunity	Mission Directorate	Topic-Specific or Open
Announcement of Collaboration Opportunity	\$1,000,000	24	Every 2-3 years	TBD	STMD	Topic
BIG Idea Challenge	\$180,000	9	Annual	2024/01	STMD	Topic
Centennial Challenges	\$500,000	36	Ongoing	Ongoing	STMD	Topic
Early Career Faculty	\$600,000	36	Annual	2024/02	STMD	Topic
Early Stage Innovations	\$650,000	36	Annual	2023/04	STMD	Topic
Established Program to Stimulate Competitive Research (EPSCoR)	\$750,000	36	Annual	2023/11	OSTEM	Topic
Gateways to Blue Skies Competition	\$6,000	1	Annual	2024/02	ARMD	Open
NASA Innovative Advanced Concepts Phase I	\$175,000	9	Annual	2023/06	STMD	Open
NASA Innovative Advanced Concepts Phase II	\$600,000	24	Annual	2023/11	STMD	Open

#### Other helpful resources:

##### NASA TechPort

Use TechPort to search for thousands of NASA technologies.

Read more

##### Strategic Framework

Learn about NASA's envisioned future for technology development.

Read more

##### Technology Transfer

The NASA Technology Transfer program ensures that innovations developed for exploration and discovery are broadly available to the public.

Read more



Contact us at [hq-techport@mail.nasa.gov](mailto:hq-techport@mail.nasa.gov).

<https://techport.nasa.gov>



# Hi!

Maggie Yancey,

Entrepreneurship Lead

NASA | The Science and Space Technology Mission  
Directorates

[Margaret.A.Yancey@NASA.gov](mailto:Margaret.A.Yancey@NASA.gov)

[www.linkedin.com/in/maggie-a-yancey-8334297/](https://www.linkedin.com/in/maggie-a-yancey-8334297/)



**The Bridge Seed Funding Program:** enables faculty at under-resourced institutions (URIs) to initiate or expand upon activities with NASA researchers that, over the course of a two-year period, will provide the foundation for a future proposal to increase their competitive position to lead or partner on future SMD proposals, future Bridge Partnership solicitations and/or NASA mission proposals in the future.

<https://science.nasa.gov/smd-bridge-program>

**Research Initiation Award (RIA):** Providing a 2-year research award for up to \$300K for faculty/researchers with the involvement of undergraduates at non-R1 institutions. Proposers from eligible minority-serving institutions, primarily undergraduate institutions, and community colleges are encouraged to apply.

Informational Webinar for Proposers on Bridge and RIA | Wednesday, May 24, 2023 1-2:30 pm ET |

<https://go.nasa.gov/404qx1j>



# Innovation Corps (I-Corps) – Apply Today!



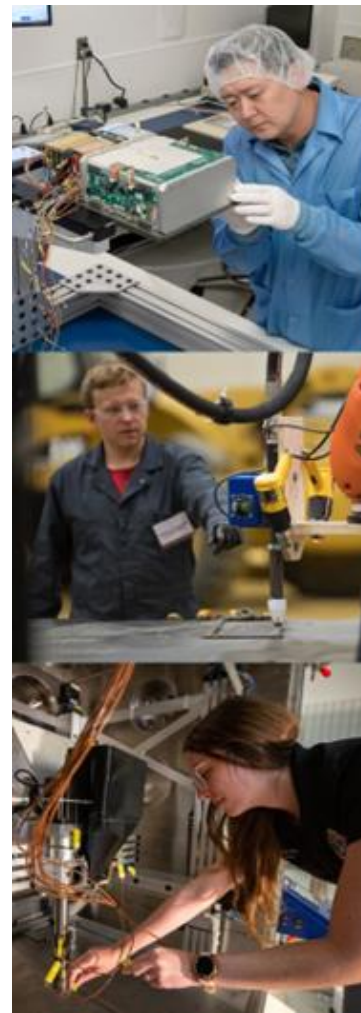
*Are you ready for your innovation to take off?*

## Join NASA's Innovation Corps Pilot today

Apply to participate in an immersive entrepreneurship training designed to help you take your idea from the lab to the marketplace. The opportunity is designed for not-for-profit entities, such as academia & nonprofit research institutions.

### Build your capabilities through the NASA Innovation Corps:

- **Informed decision-making** to facilitate research and/or technology transitions and new NASA funding opportunities
- Facilitated focus and inspiration on the **commercial potential** of proposed research and/or technology
- Advanced **workforce development opportunities** in science missions and space technology by preparing students with a foundational education in entrepreneurship
- Enhanced **entrepreneurial mindsets**



**Interested in exploring potential customers?** Form your team and apply today for a **\$10k grant** to support your team & customer discovery. Subsequent funding up to **\$40k** will also be available.

### Easy lift proposal - 6 pages or less - due to NSPIRES by:

- May 19, 2023; September 8, 2023; January 26, 2024; March 29, 2024.

### Stay Connected

Create a NSPIRES account and subscribe to the newsletters for reminders and updates and read the full solicitation for the most accurate and up-to-date information.





A NASA I-Corps Pilot team must include a Technical Lead, an Entrepreneurial Lead.

- **The Technical Lead** serves as the Principal Investigator (PI) of the award, the Entrepreneurial Lead should be listed as a Co-I, and the Industry Mentor as a collaborator. The Technical Lead provides a deep and direct technical expertise in the relevant core research and/or technology area the I-Corps team is exploring.
- **The Entrepreneurial Lead** has relevant knowledge of the research and/or technology area and guides translation of the research and/or technology if the project demonstrates the potential for commercial viability.
- **The Industry Mentor** is responsible for advising the team through the duration of the course(s) and usually has contacts in the industry area being explored. The Industry Mentor may not receive a stipend or consultancy fees through the grant.



*"Participating in the NASA Innovation Corps Pilot was a tailored, intense, and well-structured experience that got the wheels turning in my brain. Through customer discovery, I gained a deeper understanding of how my research can explore potential real-world applications and it opened up numerous options for me, and I personally benefited greatly from participating."*

*Erina Vela, Queens College –  
Entrepreneurial Lead for  
NASA Short Course Team*



# NASA Science Mission Directorate Entrepreneurs Challenge

The 2023 NASA Entrepreneurs Challenge recognizes and supports entrepreneurs working on technology that advances the agency's science goals, particularly in lunar exploration and climate science.



Round 1:  
**Technical Paper  
and Pitch Deck**



**20 Awardees**

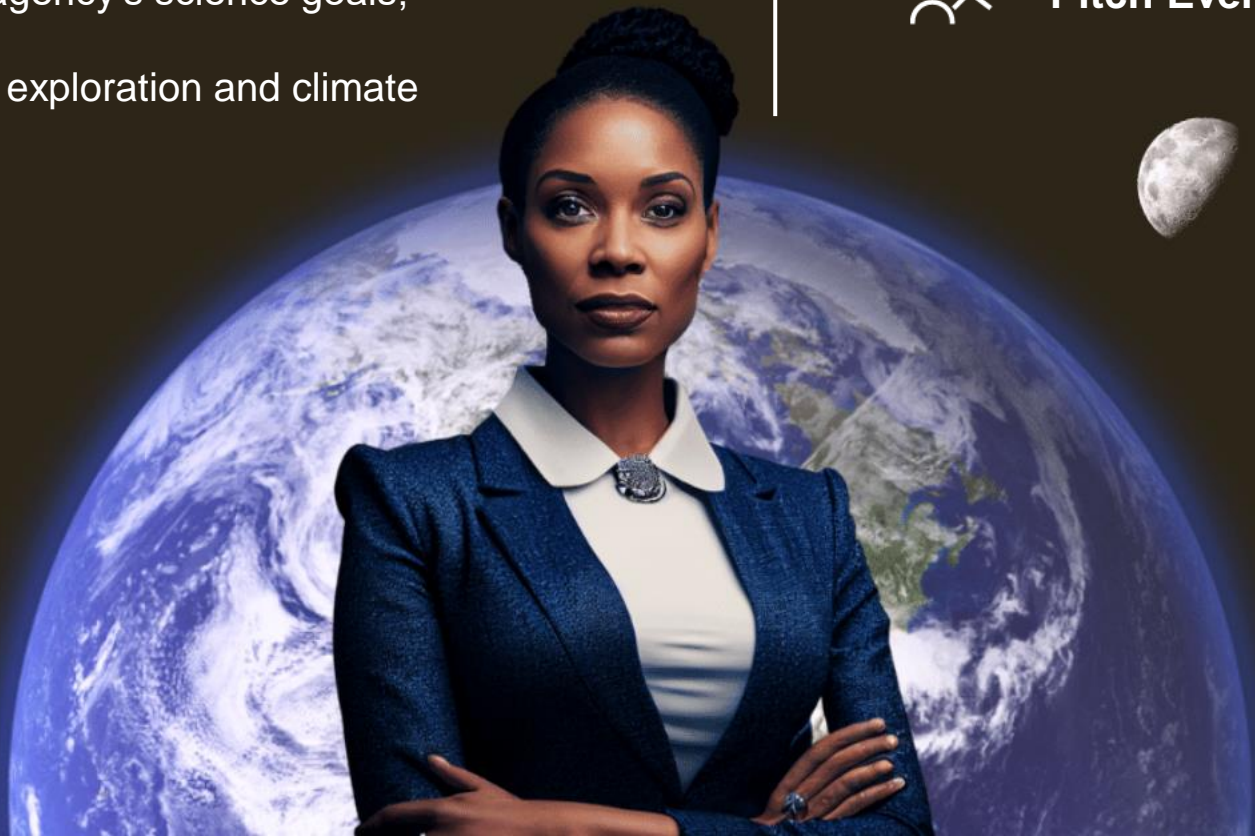


Round 2:  
**Pitch Event**



**\$1M in Prizes**

Be part of launching lunar payloads and unlocking climate science today!





THE POWER OF COLLABORATION

CONSORTIUM FOR SPACE MOBILITY  
AND ISAM CAPABILITIES

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## Briefing to Space Grant STMD Working Group

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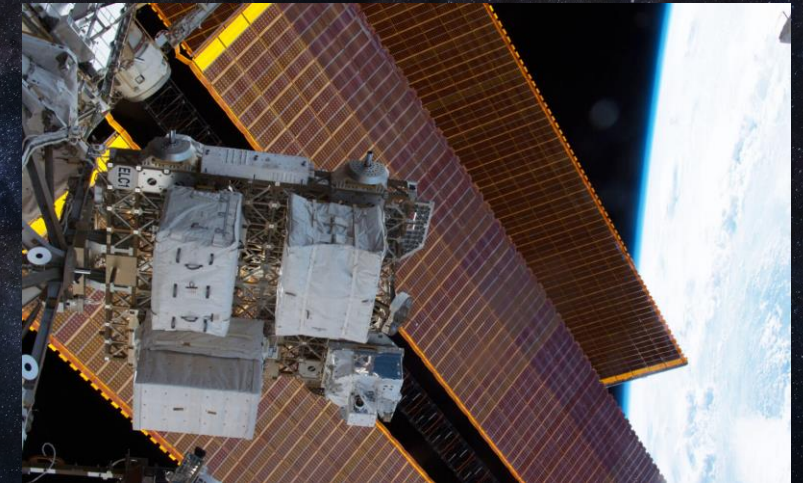
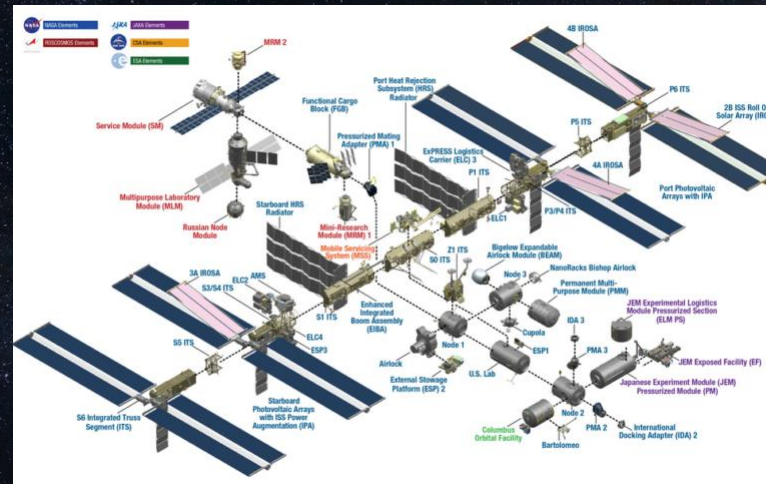
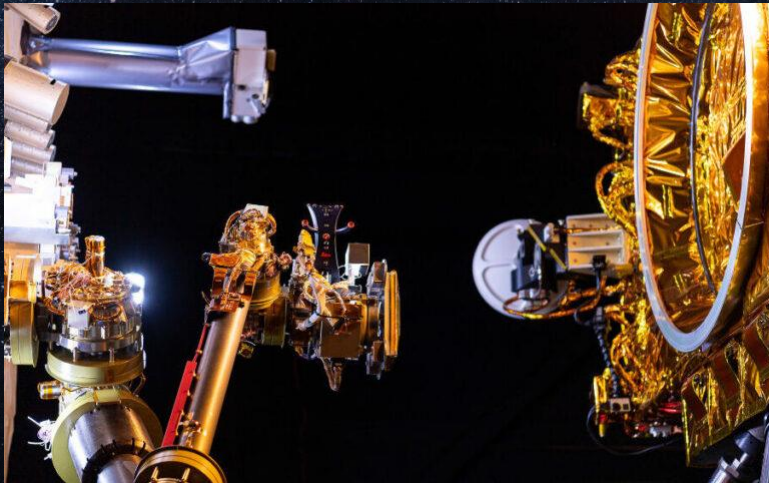
Greg Richardson  
COSMIC Executive Director  
The Aerospace Corporation

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April 28, 2023

# What is ISAM?

- Design of modular, serviceable, upgradeable, and evolvable systems
- Assembly of simple to complex space systems
- Manufacturing in space using Earth- and locally-sourced materials



# Why Now?

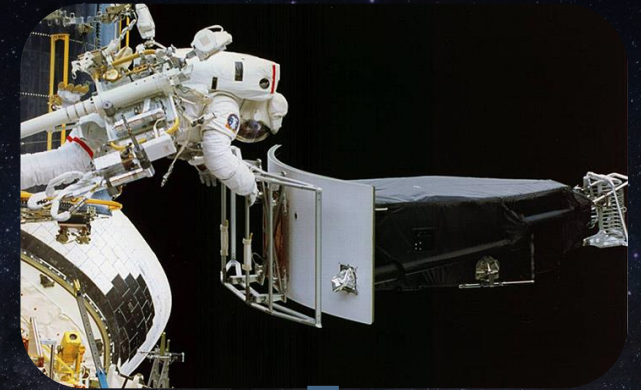
## *ISAM National Strategy and Implementation Plan*

### Foster an ecosystem to leverage ISAM capabilities

- Support and stimulate USG, academic, and commercial ISAM capability development
- Consistent with US Space Priorities Framework (Dec 2021)

### Strategic goals

1. Advance ISAM research & development
2. Prioritize expanding scalable ISAM infrastructure
3. Accelerate the emerging ISAM commercial industry
4. Promote international collaboration and cooperation
5. Prioritize environmental sustainability
6. Inspire a diverse future space workforce



# COSMIC: A Nationwide Alliance for ISAM



- Vision:

- Create a nationwide alliance that enables the U.S. space community to provide global leadership in ISAM.

- Mission:

- Making ISAM a routine part of space architectures and mission lifecycles.

# Goals and Objectives

## Capability Development

*Develop, mature, and demonstrate ISAM technologies that enable and enhance mission utility.*



- *Promote coordinated development and demonstration of new ISAM technologies*
- *Provide access to digital, ground, and space test opportunities and infrastructure to transform technologies into fielded capabilities*
- *Incubate and advocate promising technologies with applications to new ISAM markets*

## Ecosystem Economics

*Promote U.S. leadership in ISAM technologies and capabilities that change the business model away from single-use space assets.*



- *Facilitate transfer of ISAM technologies to commercial market*
- *Encourage collaboration among industry and government members*
- *Support organizations in the development of open standards and norms*
- *Navigate the ISAM legal and regulatory perspectives*

## Mission Applications

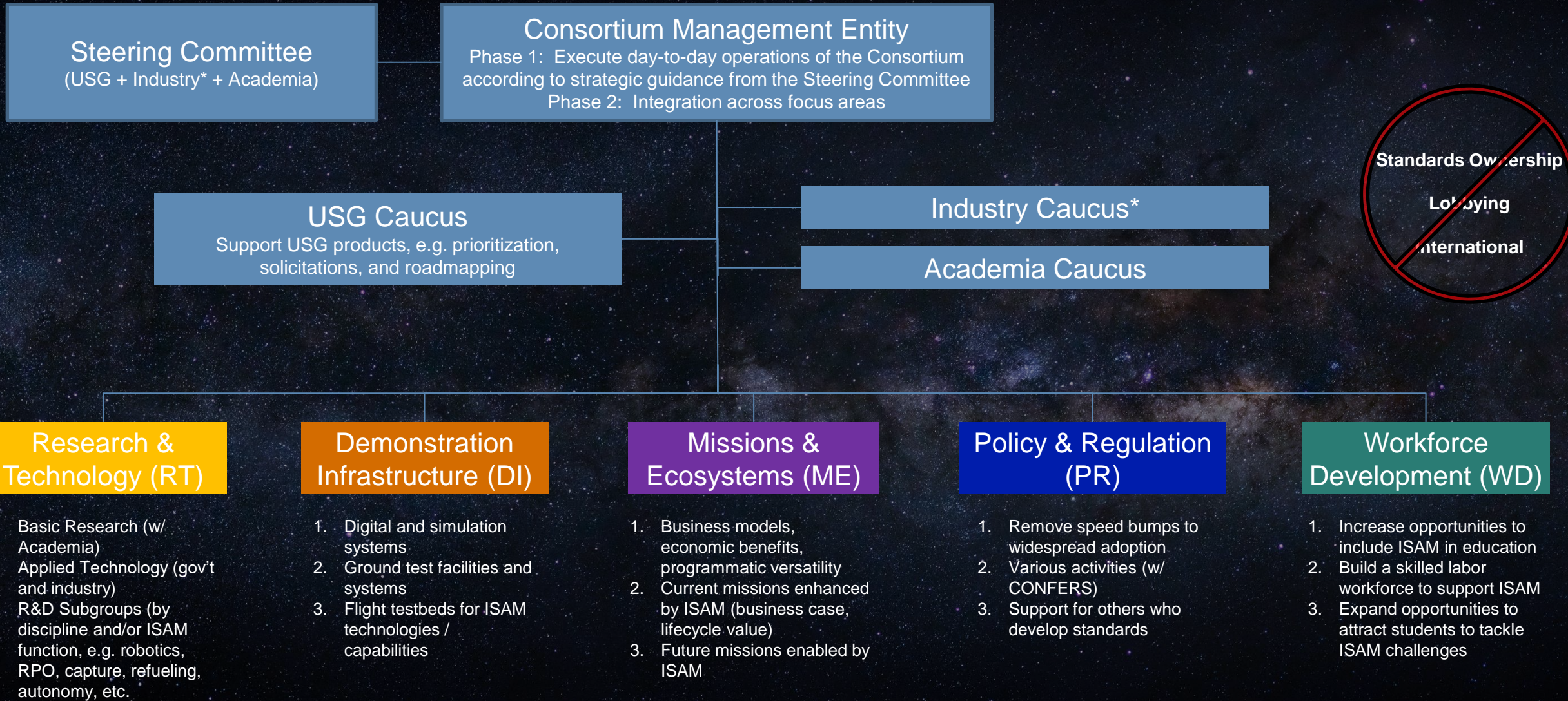
*Encourage and guide missions to use ISAM capabilities as part of commercial and government program lifecycles.*



- *Collaborate to define future missions and architectures that require or benefit from ISAM capabilities (“guide stars”)*
- *Influence the incorporation of ISAM into government and commercial space activities*
- *Maintain knowledge of available ISAM capabilities, ongoing activities, and existing facilities, and communicate this information to mission developers*
- *Prioritize environmental sustainability*

***A nationwide alliance working collaboratively to make ISAM a routine part of the space mission lifecycle***

# Organization



## Research & Technology (RT)

1. Basic Research (w/ Academia)
2. Applied Technology (gov't and industry)
3. R&D Subgroups (by discipline and/or ISAM function, e.g. robotics, RPO, capture, refueling, autonomy, etc.)

## Demonstration Infrastructure (DI)

1. Digital and simulation systems
2. Ground test facilities and systems
3. Flight testbeds for ISAM technologies / capabilities

## Missions & Ecosystems (ME)

1. Business models, economic benefits, programmatic versatility
2. Current missions enhanced by ISAM (business case, lifecycle value)
3. Future missions enabled by ISAM

## Policy & Regulation (PR)

1. Remove speed bumps to widespread adoption
2. Various activities (w/ CONFERS)
3. Support for others who develop standards

## Workforce Development (WD)

1. Increase opportunities to include ISAM in education
2. Build a skilled labor workforce to support ISAM
3. Expand opportunities to attract students to tackle ISAM challenges



# COSMIC Coordination



Present Day

3Q FY22

4Q FY22

1Q FY23

2Q FY23

National



Public  
\*US Only



COSMIC  
Feedback Session\*

DoD



NASA



Academia



Industry



# Call to Action

Today

- Sign up for the COSMIC mailing list at [cosmicspace.org](https://cosmicspace.org)
- Ask questions & provide opinions



Summer 2023

- Attend COSMIC engagement sessions
- Talk to others in your network about COSMIC

Fall 2023

- Attend the COSMIC kickoff in Oct/Nov
  - Working sessions about consortium activities and products
- Attend monthly Focus Area meetings

2024+

- Support COSMIC's steady-state cadence
- Finalize products and identify plans for the next year
- Help our ISAM community continually improve and thrive

***Making ISAM a routine part of space architectures and mission lifecycles***

A composite image featuring a view of Earth from space in the foreground, showing the blue ocean and white clouds. The background is a vast view of the Milky Way galaxy, with a bright, glowing core of yellow and orange light. The text "Thank you!" is overlaid in a bold, yellow font on the left side of the image.

**Thank you!**