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# 2025 ISSNL UAC Annual Kickoff Meeting

## Washington, DC

January 15, 2025

# Agenda

**9:00 – 9:15:  Welcome/Opening Comments -** ISSNL CEO - Ray Lugo, UAC Chair – Mark Gittleman

**9:15 – 10:15: ISSNL Update**

- CASIS 2024 Highlights, Solicitation Calendar – Ray Lugo
- Budget/Legislative update – Paul Stimers
- ISS flight opportunities update – Robbie Hampton
- Workforce Development – Laurie Provin
- Research “Graduation” criteria discussion – Ryan Reeves

**10:15 – 10:30:  Break**

**10:30 – 11:15: NASA Update**

- ISS Program update – Ryan Prouty
- Microgravity Research Institute update – Christie Cox

**11:15 – 11:45: UAC Update**

- UAC goals and expectations for 2025 – Mark Gittleman
- Commercial Service Providers (CSP) 2025 initiative – Mark Gittleman

# Agenda (continued)

**11:45 – 1:00 Lunch** (On your own)

**1:00 – 2:10: UAC Update – Continued**

- Knowledge Sharing initiative – Henry Hanson
- Results from UAC public meeting at ISSRDC (discussion) – Mark Gittleman
- Should the UAC continue to hold a public meeting at ASGSR? (discussion)
- Recruiting and onboarding new members – Nicole Wagner
- Breakout session:  How can we make the UAC more effective? – Mark Gittleman

**2:10 – 2:30  Break**

**2:30 – 3:30: Zoom meeting with all UAC members**

- ISSNL updates
  - UAC 101 presentation – Robbie Hampton
  - ISS Research Facilities Directory – Phil Irace
- Highlights from the UAC 2025 kickoff meeting

**3:30 – 4:00: Wrap-up, closing comments, and adjourn**

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# Welcome and Opening Comments

Ray Lugo, ISSNL CEO
Mark Gittleman, UAC Chair

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# ISS National Lab Update

Ray Lugo, ISSNL CEO

# 2024 By the Numbers

| | |
|---|---|
| 18% | Increase in Social Media presence (followers) |
| 117 | Concepts submitted for Tech Dev (record) |
| 11% | Increase in proposal quality (Very goods or excellent) |
| 50% | Reduction in Contract turnaround times |
| 103 | ISS National Lab projects delivered |
| ~$ 25M | External funding for ISS National Lab projects |

# First Ever - Igniting Innovation Selections

**Cedars-Sinai Medical Center:**

**University of Connecticut & Eascra Biotech**

**University of California, San Diego**

**University of Texas MD Anderson Cancer Center**

**Wake Forest Institute for Regenerative Medicine (WFIRM)**

- Selected first ever multi-year-multi flight projects on igniting innovation solicitation
  - Over $7M awarded
  - First time CASIS has collaborated with NASA's BPS
  - o BPS contribution of $1M for FY24 and FY25

# More partners, more success

- Established MOU with NASA to allow STP Payloads to fly through ISSNL, securing another government customer for future flights.
- Engagement with NSF TIPs program resulted in external sponsorship of additional 2 payloads on ISSNL manifest.
- New partnership with NIH – on Tissue Chips 2.0, leveraging additional external funding.
- BPS partnering with ISSNL for $1M Igniting Innovation 2 (FY25)
- Added NSF's Division of Materials Research to participating list of NSF directorates working with ISSNL.
- Continued partnership with Boeing and Mass Challenge on TISP.
- Awarded final Sustainability Challenge project from Estee Lauder.
- First multi-year donation from private donor in support of STEM programs.
- Over 40 conference attendances



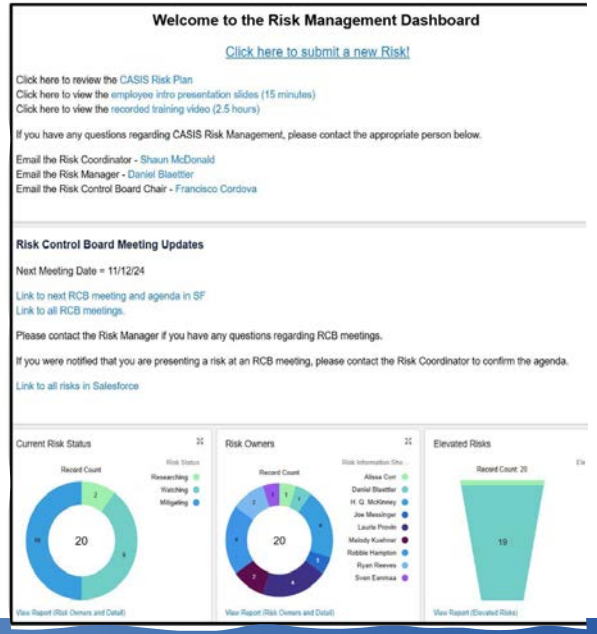
ESTĒE LAUDER

NIH National Center for Advancing Translational Sciences

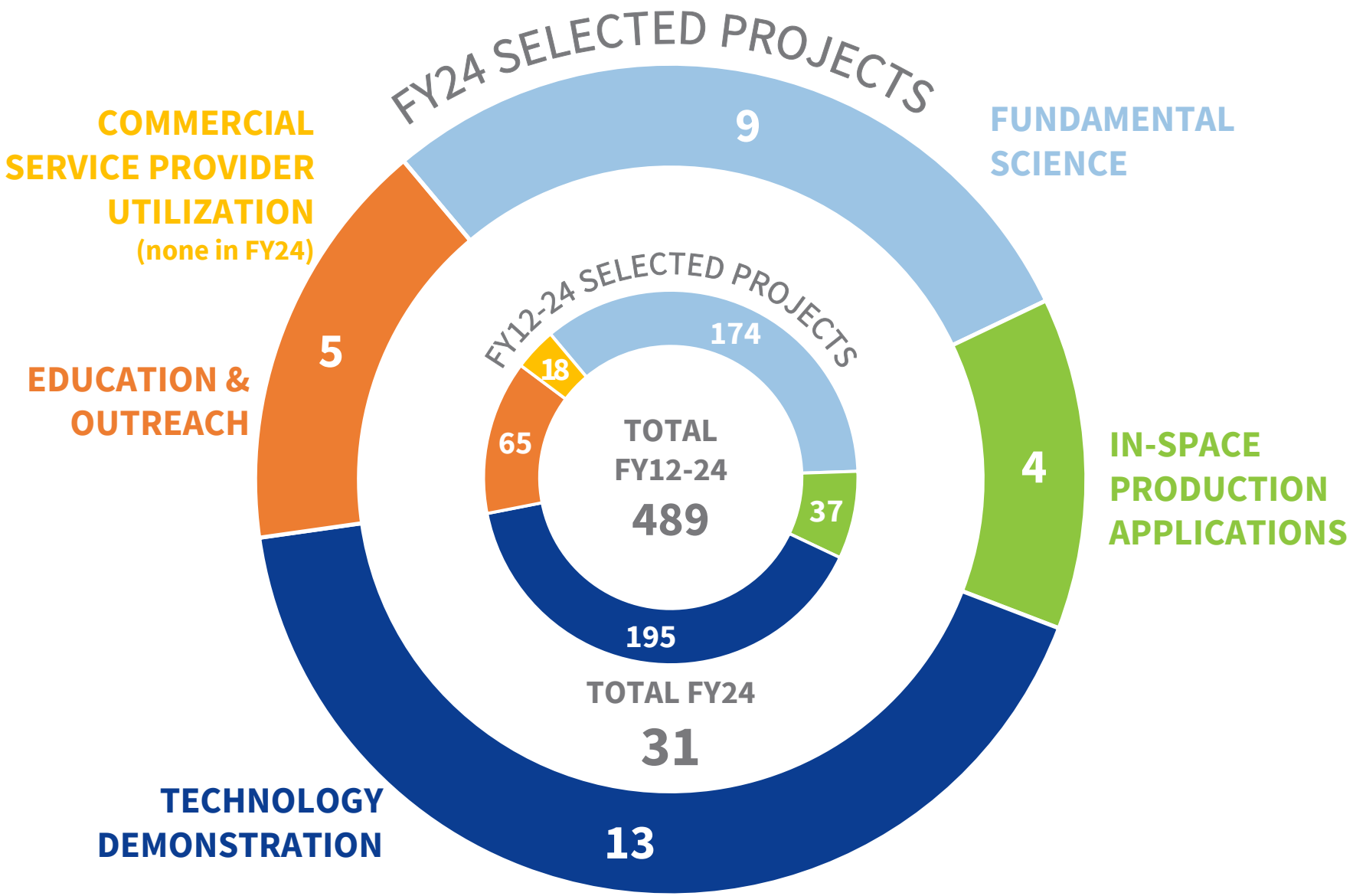
BOEING

# Improve, Improve, Improve

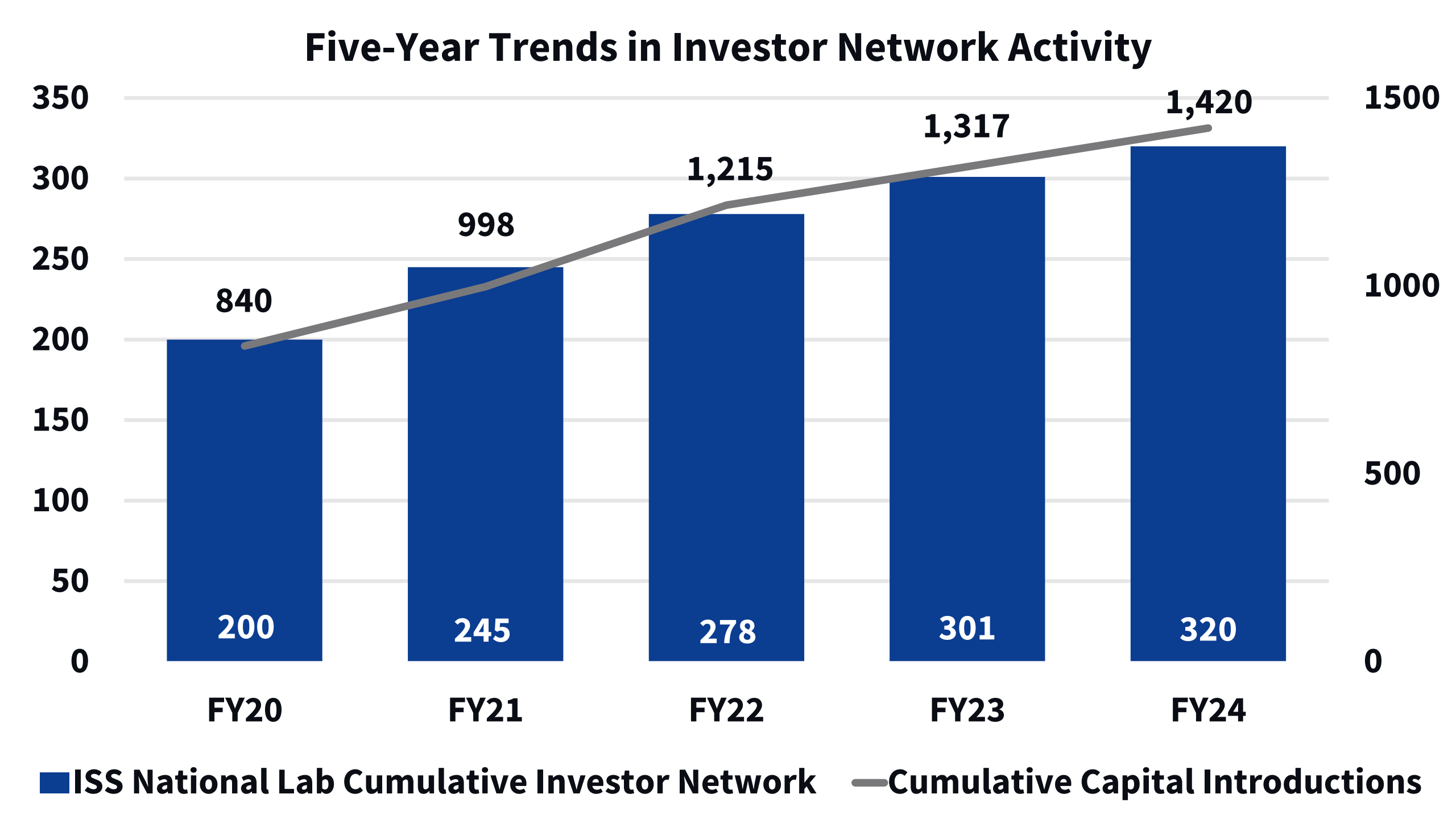
- Launched new website!
- Implemented web-based submission forms.
- Developed the ISS Research Facilities Directory.
- Established risk control board.
- Developed long term resource utilization forecast.
- Selected new office location.
- Implemented new Travel approval process.
- Record Sponsorships @ ISSRDC
- Professional Development for over 15 staff members.



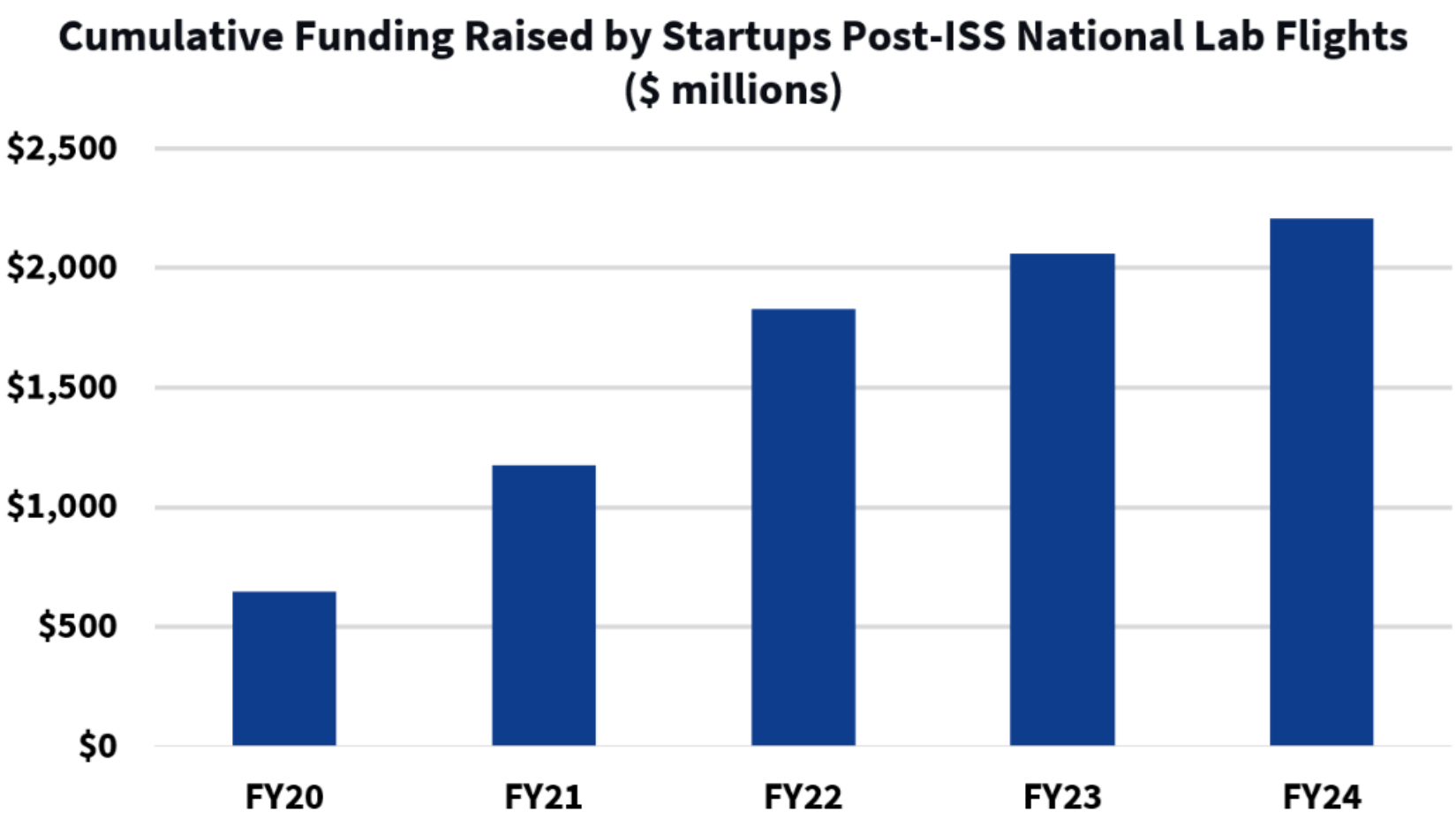

# Projects Selected - FY24 and Total to Date

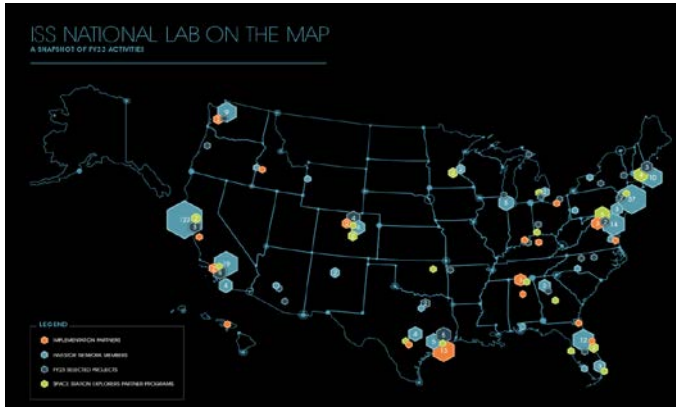



Note: This chart represents the ISS National Lab's strategic focus areas which were implemented in FY21. Projects selected before FY21 were re-categorized post-selection as accurately as possible using the new classification system.


Five-Year Trends in Investor Network Activity
350
300
250
200
150
100
50
0
1500
1000
500
0
840
998
1,215
1,317
1,420
200
245
278
301
320
FY20
FY21
FY22
FY23
FY24
ISS National Lab Cumulative Investor Network
Cumulative Capital Introductions

# FUNDING RAISED POST ISSNL FLIGHT



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# ISS National Lab 2025 Look Ahead

Ray Lugo, ISSNL CEO

# A New Approach

## Previous approach

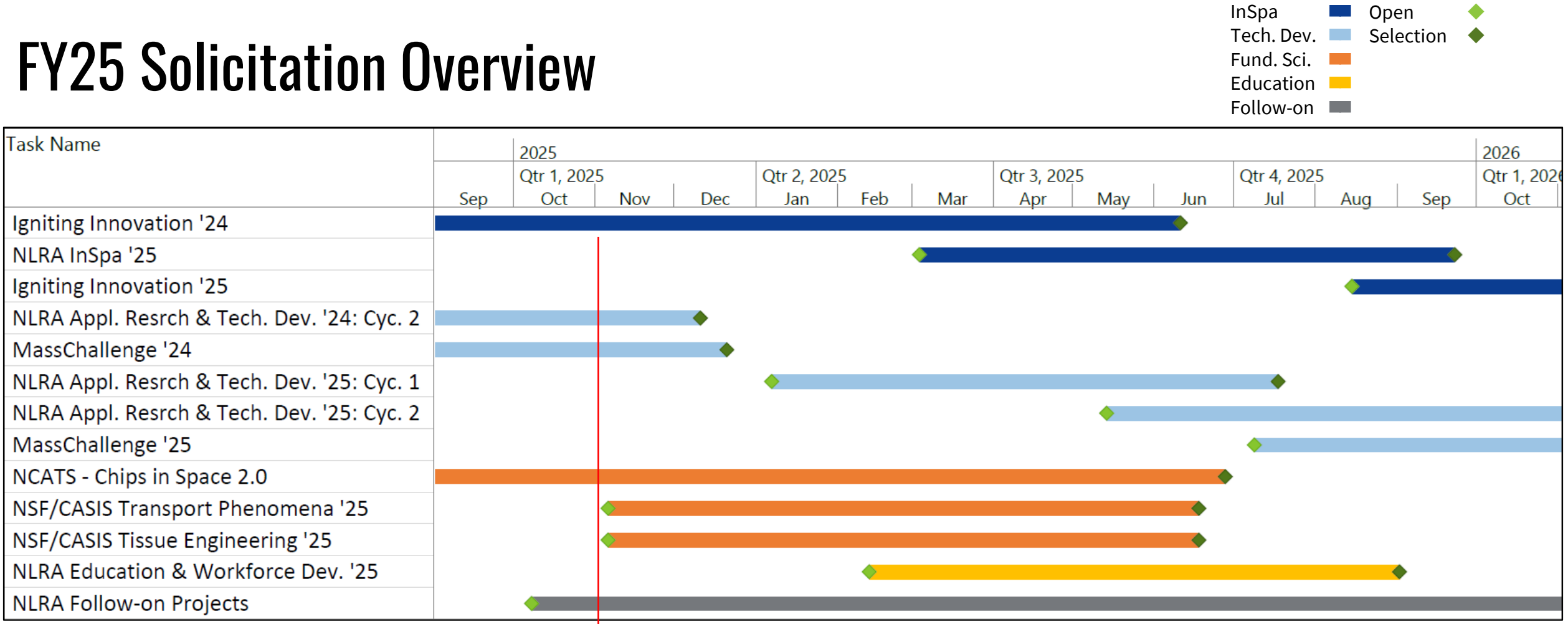
- NLRA cadence is 1-2 NRLAs per year for each line of business
- More awards with smaller values
- Drive volume of payloads through solicitations

## Current Approach

- Consolidated award expectations by line of business
- Fewer projects, target higher value and multiple flights (e.g., Igniting Innovation)
- Drive iterations with Solicitation for Follow-on Projects
- Accommodate  CSPs and RRFs (Resource Request Forms)

**Goal: Maximize project impact and ISS National Lab usage with an eye towards the transition for 2030**

# FY25 Solicitation Overview




## Changes from FY24

Igniting Innovation reclassified from Tech Dev to INSPA

INSPA Bio and Advanced Materials combined into a single INSPA solicitation

NCATs Chips in Space 2.0 Solicitation for Follow-on Projects *New!

# FY25 Solicitation Budget

| Research Announcement | CASIS Funding | NASA MI&O Funding | Projects Selected Estimate* |
|---|---|---|---|
| Technology Development NLRA Cycle 2 - FY24 | $150K | $500K | 3 |
| Boeing/CASIS Technology In Space Prize (MassChallenge) | $357K | | 2 |
| Igniting Innovation 2024 | $3.0M | | 2 |
| Follow-on Project Solicitation | $250K | | 1 |
| NSF/CASIS Tissue Engineering | | $1.5M | 3 |
| NSF/CASIS Transport Phenomena | | $1.5M | 3 |
| Technology Development NLRA Cycle 1 - FY25 | $150K | $500K | 3 |
| Education NLRA FY25 | $350K | | 2 |
| In-Space Production Applications NLRA FY25 | $750K | | 2 |
| Igniting Innovation 2023 BPS MI&O | | $1.0M | |
| **Total** | **$5.0M** | **$5.0M** | **21** |

*** Does not include 1-2 expected NCATS awards, NASA INSPA awards that fly under ISS NL allocation**

# And there's more to come for FY25…

- Benefitting our IP Community
  - Revamped IP Portal
  - Research Facilities Directory 2.0
  - Enhanced Investor Portal
- Improved PI Experience
  - Welcome Kit for ISSNL PI's
  - Updated PI training
- Enhanced Communication
  - Upward
  - Thought leadership pieces
- Workforce Development Program Launch
  - Internship program
  - Revamped Ambassador program
- More Partnerships with Accelerator Programs
- Back to Seattle for ISSRDC

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# Budget/Legislative Update

Paul Stimers, Partner, Holland and Knight, LLP

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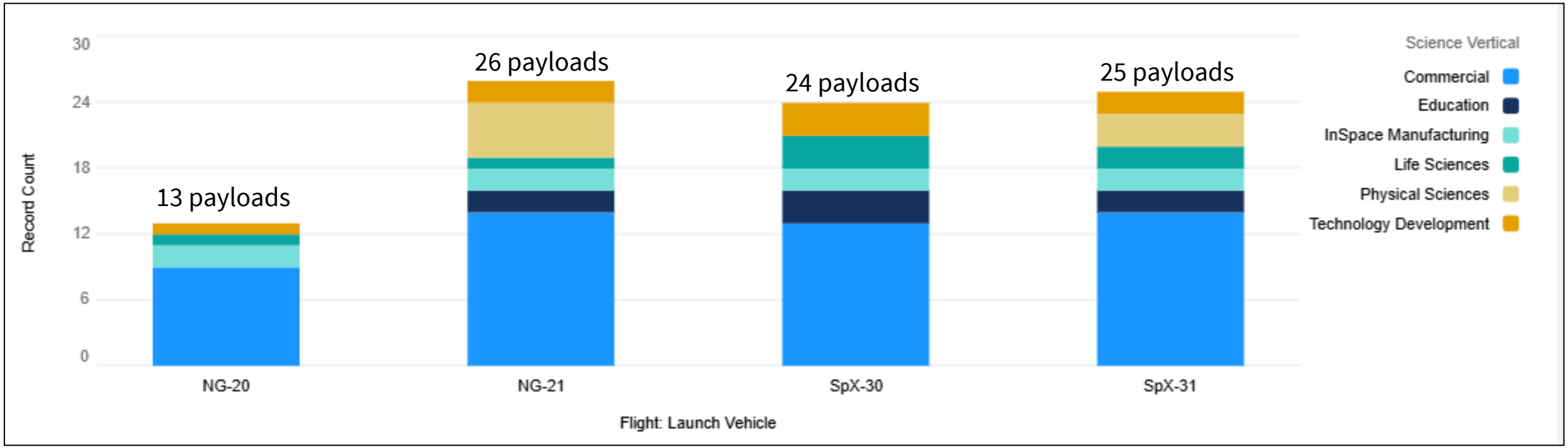
# ISS Flight Opportunities Update

Robbie Hampton, Director of Operations

# 2024 – A year in review




| Launch Vehicle | Increment | # of Payloads Launched | Launch Year |
|---|---|---|---|
| SpX-27 | 68 | 19 | 2023 |
| NG-19 | 69 | 20 | 2023 |
| SpX-28 | 69 | 8 | 2023 |
| SpX-29 | 70 | 17 | 2023 |
| CY 2023 Total Payloads | | **64** | |

versus

| Launch Vehicle | Increment | # of Payloads Launched | Launch Year |
|---|---|---|---|
| NG-20 | 70 | 13 | 2024 |
| SpX-30 | 70 | 24 | 2024 |
| NG-21 | 71 | 26 | 2024 |
| SpX-31 | 72 | 25 | 2024 |
| CY 2024 Total Payloads | | **88** | |

↑ Increase in the # of ISSNL sponsored payloads launching in 2024

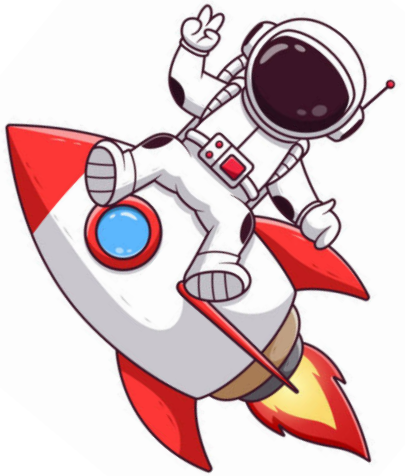
# 2024 – A year in review

| Launch Vehicle | Increment | Actual NL Pressurized Upmass (kg) | Actual Total (NL + NASA) Upmass (kg) | NL % of Utilization | Launch Year |
|---|---|---|---|---|---|
| SpX-27 | 68 | 278.3 | 509.8 | 55% | 2023 |
| NG-19 | 69 | 210 | 756.9 | 28% | 2023 |
| SpX-28 | 69 | 51.5 | 107 | 48% | 2023 |
| SpX-29 | 70 | 143 | 541 | 26% | 2023 |
| 2023 CY Average | | 170.70 | 478.68 | 39% | |
| NG-20 | 70 | 673.2 | 825.9 | 82% | 2024 |
| SpX-30 | 70 | 683 | 805 | 85% | 2024 |
| NG-21 | 71 | 283.7 | 512.8 | 55% | 2024 |
| SpX-31 | 72 | 387 | 847 | 46% | 2024 |
| 2024 CY Average | | 506.725 | 747.675 | 67% | |

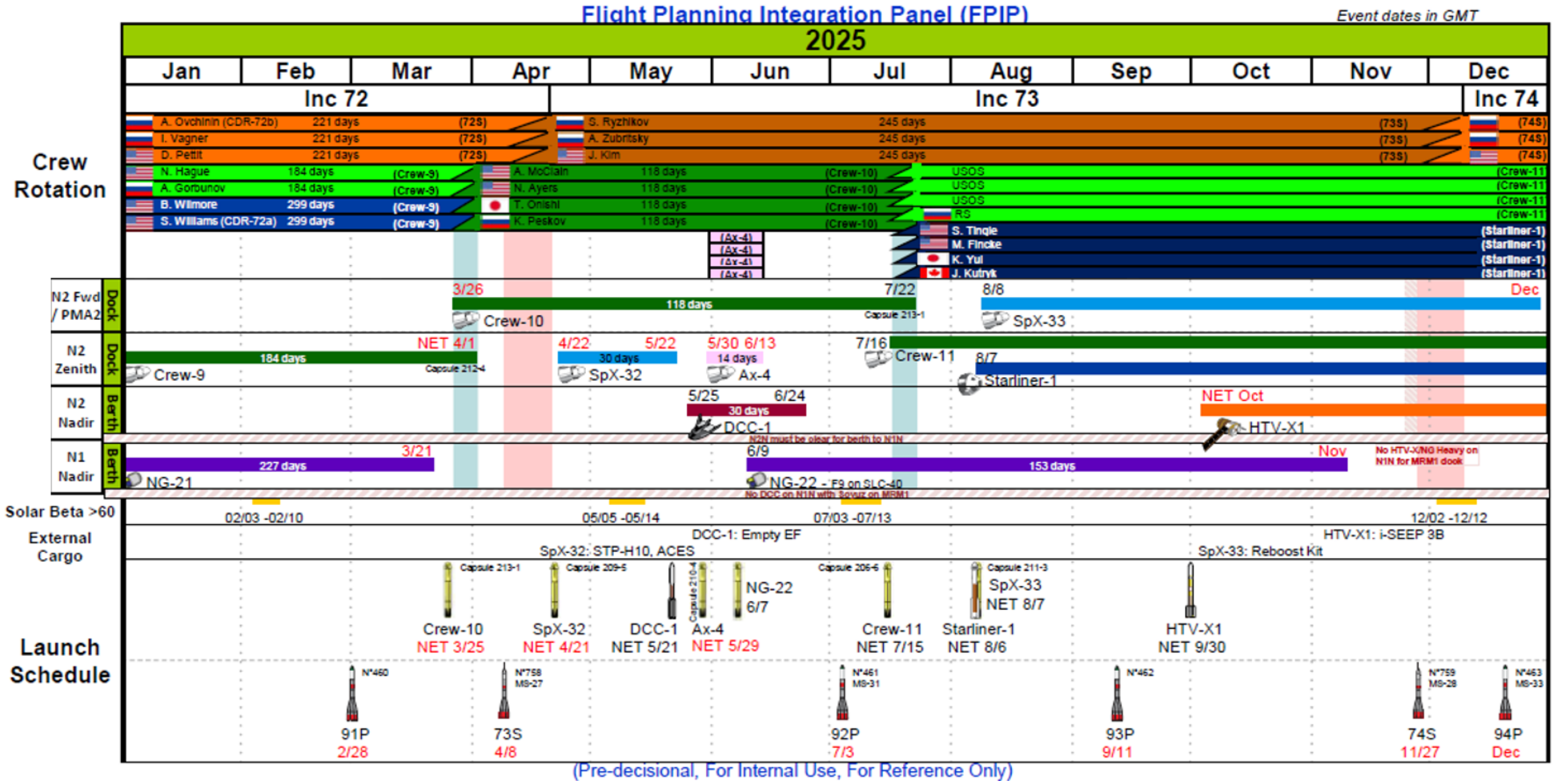
2024 Northrop Grumman cargo flight average upmass **479 kg**

ALL 2024 cargo flights average upmass **507 kg**

2024 SpaceX cargo flight average upmass **535 kg**

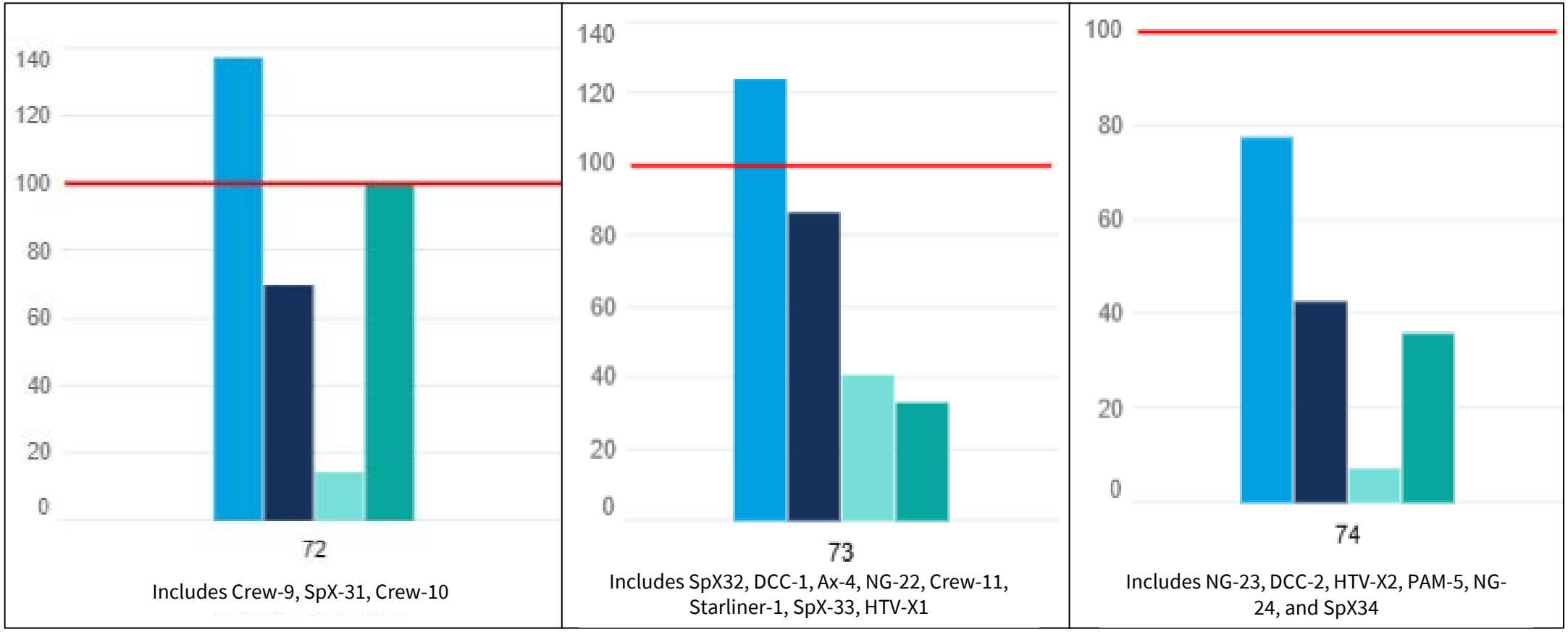


↑Increase in ISSNL sponsored upmass launched in 2024




FPIP as of 12/31/24

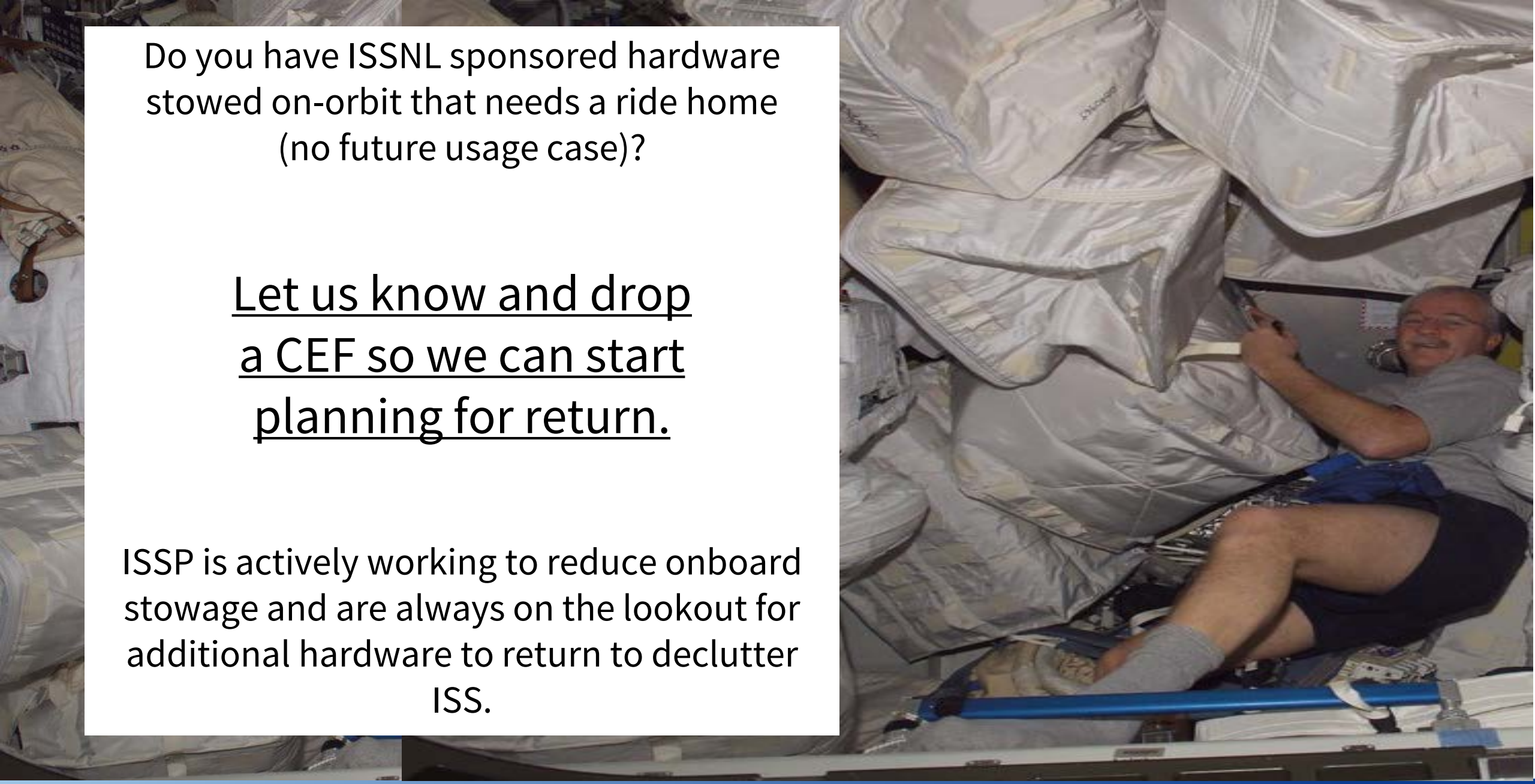
## Ascent Flight Proposed Utilization by Increment




Take Aways:

- Starting with Inc 73, increment will change from 6 months to 8 months each
- SpX32 and Ax-4 manifests locked
- Upmass and cold stowage resources expected to be scarce for the foreseeable future
- Expect 4 cargo flights per year, 2 having return capability

# Upmass/Resources based on Increment



Do you have ISSNL sponsored hardware stowed on-orbit that needs a ride home (no future usage case)?

Let us know and drop a CEF so we can start planning for return.

ISSP is actively working to reduce onboard stowage and are always on the lookout for additional hardware to return to declutter ISS.

# Public Service Announcement

Photo Credit: NASA

(iss011e06401)

# What's next?

- Upmass and cold stowage resources expected to be scarce for the foreseeable future.
- Expect 4 cargo flights per year, 2 having return capability
  - Notionally, one of each: SpX-Dragon, NG-Cygnus, SS-DreamChaser, JAXA-HTV-X
- We have been underrunning Crewtime;  with the cargo flights spread out as planned, we have crewtime between flights to take advantage of.
- Maintain schedules to avoid missing flight opportunities

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# Workforce Development

Laurie Provin, ISSNL Director of Strategic Engagement and STEM

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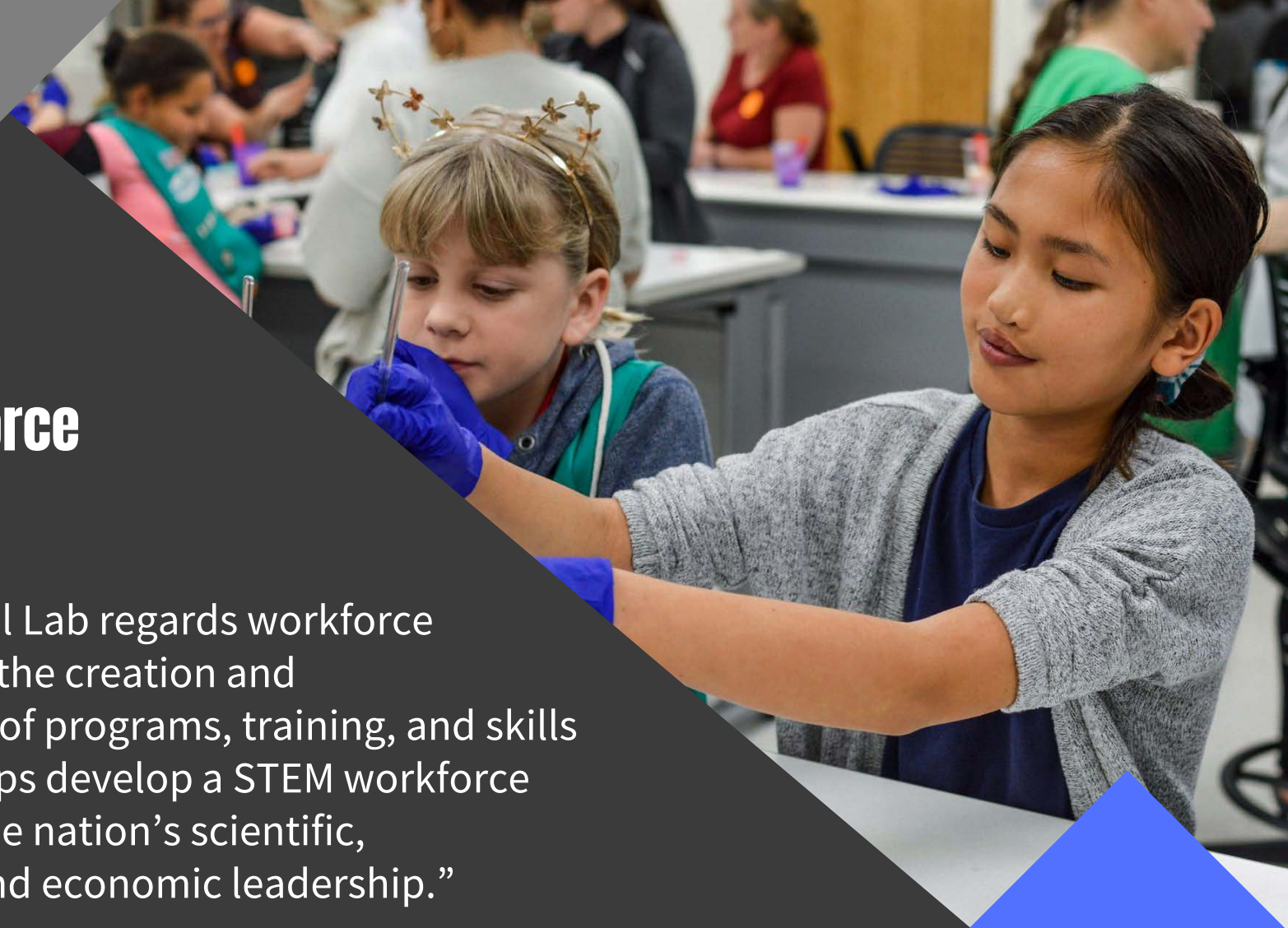
# What is Workforce Development?



“The ISS National Lab regards workforce development as the creation and implementation of programs, training, and skills building that helps develop a STEM workforce which ensures the nation’s scientific, technological, and economic leadership.”

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# Three Pillars of ISS National Lab Workforce Development Program

## 01

## BREADTH

- Focus on K-12 experiences that spark interest and reach many students and educators.

## 02

## DEPTH

- Providing direct personal experiences and training for higher education students.

## 03

## EVOLUTION

- Program will grow and change based on data-driven feedback and customer satisfaction.

# BREADTH

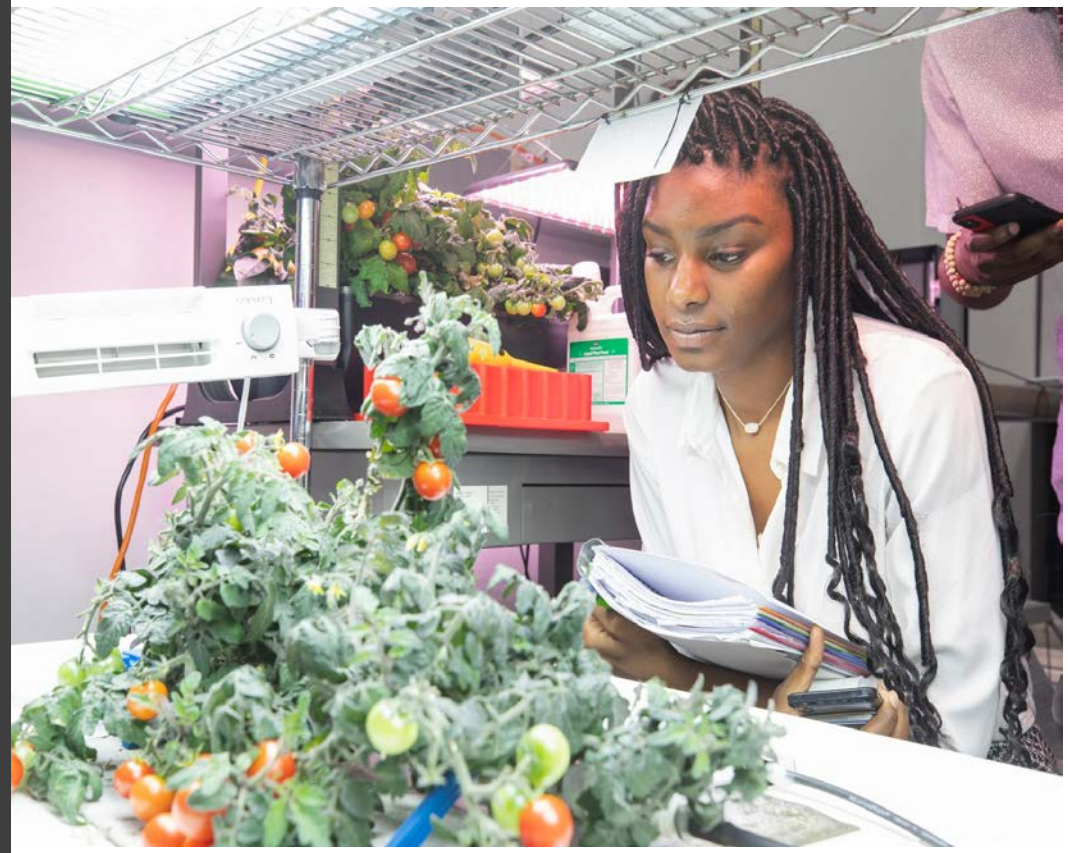
- Revised NLRA focus
  - Aligns with workforce development goals and aims
  - Investing in new programming with demonstrated technology
  - Focus mostly K-12
- Cultivating new partnerships with organizations already focused on workforce development
- Honoring legacy programs and partners with large reach and proven success by sparking engagement
- Metrics refined to include qualitative, quantitative, and longitudinal data where possible
- Ambassador program reimagined for deeper impact
- Focus on Informal/Family Learning to further address audience gap, allowing us to imprint and lead

# DEPTH

- **Paid Internship Program**: Core of ISSNL Workforce Development Program (WFD)
- Pilot Year of Cost Share Program
- Inclusive of non-technical areas
- Leveraging Existing CSP/IP Internship Programs
- Establish Guidelines for Participating CSP/IP
  - **Feedback**: Gathered from CSPs and interns
  - **Surveys**: Multi-year longitudinal
  - **Training**: Networking, resume, interview skills, first year on the job

- Internships will be inclusive of Jr./Technical Colleges and underrepresented and underserved individuals

- **Fellowship**: James A. Abrahamson
  - **Job Database**: Space jobs and resumes



# DEPTH Cont.

- **NLRAs**: Graduate student data
- **Webinars**
  - ASGSR for career awareness
  - Record the Internship Training for on-demand viewing
- **SEDS**
  - Agreed to send SEDS members to ISSRDC to participate in Education Day
- **Education Day at ISSRDC**: Expand ISSRDC to 150+ higher education students

# EVOLUTION

- Data driven changes
- Responsive to industry/customer needs
- Short term and long-term measurement
  - Kiosk Surveys
  - Pop-Up Surveys
  - Needs Assessment Surveys

# RECAP

## 01 BREADTH

K-12 Focus, sparks engagement, broad reach

## 02 DEPTH

Higher Ed, personal experience and upskilling opportunities

## 03 EVOLUTION

Responsive improvements utilizing qualitative and quantitative data

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# Research “Graduation” Criteria Discussion

Ryan Reeves, ISSNL Director of Science and Technology

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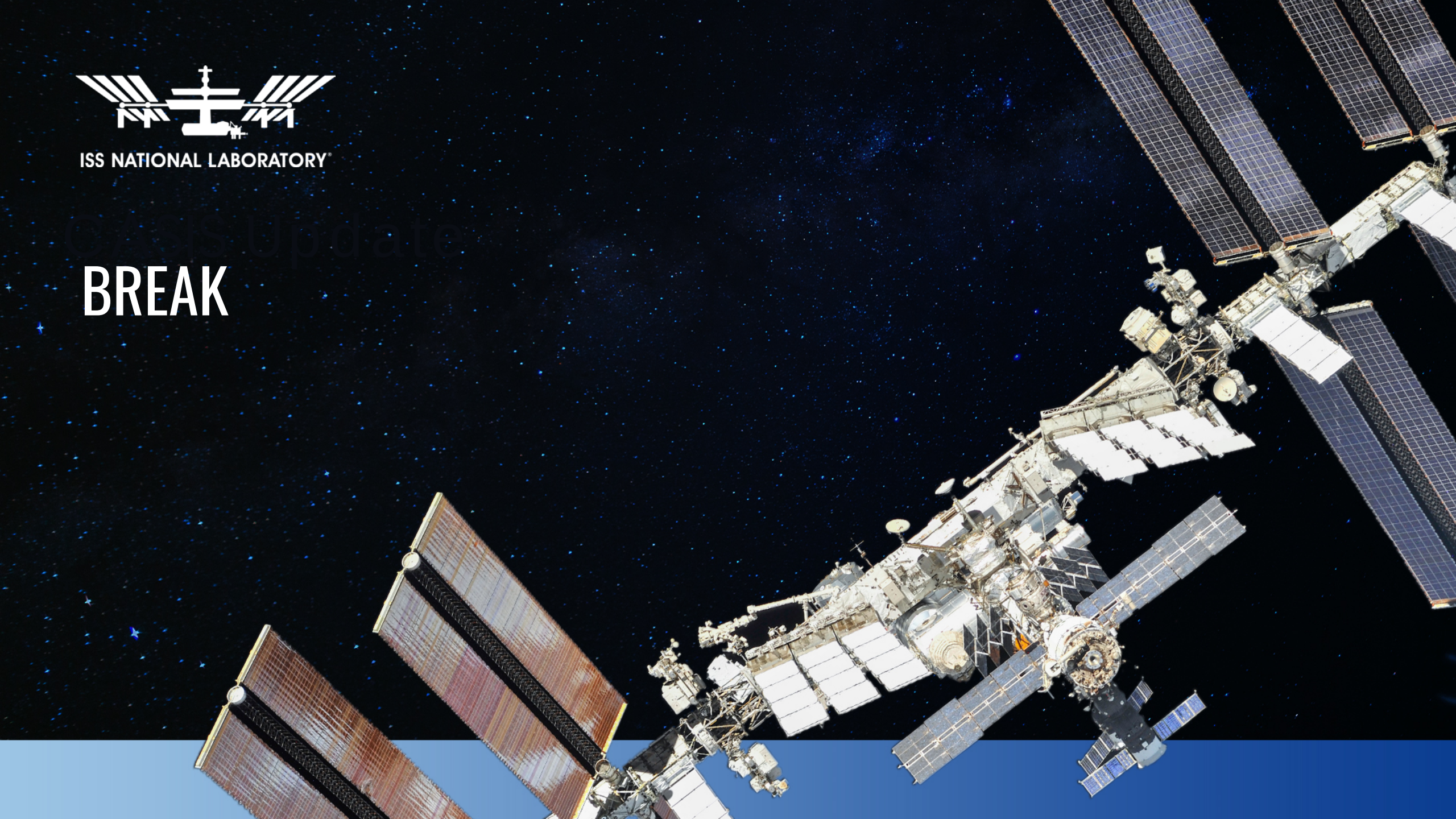
# BREAK



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# ISS Program Update

Ryan Prouty, Manager, ISS Research Integration Office
Christie Cox, Utilization Manager - ISS Division

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# UAC Updates

Mark Gittleman, UAC Chair

# UAC Update

- Current Membership and Subcommittee Chairs
- 2025 Goals, Objectives, and Key Initiatives
- Calendar of events
- CSP Subcommittee Plans for 2025

# UAC and Subcommittees

As of: 1/10/25

UAC Chair: Mark Gittleman, Aegis Aerospace Inc.

G Government U University I Industry N Non-profit/NGO

## Science Subcommittee

- G **Ronald Joslin** NSF *Chair*
- I **Deidre Dalmas Wilk** GlaxoSmithKline
- I **Paul Reichert** Merck & Co
- U **Peter Lee** Brown University
- Potential candidate pending
- Potential candidate pending

NASA Observer: Meg Everett
CASIS Observer: Mike Roberts

## Applied R&D Subcommittee

- I **Nicole Wagner** LambdaVision *Chair*
- I **Ioana Cozmuta** G-Space, Inc.
- I **Robert Garmise** Bristol Myers Squibb
- N **David Kusuma** World Design Org
- I **TBD** Axiom Space
- I **Dmitry Starodubov** DSTAR Comms

NASA Observer: Kevin Engelbert
CASIS Observer: Sven Eenmaa

## Tech Development Subcommittee

- I **Henry Hanson** adidas *Chair*
- I **Brian Hess** RevBio
- I **Austin Morris** Kall Morris Inc
- I **Lisa McKerracher** BioAxone BioSciences Inc
- U **Elena Plis** Georgia Tech Research Inst
- I **Ryan Elliott** In Orbit Aerospace Inc
- I **Joe Pawelski** CisLunar Industries

NASA Observer: Christie Cox
CASIS Observer: Phillip Irace

## Educational Outreach Subcommittee

- N **Illana Raia** Etre Girls *Chair*
- U **Cady Coleman** MIT Media Lab, ASU
- I **Ted Tagami** Magnitude io
- I **Danny Kim** Quest Institute
- U **Melissa Pore** STEM Educator
- N **Stephen White** COSI
- N **Teresa Drew** STEM Next Opp Fund

NASA Observer: Jorge Sotomayor
CASIS Observer: Laurie Provin

## Comm Svc. Provider Subcommittee

- **Rich Boling** Redwire Space *Chair*
- I **Twyman Clements** Space Tango
- U **Stefanie Countryman** BioServe
- I **Ken Shields** Sierra Space
- I **Kris Kuehnel** Airbus DS Space Systems
- I **Scott Copeland** Boeing
- I **Mary Murphy** Nanoracks
- I **Tara Ruttley** Blue Origin
- I **Olivia Holzhaus** Rhodium

NASA Observer: Mike Read
CASIS Observer: Laurie Provin

# UAC 2025 Goals, Objectives, Key Initiatives

Context:

- 2030 ISS end-of-life
- CLDs and other private space stations may or may not be operational by then
- The threat of “a gap” is real and includes both a possible physical gap and a more probable business gap, where facilities are in space and functional, but not accessible.
- Expectation of a significant reduction in up/down mass for science & tech dev.
  - Starting now because of a 25% - 40% reduction in cargo missions to/from the ISS (from 4-5 per year to 3 per year)
  - Reduction for CSPs could be >>40% compared to recent availability
  - Some CSPs may not survive this, resulting in loss of science and tech dev capabilities on the ISS
  - Resulting business impact would ripple through science/tech dev activity and investment decisions - for years
- US National Space Policy (Dec. 2020) and NASA’s LEO Microgravity Strategy (Dec. 2024) both recognize and support the need a robust commercial services sector:

It is the policy of the United States to ensure that space operations are consistent with the following principles:

> *“A robust, innovative, and competitive commercial space sector is the source of continued progress and sustained United States leadership in space. The United States remains committed to encouraging and facilitating the continued growth of a domestic commercial space sector that is globally competitive, supports national interests, and advances United States leadership in the generation of new markets and innovation-driven entrepreneurship”*

# UAC 2025 Goals and Expectations, cont.

Opportunity: Educate all stakeholders on:

- The close symbiotic relationship between in-space Science/Tech Dev and the CSP community
- The need to avoid a gap of any kind
- The potential impact on microgravity research post-ISS if a gap is permitted
- What is needed to ensure that commercial providers remain a viable part of the country's microgravity R&D capability
- How the ISSNL is critical to sustaining and growing the country's in-space commercial service infrastructure through ISS end-of-life

Primary Objective: Get the science and CSP communities to "sing with one voice" on their mutual need for each other, the risks, and the need:

- To avoid a gap of any kind, or a substantial reduction in to/from ISS logistics support
- To convince NASA and Congress to support in-space Science and Tech Dev by sustaining and growing the current commercial space services ecosystem in order to promote a robust future commercial services ecosystem and LEO economy

# UAC 2025 Goals and Expectations, cont.

Basic Approach:

- Enlist CASIS to help by providing and/or generating key statistics tying CSP facilities and services to science and R&D results such as products brought to market, patents, papers published & referenced, STEM experiments (impact on students), jobs, etc.
- Work with and through the UAC subcommittees on specific plans, actions, and products in support of this objective, potentially including white papers, briefings, and actions by individual organizations
  - Establish regular communications among & between sub comm chairs and UAC chair.
- More communications and greater collaboration among the subcommittees where feasible and useful.
  - I'd be interested in hearing the subcommittee chairs' thoughts on how to do this during break.

# 2025 UAC Calendar of Events

**UAC Annual Kick-off Meeting** (UAC Chairs, CASIS, NASA)

January 15, 2025

**UAC Public Meetings**

ISSRDC July 28 - 31 Seattle, Washington

ASGSR?

**UAC Core Committee Quarterly Meetings** (UAC and subcommittee chairs)

Spring/March

Summer/June

Fall/September

Winter/December

**Subcommittees** (at least quarterly)

Education: Bi-weekly (every other Thursday/moving to monthly)

Applied Research & Development: Quarterly (Jan 20; April 28; July 21; Oct 20. All @ 2:00-3:30 p.m. Eastern Time)

Science: Quarterly

Technology Development: Monthly (2nd Monday)

Commercial Service Providers: Monthly (4th Tuesday)

# Commercial Service Provider Subcommittee 2025 Plans

# CSP Subcommittee 2025 Plans

- The CSP subcommittee is unanimous that the transition from ISS to private stations will create a perilous time for commercial service providers, especially if there were a “gap”.
- We believe many or all of CSP businesses will go into a steep decline around 2027 if the ISS is going to be de-commissioned in 2030, given today’s logistics planning.
  - This means that NASA risks that there will be no commercial services available to the CLDs because some, most, or maybe all of today’s CSPs will not survive this decline.
  - If this generation of CSPs and entrepreneurs are wiped out, then it will take a new generation of entrepreneurs to develop the will, the businesses, and systems required to start a new commercial LEO service economy/ecosystem.
- The subcommittee plans to focus on doing what it can to help prevent this from happening
- We will focus on helping the UAC get the science and CSP communities to “sing with one voice” on their mutual need for each other, the risks, and the need:
  - To avoid a gap of any kind, or a substantial reduction in to/from ISS logistics support
  - To convince NASA and Congress to support the CSP community to sustain and grow the commercial space ecosystem and the science/tech dev community by preserving CSPs and CSP capabilities

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# Knowledge Sharing Initiative

Henry Hanson, UAC Technology Development Subcommittee Chair

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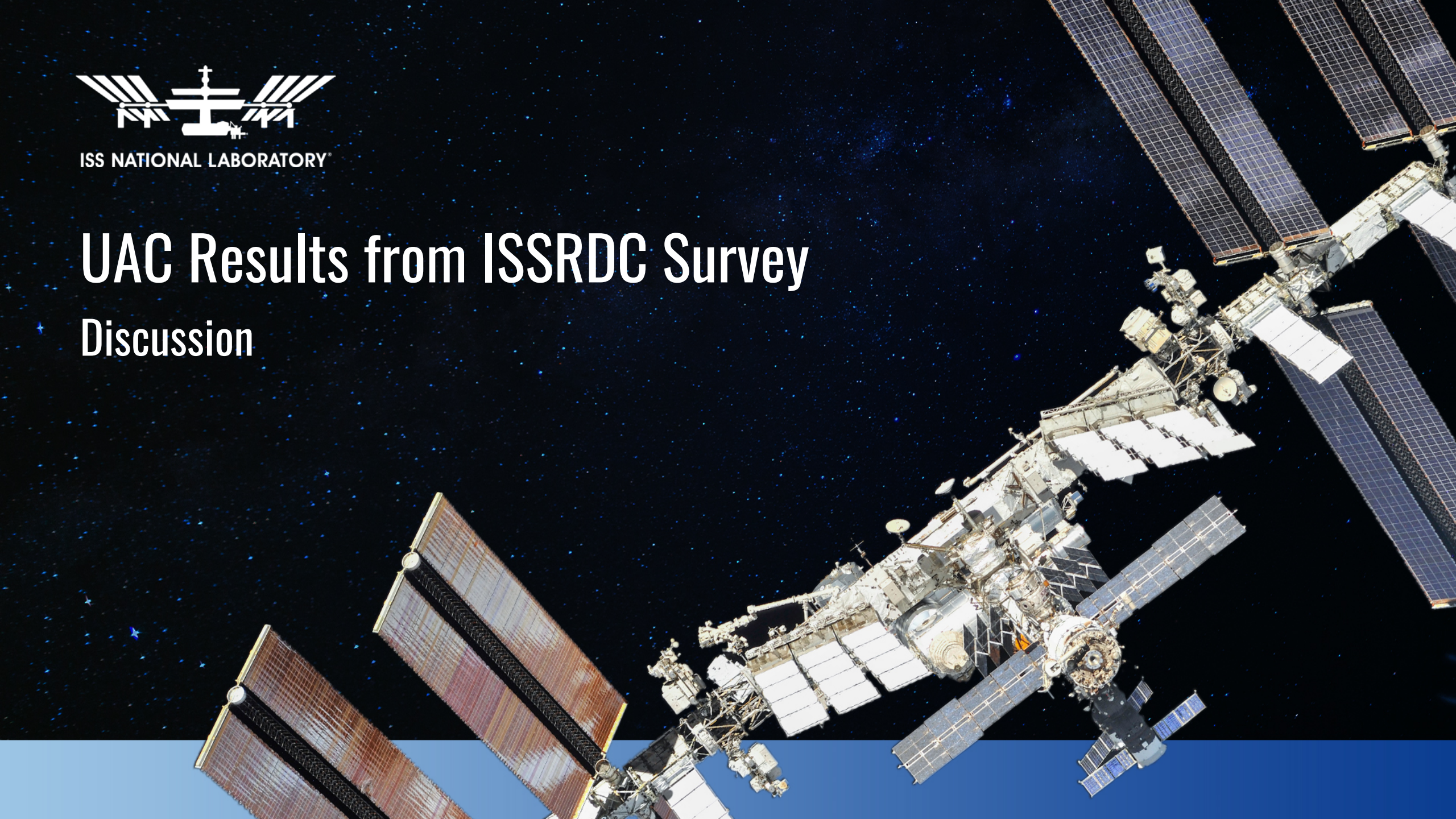
# UAC Results from ISSRDC Survey

## Discussion



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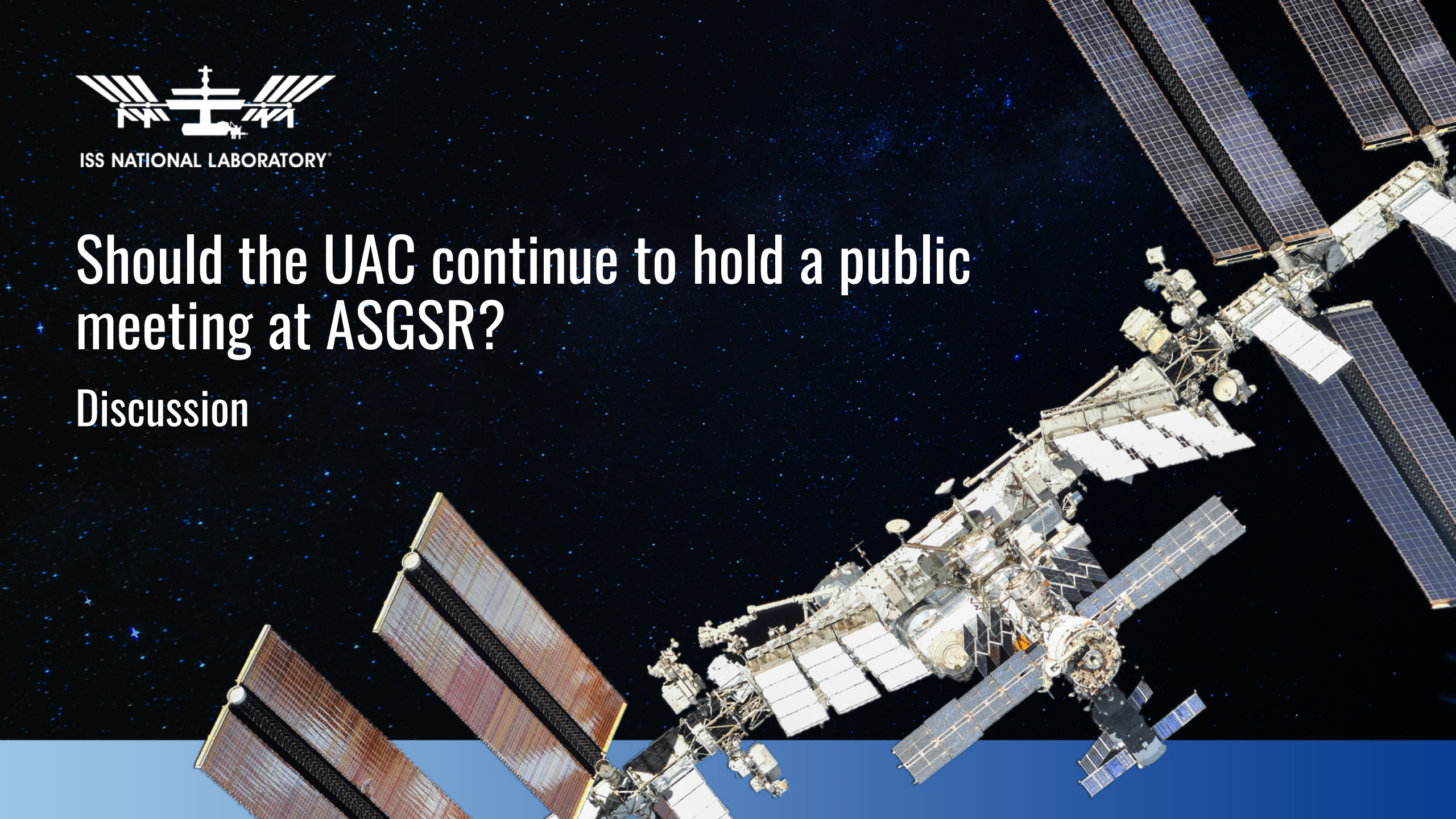
# Should the UAC continue to hold a public meeting at ASGSR?

## Discussion



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# Recruiting/Onboarding New UAC Members

Nicole Wagner, UAC Applied Technology
Subcommittee Chair

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# How can we make the UAC more effective?

## Breakout Session

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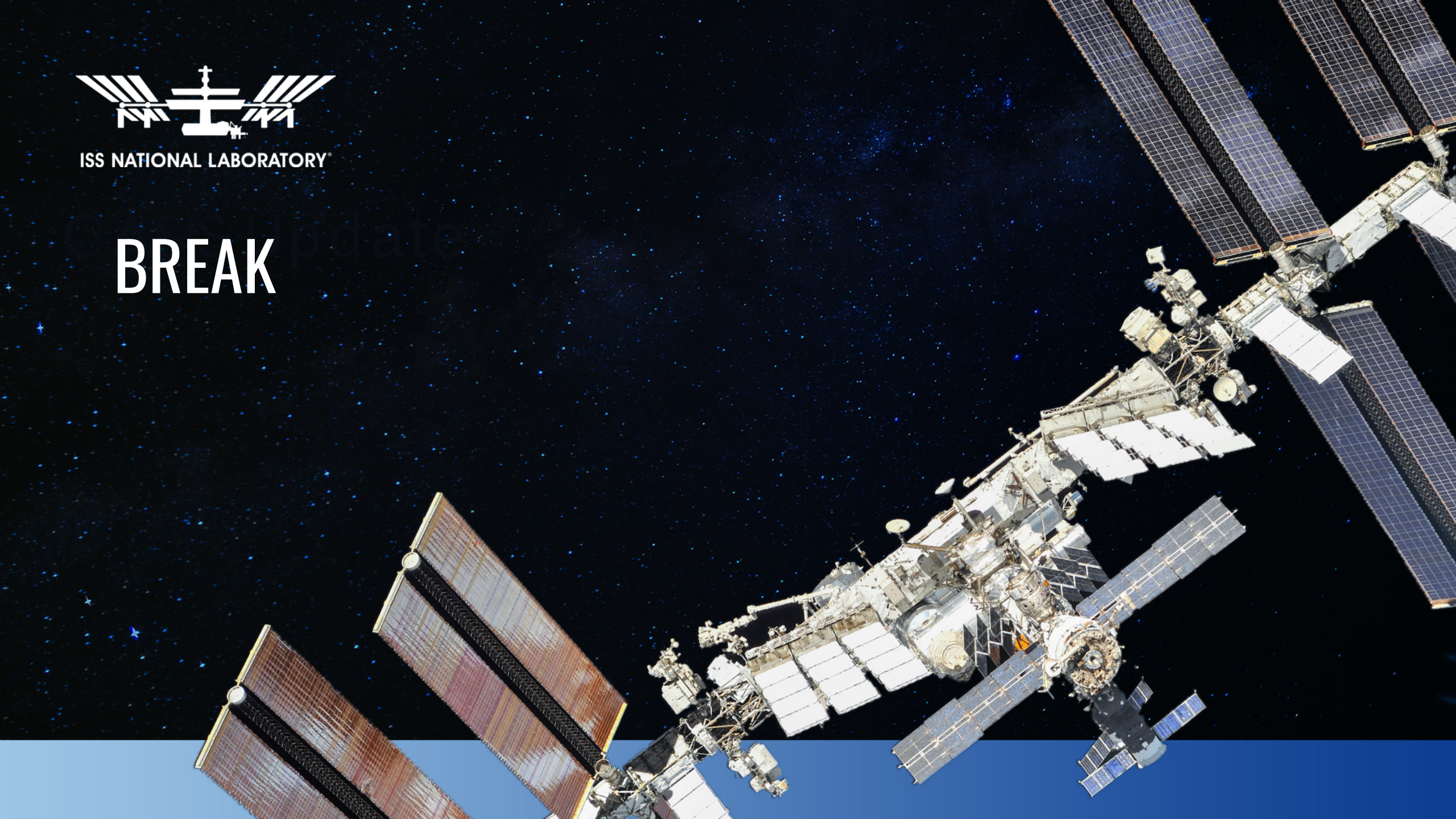
# BREAK



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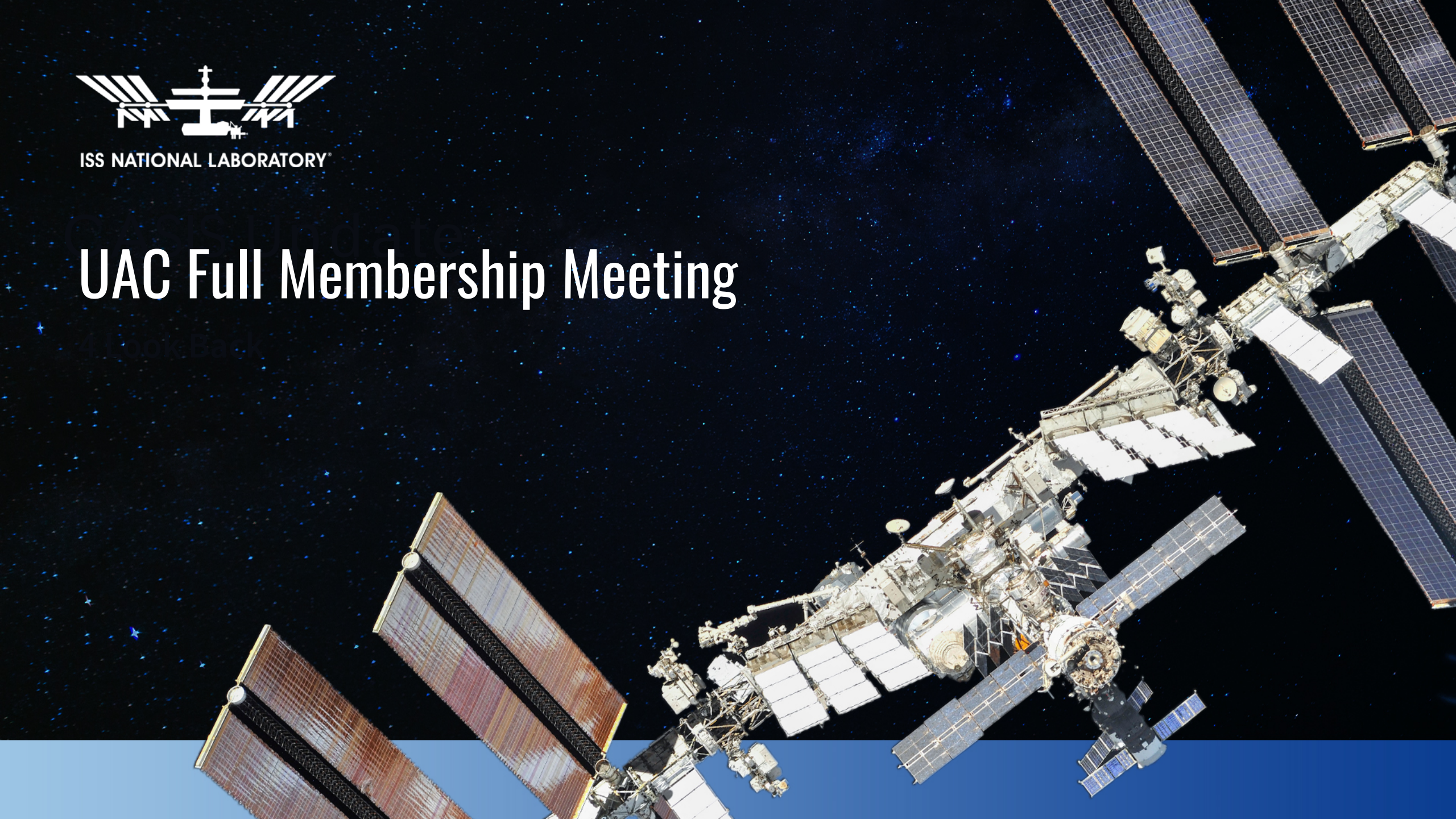
# UAC Full Membership Meeting



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# ISS NL 101 Presentation

Robbie Hampton, ISS NL Director of Payload Operations

# ISS National Lab Mission

We manage the premier space laboratory, providing expertise, connection and inspiration to visionaries.

# ISS National Lab Vision

To be the leading source for innovation in space, enabling life-changing benefits for humanity.

# ISS National Lab Introduction

Established in Florida in 2011, the Center for Advancement of Science in Space (CASIS), a nonprofit, non-government organization, was selected as the manager of the International Space Station National Laboratory (ISSNL), and is funded at $18M annually by NASA through a Cooperative Agreement.

CASIS is responsible for maximizing the value of the ISSNL by facilitating and prioritizing increased access to a broad base of users including commercial entities, other government agencies, and educational institutions.

**CASIS Manages 50% of NASA's allocation – upmass, downmass and astronaut time.**

## Locations

- Melbourne, FL (HQ)
- Exploration Park, FL (KSC)
- Houston, TX (JSC)
- Washington D.C.
- San Francisco, CA

## Resources

- 53 FT/PT
- 30 Implementation Partners

# ISSNL Responsibilities

- **Creating and managing research solicitations to drive technological advances for the benefit of Earth.**
- **Creating a LOW Earth Orbit economy**
  - Ecosystem of companies that provide services and tools to researchers.
- **Creating demand for the use of the ISSNL across industries (private, OGA, NGO)**
- **Develop a strong Workforce Development and STEM Engagement program**

National Lab Research Announcements

3UAs/Resource Requests Forms (RRFs)

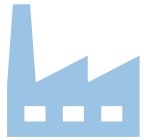
Sponsored Programs

NLRA/ Other collaborations, ISSNL Internship Program

# Research Opportunities

- We allocate **$5M/yr** to NLRA's. Mostly covering the cost of the implementation partner.
- We leverage an additional **$4M/yr** of NASA Mission integration and operations funding for a total **of $9M/yr**. This is in addition to the value of the allocation which ranges from $2-$4M per payload.

**Technology Development**



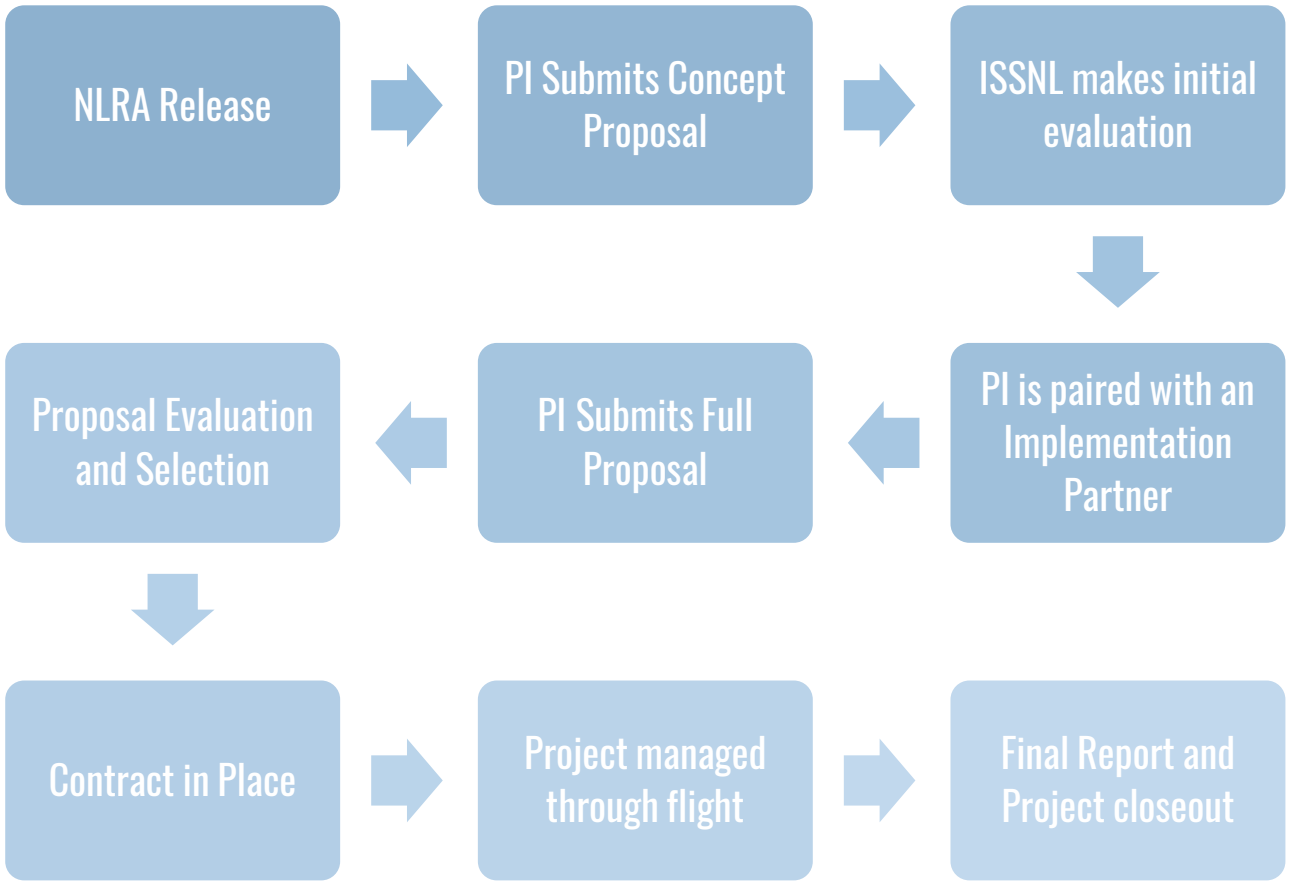
**Igniting Innovation**

**Follow-on Projects**

**STEM and WFD**

**Other Government Agencies/Fundamental Science**

# Our Project Flow and Ecosystem.




- We partner our Principal Investigators with Implementation Partners (IPs) or Commercial Service Providers (CSPs) to integrate the research payload
  - **Implementation Partner:** A company responsible for the Mission Integration and Operations (MI&O) of an ISS experiment
  - **Commercial Service Provider:** A subset of Implementation Partners who host hardware on the station or have specific capabilities to provide services to ISS customers.
    - CSPs are the only commercial entities authorized to submit RRF's (proposals that are not externally evaluated)

# IPs & CSPs

- The ISS is supported by an ever-growing network of individuals and organizations that actively and passionately share in the mission of promoting and sustaining space-based research.
- They are included in our IP Portal and Directory
  - When PIs don't have an identified IP, we direct them to our portal where they can select their own IP.
    - IP Directory (accessible to all)
    - IP Portal (accessible to PIs and IPs)

## Life Sciences

Lilly
iXpressGenes
SANOFI
The Scripps Research Institute
The Michael J. Fox Foundation for Parkinson's Research
NOVARTIS
NANOBIOSYM Where little things make a big difference
AstraZeneca
gsk
MAYO CLINIC
Baylor College of Medicine
Bristol Myers Squibb
MERCK Be well
BAYER
HOUSTON Methodist LEADING MEDICINE

## Physical Sciences

TARGET
GOODYEAR
P&G
GE imagination at work
nemak
NALCO Champion An Ecolab Company
PennState
BASF We create chemistry
DELTA
GENERAL MILLS
Milliken
APPLIED MATERIALS make possible

## Technology

Microsoft
Google
intel
IBM
Astrileux

## Remote Sensing / Aerospace Tech Dev

Honeywell
SRI International
MOREHEAD STATE UNIVERSITY
VISIDYNE
hp
BUSINESSINTEGRA TOGETHER » IT IS DONE
Vision® Engineering Solutions
NovaWurks
ASTRIUM AN EADS COMPANY

# Creating value for the Commercial Sector

# ISS NATIONAL LAB DASHBOARD

**228**
**INDUSTRY PROJECTS**
*Eli Lilly, Bristol Myers Squibb, Procter and Gamble, Colgate-Palmolive, Merck, Lockheed Martin, Target*

**248**
**ACADEMIC, NONPROFIT, & OGA PROJECTS**
*Emory, MIT, Stanford, Cornell, Notre Dame, LLNL, ORNL, Frederick NL*

**15**
**COMMERCIAL SERVICE PROVIDERS**
*Axiom Space, Redwire, Blue Origin, NanoRacks/Vyager, Boeing*

**30**
**IMPLEMENTATION PARTNERS**
*Leidos, Teledyne Brown, KBR,*

**$2.2B**
*Cumulative funding raised by startups post-ISS National Lab flights*

**320**
**MEMBER INVESTOR NETWORK**

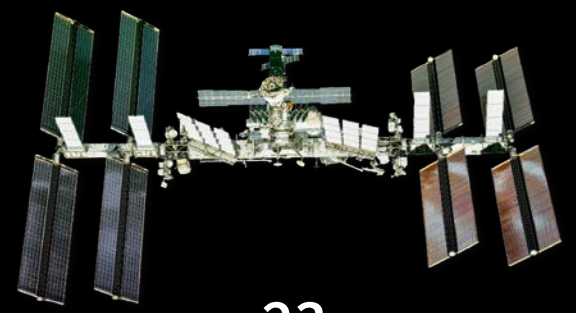
**GOV'T AGENCY FUNDING PARTNERS**
*DoD, NSF, NIH*

**>800**
**PAYLOADS**

**$525M**

**$210M**
**NASA**

**$315M**
**EXTERNAL FUNDING**



**23**
**COMMERCIAL LAB FACILITIES**

Through Q4 FY24

# 2020 - 2030

*ISS DECADE OF RESULTS*

# 2028 -

*LEO TRANSITION*

# Commercial LEO Destinations (CLDs) Overview

Primary purpose of the Commercial LEO Destinations project is to stimulate U.S. private industry development of free-flying orbital destinations and create a market environment in which commercial LEO destination services are available to both Government and private-sector customers.

Notional Commercial LEO Destination

Key tenets of strategy

- Alignment with National and Agency guidance and direction
- Provide continuous U.S. human presence in LEO and the continuation of required research activities
- Maintain competition to drive down costs and provide redundancy
- Enable industry maturation prior to NASA's commitment to fixed-priced services contract

Two-phase approach similar to COTS/CRS and CCP

- Phase 1 – Funded Space Act Agreements for early design maturity
- Phase 2 – Services contract for NASA certification and services

**Goal is to develop safe, reliable and cost-effective LEO destinations to accommodate crew and payloads for NASA and other customers**

| | |
|---|---|
| 3/12/2021 ✓ | Acquisition Strategy Meeting (ASM) Phase 1 |
| 3/23/2021 ✓ | CLD Industry Briefing |
| 5/11/2021 ✓ | Project Strategy Briefing |
| 5/17/2021 ✓ | Draft Announcement Released |
| 5/26/2021 ✓ | Pre-Proposal Conference |
| 7/12/2021 ✓ | Final Announcement Released |
| FY22 Q1 | CLD Phase One Funded SAAs Awarded |
| FY2025-2026 | CLD Phase Two |
| FY2029-2030 | Transition to Commercial Services |



Slide Credit: NASA

# The ISSRDC Annual Conference

- Four-day conference held in late July/early August at alternating locations
- Between 900-1,000 attendees
- Brings together leaders from industry, government, and academia to showcase ISS microgravity research and commercial development of LEO
- Conference format includes keynotes, lightning talks, and over 80 technical sessions
- Past keynote speakers have included Dr. Sanjay Gupta, Elon Musk,  and Dr. Francis Colins
- This year's conference will be July 28-31 in Seattle, Washington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# UAC-Specific Information

# UAC Charter Content

- **Purpose:** Organized framework and forum for interaction between CASIS and ISS user community.
- **Function:** Advisory body to the CASIS CEO on:
  - Research project prioritization and selection processes
  - Research goals of the user community
  - Resolution of user community issues and improvements to the user experience
  - Recommended functionality and utility enhancements to the ISS National Lab
- **Structure and membership:**
  - Five subcommittees
  - Members must be participants in the mission of the ISS National Lab
  - Two-year terms
- **Members are required to complete a Conflict of Interest (COI) Disclosure Statement Annually**

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# Highlights from Today's Chairs Meeting

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# ISS Research Facilities Directory

Phillip Irace, ISS National Lab Program Director

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# Wrap-up and Adjourn

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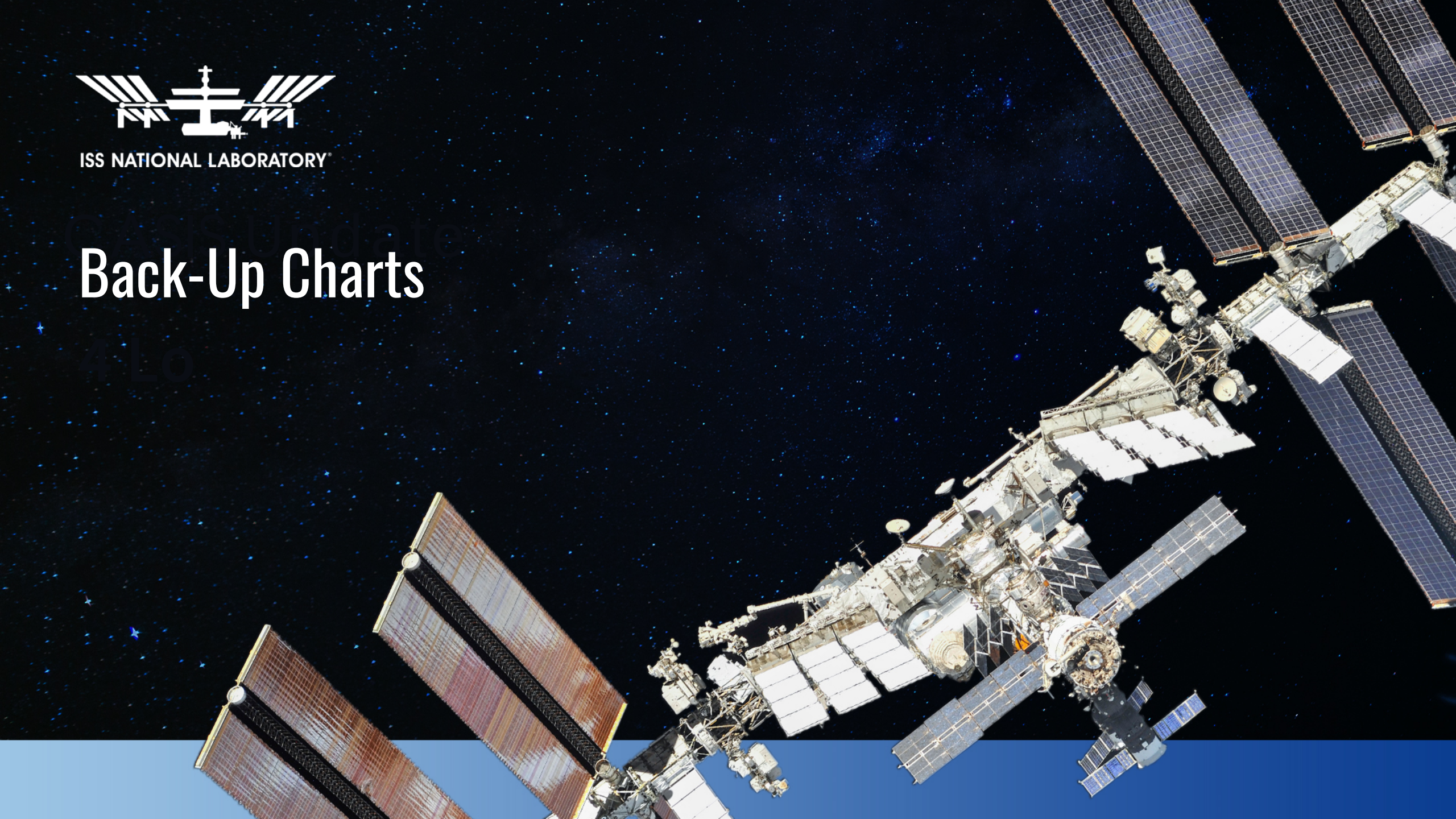
# Back-Up Charts



# Contracting Mechanisms

- Supports the ISS National Laboratory by administering, modifying, managing and closing out all contractual articles; and ensuring CASIS complies with the NASA Cooperative Agreement.
- Draft, negotiate, execute, manage and audit, approve milestone payments and close all contracting mechanisms

| | |
|---|---|
| Grant Agreements | Provided to PI's that receive funding with their award |
| User Agreements | Provided to PI's that are receiving allocation but not funding to perform research |
| Master Implementation Partner Contracts | Funding mechanism for Implementation Partners (Recurring users) |
| Umbrella User Agreements | Agreements for CSP's and CLD providers, allowing them to submit RRF's (non funded resource requests) |
| Other | Non-disclosure agreements and MOU's |