



# Sustaining Knowledge Through Transitions

A Guide to Mitigate Knowledge Loss and Support Teams

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The screenshot shows the cover of the INSIGHT digital publication for December 2023. At the top left is the NASA logo, and at the top right is the APPEL KNOWLEDGE SERVICES logo. Below the logos is a large image of the International Space Station (ISS) in orbit over Earth. The text "December 2023" is in the top right corner. Below the image is the title "INSIGHT / EXPANDING PERSPECTIVES". On the left side, there is a "NEW PODCAST EPISODE" section for "GIANT LEAPS" with a "small steps" icon. On the right side, there is a "Listen Now" button and a section for "Episode 121: The Artemis and Ethics Report Explained", which includes a small image of a person and text about a Q&A session with Dr. Zach Pirtle. Below this is a "Recent Articles" section with two entries: "NASA Prepares for First CLPS Missions" with a small image of a lander and a "Read Article" link, and "NASA Marks Anniversary of Joining Unity and Zarya" with a small image of the ISS and a "Read Article" link.





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# Learning Objectives

- Know how to recognize critical knowledge in yourself and others
- Understand strategies to maintain knowledge continuity
- Respond to rapid transitions and sustain team knowledge



# What is Critical Knowledge?



# Critical Knowledge at NASA

“It is NASA policy to: effectively manage the Agency's technical and program/project management knowledge to cultivate, identify, capture, retain, utilize, and share knowledge in order to continuously improve the performance of NASA in implementing its mission...”

NPD 7120.6a, section 1.a.1



# NASA Knowledge Community

Chief Knowledge Officer Tiffany Smith	Aeronautics Research Mission Directorate Ian Boyd	Ames Research Center Tara Samuels	Armstrong Flight Research Center Mark Davis	Exploration Systems Development Mission Directorate Devin Harrison	Glenn Research Center George Santosuosso
Goddard Space Flight Center Moses Adoko	Independent Verification and Validation Jeff Northey	Jet Propulsion Laboratory Michelle Drabik	Johnson Space Center Jim Rostohar	Kennedy Space Center Michael Bell	Langley Research Center Kevin Rivers
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**Where does knowledge reside?**

# How to Select the Right Tool or Approach

- Time available for transition
- Demands and commitments
- Length of experience
- Level of specialization
- Overlap with colleagues
- Available documentation



**Key Objective:  
Understand How Knowledge Was Applied**

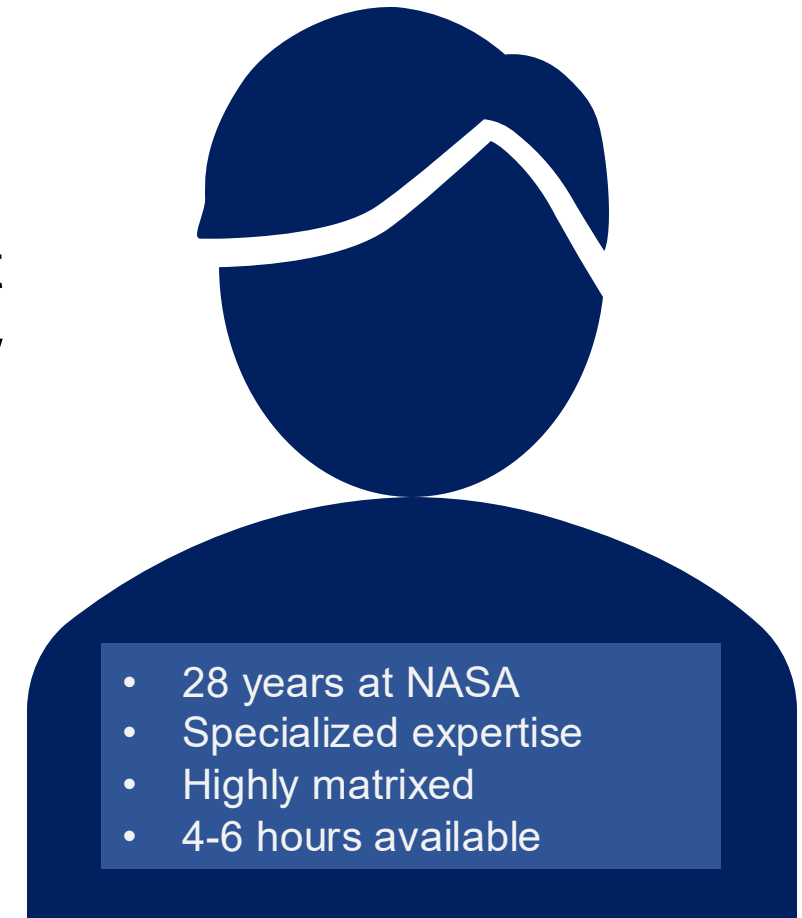
# Some Ways of Maintaining Individual Knowledge

- Portfolio-Based
  - Job Books/Continuity Books
  - Knowledge Stewards
- Narrative
  - Video Interviews
  - Letter to Successor
  - Transcript of Reflections
  - Webinar or Lecture
  - Exit Interviews
- Process-Oriented
  - Checklists
  - Points of Contact
  - Calendar Review
  - Chatbot or Form
- Open-Ended
  - Ask Me Anything
  - Drawings
  - Maps

# Practice Scenarios

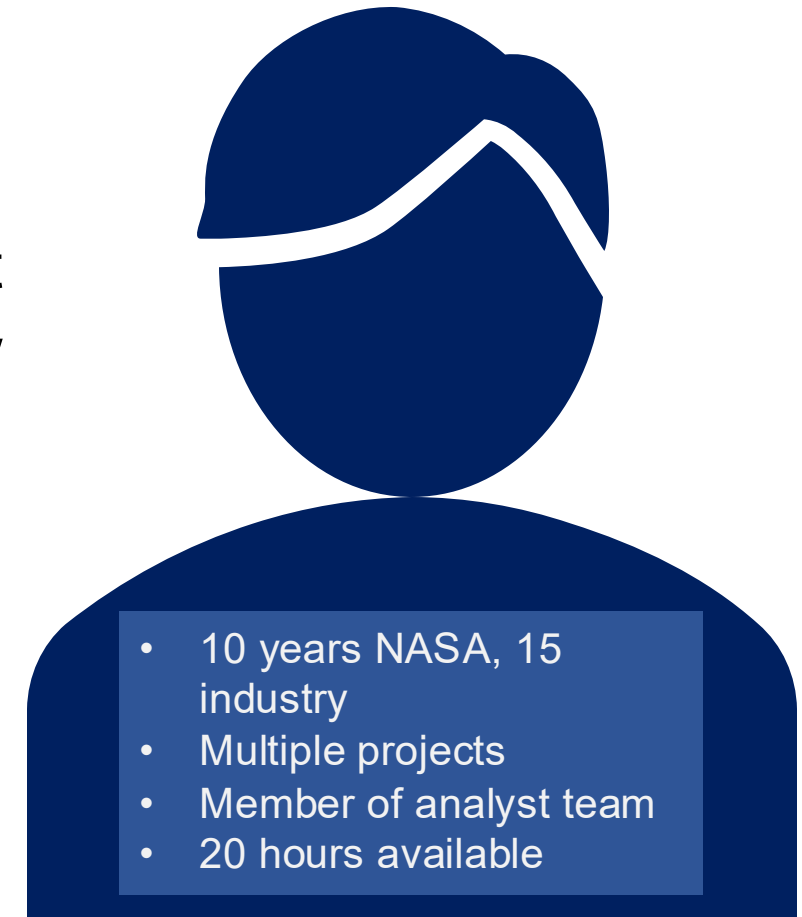
# Scenario 1

- Portfolio-Based
  - Job Books/Continuity Books
  - Knowledge Stewards
- Narrative
  - Video Interviews
  - Letter to Successor
  - Transcript of Reflections
  - Webinar or Lecture
  - Exit Interviews
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## Scenario 2

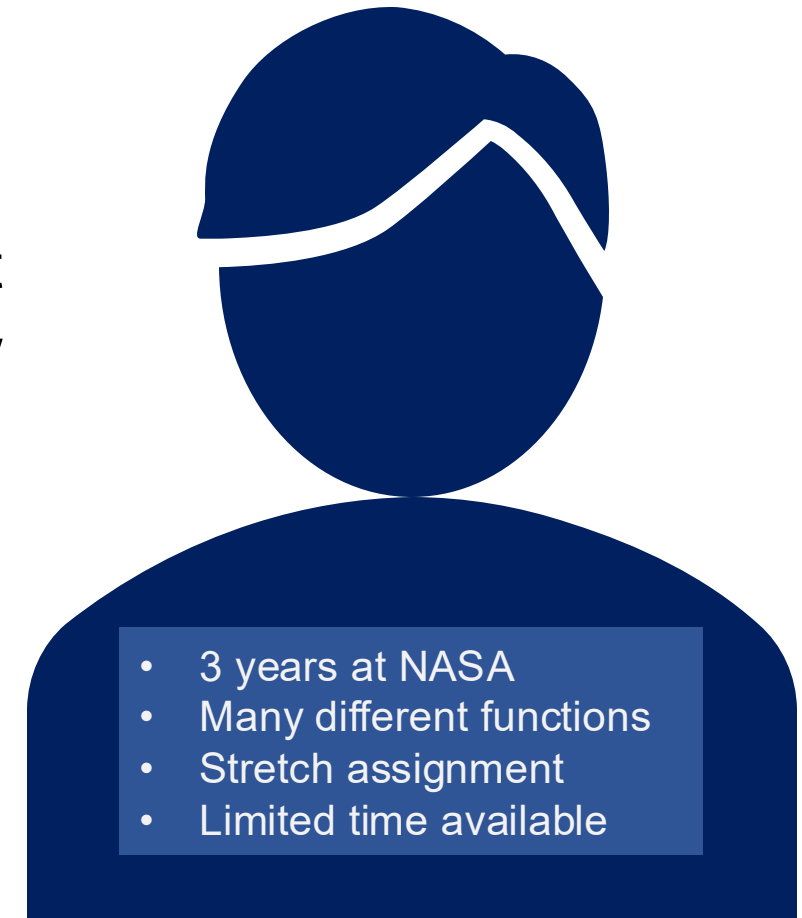
- Portfolio-Based
  - Job Books/Continuity Books
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- Process-Oriented
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  - Points of Contact
  - Calendar Review
  - Chatbot or Form
- Open-Ended
  - Ask Me Anything
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  - Maps





## Scenario 3

- Portfolio-Based
  - Job Books/Continuity Books
  - Knowledge Stewards
- Narrative
  - Video Interviews
  - Letter to Successor
  - Transcript of Reflections
  - Webinar or Lecture
  - Exit Interviews
- Process-Oriented
  - Checklists
  - Points of Contact
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  - Ask Me Anything
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  - Maps



# Knowledge Continuity Guides: Advice for the Supervisor, Incoming, and Departee

## [Supervisor Guide](#)

## [Incoming Member Guide](#)

## [Departee Guide](#)

**NASA Knowledge Capture and Transfer:  
A Guide for Supervisors**

*STANDING ON THE SHOULDERS OF GIANTS...*  
In the next few years, NASA is anticipating an attrition of talent due to retirements and other transitions. The experiences and knowledge held by these valuable members cannot be easily replaced. This guide was made to help supervisors, program managers, and project managers take steps towards retaining organizational knowledge held by retirees and other transitioning members to ensure their contributions to space exploration are not forgotten but instead built upon.

**STEP 1: SET THE CULTURE**  
Page 2  
Mission success depends on building upon what we already know. Learn how to establish a culture that support sharing and advancing knowledge at the outset.

**STEP 2: KEEP KNOWLEDGE CURRENT**  
Page 3  
Understand the available tools and techniques to capture and transfer knowledge every day in your organization, rather than just at the end of a decades long career.

**STEP 3: MAINTAIN KNOWLEDGE THROUGH TRANSITIONS**  
Page 4  
When departures are imminent for retirement or transitions, learn how to prioritize the most critical knowledge and capture their legacy before they leave!

**NASA Knowledge Continuity:  
A Guide for the Incoming Member to NASA**

*STANDING ON THE SHOULDERS OF GIANTS...*  
Many giants have come before you! This guide was made to help a new NASA employee or person moving into a new position gather knowledge. Use this guide to facilitate a smooth transition, increase productivity, and learn from the experiences of those before you.

**LONG OVERLAP**  
A long overlap with your successor is ideal! Request to **shadow** your precursor.

- Use the checklist on page 2 to facilitate your discussions and formulate the questions you want to ask.
- **Attend meetings** with your precursor and gradually take on a more active role.
- Ask to be CC'd on **correspondence** relating to your new position.
- Request that your precursor talk through their thought processes during daily activities.

**QUICK TRANSITION**  
Maybe you only get a day or two to complete the transition. If so, **schedule a sit down** to review this checklist.

- **Ask where information is documented** and how to access it but focus the discussion on knowledge that cannot be found in writing or that you cannot read about later.
- **Get recommendations** for other people in your organization to lean on when you have questions.

**NO OVERLAP**  
Leaving before a successor starts?

- Is there a **continuity book** (digital or printed) or other resource available that includes information from this checklist?
- Ask your supervisor and other colleagues where to find this information.
- Request a sponsor or mentor to help guide your transition.

**NASA Knowledge Continuity:  
A Guide for the Departee**

*STANDING ON THE SHOULDERS OF GIANTS...*  
Your experiences and knowledge cannot be easily replaced! This guide was made to help a NASA member who is planning to retire or transition to a new position take steps towards passing on their knowledge to ensure their contributions are not forgotten but instead built upon.

**LONG OVERLAP**  
A long overlap with your successor is ideal! Use the checklist on page 2 to create a plan for **shadowing and mentoring**.

- Bring your successor to meetings and include them on correspondence. Over time, allow them to take on more responsibilities.
- Talk through your thought processes during daily activities.

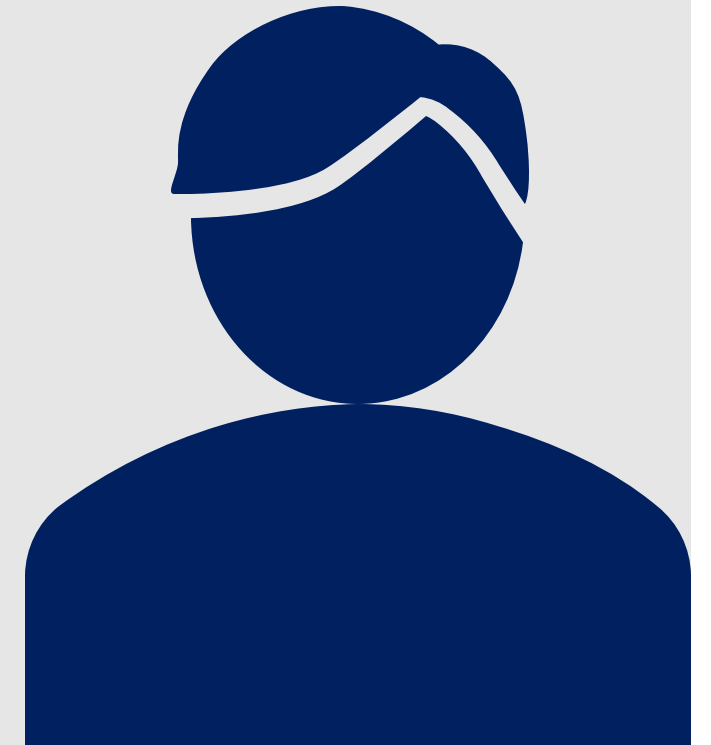
**QUICK TRANSITION**  
Maybe you only get a day or two with your successor. If so, **schedule a sit down to review this checklist**

- Consider how your successor will **find information about the job** after you leave.
- **Point them to written guidance** or other people in your organization to lean on when they have questions after you leave.

**NO OVERLAP**  
Leaving before a successor starts?

- Consider creating a **continuity book** (digital or printed) that includes all the information from this checklist.
- **Cross train someone else** in your organization using this checklist to fill the gap.

# Which way is best?



**The way that works!**



**How can we sustain knowledge in our teams?**



# Sustaining Knowledge Through Transitions

1. **Assess Current Status**
  - Coordinate departures to the extent possible
  - Assess the gaps
  - Inventory commitments and current team knowledge
2. **Establish Knowledge-Focused Practices to Provide Support**
  - Develop consistent lines of communication
  - Provide knowledge supports
  - Highlight resources
3. **Maintain Knowledge-Sharing Activities for Long-Term Value**
  - Reinforce good practices for knowledge sharing among the team
  - Sustain knowledge continuity through future transitions



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## Sustaining Knowledge Through Transitions Guide

Created with the input of the [NASA CKO Community](#)



# 1. Assess Current Status

0-30 days | Gather knowledge and determine how to move forward

# Assess Current Status

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## Coordinate Departures

Determine key processes and activities of departing member and coordinate with the team.

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Review NASA OCIO's [best practices for offboarding](#) and [the accompanying Microsoft 365 Offboarding Checklist](#) to maintain shared information resources.

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## Assess the Gaps

Identify expertise gaps within a few weeks of departure. Consider experience, relationships, and policy/process knowledge.

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Conduct a [knowledge audit or inventory](#) to surface high-priority gaps.

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## Inventory Commitments

Review departing member's activities and identify areas others can cover. Ensure broad awareness when 1:1 transfer of responsibilities is impossible.

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Use a [knowledge map](#) if you need help describing different roles.

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# Assess Current Status: Questions to Ask

- What will break if the departing team member is not there?
- What unique knowledge does the departing team member have?
- What specialty areas were affected by recent departures?
- What expertise is available among the team and what knowledge do we have in place to sustain any gaps?
- What is the team's current knowledge and expertise versus the knowledge needed to meet commitments?
- Are there knowledge transfer artifacts or known processes that can help the current team?





## 2. Establish Knowledge-Focused Practices

15-60 days | Help your team members resolve knowledge gaps together and on their own

# Establish Knowledge-Focused Practices

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## Develop Consistent Lines of Communication

Hold regular team meetings to review challenges, get feedback, and engage group knowledge.

Design meetings intentionally, [document discussions, and distribute notes](#) to ensure everyone benefits from the conversation.

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## Provide Knowledge Supports

[Develop a strategy](#) to ensure critical knowledge is available to the team.

Support people in stretch assignments and help them recognize limitations

Limit low-value tasks and divide excess work assignments where possible.

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## Highlight Resources

Inventory knowledge documentation and identify any remaining barriers to desired team expertise.

Identify [resources for people in new roles](#), such as points of contact, experts, training, mentors, cross-training opportunities and documentation.

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# Establish Knowledge-Focused Practices: Questions to Ask

- How can you best elicit feedback from the team?
- What is the best way to distribute meeting outcomes for the team?
- Do you have strong communication lines with all team members in order to receive requests for support?
- Do team members recognize their limitations and know how to request help?
- Are there remaining barriers to knowledge continuity that can be resolved through training, networks, experience, or task rearrangement?
- Where should someone go first with questions? Is there a way to request the “collective knowledge” of the team?



# 3. Maintain Knowledge for Long-Term Value

60-90 days | Reinforce what's working and integrate knowledge maintenance into everyday work

# Maintain Knowledge for Long-Term Value

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## Reinforce Good Practices

Celebrate knowledge sharing efforts by the team and highlight progress in meetings.

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Support learning opportunities with experts and guest speakers.

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Try [working openly to support knowledge transfer](#).

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## Sustain Knowledge Continuity

[Capture knowledge](#) as part of normal work activities and embed knowledge sharing in existing processes.

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Highlight examples of how team knowledge sharing solves problems.

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# Maintain Knowledge: Questions to Ask

- What are our team's shared stories?
- Where can we highlight and store our team's lessons learned and best practices?
- How can we build into our normal work routines improved knowledge sharing and capture to mitigate future team disruptions?
- How do we celebrate and recognize the team's capture of crucial knowledge?

# Knowledge Sharing Action Plan

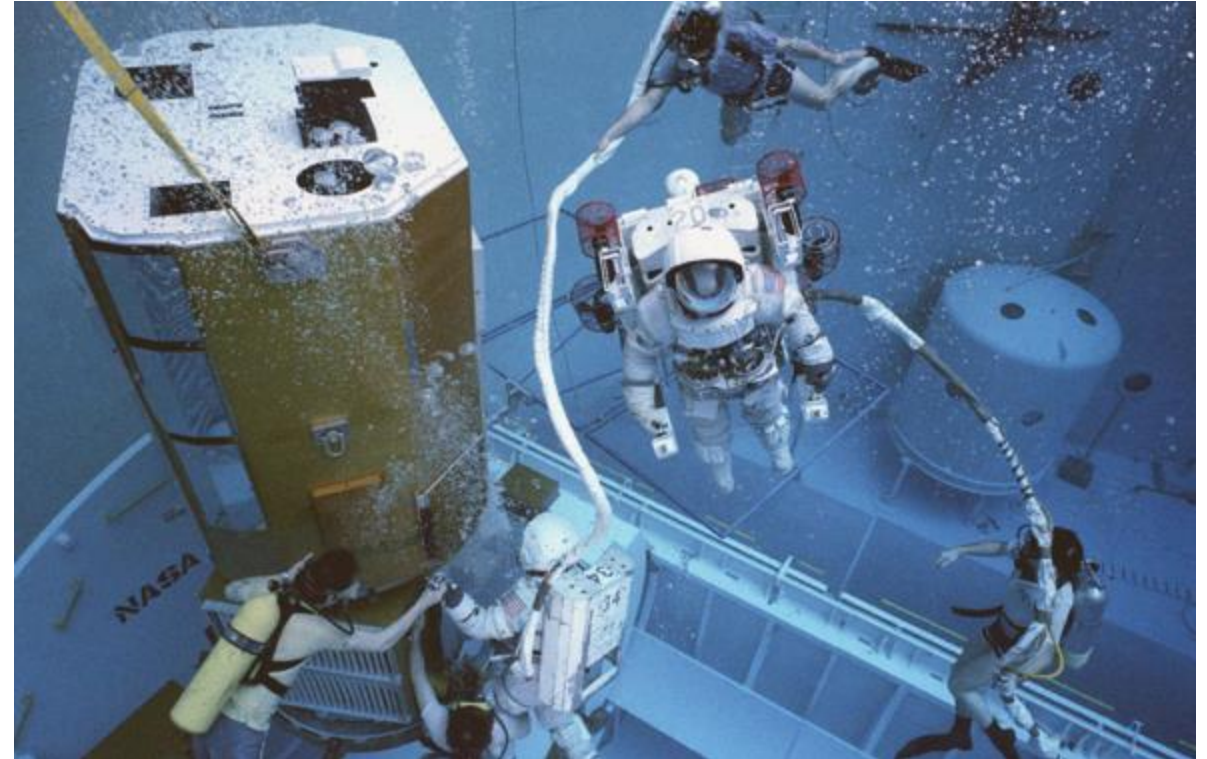
Action Plan Elements	Short-Term Goal	Long-Term Goal
<b>Goal:</b> What knowledge do you want to share?		
<b>Context:</b> In what situation would it be relevant/useful?		
<b>Action:</b> What specific action(s) will you take in that context to support your goal?		
<b>Resources:</b> What resources do you need?		
<b>Success Criteria:</b> How will you know you've been successful?		
<b>Timeframe:</b> By when do you need to achieve success?		

Adapted from: [https://appel.nasa.gov/wp-content/uploads/2018/03/Action-Plan-Template\\_20180221.pdf](https://appel.nasa.gov/wp-content/uploads/2018/03/Action-Plan-Template_20180221.pdf)

# Share Your Experience and Expertise!

- What are some best practices you have seen, experienced, or implemented that have helped you learn a new job or role?

Please share with the group in chat!





# Additional Support

For support, examples, and templates, contact your [Center or Mission Directorate Chief Knowledge Officer or the NASA Chief Knowledge Officer team](#).

## Q & A – What are your questions?

**Webinar Feedback:** Please click here to take a short four question survey on today's webinar.

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