



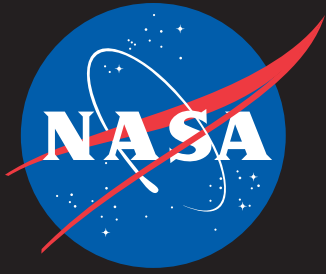
# IT Talk

Jul - Sep 2022

Volume 12 • Issue 3

## Enabling NASA's New Hybrid Work Environment





# IT Talk

Jul - Sep 2022 Volume 12 • Issue 3

## Office of the CIO

### NASA Headquarters

300 E Street SW  
Washington, D.C. 20546

## Chief Information Officer

Jeff Seaton

## Editor & Publication Manager

Eldora Valentine

## Graphic & Web Designer

Michael Porterfield

## Copy Editor

Meredith Isaacs  
Mia Roundtree

*IT Talk* is an official publication of the Office of the Chief Information Officer of the National Aeronautics and Space Administration, Headquarters, Washington, D.C. It is published by the OCIO office for all NASA employees and external audiences.

For distribution questions or to suggest a story idea, email:  
[eldora.valentine-1@nasa.gov](mailto:eldora.valentine-1@nasa.gov)

To read *IT Talk* online visit:  
[www.nasa.gov/offices/ocio/ittalk](http://www.nasa.gov/offices/ocio/ittalk)

For more info on the OCIO:  
◆ [www.nasa.gov/offices/ocio](http://www.nasa.gov/offices/ocio)  
◆ [nasa.sharepoint.com/sites/ocio/](http://nasa.sharepoint.com/sites/ocio/)  
(Internal NASA network only)  
◆ [www.nasa.gov/open/](http://www.nasa.gov/open/)

 [www.facebook.com/NASAcio](https://www.facebook.com/NASAcio)



# In this Issue

**3** Message From  
the NASA CIO

**4** NASA Completes Fiber  
Communications  
Ring Enabling Launch  
Range of the Future

**6** How the MICS Team  
Enabled NASA's  
New Hybrid Work  
Environment

**8** Enabling the Future  
of JPL's Hybrid  
Work Model

**11** How Mission Freezes  
Support Computer  
Stability During  
Launch Activities



# Message from the NASA CIO

Over the past two and a half years, many employers have found themselves at a crossroads, trying to ensure that employees have technology and resources available to maintain their productivity in a work environment that has quickly changed. Working from home has become the new norm and paved the way for new ways of collaborating and the hybrid workplace of the future. Now, many employers, including NASA, offer a mix of in-office and remote work arrangements. While some organizations are moving to return to pre-pandemic onsite work norms, many others, like NASA, are looking to capture what has been learned from our remote work experiences to create the workplace of the future. In reality, NASA was already a very distributed workplace with team members on most projects from multiple centers and non-NASA organizations. Hybrid service offerings provide rich communication between meeting participants wherever they are in today's distributed world.

In this issue, we'll look at how NASA and its field centers are creating a successful and inclusive hybrid environment while ensuring that the number-one focus is on accomplishing the NASA mission. We'll explore how our colleagues are using various technologies to connect onsite, such as joining Microsoft Teams meetings from legacy videoconferencing rooms. We'll see how the new Book-a-Space Hoteling Reservation Tool (internal to NASA) allows NASA employees to reserve shared workspaces like cubicles, desks, and offices to find spaces to work when onsite. And we'll see how the various collaboration tools NASA has in place make virtual work much more productive.

And finally, recently I had an opportunity to visit a few of our NASA centers to see some of the fantastic work being done in our IT community and the great mission work that is being supported. Our NASA IT environment is getting stronger each day and helping to deliver critical capabilities to enable the NASA mission.

I hope you find the information in this issue helpful. As always, I welcome your feedback.

With gratitude,

*Jeff Seaton*

NASA Chief Information Officer



## NASA Johnson Space Center Welcomes New CIO

*By Eldora Valentine, OCIO Communications Manager, NASA Headquarters*

Dr. Lauren Goodwin joins Johnson Space Center as Chief Information Officer. Goodwin comes to NASA from JP Morgan Chase, where she was the head of security architecture. She has a strong background in the application of technology, data, analytics, and automation to solve business challenges, as well as expertise in risk management.

Lauren is no stranger to NASA or the space industry; she began her career on the VIPER team, accountable for Environmental Control and Life Support System (ECLSS) for the International Space Station. She also worked for Booz Allen Hamilton before moving to SpaceX, where she headed the cybersecurity assurance program to secure the autonomous Crew Dragon space vehicle. She transitioned into the energy industry, leading a center of excellence for data analytics in support of automated and predictive modeling using

artificial intelligence. Lauren was one of the first leaders to introduce automated expertise identification via data analytics, becoming a recognized expert and speaking at conferences globally. In this industry she also served as vice president of digital transformation and as the digital security and risk officer.

Lauren has a Bachelor of Science degree from American University in Washington, DC, and a Master of Science degree from Columbia University in New York, where she received the Alumni Digital Innovation Award for her work on virtual and augmented reality for child cancer treatment. She also currently serves as a member of the associate faculty there. Most recently, Lauren earned her doctorate degree at the University of Pennsylvania, focusing her research on educational neuroscience and artificial intelligence.



# NASA Completes Fiber Communications Ring Enabling Launch Range of the Future

By Jeremy Eggers, Public Affairs Specialist, Office of Communications, Wallops Flight Facility;  
Photo credit: NASA Wallops/Patrick Black

Wallops Flight Facility celebrated the completion of a mission-critical, \$11.2 million fiberoptic cable project, key to enabling the Wallops launch range of the future during a ribbon-cutting ceremony Wednesday, April 20.

Technicians installed 13 miles of fiberoptic cable across marshland and uplands completing a communications ring that now spans a total of 23 miles ensuring reliable, redundant communications between main base operations centers and the island launch assets.

“Along with being critical to our operations, the marsh fiber project is a vital component to meeting the needs of our nation’s launch range of the future program,” said David L. Pierce, Wallops Flight Facility director. “Having the critical infrastructure in place and ready to support future demand for assured access to and from space is a huge undertaking, and I want to congratulate our information technology team for identifying the need early-on and successfully bringing this project to completion.”



**Wallops Director David L. Pierce and Wallops IT Associate Division Chief Debbie Watson cut the ribbon to formally dedicate the completion of the Wallops Marsh Fiber Project during a ceremony on April 20, 2022.**

The marsh fiber project completes a communications ring that runs from the Wallops main base, down Atlan-

tic Road to Wallops Island, and then across the marsh back from north Wallops Island to main base. The ring provides redundant communications, important for mission assurance, along with ensuring launch system monitoring, sending commands to launch assets and receiving mission data during launch operations.

Some notable statistics from the project include:

- Installation of a single, nearly four-mile-long fiberoptic cable segment with no splices
- A 6,100-foot, 8-inch bore from the mainland to the west edge of Walker Island in the marsh that is among the world’s longest, single-bore solutions in marshland conditions
- \$11.2 million project
- 13 miles of fiberoptic cable installed including a four-mile portion under the marsh

The project, six and a half years from conception to completion, was not without challenges. Technicians conducted horizontal directional drilling to install the fiber pathway through the marsh, drilling some 100-feet beneath the marsh to reach stable soil. Specialized barges were required to complete the work, which occurred under changing tide conditions, storms, and average temperatures falling between 20° and 30° Fahrenheit. Over the entire project, a government shutdown, the COVID pandemic, managing endangered species, budget uncertainty, and working around mission operations were further challenges to overcome.

“I am so proud of the Marsh Fiber team and all that they have accomplished among the challenges that came up during the project,” said Debbie Watson, Wallops IT services division chief.

“We knew that challenges would arise, and the measure of a team is how they respond to those challenges – in a word, this team responded brilliantly.”



**Wallops Marsh Fiber Project Team**

During the ceremony, officials recognized the contributions of Wallops’ J. Scott Webb in identifying the need and spearheading the marsh fiber project. Unfortunately, Webb passed away before the project was completed. “Scott’s foresight in identifying the need to complete the communications ring and then working the project details and requirements have ensured we’re in a good position moving forward,” said Pierce. “Sadly, we lost Scott way too soon; however, his legacy lives on in this project. Scott will long be remembered as among the Wallops pioneers who put their heart and soul into embracing the dreams and opportunities we have here at Wallops and turning them into reality.”

Members of the Webb family attended the ceremony and were recognized during the event.

The Wallops Range, NASA’s only owned-and-operated launch range, is one of just four major launch ranges in the United States. The range mission is to provide safe, assured access to space; having reliable, redundant communications between the island assets and the control centers on main base is vital to providing this service.



# GSFC, HQ, & WFF Lead Hybrid Conference Room Efforts Amid Future of Work Transformation and Pandemic

By Taylor Bromante, Project Support Specialist, Goddard Space Flight Center

The new hybrid work culture has become a focal point for NASA, demanding more flexibility for meeting participants using collaborative environments. As such, Goddard Space Flight Center (GSFC), NASA Headquarters (HQ), and Wallops Flight Facility (WFF) teamed up to provide hybrid solutions that will make communication and collaboration more advantageous in the work setting. The team's objective was to create a solid collection of hybrid solutions for customers that also integrated with the existing standard NASA services located in collaboration spaces like conference rooms. The hybrid service offerings also needed to align with the agency and center Future of Work requirements and enable productive communication between meeting participants.

After much review and research, as well as collaboration with the OCIO Future of Work team, the GSFC/HQ/WFF team selected the ViTS Teams Bridge, the Meeting Owl Pro, the Poly Studio, and the Logitech GROUP as the hybrid meeting devices that would be made available to customers. Dave Smith, the Project Technical Lead, said, "ViTS, the video

teleconferencing system, is a series of rooms created by NASA that allow conversations with other ViTS rooms. The agency created a gateway, called the VTC, which allows communications between ViTS and MS Teams, without needing a computer but using the existing ViTS machine in the conference room." The Poly Studio, on the other hand, provides a 120-degree view of the conference room with enhanced capability of picking up sound near and far. It also zooms in on the individuals who are speaking. The Owl Pro, the most immersive of the hybrid meeting devices, shows a 360-degree view of a conference room and displays up to three people talking simultaneously by projecting split screens. The Owl Pro has echolocation technology like the Poly Studio, and both project with high quality.

As the team was determining what hybrid devices to choose, they also had to take into consideration the existing use of Microsoft (MS) Teams, Zoom, WebEx, and Slack. A copious amount of testing was performed and is still underway, as well as documenting the optimal baseline configuration. The team has

been coordinating with directorate and remote site customers to outline essential operating capabilities and implement funded solutions within each unique space. Engagements with customers throughout GSFC and WFF were integral for assessing each space. Customers were provided with thorough demonstrations of each hybrid solution and advised which hybrid device would best suit their needs while taking into consideration their requirements. As of now, 56 demonstrations of the hybrid technology were provided throughout GSFC, WFF, HQ, and NASA's Katherine Johnson Independent Verification and Validation Facility.

"For me, this is an exciting effort because we are helping bring our customers into the next era of hybrid work by connecting them to their colleagues no matter where they may be," said Project Manager Shaun Piazza. "Reviewing the latest and greatest technology is also quite fun," he added. What's even more exciting? The Owls hoot when you boot them up and when you feed them...feed them software upgrades, that is.

**Dave Smith, Hybrid Technology Project Technical Lead using the Owl device in MS Teams.**





## How the Modern and Inclusive Collaboration Spaces (MICS) Team Enabled NASA's New Hybrid Work Environment

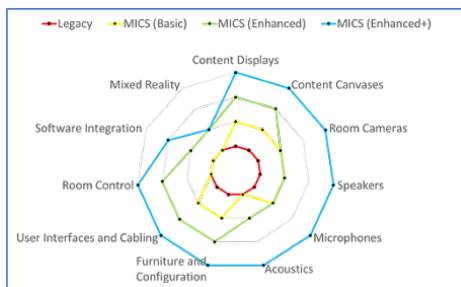
By Penny Hubbard (ARC), in collaboration with the DT and MICS Project Teams: Jules Casuga (ARC), David Kelldorf (JSC), Joshua Kinne (LaRC), Keith Krut (HQ), Jill Marlowe (HQ), and Patrick Murphy (HQ)

With pandemic cases dropping in the spring of 2021, the expectation that NASA personnel would return to Centers looked imminent. However, after discovering how productive remote work could be, using the OCIO's key collaboration tools (Office 365 Suite, Teams, WebEx, Box, OneDrive), many employees wanted to continue working remotely. This sentiment was echoed across NASA during Future of Work (FoW) Town Hall meetings focused on post-pandemic return to onsite work. The Agency's Digital Transformation (DT) team listened to the workforce and anticipated that NASA would need mechanisms to quickly become proficient with hybrid teaming and began imagining how to create a work environment that would equally empower both onsite and remote team members as they worked together.

The goal was formidable: how best to transform NASA's workforce and workplace by rapidly jump-starting productive, equitable, consistent, and inclusive hybrid teaming as a FoW foundation at the agency. In April 2021, the DT team rapidly formulated a project approach to pilot hybrid meeting solutions including testing and recommending the required technologies and basic behavioral changes that would need to be made. By early May, the first project meeting was held. With sponsorship by the FoW team and representation from the OCIO and the Offices of the Chief Human Capital Officer (OCHCO), Strategic Infrastructure (OSI), Procurement (OP), and Diversity and Equal Opportunity (ODEO), the Modern and Inclusive Collaboration Spaces project (MICS—pronounced "mikes") was formally launched.

At the time, NASA expected that its hybrid teaming would ramp up in earnest by fall/winter 2021, which led to an aggressive six-month goal for MICS to test and deliver hybrid meeting solutions that would be accessible and effective across the agency. In early spring 2021, the MICS technology team completed initial evaluations, which established recommended hardware features and options of Teams Room platforms for most internal NASA hybrid meeting needs (optimized for compatibility with our O365 suite), as well as for Surface Hub and WebEx Room offerings for those with advanced or unique external collaboration requirements. During the summer of 2021, MICS quickly ramped up human-centered design workshops to scope requirements from early hybrid meeting practitioners who had already been exploring early offerings. They





also conducted a NASA@Work campaign to solicit employee perspectives on additional hybrid meeting needs while developing a consistent framework of technical requirements for threshold hybrid meeting capabilities (e.g., basic, enhanced, enhanced+), and they conducted center assessments that determined that all centers already met nominal technology requirements. These findings led to a focus on external benchmarking of hybrid meeting behavior best practices and, ultimately, the development of on-demand training resources in SATERN. This included the Intro to Hybrid Meetings training (released in early 2022) introducing concepts, best practices, and how to ensure that our meetings are not only inclusive but productive—regardless of attendees’ locations.

The fall and winter of 2021 saw the global resurgence of COVID with the Delta variant, and it became clear that NASA’s ramp-up in hybrid teaming would be delayed. However, new market offerings for hybrid meeting technologies were being introduced, and the MICS technology team linked up with Workplace and Collaboration Services (WCS) to initiate testing to include in-place meeting tech such as Teams Room and WebEx Room. Testing ensured the ability to join conference rooms seamlessly with a single click and to host meetings natively, in the respective collaboration platforms, and allowed Surface Hubs to enable physical, interactive whiteboarding via touchscreens. The team organized early adopters across the agency to conduct the evaluation and, as a result, forged relationships with several manufacturers (Crestron, Cisco, Microsoft) to secure loaner evaluation equipment and explore available features vs. price points; established three hybrid meet-

ing room test sites (HQ, LaRC, MSFC); and formed End User, Cybersecurity and Device Support focus groups. The focus groups identified work environment scenarios, gathered usability feedback, optimized feature configurations, and evaluated compatibility with existing Agency software. Parameters for Authorizations to Operate (ATOs), including acceptable risks, were also established.

The WCS team then worked with the Advanced Enterprise Global IT Solutions (AEGIS) contract to establish support and cost structures for initial rollout and long-term support for these offerings, leveraging lessons learned from other existing and successful contract models. The MICS project is currently finalizing the AEGIS procurement of a starter kit with these advanced features to provide to every center so that employees across the Agency (not just at the initial three test sites) will have the ability to perform hands-on testing of the latest hybrid meeting technology and to inform immediate procurement plans. The MICS project team also shared findings along the way by engaging in and supporting FoW discussions at the Mission Support Forum, Lunch and Learns, and the Supervisors’ Series Townhall.

### What’s Next for NASA’s Hybrid Work Environment?

As personnel realize that they are productive in a variety of settings, hybrid is becoming the new work standard. While technology and requirements will be ever-evolving, here are the next steps for the MICS project as it winds down by fall 2022:

- Distributing advanced hybrid meeting starter kits at centers
- Handing off MICS to centers to manage the new capabilities (knowledge, tools, how to continue established activities)
- Creating new SATERN courses, including How to Survive a Bad Hybrid Meeting
- Training a cadre of hybrid meeting facilitators for larger events

- Creating a longer-term plan to include new hybrid teaming technologies at Incubation Labs (GRC, MSFC, HQ)
- Transitioning MICS products and processes to WCS and OCHCO to continuously refine NASA hybrid teaming capabilities and skills as we look to the future

The MICS project was a catalyst for change by imagining what could be, integrating and aligning efforts from early adopters across NASA, and taking the pivotal steps to enable Modern and Inclusive Collaboration Spaces at NASA. There are a lot of fascinating potential hybrid work scenarios in our future. Imagine creating virtual reality training for collecting geological samples from other planets, or preplanning experiment logistics with multi-center team members using a wind tunnel digital twin, or having distant experts spontaneously join inspection of a hardware anomaly through augmented reality, or even conducting interplanetary hybrid meetings when humankind goes to Mars! There are so many amazing opportunities, today and in the future, to thrive in the new NASA hybrid work environment.

## INTRO TO HYBRID MEETINGS IN SATERN

*(Search for: Course AG-HMTV):*

This training includes a series of short, individual on-demand videos, two longer experiential sessions you can participate in with your team, and some tips and tricks and checklists to help you learn how to survive and thrive in a hybrid work environment.

Watching these on-demand videos and using the checklists will help you to manage and participate in the new Future of Work and learn how to make sure everyone in your meeting feels included, heard, and valued, regardless of their physical working location.

# Enabling the Future of JPL's Hybrid Work Model

By Emily Tjaden, Communications Specialist, Jet Propulsion Laboratory, California Institute of Technology

JPL's Information and Technology Solutions Directorate (ITSD) is dedicated to facilitating the Lab's continually evolving work practices in all environments. After ensuring that personnel could remain connected and productive throughout the pandemic's period of mandatory teleworking, it is equally committed to ensuring that JPL's current hybrid work model remains as effective for those onsite as for those teleworking.



## Hybrid Conference Rooms

Optimizing the audio and visual experience in conference rooms throughout the Lab has become paramount in creating an equitable meeting experience, regardless of whether someone is physically in the room or joining remotely. Updates to hybrid-optimized conference rooms include a variety of physical and digital technology enhancements. Ceiling-

mounted speakers and microphones help filter out background noise while also improving sound delivery to and from different parts of the room. Digital wall-mounted cameras equipped with a wide-angle lens are able to capture more of the room and its participants. Multiple screens will allow flexibility in data display; for example, presentations can be on one side and the faces of remote participants can be on the other. And new operating systems are providing an easier and more streamlined way to host hybrid meetings.

## Workspace Hoteling

ITSD has led the effort to bring Indoor Finders, a commercial off-the-shelf workspace scheduling tool, into use at JPL. The application is poised to facilitate the hybrid work model's incorporation of hoteling, which is the practice of scheduling office space dynamically rather than assigning it to one particular person. The workspace scheduling tool allows personnel to register for spaces using a map and to check in and out via a QR code, showing others looking for open areas whether someone has physically entered or left a space. Each registered building will have one or more admins

within the system who can set up floor plans, create and cancel user registrations, monitor activity, and provide support. Numerous mission personnel successfully piloted the application in 2020, and in early 2021, the product went live with the support of cross-organizational partners.



## IT Hardware Vending Machine

JPL's new Material Automation Exchange (MAX) vending machines stock high-demand computer accessories such as adapters, cables, smartcard readers, and much more. The MAX was customized by ManTech for JPL and can be found in three convenient locations throughout the Lab. For employees onsite, having IT hardware instantly available can save a lot of time. As an added convenience, those looking to purchase items can preview inventory availability and see what is in stock via the JPL IT Catalog before making the trip to the machine. The MAX scans a user's badge to complete assignment of charges. A receipt is e-mailed moments later.

Whether by enhancing teleconferencing capabilities in the Lab's conference rooms, providing ways to find temporary workspaces on Lab, or setting up vending machines with easy-to-forget IT items, especially when going back and forth between home and the office—ITSD is supporting the way JPL works, both today and in the future.

## VIDEO: How to join a Microsoft Teams Meeting from a ViTS Conference Room

By Sylvester Placid, Communications Team Lead, Marshall Space Flight Center

As NASA returns to onsite work, the demand for hybrid meetings is increasing. The Communications Program (CP) [Video Teleconferencing Services \(ViTS\) Conference Room Services site on SharePoint now features an instructional video](#) so you can learn how to easily join Microsoft Teams meetings from a ViTS conference room at your Center, along with a [list of all ViTS](#)

[conference rooms with Microsoft Teams videoconferencing integration](#) and contact information for dedicated center support.





# Workplace and Collaboration Services Provides Book-a-Space Hoteling Reservation Tool

By Daniel Horton, Communications Specialist, Workplace & Collaboration Services, Marshall Space Flight Center

NASA is an agency that never backs down from a challenge. For over 60 years, the agency has collected a long list of accomplishments that include better understanding of our place in the universe and sending astronauts to low-Earth orbit to live and work.

A little over two years ago, one of the largest challenges in recent memory introduced itself, as an unprecedented pandemic forced NASA and other workplaces to rethink how modern workplaces operate.

The newly transformed Workplace and Collaboration Services (WCS) was up to meeting this unique challenge.

Assisting NASA in adapting to a hybrid workplace was a task that WCS was more than equipped to handle. The recently formed WCS Collaboration Team combined skill sets across the agency to work on new solutions, such as utilizing shared workspaces in hoteling environments.

The new [Book-a-Space Hoteling Reservation Tool](#) allows NASA to reserve

shared workspaces like cubicles, desks, and offices. If you are working onsite for limited days a week, you are now able to use this tool to find spaces available at the times needed.

The tool is quick and easy to use. You can select a time, location, and date at your desired center location. From there, a list of available spaces is shown. Hoteling spaces can be reserved one day at a time and can be reserved for a block of time between a half hour and a full eight-hour day. After booking the space, an e-mail confirmation is sent and visible as an appointment on your Outlook calendar. More information on using the tool is available online in the [Book-a-Space User Guide](#).

This new tool went live on May 15 to meet the agency's Return to Work deadline, and it has received great reviews from customers. Kennedy Space Center IT specialist Kimmarré Martinez explains that users "have provided positive feedback and suggestions that have been valuable in making adjustments and improvements to the tool."

Martinez goes on to point out that the recent OCIO Transformation was critical in supporting the development of the Book-a-Space tool. "The collective experience of the newly formed WCS Collaboration Team allowed the quick development and deployment of an agency solution for hoteling reservations," she notes. "Because of the diverse backgrounds, each team member was able to contribute valuable insight and experience to take a concept for hoteling and make it a valuable tool supporting the agency efforts for Return to Work and Future of Work."

Booking a hoteling space is a functionality that was needed in the future of work, and the recently transformed WCS was excited to meet the challenge. Utilizing the combined know-how of professionals across the agency has been crucial in similar solutions, allowing WCS to continue to support NASA to return to the Moon and beyond.

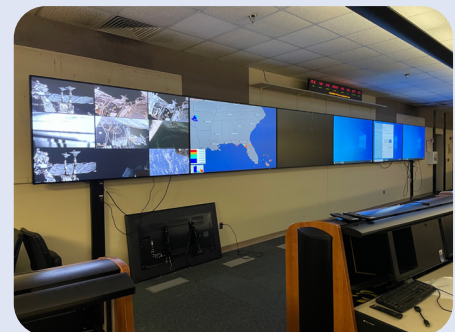
## CP Transforming Enterprise Network Operations Center with Data Analytics

By Sylvester Placid, Communications Team Lead, Marshall Space Flight Center

The Communications Program (CP) Corporate Network Operations Center (CNOC) has been renamed to the Enterprise Network Operations Center (ENOC) as NASA continues to transition agency IT infrastructure to an enterprise model. CNOC was responsible for the health and sustainment of network transport (both Wide Area Networks and Local Area Networks); network boundary and edge security; Remote Access Services (RAS), including the enterprise Virtual Private Network (VPN); and Domain Name System (DNS), Dynamic Host Configuration Protocol (DHCP), and IP Address Management (DDI).

The ENOC continues the CNOC legacy of providing robust and reliable services and adds data analytics professionals on the operations floor. These highly specialized personnel bring predictive analytics of both open-source data and data provided by other Federal agencies such as the Department of Homeland Security (DHS) Cybersecurity and Infrastructure Security Agency (CISA). New tools give ENOC current Advanced Persistent Threat (APT) activities and Tactics, Techniques, and Procedures (TTPs), common malware exploits, and a range of other cybersecurity and network tools to analyze anomalous

and network events. With these new capabilities, ENOC will enable a more proactive security posture for NASA enterprise networks and continue to deliver world-class services to our agency customers.





# NASA's CIO Leadership Team Visits Centers This Spring

From left to right: Dr. Lauren Goodwin, JSC CIO; Jeff Seaton, NASA CIO; Mike Witt, SAISO; Annette Moore, DCIO for Strategy; Neil Rodgers, DCIO for Operations; Sean Gallagher, Sr. Advisor for OCIO Transformation. Photo credit: NASA/Jaumarro Cuffee



Below: NASA's CIO Leadership Team with Stennis Space Center and NASA Shared Services Center personnel at sites across the centers. Photo Credit: NASA/Norah Moran





# How Mission Freezes Support Computer Stability During Launch Activities

By Daniel Horton, Communications Specialist, Workplace & Collaboration Services, Marshall Space Flight Center

In March 2022, excitement grew near the Vehicle Assembly Building (VAB) at Kennedy Space Center (KSC). For the first time, the integrated Space Launch System (SLS) rocket and Orion spacecraft for the Artemis I mission began rolling outside the VAB doors.

The four-mile journey atop the crawler to Launch Complex 39B represented a large first step in the program that will return astronauts to the Moon.

Once Artemis I arrived at the launch pad, it underwent a number of tests as a part of the Wet Dress Rehearsal (WDR). This multiday process saw the Artemis I launch team demonstrate launch processes—from loading propellants to running a practice launch countdown.

Another part of the WDR process involved the OCIO's Workplace and Collaboration Services (WCS) team. As part of Artemis I's rehearsal, WCS executed a process known as a mission freeze.

A mission freeze is a restriction placed on specific computers that prevents changes before, during, and immediately after a launch activity. While a computer is frozen in this window, it is unable to install updates or new software. This freeze ensures that a

computer will remain stable and not run into any issues during launch activities.

John Leavitt of the OCIO Mission Requirements Team says, "Since COVID, program personnel have had the ability to work remotely using their devices and have access to the displays and communications systems they would normally have if manning a mission console." He continues, "Our computers and devices are no longer used just as administration systems. The programs use their collaboration capabilities to communicate better with various disciplines supporting the launch."

During a process like the Artemis I WDR, vital computers are identified a month prior to the mission activity. Key personnel review the computers to ensure that requirements are met and that these specific computers are frozen when necessary.

WCS works with other service lines and agency-level offices within OCIO to ensure that they are following the prescribed mission freeze negotiated with the Launch Program of each mission area.

IT and support requirements are specified within each mission freeze require-

ments Memorandum of Agreement (MOA). This ensures that other aspects of OCIO, such as networks, applications, and IT security, are aware of and supporting critical mission activities.

In addition to mission activities like WDR, freezes also take place in many other scenarios. These include vehicle launches, International Space Station dockings, and crew return windows. In each activity, computers listed ahead of time will be frozen to ensure their stability.

Freezes for targeted computers can begin from T-48 or T-24 hours before a mission activity and can extend for T+4 hours or more, depending on the type of mission.

Freezes can also take place center-wide in many scenarios. For example, Kennedy Space Center, Marshall Space Flight Center, and NASA Headquarters have the entire center frozen in a small window of time around WDR support. Centerwide freezes also frequently occur for KSC around Commercial Crew launch windows.

[The full listing of upcoming mission freezes is available](#), detailing the location and timing for each freeze. (This link is internal to NASA.)

## CP Supports Successful Boeing Orbital Flight Test-2

By Sylvester Placid, Communications Team Lead, Marshall Space Flight Center

Teams across the Communications Program (CP) supported the successful launch, docking/undocking, and splashdown of Boeing Orbital Flight Test-2 (OFT-2) as the Crew Space Transportation (CST)-100 Starliner spacecraft completed an uncrewed, six-day mission to the International Space Station (ISS). CP support included transmitting data,

voice, and video between NASA Mission resources and Roscosmos (the Russian space agency). This real-time communication between mission specialists kept both Mission Control Centers in Houston and Moscow synchronized for successful execution of procedures with the ISS and visiting vehicles.



# More Than 300 CP Mission Customers Attend NASCOM Connect Virtual Conference

By Sylvester Placid, Communications Team Lead, Marshall Space Flight Center

NASA Communications (NASCOM) held the quarterly NASCOM Connect conference on June 21 with more than 300 customers and stakeholders attending virtually via Microsoft Teams. This conference serves as a bridge to the annual Mission Communications Working Group (MCWG) event organized by NASCOM to provide more frequent connection points with Communications Program (CP) Mission customers. NASCOM Connect offers an opportunity for CP to educate, inform, and engage with our customer base, as well as to provide updates on the latest NASCOM activities and projects.

NASCOM Connect brings together subject matter experts from across the agency to discuss updates to the NASCOM Mission Network—the enterprise, global, and mission-critical terrestrial network supporting spacecraft operations. The CP NASCOM Mission Network provides voice, video, and data communications services and connects Space Communications

and Navigation (SCaN) resources to NASA customers. SCaN resources include the Near Space Network (NSN), the Deep Space Network (DSN), and the Flight Dynamics Facility (FDF) at Goddard Space Flight Center (GSFC).

Topics covered during the conference included an update on the CP transition to the Network and Telecommunications Services (NaTS) service line; an overview of the Advanced Enterprise Global IT Solutions (AEGIS) contract, which replaced the NASA Integrated Communications Services (NICS) contract on May 1; a demo of the new iSite contract management portal for OCIO; and a technical overview of the planned agency upgrade from IPv4 to IPv6. A review of NASCOM readiness to support the upcoming Artemis I launch scheduled for August and implementation of the GSFC Mission Next Generation Voice (MNGV) project to upgrade voice communications for Mission customers were presented.

The event was successful and enables CP and NASCOM to continue to create a more customer-centric organization. The next NASCOM customer forum will be the Mission Communications Working Group (MCWG), which will be held virtually on September 20–22.



## NASA Data Catalog Seeks to Enhance Data Discoverability

By Tanner Griffin; Information, Data, and Analytics Services (IDAS) Data Architect; Langley Research Center

Have you ever had the need to discover existing NASA data but did not know where to start? Have you ever wanted to document and share your organization's data assets with others to enhance collaboration and create even more value from data? If so, the NASA Data Catalog can help.

As a CIO service provided and supported by the OCIO's Information, Data, and Analytics Services (IDAS), the NASA Data Catalog offers a standardized process and database to organize, document, report, share, search for, discover, reuse, and collaborate with data.

Researchers, scientists, and, more generally, data users have a compelling need to know and understand what data assets are available internally here at NASA that could be reused for a myriad of other purposes and use cases. In short, data must be FAIR—Findable, Accessible, Interoperable, and Reusable.

NASA possesses substantial quantities of data that often have value beyond their primary

use case waiting to be unlocked. Furthermore, details and awareness of the data themselves are often unknown. Data should be managed appropriately to ensure future use for exponential gains. In this regard, the NASA Data Catalog serves three basic needs:

1. It provides a centralized location for NASA personnel to discover and potentially access and reuse existing data assets, as well as discover collaborative opportunities.
2. It provides an efficient mechanism for data stewards to document, organize, and share data assets with the broader NASA community.
3. It supports the Federal Data Strategy and Federal Mandate within Public Law 115-435 for Federal agencies to create and report on agencywide data inventories.

If a data user would like to discover data, that data user may visit and browse the NASA Data Catalog to begin the quest to make use of existing NASA data. If a data steward would

like to document data assets or create their own data catalog to make data searchable and findable for the broader NASA community, that data steward would simply need to request the role of "Data Steward" (via NAMS ID 255271) to begin working within the NASA Data Catalog.

The NASA Data Catalog initiative has grown to include data assets and users throughout the agency and has attracted the interest of many agency teams and organizations. By scaling the tool for agencywide use and identifying and onboarding more data stewards, NASA will enable data users to more easily find and leverage data pertinent to their work. The NASA Data Catalog will allow more opportunities for users to collaborate and gather knowledge from across the agency in the coming months and for years to come.

The [NASA Data Catalog](#) (link internal to NASA) and other IDAS services will be accessible to NASA personnel through the IDAS SharePoint site, launching July 31 to coincide with Wave 2 OCIO Transformation efforts.





# WHAT'S NEW?

## Workplace and Collaboration Services (WCS) News and Updates

Check out the latest news from WCS (all links are internal to NASA):

- [What Is a Mission Freeze?](#)
- [Webex Service Now Available](#)
- [macOS Security Updates](#)
- [Using CUI Sensitivity Labels](#)
- [Reserve a Shared Workspace Now!](#)
- [Enterprise-Managed Product Updates](#)
- [See What's New with ICAM](#)
- [Data Backup for End Users Without an Assigned Computer](#)

National Aeronautics and Space Administration

**Office of the Chief Information Officer**

300 E Street SW  
Washington, DC 20546

[www.nasa.gov](http://www.nasa.gov)

