National Aeronautics and Space Administration

IT Talk

Jan - Mar 2023 Volume 13 • Issue 1

Toward a More Automated & Intelligent Digital Universe

IT Talk

Jan - Mar 2023 Volume 13 • Issue 1

Office of the CIO
NASA Headquarters
Mary W. Jackson Building
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

To read *IT Talk* online visit:
www.nasa.gov/offices/ocio/ittalk

For more info on the OCIO:
- *www.nasa.gov/offices/ocio*
- *nasa.sharepoint.com/sites/cio/* *(Internal NASA network only)*
- *www.nasa.gov/open/*

www.facebook.com/NASAcio

In this Issue

3 Message From the NASA CIO

4 NaTS Ensures Artemis I Mission Success

6 Toward a More Automated and Intelligent Digital Universe

8 Artificial Intelligence at NASA

10 NASA's Digital Transformation: Where Are We Now?

Message from the NASA CIO

In 2023, the world will see some major leaps in technology. In this issue we'll explore NASA's innovations and developments in transformative technologies such as artificial intelligence (AI), the internet of things (IoT), virtual and augmented reality (VR/AR) and cloud computing.

We'll also give you a behind the scenes look at how the Office of the Chief Information Officer (OCIO) supported and enabled some of this years' landmark missions such as the James Webb Space Telescope (JWST) and the Artemis 1 launch.

And we will look at the new Commercial IT Request (CITR) process OCIO is implementing based on Center best-practices that makes buying NASA IT easier for everyone. This mission enabling capability takes the headache out of ordering equipment and provides a single automated and transparent workflow process.

Finally, we'll dive into the world of NASA's Digital Transformation (DT). DT is about changing the way the agency operates and is enabling NASA's missions to be completed more efficiently and effectively. Over the past year, several projects have been launched which allow us to chart a new course on our journey to reshape our processes and culture.

We have a lot of great things coming in 2023. I'm excited for the road ahead! Happy reading and Happy New Year!

With gratitude,

Jeff Seaton

NASA Chief Information Officer

Workplace and Collaboration Services (WCS) News and Updates

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

- *Teams Audio Conferencing for All is Here!*
- *Microsoft Office is Becoming Microsoft 365*
- *Windows Enterprise Subscription for Government Furnished Equipment*
- *Disregard macOS Ventura Upgrade Notifications*
- *Lunch and Learn Replay: How to Use Conference Rooms for Hybrid Meetings*
- *Lunch and Learn: Teams Audio Conferencing*
- *Power BI Pro Now Available to All NASA End Users*
- *Product Updates: Augment Options Now Orderable for New and Refreshed Dell and HP Computers*
- *New Features in Teams Enable You to Delete a Chat Thread; Set File Permissions to Grant or Limit Editing Access; and More*
- *See What's New with ICAM*

NaTS Ensures Artemis I Mission Success

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

Artemis I splashed down in the Pacific Ocean on December 11 after completing a successful 1.4-million-mile flight test, lasting 25.5 days, around the Moon and back. Network and Telecommunications Services (NaTS) ensured mission success for Artemis I at every step and across multiple centers, from launch to flight to return to Earth.

At Kennedy Space Center (KSC), NaTS began supporting Artemis a week ahead of the launch with operator support for critical Video Teleconferencing Service (ViTS) briefings for weather, launch decisions, and post-launch activities continuing until splashdown. The NaTS network team at KSC deployed additional wireless coverage in the press site area for media and VIPs three days prior to launch. The NaTS phone team at KSC worked on the mobile launcher (the structure Artemis launches from) 24 hours prior to launch to secure all phones from the ground up to the 250-foot level with additional steel strapping to ensure the blast from the launch would not damage the phones.

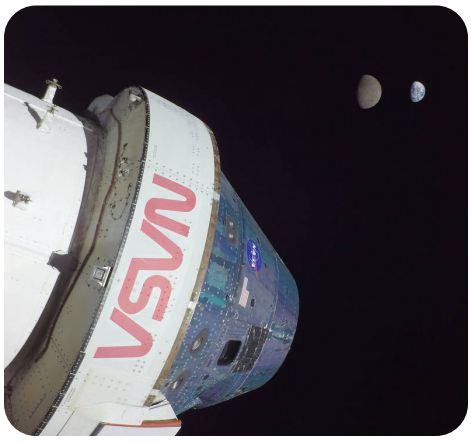
At the Huntsville Operations Support Center (HOSC) at Marshall Space Flight Center (MSFC), NaTS supported Artemis launch activities for 14 hours, from call to stations until an hour after launch. The Internet Voice Distribution System (IVoDS) operated by NaTS at the HOSC enables communication with the International Space Station, enabling 327 IVoDS users for Artemis with no issues.

At the NASA Communications (NASCOM) Operations Management Center at Goddard Space Flight Center (GSFC), the NaTS mission operations team supported Artemis on-console with communications, engineering, and security support for 23.75 hours, including support from 11 hours prior to launch and through launch, early orbit, and lunar outbound trajectory correction burn.

NaTS Enterprise Video Content Delivery Network (EVCDN) live streams hosted peak viewership of 959,000 and more than 8 million views across NASA flagship channels for the launch (including NASA TV, YouTube, Facebook, Twitter, and Twitch). This was the result of a team effort between the EVCDN team and the NASA Imagery Experts Program (NIEP), now part of NaTS. NIEP enabled the inaugural NASA broadcast in 4K ultra high definition (UHD) video of the launch. The launch of Artemis I was the #2 trending video on YouTube the week of November 17.

During the Artemis I mission, NaTS EVCDN and NIEP teams provided a 24/7 live feed of views from the Orion spacecraft on YouTube reaching 859,000 viewers. EVCDN live video of the mission was also transmitted to the NASA Headquarters Science Operations Center, the Johnson Space Center Mission Control Center, and NASA TV hosts as they led live broadcasts. The captioning service for the video feeds was provided by NaTS.

The NaTS EVCDN and NIEP teams delivered live 4K UHD video of splashdown from multiple cameras placed on non-stationary locations—on board the USS Portland Navy vessel that recovered the Orion spacecraft, on a NASA WB-57 aircraft flying at 50,000 feet above the recovery zone, and on a NASA PA-30 aircraft flying between 15,000 to 20,000 feet above the recovery zone.



Introducing Smart Lockers

New Smart Locker technology is coming to NASA in 2023. Smart Lockers will transform the way you receive and return devices, such as computers, iPhones, and peripherals.

Much like Amazon lockers, which are strategically placed around town to help shoppers retrieve their packages, you will soon be seeing Smart Lockers in the NASA environment where you can retrieve or drop off hardware.

Smart Lockers are a self-service pick-up/drop-off option for enterprise-managed hardware services, such as new computer deployments, refreshed laptops, and mobile devices. Smart Lockers allow you the flexibility to pick up or drop off your equipment at a time that best suits your needs.

This will be a large benefit to those end users who work non-support-hour shifts, such as Mission Control, physical security, NASCOM Mission Control, and emergency services. The end users who support those programs will not have to come onsite during normal support hours to get new devices or refreshes.

Smart Lockers will be integrated with the Enterprise Service Desk (ESD) catalog so that you can choose to have hardware delivered to the Smart Locker. The lockers will be available in various sizes to accommodate laptops, mobile phones, tablets, etc. Once notified to pick up your items, you will use your NASA badge to access the locker. There will be automated reporting when a locker is opened and by whom.

A Smart Locker vendor has been selected, and we will be rolling out a demo in early 2023 at Marshall Space Flight Center (MSFC). The demo Smart Locker will be located at MSFC Building 4203 near the SpaceBar. As the processes and tools mature through enhanced integrations, with NASA permission, Smart Lockers will be available across the agency at a center's request.

Mission Cloud Platform (MCP)—Delivering Digital Transformation at Scale to NASA Customers

By Catherine Tresslar, Customer Experience Lead, and Joseph Foster, Program Manager/ NASA Official, Cloud Computing Service Line, Goddard Space Flight Center

As NASA reaches new heights of discovery to deep space and beyond, OCIO is proud to partner with some of this year's landmark missions, such as the James Webb Space Telescope (JWST) and the Artemis I launch. The Mission Cloud Platform (MCP) proudly supported these flagship missions most recently with 24/7 support of the Moon to Mars Space Weather Analysis Office in support of Artemis I, operating entirely on the MCP system.

The MCP is at the foundation of delivering digital transformation at scale throughout the agency by offering a scalable and consolidated commercial cloud service for missions within NASA. MCP not only provides the platform but also provides technical expertise to launch, prototype, and integrate cloud services into existing and future ground systems.

Prior to MCP, projects wanting to harness the cloud had to architect their entire system from top to bottom, creating at least six months of lead times for access and security approvals. Since the creation of MCP, projects can be up and running in the cloud in approximately one hour.

MCP currently supports over 150 projects across ten NASA centers and boasts a diverse customer mission portfolio consisting of science, engineering, flight, and web modernization projects. Use cases among MCP customers are varied but highlight the full spectrum of digital transformation and modernization initiatives across the agency.

Some of the projects that launched into production this year include Conjunction Assessment and Risk Analysis (CARA), which is operating entirely in the MCP cloud and provides space asset collision avoidance for NASA, other Federal agencies, U.S. commercial aerospace partners, and foreign aerospace entities to avoid collisions with space debris in low-Earth orbit.

MCP also supported several other Go Live events for public-facing services such as Small Business Innovation Research (SBIR) with the modernization of the Electronic Handbook (EHB) and migration to the cloud. The new EHB system provides a seamless user experience by providing an intuitive, user-friendly, and integrated digital service to small businesses looking to engage with the Federal Government using early-stage investment dollars.

The Science Mission Directorate is leveraging MCP for several components of their Open Science initiatives and is pursuing cloud adoption to revolutionize science data across the broadest possible global scientific community. Their latest tool, Science Discovery Engine, will enable science discovery for five of their science divisions.

What's next? Stay tuned to find out!

Toward a More Automated and Intelligent Digital Universe

By Chris Mattmann, Chief Technology and Innovation Officer, and Whitney Haggins, IT Communication Strategist, Jet Propulsion Laboratory, California Institute of Technology

Over the last decade, JPL's Chief Technology and Innovation Office (CTIO) onboarded new employees by assigning them three devices to begin their journey with JPL IT: a laptop, a cloud account, and a cell phone. The cell phone holds an RSA soft token for multifactor authentication and for accessing JPL services, thereby enabling quick contact with employees and supporting a highly mobile lifestyle even long before the pandemic forced us all to be mobile. The cloud account was a necessity whether they were doing artificial intelligence (AI) and providing information for Mars rover target selections or employing machine learning (ML) and robotic process automation (RPA) to improve and enhance infrastructure and end-user outcomes. This work was being performed using a variety of cloud services available in Amazon's Web Services (AWS), Microsoft's Azure, or Google's Cloud Platform (GCP) environments rather than local laptops. Downloading data to local hard drives to crank out local training models was not an option since most laptops lacked the graphics processing units (GPUs) and other next-generation chips needed to perform such tasks, but the work was possible within the cloud. The laptop did enable rapid communication, collaboration, code editing, and the necessary entry point into an enhanced infrastructure needed to perform daily activities.

(Continued from previous page)

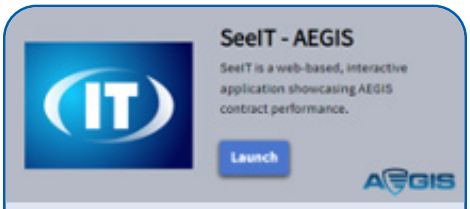
What would an employee be handed today and in 2023? All the above, along with a virtual-reality (VR) headset, most likely an Oculus Quest 2. A headset is the entry point for the employee's culture building, inclusivity, connection, belonging, and telepresence; more cost-effective than a phone. With a percentage of the new workforce (over a third of JPLers were hired within the last five years) always on the go, performing hybrid work from center to center, and the possibility of being outside a 50-mile radius of the NASA center from which they work, the Metaverse (a shared interactive and immersive virtual space that is parallel to the physical world) will play a huge role in building NASA culture and values while also allowing new and innovative employee contributions. Enabling the Metaverse requires closer examination of its foundations—multicloud environments, AI and automation, and hybrid workspaces—to determine their contributions to its strong foundation and more intelligent and digital future.

The future of cloud computing is in multiple environments. For JPL, it is Amazon, Microsoft, and Google. JPL utilizes Amazon, but other centers, as well as academic and other partners, may use Microsoft or Google. Faced with the complexity of managing multiple clouds, their unique cybersecurity and managed services, requisite skill sets, and expert workforce knowledgeable in the nuances of each cloud, most institutions opt instead to select a single infrastructure cloud. Even so, it is possible to utilize the other cloud platforms, especially for collaboration and communication. Generating NASA data in Microsoft 365? Be ready to run Azure. Partnering with a university affiliate and coauthoring a proposal? You're most likely to run Google documents. Welcome to the reality of our multicloud future—and it's here to stay for a while.

Look for an increase in automation related to data science, AI, and ML. This is driven by labor shortages exacerbated by the pandemic, but also by the fact that NASA has a fraction of the AI and ML workforce compared to commercial industry. We are focused on creating tools and techniques to automate the data science process. These AutoML tools can try many thousands of different data-modeling techniques and evaluate their efficacy for many hundreds of different tasks that span the range of text, audio, video, and image processing. AI and ML models will be deployed to the "edge" using AutoML, where the edge begins terrestrially and extends to Mars.

JPL IT has launched a multi-pronged approach to the future of work. Focused on inclusivity and collaboration, we currently use tools like Slack, Teams, Webex, and Zoom for collaboration and virtual meetings. To help reduce two-dimensional meeting fatigue, we are using the cloud and AI to enable more inclusive collaboration, including AI-based emotion and reaction detection in WebEx and Zoom and spatial audio technologies that better detect distance and noise, enabling a "we're in the same room" digital experience. We're also using tools like Gathertown to bring spatiality to 2D overhead/video game–style meetings.

Finally, we've taken it into three dimensions with the Metaverse, experimenting with VR and AR. VR-based collaboration using Quest 2 (as indicated earlier) and existing apps like Spatial.io, Glue, Engage, and Horizons Workrooms brings either a realistic or Avatar-esque experience to working together in three dimensions. When you pair that experience with existing off-the-shelf scanning techniques using Apple iPads and iPhones to scan actual iconic and meaningful physical spaces into the Metaverse, you combine inclusivity, realism, and culture-building for an immersive experience and better collaboration, no matter where you are!



SeeIT—A Collaborative Platform for High-Level Data Consumption

SeeIT is an innovative, one-of-a-kind dashboard that provides full transparency into the services delivered to NASA by Workplace and Collaboration Services (WCS) and Network and Telecommunications Services (NaTS). By using data visualization, SeeIT enables you to slice and dice data around service requests and incidents, service delivery, customer satisfaction on delivered services, and more.

What makes this executive-level dashboard powerful and indispensable is its ease of use. This flexible and functional dashboard offers data in graphs, charts, tables, and more. It is designed with a three-clicks-or-fewer approach, so you can get what you need, when you need it, to make the best-informed decisions possible for your mission.

SeeIT's intuitive ability allows you to look back in time and drill down to see center-level data, trends, and individual areas for focus. The data can be exported to Excel for personal examination.

Check out SeeIT at *https://clocs.ndc.nasa.gov/Home* (link is internal to NASA).

Artificial Intelligence at NASA

By Edward L. McLarney, Information, Data, and Analytics Services Data Science Lead and Digital Transformation AI/ML Lead, Langley Research Center and Open AI's GPT Chat

Artificial intelligence (AI) is playing an increasingly important role at NASA, the United States space agency. From helping to design and build spacecraft and satellites, to analyzing data and making predictions, AI is helping to advance NASA's mission of exploration and discovery.

One area where AI is making a significant impact at NASA is in the design and construction of spacecraft and satellites. By using AI algorithms and machine learning, engineers at NASA can quickly and accurately design and test complex systems, such as propulsion systems and heat shields. This allows for faster and more efficient development of space technology, and it also helps to reduce the cost and risk of space missions.

In addition to aiding in the design and construction of spacecraft, AI is also being used to analyze data from space missions. For example, AI algorithms can be used to process and interpret large amounts of data from sensors and instruments on spacecraft, such as images and measurements of distant planets and stars. This allows scientists to gain new insights and make new discoveries about the universe.

AI is also being used to make predictions and forecast events in space. For instance, AI algorithms can be used to predict the likelihood of solar flares or other space weather events, which can be hazardous to astronauts and space equipment. By using AI to forecast these events, NASA can better prepare and protect its missions and personnel.

Overall, AI is proving to be a valuable tool for NASA, helping the space agency to advance its mission of exploration and discovery. With its ability to quickly analyze and process large amounts of data, make predictions, and aid in the design and construction of spacecraft, AI is helping to make space exploration more efficient, effective, and safe.

The entire passage above was written by OpenAI.com's GPT Chat function on December 1, 2022, based on the prompt, "Write an article on AI at NASA."

(Continued from previous page)

The text is exactly as written by the AI, with no human intervention! This is one example of AI capabilities changing from expensive specialty tools for deep AI experts into powerful, affordable, and accurate tools for mainstream use.

AI is already widespread across NASA—used in Mars rovers, drone autopilots, planet discovery methods, network defenses, and more. Worldwide AI development is accelerating, as can be witnessed in our daily lives, in technical journals, and in popular media. NASA is poised to scale the adoption of AI to include far greater capability, integration of multiple AI and related systems, speed of development-to-deployment, and benefit to missions. NASA is working to encourage and guide responsible AI adoption. This article provides a brief definition of AI, examples of NASA AI use, an overview of efforts and experts fostering AI, selected references, and ways to get involved.

Background and NASA Use Cases
The U.S. Government's website includes a broad overview of AI. At *https://www.ai.gov/about/*, it highlights the AI definition used in the National Artificial Intelligence Act of 2020, beginning:

The term "artificial intelligence" means a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments.

For NASA, numerous applications of AI are already underway. For example:

- The NASA Jet Propulsion Laboratory (JPL) is leveraging AI to train the Curiosity rover to classify terrain and recommend locations for terrain samples. *https://mars.nasa.gov/news/9063/you-can-help-train-nasas-rovers-to-better-explore-mars/*

- NASA Aeronautics Air Mobility researchers are using AI to assist autopilots in identifying and recovering from in-flight contingencies. *https://ntrs.nasa.gov/citations/20205011390*

- NASA scientists are using AI in many areas, to include discovering new planets. *https://ntrs.nasa.gov/citations/20210022097*

- Leaders at Johnson Space Center (JSC), to include the JSC Chief Information Officer (CIO), are in the early stages of planning an open, AI-enabled, virtual analysis environment for NASA and many space partners.

Fostering Responsible AI
With powerful emerging technology comes great promise, along with potential for new issues to arise. NASA's Chief Scientist and Chief Technologist have taken the mantle as the Agency's Responsible AI Officials, in accordance with Executive Order 13960. They have recently published NASA's Responsible AI Plan, available at *https://ntrs.nasa.gov/citations/20220013471*. They have also begun tracking AI use cases at NASA, encouraging widespread discussion regarding ethical/responsible AI use and more.

Growing AI Adoption
As part of the NASA Digital Transformation (DT) initiative, the AI and Machine Learning (AI/ML) foundation team is several years into a multi-pronged campaign to enable nearly everyone at NASA to use AI and machine learning. Specific AI transformation activities underway include:

- Practical applications. Advocating for AI/ML project seedling funding.

- Tools and platforms. Working with NASA cloud providers to provide NASA employees with secure, affordable, and powerful AI/ML capabilities.

Recognizing the need to establish a standing service responsible for both continuing coordination with DT AI/ML and operationalizing enterprise AI/ML adoption, the CIO expanded a service under the Information Data and Analytics Services (IDAS) line for Data Science and AI/ML:

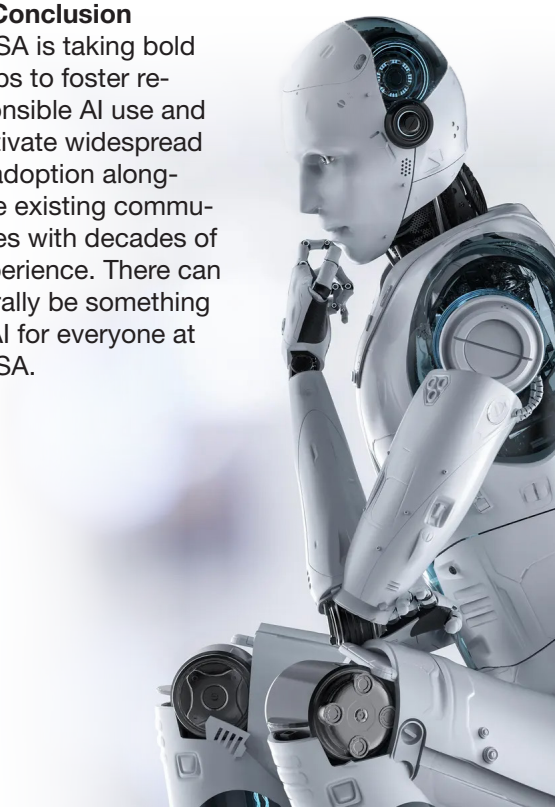
- Workforce development. Organizing, augmenting, and advertising mechanisms for employees to learn about applying AI/ML.

- Teamwork. Growing a community of practice across NASA, to include an internal web hub of AI/ML knowledge, points of contact, expert speakers, and gatherings.

- AI-enabled data. Teaming with data experts and data owners to make data ready for AI/ML use.

Getting Involved
Personnel interested in AI/ML transformation may reach out to Ed McLarney and Nikunj Oza, who lead the AI/ML DT team. For Responsible AI, contact Ave Kludze or Louis Barbier. NASA AI or Autonomy experts should contact the long-standing Autonomous Systems – System Capability Leadership Team (AS-SCLT) led by Terry Fong and Danette Allen. Contact Lauren Goodwin regarding the virtual AI-enabled analysis environment.

In Conclusion
NASA is taking bold steps to foster responsible AI use and cultivate widespread AI adoption alongside existing communities with decades of experience. There can literally be something in AI for everyone at NASA.



NASA's Digital Transformation: Where Are We Now?

By Alex H. Wagner, Communications Specialist, NASA Headquarters

Launched in FY21, NASA's Enterprise Digital Transformation (DT) strategic initiative serves as a catalyst to leverage digital advances to reinvigorate how NASA works, the experience of its workforce, and the agility of its workplace. The goal is to ensure that NASA will thrive in a future marked by an expanding global partnership landscape, evolving employee expectations, and increasing budget demands, while prioritizing safety from increasing digital threats.

To meet these goals, DT launched five "coalition" projects in FY22 that were jointly funded by DT and organizations across NASA. Our *March 2022 article* featured in IT Talk introduced these projects briefly; this is an update of what these projects are about, the results they achieved to date, and what's next.

Modern and Inclusive Collaboration Spaces (MICS)
A detailed overview of the MICS project, formulated to jump-start NASA's proficiency with hybrid teaming, was presented in the *July 2022 issue of IT Talk*. Now completed, MICS-developed *hybrid meeting SATERN trainings* and recommended hybrid meeting technology solutions have been integrated into the Office of the Chief Human Capital Officer (OCHCO) and OCIO Workplace and Collaboration Services (WCS) product offerings.

Enterprise Data Platform (EDP)
The EDP project focused on creating an integrated data discovery tool so NASA employees—and eventually the public—can visualize the agency's data with ease. Users will be able to search and analyze multiple datasets, publications, and other assets simultaneously using a central portal and enterprise data analytics tools.

Following iterative development, the ATO for the initial EDP operational version was granted in August 2022. It has already hosted over 130 customer dashboards including several for OCHCO that enabled rapid turn-around analysis of the 2022 Federal Employee Viewpoint Survey data within an unprecedented 2 weeks of survey close. They also developed and piloted an initial intelligent search capability with Science Mission Directorate earth scientists. In FY23 the EDP team will be working with the Aeronautics Research Mission Directorate to integrate ground and flight research data.

Smart Centers
Similar in concept to "smart homes," this project focused on developing new technologies to enhance the physical infrastructure of NASA facili¬ties and reinvigorate agency workflow. These technologies could potentially cut through the growing maintenance backlog as the agency's infrastructure ages.

The Smart Centers team's first proof of concept was an autonomous facility inspection. Using infrared sensors on a drone and a linked digital dashboard, the team was able to survey a liquid nitrogen plant at Langley with minimal time and resources.

Engineering for Tomorrow
This project is focused on adopting digital engineering advances across NASA to close engineering designs faster by reducing uncertainties and errors, ensuring greater efficiency and cost savings to project schedules.

The team developed a first ever NASA Model-Based Systems Engineering (MBSE) handbook; completed agencywide benchmarking of digital engineering tools, paving the way to define interoperable toolchains to work seamlessly across NASA and with our partners and other government agencies; prototyped a common cloud-based Product Lifecycle Management capability across centers; and created a "digital twin" for the electrical system aboard the Orion spacecraft capable of ingesting telemetry data from the Artemis I launch.

Smart Projects and Reviews with Transformative Analytics (SPARTA)
SPARTA's goal is to streamline project review processes using real-time data. Using intuitive graphical dashboards extensible across NASA, the team intends to integrate data in a timely and more efficient manner to enable faster project management decisions with better, earlier insights.

Currently, SPARTA is finalizing prototype interactive project management dashboards using a pilot portfolio of science projects across two NASA centers. The initial dashboard modules will include integrated views of mission profiles, risk, financial, and schedule data, as well as a project portal. The team has already integrated risk data from multiple centers, enabling program managers to assess risk at a portfolio level and evaluate trends.

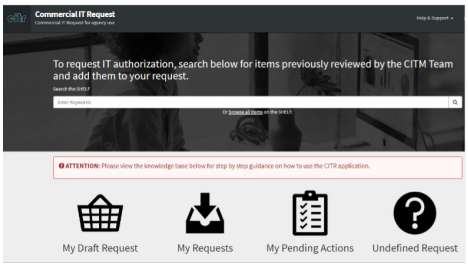
Looking Ahead
These projects, along with many additional DT efforts across NASA, are revolutionizing our capabilities as our missions become bolder and more complex. DT is working with senior NASA leadership to align and focus the many DT efforts underway across NASA on our top transformation targets which are engineering, discovery, program/project management decision making and operations. Ultimately, DT efforts will be measured not only on their ability to deliver improved efficiencies and effectiveness, but also on their success in catalyzing NASA's larger transformation progress.

Additional articles detailing the progress of these DT projects and others will be released in 2023. Employees interested in learning more about DT efforts across NASA are invited to attend our *Transformation Tuesday seminar series*.

The Commercial IT Request Application: The "NEW" Way To Buy IT!

By Rob Quinn, Enterprise Business Management Office (EBMO) Commercial IT Management Lead, Langley Research Center

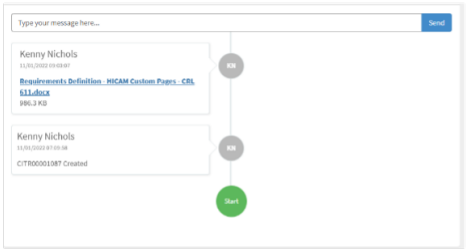
The OCIO recently released a new application, *the Commercial IT Request (CITR) Application*, (link is internal to NASA) with the intent of making buying IT easy for everyone. This application coordinates all required functional reviews and their appropriate points of contact into a single automated and transparent workflow. This includes, but is not limited to, Supply Chain Risk Management (SCRM), Section 508 Compliance, IPv6 Compliance, and Cybersecurity reviews; IT procurements include all software, all IT hardware (Data Acquisition Systems and Lab Equipment with IT Components), and all IT services not currently available under existing agency or center contracts.



In addition to this standardized and transparent authorization, the team managing this application—the Commercial IT Management (CITM) team—will also process all new IT procurements over $10,000 (unless being procured as an Other Direct Cost through a center or agency IT service contract [e.g., AEGIS, EAST 2, COMIT, KIAC]). The CITM team will complete all necessary procurement documentation for those procurements resulting in a Purchase Requisition. This includes, but is not limited to, the NF-1707, Sole Source or Brand Name Justifications, and Market Research Reports.

- In the CITR application, there are many ways an end user can find assistance. At the bottom of the home page are links to the most used knowledge articles stored in the extensive Knowledge Base. That Knowledge Base contains general FAQs, step-by-step instructions on how to perform functions within the application, and more, with even more to come!

- There is also an opportunity to receive more direct help on every ticket by utilizing the Ticket Activity Log at the bottom. You can see a history of each ticket and write any question or comment you would like to capture here.



- You can also e-mail the Commercial IT Management team with questions at *NASA-CITM@mail.nasa.gov*.

This new and evolutionary application is currently available for use agency-wide at *https://oneplace.larc.nasa.gov/citr*. While the application is not mandatory at this time, policy development is underway to require use effective October 1, 2023. In the meantime, come see how this mission-enabling tool can alleviate the administrative burden of buying IT for your organization today!

On-the-Go? Print to Enterprise-Managed MFD Printers

It is no surprise that we have changed the way we work over the last two years. As we find ourselves at the office, at home, and in hybrid situations, we have learned that we can work anywhere with few limitations. One of the hurdles NASA is working to overcome is easy and accessible printing, and it is doing this by providing a centralized method for printing solutions.

In 2023, Workplace and Collaboration Services (WCS) plans to offer "Follow Me Print." With this innovative service, you will have the flexibility to print to any enterprise-managed Multi-Function Device (MFD) printer, queuing your print job from your computer or mobile device. Imagine being able to immediately respond to information requests using your mobile phone or iPad!

With Follow Me Print, you will have the ability to print to any MFD printer without the worry of updating print drivers, which will decrease calls to the Enterprise Service Desk (ESD) and make it super simple to print on the go. Once you are ready to print, all you will have to do is release the print job while standing at the print device, and your queued job will print.

Gone are the days of having to walk to the printer to check for a print job or forgetting your important document on the tray. Follow Me Print will reduce wasted printing storage and cycles—saving Earth and saving you frustration from frequent visits to the printer!

By using Follow Me Print, NASA employees will be able to manage printing needs and can print on demand to any MFD-enabled, enterprise-managed output device. Good for Earth, good for security, and good for an enhanced end-user experience to fulfill NASA's printing needs.

OCIO Supports Console Stability and Readiness for a Successful Artemis I Mission

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

In the early morning hours of November 16, years of work for the women and men of NASA finally came to fruition when the engines aboard Artemis I roared to life at Launch Complex 39B at Kennedy Space Center (KSC). The following weeks would see the agency successfully return to lunar exploration with a human-ready craft for the first time in nearly 50 years.

Throughout the mission, OCIO has stood by to support Artemis I. Workplace and Collaboration Services (WCS) worked closely with the launch team at KSC to execute the Mission Freeze process.

This process ensures that any supporting console computers remain stable by being temporarily exempted from any new updates that would interrupt important work during a launch window.

Up to and beyond the launch, the Mission Requirements Team in charge of the freeze worked with representatives from the Artemis I program to adapt to their needs in support.

User Experience Team Lead John Leavitt has earned the nickname “Dr. Freeze” for working these requirements over the years and noted that, “As much as we try to capture all requirements up front through technical integrations and requirements meetings with various programs involved in the launch, flexibility is required.”

This flexibility included adding late requirements to ensure stability in time for the launch. “For Artemis I, we added an ad hoc freeze group to pick up late-breaking freeze requirements,” Dr. Leavitt said.

One of the representatives that the Mission Requirements Team supported is Shaun Heath with Exploration Ground Systems (EGS). “I grew up on the Space Coast and have worked here my entire career, but I have yet to tire of launches,” he said. “Especially successful first launches.”

Heath recounted his time working with the team toward the Artemis I launch by saying, “I thought the teamwork between the program and OCIO was exceptional; it exceeded my expectations.” He went on to explain that “the coordination of information across the breadth of OCIO to EGS was really impressive, and the responsiveness was very timely. The entire freeze process went very well.”

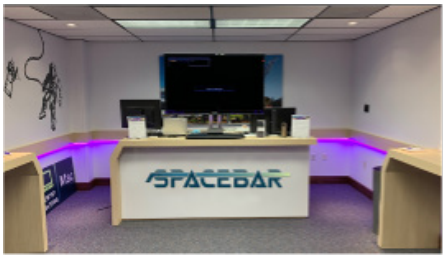
Freezes supported stability and safety throughout other aspects of the mission beyond the launch. After completing a distant retrograde orbit of the Moon, the Orion capsule returned to Earth, splashing down in the Pacific Ocean on December 11. Additional freezes were put into place across the agency, which ensured stability around the splashdown and recovery processes.

OCIO will continue to fine-tune this process as NASA begins to look forward to Artemis II. This future mission will send a crewed Orion spacecraft on a lunar flyby test and return to Earth. Processes and lessons learned from the Artemis I freeze will continue to inform improvements.

Dr. Leavitt noted, “In the end, it’s about executing the mission safely, especially when astronauts are on board!”

SpaceBar Walk-Up Support Expanding in 2023

Workplace and Collaboration Services (WCS) is excited to offer NASA employees a home for innovation and an enhanced end-user experience with SpaceBar.



SpaceBar provides a place for walk-up IT services from friendly, highly skilled service technicians, coupled with a storefront atmosphere where you can touch, feel, and test the latest and greatest hardware that NASA IT offers.

SpaceBar launched in 2019 at Marshall Space Flight Center and has since landed at Goddard Space Flight Center, Langley Research Center, and Stennis Space Center. Leidos intends to offer its SpaceBar concept to all NASA centers as part of its commitment to enhance the end-user IT experience and will be expanding to Johnson Space Center in early 2023. Stay tuned to see a SpaceBar pop up NEAR YOU! For center-specific SpaceBar details, refer to *SpaceBar* (link is internal to NASA).

The goal of SpaceBar is to enhance the customer experience by providing exceptional IT walk-up support. SpaceBar provides a common user IT experience—regardless of location, customers will know where to go for their IT needs. Typical SpaceBar services include the following:

- Computer walk-up support
- Software assistance for NASA IT–offered software
- Loaner hardware requests (computer and mobile)
- Mobility walk-up support
- VPN assistance (reinstall or network resync)
- Business productivity support (Microsoft apps, including Teams, etc.)
- System setting and configuration support

SpaceBar provides quick resolution for common IT problems. For more complex issues, the friendly technicians will help guide you through the ticketing process to ensure that you are on the right track for speedy resolution.

SpaceBar aims to make technology accessible and relatable and offers an exceptional customer experience. SpaceBar is also the hub for collaboration and a location to provide additional opportunities, such as onsite training and education.

IT Talk

National Aeronautics and Space Administration

Office of the Chief Information Officer
300 E Street SW
Washington, DC 20546

www.nasa.gov