

FY 2022

AGENCY FINANCIAL REPORT



National Aeronautics and
Space Administration

NASA's

James Webb Space Telescope, a partnership with European Space Agency (ESA) and the Canadian Space Agency (CSA), released its first full-color images and spectroscopic data on July 12, 2022. As the largest and most complex observatory ever launched into space, Webb has been going through a six-month period of preparation before it can begin science work, calibrating its instruments to its space environment and aligning its mirrors. This careful process, not to mention years of new technology development and mission planning, has built up to the first images and data: a demonstration of Webb at its full power, ready to begin its science mission and unfold the infrared universe.

“As we near the end of preparing the observatory for science, we are on the precipice of an incredibly exciting period of discovery about our universe. The release of Webb’s first full-color images will offer a unique moment for us all to stop and marvel at a view humanity has never seen before,” said Eric Smith, Webb program scientist at NASA Headquarters in Washington. “These images will be the culmination of decades of dedication, talent, and dreams – but they will also be just the beginning.”

Editor – Jamie Adkins

More information about NASA Webb Telescope’s First Images at www.nasa.gov/webbfirstimages



COVER IMAGE CAPTION AND CREDITS

This illustration depicts NASA’s James Webb Space Telescope – the largest, most powerful, and most complex space science telescope ever built – fully unfolded in space. The telescope’s first full-color images and spectroscopic data will demonstrate Webb at its full power, ready to begin its mission to unfold the infrared universe.

PHOTO CREDIT – NASA/Adriana Manrique Gutierrez

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NASA IN THE COMMUNITY



SpaceX Crew-1 NASA astronauts, from left to right, Shannon Walker, Victor Glover, Mike Hopkins, and Japan Aerospace Exploration Agency (JAXA) astronaut Soichi Noguchi, wave at students during a live question and answer session in the Oprah Winfrey Theater at the National Museum of African American History and Culture (NMAAHC), Tuesday, Nov. 16, 2021, in Washington. Hopkins, Glover, Walker, and Noguchi launched on the first crew rotation mission to the International Space Station for SpaceX's Falcon 9 and Crew Dragon spacecraft as part of the agency's Commercial Crew Program and spent 168 days in space across Expeditions 64 and 65.

PHOTO CREDIT – NASA/Aubrey Gemignani



NASA astronaut Victor Glover greets one of his youngest fans, 3-year-old Ezra Garrel, with a fist bump at the conclusion of an educational event for students in the Washington, DC area, Thursday, April 28, 2022, at the National Museum of African American History and Culture in Washington. Glover most recently served as pilot and second-in-command on the Crew-1 SpaceX Crew Dragon, named Resilience. The long-duration mission aboard the International Space Station returned to Earth on May 2, 2021.

PHOTO CREDIT – NASA/Bill Ingalls

MESSAGE FROM THE ADMINISTRATOR



I am pleased to present the Fiscal Year (FY) 2022 Agency Financial Report (AFR) for the National Aeronautics and Space Administration (NASA). This report provides transparency into our strategic and operational posture and results by presenting a complete presentation of our financials in accordance with Generally Accepted Accounting Principles. Under the leadership of the Office of the Chief Financial Officer, for 12 consecutive years, NASA has received an unmodified “clean” opinion on its financial statements, with no reported material weaknesses.

NASA’s vision is to **explore the secrets of the universe for the benefit of all**. On December 25, 2021, the James Webb Space Telescope (JWST) launched into orbit equipped with the most advanced deep space observation capabilities ever assembled. JWST is now capturing the most profound and sharpest infrared images of the distant universe to date, pushing the boundaries of human knowledge even further, to the formation of the first galaxies and the horizons of other worlds. We released a Blueprint for Our Future Exploration of the Solar System – NASA’s Moon to Mars objectives – that will help NASA and our partners chart our future together in deep space. Key to that effort is the Artemis campaign, and the launch of Artemis I, which will pave the way to return humans to the Moon, set the stage for our ambitious journey to Mars, and inspire a new generation of explorers.

Furthermore, NASA plays a critical role in advancing understanding of our planet and how climate change affects our lives here, and providing data to scientists, policy makers, and the public. As one of the world’s experts in climate science, NASA engages in a broad range of activities to track and mitigate the effects of climate change in collaboration with commercial companies and international partners. To address the most pressing questions about our changing planet, NASA established the Earth System Observatory which includes five satellite missions providing critical data on climate change, severe weather and other natural hazards, wildfires, and global food production. Additionally, NASA developed the Earth Information Center (EIC) to improve data accessibility and understanding as governments and people plan for the future in the face of climate change. The EIC will provide a whole Earth view incorporating large visualizations, interactive media, stories, and narratives, to inspire action in response to climate change. Further, we have developed a robust Climate Action Plan that lays out NASA’s vision for adapting to climate change effects on our mission, facilities, infrastructure, natural lands, and other assets, now and in the future. Another key climate priority is to advance sustainable aviation through research and technology development along with technology transfer for direct benefits to the public. We plan to make aviation sustainable through efficient aircraft technology, sustainable aviation fuel, and supporting operations and infrastructure.

NASA is proud to play a critical role in promoting shared growth and prosperity for generations of all Americans. Dollars spent for space exploration inspire the next generation of explorers, create jobs, jumpstart businesses, and grow the economy. Investments in NASA generate outsized returns for the Nation: in just FY 2021, NASA investments supported \$71.2 billion in total economic output and over 339,000 jobs across the country. This includes more than \$7 billion in economic output and over 37,000 jobs for NASA’s climate research and technology investments alone. One of our key priorities in this area is the United States (U.S.) commercial space industry. We are undertaking significant research and development to support new technologies to help the U.S. commercial space industry grow, enhance mission capabilities, create good-paying jobs, and reduce costs. NASA’s partnership with industry through the commercial cargo and crew programs is facilitating the development of a safe, reliable, and cost-effective U.S. commercial space transportation capability to the International Space Station (ISS) and low-Earth orbit. Just this year, the first all-private astronaut mission to the ISS aboard the SpaceX Dragon spacecraft and Falcon 9 rocket was successfully undertaken, and preparations are underway for the launch of NASA’s Boeing Crew Flight Test. Also, new forms of highly automated Advanced Air Mobility aircraft could transform transportation, cargo delivery, and a variety of public services. NASA is already conducting research test flights with our industry partners to prove and refine the concepts that will ensure this new type of technology enters the National Airspace System in a safe and sustainable way. NASA will continue to support the development of a thriving, innovative, and growing space industry where America leads the way.



NOVEMBER 15, 2022

MESSAGE FROM THE ADMINISTRATOR (CONTINUED)

To meet these important goals, NASA is proud to develop and support our workforce and the next generation of scientists and visionaries. NASA will lead in promoting greater diversity, equity, inclusion, and accessibility (DEIA) within our organization and with our partners and stakeholders. With the issuance of Executive Orders 14035: *Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce*, and 13985: *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*, the importance of strategic, purposeful, and well-designed program actions to support underserved and underrepresented communities have become even more evident. In support, NASA launched its [2022 DEIA Strategic Plan](#) which focuses on workforce diversity, employee experience, accessibility and accommodation; and DEIA integration into the NASA mission. To track progress toward improved DEIA both internally and externally we released our first-ever [Equity Action Plan \(EAP\)](#). The EAP outlines and reaffirms the Agency's strategy to mitigate systematic barriers and expand equity in the procurement process to allow fair, impartial access and representation for all those who seek to contribute to our Nation's great work in space. Our achievements are only possible because of our diverse, dedicated, and strong workforce, and we are proud that NASA has been named, for the 10th consecutive year, the Best Place to Work in the Federal Government among large agencies.

NASA is committed to delivering reliable, accurate, and comprehensive financial data and transparency regarding the Agency's fiscal operations. We follow high-quality financial reporting practices, ensuring appropriate controls with efficient and effective management of appropriated and reimbursable Agency funds. The financial and performance data presented in this report are complete and reliable.

I am in awe of the relentless spirit of the women and men of NASA to achieve missions once thought impossible. We will continue to bring down the barriers, both visible and invisible, that hinder fairness, ensure underserved communities' access to opportunities, and move confidently into a new era of exploration, full of breakthroughs and discoveries to take us farther than before: sending the first woman and first person of color to the Moon, continuing on to Mars and beyond, while expanding science, economic growth, and prosperity.



Sincerely,

Bill Nelson

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MAJOR THEMES AND STRATEGIC GOALS

I. DISCOVER

Expand human knowledge through new scientific discoveries.

II. EXPLORE

Extend human presence to the Moon and on towards Mars for sustainable long-term exploration, development, and utilization.

III. INNOVATE

Catalyze economic growth and drive innovation to address national challenges.

IV. ADVANCE

Enhance capabilities and operations to catalyze current and future mission success.

SPANISH TRANSLATION AVAILABLE

Click [here](#) to read the Spanish version. Haga clic [aquí](#) para leer la versión en español.

HERSTORY

PAST, PRESENT, AND FUTURE:

MARY W. JACKSON

Mary (Winston) Jackson was born on April 9, 1921. After receiving the highest honors upon graduating from George P. Phoenix High School, she furthered her education at Hampton Institute (now Hampton University). Mary earned a dual Bachelor of Science Degree in Mathematics and Physical Science. In 1951, Mary was hired by the National Advisory Committee for Aeronautics (NACA), NASA's predecessor Agency. She worked in the Langley Memorial aeronautical laboratory segregated West Area Computing Unit along with other African American female mathematicians. In 1953, she left the unit to work for engineer Kazimierz Czarnecki conducting experiments in a high-speed wind tunnel. At the suggestion of Czarnecki, Mary Jackson entered an engineer training program. She completed the courses and in 1958 became the first Black female engineer at NASA.

In 1979, Mary left engineering to become manager of the Langley's Federal Women's Program Manager. There, she worked hard to impact the hiring and promotion of the next generation of all of NASA's female mathematicians, engineers, and scientists. Mary retired from Langley in 1985 and passed away on February 11, 2005. She and other West computers, including Dorothy Vaughn and Katherine Johnson were the inspiration for the book, *Hidden Figures: The American Dream and the Untold Story of the Black Women Mathematicians Who Helped Win the Space Race*. The book was made into an acclaimed film, both of which were released in 2016. On February 26, 2021, NASA renamed its Headquarters building the Mary W. Jackson, NASA Headquarters.



PHOTOGRAPHY CREDIT – NASA

Top Left: Portrait of Mary W. Jackson. 2017 Hall of Honor inductee.

Top Middle: In this photograph taken Nov. 8, 1984, Jackson meets with colleagues at Langley during the Student Symposium Meeting.

Top Middle: Mary W. Jackson at Work NASA Langley.

Top Right: March 3, 1983. Special Control Test Group with Mary W. Jackson.

Bottom Left: Photograph taken June 17, 1982. Federal Women's Program with Mary W. Jackson giving out awards to Kathi Porter.

Bottom Middle: Photograph taken July 30, 1964. Mary W. Jackson, Aerospace Engineer in the Large Supersonic Tunnels Branch of Full-Scale Research Division, explains the facilities used in testing research models such as SCAT.

Bottom Right: Federal Women's Program; speaking is Mary W. Jackson.



On September 20, NASA's former program director of the James Webb Space (Webb) Telescope, Gregory L. Robinson, was honored with the **2022 Federal Employee of the Year** medal for his leadership of Webb.

Considered the Oscars of government service, the Samuel J. Heyman Service to America Medals, also known as the Sammies, was presented to Robinson by Second Gentleman Douglas Emhoff.

Robinson's contributions to the agency have been far-reaching, from leading NASA programs in the Science Mission Directorate at NASA Headquarters to overseeing Webb, the largest and most complex space science observatory launched. His tenure as Webb program director began in 2018, where he was instrumental in completing the last four years of mission development – a mission that is now delivering to the world the first images of the hidden infrared universe.

Robinson is the recipient of numerous accolades, including the NASA Presidential Rank Distinguished Executive and the NASA Meritorious Senior Professionals and Executives awards. He is named to the **TIME 100 Most Influential People of 2022** and to the **EBONY 2022 Power 100** (Stem Trailblazers) prestigious lists. Over his 33 years at NASA, Robinson held several senior executive positions, including deputy director at the agency's Glenn Research Center in Cleveland, where he helped lead a major reorganization of the Center to improve project performance while continuing world class research and technology development. During his tenure, Robinson initiated the formulation for Solar Electric Propulsion and the European Service Module work continued, in support of Artemis.

After more than 30 years of service at NASA, Robinson retired on July 29, 2022.

SECTION 1

MANAGEMENT'S DISCUSSION AND ANALYSIS

Gregory L. Robinson, former James Webb Space Telescope program director at NASA, speaks at the 2022 Samuel J. Heyman Service to America Medals Awards Gala at the Kennedy Center in Washington, where he received the award of Federal Employee of the Year, Sept. 20, 2022.

PHOTO CREDIT — Partnership for Public Service/Joshua Roberts

WELCOME TO NASA

The FY 2022 AFR presents NASA's audited FY 2022 and FY 2021 financial statements and disclosures, the related independent auditors' opinion, required supplemental information, preliminary, top-level performance results for FY 2022, and other information. The FY 2022 AFR can be found on NASA's website (www.nasa.gov) at [Agency Financial Reports](#).

NASA inspires the world through exploration and discovery, leading scientific and technological advancements that benefit Americans and all humanity. Our efforts in space help to further the national economy, including through innovative commercial partnerships with American businesses. With the increasing threat of climate change, NASA's efforts to study and understand the Earth are of critical global significance. In addition, NASA's partnerships with academic institutions support a robust science, technology, engineering, and mathematics (STEM) workforce and promote diversity, equity, inclusion, and accessibility (DEIA) in the fields of science and technology.

NASA's achievements of tomorrow are being built on a solid foundation of fiscal operations and performance management. Through the rigorous application of controls and standards, we ensure that our programs and projects have the resources they need to continue this forward momentum. We use credible, quality data to drive Agency decision-making and planning. NASA is transparent in these efforts, complying fully with requirements on accountability and performance management.

NASA demonstrates stewardship of its resources and accountability for results through compliance with the [Chief Financial Officers Act of 1990 \(CFO Act\)](#)¹ and the [Government Performance and Results Act Modernization Act of 2010 \(GPRAMA\)](#)². Financial aspects of the Agency's business operations are accounted for according to U.S. Generally Accepted Accounting Principles (GAAP). GAAP, for Federal entities, are the standards prescribed by the Federal Accounting Standards Advisory Board (FASAB).

NASA presents both performance and financial results of operations by Strategic Goals as identified in NASA's [2022 Strategic Plan](#)³. Highlights of key program activities contributing to each Strategic Goal are provided in the Mission Performance section (starting on [page 13](#)). A high-level summary of the linkage between program results and the cost of operations is available in the Statement of Net Cost (SNC), found in the Financial section (starting on [page 44](#)). The SNC presents comparative net cost of operations during FY 2022 and FY 2021 by strategic goal and for the Agency as a whole. In addition, the Financial Highlights, in the Financial Performance section explain any significant changes in NASA's financial condition from FY 2022 to FY 2021.

THE ROMAN SPACE OBSERVER GAME

With the ever-revolving loop of popular trends, retro 8-bit style games have made a big comeback in the gaming industry. Younger generations are now loving games that older generations still enjoy. This game is intended to entertain players across a wide variety of interests and skillsets, all while spreading the word of the Nancy Grace Roman Telescope and the fantastic science it will uncover.

Our goal for this game is to inform and inspire players about the amazing cosmic objects in our universe and what Roman may be able to see in a fun and engaging way.



PLAY NOW

¹Chief Financial Officers Act of 1990 (CFO Act) <https://govinfo.library.unt.edu/npr/library/misc/cfo.html>

²Government Performance and Results Act Modernization Act of 2010 (GPRAMA) <https://www.congress.gov/111/plaws/publ352/PLAW-111publ352.pdf>

³NASA 2022 Strategic Plan https://www.nasa.gov/sites/default/files/atoms/files/fy_22_strategic_plan.pdf

ACHIEVING OUR VISION AND MISSION



President Joe Biden previews the first full-color image from NASA's James Webb Space Telescope, the highest-resolution image of the infrared universe in history, Monday, July 11, 2022, in Washington. On screen are NASA Associate Administrator for the Science Mission Directorate Thomas Zurbuchen, top, Deputy Director of the Space Telescope Science Institute (STScI) Nancy Levenson, and NASA James Webb Space Telescope Program Director Greg Robinson, bottom.

PHOTO CREDIT — NASA/Bill Ingalls

NASA embraces the challenge of furthering global scientific and technological achievement and expands the realm of what is possible in aeronautics and space. This challenge is our passion, our purpose, and is reflected in the Vision and Mission described in our *2022 Strategic Plan*⁴.

NASA's long-term success will be largely determined by the strategic decisions and investments we make today, as well as constant adherence to our five guiding Core Values, shown below.

NASA's Core Values

NASA's existing Core Values of Safety, Integrity, Inclusion, Teamwork, and Excellence mandate individual and organizational behavior across the Agency at all levels:

Safety

NASA's constant attention to safety is the cornerstone upon which we build mission success.

Inclusion

NASA is committed to a culture of diversity, inclusion, and equity, where all employees feel welcome, respected, and engaged.

Excellence

To achieve the highest standards in engineering, research, operations, and management in support of mission success, NASA is committed to nurturing an organizational culture in which individuals make full use of their time, talent, and opportunities to pursue excellence in conducting all Agency efforts.

Integrity

NASA is committed to maintaining an environment of trust, built upon honesty, ethical behavior, respect, and candor.

Teamwork

NASA's most powerful asset for achieving mission success is a multi-disciplinary team of diverse, talented people across all NASA Centers.

VISION

Exploring the secrets of the universe for the benefit of all.

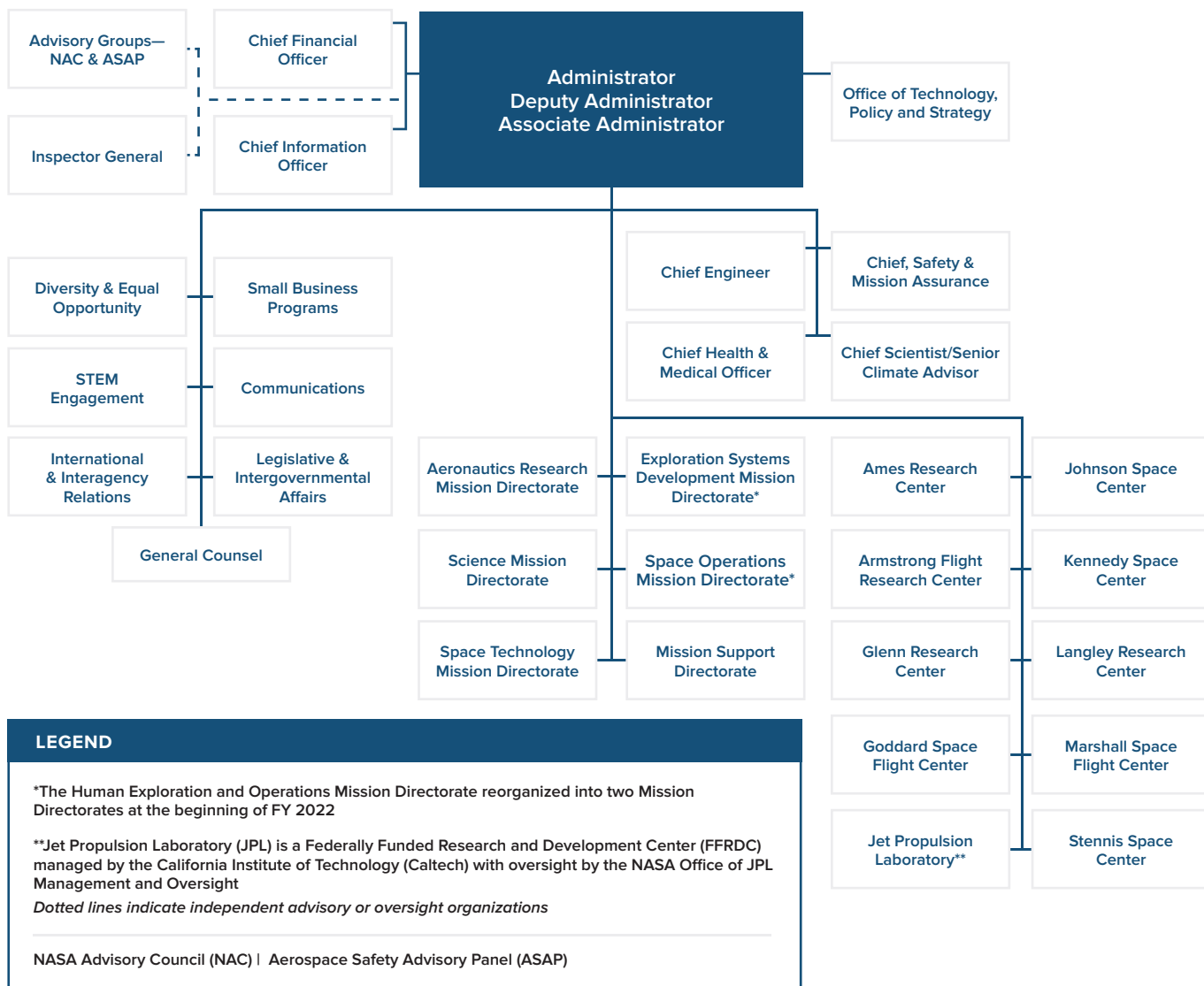
MISSION

NASA explores the unknown in air and space, innovates for the benefit of humanity, and inspires the world through discovery.

⁴ NASA produces a Strategic Plan every four years in accordance with GPRAMA. NASA published the 2022 Strategic Plan on March 28, 2022, concurrent with publication of our *FY 2023 Congressional Justification*. The Strategic Plan is available at www.nasa.gov/sites/default/files/atoms/files/fy_22_strategic_plan.pdf

ORGANIZATIONAL STRUCTURE

NASA's Headquarters, located in Washington, DC, provides the overall guidance and direction to the Agency under the leadership of the Administrator. A skilled and diverse group of technical and business professionals conduct day-to-day activities throughout our 10 Centers and a variety of unique facilities.

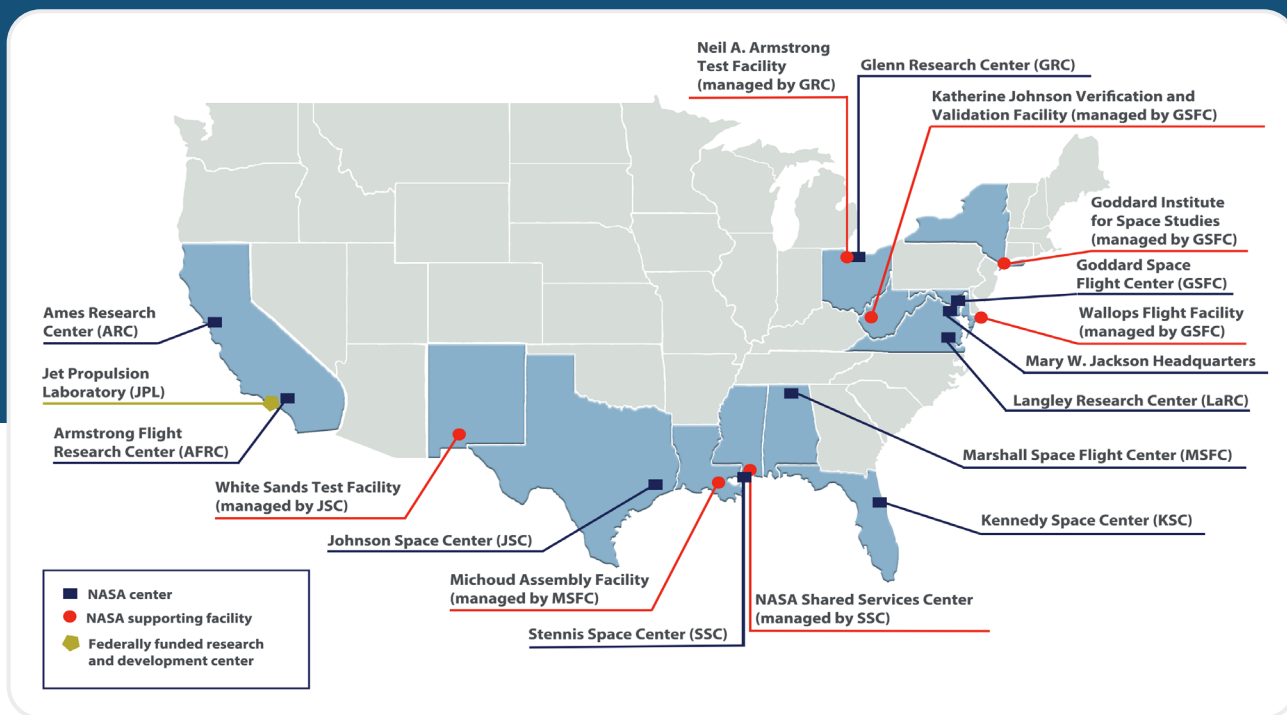


The innovative, responsive, and dynamic nature of NASA's work benefits from our highly leveraged relationships with and between Mission Directorates, Mission Support Offices, and Centers. This organizational model ensures that our leaders can take both a holistic and more narrowly focused approach to programmatic, operational, business, and safety management⁵.

The Administrator and senior officials lead NASA by providing top-level strategy, policy, and direction. NASA's Office of the Chief Financial Officer leads the Agency's budget, financial, and performance management processes. Mission Directorates and Mission Support Offices at Headquarters manage decisions on programmatic investments and guide operations of the Centers.

⁵The Agency's organization structure, roles, and responsibilities are described in NASA Policy Directive 1000. 3E, NASA Organization <https://nodis3.gsfc.nasa.gov/displayDir.cfm?t=NPD&c=1000&s=3E>

NASA CENTERS AND FACILITIES



FACILITIES SUPPORT FUTURE MISSION SUCCESS

By revitalizing or eliminating inactive and obsolete facilities, NASA improves energy efficiency, eliminates safety and environmental liabilities, and saves operations and maintenance expenses required to keep unneeded facilities in safe condition. We construct new buildings where needed, with an eye towards meeting NASA's current and future needs.

All of the new buildings shown below have been awarded the Leadership in Energy and Environmental Design (LEED) Gold certification⁶.



Photo Credit - NASA

Glenn Research Center unveiled its new Research Support Building (shown here) on July 11, 2022. The building is designed to be a flexible, inclusive, and collaborative workplace to meet evolving workforce needs. The building has hoteling spaces for workers who spend a limited amount of time onsite, 16 conference rooms, and multiple gathering spaces. Engineering rooms allow multiple teams to work simultaneously on different phases of a technology or project. The environmental features include extensive natural daylight, low-volatile organic compound emitting materials, and water and energy-saving fixtures and appliances. The facility also provides bicycle storage and preferred parking for fuel-efficient vehicles.



Photo Credit - Gary Banziger

Langley Research Center opened their newest addition to its 20-year revitalization plan, the Measurement System Laboratory (shown here), on April 21, 2022. The building contains state-of-the-art research labs for developing, testing, and implementing new sensor and instrument technologies. To support the research being conducted within the building, the floors were built to strict requirements for levelness and designed to reduce vibrations. Also, the floors in much of the building have copper signal reference grounding mesh that's useful with electronics work. An emphasis on efficiency, adaptability, and durability will ensure the laboratory will remain an innovation hub for decades to come.



Photo Credit - NASA/
Dominic Hart

Ames Research Center is working with Planetary Ventures to restore and preserve the towering, historic Hangar One. The U.S. Navy built the hangar in 1933 to house airships. An inspection of the hangar found toxic contaminants in the external siding, and in 2010, the Navy removed the metallic exterior. A few years later, NASA began the effort to rehabilitate the space. Once complete, Hangar One will serve as a hub for innovative research and development. In the photo, members of Congress toured the restoration effort on May 6, 2022.

⁶ LEED is the most widely used system for rating green building design. More on the LEED rating system can be found at <https://www.usgbc.org/leed>.

NASA BY THE NUMBERS

FY 2022 BUDGET

\$24.4 BILLION

\$ 12.3 BILLION
RESEARCH, ENGINEERING, & DEVELOPMENT

\$ 9.8 BILLION
OPERATIONS

\$ 1.2 BILLION
GRANTS

\$ 1.1 BILLION
FACILITIES AND EQUIPMENT

Note: The \$24.4 billion contains \$321.4 million of Disaster Relief Supplemental Appropriations. Totals are estimates because as of September 30, 2022, \$1.2 billion in funding had yet to be committed.

NASA LOOKS AHEAD IN 2022

ARTEMIS, X-59, LUNAR EXPLORATION, AND MORE



NASA 2022: The Future is Now

Receiving the first images from the James Webb Space Telescope, sending the first uncrewed Artemis mission around the Moon and back to Earth, sending NASA science and technology to the surface of the Moon on three missions with our commercial partners, and flying our first quiet, supersonic plane are just a few of the things NASA has planned for 2022.

NASA'S CIVIL SERVICE WORKFORCE BY CENTER*

16,014 *FULL-TIME PERMANENT EMPLOYEES

2% **401** OTHER

3% **498** (AFRC) ARMSTRONG FLIGHT RESEARCH CENTER

7% **1,089** (ARC) AMES RESEARCH CENTER

9% **1,347** (GRC) GLENN RESEARCH CENTER

9% **1,386** (HQ) NASA HEADQUARTERS

10% **1,624** (LaRC) LANGLEY RESEARCH CENTER

11% **1,808** (KSC) KENNEDY SPACE CENTER

13% **2,069** (MSFC) MARSHALL SPACE FLIGHT CENTER

17% **2,728** (JSC) JOHNSON SPACE CENTER

19% **3,064** (GSFC) GODDARD SPACE FLIGHT CENTER

More information about NASA's workforce is available at <https://wicon.nssc.nasa.gov/>



MANAGEMENT'S DISCUSSION AND ANALYSIS

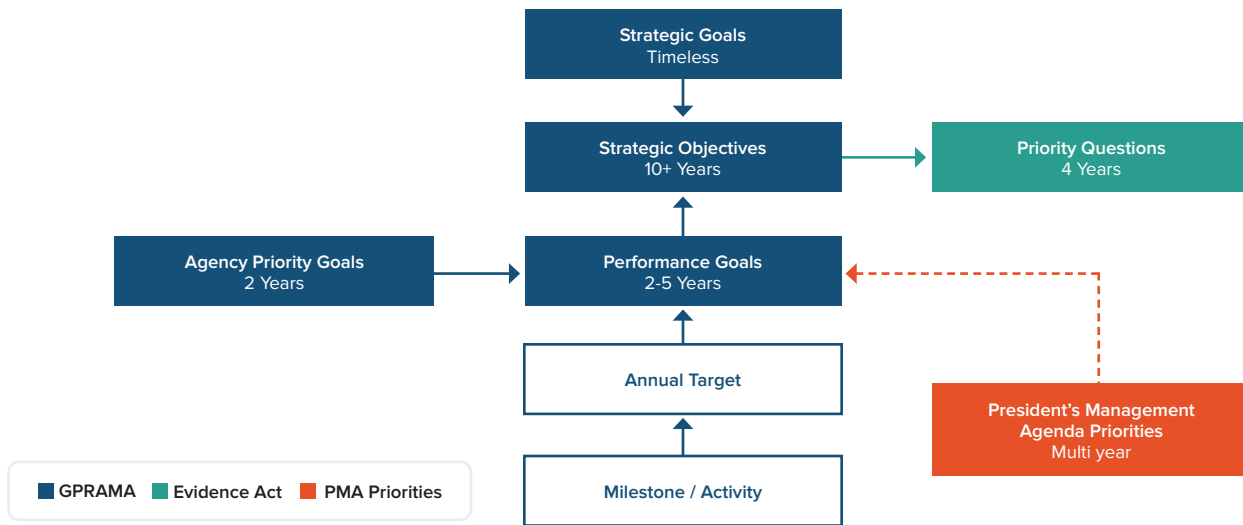
MISSION PERFORMANCE

Vice President Kamala Harris delivers opening remarks at the first meeting of the National Space Council, Wednesday, December 1, 2021, at the United States Institute of Peace in Washington. Chaired by Vice President Harris, the council's role is to advise the President regarding national space policy and strategy, and ensuring the United States capitalizes on the opportunities presented by the country's space activities.

PHOTO CREDIT — NASA/Joel Kowsky

STRATEGIC PLAN FRAMEWORK

NASA's 2022 Strategic Plan defines a framework that consists of Strategic Goals aligned to our Mission; Strategic Objectives describing our strategies for achieving the Strategic Goals; and multiyear, outcome-oriented Performance Goals. Annual targets and milestones allow NASA to measure and track incremental progress towards achieving the Performance Goals. The Performance Goals and annual targets are consistent with our budget request and Agency priorities.



NASA'S PERFORMANCE FRAMEWORK BREAKDOWN **4** STRATEGIC GOALS **12** STRATEGIC OBJECTIVES **51** PERFORMANCE GOALS

NASA elevates a subset of performance goals — Agency Priority Goals — for additional attention and external reporting. Agency priority goals reflect both NASA and Administration priorities. In the 2022 Strategic Plan, NASA presented four Agency Priority Goals for the FY 2022-2023 performance cycle: Artemis, Climate Change Research, Space Technology Leadership, and James Webb Space Telescope.

Congress signed the [Foundations for Evidence-Based Policymaking Act of 2018](#) (Evidence Act) into law in January of 2019. The Evidence Act establishes a framework for agencies to organize evidence building, data management, and data access functions to ensure an integrated connection to data and evidence. The 2022 Strategic Plan includes NASA's first-ever Learning Agenda, a roadmap for NASA to systematically plan evidence-building activities that will allow the Agency to make evidence-based policy decisions. The Learning Agenda identifies a set of broad questions NASA sees as urgent to moving our operations and Mission forward over the next four years. When answered, these questions will help us work more effectively and efficiently, using evidence to make decisions relating to missions, programs, and investments.

The President's Management Agenda outlines priorities to improve how the Federal Government operates and performs. Working together, agencies develop strategies for addressing each priority. In November 2021, the Biden-Harris administration announced three priorities⁷ focused on ensuring an equitable, effective, and accountable Federal Government that delivers results for all.

⁷ More on the President's Management Agenda priorities and supporting strategies is available at <https://www.performance.gov/pma/>. These priorities replace the Cross-Agency Priority Goals supporting the Trump President's Management Agenda, but complement the ongoing effort to transform and strengthen Government operations.

STRATEGIC GOALS AND OBJECTIVES

NASA has identified four Strategic Goals that will strengthen our ability to accomplish our Mission and contribute to maintaining American leadership in space, aeronautics, climate research, and innovation while driving economic growth in the civil space sector. The Strategic Goals, as well as their corresponding Strategic Objectives, are outlined below.

Four major themes, each characterized by a single word, reflect the focus of NASA's four Strategic Goals:

- **DISCOVER** references NASA's enduring purpose of scientific discovery
- **EXPLORE** references NASA's push to expand the boundaries of human presence in space
- **INNOVATE** references NASA's broad mandate to promote the technologies of tomorrow
- **ADVANCE** references the capabilities, workforce, and facilities that allow NASA to achieve our Mission

DISCOVER

EXPAND HUMAN KNOWLEDGE THROUGH NEW SCIENTIFIC DISCOVERIES.

-
- 1.1 Understand the Earth system and its climate.
 - 1.2 Understand the Sun, solar system, and universe.
 - 1.3 Ensure NASA's science data are accessible to all and produce practical benefits to society.
-

EXPLORE

EXTEND HUMAN PRESENCE TO THE MOON AND ON TOWARDS MARS FOR SUSTAINABLE LONG-TERM EXPLORATION, DEVELOPMENT, AND UTILIZATION.

-
- 2.1 Explore the surface of the Moon and deep space.
 - 2.2 Develop a human spaceflight economy enabled by a commercial market.
 - 2.3 Develop capabilities and perform research to safeguard explorers.
 - 2.4 Enhance space access and services.
-

INNOVATE

CATALYZE ECONOMIC GROWTH AND DRIVE INNOVATION TO ADDRESS NATIONAL CHALLENGES.

-
- 3.1 Innovate and advance transformational space technologies.
 - 3.2 Drive efficient and sustainable aviation.
-

ADVANCE

ENHANCE CAPABILITIES AND OPERATIONS TO CATALYZE CURRENT AND FUTURE MISSION SUCCESS.

-
- 4.1 Attract and develop a talented and diverse workforce.
 - 4.2 Transform mission support capabilities for the next era of aerospace.
 - 4.3 Build the next generation of explorers.
-

AGENCY PRIORITY GOALS

Agency Priority Goals support improvements in near-term outcomes and advance progress toward longer-term, outcome-focused Strategic Objectives. They reflect a limited number of top priorities of Agency leadership and the Administration. Agency Priority Goals are selected for implementation over a two-year cycle.

For the FY 2022-2023 cycle, NASA continued the previous Agency Priority Goals on James Webb Space Telescope and Artemis and developed two new goals, on Climate Change Research and Space Technology Leadership. Below is the goal statement and an overview of each Agency Priority Goal. Action plans and quarterly updates are available at <https://www.performance.gov/agencies/nasa/> and results for FY 2022 will be published in the *FY 2024 Volume of Integrated Performance (VIPer)*.

STRATEGIC GOAL 1

JAMES WEBB SPACE TELESCOPE

After launch, deployment, and start of science operations, the James Webb Space Telescope will study every phase in the history of our universe, ranging from the first luminous glows after the Big Bang, to the formation of other stellar systems capable of supporting life on planets like Earth, to the evolution of our own solar system. By September 30, 2023, NASA will complete commissioning of the James Webb Space Telescope, the most powerful and complex space telescope ever built, and begin Webb's Cycle 2 observations.

Webb will allow us to explore deeper into space and see things that even the Hubble Space Telescope cannot see. Webb is a partnership between NASA's Cosmic Origins program, the European Space Agency (ESA), and the Canadian Space Agency (CSA) and is operated by the STScI.

DID YOU KNOW

NASA's James Webb Space Telescope has delivered the deepest and sharpest infrared image of the distant universe to date. Webb's first deep field is galaxy cluster SMACS 0723, and it is teeming with thousands of galaxies – including the faintest objects ever observed in the infrared. [Find out more →](#)

PHOTO CREDIT — NASA/ESA/CSA/STScI



STRATEGIC GOAL 1

CLIMATE CHANGE RESEARCH

Use the global vantage point of space to advance our understanding of the Earth system, its processes, and changing climate. By September 30, 2023, NASA will advance climate change research by delivering two new observing systems and an upgrade to NASA's primary global Earth systems model.

NASA will deliver two new observing systems, Landsat 9 and the Surface Water and Ocean Topography (SWOT) mission, and an upgrade to Goddard Institute for Space Studies (GISS) Model E, NASA's model used most extensively in assessments of climate change. NASA also will complete several activities that will enable us to conduct Earth System Observatory research in a way that better addresses diverse community needs and will expand our ability to use the global vantage point of space to advance our understanding of the Earth system.

DID YOU KNOW

This natural color image of the San Francisco Bay was captured by Landsat 9's new Operational Land Imager 2 instrument. Landsat 9 which launched Sept. 27, 2021, is now in its operational phase and the U.S. Geological Survey will release the data to the public starting in mid-February. [Find out more →](#)

PHOTO CREDIT — NASA/ESA/CSA/STScI



AGENCY PRIORITY GOALS (CONTINUED)

STRATEGIC GOAL 2

ARTEMIS

Advance America’s goal to land the first woman and the first person of color on the Moon and pursue a sustainable program of exploration by demonstrating capabilities that advance lunar exploration. By September 30, 2023, NASA will launch Artemis I, deliver the Core Stage for Artemis II to Kennedy Space Center for processing, and have multiple companies under contract to develop systems for sustainable human lunar exploration.

Through Artemis, NASA will execute long-duration space exploration missions – to the Moon and then on towards Mars – while developing new commercial launch capabilities, launch vehicles, spacecraft, and a lunar lander. Common Exploration Systems Development is responsible for the Space Launch System (SLS), Orion spacecraft, and Exploration Ground Systems (EGS). Artemis Campaign Development is using innovative procurement and management approaches to develop the core capabilities needed to conduct the lunar surface mission and enable multiple launch options for lunar missions.

DID YOU KNOW

The mobile launcher with NASA’s Space Launch System (SLS) rocket and Orion spacecraft rolls out of the Vehicle Assembly Building’s High Bay 3 to Launch Complex 39B on Tuesday, Aug. 16, 2022, at NASA’s Kennedy Space Center in Florida. [Find out more →](#)

PHOTO CREDIT — NASA/Ben Smegelsky



STRATEGIC GOAL 3

SPACE TECHNOLOGY LEADERSHIP

Ensure American global leadership in space technology innovations through increased partnering with industry and demonstrating key lunar surface and deep space technologies. By September 30, 2023, NASA will demonstrate leadership in space technology by:

1. Enhancing partnerships with industry through delivery or completion of milestones for at least 4 Tipping Point opportunities, and at least 3 critical small business technology transitions to develop capabilities that support NASA and commercial needs;
2. Delivering at least 3 new technologies that will be demonstrated on the lunar surface or in lunar orbit; and
3. Completing at least 2 major milestones for projects that increase the Nation’s capabilities in deep space.

NASA will lay the groundwork for the aerospace breakthroughs of tomorrow through demonstration of new technologies on the lunar surface and in deep space. Achievement will require working closely with stakeholders, enlisting partnerships, utilizing evidence-based decision making, and promoting DEIA.

DID YOU KNOW

An image of the Cislunar Autonomous Positioning System Technology Operations and Navigation Experiment, or CAPSTONE, launching aboard Rocket Lab’s Electron rocket from the Rocket Lab Launch Complex 1 on the Mahia Peninsula of New Zealand Tuesday, June 28, 2022.

[Find out more →](#)

PHOTO CREDIT — Rocket Lab





MANAGEMENT'S DISCUSSION AND ANALYSIS

STRATEGIC GOALS AND HIGHLIGHTS

NASA Administrator Bill Nelson, right, and his son Bill Nelson Jr., left, watch the launch of a SpaceX Falcon 9 rocket carrying the company's Crew Dragon spacecraft on NASA's SpaceX Crew-3 mission with NASA astronauts Raja Chari, Tom Marshburn, Kayla Barron, and ESA (European Space Agency) astronaut Matthias Maurer onboard, Wednesday, Nov. 10, 2021, from the balcony of Operations Support Building II at NASA's Kennedy Space Center in Florida. NASA's SpaceX Crew-3 mission is the third crew rotation mission of the SpaceX Crew Dragon spacecraft and Falcon 9 rocket to the International Space Station as part of the agency's Commercial Crew Program. Chari, Marshburn, Barron, Maurer launched at 9:03 p.m. EST from Launch Complex 39A at the Kennedy Space Center to begin a six month mission onboard the orbital outpost.

PHOTO CREDIT — NASA/Bill Ingalls

ASSESSMENT APPROACH

Every Strategic Objective is supported by at least one Performance Goal. NASA's Performance Goals consist of an outcome-based statement, a measurement approach that describes how the Performance Goal will be measured throughout its lifespan, and an annual target consistent with the budget. To the right is an example of a Performance Goal supporting Strategic Objective 2.2: Develop a human spaceflight economy enabled by a commercial market.

For NASA's 51 Performance Goals, we indicate the preliminary progress, based on the FY 2022 targets, by assigning a color rating of Green (complete or on target to complete), Yellow (below target), or Red (significantly below target/at risk). Internal success criteria establish the thresholds for a Yellow or Red rating. A Grey rating indicates that the Performance Goal could not be assessed in time for the AFR publication, but a final rating will be provided in the FY 2024 VIPer⁸. A White rating indicates that NASA is unable to assess the Performance Goal for the fiscal year due to missing data or a change to the dataset.

EXAMPLE
<p>MEASUREMENTS STATEMENT: Provide NASA crew transportation through commercial partners to the ISS and low Earth orbit.</p>
<p>MEASUREMENTS APPROACH: Number of Commercial Crew missions launched</p>
<p>TARGET FOR FY 2022: 4 Commercial Crew missions</p>
<p>ANTICIPATED NUMBER OF MISSIONS COMPLETED 4</p>
<p>ANTICIPATED RATING FY 2022: GREEN</p>

GREEN
COMPLETE OR ON TARGET COMPLETE

NASA has completed or is on target to complete the Performance Goal/ Agency Priority Goal as planned.

YELLOW
BELOW TARGET

NASA is below target or behind schedule for the fiscal year, but does not expect impact to future performance.

RED
SIGNIFICANTLY BELOW TARGET/AT RISK

NASA is significantly below target or behind schedule for the fiscal year. The work being measured is at risk of not being completed within the Performance Goal's time frame.

UNRATED
CURRENTLY UNRATED

Information needed to evaluate performance was not available in time for AFR publication. A final rating will be provided in the FY 2024 VIPer.

WHITE
NOT ASSESSED FOR FY

NASA was unable to assess the Performance Goal due to lack of data or changes to the available dataset.

⁸ NASA's VIPer document is comprised of the Annual Performance Report of fiscal year performance results and the Agency Performance Plan, which lists the Performance Goals, annual targets consistent with the budget request, and adjusted targets consistent with the previous budget year's appropriations.

FY 2022 PERFORMANCE ASSESSMENT

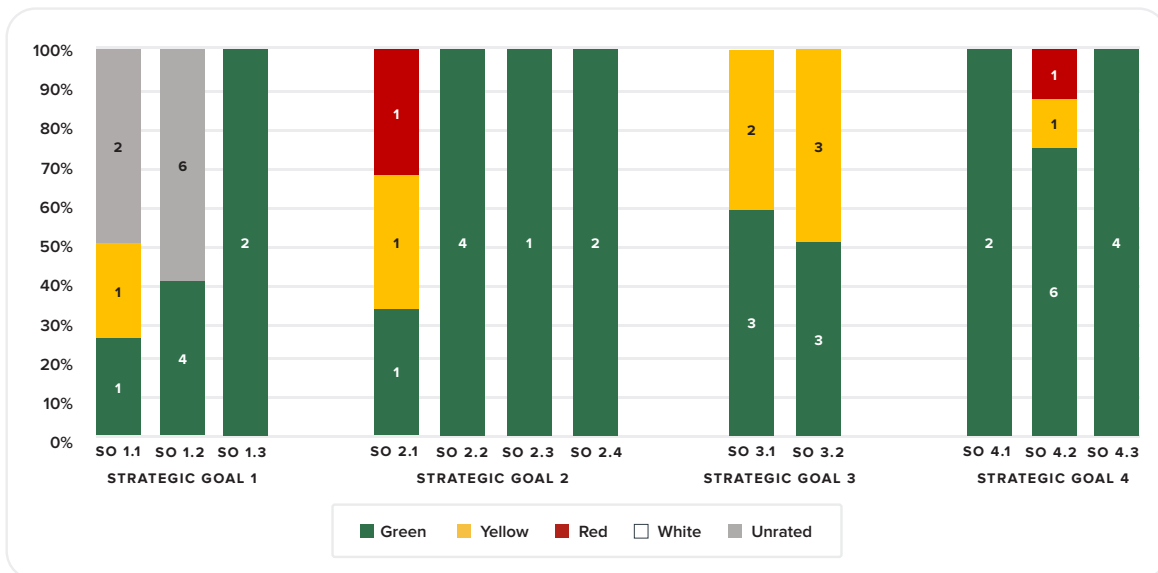
Throughout FY 2022, program officials assessed progress towards achieving NASA's 51 Performance Goals and determined whether the goals' annual targets were met. They assigned one of the color ratings described above.

The AFR provides the preliminary color ratings for FY 2022 summarized by Strategic Goal (see the graph below). For each Strategic Goal, the graph shows both the percentage and number of Performance Goals rated Green, Yellow, or Red or that were unrated at the time the FY 2022 AFR was published. NASA did not rate any Performance Goals White for FY 2022. The Performance Goals and targets for FY 2022 were the first that supported NASA's 2022 Strategic Plan, while the Performance Goals and targets reported in FY 2021 were aligned to the 2018 Strategic Plan. Therefore, we do not provide a comparison between the FY 2022 preliminary results and the FY 2021 final results.

The FY 2024 VIPer, which has an anticipated publication date of February 6, 2023, will provide the final performance results for each Performance Goal.

Summary of Preliminary FY 2022 Performance Goal Ratings by Strategic Goals and Strategic Objectives (SO)

	STRATEGIC GOAL 1			STRATEGIC GOAL 2				STRATEGIC GOAL 3		STRATEGIC GOAL 4		
	SO 1.1	SO 1.2	SO 1.3	SO 2.1	SO 2.2	SO 2.3	SO 2.4	SO 3.1	SO 3.2	SO 4.1	SO 4.2	SO 4.3
	PG	PG	PG	PG	PG	PG	PG	PG	PG	PG	PG	PG
Green	1	4	2	1	4	1	2	3	3	2	6	4
Yellow	1	—	—	1	—	—	—	2	3	—	1	—
Red	—	—	—	1	—	—	—	—	—	—	1	—
White	—	—	—	—	—	—	—	—	—	—	—	—
Unrated	2	6	—	—	—	—	—	—	—	—	—	—



Eight Performance Goals supporting Strategic Goal 1 remained unrated at the time of the FY 2022 AFR's publication. The [Science Advisory Committees](#) recommend ratings (based on relevant published, peer-reviewed science findings and other criteria) for NASA's science focused Performance Goals at their summer or fall meetings. The Science Mission Directorate considers those recommendations when assigning the fiscal year rating.

NASA's Agency Priority Goal for Artemis (Strategic Goal 2) received a Red rating for FY 2022 because completion of the Artemis II interim cryogenic propulsion stage was delayed until FY 2023 and the Artemis I launch was delayed due to technical issues and, ultimately, Hurricane Ian.

NASA rated one Performance Goal Red under Strategic Goal 4 because the damage costs (excluding launched assets) exceeded the FY 2022 target to be below the five-year average of \$3.8 million. This exceedance was partially driven by an engine mishap. The U.S. Air Force gave NASA an engine they no longer needed to support the area of work, but this gift did not affect the performance for FY 2022.

1 STRATEGIC GOAL I. DISCOVER

EXPAND HUMAN KNOWLEDGE THROUGH NEW SCIENTIFIC DISCOVERIES.

Strategic Goal 1 is supported by 16 Performance Goals. Of those, 7 were rated Green, 1 was rated Yellow, and 8 were unrated at the end of FY 2022.

Overview

NASA's enduring purpose is scientific discovery and exploration for the benefit of the United States and all of humanity. NASA seeks to discover the secrets of the universe, search for life elsewhere, and protect and improve life on Earth and in space. Finding answers to these profound science questions requires support for national priorities in science and exploration, enhancing new opportunities for cross-disciplinary science, and expanding the societal benefits of our science programs.

NASA is undertaking new work that builds on our past successes in individual disciplines to enable a more collaborative environment at the forefront of science and science applications. We have an open data policy that makes our science data available to all. Current data systems are focused on disseminating data to the science community to support research in five science disciplines: Earth Science, Astrophysics, Planetary Science, Heliophysics, and Biological and Physical Sciences.

Highlights

Equity and Environmental Justice

On December 8, 2021, NASA released the first of two research opportunity solicitations designed to expand the role of equity and environmental justice (EEJ) in the application of Earth science, geospatial, and socioeconomic information.

The first solicitation expressed specific interest in proposals from or partnered with non-Federal domestic organizations, community-based non-profit institutions, tribal governments, local governments, and academic institutions active in addressing EEJ issues that would benefit from the insights offered by NASA Earth science information. Proposals were due on March 18, 2022, and selections are anticipated within the calendar year.

The second solicitation, released on February 14, 2022, included a specific theme addressing Environmental and Climate Justice Using Earth Observations, in recognition that the world's poorest and marginalized communities are disproportionately influenced by environmental exposures and vulnerabilities. This is also notably the case for impacts related to climate change, referred to as climate justice. Proposals are due in November 2022, with selections anticipated in 2023.

The EEJ research opportunity solicitations were one of the five FY 2022 milestones successfully completed for the Climate Change Research Agency Priority Goal. It received a Green rating for the fiscal year⁹.

James Webb Space Telescope

The James Webb Space Telescope, the most complex space telescope ever developed, launched from ESA's spaceport near Kourou, French Guiana, on December 25, 2021. For the next several months, teams brought the telescope to operational life, as the mirrors aligned and the instruments chilled with the help of the onboard cryocooler.

President Joe Biden released the first full-color image — a deep field image of galaxy cluster SMACS 0723 — during a public event held at the White House on July 11. All of Webb's first images are [available online](#).

The Webb Agency Priority Goal achieved all of its milestones for FY 2022 and received a Green rating⁹.

DID YOU KNOW

This landscape of "mountains" and "valleys" speckled with glittering stars is actually the edge of a nearby, young, star-forming region called NGC 3324 in the Carina Nebula. Captured in infrared light by NASA's new James Webb Space Telescope, this image reveals for the first time previously invisible areas of star birth. Called the Cosmic Cliffs, Webb's seemingly three-dimensional picture looks like craggy mountains on a moonlit evening. In reality, it is the edge of the giant, gaseous cavity within NGC 3324, and the tallest "peaks" in this image are about 7 light-years high. The cavernous area has been carved from the nebula by the intense ultraviolet radiation and stellar winds from extremely massive, hot, young stars located in the center of the bubble, above the area shown in this image.



PHOTO CREDIT — NASA/ESA/CSA/STScI

⁹ All performance ratings in the FY 2022 AFR are considered preliminary. NASA will publish the final ratings in the FY 2024 VIPer.

2 STRATEGIC GOAL II. EXPLORE EXTEND HUMAN PRESENCE TO THE MOON AND ON TOWARDS MARS FOR SUSTAINABLE LONG-TERM EXPLORATION, DEVELOPMENT, AND UTILIZATION.

Strategic Goal 2 is supported by 10 Performance Goals. Of those, 8 were rated Green, 1 was rated Yellow, and 1 was rated Red at the end of FY 2022.

Overview

NASA's rich history of human spaceflight provides the foundation for today's exploration vision: to maintain U.S. leadership in space, establish a lasting presence on and around the Moon, and pave the way forward to Mars and beyond. This strategy begins with the Artemis, a series of missions that will land the first woman and the first person of color on the lunar surface, marking the first time in nearly 50 years that humans have landed on the Moon.

We are building on more than two decades of operations in low Earth orbit aboard the ISS and leveraging our wealth of experience with groundbreaking exploration. This era of human exploration will require innovative technologies and systems — some of which have not yet been demonstrated — to explore new and more challenging locations, like the lunar South Pole.

Developing these capabilities will spur advancements in critical fields like medicine, energy, materials science, manufacturing, and climate science. Artemis mission success will require the continuation of existing partnerships and the development of new ones. Working with commercial partners enables NASA to focus its attention forward, while creating jobs and stimulating the economy.

Highlights

Artemis I

On the morning of August 17, the Mobile Launcher delivered the SLS and Orion spacecraft for the Artemis I mission to Launch Complex 39B at Kennedy Space Center, Florida. The four-mile journey from the Vehicle Assembly Building (VAB) to the launch pad took 10 hours, but the anticipation had been building for over a year as NASA completed preparations for this critical mission.

The first launch attempt, scheduled for August 29, was scrubbed when a bleed test could not successfully get the RS-25 engines on the bottom of the Core Stage to the proper temperature for liftoff. The engines must be thermally conditioned before super cold propellant begins flowing through them for liftoff.

The Artemis I teams addressed the propellant issue in preparation for a launch attempt on September 3. The Launch Director stopped this attempt when the teams identified a liquid hydrogen leak while loading the propellant into the SLS Core Stage.

To allow the teams time to address the hydrogen leak and conduct a cryogenic demonstration test, NASA scheduled the next launch attempt for September 27 — the last attempt possible in FY 2022.

Weather forecasts showed that Tropical Storm Ian, which was rapidly gaining strength down in the western Caribbean Sea and Gulf of Mexico, would push toward the western coast of Florida. On September 24, managers decided to forego the September 27 launch attempt and prepared for rollback from Launch Pad 39B to the VAB. The next launch attempt will be in FY 2023. Follow Artemis I's progress on the [NASA Artemis blog](#).

The Artemis Agency Priority Goal did not complete two milestones for FY 2022, resulting in a Red rating¹⁰. In addition to the Artemis I launch moving to FY 2023, the second milestone — to complete the Artemis II interim Cryogenic Propulsion Stage — has moved to FY 2023 to align with a change in the planned Artemis II launch date.

DID YOU KNOW

Two manikins are installed in the passenger seats inside the Artemis I Orion crew module atop the Space Launch System rocket in High Bay 3 of the Vehicle Assembly Building at NASA's Kennedy Space Center in Florida on Aug. 8, 2022. As part of the Matroshka AstroRad Radiation Experiment (MARE) investigation, the two female manikins — Helga and Zohar — are equipped with radiation detectors, while Zohar also wears a radiation protection vest, to determine the radiation risk on its way to the Moon. Artemis I will provide a foundation for human deep space exploration and demonstrate NASA's capability to extend human presence to the Moon and beyond. The primary goal of Artemis I is to thoroughly test the Space Launch System rocket and Orion spacecraft's integrated systems before crewed missions. Under Artemis, NASA aims to land the first woman and first person of color on the Moon and establish sustainable lunar exploration.



PHOTO CREDIT — NASA/Frank Michaux

¹⁰ All performance ratings in the FY 2022 AFR are considered preliminary. NASA will publish the final ratings in the FY 2024 VIPer.

3 STRATEGIC GOAL III. INNOVATE CATALYZE ECONOMIC GROWTH AND DRIVE INNOVATION TO ADDRESS NATIONAL CHALLENGES.

Strategic Goal 3 is supported by 11 Performance Goals. Of these, 6 were rated Green and 5 were rated Yellow at the end of FY 2022.

Overview

Originally tied to keeping the Nation secure and advancing U.S. leadership in aeronautics, communications satellites, and Earth remote sensing, NASA's mandate is broader today. The challenges NASA addresses relate to gathering climate change data; driving American innovation through aerospace research and development; developing commercial and human space launch, transportation, and exploration capabilities; understanding cosmic phenomena as wide-ranging as space weather, asteroids, and exoplanets; supplying technological solutions that could also apply to terrestrial problems; and improving the Nation's innovation capacity.

Today, NASA invests in a broad portfolio of both space technology and aeronautics research, development, and demonstration. We invest more than 80 percent of our funds in U.S. industry and academia. Where possible, the Agency leverages public-private partnerships, reducing development costs, accelerating infusion of new technologies, meeting national needs, and potentially enabling new markets. Each year, NASA creates over 1,000 new technologies, and the Agency works diligently to ensure that the American people receive maximum benefit from those advancements through patent licenses, software usage agreements, and other commercialization efforts.

Highlights

CAPSTONE Spacecraft

NASA completed final assembly of the CAPSTONE spacecraft in preparation for pre-shipment testing on February 15, 2022. With this, NASA completed the first milestone for the Space Technology Leadership Agency Priority Goal. One milestone — to deliver the Polar Resources Ice Mining Experiment (PRIME)-1 to Intuitive Machines in preparation for its inclusion on a Commercial Lunar Payload Services (CLPS) lander — was delayed until FY 2023, resulting in a Yellow rating for the Agency Priority Goal¹¹.

CAPSTONE, which is a CubeSat built by Terran Orbital and is owned by Advanced Space on NASA's behalf, was launched on June 28. It headed toward an orbit intended for the future Gateway, a station that will support the Artemis program. During its flight to deep space, the CAPSTONE experienced issues, including temporary loss of communications and, during or shortly after a planned trajectory correction maneuver in early September, a loss of telemetry that caused the spacecraft to tumble. The CAPSTONE team placed the spacecraft in safe mode while they assessed the issue. Follow CAPSTONE's progress on the [NASA Artemis blog](#).

Hi-Rate Composite Aircraft Manufacturing (HiCAM) Selects Materials

To meet the future demands of air travel, commercial aviation fleets will need to double in size, while also replacing old aircraft. Current aircraft manufacturing methods that use metallic structures, such as single-aisle airliners, will not keep up with this demand. NASA's [HiCAM project](#) is researching how to manufacture large aircraft components, like wings and fuselages, from composite materials at a higher rate of speed and using green technologies.

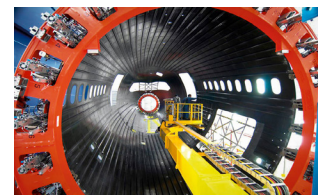
As a major first step, the HiCAM identified materials showing the best properties for the project, including fast curing times. During FY 2022, NASA completed a screening of materials and manufacturing technologies to be considered for the HiCAM project. NASA also produced the requirements definition for a full-scale, component-level test article.

We successfully completed this milestone, but ultimately did not complete all five of the milestones for the parent Performance Goal focused on advancing airframe and engine technologies to enable efficient air vehicles. The Performance Goal was rated Yellow for FY 2022¹¹.

DID YOU KNOW

The forward section of a Boeing 787 Dreamliner is shown under construction inside a composite fabrication tool. Much of the 787 is made from composite materials, including sections of the aircraft's main body and wings. HiCAM's [Hi-Rate Composite Aircraft Manufacturing's] goal is to accelerate the production rate of aircraft made from composites. By building more aircraft components out of composites — which can be a custom-tailored mixture of materials like plastics, graphite, and ceramics — an aircraft's weight can be substantially reduced, making it more fuel-efficient.

PHOTO CREDIT — Boeing



¹¹All performance ratings in the FY 2022 AFR are considered preliminary. NASA will publish the final ratings in the FY 2024 VIPer.

4 STRATEGIC GOAL IV. ADVANCE ENHANCE CAPABILITIES AND OPERATIONS TO CATALYZE CURRENT AND FUTURE MISSION SUCCESS.

Strategic Goal 4 is supported by 14 Performance Goals. Of these, 12 were rated Green, 1 was rated Yellow, and 1 was rated Red at the end of FY 2022.

Overview

NASA's complex and bold missions require modern, adaptable technical and professional support capabilities to enable mission readiness, resilience, and our continued leadership in science, exploration, discovery, and innovation. We pursue the goal of enhancing capabilities and operations to ensure that NASA has the right people, infrastructure, technology, and technical excellence and oversight needed to advance the Agency into the Artemis era and beyond. To this end we are:

1. Attracting and maintaining a diverse workforce, empowered in an equitable, inclusive, and accessible environment.
2. Evolving our safety, health and medical, and engineering oversight policies and practices to protect the Agency, public, and orbital and planetary environments from potential harm.
3. Transforming and modernizing our mission support capabilities to address rapidly changing enterprise needs.
4. Ensuring critical capabilities and assets are mission-ready, reliable, and affordable.
5. Developing a diverse and skilled STEM workforce today and in the future.

Highlights

Diversity at NASA

During FY 2022, NASA released its first-ever [Equity Action Plan](#), which established key focus areas for tracking progress toward improved DEIA both internal and external to NASA.

We also released the [NASA Strategic Plan for Diversity, Equity, Inclusion, and Accessibility](#), which outlines key metrics for four areas: workforce diversity; workforce equity and inclusion (employee experience); accessibility and accommodation; and DEIA integration into the NASA Mission.

Metrics for workforce diversity served as the underpinning for the Office of Diversity and Equal Opportunity's Performance Goal focused on improving diversity in the Agency's overall civil service workforce and across occupations. We completed an analysis to identify, mitigate, and eliminate barriers to equal employment opportunities for Asian Americans and Pacific Islanders, as well as women in NASA physical science occupations. NASA will submit a report, with recommended corrective actions, to the U.S. Equal Employment Opportunity Commission in FY 2023. NASA rated the Performance Goal Green for FY 2022¹².

Sustainability Scorecard

NASA received a Yellow rating for FY 2022 for the Performance Goal focused on operating facilities sustainably and reducing overall resource demands¹². The rating is based on the results NASA received on the FY 2021 [Office of Management and Budget \(OMB\) Scorecard](#)¹³ for performance on seven energy and sustainability goals: Facility Energy Efficiency; Water Efficiency; Efficiency Measures/Investment; Renewable Energy Use; High Performance Sustainable Buildings; Transportation/Fleet Management; and Sustainable Acquisition.

NASA missed the target for Facility Energy Efficiency due to a year-over-year increase in energy intensity from FY 2020 to FY 2021. We have greatly exceeded the overall goal of reducing energy intensity 30 percent from the FY 2003 baseline. Several NASA Centers also did not complete the required energy and water comprehensive evaluations for Efficiency Measures/Investment, due to COVID-19 impacts, funding constraints, project delays, and other factors. NASA did meet the second part of the metric requirement to implement new energy savings performance contracts.

DID YOU KNOW

Invited guests and NASA employees watch as NASA's Space Launch System (SLS) rocket with the Orion spacecraft aboard is rolled out of the Vehicle Assembly Building to Launch Pad 39B, Tuesday, Aug. 16, 2022, at NASA's Kennedy Space Center in Florida. NASA's Artemis I flight test is the first integrated test of the agency's deep space exploration systems: the Orion spacecraft, SLS rocket, and supporting ground systems. Launch of the uncrewed flight test is targeted for no earlier than Aug. 29.

PHOTO CREDIT — NASA/Aubrey Gemignani



¹² All performance ratings in the FY 2022 AFR are considered preliminary. NASA will publish the final ratings in the FY 2024 VIPer.

¹³ Because OMB releases the annual Scorecard in the summer, NASA bases the Performance Goal's fiscal year rating on the previous year's Scorecard results.



MANAGEMENT'S DISCUSSION AND ANALYSIS

FINANCIAL PERFORMANCE

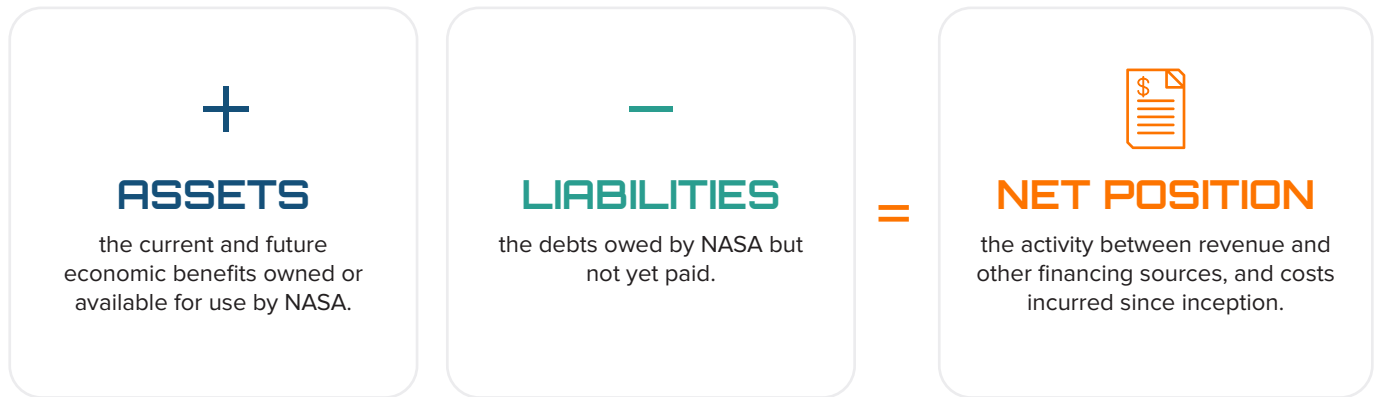
Expedition 67 Flight Engineers (clockwise from bottom) Samantha Cristoforetti, Bob Hines, Kjell Lindgren, and Jessica Watkins, smile for a portrait from inside the Boeing CST-100 Starliner crew ship. The quartet is looking through the Harmony module's forward international docking adapter, to which Starliner is docked, and into the International Space Station.

PHOTO CREDIT — NASA Johnson Space Center

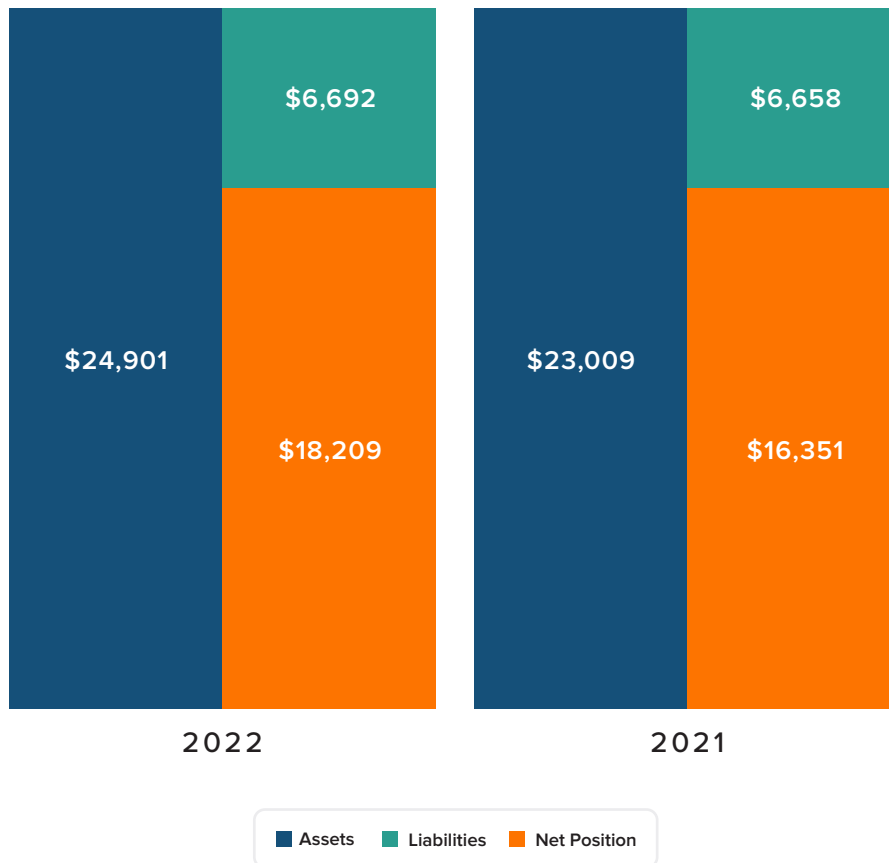
FINANCIAL HIGHLIGHTS

OVERVIEW OF FINANCIAL POSITION

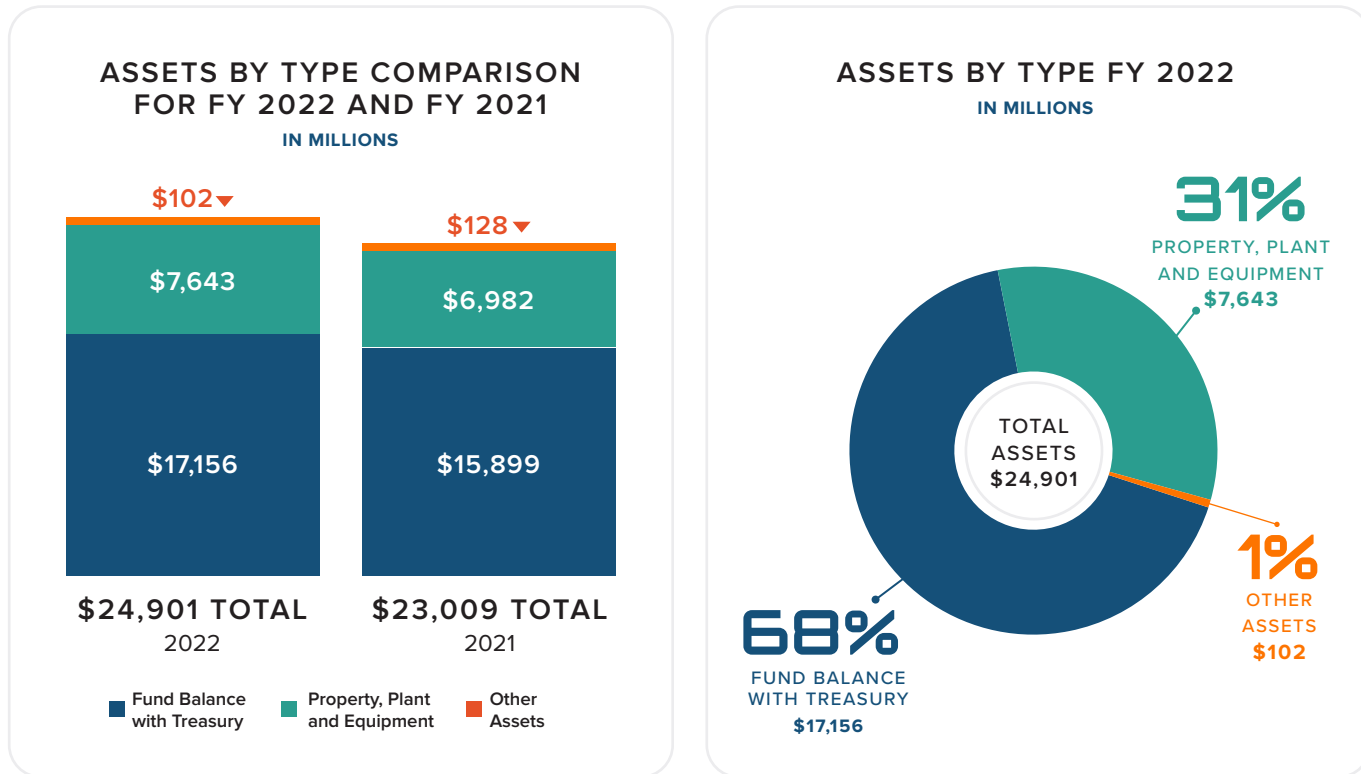
NASA's Balance Sheet provides a comparable snapshot of the Agency's financial position as of September 30, 2022 and September 30, 2021. It displays amounts in three primary categories.



BALANCE SHEET COMPONENTS FY 2022 AND FY 2021
(IN MILLIONS)



Total Assets were the largest of the three categories (Total Liabilities plus Total Net Position will always equal Total Assets). NASA's total asset balance, as of September 30, 2022, was \$25 billion, eight percent higher than FY 2021.



The Agency's Fund Balance with Treasury (FBWT) and its General Property, Plant and Equipment (G-PP&E) were the two primary components of the total asset balance.

FBWT, which represents NASA's cash balance with the U.S. Department of the Treasury, was the largest asset at \$17 billion, 68 percent of total assets. This cash balance includes Congressional appropriated funds available for NASA's mission operations (for example, employee labor or purchased goods or services from contractors) that have not yet been paid. The eight percent increase in total assets is attributable to NASA receiving more Congressional appropriated funding in FY 2022 compared to FY 2021. The FBWT difference is due to this increase in Congressional funding received.

NASA's G-PP&E had a net book value of \$8 billion as of September 30, 2022, 31 percent of total assets or a nine percent increase as compared to FY 2021. The increase is due to the fabrication of equipment items that will support Habitation and Logistics Outpost (HALO), Gateway Short Wave Band, Power and Propulsion Element (PPE) Spacecraft, Aerospace Communication Facility, Research Support Building and Artemis capsules; Cisco Software Defined Access (SDA) orchestrator, 10 Ton bridge crane, Michoud Assembly Facility (MAF) bldg 103 replacement, building 4619, and MAF roof replacement; increased High Pressure Industrial Water Projects and E Complex Deluge System project; Flight Electric Integration Facility; the maintenance of ISS; as well as the production work on the Mobile Launcher-2.

The Other category represents Investments, Accounts Receivable, Advances and Prepayments, and Other Assets as of September 30, 2022. This category decreased by \$26 million, or 20 percent.

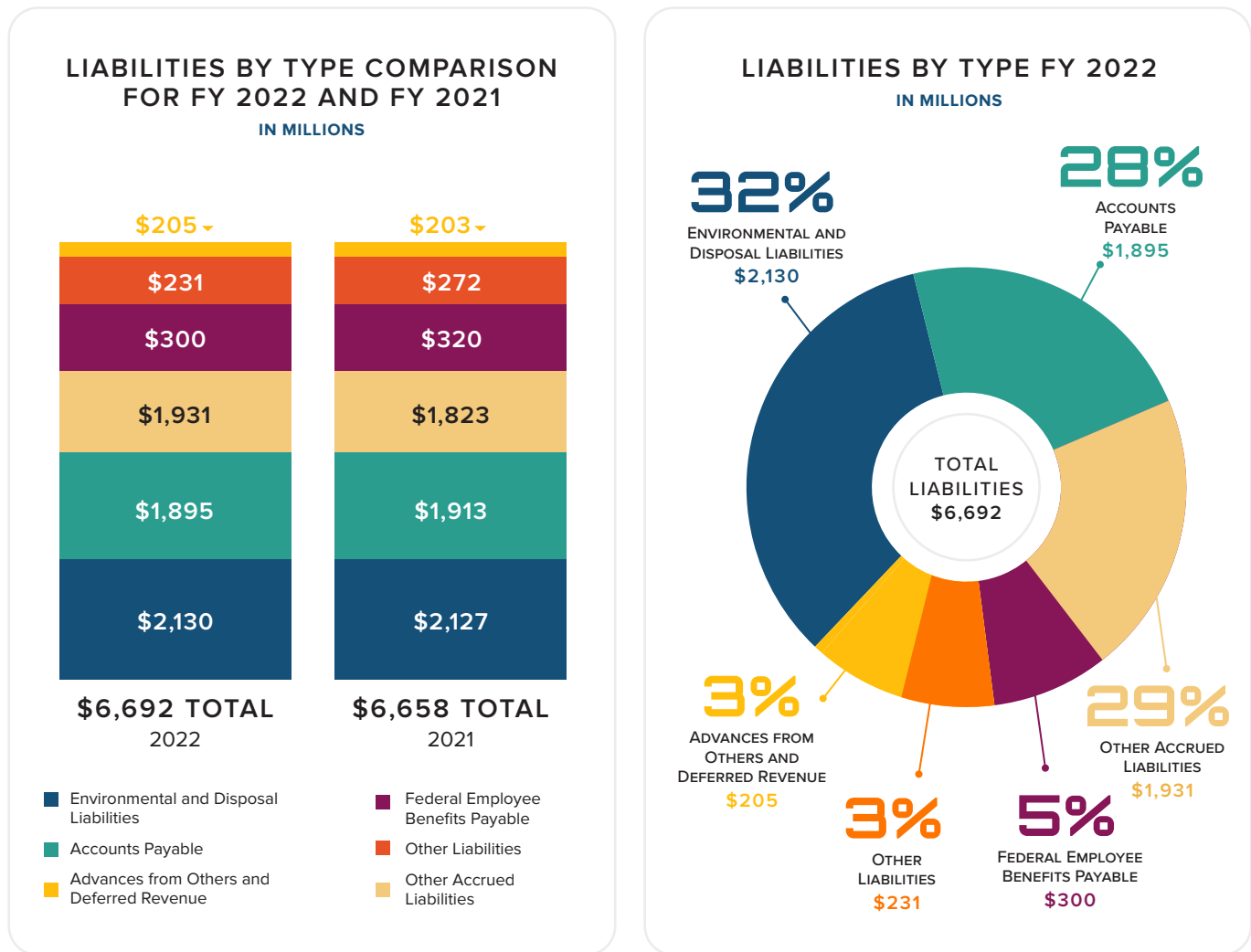
Total Liabilities, as of September 30, 2022, were \$7 billion, one percent higher than FY 2021. Environmental and Disposal Liabilities, Accounts Payable, and Other Accrued Liabilities represent the majority of NASA's liabilities.

Environmental and Disposal Liabilities of \$2 billion represent the estimated cost to clean up both known and projected environmental hazards. This category had an increase of 3 million.

Accounts Payable, which represents amounts owed to other entities, was \$1.9 billion, a decrease of \$18 million, or 1 percent, compared to FY 2021.

Other Accrued Liabilities with public entities were \$1.9 billion, an increase of \$108 million, or six percent, compared to FY 2021. Other Liabilities, which represent various amounts including Accrued Funded Payroll and Contingent Liabilities, were \$231 million, a decrease of \$41 million or a 15 percent decrease from FY 2021.

Federal Employee Benefits Payable are amounts the Department of Labor estimates on behalf of NASA for future workers' compensation liabilities for current employees.

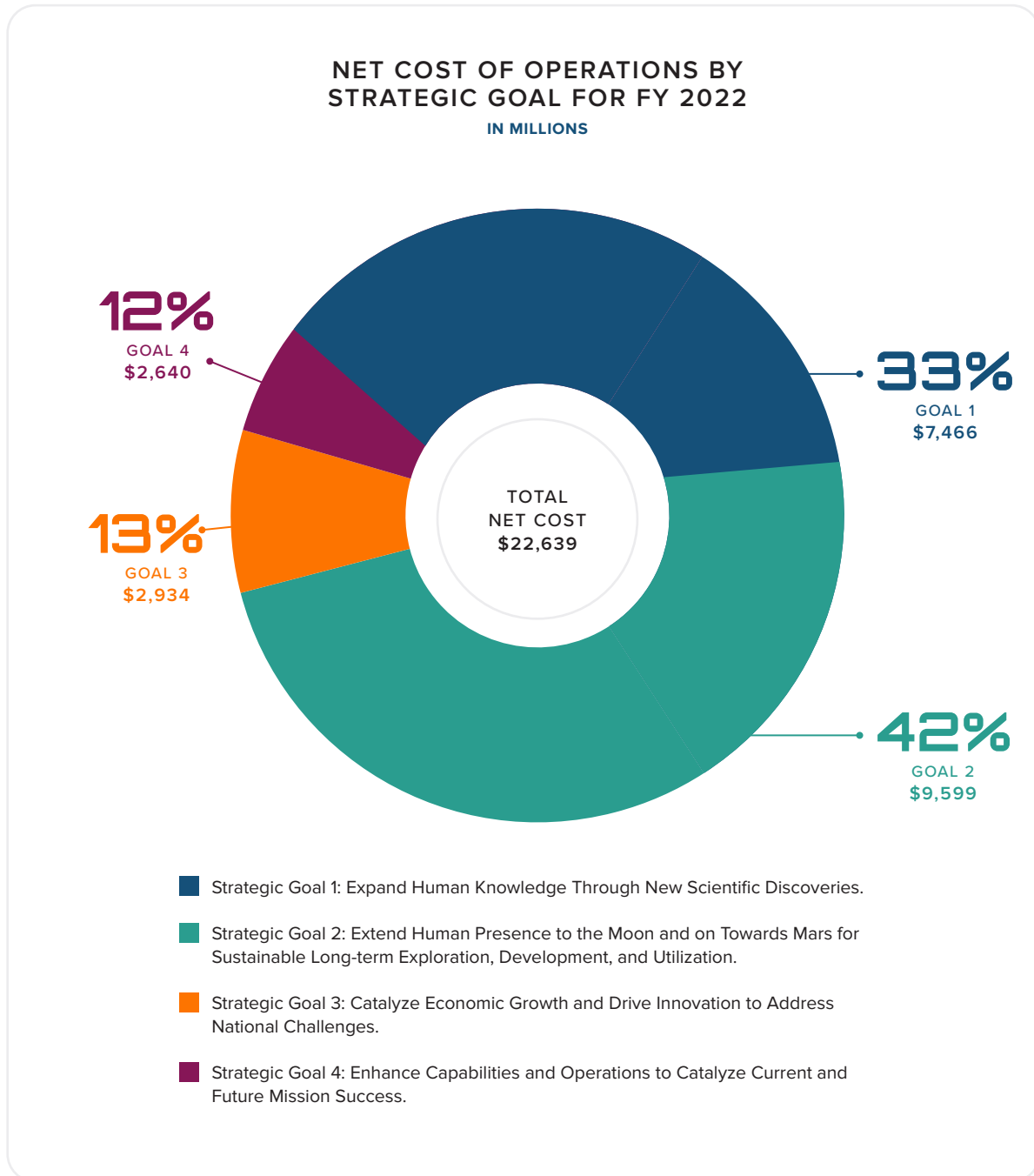


Total Net Position comprised of Unexpended Appropriations and Cumulative Results of Operations (“net worth”), increased by \$2 billion, 11 percent higher than FY 2021. Unexpended Appropriations, at \$13 billion, increased by 9.5 percent from FY 2021. Cumulative Results of Operations, at \$5 billion, increased by \$729 million or 16 percent from FY 2021. The change in Total Net Position is due to the increased budget authority received for FY 2022.

RESULTS OF OPERATIONS

Net Cost of Operations

The Statement of Net Cost presents NASA's Net Cost of Operations by strategic goal. NASA's strategic goals are described in the Mission Performance section of the Agency Financial Report (page 13). The Net Cost of Operations represents gross cost incurred less revenue earned for work performed for other government organizations or private entities. As of September 30, 2022, NASA's gross costs were \$24 billion, an increase of \$661 million from FY 2021. Earned Revenue from other governmental organizations or private entities was \$1.6 billion, a \$24 million increase from FY 2021. This leaves NASA with a FY 2022 net cost of \$23 billion, an increase of \$637 million from FY 2021.



RESULTS OF OPERATIONS (CONTINUED)

Gross Cost of Operations

NASA's day-to-day operations are performed at NASA and contractor facilities around the globe and in space. Gross costs of operations is presented in the following table, detailing select NASA programs that support each strategic goal. Gross costs of operations include expenses incurred for NASA's research and development (R&D) investments that are expected to maintain or increase national economic productive capacity or yield other future benefits. Top programs by strategic goal in relation to gross costs have remained consistent year to year.

COMPARATIVE GROSS COST OF OPERATIONS BY STRATEGIC GOAL FY 2022 AND FY 2021

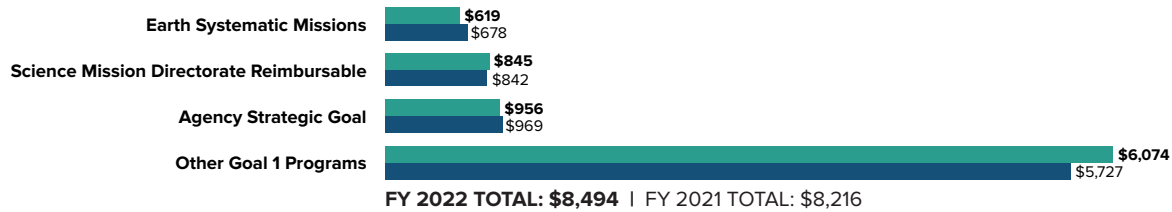
FY 2022 TOTAL: \$24,211
FY 2021 TOTAL: \$23,550

IN MILLIONS

■ 2022 ■ 2021

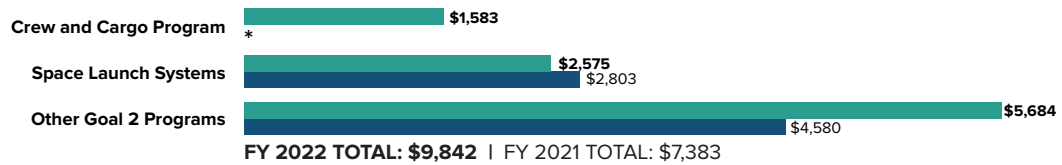
STRATEGIC GOAL 1:

EXPAND HUMAN KNOWLEDGE THROUGH NEW SCIENTIFIC DISCOVERIES.



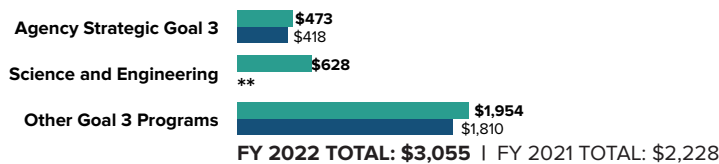
STRATEGIC GOAL 2:

EXTEND HUMAN PRESENCE TO THE MOON AND ON TOWARDS MARS FOR SUSTAINABLE LONG-TERM EXPLORATION, DEVELOPMENT, AND UTILIZATION.



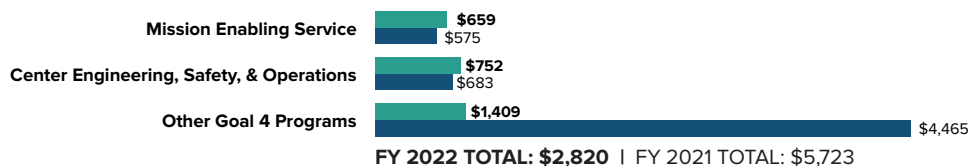
STRATEGIC GOAL 3:

CATALYZE ECONOMIC GROWTH AND DRIVE INNOVATION TO ADDRESS NATIONAL CHALLENGES.



STRATEGIC GOAL 4:

ENHANCE CAPABILITIES AND OPERATIONS TO CATALYZE CURRENT AND FUTURE MISSION SUCCESS.



*Crew and Cargo was realigned in FY 2022 from Goal 4 to Goal 2

**Science and Engineering was realigned in FY 2022 from Goal 4 to Goal 3

SOURCES OF FUNDING

The Statement of Budgetary Resources (SBR) provides information on the budgetary funding available to NASA. NASA's resources consist primarily of funds received from two sources:



Appropriations from Congress for the current fiscal year and unobligated balances from prior fiscal years.

Revenue from agreements with other governmental organizations or private entities.

In FY 2022, the total funds available for use by the Agency were \$29 billion — an increase of \$1.3 billion or 4.7 percent, compared to FY 2021.

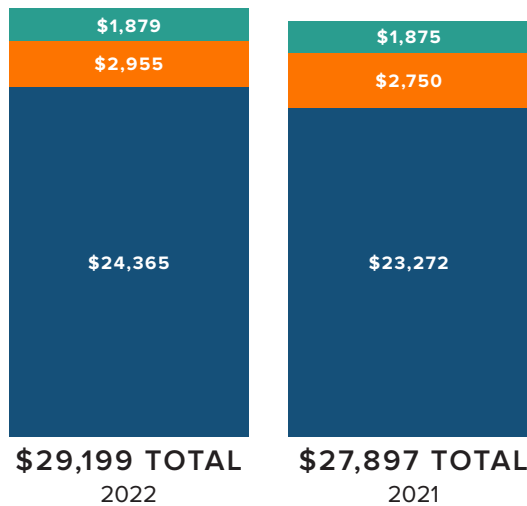
The \$24 billion in appropriations from Congress for FY 2022 accounted for 83 percent of the total funds available for use by the Agency. Congress designates the funding available to the Agency for a specific NASA mission. Appropriations that remained available from prior years totaled \$3 billion, 10 percent of NASA's available resources in FY 2022.

NASA's FY 2022 funding also included \$1.9 billion of spending authority from offsetting collections, primarily comprised of revenue earned and collected from agreements, seven percent of NASA's available resources in FY 2022. Revenue is earned under NASA's authority to provide goods, services, or use of facilities to other entities on a reimbursable basis.

In FY 2022, NASA obligated \$26 billion of the \$29 billion available for Agency programmatic and institutional objectives. An obligation binds the Government to make an expenditure (or outlay) of funds, and reflects a reservation of budget authority that will be used to pay for a contract, labor, or other items. The remaining \$3 billion may be obligated until the funds' periods of availability expire.

SOURCES OF FUNDING COMPARISON FOR FY 2022 AND FY 2021

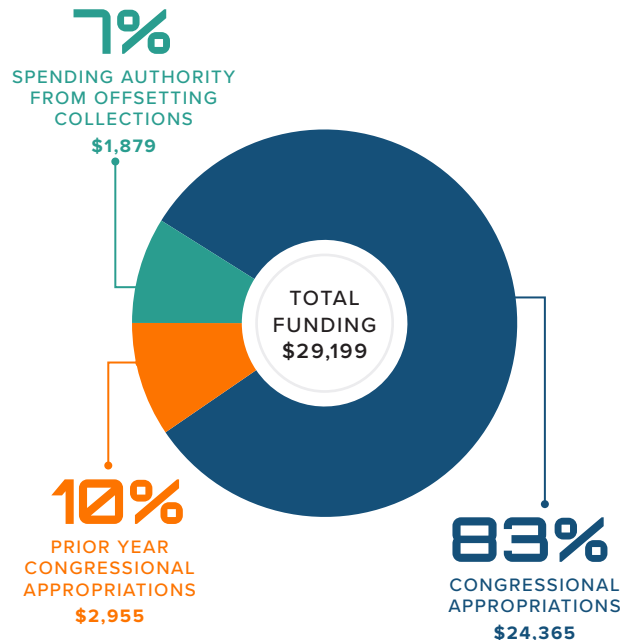
IN MILLIONS



■ Spending Authority from Offsetting Collections
■ Prior Year Congressional Appropriations
■ Congressional Appropriations

SOURCES OF FUNDING FY 2022

IN MILLIONS



FINANCIAL AND PERFORMANCE

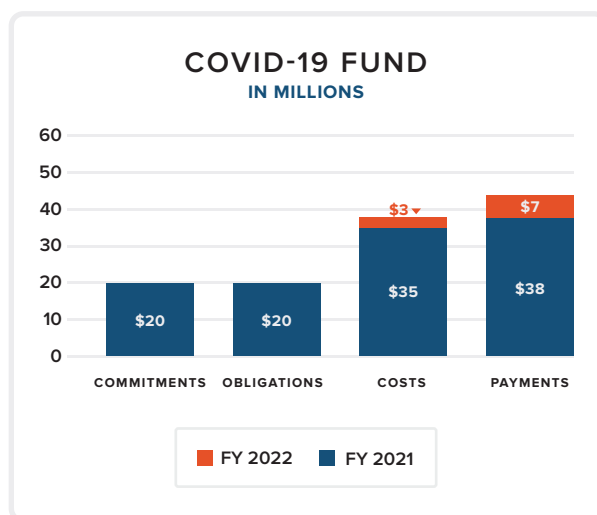
IMPACT OF COVID-19



Divers at the Neutral Buoyancy Laboratory (NBL) in Houston are setting the stage for future Moonwalk training by simulating lunar lighting conditions. At the Lunar South Pole, the Sun will remain no more than a few degrees above the horizon, resulting in extremely long and dark shadows. To prepare astronauts for these challenging lighting conditions, the team at the NBL has begun preliminary evaluations of lunar lighting solutions at the bottom of the 40-foot deep pool. This testing and evaluation involved turning off all the lights in the facility, installing black curtains on the pool walls to minimize reflections, and using a powerful underwater cinematic lamp, to get the conditions just right ahead of upcoming training for astronauts.

PHOTO CREDIT — Lauren Maples

The Coronavirus Aid, Relief, and Economic Security Act or, CARES Act, was passed by Congress and signed by President Donald Trump on March 27, 2020. This bill allotted \$2.2 trillion to provide fast and direct economic aid to the American people negatively impacted by the COVID-19 pandemic. Of those funds, \$60 million was provided to NASA within its Safety, Security, and Mission Services appropriation to prevent, prepare for, and respond to the coronavirus domestically or internationally. These funds were primarily used for contractor impact claims, information technology services, cleaning supplies, and personal protective equipment. These funds include the costs of increased cleaning efforts at each NASA facility to protect the health and safety of our workforce and ensuring the well-being of every employee. No additional CARES Act funding was received for FY 2022.



LIMITATIONS OF THE FINANCIAL STATEMENTS

The financial statements are prepared to report the financial position, financial condition, and results of operations, consistent with the requirements of 31 U.S.C. § 3515(b). The statements are prepared from records of Federal entities in accordance with Federal Generally Accepted Accounting Principles (GAAP) and the formats prescribed by the Office of Management and Budget (OMB). Reports used to monitor and control budgetary resources are prepared from the same records. Users of the statements are advised that the statements are for a component of the U.S. Government.



Astronauts and executives welcome the Space Shuttle Motion Base Simulator to the Lone Star Flight Museum on Tuesday, April 12, 2022. From left are Dr. Bonnie J. Dunbar, retired NASA astronaut; George W.S. Abby, former director of NASA's Johnson Space Center; Mario Runco, retired NASA astronaut; and Douglas H. Owens, president and Chief Executive Officer of the museum. The simulator moved from a maintenance hangar at Ellington Field, near NASA's Johnson Space Center in Houston. The Motion Base Simulator was built in 1976 to support the Approach and Landing Tests using the Space Shuttle Enterprise, and modified to support the future space shuttle missions. It was first used to support flight crew training for the STS-1 mission on Jan. 9, 1979. The simulator is a full-scale replica of the forward flight deck of a space shuttle orbiter, with windows by display screens that provided increasingly detailed simulated views during various phases of the flight as the shuttle program progressed. The simulator operated for decades in the Jake Garn Simulation and Training Facility at Johnson. The simulator was removed in 2011 after the final space shuttle mission, STS-135.

PHOTO CREDIT — NASA/Robert Markowitz



MANAGEMENT'S DISCUSSION AND ANALYSIS

SYSTEMS, CONTROLS, AND LEGAL COMPLIANCE

The European-built Service Module (ESM) for NASA's Artemis II mission is on a work stand inside a clean room inside the high bay of the Neil A. Armstrong Operations and Checkout Building at NASA's Kennedy Space Center in Florida on Jan. 12, 2022. Teams from NASA, Lockheed Martin, the European Space Agency and Airbus will prepare the service module to be integrated with the Orion crew module adapter and crew module, already housed in the facility. The powerhouse that will fuel and propel Orion in space, the ESM for Artemis II will be the first Artemis mission flying crew aboard Orion.

PHOTO CREDIT — NASA/Cory Huston

INTERNAL CONTROL FRAMEWORK

NASA FEDERAL MANAGERS' FINANCIAL INTEGRITY ACT ANNUAL STATEMENT OF ASSURANCE PROCESS

The Federal Managers' Financial Integrity Act (FMFIA)¹ requires agency heads to evaluate and report on the internal control and financial systems to ensure the integrity of Federal programs and operations. This evaluation aims to provide reasonable assurance that internal controls are operating effectively to ensure efficient operations, reliable financial reporting, and compliance with applicable laws and regulations.

An effective system of internal control is at the core of NASA fulfilling its mission and achieving its goals while safeguarding governmental resources. NASA management is responsible for implementing internal control activities that support the organization in meeting established objectives. NASA complies with OMB Circular A-123, *Management's Responsibility for Enterprise Risk Management and Internal Control*, which provides Government-wide requirements for internal control and accountability, based on the FMFIA. OMB Circular A-123² also requires agencies to establish internal controls over operations, reporting and compliance.

NASA evaluates internal control across the Agency at various levels of the organization to ensure significant risks are identified, and related internal controls that address those risks are evaluated. NASA assesses the effectiveness of the internal controls over operations, management systems, and reporting with consideration of reviews and other relevant sources of information. NASA's executive leadership provides annual reporting and certifications on the effectiveness of internal controls that are implemented to meet intended objectives.

In addition, the NASA Office of the Chief Financial Officer (OCFO) deploys an extensive annual assessment methodology and internal control testing techniques that evaluate internal controls over financial reporting.

NASA considers Enterprise Risk Management (ERM) Program activities, reviews the Agency Risk Profile and considers fraud risk in its execution of the Administrator's Statement of Assurance Process (SoA) in evaluating and providing assurance on internal controls.

The FMFIA assurance statement is based on self-certifications submitted by NASA Officials-in-Charge that ultimately support the Administrator's SoA as well as a review of various internal and external sources of information. The self-certifications are based

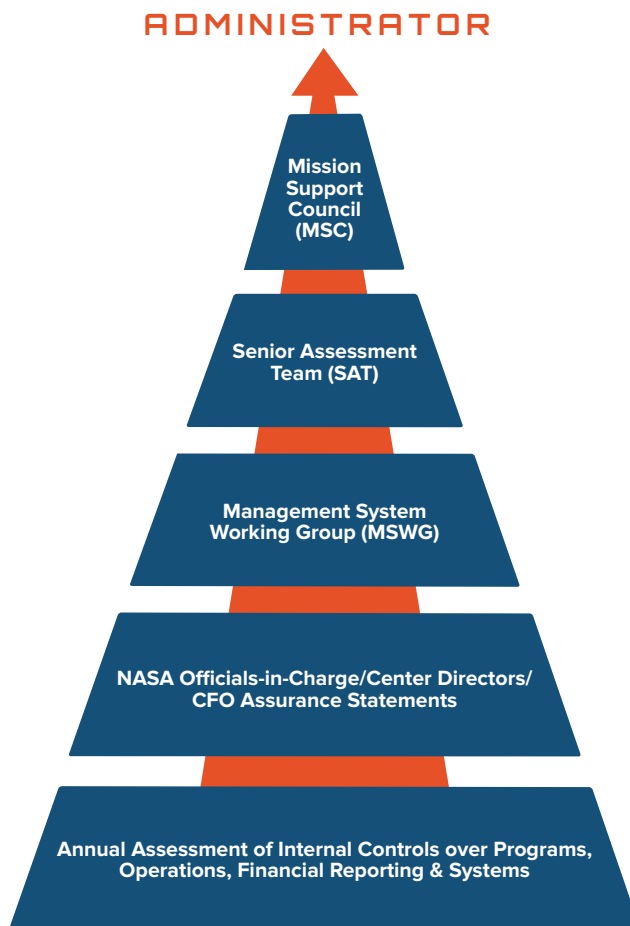


FIGURE 1:
NASA FMFIA Annual Statement of Assurance Process

¹The Federal Managers' Financial Integrity Act (FMFIA) https://obamawhitehouse.archives.gov/omb/financial_fmfi1982

²OMB Circular No. A-123, *Management's Responsibility for Enterprise Risk Management and Internal Control* <https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2016/m-16-17.pdf>



NASA FEDERAL MANAGERS' FINANCIAL INTEGRITY ACT ANNUAL STATEMENT OF ASSURANCE PROCESS (CONTINUED)

upon organizational self-assessments guided by the Government Accountability Office's (GAO) *Standards for Internal Control in the Federal Government* (known as the Green Book)³. The self-certifications and subsequent reviews are informed by relevant sources of information such as internal reviews of controls, as well as recommendations for improvements from external audits, investigations, and reviews conducted by the Office of Inspector General (OIG) and the GAO. The Mission Support Council (MSC), the organization responsible for oversight of NASA's Internal Control Program, advises the Administrator on the Statement of Assurance. The Senior Assessment Team (SAT), which is an arm of the MSC, helps guide the internal control evaluation and reporting process that recommends the type of assurance that results from their execution of the SoA Program.

The Management System Working Group (MSWG) performs the first level evaluation of annual results and serves as the primary advisory body for NASA internal control activities. The MSWG analyzes the annual assessment results and reports issues that may significantly impact the effective operation of internal controls and make recommendations on the design of internal controls to the SAT. Figure 1 depicts the Agency's Annual Statement of Assurance process and organizational components.

NASA leadership continuously evaluates Agency operations based on lessons learned and impacts realized resulting from the COVID-19 pandemic and makes changes, as appropriate, to better protect the health and safety of the workforce and missions while meeting mission objectives. Based on the results of the SoA process, NASA's internal control processes at NASA are robust and continue to operate in an effective and efficient manner.

DID YOU KNOW

Webb NIRCам composite image of Jupiter from three filters – F360M (red), F212N (yellow-green), and F150W2 (cyan) – and alignment due to the planet's rotation.

PHOTO CREDIT — NASA/ESA/CSA/Jupiter ERS Team/Image processing by Judy Schmidt.



³ Green Book <https://www.gao.gov/assets/670/665712.pdf>

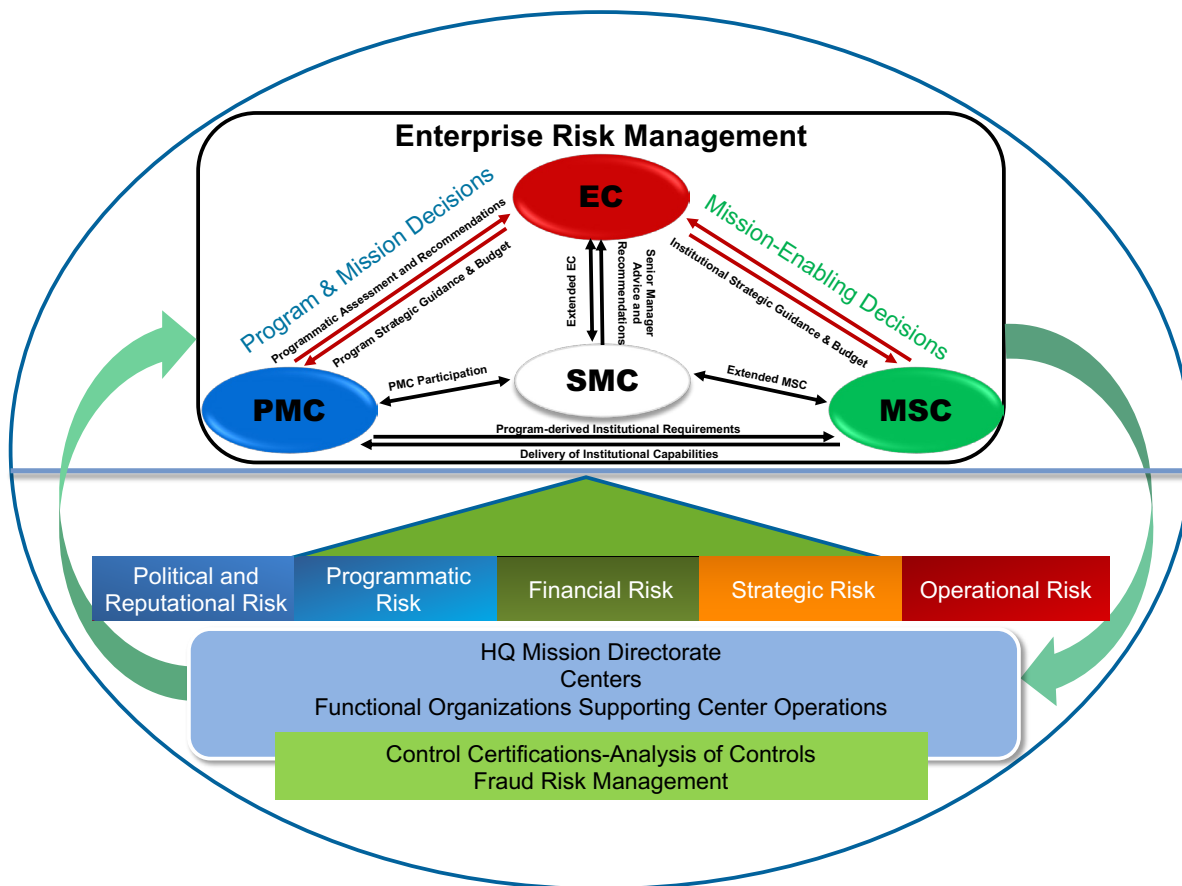
ENTERPRISE RISK MANAGEMENT

OMB Circular No. A-123, *Management's Responsibility for Enterprise Risk Management and Internal Control*, requires Federal agencies to implement ERM to ensure Federal managers are effectively managing risks that could affect the achievement of Agency strategic objectives.

Risk management continues to be embedded in NASA's culture, and the principles and practices are inherent in everyday operations. NASA's Office of the Chief Financial Officer, Quality Assurance Division (QAD) leads the Agency's ERM effort. The NASA Unified Comprehensive Operational Risk Network (UNICORN), is the framework for the communication and exchange of risk information between NASA's functional organizations and the Agency leadership (see Figure 2). The UNICORN's foundation is the Agency's risk management activities and decisional councils.

UNIFIED COMPREHENSIVE OPERATIONAL RISK NETWORK

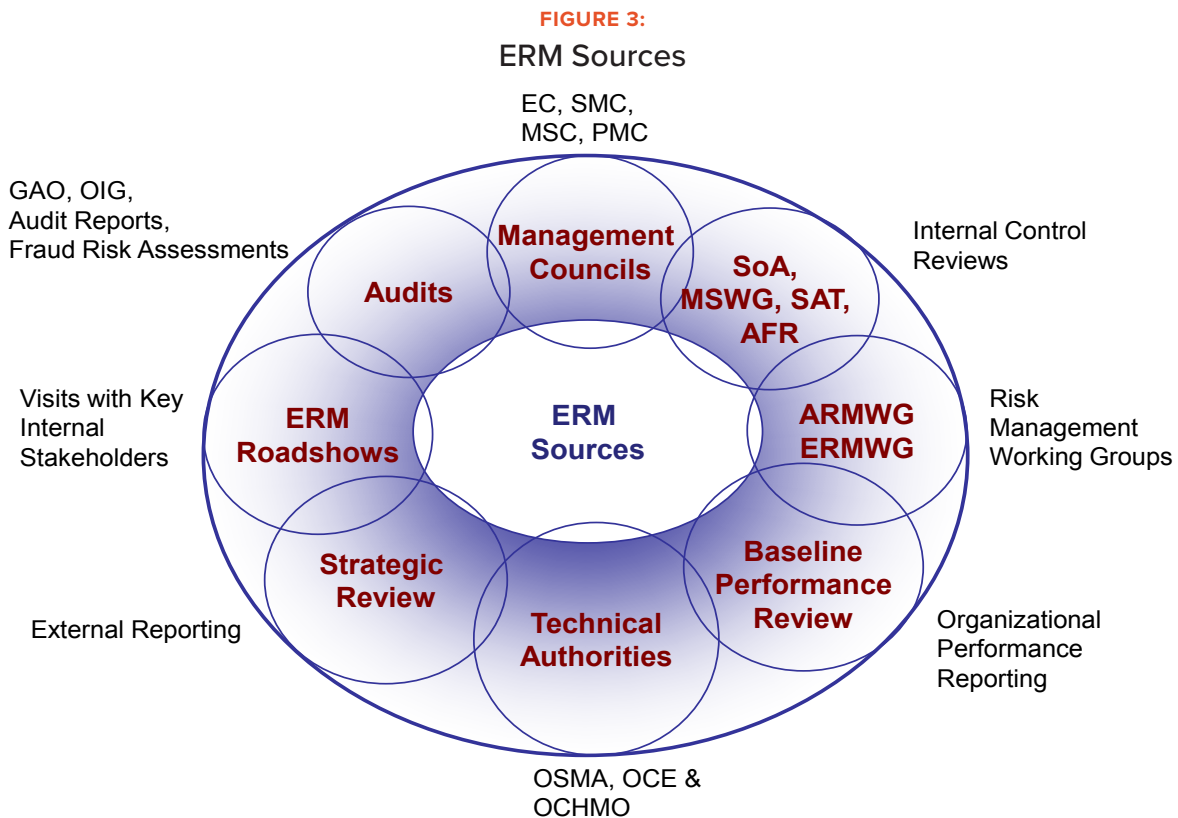
FIGURE 2:
NASA's UNICORN



ENTERPRISE RISK MANAGEMENT (CONTINUED)

In FY 2022, NASA's maturation of its ERM Program continued. The NASA Enterprise Risk Management Working Group (ERMWG) continues to identify enterprise-level risks and opportunities and collaborates with organizations to address identified enterprise risks. The ERMWG, which is comprised of representatives from each Assessable Unit within the Agency, proposes enterprise-level risks for consideration and concurrence from the body, for integration into the Agency Risk Profile. The Chair of the ERMWG presents the Agency Risk Profile, highlighting the Agency's most significant risks, to Agency senior management for approval, and briefs the Baseline Performance Reviews (BPR) forum, chaired by the Associate Administrator, on the status of risk mitigations three times yearly.

As illustrated in Figure 3, NASA leverages a variety of sources to identify potential enterprise risks and relies upon the Agency governance structure of decisional councils, as well as other bodies such as the Agency Risk Management Working Group (ARMWG) and MSWG to facilitate the integration of risks across the Agency for appropriate consideration as enterprise risks. The ARMWG is distinct from the ERMWG in that it covers the spectrum of risk management activities at the institutional, program, and project level versus the ERMWG which focuses on integrating risks at the enterprise level.



NASA continues to face new challenges in carrying out essential functions necessary to achieve its core mission. Long standing risk management processes and activities are inherently woven throughout NASA's culture, so beneficially, the Agency is well-positioned to respond to unknown threats or national emergencies that may disrupt operations for an extended period. NASA leadership has developed Agency-wide guidance that considers guidelines provided by the White House, Office of Personnel Management (OPM), and OMB.

NASA will continue to strengthen its risk management and reporting process through comprehensive collaboration with the various risk bodies and stakeholders throughout the Agency, to effectively identify key risks and opportunities, develop effective risk responses, and implement timely mitigation actions.

MANAGEMENT ASSURANCES



NOVEMBER 15, 2022

ADMINISTRATOR'S STATEMENT OF ASSURANCE

The management of the National Aeronautics and Space Administration (NASA) is responsible for establishing and maintaining an effective system of internal control to support reliable financial reporting, and effective and efficient programmatic operations. Accordingly, NASA conducted its Fiscal Year (FY) 2022 annual assessment of the effectiveness of management's internal controls for compliance with applicable laws, regulations, and policies; the Federal Managers' Financial Integrity Act (FMFIA); Federal Financial Management Improvement Act (FFMIA); the Office of Management and Budget's (OMB) Circular A-123, *Management's Responsibility for Enterprise Risk Management and Internal Control*; the United States (U.S.) Government Accountability Office's *Standards for Internal Controls in the Federal Government*, and NASA policies. Based on the results of this evaluation, NASA provides reasonable assurance that its system of internal control was operating effectively as of September 30, 2022, over the effectiveness and efficiency of operations and compliance with laws, regulations, and policies. Further, no material weaknesses were found in the design or implementation of internal controls.

In accordance with OMB requirements to integrate Enterprise Risk Management (ERM) and internal control in Federal agencies, NASA's ERM Program conducts enterprise risk activities and fraud risk activities, evaluates internal control, and provides an overall assurance on the internal control environment. As a result, managers and employees throughout the Agency are actively engaged in assessing risks, identifying and updating key control objectives, implementing controls and other mitigation strategies, conducting reviews, and taking corrective actions as appropriate.

In addition, NASA complies with FMFIA and OMB requirements to evaluate and assure the reliability of its internal controls over its financial management systems, complies with Federal financial management system requirements, and assures reliability of its Digital Accountability and Transparency Act of 2014 (DATA Act) submissions.

FFMIA requires agencies to have financial management systems that substantially comply with Federal financial management system requirements, Federal Accounting Standards, and the U.S. Government Standard General Ledger at the transaction level. NASA conducted its evaluation of financial management systems for compliance with FFMIA in accordance with Appendix D of OMB Circular A-123. NASA financial management systems substantially comply with FFMIA as of September 30, 2022.

NASA's Certification of Reasonable Assurance is based upon management's knowledge gained from daily operations, monitoring activities, assessment of risk and internal control, and other internal controls that govern the effectiveness and efficiency of operations. NASA makes an unmodified statement of assurance that its internal controls for FY 2022 were operating effectively. NASA remains committed to ensuring that a sound system of internal control exists over operations, reporting, and financial management systems.

Sincerely,

A handwritten signature in black ink that reads "Bill Nelson".

Bill Nelson
Administrator

FINANCIAL SYSTEMS STRATEGIES

NASA's Financial Management System Strategy aligns with the Agency's mission for innovation and strategic goals. An overarching core financial systems roadmap is designed to optimize capabilities and operations which promote the technologies of the future. Current financial management systems initiatives seek to enable integrated solutions to modernize business processes, comply with internal and external Federal policies and standards, and OMB requirements while meeting evolving stakeholder needs.

Systems, Applications, and Products (SAP) Enterprise Central Component (ECC) serves as NASA's core financial system of record and is the "circulatory system" for the business operations of the Agency. It is the platform for sound financial management across the entire enterprise that leads to efficient business operations and successful audit outcomes. SAP ECC will reach end of life in December 2027. The Chief Information Officer (CIO) is evaluating the option of migrating to SAP business suite 4/ suite for HANA (S/4 HANA), the next evolution of SAP software. SAP S/4 HANA (core financial systems alternatives) offers embedded analytics to provide flexible real-time reporting, eliminating the need for custom reports, and provides the opportunity to reduce customization through process re-engineering using standard enhanced capabilities. Meeting the goal of improved integration of system components will reduce manual effort and errors. Options such as hosting applications in the cloud with subscription licensing, or a NASA on-premises data center are also being considered.

NASA is currently pursuing Enterprise Digital Transformation (DT) as a new Agency strategic initiative. The goals of this initiative are to transform the way NASA works, transform the experience of the NASA workforce, and transform the agility of NASA's workplace. We will do this through intentionally anchoring DT to desired non-digital transformation outcomes. Our objectives target specific attributes of a transformed NASA. The DT team has identified five key components to drive this initiative:

1. Define stream values and associated organizational concept of operations.
2. Streamline critical workstreams.
3. Expand data search, access, interoperability, re-use, and analysis.
4. Reduce domain tool sprawl by driving to shared capabilities by tier.
5. Eliminate barriers to strengthen inclusive teaming.

In collaboration with Agency Information Technology (IT) Governance structure, a financial application management board was established to prioritize significant IT investments by evaluating whether enterprise solutions meet current business needs. The board also establishes functional roadmaps, and continually review the inventory of applications for modernization opportunities across the financial management portfolio.

This approach adheres to the President's Management Agenda (PMA): "focus on strategies to advance the vision an equitable, effective, and accountable Government that delivers results for all Americans...". NASA's Office of Safety and Mission Assurance, in collaboration with the Office of Procurement and OCFO, has plans to design, develop, and deploy an application (portal) to enable supply chain visibility reporting into the Supply Chain Insight Center (SCIC) platform for enhanced informational/analytical value. Plans are underway to leverage SCIC to aid in the market research and analysis required for processing Buy American waivers, including the potential identification of domestic alternatives to foreign-based sources, in support of Executive Order 14005, signed into law on January 25, 2021. NASA is currently working to implement G-Invoicing, Treasury's long-term solution for Federal Program Agencies (FPAs) to manage intragovernmental (IGT) Buy/Sell transactions. NASA is also working on implementing the SAP solution for Statement of Federal Financial Accounting Standards (SFFAS) 54, *Leases* which provides a comprehensive set of lease accounting standards to recognize Federal lease activities in reporting entity's general purpose Federal financial reports and appropriate disclosures.



MANAGEMENT'S DISCUSSION AND ANALYSIS

FORWARD LOOKING

Kenneth Harris II, an engineer at NASA's Goddard Space Flight Center, is seen in a "bunny suit" as he speaks with students about working in a clean room, Thursday, Nov. 18, 2021, at Garfield Elementary School in Washington, DC.

PHOTO CREDIT — NASA/Joel Kowsky

2023 AND BEYOND

As NASA enters a new fiscal year, we look forward to successfully completing the launch of Artemis I, the first integrated test flight of our deep space exploration system, which is comprised of the SLS, Orion spacecraft, and supporting ground systems at Kennedy Space Center in Florida. For Artemis I, an SLS rocket will launch an uncrewed Orion spacecraft on its journey around the Moon.

Kennedy Space Center, located on Merritt Island on Florida's east coast, is vulnerable to extreme weather events, such as Hurricane Ian. Launch preparations include weather tracking, with support from the U.S. Space Force at Cape Canaveral. NASA's Launch Services Program and emergency decision teams decide how best to protect launch assets. NASA will review new launch dates for postponed missions, including Artemis I and Psyche. The Kennedy Space Center announces its operational status online at <https://www.nasa.gov/content/kennedy-space-center-operating-status>.

The FY 2022 budget request¹ for Common Exploration Systems (which includes SLS, the Orion spacecraft, and EGS) represented NASA's largest line item for that fiscal year. In FY 2022, the Gross Cost of Operations for SLS alone was \$2,575 million (see [page 30](#)). Other Goal 2 programs, which includes the Orion spacecraft, EGS, and development of other Artemis infrastructure, will continue to increase as NASA progresses towards more complex Artemis missions. In FY 2023, NASA will award contracts for sustaining lunar lander development and the Lunar Terrain Vehicle. The Exploration Extravehicular Activity Services (xEVAS) contract team will continue developing life support and thermal control systems, and the target is to complete the primary structure build for the HALO, the first pressurized element for the Lunar Gateway, during FY 2023.

In addition to human space exploration, NASA is looking forward to efforts focused on the Earth system and climate. In FY 2023, NASA will begin formulation for at least two Earth System Observatory (ESO) missions addressing four areas of climate change research — atmosphere; clouds, convection, and precipitation; surface biology and geology; and mass change. As the centerpiece for NASA's Earth science strategy, ESO will consist of new Earth-focused missions that will provide key information to understand Earth's systems and processes and the interactions between the processes on the land, ocean, and in the atmosphere.

One of the key ESO missions is the NASA-Indian Space Research Organisation (ISRO) Synthetic Aperture Radar, or NISAR. The project has experienced cost and schedule growth due to the impacts of COVID-19 and issues with hardware development and delivery. According to the GAO's annual *Assessments of Major Projects*², the lifecycle cost estimate after a replan in April 2021 was \$971.2 million, a 12 percent increase over the original lifecycle cost estimate. NASA will finalize the cost estimates after they deliver the radars to ISRO. NASA anticipates delivering the NASA- and ISRO-provided radars to ISRO for integration on the NISAR spacecraft in January 2023, which tentatively sets the launch readiness date no earlier than fall 2023.

In FY 2023, NASA anticipates launching the SWOT mission, which will make the first global survey of Earth's surface water and measure how water bodies change over time. The multinational science team will address pressing issues such as availability of Earth's freshwater resources, changing ocean and coasts, and better flood prediction. SWOT also has experienced schedule and lifecycle cost growth, according to GAO³. After a replan in June 2021, the estimated lifecycle cost was \$822.4 million, an 8.9 percent increase over the original estimate. NASA set the new launch date for June 2023.

¹The FY 2022 budget request made in the FY 2023 Congressional Justification is available at https://www.nasa.gov/sites/default/files/atoms/files/fy23_nasa_budget_request_full_opt.pdf.

²NASA *Assessments of Major Projects* (GAO-22-105212), Government Accountability Office, June 2022, pages 107 - 108. Available at <https://www.gao.gov/assets/gao-22-105212.pdf>.

³NASA *Assessments of Major Projects* (GAO-22-105212), Government Accountability Office, June 2022, pages 117 - 118. Available at <https://www.gao.gov/assets/gao-22-105212.pdf>.



2023 AND BEYOND (CONTINUED)

NASA addressed many issues relevant to cost and schedule risks like the ones affecting NISAR and SWOT in the 2022 *High Risk Corrective Action Plan*⁴. In 1990, the GAO identified NASA's contract management as an area of the Federal Government needing transformation or at high risk for waste, fraud, abuse, or mismanagement. In 2009, GAO broadened the designation to acquisition management to encompass other issues that needed to be resolved, including persistent cost growth and schedule delays, antiquated financial management systems, poor cost estimating, and undefinitized contracts.

As described in the 2022 *High Risk Corrective Action Plan*, NASA is piloting a Firm Fixed Price Data Collection effort. The goal is to support and enhance NASA's ability to collect programmatic data on firm fixed price contracts, which have been increasingly used across all Mission areas, for sustaining our ability to accurately estimate future analogous projects. NASA also is conducting a Realistic Proposal Cost Estimating pilot, which will encourage bidders on NASA procurement actions to include cost estimates commensurate with historical performance to enable a more informed proposal assessment. NASA will conduct a semiannual review of these pilot and other efforts discussed in the 2022 High Risk Corrective Action Plan and share and discuss progress with GAO at least once a year.

In FY 2023, NASA plans to release a new Earth system model that will help turn Earth science data into models for research and decision making and address Priority 4 of NASA's 2021 *Climate Action Plan*⁵. Version 4 of the Goddard Institute of Space Studies' Model E, NASA's model used most extensively in assessments of climate change, provides the ability to simulate different configurations of Earth System Models, including interactive atmospheric chemistry, aerosols, carbon cycle, standard atmosphere, ocean, sea ice, and land surface components. The model code will be openly available on the Goddard Institute of Space Studies website.

Understanding the effects climate change has on the world, NASA created an Agency Master Plan to align mission requirements with the Agency's real property assets, while maintaining a long-term risk mitigation strategy and implementing sustainability best practices. This year, NASA expects to publish a revised Agency Master Plan to outline specific goals and objectives focused on climate risk and adaptation. Furthermore, it will demonstrate our commitment to integrate climate risk management into Agency management process and tools. In FY 2023, NASA's Office of Strategic Infrastructure will release its strategic plan, which will outline the strategies for environmental management, facilities real estate, and testing assets. It also will describe implementation goals for sustainable practices.

In February 2022, the Goddard Space Flight Center completed its master plan⁶ for its main campus and facilities that it manages, including Wallops Flight Facility and Goddard Institute for Space Studies. This was a follow-up to the Envision Goddard effort started in 2018. The plan sets targets for affordability and sustainability within a 20-year planning horizon.

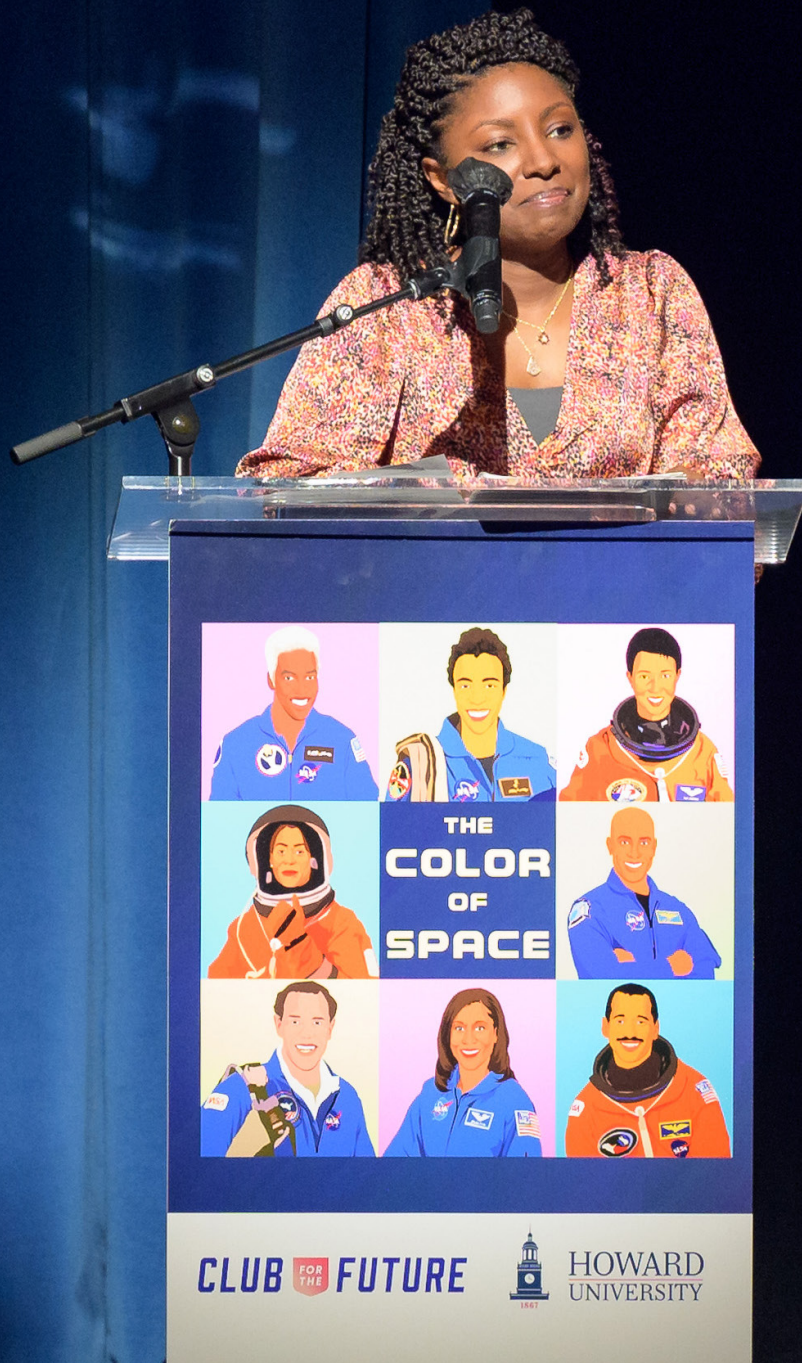
In FY 2022, we released the NASA *Strategic Plan for Diversity, Equity, Inclusion, and Accessibility*⁷. The plan includes actions and near-term goals for building a workforce that reflects the diversity of the American people and promoting an equitable, accessible, and inspiring work environment. By 2026, NASA will address four major areas: workforce diversity; workforce equity and inclusion (employee experience); accessibility and accommodation; and DEIA integration into the NASA Mission.

⁴ 2022 High Risk Corrective Action Plan: In Response to Recent Programmatic Performance and NASA's Designation on GAO's High Risk List, NASA, August 2022. Available at https://www.nasa.gov/sites/default/files/atoms/files/nasa_high_risk_corrective_action_plan_2022.pdf.

⁵ Climate Action Plan (NP-2021-08-2979-HQ), NASA, September 2021. Available at <https://www.sustainability.gov/pdfs/nasa-2021-cap.pdf>.

⁶ Envision Goddard Master Plan Digest, Goddard Space Flight Center, February 2022. Available at https://www.nasa.gov/sites/default/files/atoms/files/gsfsc_master_plan_digest_feb2022_lo_res_website.pdf.

⁷ Available at https://www.nasa.gov/sites/default/files/atoms/files/nasa_deia_strategic_plan-fy22-fy26-final_tagged.pdf.



SECTION 2

FINANCIAL SECTION

NASA TV producer of “The Color of Space” Jori Kates gives remarks prior to the screening of the documentary at Howard University’s Cramton Auditorium in Washington, Saturday, June 18, 2022. Premiering on Juneteenth, the federal holiday commemorating the emancipation of enslaved Black Americans, “The Color of Space” is an inspirational documentary that tells the stories of NASA’s Black astronauts determined to reach the stars.

PHOTO CREDIT — NASA/Bill Ingalls

MESSAGE FROM THE CHIEF FINANCIAL OFFICER



I am proud to join Administrator Nelson in presenting the Fiscal Year (FY) 2022 NASA Agency Financial Report (AFR). The FY 2022 financial statements and accompanying information reflect our commitment to advancing NASA's mission, and the Biden-Harris Administration's priorities of: combatting the climate crisis; advancing American leadership standing in space and aeronautics; promoting diversity, equity, inclusion, and accessibility (DEIA), and driving economic growth.

Sound financial management is the cornerstone of effective and prudent stewardship of the taxpayer resources. The Office of the Chief Financial Officer (OCFO) is responsible for demonstrating transparency and accountability through NASA's operating performance and resource management results summarized in this report. I am proud of the hard work, skill, and dedication of the OCFO team over the past year to meet the highest standards for budgetary performance, risk management, internal controls implementation, and financial reporting. This standard of excellence was recognized and acknowledged again, in our FY 2022 auditors' report, reflecting an unmodified "clean" opinion with no material internal control weaknesses for the 12th consecutive year. This confirms that NASA's financial statements are free of material misstatements and have been prepared in accordance with the U.S. Generally Accepted Accounting Principles (GAAP) and our system of internal controls is operating effectively. I want to offer my sincerest appreciation to the entire OCFO team and our organizational partners for their contributions to the success of the AFR.

Audit and Compliance Activities

This year, the OCFO team dedicated significant time and resources to amend NASA's Public-Private Partnerships (P3) reporting process. Our independent auditors identified one significant deficiency in FY 2021, where it was determined that improvements were needed in NASA's evaluation of P3s to comply with the disclosure requirements of the Federal Accounting Standards Advisory Board's (FASAB) Statement of Federal Financial Accounting Standards (SFFAS) 49: *Public-Private Partnerships: Disclosure Requirements*, and Office of Management and Budget (OMB) Circular A-136, *Financial Reporting Requirements*. NASA successfully implemented the recommendations and remediated this deficiency during FY 2022 through effective collaborations across Headquarters and our NASA Centers to refine and standardize our P3 assessment and disclosure process.

I am pleased to report the independent auditors identified no material weaknesses or significant deficiencies in their financial audit for FY 2022. NASA's "clean" unmodified audit opinion shows that our FY 2022 financial statements are presented fairly and conform with GAAP. Additionally, the auditors disclosed no instances of noncompliance with the applicable provisions of the Federal Financial Management Improvement Act (FFMIA) in NASA's financial management systems.

OCFO Key Accomplishments

The OCFO team advanced our Future of Work efforts and fully transitioned into a hybrid work environment, which we are continuing to refine and improve to enable flexibility while meeting the demanding requirements of our office to meet our goals. NASA was again recognized and awarded, for the 8th consecutive year, the AGA Certificate of Excellence in Accountability Reporting (CEAR) Award. The CEAR board also recognized NASA with the Best-In-Class Award for the visual presentation in our AFR that allows us to engage compellingly with readers and spotlight NASA's important mission and accomplishments.

Furthermore, we remain committed to fostering a culture and workforce that is innovative, inclusive, diverse, and committed to utilizing the skills and ideas of everyone to meet our common goals and objectives. We are achieving this vision, in part, by focusing on our organizational structure and better integrating our workforce. We are reinforcing enterprise resiliency by



NOVEMBER 15, 2022

MESSAGE FROM THE CHIEF FINANCIAL OFFICER (CONTINUED)

strengthening our integration across Headquarters and Center locations. Further, we have established a new Deputy-CFO Finance position to enhance and fortify NASA's financial management. Under the leadership of our outstanding Center CFOs and Headquarters Deputy CFOs, I am incredibly proud of the many exceptional collaborations that are so critical to achieving our enterprise objectives.

Congratulations to the OCFO team and the entire NASA workforce for achieving amazing things over the past year. I am even more excited about what we will collectively achieve in the coming years as we seek to lead and advance global scientific and technological understanding, improve accessibility and inclusivity, address the pressing challenges of climate change and sustainable infrastructure, expand the realm of what is possible in aeronautics and space, and support this outstanding workforce. I have every confidence in our talented workforce and know we will continue to deliver superior financial stewardship, acquisition rigor, and management to enable these achievements—and provide necessary accountability to the public.



Sincerely,

A handwritten signature in black ink that reads "Margaret Vo Schaus".

Margaret Vo Schaus

SPANISH TRANSLATION AVAILABLE

Click [here](#) to read the Spanish version. Haga clic [aquí](#) para leer la versión en español.

INTRODUCTION TO THE PRINCIPAL FINANCIAL STATEMENTS

The principal financial statements are prepared to report the financial position and results of operations of the National Aeronautics and Space Administration, pursuant to the requirements of 31 U.S.C. § 3515 (b).



CONSOLIDATED BALANCE SHEETS

provide information on assets, liabilities, and net position as of the end of the reporting periods. Net position is the difference between assets and liabilities. It is a summary measure of the Agency's financial condition at the end of the reporting periods.



CONSOLIDATED STATEMENTS OF NET COST

report net cost of operations during the reporting periods by strategic goal and at the entity level. It is a measure of gross costs of operations less earned revenue, and represents the cost to taxpayers for achieving each strategic goal and Agency Mission at the entity level.



CONSOLIDATED STATEMENTS OF CHANGES IN NET POSITION

report the beginning balances of net position, current financing sources and use of resources, unexpended resources for the reporting periods, and ending net position for the current reporting periods.



COMBINED STATEMENTS OF BUDGETARY RESOURCES

report information on the sources and status of budgetary resources for the reporting periods. Information in these statements is reported on the budgetary basis of accounting, which supports compliance with budgetary controls and controlling legislation.



FINANCIAL SECTION

FINANCIAL STATEMENTS, NOTES, AND REQUIRED SUPPLEMENTARY INFORMATION

A full Moon is in view from Launch Complex 39B at NASA's Kennedy Space Center in Florida on June 14, 2022. The Artemis I Space Launch System (SLS) and Orion spacecraft, atop the mobile launcher, are being prepared for a wet dress rehearsal to practice timelines and procedures for launch. The first in an increasingly complex series of missions, Artemis I will test SLS and Orion as an integrated system prior to crewed flights to the Moon. Through Artemis, NASA will land the first woman and first person of color on the lunar surface, paving the way for a long-term lunar presence and using the Moon as a steppingstone on the way to Mars.

PHOTO CREDIT — NASA/Ben Smegelsky

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Consolidated Balance Sheets
As of September 30, 2022 and 2021
 (IN MILLIONS)

	2022	2021
Assets:		
Intragovernmental:		
Fund Balance with Treasury (Note 2)	\$ 17,156	\$ 15,899
Investments, Net (Note 3)	15	16
Accounts Receivable, Net (Note 4)	57	90
Total Intragovernmental	17,228	16,005
With the Public:		
Accounts Receivable, Net (Note 4)	1	1
General Property, Plant and Equipment, Net (Note 5)	7,643	6,982
Advances and Prepayments	25	16
Other Assets (Note 7)	4	5
Total with the Public	7,673	7,004
Total Assets:	\$ 24,901	\$ 23,009
Stewardship PP&E (Note 6)		
Liabilities: (Note 8)		
Intragovernmental:		
Accounts Payable	\$ 55	\$ 166
Advances from Others and Deferred Revenue	50	55
Other Liabilities (Note 10)	138	50
Total Intragovernmental	243	271
With the Public:		
Accounts Payable	1,840	1,747
Federal Employee Benefits Payable (Note 8)	300	320
Environmental and Disposal Liabilities (Note 9)	2,130	2,127
Advances from Others and Deferred Revenue	155	148
Other Liabilities (Note 10)		
Other Accrued Liabilities	1,931	1,823
Other	93	222
Total with the Public	6,449	6,387
Total Liabilities	\$ 6,692	\$ 6,658
Commitments and Contingencies (Note 11)		
Net Position:		
Unexpended Appropriations	\$ 12,951	\$ 11,822
Cumulative Results of Operations	5,258	4,529
Total Net Position	\$ 18,209	\$ 16,351
Total Liabilities and Net Position	\$ 24,901	\$ 23,009

The accompanying notes are an integral part of these financial statements.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Consolidated Statements of Net Cost
 For the Fiscal Years Ended September 30, 2022 and 2021
 (IN MILLIONS)

	2022	2021
STRATEGIC GOAL 1		
Expand human knowledge through new scientific discoveries:		
Gross Costs	\$ 8,494	\$ 8,216
Less: Earned Revenue	1,028	998
Net Costs	<u>7,466</u>	<u>7,218</u>
STRATEGIC GOAL 2		
Extend human presence to the Moon and on towards Mars for sustainable long-term exploration, development, and utilization:		
Gross Costs	\$ 9,842	\$ 7,383
Less: Earned Revenue	243	253
Net Costs	<u>9,599</u>	<u>7,130</u>
STRATEGIC GOAL 3		
Catalyze economic growth and drive innovation to address national challenges:		
Gross Costs	\$ 3,055	\$ 2,228
Less: Earned Revenue	121	114
Net Costs	<u>2,934</u>	<u>2,114</u>
STRATEGIC GOAL 4		
Enhance capabilities and operations to catalyze current and future mission success:		
Gross Costs	\$ 2,820	\$ 5,723
Less: Earned Revenue	180	183
Net Costs	<u>2,640</u>	<u>5,540</u>
Net Cost of Operations		
Total Gross Costs	\$ 24,211	\$ 23,550
Less: Total Earned Revenue	1,572	1,548
Net Costs	<u>\$ 22,639</u>	<u>\$ 22,002</u>

The accompanying notes are an integral part of these financial statements.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Consolidated Statements of Changes in Net Position
For the Fiscal Years Ended September 30, 2022 and 2021
 (IN MILLIONS)

	2022	2021
Unexpended Appropriations:		
Beginning Balance	\$ 11,822	\$ 11,230
Appropriations Received	24,363	23,271
Other Adjustments	(30)	(26)
Appropriations Used	(23,204)	(22,653)
Net Change in Unexpended Appropriations	1,129	592
Total Unexpended Appropriations	\$ 12,951	\$ 11,822
Cumulative Results from Operations:		
Beginning Balance	\$ 4,529	\$ 3,709
Appropriations Used	23,204	22,653
Donations and Forfeitures of Cash and Cash Equivalents	2	—
Transfers In/Out Without Reimbursement	(3)	—
Donations and Forfeitures of Property	—	14
Imputed Financing	165	155
Net Cost of Operations	(22,639)	(22,002)
Net Change in Cumulative Results of Operations	729	820
Total Cumulative Results of Operations	\$ 5,258	\$ 4,529
Net Position	\$ 18,209	\$ 16,351

The accompanying notes are an integral part of these financial statements.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Combined Statements of Budgetary Resources
For the Fiscal Years Ended September 30, 2022 and 2021
 (IN MILLIONS)

	2022	2021
Budgetary Resources:		
Unobligated Balance from Prior Year Budget Authority, Net	\$ 2,955	\$ 2,750
Appropriations	24,365	23,272
Spending Authority from Offsetting Collections	1,879	1,875
Total Budgetary Resources	\$ 29,199	\$ 27,897
Status of Budgetary Resources:		
New Obligations and Upward Adjustments (total)	\$ 26,555	\$ 25,239
Unobligated Balance, End of Year:		
Apportioned, Unexpired Accounts	2,348	2,490
Exempt from Apportionment, Unexpired Accounts	3	1
Unapportioned, Unexpired Accounts	145	44
Unexpired Unobligated Balance, End of Year	2,496	2,535
Expired Unobligated Balance, End of Year	148	123
Unobligated Balance, End of Year (total)	2,644	2,658
Total Budgetary Resources	\$ 29,199	\$ 27,897
Outlays, Net:		
Outlays, Net (total)	\$ 23,082	\$ 22,253
Distributed Offsetting Receipts (-)	(3)	(4)
Agency Outlays, Net	\$ 23,079	\$ 22,249

The accompanying notes are an integral part of these financial statements.

1

NOTE 1:

SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Reporting Entity

The National Aeronautics and Space Administration (NASA) is an independent agency established by Congress on October 1, 1958 by the National Aeronautics and Space Act of 1958. NASA was incorporated from its predecessor agency, the National Advisory Committee for Aeronautics, which provided technical advice to the United States (U.S.) aviation industry and performed aeronautics research. Today, NASA serves as the principal agency of the U.S. Government for initiatives in civil space and aviation.

NASA is organized into five Mission Directorates supported by one Mission Support Directorate (see Organization on [page 10](#)):

- **Aeronautics Research:** conducts research which enhances aircraft performance, environmental compatibility, capacity, flexibility, and safety of the future air transportation system;
- **Exploration Systems Development:** defines and manages the systems development for programs critical to the Artemis lunar exploration initiatives and develops technologies and capabilities to support sustainable human deep space exploration;
- **Science:** Explores the Earth, Moon, Mars, and beyond; charts the best route of discovery, and obtains the benefits of Earth and space exploration for society;
- **Space Operations:** manages launch services, space communications and navigation, the International Space Station, and commercial space capabilities; and
- **Space Technology:** develops new technologies needed to support current and future NASA missions, other agencies, and the aerospace industry.

The Agency's administrative structure includes the Senior Management Council, Executive Council, Mission Support Council, Agency Program Management Council, Acquisition Strategy Council, and other Committees to integrate strategic, tactical, and operational decisions in support of strategic focus and direction.

Operationally, NASA is organized into nine Centers and other facilities across the country, the Headquarters Office, and the NASA Shared Services Center (NSSC).

The Agency's consolidated financial statements present the accounts of all funds that have been established and maintained to account for the resources under the control of NASA management.

Disclosure Entities

The Federal Accounting Standards Advisory Board's (FASAB) Statement of Federal Financial Accounting Standards (SFFAS) No. 47, *Reporting Entity*, is intended to guide Federal agencies in recognizing complex, diverse organizations possessing varying legal designations (e.g., government agencies, not-for-profit organizations, and corporations) that are involved in addressing public policy challenges. It provides guidance for determining what organizations should be included in a Federal agency's financial statements (consolidation entities) and footnote disclosures (disclosure entities; and related parties) for financial accountability purposes and is not intended to establish whether an organization is or should be considered a Federal agency for legal or political purposes. [See Note 15, Disclosure Entity](#), for information on NASA's disclosure entity.

Basis of Accounting and Presentation

These consolidated financial statements are prepared in accordance with the Federal Accounting Standards Advisory Board (FASAB) standards in the format prescribed by the Office of Management and Budget (OMB) Circular No. A-136, *Financial Reporting Requirements*, Revised (June 2022). FASAB's authority to set Federal Government accounting standards is recognized by the American Institute of Certified Public Accountants (AICPA). The financial statements present the financial position, net cost of operations, changes in net position, and budgetary resources of NASA, as required by the Chief Financial Officers Act of 1990, Public Law (P.L.) 101-576, and the Government Management Reform Act P.L. 103-356.



1 NOTE 1: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

The accounting structure of Federal agencies is designed to reflect proprietary and budgetary accounting. Proprietary accounting uses the accrual method of accounting. Under the accrual method of accounting, revenues are recognized when earned and expenses are recognized when incurred, without regard to the timing of receipt or payment of cash. Budgetary accounting does not use the accrual method of accounting; it accounts for the sources and status of funds to facilitate compliance with legal controls over the use of Federal funds. Material intra-agency transactions and balances have been eliminated from the principal financial statements for presentation on a consolidated basis, except for the Statement of Budgetary Resources, which is presented on a combined basis in accordance with OMB Circular No. A-136. Accounting standards require all reporting entities to disclose that accounting standards allow certain presentations and disclosures to be modified, if needed, to prevent disclosure of classified information. In FY 2020, NASA implemented the requirements of paragraphs 2, 9, and 10 of SFFAS No. 57, *Omnibus Amendments*. The requirements set forth in paragraphs 3-8, 11 and 12 of the standard are effective in FY 2024 and early adoption is not permitted.

Budgets and Budgetary Accounting

NASA complies with Federal budgetary accounting guidelines of OMB Circular No. A-11, *Preparation, Submission and Execution of the Budget*, Revised (August 2022). Congress funds NASA's operations through nine main appropriations: Science; Aeronautics; Exploration; Space Operations; Science, Technology, Engineering and Mathematics Engagement; Safety, Security and Mission Services; Space Technology; Office of Inspector General; and Construction and Environmental Compliance and Restoration. NASA also receives reimbursements from reimbursable service agreements that cover the cost of goods and services NASA provides to other Federal entities or non-Federal entities. The reimbursable agreement price is based on cost principles to reasonably reflect the actual cost for the goods and services provided to the customer.

Research and Development (R&D), Other Initiatives and Similar Costs

NASA makes substantial R&D investments for the benefit of the U.S. The R&D programs include activities to extend our knowledge of Earth, its space environment, and the universe; and to invest in new aeronautics and advanced space transportation technologies supporting the development and application of technologies. Following guidance outlined in the FASAB Technical Release No. 7, *Clarification of Standards Relating to the National Aeronautics and Space Administration's Space Exploration Equipment*, NASA applies the Financial Accounting Standards Board's (FASB) Accounting Standards Codification (ASC) 730-10-25, *Research and Development — Recognition*, and FASB ASC 730-10-50 *Research and Development — Disclosure*, to its R&D projects. Consistent with the above guidance, costs to acquire PP&E that is expected to be used only for a specific R&D project are expensed in the period they are incurred.

According to NASA's current *2022 Strategic Plan*, functional areas previously recognized in Strategic Goal 4 were moved to Strategic Goal 2.

Exchange and Non-Exchange Revenue

NASA classified revenues as either exchange or non-exchange. Exchange revenues are those transactions in which NASA provides goods and services to another party for a price, primarily through reimbursable agreements that are priced based on cost principles to reasonably reflect the actual cost for the goods and services provided to the customer. These revenues are presented on the Statement of Net Cost and serve to offset the costs of these goods and services. Non-exchange revenues result from donations to the Government and from the Government's right to demand payment for taxes, fines, and penalties. These revenues are not considered to reduce the cost of NASA's operations and are reported on the Statement of Changes in Net Position.

Application of Significant Accounting Estimates

The preparation of financial statements requires management to make assumptions and reasonable estimates affecting the reported amounts of assets, liabilities, and disclosures of contingent liabilities as of the date of the financial statements. Also, the reported amounts of revenues and expenses for the reporting period. Accordingly, actual results may differ from those estimates.



1

NOTE 1:

SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Fund Balance with Treasury

The U.S. Department of the Treasury (Treasury) collects and disburses cash on behalf of Federal agencies during the fiscal year. The collections include funds appropriated by Congress to fund the Agency's operations and revenues earned for services that are provided to other Federal agencies or for the public. The disbursements are for goods and services in support of NASA's operations and for other liabilities. The Fund Balance with Treasury (FBWT) is an asset account that shows the available budget spending authority of Federal agencies.

Investments in U.S. Government Securities

NASA investments include the following intragovernmental non-marketable securities:

(1) The Endeavor Teacher Fellowship Trust Fund (Endeavor Trust Fund) was established from public donations in tribute to the crew of the Space Shuttle Challenger. The Endeavor Trust Fund biannual interest earned is reinvested in short-term bills. P.L. 102-195 requires the interest earned from the Endeavor Trust Fund investments be used to create the Endeavor Teacher Fellowship Program.

(2) The Science, Space and Technology Education Trust Fund (Challenger Trust Fund) was established to advance science and technology education. The Challenger Trust Fund balance is invested in short-term bills and/or a bond when feasible. P.L. 100-404 requires that a quarterly payment of \$250,000 be sent to the Challenger Center from interest earned on the Challenger Trust Fund investments. In order to meet the requirement of providing funds to the Challenger Center, NASA typically invests the biannual interest earned in short-term bills with maturity that coincides with quarterly payments of \$250,000 to beneficiaries. Interest received in excess of the amount needed for quarterly payment to beneficiaries may be reinvested. NASA has not been able to secure favorable returns on investment through securities issued by Treasury's Bureau of the Fiscal Service in recent years that were available for previous long-term bond investments. In anticipation of insufficient interest earnings that will not meet NASA's requirement to make quarterly disbursements, the Committees on Appropriations included a provision in both the FY 2022 and FY 2021 Consolidated Appropriations Act (P.L. 117-103 and P.L. 116-260) enabling NASA to utilize up to \$1 million from the Safety, Security, and Mission Services (SSMS) appropriation for disbursement to the Challenger Center.

Accounts Receivable

Most of NASA's Accounts Receivable are for intragovernmental reimbursements for cost of goods and services provided to other Federal agencies; the rest are for debts to NASA by employees and non-Federal vendors. Allowances for delinquent non-Federal accounts receivable are based on factors such as: aging of accounts receivable, debtors' ability to pay, payment history, and other relevant factors. Delinquent non-Federal accounts receivable over 120 days are referred to Treasury for collection, wage garnishment or cross-servicing in accordance with the Debt Collection Improvement Act (DCIA), as amended. An allowance for uncollectible accounts is recorded for Accounts Receivable due from the public and Federal sector in order to reduce Accounts Receivable to its net realizable value in accordance with SFFAS No. 1, *Accounting for Selected Assets and Liabilities*.

General Property, Plant and Equipment (G-PP&E)

NASA reports depreciation and amortization expense using the straight-line method over an asset's estimated useful life, beginning with the month the asset is placed in service. G-PP&E are capitalized assets with acquisition costs of \$500,000 or more, a useful life of two years or more, and R&D assets that are determined at the time of acquisition to have alternative future use. Assets that do not meet these capitalization criteria are expensed. Capitalized costs include costs incurred by NASA to bring the property to a form and location suitable for its intended use. Certain NASA assets are held by Government contractors. Under provisions of the Federal Acquisition Regulation (FAR), the contractors are responsible for the control and accountability of the assets in their possession. These Government-owned, contractor-held assets are included within the balances reported in NASA's financial statements.



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NOTE 1:

SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

NASA has barter agreements with international entities; the assets and services received under these barter agreements are unique, with limited easement to only a few countries, as these assets are on the International Space Station (ISS). The intergovernmental agreements state that the parties will seek to minimize the exchange of funds in the cooperative program, including the use of barter to provide goods and services. NASA has received some assets from these parties in exchange for future services. The fair value is indeterminable; therefore, no value was ascribed to these transactions in accordance with FASB ASC 845-10-25, *Non-Monetary Transactions – Recognition*, and ASC 845-10-50, *Non-Monetary Transactions – Disclosure*.

Statement of Federal Financial Accounting Standards (SFFAS) No. 10, *Accounting for Internal Use Software*, requires the capitalization of internally developed, contractor developed, and commercial off-the-shelf software. Capitalized costs for internally developed software include the full costs (direct and indirect) incurred during the software development stage only. For purchased software, capitalized costs include amounts paid to vendors for the software and other material costs incurred by NASA to implement and make the software ready for use through acceptance testing. NASA capitalizes costs for internal use software when the total projected cost is \$1 million or more, and the expected useful life of the software is two years or more.

Liabilities Covered by Budgetary Resources

As a component of a sovereign entity, NASA cannot pay for liabilities unless authorized by law and covered by budgetary resources. Liabilities Covered by Budgetary Resources are those for which appropriated funds are available as of the balance sheet date. Budgetary resources include: new budget authority, unobligated balances of budgetary resources at the beginning of the year or net transfers of prior year balances during the year, spending authority from offsetting collections (credited to an appropriation or fund account), and recoveries of unexpired budget authority through downward adjustments of prior year obligations.

Liabilities Not Covered by Budgetary Resources

Liabilities Not Covered by Budgetary Resources include future environmental cleanup liability, legal claims, other retirement benefits, workers' compensation, annual leave, and payables related to canceled appropriations. Liabilities not covered by budgetary resources require future congressional action whereas liabilities covered by budgetary resources reflect prior congressional action. Liabilities that do not require the use of budgetary resources are covered by monetary assets that are not budgetary resources to the entity.

Federal Employee Benefits Payable

A liability is recorded for workers' compensation claims related to the Federal Employees' Compensation Act (FECA), administered by the U.S. Department of Labor. The FECA provides income and medical cost protection to covered Federal civilian employees injured on the job, employees who have incurred a work-related occupational disease, and beneficiaries of employees whose death is attributable to a job-related injury or occupational disease. The FECA program initially pays valid claims and subsequently seeks reimbursement from the Federal agencies employing the claimants. The FECA liability includes the actuarial liability for estimated future costs of death benefits, workers' compensation, medical and miscellaneous costs for approved compensation cases.

Personnel Compensation and Benefits

Annual, Sick and Other Leave

Annual leave is accrued as it is earned; the accrual is reduced as leave is taken. Each year, the balance in the accrued annual leave account is adjusted to reflect current pay rates. To the extent current or prior year appropriations are not available to fund annual leave earned but not taken, funding will be obtained from future financing sources. Sick leave and other types of non-vested leave are expensed as taken.



1

NOTE 1:

SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Retirement Benefits

NASA employees participate in the Civil Service Retirement System (CSRS), a defined benefit plan, or the Federal Employees Retirement System (FERS), a defined benefit and contribution plan. For CSRS employees, NASA makes contributions of 7.0 percent of gross pay. For FERS employees, NASA makes contributions to the defined benefit plan of 16.0 percent of gross pay. For employees hired January 1, 2013, and after, NASA contributes 14.2 percent of gross pay. The Agency also contributes 1.0 percent to a thrift savings plan (contribution plan) for each employee and matches employee contributions to this plan up to an additional 4.0 percent of gross pay.

Insurance Benefits

SFFAS No. 5, *Accounting for Liabilities of the Federal Government*, requires Government agencies to report the full cost of Federal Employee Health Benefits (FEHB) and the Federal Employees Group Life Insurance (FEGLI) Programs. NASA uses the applicable cost factors and data provided by the Office of Personnel Management (OPM) to value these liabilities.

Public-Private Partnerships

Federal Accounting Standards Advisory Board (FASAB) Statement of Federal Financial Accounting Standards (SFFAS) No. 49 requires agencies to assess and disclose public-private partnerships (P3) involving risk-sharing or limited protections and unequitable long-term benefit/costs characteristics greater than 5 years. Although NASA did not provide a P3 disclosure for FY 2021 or prior, NASA is providing a disclosure related to leases and energy savings contracts for year-end September 30, 2022, and a narrative with insight into those activities that are often referred to as P3s. [See Note 18](#)

Reclassification of FY 2022 Information

Certain reclassifications have been made to FY 2022 financial statements, notes, and supplemental information to better align with the Agency's policies and procedures effective in FY 2022 and in accordance with the Treasury Financial Manual and OMB Circular A-136.

Subsequent Events

Subsequent events have been evaluated per guidance in OMB Circular A-136 for FY 2022. The auditors' report date is the date the financial statements are available to be issued and management determined that there are no other items to disclose related to NASA's FY 2022 financial statements.

2 NOTE 2: FUND BALANCE WITH TREASURY

The status of Fund Balance with Treasury (FBWT) represents the total fund balance recorded in the general ledger for unobligated and obligated balances. Unobligated balances — available is the amount remaining in appropriated funds available for obligation. Unobligated balances — unavailable is primarily comprised of amounts remaining in appropriated funds used only for adjustments to previously recorded obligations. Obligated balance not yet disbursed is the cumulative amount of obligations incurred for which outlays have not been made. Non-Budgetary FBWT is comprised of amounts in non-appropriated funds.

(In Millions)	2022	2021
Status of Fund Balance with Treasury:		
Unobligated Balances		
Available	\$ 2,351	\$ 2,491
Unavailable	293	167
Obligated Balance Not Yet Disbursed	14,482	13,215
Non-Budgetary FBWT	30	26
Total	\$ 17,156	\$ 15,899

3 NOTE 3: INVESTMENTS

Investments consist of non-marketable par value intragovernmental securities issued by the Treasury's Bureau of the Fiscal Service. Trust fund balances are invested in Treasury securities, which are purchased at either a premium or discount and redeemed at par value exclusively through Treasury's Federal Investment Branch. The effective-interest method is used to amortize the premium on the bond, and the straight-line method is used to amortize discounts on bills.

Interest receivable on investments was zero in FY 2022 and FY 2021. In addition, NASA did not have any adjustments resulting from the sale of securities prior to maturity or any change in value that was more than temporary.

2022							
(In Millions)	Cost	Amortization Method	Amortized (Premium) Discount	Interest Receivable	Investments, Net	Other Adjustments	Market Value Disclosure
Intragovernmental Securities:		Straight-Line Effective-Interest					
Non-Marketable: Par value	\$ 15	0.741 - 3.413%	\$ —	\$ —	\$ 15	\$ —	\$ 15
Total	\$ 15		\$ —	\$ —	\$ 15	\$ —	\$ 15

2021							
(In Millions)	Cost	Amortization Method	Amortized (Premium) Discount	Interest Receivable	Investments, Net	Other Adjustments	Market Value Disclosure
Intragovernmental Securities:		Straight-Line Effective-Interest					
Non-Marketable: Par value	\$ 16	0.055 - 0.065%	\$ —	\$ —	\$ 16	\$ —	\$ 16
Total	\$ 16		\$ —	\$ —	\$ 16	\$ —	\$ 16

4 NOTE 4: ACCOUNTS RECEIVABLE, NET

The Accounts Receivable balance represents net valid claims by NASA to cash or other assets of other entities. Intragovernmental Accounts Receivable represents reimbursements due from other Federal entities for goods and services provided by NASA on a reimbursable basis. Accounts Receivable due from the public is the total of miscellaneous debts owed to NASA from employees and/or smaller reimbursements from other non-Federal entities. A periodic evaluation of accounts receivable is performed to estimate any uncollectible amounts based on current status, financial and other relevant characteristics of debtors, and the overall relationship with the debtor. An allowance for uncollectible accounts is recorded for Accounts Receivable due from the public and Federal sector to reduce Accounts Receivable to its net realizable value in accordance with SFFAS No. 1, *Accounting for Selected Assets and Liabilities*. The total allowance for uncollectible accounts during FY 2022 and FY 2021 is less than one-half million dollars.

2022				2021			
(In Millions)	Accounts Receivable	Allowance for Uncollectible Accounts	Net Amount Due	(In Millions)	Accounts Receivable	Allowance for Uncollectible Accounts	Net Amount Due
Intragovernmental	\$ 57	\$ —	\$ 57	Intragovernmental	\$ 90	\$ —	\$ 90
Public	1	—	1	Public	1	—	1
Total	\$ 58	\$ —	\$ 58	Total	\$ 91	\$ —	\$ 91

5 NOTE 5: GENERAL PROPERTY, PLANT AND EQUIPMENT, NET

There are no known restrictions to the use or convertibility of NASA G-PP&E. The composition of NASA G-PP&E as of September 30, 2022 and 2021 is presented in the table below. Information concerning deferred maintenance and repairs and estimated land acreage is discussed in unaudited required supplementary information.

2022					
(In Millions)	Depreciation Method	Estimated Useful Life	Cost	Accumulated Depreciation	Book Value
General PP&E					
Structures, Facilities and Leasehold Improvements	Straight-Line	15-40 Years	\$ 12,129	\$ (9,104)	\$ 3,025
Equipment	Straight-Line	5-20 Years	16,464	(15,316)	1,148
Work In Progress - Personal Property	N/A	N/A	2,620	—	2,620
Construction In Progress - Real Property	N/A	N/A	722	—	722
Internal Use Software	Straight-Line	5 Years	253	(249)	4
Land	N/A	N/A	124	—	124
Total			\$ 32,312	\$ (24,669)	\$ 7,643



NOTE 5:

GENERAL PROPERTY, PLANT AND EQUIPMENT, NET (CONTINUED)

2021					
(In Millions)	Depreciation Method	Estimated Useful Life	Cost	Accumulated Depreciation	Book Value
General PP&E					
Structures, Facilities and Leasehold Improvements	Straight-Line	15-40 Years	\$ 12,017	\$ (8,812)	\$ 3,205
Equipment	Straight-Line	5-20 Years	16,504	(15,161)	1,343
Work In Progress — Personal Property	N/A	N/A	1,695	—	1,695
Construction In Progress — Real Property	N/A	N/A	608	—	608
Internal Use Software	Straight-Line	5 Years	253	(246)	7
Land	N/A	N/A	124	—	124
Total			\$ 31,201	\$ (24,219)	\$ 6,982

The following table presents the changes in total PP&E and accumulated depreciation from October 1, 2021 to September 30, 2022 and October 1, 2020 to September 30, 2021.

Net PP&E		
(In Millions)	2022	2021
Balance Beginning of Year	\$ 6,982	\$ 6,195
Capitalized acquisitions	1,305	1,418
Disposition	(73)	(101)
Transfers in/out w/o reimbursement	(3)	—
Depreciation expense	(568)	(544)
Donations	—	14
Balance End of Year	\$ 7,643	\$ 6,982

6 NOTE 6: STEWARDSHIP PP&E

Federal agencies are required to classify and report heritage assets, multi-use heritage assets, and stewardship land in accordance with SFFAS No. 29, *Heritage Assets and Stewardship Land*. Stewardship PP&E have physical characteristics similar to those of G-PP&E, but differ from G-PP&E because their value is more intrinsic and not easily determinable in dollars. The only type of stewardship PP&E owned by NASA are heritage assets.

Heritage assets are PP&E that possess one or more of the following characteristics:

- Historical or natural significance;
- Cultural, educational, or artistic (e.g., aesthetic importance); and
- Significant architectural characteristics.

There is no minimum dollar threshold for designating PP&E as a heritage asset, and depreciation expense is not taken on these assets. For these reasons, heritage assets (other than multi-use heritage assets) are reported in physical units, rather than with assigned dollar values. In accordance with SFFAS No. 29, the cost of acquisition, improvement, reconstruction, or renovation of heritage assets is expensed in the period incurred.



NOTE 6:

STEWARDSHIP PP&E (CONTINUED)

Throughout the history of NASA’s operations, the Agency has become an owner of historic buildings, structures, historical artifacts, art, and other cultural resources. The protection and conservation of these heritage assets is an essential part of the Agency’s mission. NASA acquires such assets as a result of donation, or acquires the assets as a result of historically significant items being retired from active service and preserved by the Agency for historic purposes. When capitalized assets are identified as heritage assets and no longer predominately serve NASA’s primary operations, their values are removed from the PP&E accounts. Any maintenance costs incurred for the upkeep of the heritage assets are expensed in the period incurred.

Assets that have a heritage function and are used in NASA’s day-to-day operations are considered multi-use heritage assets. NASA’s multi-use heritage assets consist of items such as launch pads, research labs, and wind tunnels still in operational use. Such assets that meet the capitalization criteria are accounted for as G-PP&E and depreciated over their estimated useful life in the same manner as other G-PP&E. Multi-use heritage assets are presented at the individual item level. As of September 30, 2022 and 2021, the total number of NASA’s multi-use heritage assets were 509 and 523 respectively.

When a G-PP&E has no use in operations, but is designated as a heritage asset, its cost and accumulated depreciation are reclassified and removed from the G-PP&E asset accounts. Such assets remain on the record as heritage assets, except where there is legal authority for transfer or sale at which time they are removed from the heritage asset record. Heritage assets are withdrawn when they are disposed or reclassified as multi-use heritage assets. Heritage assets are generally in fair condition suitable for display.

SFFAS No. 29 provides agencies with considerations for defining individual physical heritage assets units as a collection, or a group of assets, where appropriate. NASA has reviewed and categorized its heritage assets into collection-type and non-collection-type assets. NASA’s collection-type heritage assets include Air and Space Displays and Artifacts, and Art as described in the following paragraphs.

- Air and Space Displays and Artifacts collections are classified based on the physical custody of the asset. There are two collections: NASA-held and Contractor-held. Each collection is composed of assorted mementos of historic NASA events. Examples include items from previous missions that have historical significance to NASA and historic mission control artifacts that possess educational value and enhance the public’s understanding of NASA’s numerous programs.
- Art collection includes artwork inspired by the U.S. Aerospace program, as well as historical books, documents, and other library materials that document NASA’s history. This collection is comprised of items created by artists who have contributed their time and talent to record their impressions of the history of the U.S. Aerospace Program through paintings, drawings, written form, and other media. These works of art not only provide a historic record of NASA projects, but they also support NASA’s mission by giving the public a new and more comprehensive understanding of advancements in aerospace.

NASA’s non-collection-type heritage assets include historic buildings, bunkers, towers, test stands, and properties that are listed or eligible to be listed on the National Register of Historic Places and National Historic Landmarks, and other resources.

- Non-collection-type heritage assets were established by locations for specific reasons and to pursue a variety of goals. Each is home to specific areas of expertise and support different elements of NASA’s missions, taking on a unique identity. They provide the public with tangible examples of assets with historical significance or educational importance to NASA programs and missions at each location.

Total physical units, along with the additions and withdrawals for the fiscal year ended September 30, 2022 and 2021 for NASA’s heritage assets are displayed in the table right:

Heritage Assets (In Physical Units)	2021	Additions	Withdrawals	2022
Collection-type				
Air and Space Displays and Artifacts	2	—	—	2
Art	1	—	—	1
Non-Collection-type				
NASA Locations	9	—	—	9
Total Heritage Assets	12	—	—	12

7 NOTE 7: OTHER ASSETS

NASA's Other Assets consists of G-PP&E that NASA determined are no longer needed and are awaiting disposal, retirement, or removal from service. The G-PP&E Other Assets are recorded at estimated net realizable value. Other Assets at the end of the period totaled \$4 million as of September 30, 2022 and \$5 million as of September 30, 2021.

(In Millions)	2022	2021
With the Public		
G-PP&E – Removed from Service and Pending Disposal	\$ 4	\$ 5
Total Other Assets	\$ 4	\$ 5

8 NOTE 8: LIABILITIES NOT COVERED BY BUDGETARY RESOURCES

Liabilities Not Covered by Budgetary Resources include future environmental cleanup liability, legal claims, other retirement benefits, workers' compensation, annual leave, and payables related to canceled appropriations. Liabilities not covered by budgetary resources require future congressional action whereas liabilities covered by budgetary resources reflect prior congressional action. Liabilities that do not require the use of budgetary resources are covered by monetary assets that are not budgetary resources to the entity.

The present value of the FECA actuarial liability estimate at year-end was calculated by the Department of Labor using a discount rate of 2.12 percent in FY 2022 and 2.23 percent in FY 2021. This liability includes the estimated future costs for claims incurred but not reported (IBNR) or approved as of the end of each year. NASA has recorded accounts payable related to canceled appropriations for which there are contractual commitments to pay. These payables will be funded from appropriations available for obligation at the time a bill is processed, in accordance with P.L. 101-510, National Defense Authorization Act.

(In Millions)	2022	2021
Intragovernmental Liabilities:		
Accounts Payable	\$ 55	\$ 166
Advances From Others and Deferred Revenue	50	55
Other	138	50
Total Intragovernmental	\$ 243	\$ 271
Accounts Payable	1,840	1,747
Federal Employee Benefits Payable	300	320
Environmental and Disposal Liabilities	2,130	2,127
Less: Environmental and Disposal Liabilities - Funded	(125)	(118)
Advances from Others and Deferred Revenues	155	148
Other Accrued Liabilities	1,931	1,823
Other Liabilities	93	222
Total Liabilities Not Covered by Budgetary Resources	2,635	2,463
Total Liabilities Covered by Budgetary Resources	4,031	4,173
Total Liabilities Not Requiring Budgetary Resources	26	22
Total Liabilities	\$ 6,692	\$ 6,658

9 NOTE 9: ENVIRONMENTAL AND DISPOSAL LIABILITIES

In accordance with guidance issued by FASAB, if an agency is required by Federal, state, and local statutes and regulation to clean up hazardous waste resulting from Federal operations, the amount of cleanup cost, if estimable, must be reported and/or disclosed in the financial statements.

The statutes and regulations most applicable to NASA environmental reporting, clean-up, and monitoring liabilities include: the Comprehensive Environmental Response, Compensation and Liability Act; the Resource Conservation and Recovery Act; the Nuclear Waste Policy Act of 1982; and applicable state and local laws.

NASA assesses the likelihood of required cleanup as probable (more likely than not to occur), reasonably possible (more than remote but less than probable), or remote (slight chance of occurring). If the likelihood of required cleanup is probable and the cost can be reasonably estimated, a liability is recorded in the financial statements. If the likelihood of required cleanup is reasonably possible, the estimated cost of cleanup is disclosed in the notes to the financial statements. If the likelihood of required cleanup is remote, no liability or estimate is recorded or disclosed.

Environmental and Disposal Liabilities Represent Cleanup Costs Resulting From:

- Operations, including facilities obtained from other governmental entities, that have resulted in contamination from waste disposal methods, leaks and spills;
- Other past activity that created a public health or environmental risk, including identifiable costs associated with asbestos abatement; and
- Total cleanup costs associated with the removal, containment, and/or disposal of hazardous wastes or material and/or property at permanent or temporary closure or shutdown of associated PP&E.

Environment and disposal liabilities as of September 30, 2022 and 2021 were as follows:

(In Millions)	2022	2021
Environmental Liabilities		
Restoration Projects	\$ 1,882	\$ 1,893
Asbestos	197	182
End of Life Disposal of Property, Plant and Equipment	51	52
Total Environmental and Disposal Liabilities	\$ 2,130	\$ 2,127

Restoration Projects

NASA recorded a total estimated liability for known restoration projects of \$1.882 billion in FY 2022. This was a decrease of \$11 million from \$1.893 billion recorded in FY 2021. The decrease in this liability is primarily due to the availability of new or updated information on the extent of contamination and refinements to the estimation methodology. The liability for each restoration project is estimated for a duration of no more than 30 years, except where required by state statutes, regulations, or an agreement.

In addition to the probable cleanup costs for known hazardous conditions recognized in the financial statements, there are other remediation sites where the likelihood of required cleanup for known hazardous conditions is reasonably possible. Remediation costs at certain sites classified as reasonably possible were estimated to be \$11 million for FY 2022 and \$12 million for FY 2021.



NOTE 9:

ENVIRONMENTAL AND DISPOSAL LIABILITIES (CONTINUED)

With respect to environmental remediation that NASA considers probable or reasonably possible but not estimable, NASA concluded that either the likelihood of a NASA liability is less than probable but more than remote, or the regulatory drivers and/or technical data that exist are not reliable enough to calculate an estimate.

Asbestos

NASA maintains numerous structures and facilities across each of its Centers that are known to contain asbestos. In accordance with FASAB Technical Bulletin 2006-1, *Recognition and Measurement of Asbestos Related Cleanup Costs*, NASA and other Federal entities are required to recognize a liability for probable asbestos cleanup costs. FASAB Technical Release 10, *Implementation Guidance on Asbestos Cleanup Costs Associated with Facilities and Installed Equipment*, allows for an extrapolation of asbestos cleanup cost estimates for similar properties to develop an Agency-wide cleanup estimate. NASA uses actual costs incurred to clean up asbestos in NASA structures and facilities that were recently demolished or fully renovated to estimate the asbestos liability. Agency-wide asbestos cleanup cost factors were developed for both structures and facilities measured in square feet and for those not measured in square feet. These cost factors were then extrapolated across applicable NASA structures and facilities. The asbestos cleanup cost liability of \$197 million in FY 2022 represents an increase of \$15 million compared to the \$182 million recorded in FY 2021.

End of Life Disposal of Property, Plant and Equipment

Consistent with SFFAS No. 5, *Accounting for Liabilities of the Federal Government* and with SFFAS No. 6, *Accounting for Property, Plant, and Equipment*, NASA estimates the anticipated environmental disposal cleanup costs for PP&E. NASA recognizes and records in its financial statements an environmental cleanup liability for end-of-life disposal of PP&E that is probable and measurable.

NASA recorded a total estimated liability for the end-of-life disposal of PP&E of \$51 million in FY 2022. This was a decrease of \$1 million over the \$52 million recorded in FY 2021. This estimate includes both facilities with permits that require cleanup and an estimate for all remaining PP&E. As described in the following paragraphs, this estimate also considers end-of-life disposal costs for assets in space, including the ISS and satellites.

The current proposed decommissioning approach for the ISS is to execute a controlled targeted deorbit to a remote ocean location. This is consistent with the approach used to deorbit other space vehicles (e.g., Russia's Progress, Europe's Automated Transfer Vehicle (ATV) and Japan's H-II Transfer Vehicle (HTV)). The documented target reliability for this decommissioning approach is 99 percent. Prior to decommissioning the ISS, any hazardous materials on board the ISS would be removed or jettisoned. As a result, only residual quantities of hazardous, toxic, and radioactive materials would remain prior to the decommissioning.

Based on past experience with the re-entry of satellites, larger portions or fragments of the ISS would be expected to survive the thermal and aerodynamic stresses of reentry. However, the historical disposal of satellites and vehicles into broad ocean areas with a controlled deorbit has left little evidence of their re-entry. Any remaining contamination in the ISS debris field would not be expected to have a substantive impact on marine life. Therefore, the probability of NASA incurring environmental cleanup costs related to the ISS is remote and no estimate for such costs has been developed or reported in these financial statements.

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NOTE 10:
OTHER LIABILITIES

Intragovernmental Other Liabilities primarily represent accrued cost estimates for goods and services performed by Federal trading partners, and Advances from Others relates to agreements for services between NASA and Federal trading partners for reimbursable services performed.

Other Liabilities with public entities primarily represents unfunded annual leave and funded sick leave that have been earned but not taken by NASA employees, and Advances from Others primarily consists of payments received from non-Federal entities in advance of NASA's performance of services under reimbursable agreements.

Other Accrued Liabilities primarily consist of the accrual of contractor costs with related budgetary obligations for goods and services performed. The period of performance for contractor contracts typically spans the duration of NASA programs, which could be for a number of years prior to final delivery of the product. In such cases, NASA records a cost accrual throughout the fiscal year as the work is performed. Other Accrued Liabilities also include the accrual of IBNR grant program costs incurred without related budgetary obligations in support of NASA's research and development and other related activities.

(In Millions)	2022			2021		
	Current	Non-Current	Total	Current	Non-Current	Total
Intragovernmental						
Employer Contributions and Payroll Taxes Payable	\$ 50	\$ —	\$ 50	\$ 44	\$ —	\$ 44
Other Liabilities With Related Budgetary Obligations	82	—	82	—	—	—
Other Post-Employment Benefits Due and Payable	5	1	6	5	1	6
Total Intragovernmental	\$ 137	\$ 1	\$ 138	\$ 49	\$ 1	\$ 50
With the Public						
Other Accrued Liabilities	1,931	—	1,931	1,823	—	1,823
Other Liabilities						
Accrued Funded Payroll and Leave	13	—	13	128	—	128
Liability for Non-Fiduciary Deposit Funds and Undeposited Collections	26	—	26	22	—	22
Contingent Liabilities	—	—	—	16	—	16
Other Liabilities Without Related Budgetary Obligations	54	—	54	56	—	56
Total With the Public	\$ 2,024	\$ —	\$ 2,024	\$ 2,045	\$ —	\$ 2,045
Total Other Liabilities	\$ 2,161	\$ 1	\$ 2,162	\$ 2,094	\$ 1	\$ 2,095

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NOTE 11:

COMMITMENTS AND CONTINGENCIES

NASA is a party in various administrative proceedings, court actions (including tort suits), and claims. For cases in which management and legal counsel believe it is probable that the outcomes will result in a loss to NASA, contingent liabilities are recorded. There are certain cases where the likelihood of loss is deemed reasonably possible. A contingent liability is not required to be recorded for these cases; however, the estimated range of loss is disclosed below.

Additionally, there are cases reviewed by legal counsel where the likelihood of loss is deemed remote. A contingent liability is not required to be recorded or disclosed for these cases.

(In Millions)	2022			2021		
	Accrued Liabilities	Estimated Range of Loss		Accrued Liabilities	Estimated Range of Loss	
		Lower End	Upper End		Lower End	Upper End
Legal Contingencies:						
Probable	\$ —	\$ —	\$ —	\$ 16	\$ —	\$ —
Reasonably Possible		\$ 25	\$ 36		\$ —	\$ 16

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NOTE 12:

EXPLANATION OF DIFFERENCES BETWEEN THE SBR AND THE BUDGET OF THE U.S. GOVERNMENT

The FY 2024 Budget of the United States Government (President’s Budget), which presents the actual amounts for the year ended September 30, 2022, has not been published as of the issue date of these financial statements. The FY 2024 Budget of the United States Government will be published on a later date at <https://www.whitehouse.gov/omb/budget>.

NASA reconciled the amounts of the FY 2021 column on the Statement of Budgetary Resources (SBR) to the actual amounts for FY 2021 in the FY 2023 President’s Budget for budgetary resources, new obligations, upward adjustments (total), distributed offsetting receipts, and net outlays as presented below.

(In Millions)	Budgetary Resources	New Obligations & Upward Adjustments (Total)	Distributed Offsetting Receipts	Net Outlays
Combined Statement of Budgetary Resources	\$ 27,897	\$ 25,239	\$ (4)	\$ 22,253
Included on SBR, not in President’s Budget				
Expired Accounts	(146)	(23)	—	—
Distributed Offsetting Receipts	—	—	4	—
Budget of the United States Government	\$ 27,751	\$ 25,216	\$ —	\$ 22,253

The difference between the SBR and the President’s Budget represents expired accounts and distributed offsetting receipts reported on the SBR but not in the President’s Budget.

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NOTE 13:
UNDELIVERED ORDERS AT
THE END OF THE PERIOD

Undelivered Orders represent the amount of goods and/or services ordered to perform NASA's mission objectives, which have not been received. Undelivered Orders at the end of the period totaled \$12.3 billion as of September 30, 2022 and \$11.3 billion as of September 30, 2021.

(In Millions)	2022	2021
Federal		
Unpaid	\$ 690	\$ 730
Paid	133	200
Total	823	930
Nonfederal		
Unpaid	\$ 11,490	\$ 10,326
Paid	28	10
Total	11,518	10,336
Total Undelivered Orders	\$ 12,341	\$ 11,266

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NOTE 14:
RECONCILIATION OF NET COST TO NET OUTLAYS

Budgetary accounting is used for planning and control purposes and relates to both the receipt and use of cash, as well as reporting the Federal deficit. Financial accounting is intended to provide a picture of the Government's financial operations and financial position on an accrual basis. The accrual basis includes information about costs arising from the consumption of assets and the incurrence of liabilities. The reconciliation of net outlays is presented on a budgetary basis, and the net cost is presented on an accrual basis, which provides an explanation of the relationship between budgetary and financial accounting information. The reconciliation serves not only to identify costs in the past and those paid in the future, but also to assure integrity between budgetary and financial accounting. The analysis below illustrates this reconciliation by listing the key differences between net cost and net outlays.

2022			
(In Millions)	Intragovernmental	With the Public	Total
Net Cost	\$ 273	\$ 22,366	\$ 22,639
Components of Net Cost Not Part of the Budgetary Outlays			
Property, plant, and equipment depreciation expense	—	(568)	(568)
Property, plant, and equipment disposals and revaluations	—	(74)	(74)
Applied overhead/cost capitalization offset	—	1,305	1,305
Donations	—	—	—
Gains/Losses on all other investments	—	(1)	(1)
Increase/(Decrease) in Assets:			
Accounts receivable, net	(34)	—	(34)
Other assets	(58)	9	(49)
(Increase)/Decrease in Liabilities:			
Accounts payable	49	(93)	(44)
Environmental and disposal liabilities	—	(3)	(3)
Federal employee benefits payable	—	20	20
Other Liabilities	38	16	54
Financing Sources:			
Imputed Cost	(165)	—	(165)
Total Components of Net Cost Not Part of the Budgetary Outlays	(170)	611	441
Components of the Budgetary Outlays Not Part of Net Cost:			
Financing Sources:			
Donated Revenue	—	(2)	(2)
Transfers out (in) without reimbursements	3	—	3
Total Components of the Budgetary Outlays Not Part of Net Cost	3	(2)	1
Misc Items			
Distributed offsetting receipts (SBR 4200)	(3)	—	(3)
Custodial/Non-exchange revenue	—	—	—
Other Temporary Timing Differences	(3)	2	(1)
Appropriated Receipts for Trust/Special Funds	2	—	2
Total Other Reconciling Items	(4)	2	(2)
Total Net Outlays (Calculated Total)	\$ 102	\$ 22,977	\$ 23,079
Budgetary Agency Outlays, net (SBR 4210)			\$ 23,079



NOTE 14:

RECONCILIATION OF NET COST TO NET OUTLAYS (CONTINUED)

2021			
(In Millions)	Intragovernmental	With the Public	Total
Net Cost	\$ 138	\$ 21,864	\$ 22,002
Components of Net Cost Not Part of the Budgetary Outlays			
Property, plant, and equipment depreciation expense	—	(544)	(544)
Property, plant, and equipment disposals and revaluations	—	(101)	(101)
Applied overhead/cost capitalization offset	—	1,418	1,418
Donations	—	14	14
Increase/(Decrease) in Assets:			
Accounts receivable, net	(19)	—	(19)
Other assets	15	15	30
(Increase)/Decrease in Liabilities:			
Accounts payable	17	(456)	(439)
Environmental and disposal liabilities	—	46	46
Federal employee benefits payable	—	(6)	(6)
Other Liabilities	(11)	32	21
Financing Sources:			
Imputed Cost	(156)	—	(156)
Total Components of Net Cost Not Part of the Budgetary Outlays	(154)	418	264
Misc Items			
Distributed offsetting receipts (SBR 4200)	(4)	—	(4)
Custodial/Non-exchange revenue	—	(18)	(18)
Non-Entity Activity	4	—	4
Appropriated Receipts for Trust/Special Funds	1	—	1
Total Other Reconciling Items	1	(18)	(17)
Total Net Outlays (Calculated Total)	\$ (15)	\$ 22,264	\$ 22,249
Budgetary Agency Outlays, net (SBR 4210)			\$ 22,249

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NOTE 15:

DISCLOSURE ENTITY

The Jet Propulsion Laboratory (JPL) is a NASA-owned facility which serves as a Federally Funded Research and Development Center (FFRDC). The facility commenced activities in the mid-1930s and at that time was sponsored by the U.S. Army to develop rocket technology and missile systems.

The California Institute of Technology (Caltech), a private, not-for-profit 501(c)(3) university, manages JPL pursuant to a sole-source, five-year, Federal Acquisition Regulation (FAR)-based contract with NASA. The value of NASA's Caltech contract for FY 2022 was \$3 billion. Under this contract, NASA issues task orders to Caltech for various research programs and projects conducted at JPL. The contract is subject to the usual FAR-based Federal contract oversight and reporting requirements. Caltech has managed JPL as a NASA FFRDC since 1959.

Caltech and NASA's relationship at JPL is governed by the terms and conditions of their contract which does not give NASA responsibility for or insight into Caltech's business objectives or operations at JPL. JPL staff is comprised of Caltech employees and contractors, while NASA has a resident office at the facility staffed by Federal managers who administer the NASA/Caltech contract. The physical plant and equipment used to conduct operations under the contract are Government furnished property and material, made available to Caltech for the performance of its contract with NASA, and includes contractor-acquired property. The work performed by JPL for NASA is funded by NASA as part of one or more of NASA's major programs and supports NASA's missions and programs. Every year, JPL issues a review of its accomplishments. JPL's Annual Reports are found at [JPL Annual Reports \(nasa.gov\)](https://www.nasa.gov/jpl-annual-reports).

NASA has the unilateral authority to establish or amend the fundamental purpose and mission of activities at its JPL FFRDC. NASA's contract with Caltech reflects and incorporates NASA's authority into its terms and conditions. NASA also has the unilateral authority to orderly phase down and close its FFRDC and thus, the NASA contract with Caltech. As such, the contract terms allow NASA to close the FFRDC, transfer sponsorship of the FFRDC to another sponsor (Federal agency), transition the FFRDC to another contractor (e.g., another University), or renew the contract. In the event of a termination of its contract with Caltech for the management of JPL, JPL would only receive costs that NASA deems allowable, allocable, and reasonable under the contract's terms.

16 NOTE 16: RECLASSIFICATION OF FINANCIAL STATEMENT LINE ITEMS FOR FINANCIAL REPORT COMPILATION PROCESS

To prepare the Financial Report of the U.S. Government (FR), the Department of the Treasury requires agencies to submit an adjusted trial balance, which is a listing of amounts by U.S. Standard General Ledger account that appear in the financial statements. Treasury uses the trial balance information reported in the Government-wide Treasury Account Symbol Adjusted Trial Balance System (GTAS) to develop a Reclassified Statement of Net Cost and a Reclassified Statement of Changes in Net Position. Treasury eliminates intragovernmental balances from the reclassified statements and aggregates lines with the same title to develop the FR statements. This note shows the Agency’s financial statements and the Agency’s reclassified statements prior to elimination of intragovernmental balances and prior to aggregation of repeated FR line items. A copy of the 2021 FR can be found here: [Bureau of the Fiscal Service - Reports, Statements & Publications \(treasury.gov\)](https://www.treasury.gov/budget/analytical-reports/budget-reports/2021-fr) and a copy of the 2022 FR will be posted to this site as soon as it is released.

The term “intragovernmental” is used in this note to refer to amounts that result from other components of the Federal Government.

The term “non-Federal” is used in this note to refer to Federal Government amounts that result from transactions with non-Federal entities. These include transactions with individuals, businesses, non-profit entities, and State, local, and foreign governments. The Agency does not have funds from dedicated collections.

FY 2022 NASA Statement of Net Cost		Line Items Used to Prepare FY 2022 Government-wide Statement of Net Cost	
Financial Statement Line	Amounts (In Millions)	Amounts (In Millions)	Reclassified Financial Statement Line
Gross Costs	24,211		Gross Cost
		22,640	Non-Federal Gross Cost
		22,640	Total Non-Federal Gross Cost
			Federal Gross Cost
		606	Benefit Program Costs
		165	Imputed Costs
		630	Buy/Sell Costs
		170	Other Expenses (without reciprocals)
		1,571	Total Federal Gross Cost
Total Gross Costs	24,211	24,211	Department Total Gross Cost
Earned Revenue	1,572		Earned Revenue
		274	Non-Federal Earned Revenue
			Federal Earned Revenue
		1,298	Buy/Sell Revenue (Exchange)
	1,298	Total Federal Earned Revenue	
Total Earned Revenue	1,572	1,572	Department Total Earned Revenue
Net Cost	22,639	22,639	Net Cost of Operations



NOTE 16:

RECLASSIFICATION OF FINANCIAL STATEMENT LINE ITEMS FOR FINANCIAL REPORT COMPILATION PROCESS (CONTINUED)

FY 2022 NASA Statement of Changes in Net Position		Line Items Used to Prepare FY 2022 Government-wide Statement of Changes in Net Position	
Financial Statement Line	Amounts (In Millions)	Amounts (In Millions)	Reclassified Financial Statement Line
Unexpended Appropriations			
Beginning Balance	11,822	11,822	Net Position, Beginning of Period
Appropriations Received	24,363	24,333	Appropriations Received as Adjusted
Other Adjustments	(30)		
Appropriations Used	(23,204)	(23,204)	Appropriations Used
Net Change in Unexpended Appropriations	1,129	1,129	
Total Unexpended Appropriations	12,951	12,951	
Cumulative Results from Operations			
Beginning Balance	4,529	4,529	Net Position, Beginning of Period
Appropriations Used	23,204	23,204	Appropriations Expended
Donations and Forfeitures of Cash and Cash Equivalents	2	5	Other Taxes and Receipts
		(3)	Non-Entity Collections Transferred to the General Fund of the U.S. Government
Transfers In/Out Without Reimbursement	(3)	(3)	Transfers-out Without Reimbursement
Imputed Financing	165	165	Imputed Financing Sources
Net Cost of Operations	(22,639)	(22,639)	Net Cost of Operations
Net Change in Cumulative Results of Operations	729	729	
Total Cumulative Results of Operations	5,258	5,258	
Net Position	18,209	18,209	Net Position, End of Period

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NOTE 17:
COVID-19 ACTIVITY

NASA received \$60 million in FY 2020, provided for in its Safety, Security, and Mission Services appropriation to prevent, prepare for, and respond to the coronavirus domestically or internationally. That appropriation was funded by the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) (P.L. No. 116-136), Emergency (DEF Code N). There was no additional funding provided. In FY 2020, \$40 million was obligated and \$14 million disbursed. In FY 2021, \$20 million was obligated and \$38 million was disbursed. As of FY 2021, all funding was fully obligated. In FY 2022, a downward adjustment of \$1 million occurred and the remaining \$7 million was disbursed.

COVID-19 Activity Funded by DEF Code N (In Millions)	FY 2022	FY 2021
Budgetary Resources: Unobligated (and unexpired) Balance Carried Forward from PY	\$ —	\$ 20
New Budget Authority (+)	—	—
Recission(-)/Other Changes (+/-) to Budgetary Resources	—	—
Budgetary Resources Obligated (-)	(1)	20
Budgetary Resources: Unobligated (and unexpired) Balance to be Carried Forward	—	—
Outlays, Net (Total)	\$ 7	\$ 38

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NOTE 18:

PUBLIC-PRIVATE PARTNERSHIPS (P3)

NASA engages in various relationships with private entities in furtherance of NASA's Mission and Strategic Goals and describes many of these relationships as "public-private partnerships." The terminology is used informally to describe working relationships between NASA, its contractors, and industry partners rather than used to describe a financial benefit or risk sharing relationship as set forth in the criteria and characteristics of SFFAS No. 49. Many of these relationships cover Science, Technology, Engineering, and Mathematics (STEM) activities; research and development; technology transfer; commercialization of space capabilities and operations; and other mission projects, but do not otherwise meet SFFAS No. 49 requirements.

While these relationships support education, innovation, research, and economic growth to further the Nation's space program and other missions, NASA also collaborates with private entities for commercial space capabilities in accordance with the National Space Policy of the United States (the latest iteration of which was issued December 9, 2020)¹. The National Space Policy establishes principles and goals for the Nation's Space Programs. One such principle provides for "A robust, innovative, and competitive commercial space sector is the source of continued progress and sustained United States leadership in space" and states that "The United States remains committed to encouraging and facilitating the continued growth of a domestic commercial space sector that is globally competitive, supports national interests, and advances United States leadership in the generation of new markets and innovation driven entrepreneurship." Under this principle and related goal to "promote and incentivize private industry to facilitate the creation of new global and domestic markets for United States space goods and services, and strengthen and preserve the position of the United States as the global partner of choice for international space commerce," NASA has pursued collaborations for commercial space capabilities for human and cargo transportation providers, commercialization of other low earth orbit activities, and for sustainability of the International Space Station (ISS) National Lab, to name a few.

NASA utilizes its organic authorization, 51 U.S.C. § 20101 et seq., and other authorities, along with its procurement contract authority (as promulgated in regulation via the Federal Acquisition Regulation (FAR) and NASA FAR Supplement (NFS) requirements) to execute agreement instruments with its partners. These relationships may be initiated and established through various outreach methods, such as a NASA announcement of collaboration opportunity (ACO), request for proposal (RFP), request for information (RFI), other competitive announcement, or direct contact by a partner. The authorities and regulations have allowed NASA to enable the development of U.S. commercial space transportation capabilities, and by way of these mechanisms, NASA has established safe, reliable, and cost-effective access to space with the commercial space sector. For the initial partnership arrangements, NASA provided expertise and funding to enable the development and advancement of integrated space capabilities. After the initial arrangement milestones were verified and certified, NASA awarded FAR based service contracts with FAR/NFS clauses, such as, limitation of funds, liability, and termination, to protect NASA. Pursuant to the terms and conditions set forth in these contracts, the contractor's liability for loss or damage to Government property during performance of contract activities is limited for commercial space transportation. NASA does not consider these types of arrangements to meet the criteria and characteristics for P3 disclosure as there is no demonstrated shared risk and reward nor a NASA commitment to guarantee success.

Leveraging this model, NASA has also awarded FAR based firm fixed price contracts (FFP) under a competitive broad area announcement (BAA) procurement entitled "Next Space Technologies for Exploration Partnerships" (NextSTEP). NextSTEP is a competitive acquisition that seeks to meet NASA needs via commercial development of deep space exploration capabilities to support more extensive human spaceflight missions in and beyond cislunar space—the space, near Earth, that extends just beyond the Moon. The capabilities developed under these contracts include components in support of the Human Landing Systems (HLS), Gateway, and development of other deep space exploration technologies to support extensive human spaceflight missions. In the Offeror's proposals, they identified corporate contributions that were evaluated as part of the awarded contracts. NASA does not have a requirement to repay the corporate contributions and does not guarantee contractor financing

¹ <https://trumpwhitehouse.archives.gov/wp-content/uploads/2020/12/National-Space-Policy.pdf>



NOTE 18:

PUBLIC-PRIVATE PARTNERSHIPS (P3) (CONTINUED)

under the terms and conditions in the contracts. NASA has also made Government resources available under these contracts to support contract development activities through Government task agreements (GTAs), but this activity is optional. Although contractors may elect to use a GTA, fulfillment of the contract is not predicated on government resources being provided. The contracts contain FAR clauses to protect NASA's interests including limitation of funds, termination, and liability. Similar to the above arrangements, NASA does not consider these to meet the criteria and characteristics for P3 disclosure.

Although the above arrangements do not warrant disclosure, two categories are being displayed: energy savings performance/utility energy service contracts and leases. NASA has awarded energy savings performance contracts (ESPCs) and utility energy service contracts (UESC) under National Energy Conservation Policy Act (42 U.S.C. § 8287), as amended, and Energy Policy Act of 1992, P.L. 102-486 (codified as 42 U.S.C. § 8256) to reduce energy, water and/or related operating costs and to assist agencies with upgrading aging infrastructure, systems, and equipment. These contracts do not require up-front capital costs or special appropriations from Congress and are repaid over time to the provider. Further information and detail are provided below in item A.

NASA has executed real estate arrangements as part of commercialization of space initiatives and research and development. Solicitations are used to identify a potential partner's interest for NASA facilities or land that are non-excess but underutilized by the Agency, which may be used to further NASA's mission. Arrangements for facility or land use are executed outlining responsibilities and terms and conditions. The leases are generally executed under our enhanced use lease authority (51 U.S.C. § 20145), or National Historic Preservation Act (54 U.S.C. § 306121) and are for land or facilities that are non-excess but underutilized. Further information and details are provided below in item B.

A. ENERGY SAVINGS PERFORMANCE CONTRACTS (ESPCs) AND UTILITY ENERGY SERVICE CONTRACTS (UESCs)

NASA has entered into ESPCs and UESCs to procure energy savings and facility improvements. These contracts do not require up-front capital costs or special appropriations from Congress and by statute, cannot exceed 25 years. Under these contracts, NASA retains the additional cost savings and receives title to installed goods, equipment, and improvements.

Federal agencies are authorized to enter into ESPCs under the National Energy Conservation Policy Act (42 U.S.C. § 8287), as amended. An ESPC is a partnership between an agency and an energy service company (ESCO) to reduce energy, water and/or related operating costs and to assist agencies with upgrading aging infrastructure, systems, and equipment. Upon conducting a comprehensive audit, the ESCO designs and constructs a project that meets the Agency's needs and arranges financing to pay for the project. The ESCO guarantees that the improvements will generate sufficient energy cost savings to pay for the project over the term of the contract. NASA currently has ESPC's with an expected life based on contract terms of 16 to 24 years expected life and payment period. NASA funds the contract and pays the contractor directly, except in two instances where payment is made to a third-party who has been designated responsibility for contract administration over the contract term.

Authorized by the Energy Policy Act of 1992, P.L. 102-486 (codified as 42 U.S.C. § 8256), UESC is a limited-source contract between a Federal agency and its serving utility for energy and water-efficiency improvements and demand-reduction services, allowing Federal agencies to pay for the services over time, either on their utility bill or through a separate agreement. NASA currently has UESC's with an expected life based on contract terms of 14 to 17 years expected life and payment period. NASA funds the contracts and pays the contractor directly.

Under OMB Memorandum M-98-13 and M-12-21, ESPC and UESC repayments can be funded on an annual basis. ESPCs



NOTE 18:

PUBLIC-PRIVATE PARTNERSHIPS (P3) (CONTINUED)

and UESCs can be terminated for convenience in part or in full. In the event of termination, NASA may be responsible for outstanding loan balances and early termination or payment fees. Measurement and verification of energy savings is required under ESPCs and UESCs. The benefits of ESPCs and UESCs include:

- Infrastructure improvements that pay for themselves over time; and,
- Ability to install longer payback energy and water conservation measures by bundling savings.

B. LEASES

Public-Private Partnerships Agreements/Contracts (In Millions)	FY 2022		
	Actual Amount Paid in FY	Estimated Amount to be Paid in Future Years	Estimated Cumulative Amount to be Paid Over Expected Life of Arrangement
ESPC	\$ 13	\$ 218	\$ 302
UESC	6	51	87
Total	\$ 19	\$ 269	\$ 389

Note: NASA did not have a disclosure in FY 2021; as a result, Prior Years are not applicable.

NASA’s Enhance Use Lease (EUL) and National Historic Preservation Act (NHPA) program allows NASA to manage non-excess, underutilized property through leasing arrangements to private sector organizations. Title 51 U.S.C. § 20145, Lease of Non-Excess Property, authorizes NASA to lease real property under NASA’s control or jurisdiction to other public and private entities on a long-term basis in return for cash consideration at fair market value. NASA’s previous EUL authority expired on December 31, 2021, and was extended until December 31, 2022, through passage of the Omnibus Bill under HR 2471-1065, and was most recently extended until December 31, 2032, under P.L. 117-80, effective August 9, 2022. NASA’s previous EUL authority under 42 U.S.C. § 2459j (2007) permitted in-kind consideration. A few of NASA’s leases executed under the previous EUL authority included in-kind consideration that was negotiated as part of the terms and conditions of the arrangements. Title 54 U.S.C. § 306121 (P.L. 89-665 October 15, 1966), Lease or Exchange (NHPA), authorizes Federal agencies to lease historic property owned by the agency to any person or organization or exchange its property with comparable historic property, if determined that the lease or exchange will adequately ensure the preservation of the historic property.

NASA’s EUL and NHPA leases serve to provide space to third parties on NASA land or within a NASA Facility. NASA’s EUL and NHPA leases range from 5 to 72 years expected life, i.e., base term of the lease and amendments plus extensions that can be reasonably anticipated, and represent the period in which receipts are expected to be received directly from the partner. NASA’s EUL and NHPA leases include waivers of liability, tenant insurance requirements, and tenant environmental responsibilities to protect NASA’s interest and mitigate potential risk of loss.

Benefits to NASA from the EUL and NHPA program include:

- Revenue in the form of lease payments; and
- Cost savings, (i.e., operations and maintenance associated with the leased assets that would normally be paid by NASA under normal operations)



NOTE 18:

PUBLIC-PRIVATE PARTNERSHIPS (P3) (CONTINUED)

Under the EUL and NHPA program, NASA does not:

- Allow its underlying interest in the land or properties to be used as security for financing a project;
- Provide any kind of guarantee for the purpose of private-party financing; or,
- Allow for payment from NASA to the partner.

NASA will only pursue termination of an EUL or NHPA prior to the end of the lease term in the event of default, noncompliance, nonperformance by the lessee, or for reasons of force majeure or act of Congress. When termination does occur, NASA does not owe or pay any fees, costs, expenses or penalties, and the lessee bears all risk. Upon termination, NASA would assume responsibility for operations and maintenance of the leasehold or divestment through normal program and budget planning processes. In most cases, the tenants are required to remove any additions or improvements and return the leasehold to its original state unless otherwise agreed to under the terms of the arrangement. A few of NASA's long-term leases provide for transfer of constructed assets to NASA or a third-party entity upon termination. Under these leases NASA would assume responsibility for operations and maintenance, divestment, or establishment of a new lease based on the current need of the assets at the time of termination. Based on the current state of these arrangements, NASA does not anticipate that this would be likely in the near future and does not consider this to be any more than a remote risk of loss.

NASA's leases that include in-kind consideration provided by the tenant were negotiated into the terms and conditions of the lease. In accordance with the specified lease terms, NASA may assume responsibility for operations of infrastructure improvements provided by the tenant under normal program and budget planning processes, may seek an alternative tenant, or may request the leased property be returned to its original state.

NASA has identified a limited number of leases where development by the tenant on the leasehold could impact Center infrastructure and operations such as water, sewer, maintenance, or security operations based on increased capacity. NASA would negotiate any potential impacts with the tenant. NASA currently has a lease that requires additional Center infrastructure capacity based on the original terms of the lease; however, the lease is in transition phase and tenant development on the leasehold has not started. NASA is researching alternative options to mitigate potential risk.

Public-Private Partnerships Agreements/Contracts (In Millions)	FY 2022			
	Actual Amount Received in FY	Estimated Amount to be Received in Future Years	Estimated Cumulative Amount Over Expected Life of Arrangement	Estimated Cumulative in Kind Consideration
EUL	\$ 11	\$ 754	\$ 841	\$ 27
NHPA	16	1,059	1,160	—
Total	\$ 27	\$ 1,813	\$ 2,001	\$ 27

Note: NASA did not have a disclosure in FY 2021; as a result, Prior Years are not applicable.

REQUIRED SUPPLEMENTARY INFORMATION
Combining Statements of Budgetary Resources
For the Fiscal Year Ended September 30, 2022

(In Millions)	Space Operations Mission	Science Mission	Exploration Mission	Aeronautics Mission	Safety, Security and Mission Services	STEM Engagement Mission
Budgetary Resources:						
Unobligated Balance from Prior Year Budget Authority, Net	\$ 426	\$ 957	\$ 216	\$ 27	\$ 813	\$ 12
Appropriations	3,975	7,611	6,903	881	3,021	137
Spending Authority from Offsetting Collections	—	—	—	—	1,457	—
Total Budgetary Resources	\$ 4,401	\$ 8,568	\$ 7,119	\$ 908	\$ 5,291	\$ 149
Status of Budgetary Resources:						
New Obligations and Upward Adjustments (Total)	\$ 4,158	\$ 7,811	\$ 6,883	\$ 874	\$ 4,388	\$ 132
Unobligated Balance, End of Year:						
Apportioned, Unexpired Accounts	161	718	136	31	898	12
Exempt from Apportionment, Unexpired Accounts	—	—	—	—	—	—
Unapportioned, Unexpired Accounts	21	—	87	—	—	—
Unexpired Unobligated Balance, End of Year	182	718	223	31	898	12
Expired Unobligated Balance, End of Year	60	38	12	3	6	4
Unobligated Balance, End of Year (Total)	242	757	235	34	903	16
Total Budgetary Resources	\$ 4,400	\$ 8,568	\$ 7,118	\$ 908	\$ 5,291	\$ 148
Outlays, Net:						
Outlays, Net (Total)	\$ 3,858	\$ 7,173	\$ 6,488	\$ 882	\$ 2,885	\$ 122
Distributed Offsetting Receipts (-)	—	—	—	—	—	—
Agency Outlays, Net	\$ 3,858	\$ 7,173	\$ 6,488	\$ 882	\$ 2,885	\$ 122

(CONTINUED)

(In Millions)	Office of Inspector General	Space Technology Mission	Construction and Environmental Compliance and Restoration	Other	Total
Budgetary Resources:					
Unobligated Balance from Prior Year Budget Authority, Net	\$ 4	\$ 42	\$ 378	\$ 80	\$ 2,955
Appropriations	45	1,100	690	2	24,365
Spending Authority from Offsetting Collections	1	-	20	401	1,879
Total Budgetary Resources	\$ 50	\$ 1,142	\$ 1,088	\$ 483	\$ 29,199
Status of Budgetary Resources:					
New Obligations and Upward Adjustments (Total)	\$ 45	\$ 1,111	\$ 725	\$ 428	\$ 26,555
Unobligated Balance, End of Year:					
Apportioned, Unexpired Accounts	2	24	324	42	2,348
Exempt from Apportionment, Unexpired Accounts	—	—	—	3	3
Unapportioned, Unexpired Accounts	—	—	36	1	145
Unexpired Unobligated Balance, End of Year	2	24	360	46	2,496
Expired Unobligated Balance, End of Year	4	7	4	10	148
Unobligated Balance, End of Year (Total)	6	31	364	56	2,644
Total Budgetary Resources	\$ 51	\$ 1,142	\$ 1,089	\$ 484	\$ 29,199
Outlays, Net:					
Outlays, Net (Total)	\$ 46	\$ 1,144	\$ 425	\$ 59	\$ 23,082
Distributed Offsetting Receipts (-)	—	—	—	(3)	(3)
Agency Outlays, Net	\$ 46	\$ 1,144	\$ 425	\$ 56	\$ 23,079



REQUIRED SUPPLEMENTARY INFORMATION
Combining Statements of Budgetary Resources
For the Fiscal Year Ended September 30, 2021

(In Millions)	Space Operations Mission	Science Mission	Exploration Mission	Aeronautics Mission	Safety, Security and Mission Services	STEM Engagement Mission
Budgetary Resources:						
Unobligated Balance from Prior Year Budget Authority, Net	\$ 289	\$ 703	\$ 252	\$ 38	\$ 998	\$ 13
Appropriations	3,987	7,297	6,512	829	2,936	127
Spending Authority from Offsetting Collections	—	—	—	—	1,328	—
Total Budgetary Resources	\$ 4,276	\$ 8,000	\$ 6,764	\$ 867	\$ 5,262	\$ 140
Status of Budgetary Resources:						
New Obligations and Upward Adjustments (Total)	\$ 3,926	\$ 7,105	\$ 6,591	\$ 845	\$ 4,497	\$ 129
Unobligated Balance, End of Year:						
Apportioned, Unexpired Accounts	272	875	143	20	762	7
Exempt from Apportionment	—	—	—	—	—	—
Unapportioned, Unexpired Accounts	18	—	18	—	—	—
Unexpired Unobligated Balance, End of Year	290	875	161	20	762	7
Expired Unobligated Balance, End of Year	60	19	12	2	4	3
Unobligated Balance, End of Year (Total)	350	894	173	22	766	10
Total Status of Budgetary Resources	\$ 4,276	\$ 7,999	\$ 6,764	\$ 867	\$ 5,263	\$ 139
Outlays, Net:						
Outlays, Net (Total)	\$ 3,902	\$ 6,767	\$ 6,229	\$ 763	\$ 3,024	\$ 118
Distributed Offsetting Receipts (-)	—	—	—	—	—	—
Agency Outlays, Net	\$ 3,902	\$ 6,767	\$ 6,229	\$ 763	\$ 3,024	\$ 118

(CONTINUED)

(In Millions)	Office of Inspector General	Space Technology Mission	Construction and Environmental Compliance and Restoration	Other	Total
Budgetary Resources:					
Unobligated Balance from Prior Year Budget Authority, Net	\$ 3	\$ 109	\$ 305	\$ 40	\$ 2,750
Appropriations	44	1,100	439	1	23,272
Spending Authority from Offsetting Collections	1	-	21	525	1,875
Total Budgetary Resources	\$ 48	\$ 1,209	\$ 765	\$ 566	\$ 27,897
Status of Budgetary Resources:					
New Obligations and Upward Adjustments (Total)	\$ 44	\$ 1,175	\$ 426	\$ 501	\$ 25,239
Unobligated Balance, End of Year:					
Apportioned, Unexpired Accounts	2	27	327	55	2,490
Exempt from Apportionment	—	—	—	1	1
Unapportioned, Unexpired Accounts	—	—	8	—	44
Unexpired Unobligated Balance, End of Year	2	27	335	56	2,535
Expired Unobligated Balance, End of Year	2	7	4	10	123
Unobligated Balance, End of Year (Total)	4	34	339	66	2,658
Total Status of Budgetary Resources	\$ 48	\$ 1,209	\$ 765	\$ 567	\$ 27,897
Outlays, Net:					
Outlays, Net (Total)	\$ 41	\$ 1,067	\$ 376	\$ (34)	\$ 22,253
Distributed Offsetting Receipts (-)	—	—	—	(4)	(4)
Agency Outlays, Net	\$ 41	\$ 1,067	\$ 376	\$ (38)	\$ 22,249

REQUIRED SUPPLEMENTARY INFORMATION

Deferred Maintenance and Repairs for FY 2022

Federal agencies are required to report information related to the estimated cost to remedy deferred maintenance of property, plant and equipment as required supplementary information in accordance with SFFAS No. 42, *Deferred Maintenance and Repairs*.

Maintenance and repairs (M&R) are activities directed toward keeping fixed assets in an acceptable condition. Activities include preventive maintenance; replacement of parts, systems, or components; and other activities needed to preserve or maintain the asset. M&R, as distinguished from capital improvements, excludes activities directed toward expanding the capacity of an asset or otherwise upgrading it to serve needs different from, or significantly greater than, its current use. Deferred maintenance and repairs (DM&R) are M&R activities that were not performed when they should have been or were scheduled to be and which, therefore, are put off or delayed for a future period. DM&R reporting enables NASA to be accountable to citizens for the proper administration and stewardship of its assets. Specifically, DM&R reporting assists users by providing an entity's realistic estimate of DM&R amounts and the effectiveness of asset maintenance practices the entities employ in fulfilling their missions.

Facilities, Buildings, and Other Structures

It is NASA's policy to ensure that NASA-owned and operated assets are properly aligned with the NASA mission and are safe, environmentally sound, affordable, the right type and size, and in acceptable operating condition. NASA's facilities are maintained in the most cost effective fashion to minimize risk to processes and products, protect the safety and health of personnel and the environment, protect and preserve capabilities and capital investments, provide quality work places for NASA employees, and enable the Agency's mission. Estimates reported herein include DM&R for all facilities on-site or off-site that are owned, leased, occupied, or used by NASA (NASA Programs or Contractors) including heritage assets without regard to capitalization thresholds or depreciation status. NASA does not assess DM&R on general land parcels.

Equipment

Pursuant to the cost/benefit considerations provided in SFFAS No. 6 and SFFAS No. 42, NASA has determined that it is not cost beneficial to report DM&R on personal property (capital equipment).

Defining and Implementing M&R Policies

NASA uses a Deferred Maintenance parametric estimating method (DM method) in order to conduct a consistent condition assessment of its facilities, buildings and other structures (including heritage assets). This method measures NASA's current real property asset condition and documents the extent of real property deterioration. The DM method produces both a cost estimate of DM&R, and a Facility Condition Index (FCI). Both measures are indicators of the overall condition of NASA's facilities. The facilities condition assessment methodology involves an independent, rapid visual assessment of nine different systems within each facility to include: structure, roof, exterior, interior finishes, heating, ventilating and air conditioning (HVAC) systems, electrical, plumbing, conveyance, and program support equipment (PSE). The DM method is designed for application to a large population of facilities; results are not necessarily applicable for individual facilities or small populations of facilities.

Ranking and Prioritizing M&R Activities

NASA typically prioritizes the M&R activities for health, safety, life safety, fire detection and protection, and environmental requirements. NASA also prioritizes the M&R projects with an emphasis on mission critical facilities, followed by mission support, then Center support. The evaluation of the facility conditions by building type indicates that NASA continues to focus M&R activities on direct mission-related facilities and infrastructure.

Factors Considered in Determining Acceptable Condition Standards

NASA applies industry accepted codes and standards or equipment manufacturer's recommendations to all facilities related work. The standard of condition depends on the intended use, the mission criticality, utilization or health and safety aspects of that use.



REQUIRED SUPPLEMENTARY INFORMATION

Deferred Maintenance and Repairs for FY 2022 (CONTINUED)

Changes from Prior Year

As of September 30, 2022, \$3,013 million of DM&R was estimated to be required to return real property assets to an acceptable operating condition. This is an overall increase of \$245 million from \$2,768 million as of September 30, 2021. The increase in the DM&R estimate can be attributed to various reasons; including changes to deterioration of facilities due to natural disasters, damage from testing to PSE in high-value assets (HVA), normal inflation increases in Current Replacement Value (CRV) of assets and high-value infrastructure assets as upgrades progress, and demolition of assets and the reduction of their DM&R.

NASA has adjusted the methodology of performing facility assessments and DM&R calculations to introduce a higher level of accuracy into our DM&R reporting. NASA’s methodology has introduced detailed facility condition assessments in combination with the current parametric estimating methodology to calculate the asset portfolio DM&R. In the past, NASA performed DM assessment on Real Property Assets in a two-year cycle. This assessment was performed in a week for all Centers except Kennedy Space Center (KSC), which required two weeks. The new methodology aligns NASA with industry standards in that a full Facility Condition Assessment is being performed every five years for assets with CRV greater than \$500,000 that will provide a more accurate DM&R value and will provide a redefined FCI and CRV based on current construction/renovation/repair rates. This adjusted methodology is now performed on a five-year cycle, and FY 2022 is the first year of the initial transitional five-year cycle. The balance of Agency assets not surveyed in that particular cycle year will be parametrically escalated and adjusted based on the findings of the next FCA on that site.

(In Millions)	2022	2021
Asset Category		
General PP&E – Real Property	\$ 2,956	\$ 2,713
Heritage Assets – Real Property	57	55
Total Deferred Maintenance and Repairs	\$ 3,013	\$ 2,768

REQUIRED SUPPLEMENTARY INFORMATION

Government Land

NASA reports information regarding General PP&E land, stewardship land, and permanent land rights as required supplemental information in accordance with SFFAS No. 59, *Accounting and Reporting of Government Land*.

NASA owns and manages various land, aiding in the Agency’s mission of exploration and continued innovation for advancing space-, air-, and Earth-based activities. NASA categorizes land it owns into three main use categories:

- **Operational:** Land predominantly used for general, administrative, day-to-day operations and mission support purposes. Assets such as NASA office buildings, manufacturing plants, and research and development labs are located on operational land.
- **Conservation and Preservation:** Land predominantly used to support conservation or preservation purposes, including conservation of natural resources and preserving significant cultural and historical resources associated with NASA’s mission. Assets such as monuments, parks, watershed and water resources, and educational and visitor information centers are located on such land.
- **Commercial:** Land predominantly used to generate income from commercial arrangements with the public sector. These include NASA land leased to commercial entities participating in co-location and other arrangements designed to support the NASA mission at reasonable market rates.

NASA’s land held for disposal includes land no longer needed for current or future NASA operations. The various methods of disposition include donation, sale, exchange, abandonment, or any combination thereof. NASA disposes of land in these instances in a prompt manner that minimizes continued care and handling costs while optimizing appropriate returns.

The Agency’s estimated land acreage identified by predominant use subcategory as of September 30, 2022, is as follows:

(In Acres)	Commercial	Conservation and Preservation	Operational	2022 Total Estimated Acreage
Estimated Acreage by Predominant Use Subcategory	4,042	100,747	29,898	134,687
Held for Disposal	175	451	—	626
End of Current Year	4,217	101,198	29,898	135,313

LETTER FROM THE INSPECTOR GENERAL ON AUDIT

**NASA OFFICE OF INSPECTOR GENERAL****OFFICE OF AUDITS**

SUITE 8U71, 300 E ST SW
WASHINGTON, D.C. 20546-0001

November 15, 2022

TO: Bill Nelson
Administrator

Margaret Vo Schaus
Chief Financial Officer

SUBJECT: *Audit of NASA's Fiscal Year 2022 Financial Statements*
(Report No. IG-23-003; Assignment No. A-22-08-00-FMD)

The Office of Inspector General contracted with the independent public accounting firm Ernst & Young LLP (EY) to audit NASA's fiscal year (FY) 2022 financial statements. EY performed the audit in accordance with the Government Accountability Office's (GAO) *Government Auditing Standards* and the Office of Management and Budget's Bulletin No. 22-01, *Audit Requirements for Federal Financial Statements*.

This audit resulted in a "clean" or unmodified opinion on NASA's FY 2022 financial statements (see Enclosure 1). An unmodified opinion means the financial statements present fairly, in all material respects, the financial position and results of NASA's operations in conformity with U.S. generally accepted accounting principles.

EY also reported on NASA's internal control over financial reporting and compliance with laws and regulations (see Enclosure 2). For FY 2022, EY reported no material weaknesses or significant deficiencies in internal control and identified no instances of significant noncompliance with applicable laws and regulations. Further, EY closed the previously reported significant deficiency related to NASA's evaluation of public-private partnerships for disclosure in the financial statements.

In our oversight of the contract, we reviewed EY's reports and related documentation and inquired of its representatives. Our review, as differentiated from an audit of the financial statements in accordance with GAO's *Government Auditing Standards*, was not intended to enable us to express, and we do not express, an opinion on NASA's financial statements; conclusions about the effectiveness of internal

control over financial reporting; or conclusions on compliance with certain laws and regulations, including but not limited to the Federal Financial Management Improvement Act of 1996. Rather, EY is responsible for the enclosed auditor’s reports dated November 15, 2022, and the conclusions expressed therein. However, our review disclosed no instances where EY did not comply, in all material respects, with GAO’s *Government Auditing Standards*.

We appreciate the courtesies extended to our team during the audit. Please contact Kimberly F. Benoit, Assistant Inspector General for Audits, at 202-358-0378 or kimberly.f.benoit@nasa.gov if you have any questions about the enclosed report.



Paul K. Martin
Inspector General

Enclosures – 2

INDEPENDENT AUDITORS' REPORT



Ernst & Young LLP
1775 Tysons Blvd
Tysons, VA 22102

Tel: +1 703 747 1000
Fax: +1 703 747 0100
ey.com

Report of Independent Auditors

The Administrator and Inspector General of the National
Aeronautics and Space Administration

Report on the Financial Statements

Opinion

We have audited the financial statements of the National Aeronautics and Space Administration (NASA), which comprise the consolidated balance sheets as of September 30, 2022 and 2021, and the related consolidated statements of net cost and changes in net position and combined statements of budgetary resources for the years then ended, and the related notes (collectively referred to as the “financial statements”).

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of NASA at September 30, 2022 and 2021, and the results of its net cost of operations, its changes in net position and its budgetary resources for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS), in accordance with the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States (*Government Auditing Standards*), and in accordance with the provisions of Office of Management and Budget (OMB) Bulletin No. 22-01, *Audit Requirements for Federal Financial Statements*. Our responsibilities under those standards and the provisions of OMB Bulletin No. 22-01 are further described in the Auditor’s Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of NASA and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.



Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free of material misstatement, whether due to fraud or error.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free of material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* and the provisions of OMB Bulletin No. 22-01 will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards* and the provisions of OMB Bulletin No. 22-01, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of NASA's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.



We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis on pages 7 through 43 and Required Supplementary Information on pages 75 through 79 of NASA's Agency Financial Report, be presented to supplement the financial statements. Such information is the responsibility of management and, although not a part of the financial statements, is required by the Federal Accounting Standards Advisory Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Management is responsible for the other information included in the annual report. The other information, as identified on NASA's Agency Financial Report's Table of Contents, does not include the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.



Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated November 15, 2022, on our consideration of NASA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of NASA's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering NASA's internal control over financial reporting and compliance.

Ernst + Young LLP

November 15, 2022



Ernst & Young LLP Tel: +1 703 747 1000
 1775 Tysons Blvd Fax: +1 703 747 0100
 Tysons, VA 22102 ey.com

Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

The Administrator and the Inspector General of the National Aeronautics and Space Administration

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States (*Government Auditing Standards*) and Office of Management and Budget (OMB) Bulletin No. 22-01, the financial statements of the National Aeronautics and Space Administration (NASA), which comprise the consolidated balance sheet as of September 30, 2022, and the related consolidated statements of net cost and changes in net position, and combined statement of budgetary resources for the fiscal year then ended, and the related notes to the financial statements, and have issued our report thereon dated November 15, 2022.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered NASA's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of NASA's internal control. Accordingly, we do not express an opinion on the effectiveness of NASA's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements, on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.



Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that were not identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether NASA's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the financial statements, as well as the requirements referred to in the Federal Financial Management Improvement Act of 1996 (FFMIA). However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards* and OMB Bulletin No. 22-01.

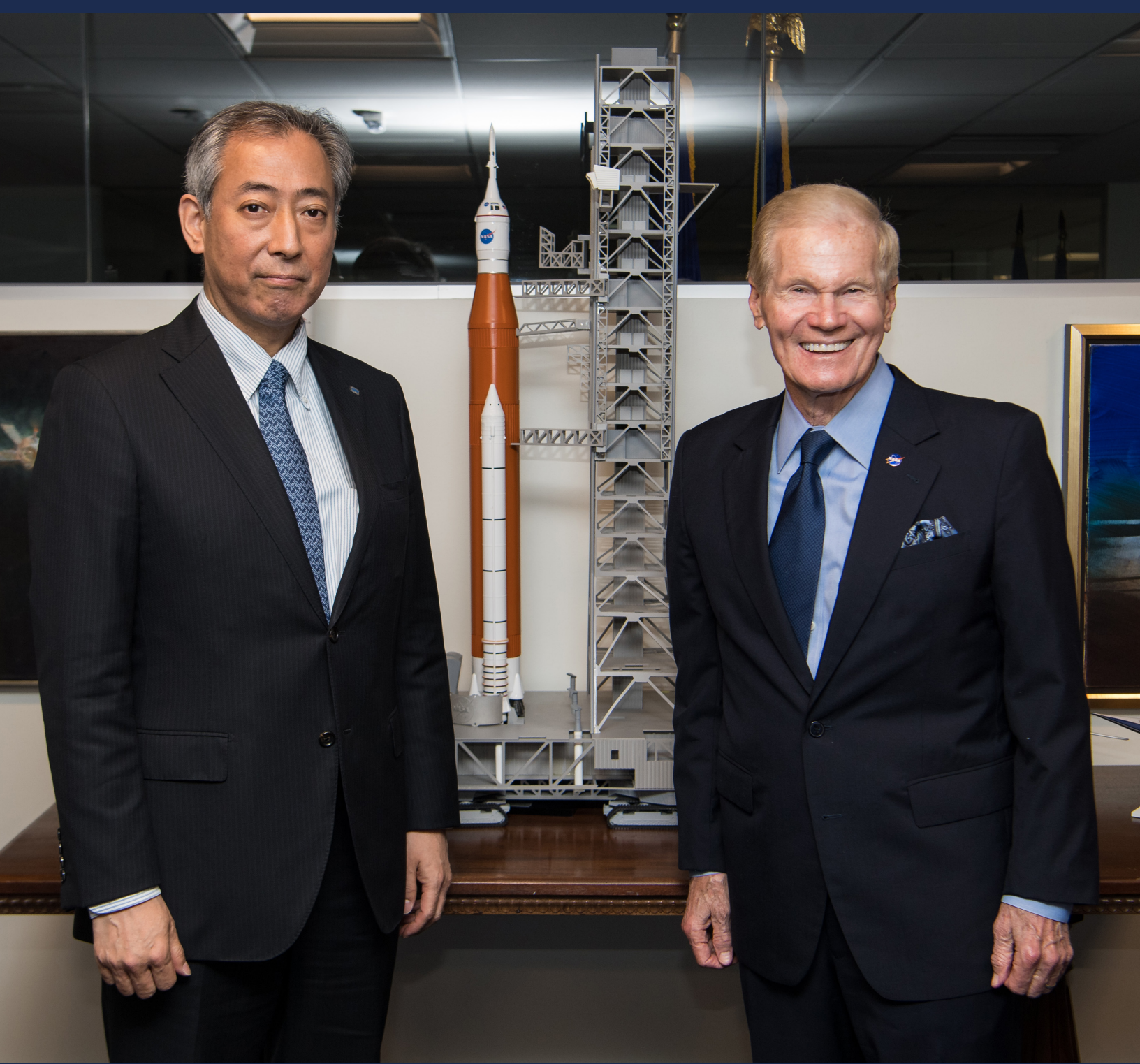
Under FFMIA, we are required to report whether NASA's financial management systems substantially comply with federal financial management systems requirements, applicable federal accounting standards, and the United States Standard General Ledger at the transaction level. To meet this requirement, we performed tests of compliance with the three FFMIA Section 803(a) requirements. The results of our tests disclosed no instances in which NASA's financial management systems did not substantially comply with requirements as discussed above.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Ernst & Young LLP

November 15, 2022



SECTION 3

OTHER INFORMATION

President of the Japan Aerospace Exploration Agency (JAXA), Hiroshi Yamakawa, left, and NASA Administrator Bill Nelson, pose for a photo next to a model of the Space Launch System (SLS) during a meeting, Thursday, April 7, 2022, at NASA Headquarters in Washington, DC.

PHOTO CREDIT — NASA/Aubrey Gemignani

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SUMMARY OF FINANCIAL STATEMENT AUDIT AND MANAGEMENT ASSURANCES

The following tables summarize the Agency’s FY 2022 Financial Statement Audit and Management Assurances. Table 1 summarizes the status of prior year—FY 2021 material weaknesses identified, if any by the Financial Statement Auditor. Table 2 summarizes the status of prior year material weaknesses, if any identified by NASA Management.

1 TABLE 1 SUMMARY OF FINANCIAL STATEMENT AUDIT

Audit Opinion	Unmodified				
Restatement	No				
Material Weaknesses	Beginning Balance	New	Resolved	Consolidated	Ending Balance
None	0	0	0	0	0
Total Material Weaknesses	0	0	0	0	0

2 TABLE 2 SUMMARY OF MANAGEMENT ASSURANCES

Effectiveness of Internal Control over Financial Reporting (FMFIA 2)						
Statement of Assurance	Unmodified					
Material Weaknesses	Beginning Balance	New	Resolved	Consolidated	Reassessed	Ending Balance
None	0	0	0	0	0	0
Total Material Weaknesses	0	0	0	0	0	0

Effectiveness of Internal Control over Operations (FMFIA 2)						
Statement of Assurance	Unmodified					
Material Weaknesses	Beginning Balance	New	Resolved	Consolidated	Reassessed	Ending Balance
None	0	0	0	0	0	0
Total Material Weaknesses	0	0	0	0	0	0

Conformance with financial management system requirements (FMFIA 4)						
Statement of Assurance	Federal Systems conform, except for instances of non-conformance, or do not conform to financial management system requirements.					
Non-Conformances	Beginning Balance	New	Resolved	Consolidated	Reassessed	Ending Balance
None	0	0	0	0	0	0
Total Non-Conformances	0	0	0	0	0	0

Compliance with Federal Financial Management Improvement Act (FFMIA)		
	Agency	Auditor
Federal Financial Management System Requirements	No lack of compliance noted	No lack of compliance noted
Applicable Federal Accounting Standards	No lack of compliance noted	No lack of compliance noted
USSGL at Transaction Level	No lack of compliance noted	No lack of compliance noted

SUMMARY OF REPORTS



Queen Elizabeth II, Britain's longest-reigning monarch, died on Sept. 8, 2022 at age 96. Her reign spanned all of spaceflight, predating both Sputnik and Explorer 1.

As NASA joins the planet in marking her passing, we are moved by the curiosity The Queen showed our explorers over the years.

In this photo, Queen Elizabeth II greets employees on her walk from NASA's Goddard Space Flight Center mission control to a reception in the center's main auditorium, Tuesday, May 8, 2007, in Greenbelt, MD. Queen Elizabeth II and her husband, Prince Philip, Duke of Edinburgh, visited the NASA Goddard Space Flight Center as one of the last stops on their six-day United States visit.

PHOTO CREDIT — NASA/Bill Ingalls

PAYMENT INTEGRITY INFORMATION ACT (PIIA) REPORTING

Per OMB requirements each Executive Branch agency must complete an Annual Data Call. The Annual Data Call fulfills reporting requirements under the Payment Integrity Information Act of 2019 (Public Law (P.L.) 116-117) (PIIA) and provides the public with comprehensive improper payment data and information. NASA's response to the OMB Annual Data Call accomplishing PIIA reporting requirements can be found on www.PaymentAccuracy.gov.

NASA'S ANNUAL OIG AUDIT FOLLOW-UP ACTIVITY REPORT

Pursuant to the Inspector General Act of 1978 (P.L. 95-452), as amended, and codified at 5 U.S.C., Appendix, Section 5(b), the FY 2022 NASA's Annual OIG Audit Follow-up Activity Report is available online at: <https://www.nasa.gov/msd/audit-liaison>.

DID YOU KNOW

A Marine combat pilot, a mechanical engineer, and a first-time space flyer – just some of the ways to describe Nicole Mann, commander of NASA's next SpaceX Crew Dragon mission to the International Space Station. Hear her describe her California childhood, her path from Naval Academy to pilot to astronaut, and how she expects this mission to contribute to the evolution of human possibilities.



OIG REPORT ON NASA'S TOP MANAGEMENT AND PERFORMANCE CHALLENGES

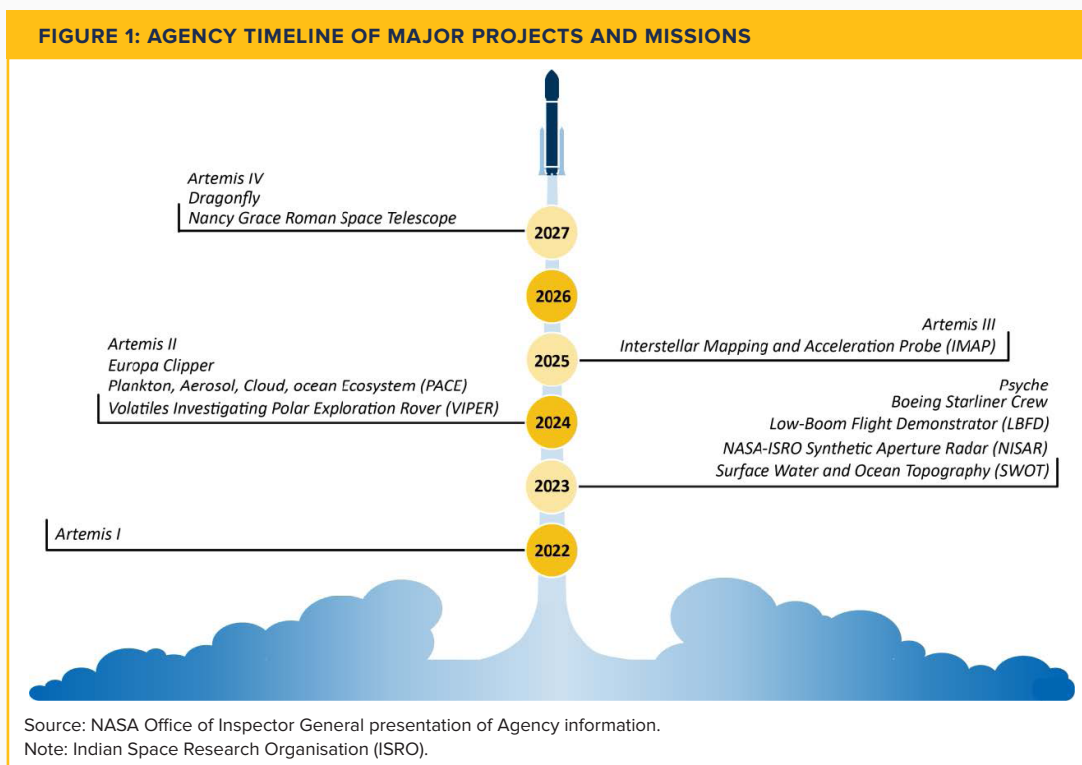
MESSAGE FROM THE INSPECTOR GENERAL

As required by the Reports Consolidation Act of 2000, this annual report presents the Office of Inspector General's independent assessment of the top management and performance challenges facing NASA¹. For 2022, we identified seven challenges and linked each to one or more of NASA's strategic goals and objectives².

- Challenge 1:** Returning Humans to the Moon
- Challenge 2:** Improving Management of Major Programs and Projects
- Challenge 3:** Sustaining a Human Presence in Low Earth Orbit
- Challenge 4:** Managing and Mitigating Cybersecurity Risks
- Challenge 5:** Improving Oversight of Contracts, Grants, and Cooperative Agreements
- Challenge 6:** Attracting and Retaining a Diverse and Highly Skilled Workforce
- Challenge 7:** Managing NASA's Outdated Infrastructure and Facilities

NASA stands at the forefront of aeronautics, science, and space exploration and is responsible for numerous scientific discoveries and technological innovations. Since its creation in 1958, NASA has made extraordinary achievements in human space flight with missions such as Apollo, the Space Shuttle Program, and the International Space Station. The Agency seeks to continue this legacy with the Artemis program, which intends to establish a long-term human presence on the Moon as a prelude to crewed missions to Mars.

However, substantial cost growth and lengthy schedule delays continue to impact not only human space flight programs like the Artemis mission's Space Launch System and Orion Multi-Purpose Crew Vehicle, but also other major science and exploratory programs, projects, and missions. In the next 5 years NASA anticipates launching 15 major projects and missions (see Figure 1).



¹The Reports Consolidation Act of 2000 (Pub. L. No. 106-531) requires NASA to include in its performance and accountability report a statement by the Inspector General summarizing the most significant management and performance challenges facing the Agency and the progress made in addressing them.

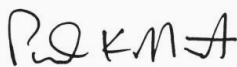
²NASA, [NASA Strategic Plan 2022](#) (February 12, 2022).

In addition, the International Space Station's planned retirement at the end of the decade poses a challenge for the Agency as it seeks to maintain an active human presence in low Earth orbit. To address this issue, NASA has increased funding for commercial development in low Earth orbit — including commercial space stations — and pursued public-private partnerships to achieve its goals for a continual human presence both in low Earth orbit and on the Moon. Apart from its high-profile human exploration activities, the Agency also faces long-standing challenges with cybersecurity, contracts, workforce gaps, and aging infrastructure and facilities. As the Agency moves forward with key decisions on its major programs, projects, and missions, addressing the challenges discussed in this report will be paramount to its success.

In deciding whether to identify an issue as a “top challenge,” we consider its significance in relation to NASA's overall mission; whether its underlying causes are systemic in nature; and its susceptibility to fraud, waste, and abuse. These seven highlighted challenges are not the only significant issues that confront NASA, and identification of an issue as a top challenge does not denote significant deficiencies or lack of attention on the Agency's part. Rather, most of these issues are long-standing, difficult challenges central to NASA's core missions and will likely remain top challenges for years to come. Consequently, they require consistent, focused attention from NASA leadership and ongoing engagement with Congress, the public, and other stakeholders. Each section in this report includes an explanation of why the particular issue is characterized as a top challenge, identifies NASA's progress in addressing the challenge, and highlights additional efforts needed.

This year's list includes many of the same challenges discussed in previous reports. However, we did not include the challenge related to COVID-19 added last year because of the strides made in treating the disease and NASA's significant actions to address the issue. Specifically, the Agency sought to prioritize the health and productivity of employees by implementing a new operational model that increased off-site telework for much of its workforce while instituting protocols that enabled a more limited number of personnel to work on-site safely. Despite the challenges of the pandemic, these efforts contributed to NASA's ability to pursue mission priorities and advance several large-scale projects, including the long-awaited launch of the James Webb Space Telescope.

The Office of Inspector General is committed to providing independent, objective, and comprehensive oversight of NASA programs, projects, and personnel with the singular goal of improving Agency outcomes. To that end, we plan to conduct audits and investigations in the coming year that focus on NASA's continuing efforts to address these and other challenges. The Office of Inspector General's 2022 report on the Agency's top management and performance challenges is available on our website at <https://oig.nasa.gov/challenges.html>.



Paul K. Martin
Inspector General

AGENCY RESPONSE TO OIG REPORT ON NASA'S TOP MANAGEMENT AND PERFORMANCE CHALLENGES

National Aeronautics and Space Administration

Office of the Administrator
Mary W. Jackson NASA Headquarters
Washington, DC 20546-0001



October 26, 2022

TO: Inspector General

FROM: Administrator

SUBJECT: Agency Response to Office of Inspector General Report, "2022 Report on NASA's Top Management and Performance Challenges"

The National Aeronautics and Space Administration (NASA) appreciates the opportunity to review and comment on the Office of Inspector General (OIG) report entitled, "2022 Report on NASA's Top Management and Performance Challenges," (Q-22-04-AOQA) issued October 3, 2022.

The audits and investigations conducted by your office provide NASA's leadership and management with valuable insight into NASA's broad portfolio of programs, projects, and mission support activities. The efforts expended by your office during this past year have supported the cause of maximizing the value of taxpayer investments in NASA's ambitious, wide-ranging, and challenging portfolio. As an Agency, we continue to address and remediate findings related to the audit recommendations issued by your office, including those cited in your 2022 Report on NASA's Top Management and Performance Challenges.

While we fundamentally agree that the seven areas outlined in your 2022 report constitute significant challenges for the Agency, we would like to highlight the following efforts that have been taken or are underway to address your office's recommendations. These efforts substantively demonstrate NASA's commitment to addressing the management and performance challenges identified by the OIG:

Challenge 1: Returning Humans to the Moon by 2024

NASA has made significant strides in our efforts to return humans to the moon through the Artemis campaign. This includes significant progress by the programs contributing systems and functionality to the Artemis Missions, and by the overall management and integration organizations overseeing this campaign. The Artemis Campaign Development and Common Exploration Systems Development divisions within the Exploration Systems Development Mission Directorate (ESDMD) continue to partner and refine the roles, responsibilities, and authorities for the management of the Artemis missions. The collaborative work has included the creation of: joint risk and schedule reviews, joint boards for controlling technical and programmatic processes, common working groups, and technical integration forums to ensure the coordination and interoperability of the multiple systems that are needed to make up each

Artemis Mission. NASA is also implementing established programmatic processes to set Agency Baseline Commitments for the Artemis programs that are going through their development efforts. Furthermore, ESDMD is working closely with the Space Operations Mission Directorate to implement a novel services-based contract structure, Exploration Production and Operations Contract, which will reduce long-term costs in NASA's human spaceflight programs.

A key focus of the Agency over the past year has been preparation for the launch of the Artemis I mission, and the collection of valuable lessons learned from the first-time operations flow of the Space Launch System (SLS) Block 1 variant/Mobile Launcher (ML) at Kennedy Space Center (KSC). As learned from the Shuttle Program, each Wet Dress Rehearsal and launch attempt provides an excellent opportunity to simulate real-time issues. Over the course of four Wet Dress Rehearsals, NASA met all primary and secondary test objectives, including, among others: demonstrating cryogenic load operations, activating Launch Complex 39 and the KSC Launch Control Center (LCC) for Day of Launch terminal countdown operations, validating LCC interfaces and procedures for roll-out and roll-back, and collecting data on Orion, SLS, and ML launch configuration loads. Thereafter, two launch attempts occurred, each yielding important information. The first launch attempt, which took place on August 29, 2022, was ultimately scrubbed due to a pre-chill LCC violation; the second, which took place on September 3, 2022, was scrubbed due to a liquid hydrogen leak in the Tail Service Mast Umbilical, which has since been resolved. The next launch attempt is planned to occur on November 14, 2022.

NASA has also made tremendous progress toward the Artemis II launch and forward development for Artemis III missions and beyond. As is widely known, the Artemis II mission will require re-use of Artemis I non-core avionics. While this creates a dependency between the two missions, the Orion team has diligently performed parallel work to prepare both the Crew and Service Modules for integration. On the Crew Module, for example, all pressure vessel heater closeouts have been performed and wire harness connector mates continue in the forward section. Meanwhile, the team has also completed service module initial power on and several subsystem functional tests. Artemis III hardware development has similarly progressed.

While progress and schedules were impacted due to the contract award protests, NASA continues to make progress with the Human Landing System (HLS) program. NASA has awarded a contract to SpaceX for the certification and demonstration of a lunar lander that will deliver the first crew to the lunar surface during the Artemis III mission. HLS has also accelerated the HLS services acquisition approach, and in a standalone procurement (Broad Agency Announcement Appendix N), HLS selected five companies to perform risk reduction activities to advance the industry's proposed content for sustained lunar landing services. In September 2022, the HLS program posted the Broad Agency Announcement Appendix P solicitation. Through this solicitation, NASA is seeking proposals for the development and demonstration of a lunar lander that meets NASA's HLS sustaining requirements for missions beyond Artemis III. In addition to developing a sustainable HLS, commercial and international partners will be able to leverage new capabilities developed through this initiative for the execution of multiple other missions over the coming decades. This includes the potential to participate in regularly recurring hardware and services procurements by NASA.

Development on the SLS Block 1B variant, set to fly on the Artemis IV mission, has continued in preparation for a recurring cadence of missions with increasingly complex needs; establishment of an Agency Baseline Commitment for this upgrade is imminent. In parallel, the Exploration Ground Systems program has worked diligently with its prime contractor to work through performance issues on the development of the Mobile Launcher 2. Two independent review teams have provided recommendations currently undergoing implementation. A commitment will be established upon resolution of outstanding issues and consensus with the prime contractor on a revised cost and schedule plan that meets the Agency's exploration goals and needs.

After conducting a Program-level Preliminary Design Review-informed Sync Review earlier in 2022, the Gateway program is finalizing contractual updates as it transitions to the critical design and flight hardware production phase of the Gateway Initial Capability. The Gateway Initial Capability will provide the backbone of the multi-purpose outpost orbiting the Moon, made up of the Power and Propulsion Element (PPE) led by Maxar and the Habitation and Logistics Outpost led by Northrup Grumman. This outpost is planned to be expanded by international contributions that are currently in progress by the European Space Agency, Japan Aerospace Exploration Agency, and Canadian Space Agency. Gateway element-level Critical Design Reviews (CDR) are in progress and continue to refine and finalize requirements for PPE as it nears completion in expectation of an early 2023 PPE CDR.

NASA formulated the Extravehicular Activity and Human Surface Mobility Program (EHP) to lead the efforts needed to explore the surface of the moon. This new program has taken the lead for managing the development of lunar surface suits, tools, and vehicles that lunar astronauts will need to explore and conduct science outside of the lander and habitats on the lunar surface. EHP has awarded contracts to both Axiom and Collins for the development of Exploration Extravehicular Activity (xEVA) suits and systems that will be provided through the xEVA Services (xEVAS) contract in support of Artemis and the International Space Station (ISS). Axiom has further been awarded the initial task order for the Artemis suit development, which represents the completion of all major acquisition work needed to support the Artemis III mission. The accelerated development of the xEVAS systems has been enabled by the sharing of NASA's reference design information, including sharing of design verification test reports and integrated performance data from years of NASA-led research and development.

Challenge 2: Improving Management of Major Projects and Projects

NASA's major project portfolio spans five Mission Directorates and all NASA Centers. Further, NASA's program management discipline includes rigorous processes that encompass program formulation, approval, implementation, and ongoing evaluation. Recognizing that NASA develops unique hardware and new technologies to make new discoveries and expand the realm of the possible, challenges are inherent in the management of NASA's programs and projects. NASA has implemented a culture of continuous improvement and is committed to pursuing innovative policies and methods that enable effective technical and risk management, mature program planning and control practices, and ultimately successful missions that meet cost and schedule commitments.

In the past four years, NASA has fully implemented 11 new initiatives geared toward improving acquisition and project management. This includes the six implemented initiatives from the 2018 Corrective Action Plan and five of six initiatives from the 2020 Corrective Action Plan with the sixth initiative on path to closure. Moreover, NASA approved the new 2022 Corrective Action Plan that introduces five new initiatives addressing Government Accountability Office acquisition management concerns. These initiatives will: 1) improve NASA's capacity for program planning and control (PP&C) insight and analysis through greater capability and expanded civil servant workforce; 2) achieve more rigorous independent review of major projects at major life cycle reviews; 3) sustain insight into major project programmatic data; and 4) test innovative approaches to streamline and enhance major contract proposals and reviews. These initiatives are addressing critical needs as identified by subject matter experts both internal and external to the Agency and demonstrate a sustained commitment from NASA leadership to the improvement of the challenges highlighted by the OIG and others. As NASA's major project development timelines are long term in nature, these benefits are expected to take time to be realized.

NASA is fully compliant with Title 51 by having all major development activities be subject to Congressional reporting and performance thresholds. For programs and projects that plan continuing operations and production, including integration of capability upgrades with an unspecified Phase E end point, the initial capability cost estimate and other parameters become the Agency Baseline Commitment. In addition, NASA establishes Agency Baseline Commitments for all future major development activities and communicates a five-year, Phase E operations cost estimate prior to entering Phase E Operations and Sustainment. The Phase E operations cost estimate is updated annually. NASA's approach is in compliance with Title 51 and ensures the Agency is consistently and effectively communicating estimates of Phase E operations as the mission cadence matures.

Furthermore, NASA does not consider ongoing production activities beyond the initial capability commitment to be development activities. Title 51 clearly defines "development" within Section 103f (1) as the beginning of approval to proceed to implementation – "as defined in NASA's Procedural Requirements 7120.5." NASA Procedural Requirements (NPR) 7120.5F communicates that additional production units are considered part of Phase E Operations and Sustainment (Figures 2-4, 2-5; Sections 2.4.3, 2.4.4). The Agency has maintained and expanded expectations that any major development upgrades, as defined by the monetary threshold set forth in the "major program" definition within Title 51 and conducted in Phase E, will: 1) be considered a development effort; and 2) be reported consistent with Title 51.

With respect to updating NPR 7120.8, "NASA Research and Technology Program and Project Management Requirements" to require major acquisition projects that cost over \$250 million to complete a Joint Cost and Schedule Confidence Level (JCL) analysis and implement Earned Value Management (EVM), NASA does not concur with the recommendation to include a JCL analysis for activities covered in this NPR. NPR 7120.8 policy follows a different philosophy than NPR 7120.5, which compiles a comprehensive set of requirements for space flight that may need to be tailored down for smaller scale efforts that are not crewed. NPR 7120.8 applies the principle of a minimum set of essential requirements and maximum flexibility for Research and Technology (R&T) development activities, and these projects are exploratory, requiring more management flexibility and have a higher risk acceptance by the Agency. Rather than tailoring

down from the directive's requirements, R&T projects may need to pull in additional requirements from NPR 7120.5 for more robust or structured project management, particularly on larger projects that may transition to flight. Specifically, concerning cost and schedule requirements, NPR 7120.8 does not specify any required probabilistic analysis technique. The recently established Chief Program Management Officer advises the Decision Authority (DA) on applicability of projects following NPR 7120.5 or NPR 7120.8, and the Office of the Chief Financial Officer advises the DA on whether JCL or EVM requirements should be applied.

The missions that the Nation entrusts NASA to accomplish are difficult and mission success is never guaranteed. As OIG recognizes in its report, overcoming the incredible challenges before us as we design, develop, and operate our mission portfolio requires consistent, focused attention from NASA leadership. NASA has made a number of advances in its governance and programmatic discipline in recent years, including: overhauling the monthly Baseline Performance Review; shifting the role of the Chief Acquisition Officer to the Deputy Administrator; adding several new requirements to the early acquisition decision process; advancing the analytical capability of the PP&C workforce at every phase of the mission lifecycle; expanding the implementation of EVM across the Agency; and generating new training curricula and fora for community exchange of ideas. The COVID-19 global pandemic added significant unanticipated pressure on project cost and schedule resources, through which the Agency achieved notable mission successes. During the pandemic, NASA successfully: landed the Perseverance rover on Mars; conducted the first launch of crew from United States soil with a U.S. commercial service provider; demonstrated controlled atmospheric flight on another planet; peered into the universe with the fully operational James Webb Space Telescope; impacted a small asteroid seven million miles from Earth to redirect its orbit; collected a sample from an asteroid and began returning it to Earth; took in-situ measurement from the surface of the Sun; and prepared to fly the X-57 to test an all-electric propulsion aircraft and the X-59 to test quiet supersonic flight. On the precipice of launching the first mission of the Artemis campaign, NASA will continue to pursue intelligent, efficient, and effective solutions to improve project management and ensure mission success.

Challenge 3: Sustaining a Human Presence in Low Earth Orbit (LEO)

NASA has made considerable progress on each of the Commercial LEO-related challenges identified in IG-22-005, "NASA's Management of the International Space Station and Efforts to Commercialize Low Earth Orbit," November 30, 2021. Specifically:

#1: Robust Market for Low Earth Orbit Yet to Materialize: SpaceX completed the Inspiration4 mission in September 2021, the first all civilian orbital spaceflight. Jared Isaacman and SpaceX announced plans for three additional crewed flights, dubbed the Polaris Program, slated for launch in 2022 and 2023. The Ax-1 private astronaut mission successfully launched, docked with the ISS, and safely returned to Earth in April 2022. NASA selected Axiom Space for the second private astronaut mission, targeted to launch in 2023, and the solicitation for a third and fourth private astronaut mission was released in September 2022. NASA selected eight In-Space Production Application flight demonstrations to help stimulate demand for microgravity. NASA continues to receive proposals for commercial and marketing activities on the ISS. Four such activities have successfully flown to the station. NASA has also contracted with BryceTech to refine the forecast for non-NASA market demand for microgravity services.

#2: Funding for Destination Platform is Inadequate for NASA to Meet 2028 Goal: The Fiscal Year (FY) 2022 NASA Appropriations (\$101.1 million for Commercial LEO Development) fully supported NASA's near-term strategy to develop a human spaceflight economy enabled by a commercial market. The FY 2023 President's Budget Request included \$224.3 million for the Commercial LEO Development Program (a 120 percent increase). The House Committee on Appropriations FY 2023 report fully supported the budget request and NASA continues to refine its out-year budget requirements.

#3: Unreliable Cost Estimates: Prior cost estimates primarily had to use parametric cost models assuming "generic" commercial LEO destination designs. Now, NASA is partnered with four industry partners (Axiom Space, Blue Origin, Nanoracks, and Northrop Grumman) to develop specific commercial LEO destination designs. The industry partners are maturing their designs, meeting their milestones, and maturing their cost estimates. NASA has extensive insight into all these activities.

#4: Optimistic Development Schedules: NASA's four industry partners for Commercial LEO Destinations are on track executing their milestones, maturing their concepts, and refining their schedule estimates. Some flight hardware has already begun fabrication. NASA has quarterly meetings with our industry partners to assess their progress and gain additional insight into their development schedule. The Commercial LEO Destinations partners are strongly incentivized to be first-to-market, particularly for their commercial customers. NASA continues to refine its acquisition strategy for the eventual certification and services purchases for Commercial LEO Destinations.

#5: Evolving Requirements: NASA has established a Commercial LEO Destinations Services Requirements Working Group to develop utilization requirements. NASA has also established a Commercial LEO Destinations Utilization Forum for science and research subject matter experts to share information and enable communication with Commercial LEO Destination partners. NASA released the first of several Request for Information (RFI) documents in May 2022 that contain draft crew certification requirements, and a white paper documenting the Agency's current assumptions and expectations on commercial destinations. NASA received 300 comments from industry and we are currently assessing the input. NASA plans to release future RFIs quarterly to include: draft Commercial LEO Destination System, Crew, and Utilization Services Requirements; Commercial LEO Destination Certification Strategy White Paper; draft Technical Management and Standards Requirements; and draft Concept of Operations.

NASA continues to work with its International Partners to extend ISS operations to 2030. All partner governments continue to indicate their intention to support operation ISS beyond 2024 as they work through their respective governments' processes.

NASA also continues to work with Roscosmos to identify and repair leaks in the transfer tunnel section of the Russian Service Module. Three locations have been sealed resulting in a total ISS leak rate of 1.2 lbm/day. Strain gauges were installed at the location of the first crack, and the results are consistent with accelerometer data and are well below the levels of concern for structural fatigue. Additional diagnostic devices including ultrasound and high definition borescopes will be delivered in early 2023. Materials testing to date does not indicate cracking

due to stress corrosion. As indicated in the response to OIG report A-21-003-00, “NASA’s Utilization of the International Space Station and Commercialization of Low Earth Orbit”, NASA remains confident in moving forward with plans to extend the ISS, noting that we will continue to monitor and evaluate ISS health moving forward.

Challenge 4: Managing and Mitigating Cybersecurity Risk

NASA has made significant progress in managing and mitigating cybersecurity risk. The Office of the Chief Information Officer (OCIO) consolidated Center Chief Information Officer (CIO)-managed cybersecurity resources into an enterprise-wide Cybersecurity Service Line that will support integrated cyber solutions across Centers and mission programs. The Cybersecurity Service Line will enable OCIO to proactively manage and mitigate cybersecurity risks. Over the past year, in partnerships with the NASA Office of Communication and the Science Mission Directorate, the NASA CIO has been leading an effort to modernize NASA’s website presence, including reducing NASA’s digital footprint, with results expected in FY 2023. As part of OCIO’s restructuring, Agency Level Offices were established that will, among other things, bring an Agency-wide focus to issues of Information Technology (IT) Strategy, enterprise architecture, and technology roadmaps.

The NASA CIO established an Agency-level IT Strategy and Architecture Office (SAO), led by a newly appointed NASA Chief Enterprise Architect, comprised of enterprise-level architects across business and technology domains (including cybersecurity). The SAO will define and mature processes, procedures, and relationships across OCIO, Mission Directorates, and Mission Support organizations to ensure that a holistic and integrated Enterprise Architecture program exists across organizational boundaries. Finally, the NASA CIO and Office of Protective Services have established a strong partnership in implementing NASA’s existing insider threat efforts and will continue to mature these efforts to address insider threats to unclassified networks, including strengthening partnership with other offices to support this work.

Challenge 5: Improving Oversight of Contracts, Grants, and Cooperative Agreements

NASA is making meaningful progress in addressing contracts, grants, and cooperative agreement oversight challenges, and continues to strengthen its overall procurement processes and policy. NASA’s Office of Procurement (OP) has implemented the following improvements: OP established the Enterprise Service and Analysis Division (ESAD). Under ESAD, the E-Business Systems Office (ESBO) and the Enterprise Pricing Office (EPO) were established. Within ESBO, an Enterprise Procurement Data Architect will oversee all efforts to define and govern data (standardization and analysis) that will be used to manage OP services and create a Procurement Dashboard and other analytical data tools that will provide greater insight into the procurement function across the enterprise. Within EPO, the cost price function is centralized and will streamline pricing policies, processes, the cross utilization of pricing resources and training across the enterprise. In FY 2022, OP resumed Procurement Management Reviews annually to ensure Centers’ compliance with procurement laws and regulations; to provide oversight over procurement practices; and to improve the operational effectiveness and efficiency of Centers procurements. Additionally, OP Grants Policy and Compliance has developed and implemented a Routine Monitoring Plan to enhance oversight of grants and cooperative agreements.

Challenge 6: Attracting and Retaining a Highly Skilled and Diverse Workforce

Competing for talent in today's increasingly fierce labor market requires a coordinated and strategic approach to attract and develop a pipeline of skilled and diverse science, technology, engineering, and mathematics workers to meet NASA's mission needs. To that end, NASA has implemented a workforce planning process that includes all NASA Centers and Mission Support Enterprise Organizations and incorporates known programmatic requirements such as our Artemis missions. NASA Mission Directorates are developing guidance that provides clarity on future work content and enhances the strategic planning process for Mission workforce to ensure success in all Mission areas. The guidance will establish the vector for work in the planning and budgeting horizon and beyond (for year five+) to prepare for the work demand in the long-term including enduring capabilities and disciplines. Guidance will be consistent with established Center roles and aligned with Mission Directorate acquisition strategies, major program/project initiation, and the completion of key milestones. This guidance integrates Mission work requirements with Center workforce planning efforts to drive the Agency continuously forward with a demand-driven approach to meet future program content. NASA Centers will respond to Mission Directorate guidance in their annual workforce plans.

NASA's Office of the Chief Human Capital Office modernized the recruiting process and developed a coordinated recruitment strategy using a standardized approach and leveraging digital platforms to engage with prospective candidates. A critical piece of the recruitment strategy focuses on increasing workforce diversity by reaching new talent communities and establishing NASA as an employer that celebrates diversity and inclusion as keys to success. NASA continually measures efforts and iterates on its recruitment strategy to ensure success. Multiple hiring authorities are utilized to quickly fill positions as well as pay incentives to recruit the right skills into the Agency.

NASA acknowledges the need to consolidate demographic representation and trend data into a single data set. The Enterprise Data Platform (EDP) elevates the Agency's ability to seamlessly find, harness, and translate data into actionable insights. The EDP will provide all NASA data stakeholders with a platform of easily searchable and usable data assets and a centralized data store for simple access to standardized and trustworthy data sets on a single platform.

Since the most recent OIG audit of the Astronaut Office, demographic information for the entire corps, including civilians and military personnel, has been centralized. Additionally, the Master Assessment and Qualifications History tool is currently undergoing software updates and will be used as the primary database for detailed astronaut data regarding skills, certifications, and training. While this data has historically been available and utilized to help inform the selection of astronaut candidates, maintaining this information comprehensively in centralized and secure locations better supports future recruitment and selection goals related to acquiring key skills for NASA missions and expanding the diversity of the astronaut corps.

The Agency remains committed to tackling workforce issues and to building an even stronger talent pipeline to accomplish NASA missions.

Challenge 7: Managing NASA's Outdated Infrastructure and Facilities

To address the challenges with aging infrastructure and facilities, NASA is implementing a top-down, mission-driven Agency Master Plan (AMP). This plan ensures that the required infrastructure is available and affordable, guides Agency investments to prioritize mission critical assets, reduces the risk of unplanned failures, and guides divestment of assets not needed for the Agency's missions. The AMP will establish a 20-year vision for physical infrastructure and real property assets that aligns with current, evolving, and future mission requirements. NASA will use this process to identify critical capabilities and areas for asset sustainment, investment, repurposing/out granting, or divestment of infrastructure. To alleviate the maintenance burden, NASA's Office of Strategic Infrastructure (OSI) will continue to strongly advocate to increase its funding for demolition of unneeded facilities.

NASA released NPR 8820.2 Revision H, "Facility Project Requirements", on September 27, 2022. This revision includes parameters for the assignment and use of institutional and programmatic Construction of Facilities (CoF) funds, the ability to identify cost-sharing as a funding method, a requirement for energy savings projects to conduct life cycle cost analyses, requirements to reduce and consolidate the Agency's footprint, tools to assist in the development of project requirements, and definition of new Headquarters roles that will improve oversight of the implementation of CoF projects.

OSI concurs with the challenges identified that are associated with leasing NASA facilities to non-NASA entities. In 2019, OSI began to conduct an analysis on the Agency's leasing policies, procedures, and practices. As a result of this analysis, in 2020, NASA decided to centralize real estate functions across all Centers to OSI-FRED (OSI-Facilities and Real Estate Division). Additionally, OSI-FRED is in the process of updating the NPR 8800.15, "Real Estate Management Program" and is conducting a complete analysis of the Agency's Enhanced Use Lease Program to ensure that internal controls are established, real estate agreements are properly coordinated with all stakeholders, and are compliant with all rules, regulations, and laws.

NASA has also identified investment strategies using Reliability Centered Maintenance (RCM) principles to stave off the increasing deferred maintenance liability within the Agency. OSI-FRED is implementing a Tiered Maintenance approach with foundations of Condition Based Maintenance principles for relevant and critical assets. These efforts will lead to optimized maintenance programs and prioritization of available operations and maintenance resources. OSI leadership continues to inform and carry forward advocacy for additional investments necessary to improve the condition of important building systems and facilities across the Agency. Ultimately, this will increase the availability and reliability of these critical assets to meet current, emerging, and future mission needs. Implementation of these RCM principles ensures that the right type of maintenance is performed on the most critical assets, at the right time, and for the right reasons. RCM, paired with immediate investments in the replacement of obsolete items associated with the Agency's higher-criticality assets, can provide near-term corrective mitigation for known risks, and avoid mission/schedule impacts. These maintenance strategies focus on increasing equipment availability and avoiding disruptive failures and unplanned repair costs.

These initiatives will mitigate the Agency's ongoing challenge of aging and outdated infrastructure and facilities. Through the implementation of the AMP and the ongoing investments in maintenance, demolition, repair, recapitalization, and out-granting, NASA continually strives to right-size the Agency's infrastructure toward more modern and efficient facilities that will continue to provide a robust real property asset portfolio for NASA mission objectives.

If you have any questions regarding NASA's response to the 2022 Top Management and Performance Challenges, please contact Anthony Mitchell, Audit Liaison Project Manager at (202) 358-1758.

A handwritten signature in blue ink that reads "Bill Nelson". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

cc:

Chief Financial Officer/Ms. Vo Schaus

Chief Information Officer/Mr. Seaton

Associate Administrator Space Operations Mission Directorate/Ms. Lueders

Assistant Administrator for Procurement/Ms. Smith Jackson

Assistant Administrator for Strategic Infrastructure/Mr. Carney

Assistant Administrator for the Office of Human Capital Management/Ms. Datta

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CIVIL MONETARY PENALTY ADJUSTMENT FOR INFLATION

FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 2022

The Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015, requires agencies to make annual inflation adjustments to civil monetary penalties and report on these adjustments in their AFR.

Agencies must include, as Other Information, information about civil monetary penalties within their jurisdiction and the annual inflation adjustments made under the Act and are encouraged to include a table providing this information.

NASA reviewed each of the penalty amounts under its statutes and penalty amounts for inflation when required under law. The following table reflects the authorities imposing the penalties, the civil penalties, the adjustment years, the current penalty amounts, and location for penalty updates.

Authority (Statute)	Penalty (Name or Description)	Year Enacted	Latest Year Adjustment	Penalty Level (\$ Amount)	Location
Program Fraud Civil Remedies Act of 1986	Penalty for False Claims	1986	2022	Maximum \$12,537	Federal Register Vol. 87, No. 75 (19 April 2022) Rules and Regulations www.federalregister.gov
Department of the Interior and Related Agencies Appropriations Act of 1989, Public Law 101-121, sec. 319	Penalty for use of appropriated funds to lobby or influence certain contracts.	1989	2022	Minimum \$22,021	Federal Register Vol. 87, No. 75 (19 April 2022) Rules and Regulations www.federalregister.gov
Department of the Interior and Related Agencies Appropriations Act of 1989, Public Law 101-121, sec. 319	Penalty for use of appropriated funds to lobby or influence certain contracts.	1989	2022	Maximum \$220,213	Federal Register Vol. 87, No. 75 (19 April 2022) Rules and Regulations www.federalregister.gov
Department of the Interior and Related Agencies Appropriations Act of 1989, Public Law 101-121, sec. 319	Penalty for failure to report certain lobbying transactions.	1989	2022	Minimum \$22,021	Federal Register Vol. 87, No. 75 (19 April 2022) Rules and Regulations www.federalregister.gov
Department of the Interior and Related Agencies Appropriations Act of 1989, Public Law 101-121, sec. 319	Penalty for failure to report certain lobbying transactions.	1989	2022	Maximum \$220,213	Federal Register Vol. 87, No. 75 (19 April 2022) Rules and Regulations www.federalregister.gov

UNDISBURSED BALANCES IN EXPIRED GRANT ACCOUNTS

In December 2015, Congress passed the Commerce, Justice, Science, and Related Agencies Appropriations Act, 2016 (Division B of the Consolidated Appropriations Act, 2016, P.L. 114-113), which required NASA to report undisbursed balances in expired grant accounts. OMB Memorandum M-16-18, *Financial and Performance Reporting on Undisbursed Balances in Expired Grant Accounts*, requires this information to be included each year until instructed, otherwise if the requirement is included in subsequent fiscal year's appropriations acts. NASA monitors and tracks grants' undisbursed balances in expired accounts through a monthly review of internal control activities designed to identify undisbursed balances in expired accounts.

NASA generates financial management reports to aid in the tracking and monitoring of undisbursed amounts. An aging report of open obligations is generated monthly to determine the last day activity occurred. For open obligations in which no activity has occurred in a six-month period and/or there is no supporting documentation, further review is performed to determine the validity of obligation balances and the existence of valid source documentation. Additionally, further analysis is performed to determine if funds can be de-obligated. If obligations are valid, the aging reports are updated to reflect that obligations have been confirmed with procurement as valid.

NASA will continue to track undisbursed balances in expired grant accounts through its monthly review of internal control activities designed to identify funds for de-obligation. This involves the continuous monitoring of undisbursed balances, identifying balances that should be de-obligated, and performing timely closeout of grants and other activities. Additionally, NASA's financial management and procurement offices will continue to collaborate in monitoring and tracking undisbursed balances.

Currently, NASA does not have undisbursed balances in expired accounts that may be returned to the Treasury of the United States. The following chart reflects the total number and dollar amount of undisbursed grants in expired appropriations. All amounts have been obligated to a specific project.

FISCAL YEAR	TOTAL NUMBER OF EXPIRED GRANTS WITH UNDISBURSED BALANCES	TOTAL AMOUNT OF UNDISBURSED BALANCES FOR EXPIRED GRANTS (IN DOLLARS)
2021	23	\$432,864
2020	3	\$2,075
2019	0	\$ —

GRANTS PROGRAMS INFORMATION

The Grants Oversight and New Efficiency (GONE) Act (P.L. 114-117) reporting requirements have expired. Nevertheless, to promote the efficient administration of grants programs, all reporting entities with Federal grants programs must submit a brief high-level summary of expired, but not closed, Federal grants and cooperative agreements (awards). NASA continues to ensure its grants programs operate efficiently with the timely processing of expired, but not closed, Federal grants and cooperative agreements (awards) for closeout.

The Continuous Monitoring Program ensures ongoing review and validation of financial data and the effectiveness of internal controls over the entire financial management process, including grants. When grants undisbursed balances in expired accounts are identified, appropriate action is taken to ensure optimum use of grant resources.

In FY 2022, the number of grants expired 2 or more years was reduced from 190 to 16. The total amount of undisbursed balances in this population was reduced from \$1,031,013 to \$2,187. The NASA Shared Services Center (NSSC) closeout team fully implemented unilateral closeout procedures outlined in the NASA Grant and Cooperative Agreement Manual (GCAM) 9.1.4. The closeout team will work with other NASA Centers to encourage implementation of these procedures and strive to fully eliminate aged grants and undisbursed balances in FY 2023.

NASA has implemented an automated process which sends expired grants to closeout on a weekly basis. This process improvement will continue to ensure that the Agency operates with efficiency when managing and monitoring the grant closeout process. This enhancement will also assist to make certain that there is no challenge of awards being transferred to closeout within a timely manner.

CATEGORY	2-3 YEARS	3-5 YEARS	MORE THAN 5 YEARS
Number of Grants/Cooperative Agreements with Zero Dollar Balances	7	4	0
Number of Grants/Cooperative Agreements with Undisbursed Balances	3	0	2
Total Amount of Undisbursed Balances	\$2,075	\$—	\$112

CLIMATE-RELATED FINANCIAL RISK

CLIMATE ACTION PLAN AND SUSTAINABILITY REPORT AND IMPLEMENTATION PLAN

FY 2021 NASA Climate Action Plan <https://www.sustainability.gov/pdfs/nasa-2021-cap.pdf>

FY 2020 Sustainability Report and Implementation Plan <https://www.sustainability.gov/pdfs/nasa-2020-sustainability-plan.pdf>



US-European Satellite Will Make World's First Global Freshwater Survey: Once in orbit, the Surface Water and Ocean Topography (SWOT) mission will regularly monitor not only mighty rivers like Oregon's Willamette, pictured, but also smaller waterways that are at least 330 feet (100 meters) across. Click [here](#) to learn more about SWOT.

PHOTO CREDIT — U.S. Department of Energy



SECTION 4

APPENDIX

NASA's Space Launch System (SLS) rocket with the Orion spacecraft aboard is seen atop a mobile launcher at Launch Complex 39B, Thursday, April 7, 2022, as the Artemis I launch team prepares for the next attempt of the wet dress rehearsal test at NASA's Kennedy Space Center in Florida. Ahead of NASA's Artemis I flight test, the wet dress rehearsal will run the Artemis I launch team through operations to load propellant, conduct a full launch countdown, demonstrate the ability to recycle the countdown clock, and drain the tanks to practice timelines and procedures for launch.

PHOTO CREDIT — Joel Kowsky

MENSAJE DEL ADMINISTRADOR



Me complace presentar el Informe Financiero de Agencia (AFR) para el Año Fiscal (FY) 2022 de la Administración Nacional de Aeronáutica y el Espacio (NASA). Este informe proporciona transparencia en nuestra posición estratégica y operativa y en nuestros resultados al hacer una presentación completa de nuestras finanzas de acuerdo con los Principios de Contabilidad Generalmente Aceptados. Bajo la dirección de la Oficina del Director de Finanzas, durante 12 años consecutivos la NASA ha recibido el dictamen de que ha sido una gestión “limpia” sin salvedades sobre sus estados financieros, sin que se haya informado de deficiencias materiales.

La visión de la NASA es **explorar los secretos del universo para el beneficio de todos**. El 25 de diciembre de 2021, el telescopio espacial James Webb (JWST, por sus siglas en inglés) fue lanzado en órbita, equipado con las capacidades de observación del espacio profundo más avanzadas que jamás se hayan ensamblado. JWST ahora está capturando las imágenes en infrarrojo más profundas y nítidas del universo distante hasta la fecha, empujando ampliando aún más los límites del conocimiento humano, hasta la formación de las primeras galaxias y los horizontes de otros mundos. Publicamos un “Plan para nuestra exploración futura del sistema solar” — los objetivos de la NASA para ir de Luna a Marte — que ayudará a la NASA y a nuestros socios a trazar el curso de nuestro futuro juntos en el espacio profundo. La clave de ese esfuerzo es el programa campaña Artemis; y el lanzamiento de Artemis I, que allanará el camino para el regreso de la humanidad a la Luna, preparará el escenario para nuestro ambicioso viaje a Marte e inspirará a una nueva generación de exploradores.

Por otro lado, la NASA desempeña un papel crucial en el avance de la comprensión de nuestro planeta y de cómo el cambio climático afecta nuestras vidas aquí, y proporciona datos a los científicos, los legisladores y el público. Por ser uno de los expertos mundiales en ciencias del clima, la NASA participa en una amplia gama de actividades para rastrear y mitigar los efectos del cambio climático en colaboración con empresas comerciales y socios internacionales. Para abordar las preguntas más urgentes sobre nuestro planeta cambiante, la NASA estableció el Observatorio del Sistema Terrestre, que incluye cinco misiones de satélites que proporcionan datos cruciales sobre el cambio climático, los fenómenos meteorológicos intensos y otros peligros naturales, los incendios forestales y la producción mundial de alimentos. Además, la NASA desarrolló el Centro de Información de la Tierra (EIC, por sus siglas en inglés) para mejorar la accesibilidad y la comprensión de los datos a medida que los gobiernos y las personas planean el futuro frente al cambio climático. El EIC proporcionará una visión completa de la Tierra que incorporará grandes visualizaciones, medios interactivos, historias y narrativas, para inspirar la acción en respuesta al cambio climático. También hemos desarrollado un sólido “Plan de acción climática” que establece la visión de la NASA para adaptarnos a los efectos del cambio climático en nuestra misión, instalaciones, infraestructura, tierras naturales y otros activos, ahora y en el futuro. Otra prioridad climática clave es promover la aviación sostenible mediante la investigación y el desarrollo tecnológico, junto con la transferencia de tecnología para beneficio directo del público. Tenemos planes para hacer que la aviación sea sostenible mediante una tecnología aeronáutica eficiente, combustible de aviación sostenible y operaciones e infraestructura de apoyo.

La NASA se enorgullece de desempeñar un papel fundamental en el fomento del crecimiento y la prosperidad compartidos para generaciones de todos los estadounidenses. Los dólares invertidos en la exploración espacial inspiran a las nuevas generaciones de exploradores, crean empleos, impulsan negocios y hacen crecer la economía. Las inversiones en la NASA generan rendimientos descomunales para la nación: solamente en el año fiscal 2021, las inversiones de la NASA apoyaron 71.200 millones de dólares en producción económica total y más de 339.000 empleos en todo el país. Esto incluye más de 7.000 millones de dólares en producción económica y más de 37.000 puestos de trabajo para la investigación climática y las inversiones tecnológicas de la NASA solamente. Una de nuestras principales prioridades en esta esfera es la industria espacial comercial de Estados Unidos. Estamos llevando a cabo investigaciones y desarrollos significativos para apoyar nuevas tecnologías que ayuden a la industria espacial comercial de Estados Unidos a crecer, mejorar las capacidades de las misiones, crear empleos bien remunerados y reducir los costos. La asociación de la NASA con la industria mediante los programas de tripulación y carga comercial está facilitando el desarrollo de una capacidad segura, confiable y rentable de transporte espacial comercial de

15 DE NOVIEMBRE DE 2022

MENSAJE DEL ADMINISTRADOR (CONTINUACIÓN)

Estados Unidos hacia la Estación Espacial Internacional (EEI) y a la órbita terrestre baja. Precisamente este año, se llevó a cabo con éxito la primera misión totalmente privada de astronautas a la EEI a bordo de la nave espacial Dragon y el cohete Falcon 9 de SpaceX, y están en marcha los preparativos para el lanzamiento del vuelo de prueba de la tripulación de Boeing de la NASA. Además, las nuevas formas de aeronaves de Movilidad Aérea Avanzada altamente automatizadas podrían transformar el transporte de pasajeros, la entrega de carga y una variedad de servicios públicos. La NASA ya está realizando vuelos de prueba para esta investigación con nuestros socios de la industria con el fin de poner a prueba y refinar los conceptos que asegurarán que este nuevo tipo de tecnología sea incorporado al Sistema Nacional del Espacio Aéreo de una manera segura y sostenible. La NASA continuará apoyando el desarrollo de una industria espacial próspera, innovadora y en crecimiento, en la que Estados Unidos lidere el camino.

Para cumplir con estos importantes objetivos, la NASA se enorgullece de desarrollar y apoyar a nuestra fuerza laboral y a la nueva generación de científicos y visionarios. La NASA liderará la promoción de una mayor diversidad, equidad, inclusión y accesibilidad (DEIA, por sus siglas en inglés) dentro de nuestra organización y con nuestros socios y partes interesadas. Con la emisión de las ordenes ejecutivas 14035: *Diversidad, equidad, inclusión y accesibilidad en la fuerza laboral federal*, y 13985: *Fomento de la equidad racial y apoyo a las comunidades desatendidas por medio del gobierno federal*, se ha vuelto aún más evidente la importancia de acciones estratégicas, deliberadas y bien diseñadas para apoyar a las comunidades subrepresentadas y desatendidas. En su apoyo, la NASA lanzó su [Plan estratégico de la DEIA 2022](#) que se centra en la diversidad de la fuerza laboral, la experiencia, accesibilidad y acomodaciones de los empleados, y la integración de la DEIA en la misión de la NASA. Para hacer seguimiento del progreso hacia una mejor DEIA, tanto en las áreas internas como externas, lanzamos nuestro primer [Plan de acción para la equidad](#) (EAP, por sus siglas en inglés). El EAP describe y reafirma la estrategia de la agencia para mitigar las barreras sistemáticas y ampliar la equidad en los procesos de contratación pública para permitir la representación y el acceso justos e imparciales para todas aquellas personas que buscan contribuir al gran trabajo de nuestra nación en el espacio. Nuestros logros solo son posibles gracias a nuestra fuerza de trabajo diversa, dedicada y fuerte; y estamos orgullosos de que la NASA haya sido nombrada, por décimo año consecutivo, como el mejor lugar para trabajar en el gobierno federal entre las grandes agencias.

La NASA está comprometida a proporcionar datos financieros confiables, precisos y completos y a tener transparencia con respecto a las operaciones fiscales de la agencia. Seguimos prácticas de información financiera de alta calidad, asegurando la aplicación de los controles apropiados con una gestión eficiente y eficaz de los fondos apropiados y reembolsables de la agencia. Los datos financieros y de rendimiento presentados en este informe son completos y confiables.

Estoy impresionado por el espíritu incansable de las mujeres y los hombres de la NASA para lograr misiones que antes se creían imposibles. Continuaremos derribando las barreras, tanto visibles como invisibles, que obstaculizan la equidad, para asegurar el acceso de las comunidades desatendidas a las oportunidades y para avanzar con confianza hacia una nueva era de exploración, llena de avances y descubrimientos que nos llevarán más lejos que antes: llevaremos a la primera mujer y a la primera persona de color a la Luna, y continuaremos hacia Marte y más allá, mientras expandimos la ciencia, el crecimiento económico y la prosperidad.



Atentamente,

Bill Nelson

MENSAJE DEL DIRECTOR FINANCIERO



Tengo el orgullo de acompañar al Administrador Nelson en la presentación del Informe Financiero de la Agencia NASA (AFR, por sus siglas en inglés) para el año fiscal 2022. Los estados financieros del año fiscal 2022 y la información que los acompaña reflejan nuestro compromiso con el avance de la misión de la NASA, y las prioridades de la Administración Biden-Harris de: combatir la crisis climática; avanzar el liderazgo estadounidense en la aeronáutica y el espacio; promover la diversidad, la equidad, la inclusión y la accesibilidad (DEIA, por sus siglas en inglés), e impulsar el crecimiento económico.

Una buena gestión financiera es la piedra angular de una gestión eficaz y prudente de los recursos de los contribuyentes. La Oficina del Director de Finanzas (OCFO, por sus siglas en inglés) tiene la responsabilidad de demostrar transparencia y de rendir cuentas mediante el desempeño operativo y los resultados de la gestión de recursos de la NASA que se resumen en este informe. Estoy orgulloso del arduo trabajo, la pericia y la dedicación del equipo de OCFO durante el año pasado para cumplir con los más altos estándares de desempeño presupuestario, gestión de riesgos, implementación de controles internos e informes financieros. Este estándar de excelencia ha sido reconocido y destacado una vez más, en nuestro informe de auditores para el año fiscal 2022, lo que refleja un dictamen de auditoría “limpia” sin modificaciones ni debilidades materiales de control interno por duodécimo año consecutivo. Esto confirma que los estados financieros de la NASA no tienen errores materiales y han sido preparados de acuerdo con los Principios de Contabilidad Generalmente Aceptados (PCGA) de Estados Unidos, y que nuestro sistema de controles internos está funcionando de manera eficaz. Quiero ofrecer mi más sincero agradecimiento a todo el equipo de OCFO y a nuestros socios en la organización por sus contribuciones al éxito del AFR.

Actividades de auditoría y cumplimiento de normas

Este año, el equipo de OCFO dedicó tiempo y recursos significativos para modificar el proceso de presentación de informes de Asociaciones Públicos-Privadas (P3) de la NASA. Nuestros auditores independientes identificaron una deficiencia significativa en el año fiscal 2021, donde se determinó que era necesario mejorar la evaluación de P3 de la NASA para cumplir con los requisitos de divulgación de la Declaración de Normas Federales de Contabilidad Financiera (SFFAS, por sus siglas en inglés) número 49 Junta Asesora de Normas Federales de Contabilidad (FASAB, por sus siglas en inglés): *Asociaciones público-privadas: Requisitos de divulgación, y los Requisitos para informes financieros* de la Circular A-136 de la Oficina de Gestión y Presupuesto (OMB, por sus siglas en inglés). La NASA implementó con éxito las recomendaciones y corrigió esta deficiencia durante el año fiscal 2022 mediante colaboraciones efectivas entre nuestras sedes y nuestros centros de la NASA para refinar y estandarizar nuestro proceso de evaluación y divulgación de P3.

Me complace informar que los auditores independientes no identificaron debilidades materiales o deficiencias significativas en su auditoría financiera para el año fiscal 2022. El dictamen de auditoría “limpia” sin modificaciones de la NASA muestra que nuestros estados financieros del año fiscal 2022 se presentan de manera justa y conforme a los PCGA. Además, los auditores no revelaron ningún caso de incumplimiento de las disposiciones aplicables de la Ley Federal de Mejora de la Gestión Financiera (FFMIA, por sus siglas en inglés) en los sistemas de gestión financiera de la NASA.

Logros clave de OCFO

El equipo de OCFO logró avances en nuestros esfuerzos por el Futuro del Trabajo y realizó una transición completa a un entorno de trabajo híbrido, que seguimos refinando y mejorando para permitir flexibilidad, al tiempo que cumplimos con los exigentes requisitos de nuestra oficina a fin de cumplir con nuestros objetivos. La NASA fue nuevamente reconocida y galardonada, por octavo año consecutivo, con el Certificado de Excelencia en Informes de Rendición de Cuentas (CEAR, por sus siglas en inglés) de la AGA. El comité de selección de CEAR también reconoció a la NASA con el Premio al Mejor de su Clase por su presentación visual en nuestro AFR, que nos permite interactuar de manera convincente con los lectores y destacar la importancia de la misión y los logros de la NASA.

15 DE NOVIEMBRE DE 2022

MENSAJE DEL DIRECTOR FINANCIERO (CONTINUACIÓN)

Por otra parte, seguimos comprometidos a fomentar una cultura y una fuerza laboral que sean innovadoras, inclusivas, diversas y que tengan el compromiso de utilizar las habilidades e ideas de todos para cumplir nuestras metas y objetivos comunes. Estamos logrando esta visión, en parte, centrándonos en nuestra estructura organizativa e integrando mejor nuestra fuerza laboral. Estamos reforzando la resiliencia empresarial mediante el fortalecimiento de la integración entre nuestras sedes y centros. Además, hemos establecido un nuevo cargo de Director de Finanzas Adjunto para mejorar y fortalecer la gestión financiera de la NASA. Estoy increíblemente orgulloso de las muchas colaboraciones excepcionales, bajo el liderazgo de los destacados directores financieros de nuestros centros y los directores financieros adjuntos de nuestras sedes, que son tan cruciales para lograr nuestros objetivos empresariales.

Felicitaciones al equipo de OCFO y a toda la fuerza laboral de la NASA por sus increíbles logros durante el año pasado. Estoy aún más entusiasmado con lo que lograremos colectivamente en los próximos años a medida que buscamos liderar y avanzar en la comprensión científica y tecnológica global, mejorar la accesibilidad y la inclusión, abordar los apremiantes desafíos del cambio climático y de una infraestructura sostenible, expandir el ámbito de lo que es posible en aeronáutica y espacio, y apoyar a esta sobresaliente fuerza laboral. Tengo plena confianza en nuestra talentosa fuerza laboral y sé que continuaremos brindando un administración financiera, un rigor en las adquisiciones y una gestión superiores para permitir estos logros y proporcionar el necesario rendimiento de cuentas al público.



Atentamente,

Margaret Vo Schaus

CERTIFICATE OF EXCELLENCE IN ACCOUNTABILITY REPORTING AWARD



On June 2, 2022, the AGA awarded NASA its prestigious Certificate of Excellence in Accountability Reporting (CEAR) award. This marks the 8th consecutive year NASA has been recognized for its excellency in financial reporting. NASA was also acknowledged for inspiring photographs and their captions throughout the AFR document. This recognition was awarded with a Best-In-Class Award.

“ Inspiring photographs and their captions, throughout, which encourage the reader to learn more about NASA and to read the AFR. These pictures also bring to life the narratives described, demonstrate the importance of NASA’s mission, and allow the reader to conceptualize some of the more technical information.”



GLOSSARY OF ACRONYMS

A

ACO	Announcement of Collaboration Opportunity
AFR	Agency Financial Report
AFRC	Armstrong Flight Research Center
AICPA	American Institute of Certified Public Accountants
AMP	Agency Master Plan
ARC	Ames Research Center
ARMWG	Agency Risk Management Working Group
ASAP	Aerospace Safety Advisory Panel
ASC	Accounting Standards Codification
ATV	Automated Transfer Vehicle

B

BPR	Baseline Performance Review
BAA	Broad Area Announcement

C

Caltech	California Institute of Technology
CAPSTONE	Cislunar Autonomous Positioning System Technology Operations and Navigation
CARES Act	Coronavirus Aid, Relief, and Economic Security Act
CDR	Critical Design Reviews
CEAR	Certificate of Excellence in Accountability Reporting
CFO	Chief Financial Officer
CFO Act	Chief Financial Officers Act of 1990
Challenger Trust Fund	Science, Space, and Technology Education Trust Fund
CIO	Chief Information Officer
CLPS	Commercial Lunar Payload Services
CoF	Construction of Facilities
CRV	Current Replacement Value
CSA	Canadian Space Agency
CSRS	Civil Service Retirement System

D

DA	Decision Authority
DATA Act	Digital Accountability and Transparency Act of 2014
DART	Double Asteroid Redirection Test



DCIA	Debt Collection Improvement Act
DEIA	Diversity, Equity, Inclusion, and Accessibility
DM Method	Deferred Maintenance Parametric Estimating Method
DM&R	Deferred Maintenance and Repairs
DT	Digital Transformation
E	
EAP	Equity Action Plan
EC	Executive Council
ECC	Enterprise Central Component
EDP	Enterprise Data Platform
EEJ	Equity and Environmental Justice
EGS	Exploration Ground Systems
EHP	Extravehicular Activity and Human Surface Mobility Program
EIC	Earth Information Center
Endeavor Trust Fund	Endeavor Teacher Fellowship Trust Fund
EPO	Enterprise Pricing Office
ERM	Enterprise Risk Management
ERMWG	Enterprise Risk Management Working Group
ESA	European Space Agency
ESAD	Enterprise Service and Analysis Division
ESBO	E-Business Systems Office
ESM	European-built Service Module
ESCO	Energy Service Company
ESDMD	Exploration Systems Development Mission Directorate
ESO	Earth System Observatory
ESPC	Energy Savings Performance Contract
EUL	Enhance Use Lease
Evidence Act	Foundations for Evidence-Based Policymaking Act of 2018
EVM	Earned Value Management
xEVA	Exploration Extravehicular Activity
xEVAS	Exploration Extravehicular Activity Services
EY	Ernst & Young LLP
F	
FAR	Federal Acquisition Regulation
FASAB	Federal Accounting Standards Advisory Board
FASB	Financial Accounting Standards Board
FBWT	Fund Balance with Treasury
FCI	Facility Condition Index



FECA	Federal Employees' Compensation Act
FEGLI	Federal Employees Group Life Insurance
FEHB	Federal Employee Health Benefits
FERS	Federal Employees Retirement System
FFMIA	Federal Financial Management Improvement Act
FFP	Firm Fixed Price
FFRDC	Federally Funded Research and Development Center
FMFIA	Federal Managers' Financial Integrity Act
FPA	Federal Program Agencies
FR	Financial Report of the U.S. Government
FY	Fiscal Year

G

GAAS	Generally Accepted Auditing Standards
GAAP	Generally Accepted Accounting Principles
GAO	Government Accountability Office
GCAM	Grant and Cooperative Agreement Manual
GISS	Goddard Institute for Space Studies
GONE	Grants Oversight and New Efficiency
GPRAMA	Government Performance and Results Modernization Act of 2010
GRC	Glenn Research Center
Green Book	GAO Standards of Internal Control in the Federal Government
GSFC	Goddard Space Flight Center
GTA	Government Task Agreements
GTAS	Government-wide Treasury Account Symbol Adjusted Trial Balance System
G-PP&E	General Property, Plant and Equipment

H

HALO	Habitation and Logistics Outpost
HiCAM	Hi-Rate Composite Aircraft Manufacturing
HLS	Human Landing Systems
HQ	NASA Headquarters
HTV	H-II Transfer Vehicle
HVA	High-Value Asset
HVAC	Heating, Ventilating, and Air Conditioning

I

IBNR	Incurred But Not Reported
IGT	Intragovernmental
IRB	Independent Review Board



ISRO	Indian Space Research Organisation
ISS	International Space Station
IT	Information Technology
J	
JAXA	Japan Aerospace Exploration Agency
JCL	Joint Cost and Schedule Confidence Level
JPL	Jet Propulsion Laboratory
JSC	Johnson Space Center
JWST	James Webb Space Telescope
K	
KSC	Kennedy Space Center
L	
LaRC	Langley Research Center
LCC	Launch Control Center
LEED	Leadership in Energy and Environmental Design
LEO	Low Earth Orbit
M	
MAF	Michoud Assembly Facility
MARE	Matroshka AstroRad Radiation Experiment
ML	Mobile Launcher
MSC	Mission Support Council
MSFC	Marshall Space Flight Center
MSWG	Management System Working Group
M&R	Maintenance and Repairs
N	
NAC	NASA Advisory Council
NACA	National Advisory Committee for Aeronautics
NASA	National Aeronautics and Space Administration
NBL	Neutral Buoyancy Laboratory
NextSTEP	Next Space Technologies for Exploration Partnerships
NFS	NASA FAR Supplement
NHPA	National Historic Preservation Act
NISAR	NASA-ISRO Synthetic Aperture Radar
NMAAHC	National Museum of African American History and Culture

NPR	NASA Procedural Requirements
NSSC	NASA Shared Services Center
O	
OCE	Office of the Chief Engineer
OCFO	Office of the Chief Financial Officer
OCHCO	Office of Chief Human Capital Officer
OCHMO	Office of the Chief Health and Medical Officer
OCIO	Office of the Chief Information Officer
OIG	Office of Inspector General
OMB	Office of Management and Budget
OP	Office of Procurement
OPM	Office of Personnel Management
OSI	Office of Strategic Infrastructure
OSI-FRED	OSI-Facilities and Real Estate Division
OSMA	Office of Safety and Mission Assurance
P	
P3	Public-Private Partnerships
PIIA	Payment Integrity Information Act
P.L.	Public Law
PMA	President's Management Agenda
PMC	Program Management Council
PP&C	Program Planning and Control
PPE	Power and Propulsion Element
President's Budget	Budget of the United States Government
PRIME	Polar Resources Ice Mining Experiment
PSE	Program Support Equipment
Q	
QAD	Quality Assurance Division
R	
R&D	Research and Development
R&T	Research and Technology
RCM	Reliability Centered Maintenance
RFI	Request for Information
RFP	Request for Proposal

S

SAO	Strategy and Architecture Office
SAP	Systems, Applications, and Products
SAT	Senior Assessment Team
SBR	Statement of Budgetary Resources
SCIC	Supply Chain Insight Center
SDA	Software Defined Access
SFFAS	Statement of Federal Financial Accounting Standards
SLS	Space Launch System
SMC	Senior Management Council
SNC	Statement of Net Cost
SO	Strategic Objective
SoA	Statement of Assurance
SSMS	Safety, Security, and Mission Services
STEM	Science, Technology, Engineering, and Mathematics
STS-1	Space Transportation System-1
STScI	Space Telescope Science Institute
SWOT	Surface Water and Ocean Topography

T

Treasury	U.S. Department of the Treasury
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U

U.S.	United States
U.S.C.	U.S. Code
UESC	Utility Energy Service Contract
UNICORN	Unified Comprehensive Operational Risk Network

V

VAB	Vehicle Assembly Building
VIPer	Volume of Integrated Performance

W

Webb	James Webb Space Telescope
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THANK YOU

The AFR was produced with the energies, time, and talents of the National Aeronautics and Space Administration employees in Washington, D.C. We offer our sincerest thanks and acknowledgments. In particular, we recognize the following individuals and organizations.

OFFICE OF THE CHIEF FINANCIAL OFFICER

Margaret Vo Schaus, CFO

Zeb Agbanyim	Jessica Davis	Courtney Mason	Joi Salisbury
Carlos Aguirre	John Dillon	John Mathai	Tierra Sawe
Terrance Alfred	Kristian Dixon	Jonathan “Craig” McArthur	Desiree Seaward
Cherisse Aquil	Henri Edmond	Teferi Mekonnene	Sunita Sharma
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Haideh Chubin	Andre Long	Jenny Russell	Ryan Willing

OFFICE OF STRATEGIC INFRASTRUCTURE

Jim Durham

Kristy Hopewell

OFFICE OF INSPECTOR GENERAL

Deirdre Alexander

Andrada Cornea

Regina Dull

Mark Jenson

MISSION SUPPORT DIRECTORATE

Anthony Mitchell

Jeanne Tran

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We offer special thanks to our graphic designer, **Darren Fuller**.





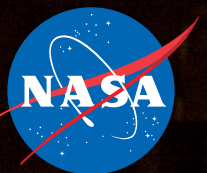
Mary W. Jackson NASA Headquarters
300 E Street SW (Hidden Figures Way)
Washington, DC 20546
(202) 358 - 0001 (Office)
(202) 358 - 4338 (Fax)



Thank you for interest in NASA's FY 2022 AFR. We welcome your comments on how we can make this report more informative for our readers. Electronic copies of this report and prior years' reports are available through the Agency's website. Please send your comments to: hq-ocfo-afrrfeedback@mail.nasa.gov

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**National Aeronautics and
Space Administration**

The SpaceX Falcon 9 rocket is seen in this 30-second exposure photograph as it launches with the Double Asteroid Redirection Test, or DART, spacecraft onboard, Tuesday, Nov. 23, 2021, Pacific time (Nov. 24 Eastern time) from Space Launch Complex 4E at Vandenberg Space Force Base in California. DART is the world's first full-scale planetary defense test, demonstrating one method of asteroid deflection technology. The mission was built and is managed by Johns Hopkins APL for NASA's Planetary Defense Coordination Office.

PHOTO CREDIT — NASA/Bill Ingalls