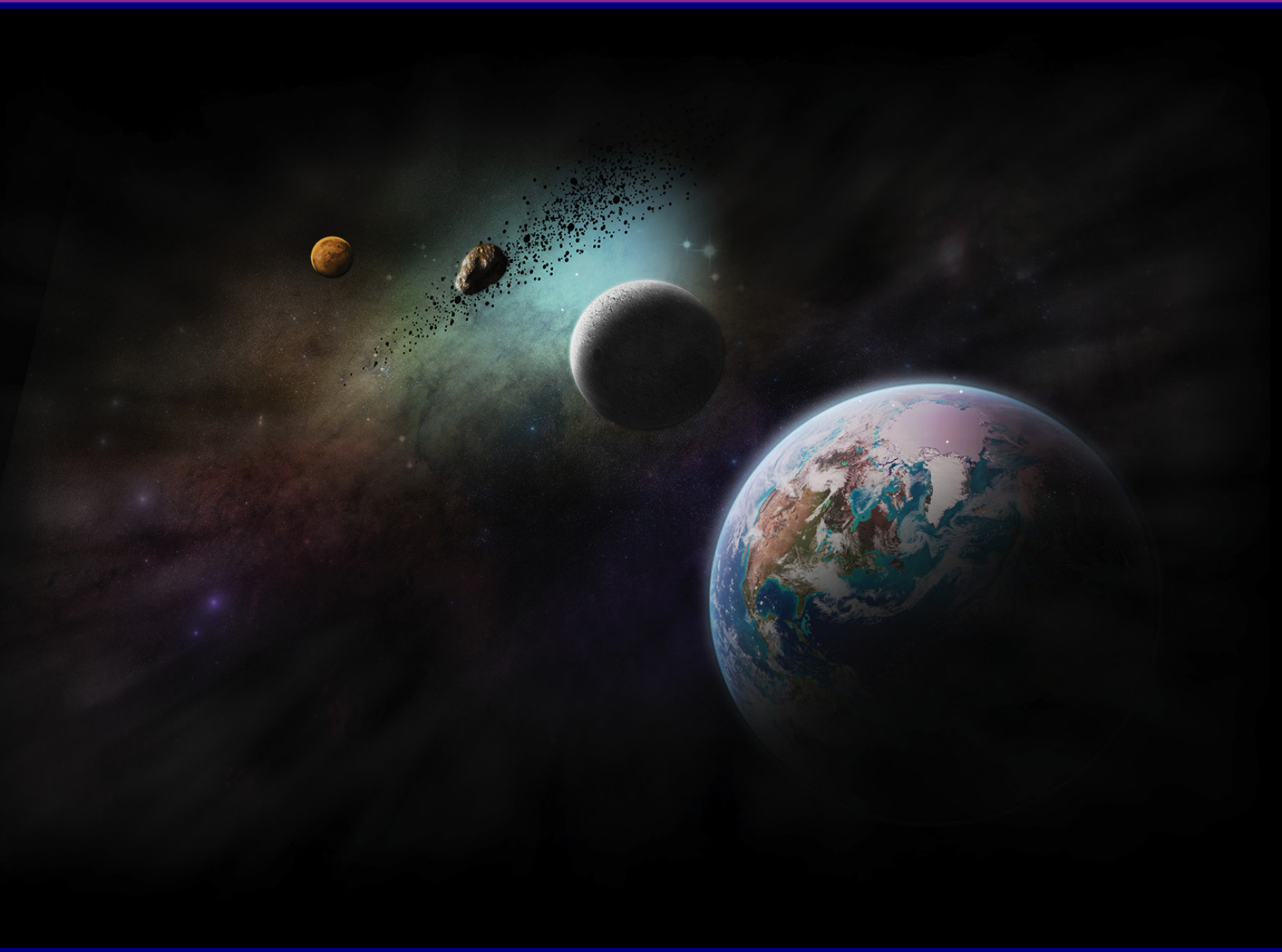
National Aeronautics and Space Administration



FY 2014 Summary of Performance and Financial Information

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Cover Image Captions and Credits

Front Cover:

Outside Front Main Image: Artist concept of planets space. (Credit: NASA)

Outside Front Bottom Images (left to right): Crawler-Transporter Passes Milestone Test at NASA's Kennedy Space Center. (Credit: NASA); MAVEN Ready for Launch. (Credit: NASA); Pathfinding Operations for Orion Spacecraft at Kennedy Space Center. (Credit: NASA)

Inside Front: Orion Heat Shield Transported Aboard Super Guppy Plane. (Credit: NASA)

Rear Cover:

Outside Rear**:** Iberian Peninsula at Night. (Credit: NASA)

Message from the Administrator

February 17, 2015

I am proud to present the National Aeronautics and Space Administration's (NASA) fiscal year (FY) 2014 Summary of Performance and Financial Information, summarizing our financial performance and progress toward achieving our Mission. It also provides insight into our stewardship of taxpayer dollars and the resources entrusted to NASA.

We are exploring the furthest reaches of space, monitoring Earth's vital signs, conducting research on the International Space Station (ISS), building the next premier space observatory, investing in a vibrant and growing American commercial space industry, and helping make the Next Generation Air Transportation System a reality. NASA innovation drives our journey to reach new heights, reveal the unknown, and benefit all of humanity. Efficient and effective financial management makes our mission possible. For FY 2014, NASA received an unmodified "clean" audit opinion on our financial statements. The report of the independent auditors is included in NASA's FY 2014 Agency Financial Report. I am able to provide reasonable assurance that the performance and financial information in this report is reliable and complete.

In early 2014, we released our new Strategic Plan, outlining our mission to drive advances in science, technology, aeronautics, and space exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of Earth. Our investments have put NASA firmly on a journey to Mars. This ambitious goal involves everything we do. It will transform technology and define our generation. To enable that goal, we are developing new systems for the human exploration of deep space. In FY 2014, we launched the first flight test of the Orion spacecraft aboard a Delta IV Heavy launch vehicle on December 5, 2014. In FY 2014, we also accomplished major milestones in the development of the new Space Launch System (SLS), which will be the most powerful rocket in history. Along with Orion, these new capabilities will carry astronauts into deep space.

Our endeavors in space are good for the economy, and our Launch America initiative has seen the return of an American launch industry, insourcing work back to U.S. shores. Space Exploration Technologies Corporation (SpaceX) and Orbital Sciences Corporation are flying regular contracted re-supply missions, delivering cargo and science experiments from a U.S. launch site to the ISS. American companies also are developing the new systems in which astronauts soon will travel from the United States to low-Earth orbit by 2017. These partnerships with SpaceX and The Boeing Company are helping us make the next giant leap by developing new ways of reaching space, creating jobs, and enabling NASA to focus on the cutting-edge technologies for future missions.

Our impressive fleet of science missions take us on a journey of discovery to understand our home planet and its Sun, search for life beyond, and explore the origins and future of the universe. We are out there

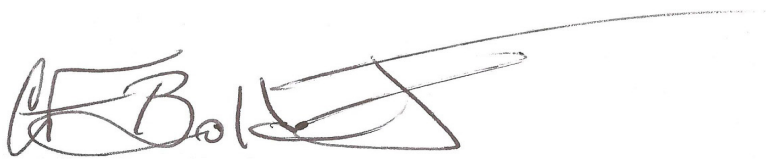
exploring the solar system and beyond, with over 120 spacecraft. The Kepler Space Telescope discovered the first Earth-sized planet orbiting within the "habitable zone" of a distant star, the zone around a star where water remains liquid on the surface of the planet. This is a promising first step toward finding a world like our own. We added to our scientific and exploration capabilities by launching the Mars Atmosphere and Volatile EvolutioN (MAVEN) mission in November 2013, the Global Precipitation Measurement (GPM) mission in February 2014, and the Orbiting Carbon Observatory (OCO)-2 in July 2014.

Technology drives exploration, and transformative capabilities and cutting-edge technologies are being developed, tested, and flown by NASA today. In June 2014, NASA flew the Low Density Supersonic Decelerator, testing new, full-scale parachutes and drag devices at supersonic speeds for future use in landing heavier spacecraft on Mars. Our technologies, partnerships, and education for the next generation contribute to the Nation's innovation economy.

Air travel fuels our modern world, and NASA is with you when you fly. We are committed to transforming aviation by dramatically reducing its environmental impact, maintaining safety in more crowded skies, and paving the way toward revolutionary aircraft shapes and propulsion.

NASA's mission success is the result of our multi-disciplinary team of diverse, talented people across our Centers. We are committed to nurturing an innovative environment that fosters teamwork and excellence. For the third year in a row, employees named NASA the Best Place to Work in the Federal Government among large agencies.

As shown in this report, we strive to put your tax dollars to efficient and innovative use. In the year ahead, NASA will continue to push the boundaries of exploration. Along the way, we will make new scientific discoveries, develop new technologies and capabilities, and deliver tangible benefits to the public. If you would like more detail on our progress toward achieving our strategic goals, I invite you to read our Annual Performance Report, which was released with NASA's Budget Estimates on February 2, 2015.



Charles F. Bolden, Jr.
Administrator

Table of Contents

Image Caption: Caribbean Sea Viewed From the International Space Station - From the Earth-orbiting International Space Station, flying some 225 nautical miles above the Caribbean Sea in the early morning hours of July 15, NASA astronaut Reid Wiseman photographed this north-looking panorama that includes parts of Cuba, the Bahamas and Florida, and even runs into several other areas in the southeastern U.S. The long stretch of lights to the left of center frame gives the shape of Miami. (Credit: NASA)

Welcome to NASA

Image Caption: Liftoff! OCO-2 Heads to Orbit - A United Launch Alliance Delta II rocket launches with the Orbiting Carbon Observatory-2 (OCO-2) satellite onboard from Space Launch Complex 2 at Vandenberg Air Force Base, California. OCO-2 will measure the global distribution of carbon dioxide, the leading human-produced greenhouse gas driving changes in Earth's climate. (Credit: NASA)

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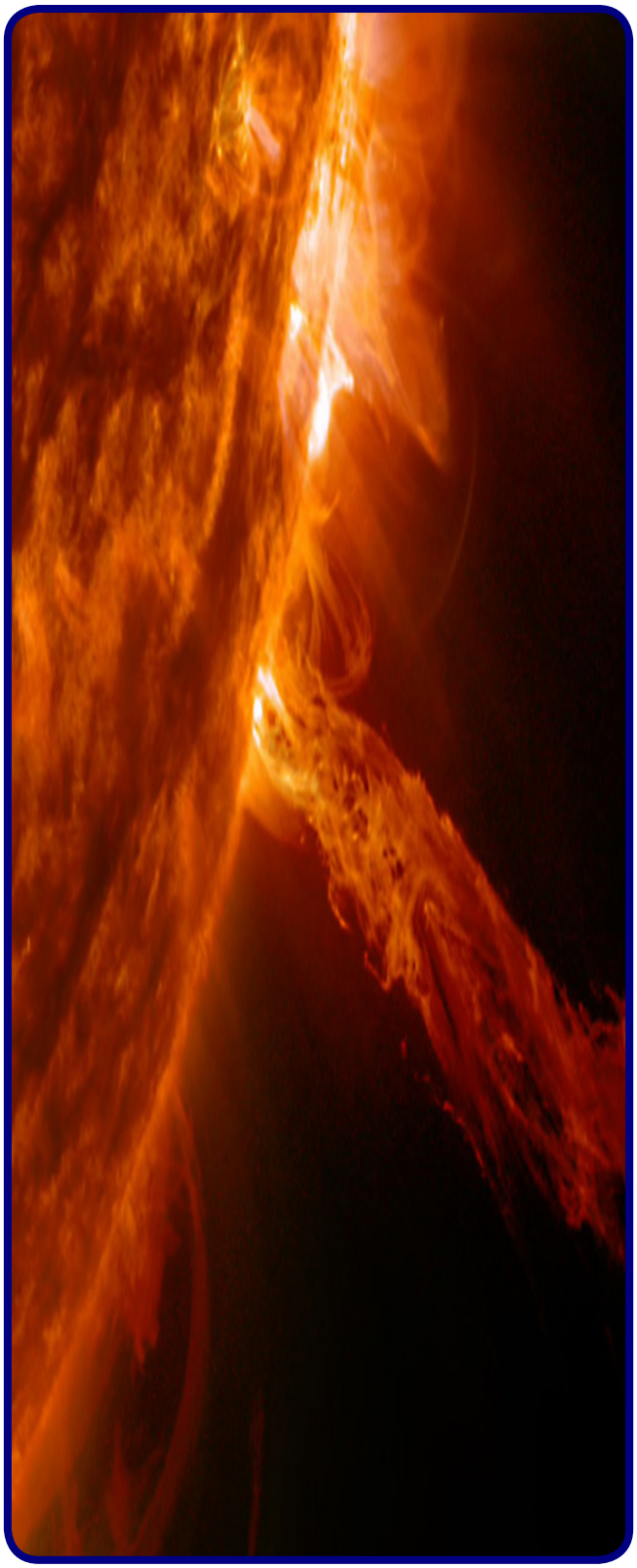
Hubble Sees a Dwarf Galaxy Shaped by a Grand Design. (Credit: ESA/NASA)

Introduction

This fiscal year (FY) Summary of Performance and Financial Information is an excerpt from the FY 2014 Agency Financial Report, which provides an overview of NASA's major programmatic and financial results for FY 2014. It integrates financial and program performance to demonstrate stewardship and accountability and highlights FY 2014 achievements.

NASA demonstrates stewardship with resources and accountability for results through compliance with the Chief Financial Officers Act (CFO Act) and the Government Performance and Results Act Modernization Act of 2010 (GPRAMA). Financial aspects of the Agency's business operations are accounted for according to the U.S. generally accepted accounting principles and Federal Accounting Standards Advisory Board standards.

NASA presents both performance and financial results of operations by strategic goal. Highlights of key program activities contributing to each strategic goal are provided in the Mission Performance discussion (page 15) of the AFR. A high-level summary of the linkage between program results and cost of opera-



tions is provided in the Statement of Net Cost (SNC), which can be found in the Financial Section (page 71) of the AFR. The SNC presents comparative net cost of operations during FY 2014 and FY 2013 by strategic goal and for the Agency as a whole. In addition, the Financial Section explains any significant changes in NASA's financial condition from FY 2013 to FY 2014.

Financial systems that meet requirements of the Federal Financial Management Improvement Act (FFMIA) are vital to NASA's financial management program. The AFR describes NASA's compliance with the FFMIA, as well as the built-in checks and balances required by the Office of Management and Budget's (OMB) Circular A-123. Circular A-123 places responsibility for internal controls over financial reporting on Agency management for the purpose of safeguarding assets and improving efficiency and effectiveness of operations.

Finally, the AFR presents the Agency's audited FY 2014 and FY 2013 financial statements and the related independent auditor's financial statements audit opinion. The 2014 AFR can be found on NASA's Web site at:
http://www.nasa.gov/news/budget/

Image Caption: A stream of plasma burst out from the sun, but since it lacked enough force to break away, most of it fell back into the sun (May 27, 2014). This eruption was minor and such events occur almost every day on the sun and suggest the kind of dynamic activity being driven by powerful magnetic forces near the sun's surface. (Credit: NASA/Solar Dynamics Observatory)

Mission and Vision Statement

The National Aeronautics and Space Act of 1958 created NASA to provide for research into problems of flight within and outside the Earth's atmosphere and to ensure that the United States conducts activities in space devoted to peaceful purposes for the benefit of humankind.

In 2010, the President and the Congress unveiled an ambitious new direction for NASA, laying the groundwork for a sustainable program of exploration and innovation. This new direction extends the life of the International Space Station (ISS), supports the growing commercial space industry, and addresses important scientific challenges while continuing our commitment to robust human space exploration, science, and aeronautics programs. The strong bipartisan support for the NASA Authorization Act of 2010 confirms our essential role in addressing the Nation's priorities.

In 2014, NASA released a new strategic plan that builds upon the groundwork established in 2010 by outlining the Agency's vision for the future and providing a clear, unified, and long-term direction for all of NASA's activities. The plan is the foundation on which NASA will build and measure the success of its programs and projects. The Strategic Plan can be found on NASA's Web site at:
http://www.nasa.gov/sites/default/files/files/2014_NASA_Strategic_Plan.pdf

As established in the strategic plan, NASA's Vision and Mission are:

The NASA Vision

We reach for new heights and reveal the unknown for the benefit of humankind.

The NASA Mission

Drive advances in science, technology, aeronautics, and space exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of Earth.

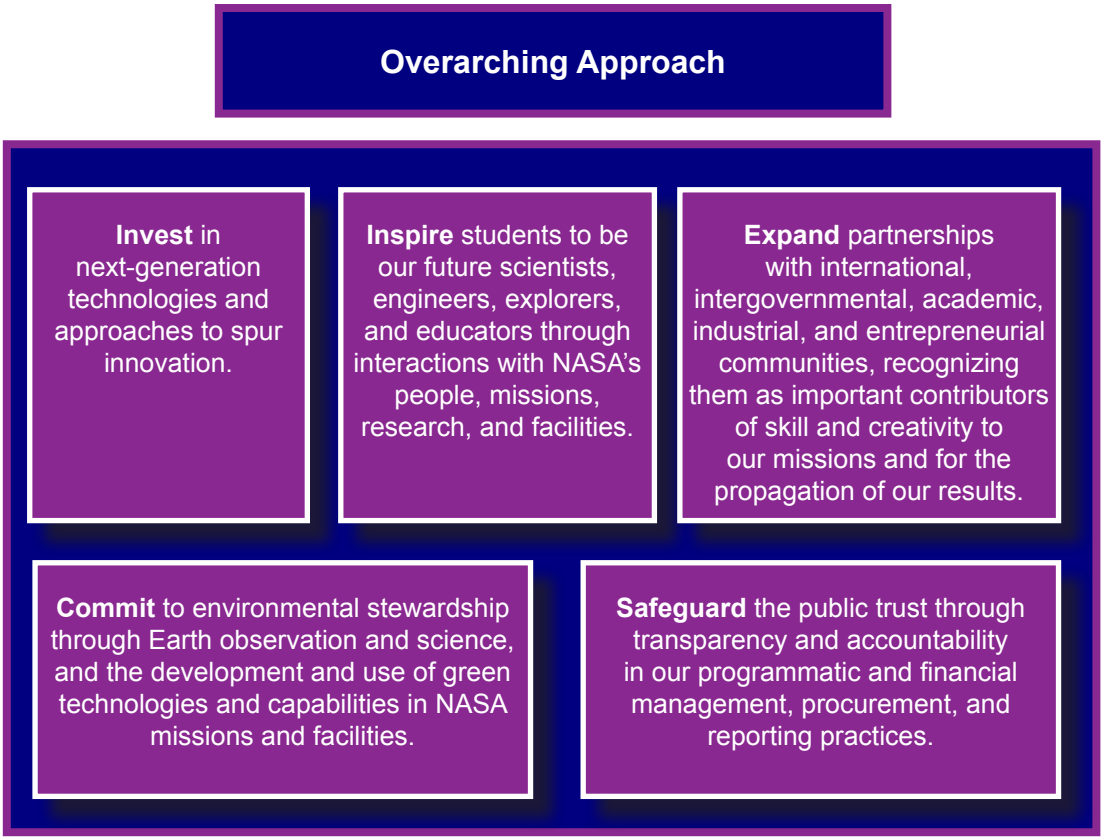
NASA's three strategic goals are:

1. Expand the frontiers of knowledge, capability, and opportunity in space.

2. Advance understanding of Earth and develop technologies to improve the quality of life on our home planet.

3. Serve the American public and accomplish our Mission by effectively managing our people, technical capabilities, and infrastructure.

NASA's overarching approach for achieving the vision contains five key strategies for governing the management and conduct of our aeronautics and space programs. These strategies are the standard practices that each organization within NASA employs in developing and executing their plans to achieve our vision. They also provide a framework that guides our support for other areas of National and Administration policy: government transparency; science, technology, engineering, and mathematics (STEM) education; energy and climate change; innovation; and increased citizen and partnership participation to help address the multitude of challenges faced by our Nation. The strategies listed below, help strengthen the Agency and support U.S. competitiveness on a global scale.



NASA also developed four new Agency Priority Goals for FY 2014 and FY 2015, consistent with the requirements of the GPRAMA. The statements for each Agency Priority Goal are as follows, and more information is available at: http://www.performance.gov/agency/national-aeronautics-and-space-administration?view=public#overview.

Agency Priority Goals

Human Exploration and Operations, Commercial Crew Program:
By September 30, 2015, the Commercial Crew Program will complete the first phase of certification efforts with Commercial Crew Transportation partners and will make measurable progress toward the second certification phase with industry partners while maintaining competition.

Human Exploration and Operations, International Space Station Program:
By September 30, 2015 , NASA will increase the utilization of the International Space Station internal and external research facility sites with science and technology payload hardware to 70 percent.

Science, James Webb Space Telescope Program:
By October 2018, NASA will launch the James Webb Space Telescope, the premier space-based observatory. To enable this launch date, NASA will complete the James Webb Space Telescope primary mirror backplane and backplane support structures and deliver them to the Goddard Space Flight Center for integration with the mirror segments by September 30, 2015.

Human Exploration and Operations, Exploration Systems Division:
By September 30, 2015, NASA will complete the Space Launch System, Orion, and Exploration Ground Systems Critical Design Reviews (CDRs), allowing the programs to continue to progress toward Exploration Mission (EM)-1 and EM-2 missions.

Organization

NASA's organizational structure is designed to accomplish its mission and provide a framework for sound business operations, management controls, and safety oversight. The Office of the Administrator provides the overarching vision and strategic direction for the Agency. The Agency's science, research, and technology development work is implemented through four Mission Directorates supported by one Mission Support Directorate:

Science Mission Directorate (SMD) manages the Agency's Science portfolio budget account and focuses on programmatic work on Earth, planetary, astrophysics, and heliophysics research. SMD engages the United States' science community, sponsors scientific research, develops and deploys satellites and probes in collaboration with NASA's international partners to answer fundamental scientific questions and expand our understanding of space. Additional information on SMD is available at: http://science.nasa.gov/.

Aeronautics Research Mission Directorate (ARMD) manages the budget account for the Agency's Aeronautics and Applied Research activities that improves current and future air travel. ARMD works to solve challenges that still exist in our nation's air transportation system, including: air traffic congestion, safety, and environmental impacts. Another significant goal of ARMD programs is to improve our national air transportation system by developing "green aviation" solutions. Additional information on the ARMD is available at: http://www.aeronautics.nasa.gov/.

Space Technology Mission Directorate (STMD) manages the Space Technology budget account, which supports crosscutting activities of the Office of the Chief Technologist. STMD develops crosscutting and pioneering new technologies and capabilities needed by the Agency to achieve its current and future missions. STMD programs complement other technology development activities in NASA's other Mission Directorates. In addition, STMD has a goal of developing technologies that support the broader space economy and other Government missions in space. Additional information on STMD is available at: http://www.nasa.gov/directorates/spacetech/home/index.html

Human Exploration and Operations Mission Directorate (HEOMD) manages the budget account for the Exploration and Space Operations portfolio. HEOMD manages development of the Space Launch System (SLS), the Orion Multi-Purpose Crew Vehicle (Orion MPCV), future exploration technologies, and works with U.S. commercial space industry partners to develop commercial systems for providing crew and cargo transportation services to and from low Earth orbit. HEOMD also manages operations and research for the ISS, and communications systems and networks that enable deep space and near-Earth exploration. Additional information on the HEOMD is available at: http://www.nasa.gov/directorates/heo/home/index.html.

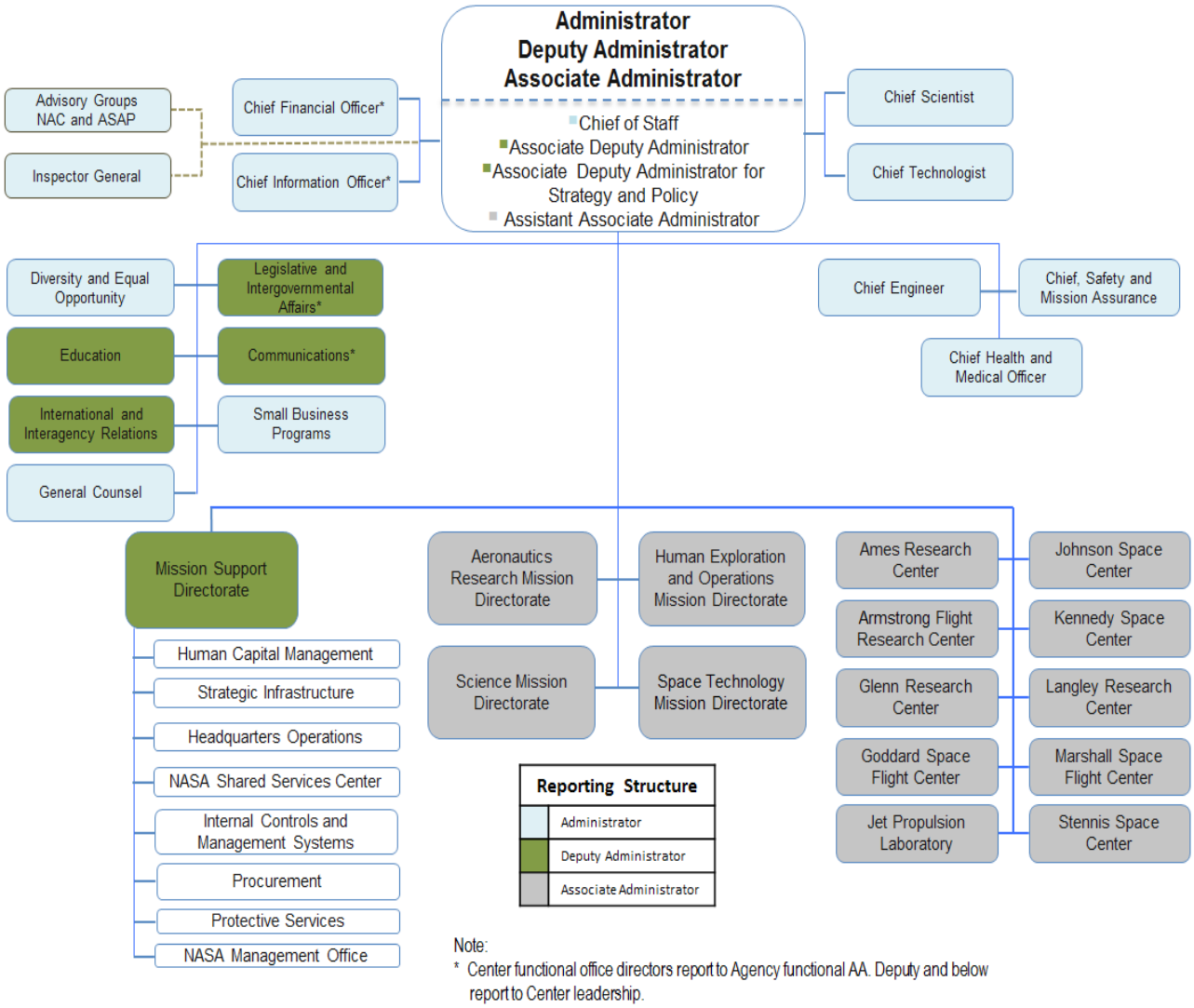
Mission Support Directorate (MSD) supports all NASA Missions in a crosscutting manner. For example, MSD manages the Cross Agency Support (CAS) and Construction and Environmental Compliance and Restoration (CECR) accounts which cut across all Mission Directorates. CAS and CECR accounts fund operations at Headquarters and the Centers as well as institutional and programmatic construction of facilities. MSD reports progress on major national initiatives to the Administrator and other senior Agency officials; provides independent reviews and/or investigations; and liaises with the public and other Federal agencies. MSD is based at Headquarters, but has representatives at the Centers to provide coordination and control. Additional information on the MSD is available at: http://msd.hq.nasa.gov/.

Office of Education (Education) develops and manages a portfolio of educational programs for students and teachers at all levels. Education seeks to develop a vibrant pool of future workforce for sustainable support of national and NASA mission by attracting and retaining students in STEM disciplines and raising public awareness of NASA's activities. To achieve these goals, Education works in partnership with other Government agencies, non-profit organizations, museums and the education community at large. Additional information on the Office of Education is available at:
http://www.nasa.gov/centers/armstrong/education/mission.html

The **Administrator's Staff Office** support the Administrator's administrative responsibilities by providing a range of high-level guidance and support in critical areas like safety and mission assurance, technology planning, education, equal opportunity, information technology, financial administration, small business administration, international relations, and legislative and intergovernmental affairs. Additional information on the Administrator's Staff Offices is available at: http://www.nasa.gov/about/org_index.html.

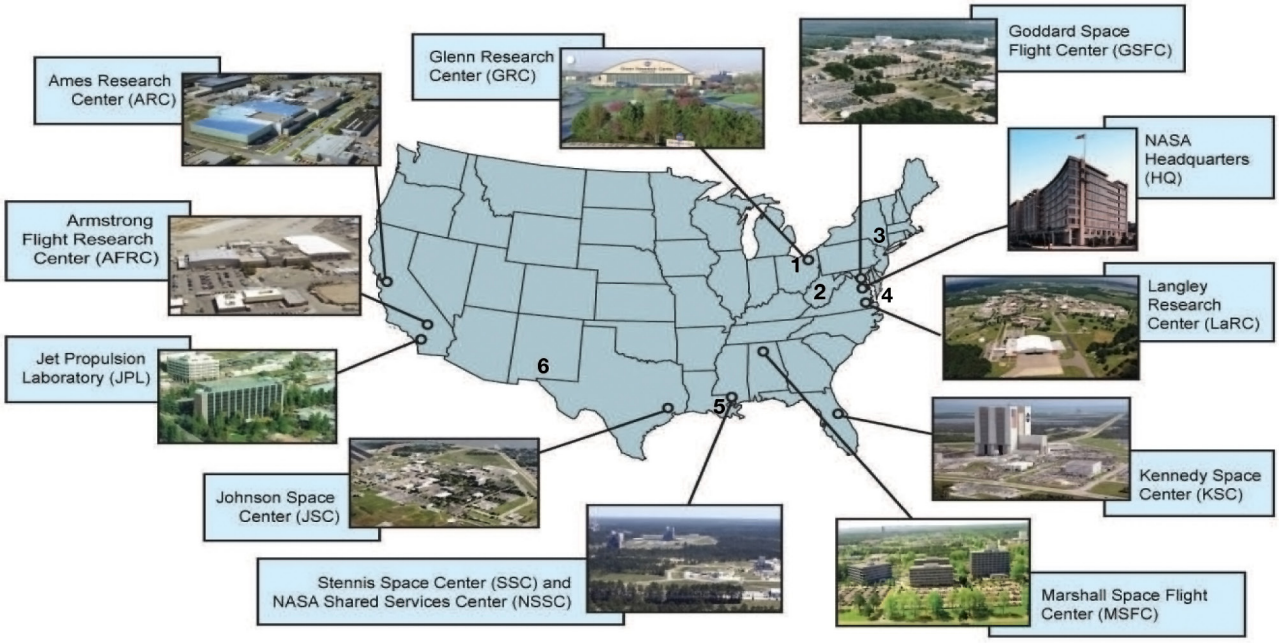
Administratively, NASA is organized into one Headquarters Office located in Washington, DC, nine operating Centers located across the country, and the Jet Propulsion Laboratory, a Federally funded research and development center operated under a contract with the California Institute of Technology. NASA works in partnership with academia, the private sector, state and local governments, other Federal agencies, and a number of international organizations to support and achieve its mission.

Organizational Structure



Centers and Facilities Nationwide

Under the leadership of the Administrator, NASA offices at Headquarters provide overall guidance and direction to the Agency. NASA's Centers and installations conduct the Agency's day-to-day work in laboratories, on airfields, in wind tunnels, in control rooms, and in NASA's other one-of-a-kind facilities.



Other NASA Facilities
(noted by numbers on map)

1) Plum Brook Station managed by GRC
2) Software Independent Verification and Validation Facility managed by GSFC
3) Goddard Institute for Space Studies managed by GSFC
4) Wallops Flight Facility managed by GSFC
5) Michoud Assembly Facilities managed by MSFC
6) White Sands Test Facility and Space Network managed by JSC

Note: The Jet Propulsion Laboratory (JPL) is a federally funded research and development center in Pasadena, California. The California Institute of Technology manages JPL.

The NASA Shared Services Center (NSSC) was established in March 2006 to provide all NASA centers timely, accurate and cost-effective support services in the areas of financial management, human resources, information technology, procurement and business support services.

Workforce

As of the end of FY 2014, NASA employed more than 17,500 civil servants, including full-time, part-time, term appointees, student, and other non-permanent workers at nine Centers, Headquarters, and the NASA Shared Services Center (NSSC). In addition, approximately 4,500 full-time equivalent employees perform NASA-funded work as employees of the Jet Propulsion Laboratory, operated by the California Institute of Technology. More information about NASA's workforce is available at: https://wicn.nssc.nasa.gov/. The NASA Office of Human Capital Management (OHCM) is responsible for planning and managing the Agency's workforce to ensure that the right skills are available to support Agency mission.

NASA's talented and engaged people are our greatest resource. NASA's mission requires great responsibility and the continued need for a highly skilled, agile, inclusive, and innovative workforce. While many drivers of a positive workplace culture contribute to employee engagement and mission accomplishment, analysis has shown that three areas have the greatest potential to increase innovation given our current environment. The NASA Strategic Management Council has agreed to focus on these three principal areas that will help to embed innovation in the NASA culture.

- Recognizing and rewarding innovative performance: Reward and appreciate employees for their innovative performance and contributions to their workplace.
- Engaging and connecting the workforce: Engage employees in the NASA mission and enable them to cooperate, collaborate, and network with one another.
- Building model supervisors and leaders: Develop supervisors and leaders who view developing employees as an important and productive use of time.

NASA cares about the environment in which employees work. Direct attention to the NASA work environment, workforce, and culture through both inclusion and innovation strategies are critical to achieving NASA's mission.

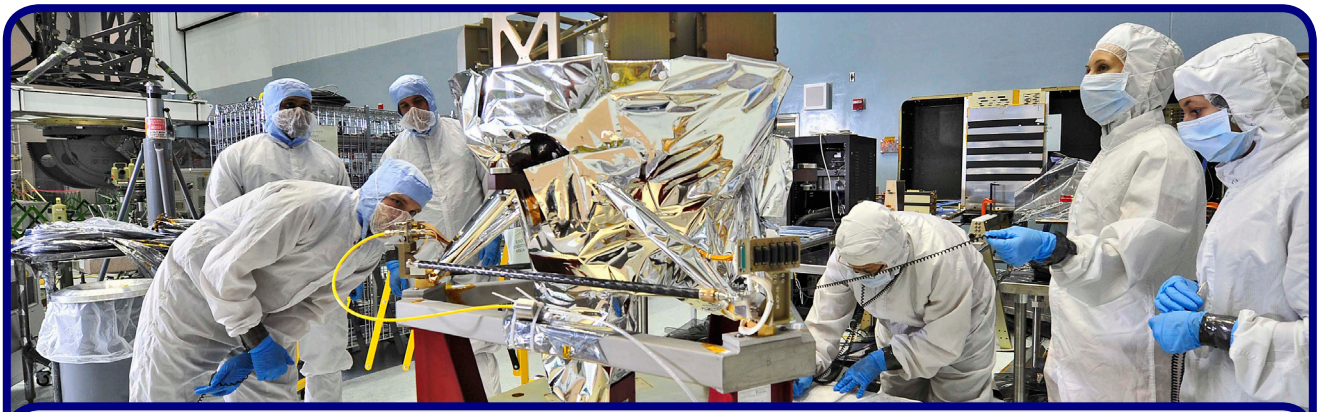


Image Caption: Contamination control engineers conduct a review of the James Webb Space Telescope's Mid-Infrared Instrument, as part of the standard receiving inspection. They are looking for the tiniest traces of dust or contamination which would have to be remedied because cleanliness is critical for such a sensitive instrument. (Credit: NASA/Chris Gunn)

Core Values

NASA's tradition of excellence is rooted in the four uncompromising shared core values of safety, integrity, teamwork, and excellence, as well as the firm belief that failure is not an option.

Safety: NASA's constant attention to safety is the cornerstone upon which we build mission success. We are committed, individually and as a team, to protecting the safety and health of the public, our team members, and those assets that the Nation entrusts to us.

Integrity: NASA is committed to maintaining an environment of trust, built upon honesty, ethical behavior, respect, and candor. Our leaders encourage this virtue in the NASA workforce by fostering an open flow of communication on issues among all employees without fear of reprisal. At NASA, we regard and reward employees for demonstrating integrity. Building trust through ethical conduct as individuals and as an organization is a necessary component of mission success.

Teamwork: NASA's most powerful asset for achieving mission success is a multidisciplinary team of diverse, competent people across NASA Centers. Our approach to teamwork is based on a philosophy that each team member brings unique experience and important expertise to project issues. Recognition of and openness to that insight improves the likelihood of identifying and resolving challenges to safety and mission success. We are committed to creating an environment that fosters teamwork and processes that support equal opportunity, collaboration, continuous learning, and openness to innovation and new ideas.

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 both the ordinary and the extraordinary.

FY 2014 In Review

Set of NanoRacks CubeSats Deployed From International Space Station. (Credit : NASA)

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Mission Performance

Performance Overview

NASA has chosen to produce an Agency Financial Report (AFR) and Annual Performance Report (APR). NASA will publish its FY 2014 APR concurrently with its Congressional Budget Justification and will post it on NASA's Web site at http://www.nasa.gov by February 2015.

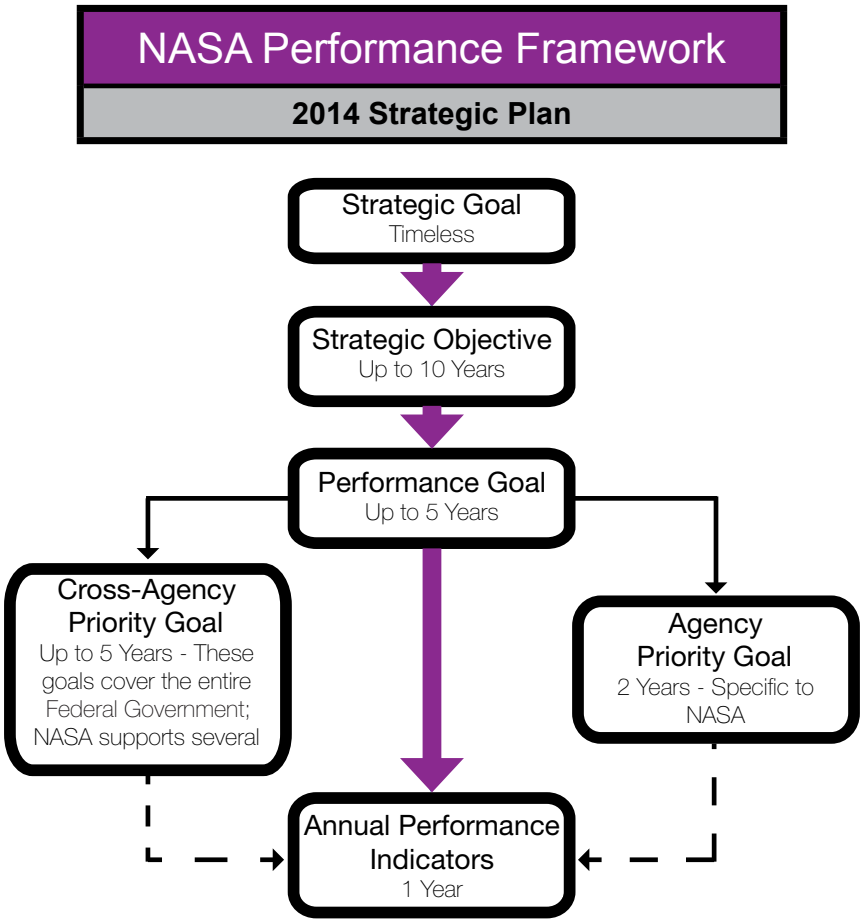
NASA has a culture of performance and data-driven performance management, as recognized by Congress, the Government Accountability Office (GAO), and the Office of Management and Budget (OMB). NASA continues to work hard to improve its performance management system to increase accountability, transparency, and oversight, adding sophistication and discipline to this system. This leads to more consistent performance results across NASA's missions, helping to improve the use of performance information and makes the best use of the resources entrusted to the Agency by the American people.

In FY 2014, NASA released its new 2014 Strategic Plan. NASA's strategic goals and objectives are as follows:

Strategic Goal 1	Strategic Goal 2	Strategic Goal 3
		
Expand the frontiers of knowledge, capability, and opportunity in space	**Advance understanding of Earth and develop technologies to improve the quality of life on our home planet**	**Serve the American public and accomplish our Mission by effectively managing our people, technical capabilities, and infrastructure**
By empowering the NASA community to…	By engaging our workforce and partners to…	By working together to…
Objective 1.1: Expand human presence into the solar system and to the surface of Mars to advance exploration, science, innovation, benefits to humanity, and international collaboration. **Objective 1.2:** Conduct research on the International Space Station (ISS) to enable future space exploration, facilitate a commercial space economy, and advance the fundamental biological and physical sciences for the benefit of humanity. **Objective 1.3:** Facilitate and utilize U.S. commercial capabilities to deliver cargo and crew to space. **Objective 1.4:** Understand the Sun and its interactions with Earth and the solar system, including space weather. **Objective 1.5:** Ascertain the content, origin, and evolution of the solar system and the potential for life elsewhere. **Objective 1.6:** Discover how the universe works, explore how it began and evolved, and search for life on planets around other stars. **Objective 1.7:** Transform NASA missions and advance the Nation's capabilities by maturing crosscutting and innovative space technologies.	**Objective 2.1:** Enable a revolutionary transformation for safe and sustainable U.S. and global aviation by advancing aeronautics research. **Objective 2.2:** Advance knowledge of Earth as a system to meet the challenges of environmental change, and to improve life on our planet. **Objective 2.3:** Optimize Agency technology investments, foster open innovation, and facilitate technology infusion, ensuring the greatest national benefit. **Objective 2.4:** Advance the Nation's STEM education and workforce pipeline by working collaboratively with other agencies to engage students, teachers, and faculty in NASA's missions and unique assets.	**Objective 3.1:** Attract and advance a highly skilled, competent, and diverse workforce, cultivate an innovative work environment, and provide the facilities, tools, and services needed to conduct NASA's missions. **Objective 3.2:** Ensure the availability and continued advancement of strategic, technical, and programmatic capabilities to sustain NASA's Mission. **Objective 3.3:** Provide secure, effective, and affordable information technologies and services that enable NASA's Mission. **Objective 3.4:** Ensure effective management of NASA programs and operations to complete the mission safely and successfully.

At the heart of NASA's strategic goals and objectives remain the core missions of human space exploration, Earth and space science, aeronautics, and technology development. The strategic plan focuses on creating a future that leverages our preeminence in science and technology to extend humanity's reach into space, improve life on Earth, protect our home planet, encourage innovation, and strengthen the American economy. In particular, we are emphasizing building capabilities for human space exploration, commercial space transportation, the use of the International Space Station (ISS) for research, and developing the James Webb Space Telescope (JWST).

NASA sets near-term performance goals (PGs), which are targets within the four-year span of the Strategic Plan, as well as annual performance indicators (APIs) to measure and communicate progress towards achieving the Agency's Vision and Mission. These PGs and APIs are aligned to our strategic goals and objectives. Together, the APIs, PGs, Strategic Objectives, and Strategic Goals form NASA's strategy-performance framework, along with Cross-Agency Priority (CAP) Goals and Agency Priority Goals (APGs).



In this FY 2014 Summary of Performance and Financial Information (SPFI), NASA presents a high-level summary of performance, reflecting year-end assessments of progress toward the PGs and APIs. More detailed information will be provided in the Annual Performance Report (APR) in February 2015 at: http://www.nasa.gov

NASA determines these ratings based on a series of internal assessments that are part of ongoing monitoring of NASA's program and project performance. External entities, such as scientific peer review committees and aeronautics technical evaluation bodies, validate the ratings prior to publication in the APR.

Generic Performance Goal and Annual Performance Indicator Rating Criteria	
Green (On Track)	NASA achieved or expects to achieve the intent of the PG or API in the planned timeframe and the majority of activities, milestones, deliverables, or results.
Yellow (At Risk)	NASA expects to achieve the intent of the PG or API in the planned timeframe and achieve the majority of activities, milestones, deliverables, or results; however, there is at least one likely programmatic, cost, or schedule risk.
Red (Not on Track)	NASA does not expect to achieve the PG or API within the planned timeframe or does not expect to achieve the intended results or progress.
White (Cancelled or Postponed)	NASA senior management cancelled this PG or API and the Agency is no longer pursuing relevant activities during the fiscal year.

Performance Summary

In FY 2014, NASA reviewed progress toward 72 performance goals and 120 APIs. NASA provided the FY 2014 Performance Plan online at: http://www.nasa.gov in April 2013. Since then, NASA updated the order, number, and content of the FY 2014 performance goals and APIs in light of the new Strategic Plan.

The summary of NASA's assessment of progress by strategic objective is provided below. The Agency will release more detailed information with the APR in February 2015.

Performance Goals and Annual Performance Indicators

FY 2014 Ratings by Strategic Goal

Strategic Goal 1

Expand the frontiers of knowledge, capability, and opportunity in space.

Objective	PGs	APIs
1.1	4	8
1.2	6	10
1.3	2	4
1.4	4	7
1.5	6	10
1.6	5	6 | 1
1.7	3	5
Total	30	51
Summary	100% Green	98% Green 2% Yellow

Strategic Goal 2

Advance understanding of Earth and develop technologies to improve the quality of life on our home planet.

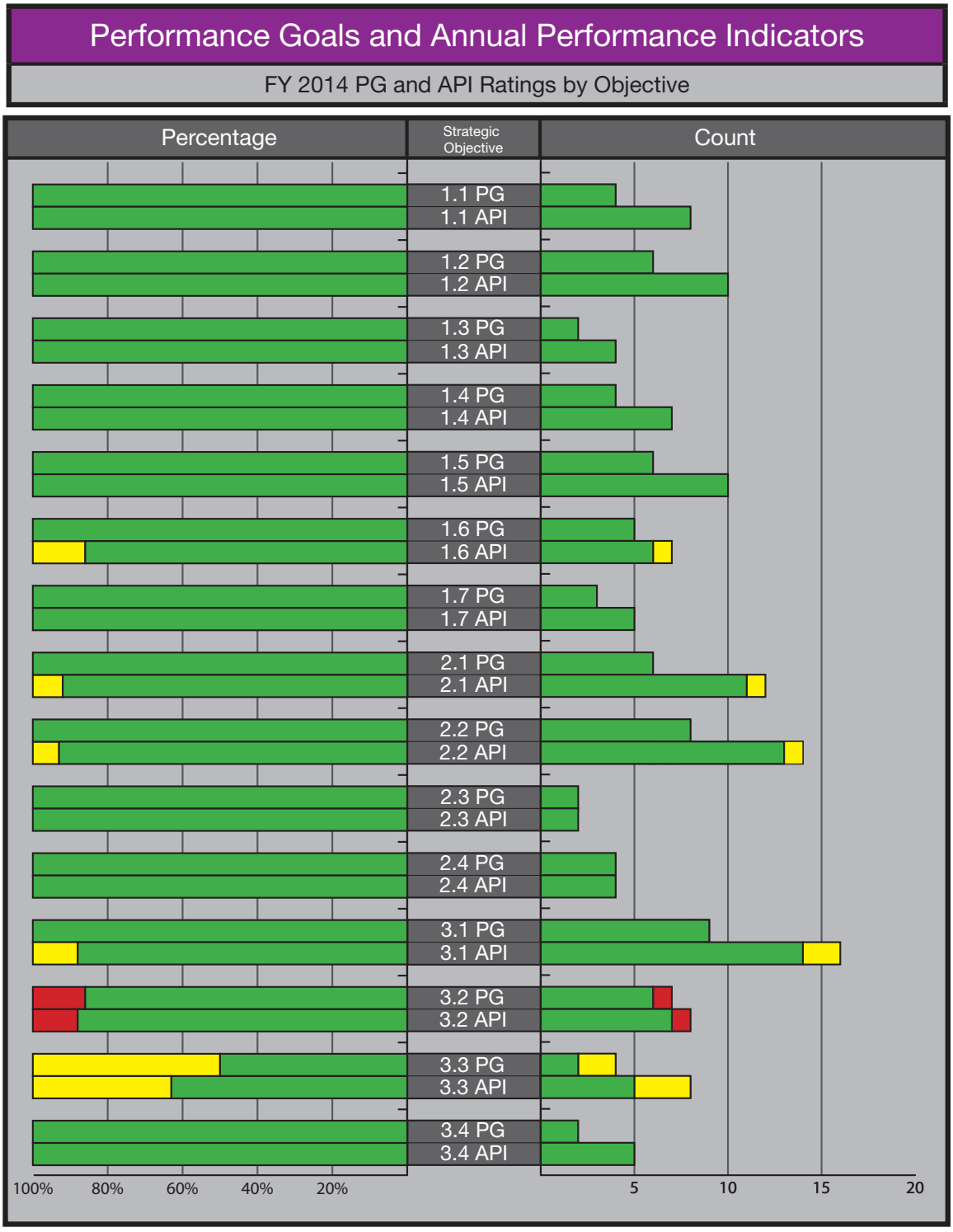
Objective	PGs	APIs
2.1	6	11 | 1
2.2	8	13 | 1
2.3	2	2
2.4	4	4
Total	20	32
Summary	100% Green	94% Green 6% Yellow

Strategic Goal 3

Serve the American public and accomplish our Mission by effectively managing our people, technical capabilities, and infrastructure.

Objective	PGs	APIs
3.1	9	14 | 2
3.2	6 | 1	7 | 1
3.3	2 | 2	5 | 3
3.4	2	5
Total	22	37
Summary	86% Green 9% Yellow 5% Red	84% Green 14% Yellow 3% Red

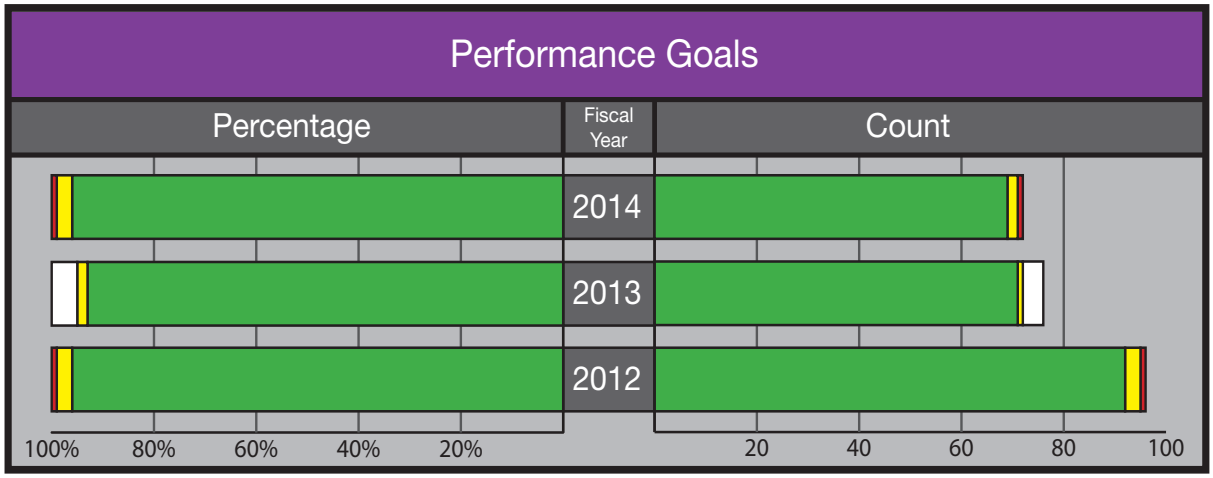
Note that because of rounding, percentages may not add up to 100%. The red ratings for Objective 3.2 relate to the Space Network Ground Segment Sustainment project, which has experienced cost and schedule challenges. Details on how NASA is addressing these issues will be included in the Annual Performance Report.

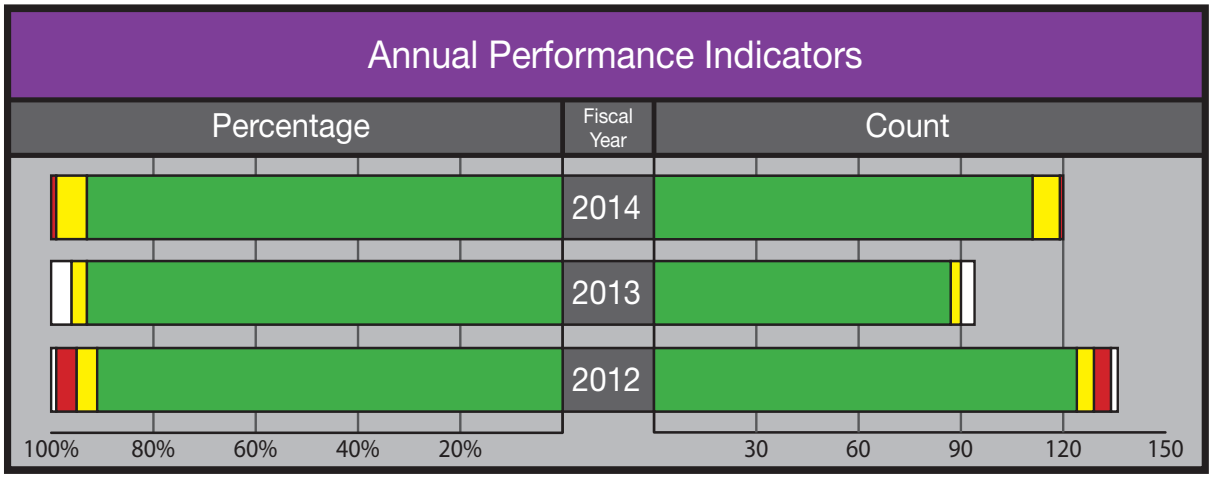


The red ratings for Objective 3.2 relate to the Space Network Ground Segment Sustainment project, which has experienced cost and schedule challenges. Details on how NASA is addressing these issues will be included in the Annual Performance Report.

Performance Goals and Annual Performance Indicators

Trending Over Last Three Fiscal Years





Strategic Goals and Highlights

Strategic Goal 1:
Expand the frontiers of knowledge, capability, and opportunity in space.

NASA's enduring and core goal, for over 50 years, is to expand the frontiers of knowledge, capability, and opportunity in space and continually challenge the boundaries of science, technology, and imagination. This goal includes NASA's objectives for human exploration, the International Space Station (ISS), partnerships with U.S. industry, heliophysics, planetary science, astrophysics, and space technology development.

Strategic Objective 1.1: Expand human presence into the solar system and to the surface of Mars to advance exploration, science, innovation, benefits to humanity, and international collaboration.

NASA is entering a new era in human spaceflight: exploration beyond low Earth orbit (LEO), implementing a multiple destination exploration strategy with a capability-driven approach. The Human Exploration and Operations (HEO) Mission Directorate's Exploration Systems Development programs are creating the first components of the architecture needed for human exploration beyond LEO. The first, foundational elements include the Orion Multi-Purpose Crew Vehicle, the Space Launch System (SLS), and Exploration Ground Systems (EGS). Programs within this Objective also develop the technologies and capabilities for in-space propulsion, in-space operations, long-duration habitation, and other systems to support humans in hostile environments.

Preparing Orion for Exploration Flight Test-1

In December 2014, NASA launched the Orion spacecraft on Exploration Flight Test-1 (EFT-1), aboard a Delta IV Heavy rocket. This is the first step to using the Orion spacecraft to take astronauts beyond LEO and into deep space. Orion traveled farther into space than any human spacecraft has gone in more than 40 years. The uncrewed EFT-1 vehicle traveled up to 3,600 miles above the Earth's surface, in a four-and-a-half-hour mission to test systems critical for human survival in future missions to deep space. After two orbits, Orion re-entered Earth's atmosphere at almost 20,000 miles per hour before its parachute system deployed to slow the spacecraft prior to splashdown in the Pacific Ocean. It should be noted that employing a Delta IV Heavy rocket satisfies the launch performance requirements of EFT-1, but does not meet launch performance requirements of future Exploration Missions.

In FY 2014, the team assembled all the parts, components, structures, and mechanisms at Kennedy Space Center (KSC) in Florida into the Orion crew module (CM), service module (SM), and launch abort system (LAS). Once the heatshield was completed and attached to the CM, the team stacked the modules together, and performed the final testing of the spacecraft.

More information can be found at:
http://www.nasa.gov/exploration/systems/mpcv/index.html

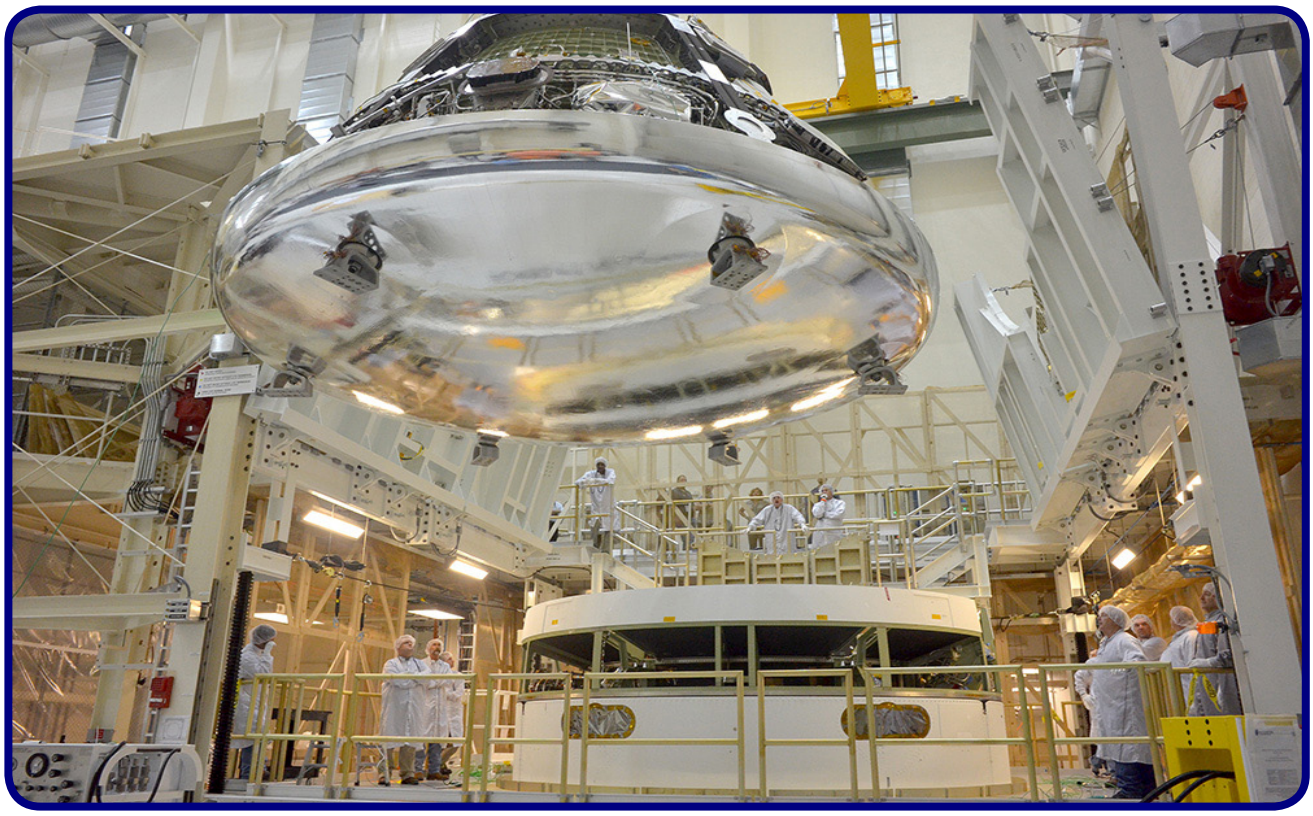


Image Caption: The Orion crew module for EFT-1 shown in the Final Assembly and System Testing (FAST) Cell, positioned over the service module just prior to mating the two sections together. The FAST cell is where the integrated crew and service modules are put through their final system tests. (Credit: NASA/Rad Sinyak)

Morpheus/Autonomous Landing and Hazard Avoidance Technology (ALHAT) successful flight demonstratio

The goal of the Morpheus/ALHAT Project is to complete a successful autonomous flight demonstration of the ALHAT hazard detection and avoidance and precision landing system on the Morpheus vehicle test bed. After several developmental free flights, the Morpheus/ALHAT vehicle successfully demonstrated autonomous, closed-loop ALHAT flight operations by flying nearly 600 meters down range on May 28, 2014. In real-time, as it was flying, the vehicle autonomously identified and safely landed on the test bed at KSC. For future robotic and human missions requiring landers, this technology offers the potential for reusable lander technologies with non-toxic propellants, assurance of safe landing sites on a wide variety of terrain and surface conditions with improved pinpoint landing accuracy, and lander system affordability.

Image Caption: The Morpheus lander ignites its methane and oxygen-powered engine and lifts off to begin a free flight test at NASA's KSC in Florida. The Johnson Space Center-based project is testing new technologies in propulsion and guidance systems in the unique testbed. (Credit: NASA/Frankie Martin)

Other achievements in FY 2014 include:

- Completion of key developmental milestones, including the Critical Design Review (CDR) of the SLS Core Stage in July 2014 and the Preliminary Design Review (PDR) for the Exploration Ground Systems program in March 2014.

- NASA also continued to plan for an initial Asteroid Redirect Mission to capture a small asteroid with a robotic spacecraft and redirect it into a stable orbit around the Moon.

Strategic Objective 1.2: Conduct research on the International Space Station (ISS) to enable future space exploration, facilitate a commercial space economy, and advance the fundamental biological and physical sciences for the benefit of humanity.

The ISS is the world's only orbiting, microgravity research and development (R&D) laboratory, where researchers can perform multidisciplinary research and technology development to prepare for our exploration of the solar system. ISS operations are critical to achieving NASA's and the Nation's goals in science, technology, and human spaceflight.

ISS Capabilities Enhanced Through Commercial Cargo Delivery Systems

This year, NASA and its commercial resupply service suppliers made great progress in establishing routine U.S. resupply to the ISS, through successful launches of the two domestic commercial cargo transportation systems. These capabilities will ensure a robust national capability to deliver critical science research to orbit, allowing us to maximize its potential, deliver critical benefits to our Nation and the world, and maintain American

leadership in space. These transportation systems significantly increase NASA's ability to conduct new science investigations on the only laboratory in microgravity.

Space Exploration Technologies (SpaceX) completed its fourth contracted resupply flight on September 22, 2014, delivering science and technology development hardware, crew supplies, and vehicle spares. This resupply mission also served as a high point for the scientists that utilize the unique attributes of space, providing the capability to return research investigation samples to Earth for analysis. Orbital Sciences Corporation (Orbital), the second company to send a commercial cargo craft to the space station, completed its first two contracted resupply missions delivering research resupply, crew supplies, and vehicle spares to the station.

With commercial cargo vehicles regularly serving the space station, the announcement by the Obama Administration to support the extension of the orbiting laboratory to at least 2024 provides the station a decade to help transition low Earth orbit from exclusive to accessible and offers scientists and engineers the time they need to ensure the future of exploration, scientific discoveries, and economic development. The ability to extend our window of discovery through at least 2024 presents important new opportunities to develop the tools we need for future missions to deep space while reaping large benefits for humanity. Expanding the timeframe for testing essential technologies and hardware related to long-duration journeys, such as to an asteroid or Mars, is the first step in exploration.

For more information, see:
http://www.nasa.gov/mission_pages/station/main/index.html

Image Caption: SpaceX completed its fourth contracted resupply flight with its Dragon spacecraft, delivering science and technology development hardware, crew supplies, and vehicle spares. (Credit: NASA)

Image Caption: Orbital Sciences, the second company to send a commercial cargo craft to the space station, completed its first two contracted resupply missions delivering research resupply, crew supplies, and vehicle spares to the ISS with Cygnus. (Credit: NASA)

Other FY 2014 achievements include:

- Following nearly two years of effort in cultivating relationships and connections with the venture capital and technology incubator communities, in 2014 the Center for the Advancement of Science in Space (CASIS) was able to establish agreements with several high-profile organizations, forming a promising basis for future non-governmental investments in space research.

- Utilization of the ISS was broadened to capitalize on the external unpressurized capabilities of the station. SpaceX-3 and SpaceX-4 launched powered technology demonstration payloads in the Dragon trunk. The high definition Earth viewing cameras, laser communications system, and scatterometer will pave the way for additional payloads and initiate NASA's use of the orbiting laboratory as a 24/7 Earth-observing and technology demonstration platform.

- ISS reached a milestone in early July of 5,000 days of humans living and working aboard the station. Since research began in November 2000, more than 1,550 investigations and 24,000 hours of research have been conducted in biology, physical science, technology, human physiology, Earth and space science, and student experiments. For more information, see: http://www.nasa.gov/iss-science

- Eighty-two countries around the world have participated in ISS research and education activities to date, and 214 people have lived and worked on the ISS.

Strategic Objective 1.3: Facilitate and utilize U.S. commercial capabilities to deliver cargo and crew to space.

U.S. commercial space transportation capabilities will provide safe, reliable, and cost effective access to and from LEO and the ISS for crew and cargo. Partnerships with

American industry to enable U.S. commercial crew transportation to LEO will stimulate commercial industry, promote job growth, and expand knowledge, as well as supply the ISS.

Through the Commercial Crew program, NASA is providing technical and financial support to industry providers during the development phase of their crew transportation systems, while certifying providers' transportation systems to carry NASA astronauts to and from the ISS.

In FY 2014, NASA and its American industry partners made great strides in delivering cargo to the ISS and developing the capabilities to transport crew members.

NASA selects U.S. industry partners to continue commercial crew transportation system development and certific - tion efforts

In September 2014, NASA selected Boeing and SpaceX to transport future Space Station crews to and from the ISS using their CST-100 and Crew Dragon spacecraft, respectively. The Commercial Crew Transportation Capability (CCtCap) fixed price contracts are designed to complete partner commercial crew transportation system design and NASA certification for those systems to carry astronauts into orbit. Once certification is complete, NASA plans to use these systems to ferry astronauts to the ISS and return them safely to Earth.

NASA's Commercial Crew Program is facilitating this effort to ensure partner systems meet NASA requirements and are safe, prior to carrying government astronauts. The U.S. missions to the ISS following certification will allow the station's current crew of six to grow, enabling the crew to conduct more research aboard the unique microgravity laboratory.

Other key achievements in FY 2014 include:

- In May 2014, NASA's Commercial Crew Program and industry partners achieved a critical milestone in the development of next-generation American space transportation systems that are safe, reliable, and cost-effective with the completion of the Certification Products Contracts (CPC). Under the contracts, Boeing, Sierra Nevada Corporation Space Systems, and SpaceX completed reviews detailing how each company plans to meet NASA's certification requirements to transport space station crew members to and from the ISS.

Strategic Objective 1.4: Understand the Sun and its interactions with Earth and the solar system, including space weather.

The domain of heliophysics ranges from the interior of the Sun, to the upper atmosphere and near-space environment of Earth (above 50 kilometers), and outward to a region far beyond Pluto, where the Sun's influence wanes against the forces of interstellar space. Earth and the other planets of our solar system reside in this vast extended atmosphere of the Sun, called the heliosphere, which is made of electrified and magnetized matter entwined with penetrating radiation and energetic particles.

The emerging science of interplanetary space weather is crucial to NASA's human and robotic exploration objectives beyond Earth's orbit. Humans are presently confined to LEO, where the planetary magnetic field and the body of Earth itself provide substan-

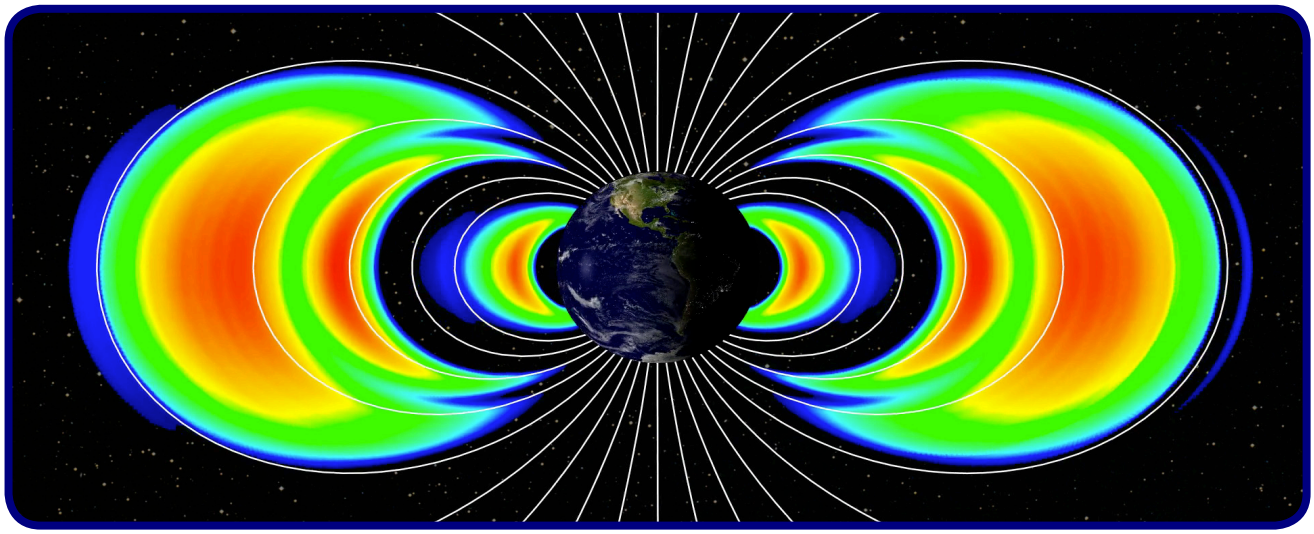
tial protection against solar storms. Eventually, though, astronauts will travel to distant places where natural shielding is considerably less. Our new long-term exploration initiatives directly rely on our ability to successfully understand, predict, and mitigate impacts of interplanetary space weather.

Van Allen Probes Achieve Mission Success

On March 26, 2014, NASA declared the Van Allen Probes mission – designed to explore and unlock the mysteries of Earth's radiation belts – an official success. This certification comes just one year, six months, and 27 days into the two-year primary mission of the twin spacecraft, which orbit Earth roughly every nine hours. The Van Allen Probes mission met and surpassed the requirements for scientific instrument performance, mission operations, and scientific progress needed to achieve mission success.

Beginning with the discovery of a transient third radiation belt just days after the Van Allen Probes launched on August 30, 2012, the mission has produced many findings that are altering our knowledge of the belts and how they operate. The spacecraft have revealed a massive particle accelerator in the heart of the belts; proven that electrons in the belt are undergoing strong local acceleration from very low frequency plasma waves; discovered electric field transients called double layers that may energize the seed particle population that becomes the radiation belt population; provided data that can improve space weather models, which can benefit space-based technologies and human spaceflight; and shown that persistent structures caused by Earth's rotation exist in the inner belt, a mechanism previously thought to be incapable of such an effect.

All of these findings are changing much of what we thought we knew about the radiation belts and fundamental plasma physics. For more information, see: http://www.nasa.gov/vanallenprobes



Shortly after launch on August 30, 2012, NASA's twin Van Allen Probes discovered a previously unknown transient third radiation belt around Earth. The image was created using actual data from the Relativistic Electron-Proton Telescopes (REPT) on the Van Allen Probes and shows the new belt as the middle yellow and red arc of the three seen on each side of the Earth. (Credit: JHU/APL, REPT data/LASP)

Other key FY 2014 achievements include:

- Interface Region Imaging Spectrograph (IRIS) spacecraft, launched in June 2013, provided observations of the low level of the Sun's atmosphere, a constantly moving area called the interface region, in better detail than has ever been done before. During its first year in space, IRIS provided detailed spectra and images of this area, finding even more turbulence and complexity than expected and has met mission success. For more, see: http://www.nasa.gov/iris

- The Magnetospheric Multiscale (MMS) mission completed all observatory environmental testing. MMS is comprised of four identically instrumented spacecraft that will use Earth's magnetosphere as a laboratory to study how the Sun's and Earth's magnetic fields connect and disconnect, explosively transferring energy from one to the other—a process that occurs throughout the universe, known as magnetic reconnection. For more, see: http://www.nasa.gov/mms

- The NASA instruments (Heavy Ion Sensor and Heliospheric Imager) for Solar Orbiter successfully completed Critical Design Reviews (CDR). Solar Orbiter is an ESA/NASA collaborative mission that will characterize the Sun's polar regions and equatorial atmosphere and explore how fundamental plasma physical processes operate near the Sun. For more, see: http://sci.esa.int/solar-orbiter/

- Solar Probe Plus (SPP) successfully completed PDR and was confirmed to enter development. SPP will be the first mission to fly into the Sun's atmosphere, or corona, and will revolutionize our knowledge of the physics of the origin and evolution of the solar wind. For more, see: http://solarprobe.jhuapl.edu/

- The Voyager 1 spacecraft became the first human-made object to officially venture into interstellar space. The 36-year-old probe is about 12 billion miles (19 billion kilometers) from our Sun. Voyager is in a transitional region immediately outside the solar bubble, where some effects from our Sun are still evident. For more, see: http://www.nasa.gov/voyager

Strategic Objective 1.5: Ascertain the content, origin, and evolution of the solar system and the potential for life elsewhere.

Planetary science is a grand human enterprise that seeks to understand the history of our solar system and the distribution of life within it. NASA is at the frontier of a journey of scientific discoveries that are yielding a profound new understanding of our solar system. Robotic exploration is the current approach to planetary science and is the necessary precursor to the expansion of humanity beyond Earth. Ground-based research and observations supplement our space-based assets. NASA's Planetary Science Division continues to expand our knowledge of the solar system, with active missions and Earth-based research programs exploring all the way from Mercury to Pluto and beyond.

MAVEN launched to and now orbiting Mars

The Mars Atmosphere and Volatile EvolutioN (MAVEN) mission, launched on November 18, 2013, and arrived at Mars on September 21, 2014. MAVEN is the first spacecraft

devoted to exploring and understanding the Martian upper atmosphere, ionosphere, and interactions with the Sun and solar wind. Scientists will use MAVEN data to explore the loss of volatile compounds (such as carbon dioxide, nitrogen, and water) from the Martian atmosphere to space. Understanding atmospheric loss will give scientists insight into the history of Mars' atmosphere and climate, liquid water, and planetary habitability. The arrival of MAVEN at Mars coincided with the arrival of comet Siding Spring, which passed within approximately 80,000 miles of Mars, depositing pristine material shed from its nucleus into the top of the Martian atmosphere. This particular comet has never before entered the inner solar system, so it will provide a fresh source of clues to our solar system's earliest days. MAVEN will study gases coming off the comet's nucleus into its coma as it is warmed by the Sun. MAVEN also will look for effects the comet flyby may have on the planet's upper atmosphere and observe the comet as it travels through the solar wind. For more information, see: http://www.nasa.gov/maven

Other key FY 2014 achievements include:

- The Mars Science Laboratory (MSL) completed its mission success criteria. The Curiosity rover is en route to the long-term science destinations on the lower slopes of Mount Sharp. This area begins approximately two miles (3 kilometers) southwest of the rover's current position. An outcrop of a base layer of the mountain, dubbed Pahrump Hills, lies much closer: less than one-third of a mile (500 meters) from Curiosity. For more, see: http://www.nasa.gov/msl

- The Lunar Atmosphere and Dust Environment Explorer (LADEE) completed its mission in April 2014. The highly successful mission inventoried and characterized the tenuous lunar exosphere and mapped the spatial and temporal distribution of the major contributors: helium, neon, argon, sodium, and potassium. These and other results are improving our understanding of how the Moon and other airless bodies interact with their environments. For more, see: http://www.nasa.gov/ladee

- The Origins Spectral Interpretation Resource Identification Security–Regolith Explorer (OSIRIS-REx) and Interior Exploration using Seismic Investigations, Geodesy and Heat Transport (InSIGHT) (Discovery 12) missions completed their CDRs, enabling the projects to proceed with final design and fabrication. For more, see: http://www.nasa.gov/osiris-rex and http://www.nasa.gov/insight

Strategic Objective 1.6: Discover how the universe works, explore how it began and evolved, and search for life on planets around other stars.

NASA leads the Nation and the world on a continuing journey to answer some of the most profound questions that touch the hearts of all humanity: How does the universe work? How did we get here? Are we alone? The scope of astrophysics is truly breathtaking, ranging from the birth of the universe and the development of stars and galaxies over cosmic time, to the search for life on planets around other stars. Often in cooperation with ground-based observatories, NASA astrophysics missions exploit the full range of the electromagnetic spectrum and the physics of high-energy subatomic particles to understand the broad diversity of objects in the universe.

Image Caption: The United Launch Alliance Atlas V rocket with the MAVEN spacecraft launches from the Cape Canaveral Air Force Station Space Launch Complex 41, Monday, Nov. 18, 2013, Cape Canaveral, Florida. (Credit: NASA/Bill Ingalls)

James Webb Space Telescope (JWST) Makes Progress Throughout FY 2014

JWST continues to make progress toward meeting its planned launch date of October 2018. As of July 2014, the telescope's four science instruments have been fully integrated into the Integrated Science Instrument Module (ISIM) and are undergoing their major cryogenic-vacuum testing. The prototype telescope support structure has arrived at Goddard Space Flight Center to practice placing mirror segments on it in preparation for assembling the flight telescope support structure and mirrors in 2015; and preparation of the Johnson Space Center's Chamber A for next year's tests is going very well. In FY 2014, the project continued to address challenges relating to the schedule for the ultracold refrigeration unit (or cryo-cooler) required for the Mid-Infrared Instrument (MIRI). The project is well poised for its 2015 major activity: assembly of the mirror.

JWST, a large infrared telescope with a 6.5-meter primary mirror, will be the premier observatory of the next decade, serving thousands of astronomers worldwide. It will study every phase in the history of our universe, ranging from the first luminous glows after the Big Bang, to the formation of solar systems capable of supporting life on planets like Earth, to the evolution of our own Solar System. For more information, see: http://www.nasa.gov/jwst

Image Caption: The JWST flight backplane center section and backplane support fixture on a rollover fixture at Northrop Grumman. The hardware pictured here has passed its acceptance testing and is being readied for attaching the primary mirror wings and secondary mirror support struts. (Credit: Northrop Grumman Aerospace Systems)

Other FY 2014 achievements include:

- The Kepler mission discovers planets orbiting other stars, called exoplanets, and is specifically designed to discover Earth-size and smaller planets. In February 2014, the Kepler team announced the confirmation of more than 700 new exoplanets, at once tripling the number of confirmed planets discovered by the mission and increasing the number of known exoplanets to nearly 1,700. In addition, in April the team announced the discovery of Kepler-186f, the first truly Earth-sized planet in the habitable zone of a star other than the Sun For more, see: http://www.nasa.gov/kepler

- The Stratospheric Observatory for Infrared Astronomy (SOFIA) achieved Full Operational Capability (FOC) in February 2014, began Cycle 2 science operations, and formally entered Operational Phase in May 2014. For more, see: http://www.nasa.gov/sofia

- The Nuclear Spectroscopic Telescope Array (NuSTAR), a Small Explorer (SMEX) mission, successfully completed its two year prime mission in July 2014 and entered a two year extension period. In its prime mission, NuSTAR made the most robust measurements yet of the mind-bending spin rate of black holes and provided new insight into how massive stars slosh around before exploding.

For more, see:
http://www.nasa.gov/mission_pages/nustar/main

- The Neutron star Interior Composition ExploreR (NICER) mission was confirmed in February 2014. The NICER X-ray timing and spectroscopy instrument will be an attached payload aboard the ISS and will be dedicated to the study of the extraordinary gravitational, electromagnetic, and nuclear-physics environments embodied by neutron stars. It is on track for a 2016 launch. For more, see:
http://heasarc.gsfc.nasa.gov/docs/nicer/

- NASA delivered the ASTRO-H Soft X-ray Spectrometer (SXS) calorimeter spectrometer insert to the Japan Aerospace Exploration Agency (JAXA) in March 2014. SXS, with its unprecedented sensitivity for high-resolution x-ray spectroscopy, will perform a wide variety of breakthrough science investigations directly aligned with NASA goals. For more, see:
http://heasarc.gsfc.nasa.gov/docs/astroh/

Strategic Objective 1.7: Transform NASA missions and advance the Nation's capabilities by maturing crosscutting and innovative space technologies.

For decades, NASA investment in space technology has helped make the United States the global leader in space exploration and scientific discovery, while significantly contributing to the technology-based U.S. economy. NASA continues that legacy today, through its Space Technology Mission Directorate (STMD), with a balanced portfolio of technology development across a broad range of technical areas and at various stages of technical maturity. STMD invests in pioneering concepts that spur innovation across NASA and the aerospace enterprise. These transformative and crosscutting technology breakthroughs enable more challenging missions, incubate new ideas and markets that strengthen the economy, and contribute to U.S. technological global leadership.

NASA Successfully Tests the Low-Density Supersonic Decelerator (LDSD)

During FY 2014, NASA successfully completed its first test of the Low-Density Supersonic Decelerator (LDSD) as part of the Agency's development and evaluation of new landing technologies for future Mars missions. The near-space test flight occurred off the coast of the U.S. Navy's Pacific Missile Range Facility in Kauai, Hawaii on June 28, 2014, the first of three planned for the LDSD project. Later that day, recovery operations retrieved the test vehicle hardware, black box data recorder, and parachute.

The LDSD team was thrilled with this first near-space test flight, having met all flight objectives (i.e., the team launched the test vehicle to target altitude, conducted a powered flight, collected real-time telemetry, and recovered the balloon envelope). In addition, NASA deployed two new landing technologies during the test. The Supersonic Inflatable Aerodynamic Decelerator (SIAD), a large doughnut-shaped deceleration technology, deployed first during the flight and was a phenomenal success. The second deployment was that of an enormous parachute (i.e., the Supersonic Disk Sail Parachute). Imagery downlinked in real-time from the test vehicle indicated that the parachute did not deploy as expected, and the team is still analyzing data on the parachute so that lessons learned can be applied for fu-

ture test flights. The next two flights include official tests of these landing technologies, involving identical saucer-shaped vehicles.

In order to get larger payloads to Mars and to pave the way for future human explorers, cutting-edge technologies like LDSD are critical. Among other applications, this new space technology will enable delivery of the supplies and materials needed for long-duration missions to the Red Planet. The next LDSD flight test is currently planned for FY 2015.

Other key FY 2014 achievements include:

- Completed major milestones for other Technology Demonstration Missions (TDM) projects, including Deep Space Atomic Clock (DSAC) and Composites for Exploration Upper Stage.

- Game Changing Development (GCD) completed pressure testing of a 5.5m Composite Cryogenic Tank; delivered operational legs for Robonaut2 to the ISS, on-board a SpaceX launch; and completed three Synchronized Position Hold, Engage, Reorient, Experimental Satellites (SPHERES)-Slosh experiments on the ISS.

- Small Spacecraft Technologies (SST) successfully flew PhoneSat 2.4 and 2.5. On separate flights, these smart-phone-based CubeSats tested two-way radio capabilities and an orientation-control system.

- Flight Opportunities (FO) flew technology payloads using flight services from four providers: Zero-G, UP Aerospace, Masten, and Near Space.

- Small Business Innovative Research (SBIR)/Small Business Technology Transfer (STTR) continues to execute Phase II-Enhancement contract options, extending R&D with funding partners, and has initiated “Commercial Readiness” projects to create direct infusion potential for SBIR/STTR-developed technology.

- Selected new early stage innovation investments, including the 2014 class of

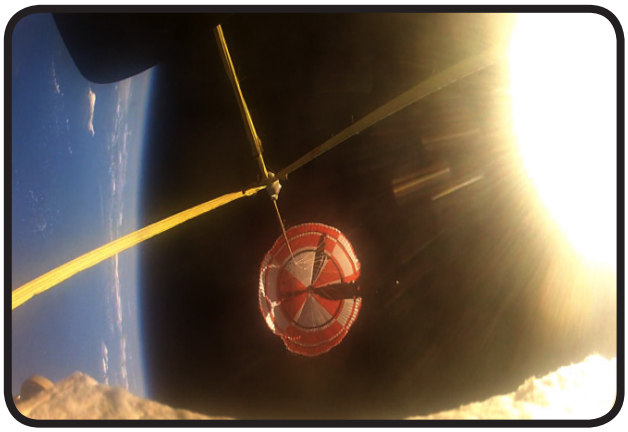


Image Caption: The first LDSD near-space test flight: The Supersonic Inflatable Aerodynamic Decelerator [SIAD] deploys (left); Parachute deployment provides data for lessons learned that can be applied to the next test flights (right). (Credit: NASA/JPL-Caltech)

NASA Space Technology Research Fellows, seven Early Career Faculty Space Tech Research Grants, 12 Phase I NASA Innovative Advanced Concepts (NIAC) projects, five Phase II NIAC projects, and Center Innovation Fund (CIF) projects across all ten NASA Centers.

Strategic Goal 2:
Advance understanding of Earth and develop technologies to improve the quality of life on our home planet.

NASA's accomplishments advance the understanding of Earth and help to improve life for its inhabitants, whether developing new aircraft technologies for safer, more efficient air travel, uncovering the complexities of Earth's natural systems, or transferring technologies to the commercial marketplace. This goal includes NASA's objectives for aeronautics research, Earth science, technology portfolio optimization, and STEM education.

Strategic Objective 2.1: Enable a revolutionary transformation for safe and sustainable U.S. and global aviation by advancing aeronautics research.

The Aeronautics Research Mission Directorate (ARMD) contributes unique innovations to aviation through research activities, which help sustain and advance the U.S. civil aviation industry. The results of these activities will enable a revolutionary transformation of the aviation system to improve our quality of life and productivity on Earth.

ARMD established a new strategic vision in the FY 2014 NASA Strategic Plan, identifying six new strategic research thrusts: safe, efficient growth in global operations; innovation in commercial supersonic aircraft; ultra-efficient commercial vehicles; transition to low-carbon propulsion; real-time, system-wide safety assurance; and assured autonomy for aviation transformation. During FY 2014, ARMD undertook significant planning for the reorganization of its research programs to align with the new strategic thrusts.

Image Caption: NASA's DC-8 research aircraft, burning biofuel as part of the ACCESS II experiment conducted with Canadian and German research partners, leads one of the "sampling" chase aircraft across an early morning sky near NASA's Armstrong Aircraft Operations Facility in Palmdale, California. (Credit: NASA/ORAU Richard Moore)

NASA Conducts Alternative Jet Fuel Flight Tests with International Partners

Conducted in May 2014 over Palmdale, California, Alternative Fuel Effects on Contrails and Cruise Emissions II (ACCESS II) flight testing is the latest in a series of ground and flight tests that began in 2009 to study emissions and contrail formation from new blends of aviation fuels that include biofuel from renewable sources. The ACCESS II experiment gathered additional data, confirming the results of ACCESS I. This testing also gathered information used to aid in developing theories about contrail formation. Understanding the impacts of alternative fuel use in aviation could enable widespread use of one or more substitutes to fossil fuels, as these new fuels become more readily available and cost competitive with conventional jet fuels. This research supports ARMD's strategic vision, part of which is to enable the transition of the aviation industry to alternative fuels and low-carbon propulsion systems. For more information, see: http://www.nasa.gov/aero/access-ii-confirms-jet-biofuel-burns-cleaner/index.html

NASA Delivers New Air Traffic Spacing Tool to FAA

The Airspace Systems Program continued progress toward Air Traffic Management Technology Demonstration-1 (ATD-1), which will showcase an integrated set of technologies that provide an efficient arrival solution for managing an aircraft's descent from cruising altitude all the way down to the runway. One of the ATD-1 tools, Terminal Sequencing and Spacing (TSS), was officially transferred to the FAA during a July 2014 ceremony. TSS technology provides information to controllers about the speeds they should assign to aircraft as they follow more fuel-efficient, continuous-descent approaches into airports, saving both time and fuel and reducing emissions. TSS is another step in NASA's support of the development of a Next Generation Air Transportation System (NextGen), which is a joint multi-agency and industry initiative to modernize and upgrade the nation's air traffic control system. For more information, see: http://www.nasa.gov/aero/nasa-delivers-traffic-spacing-tools-tss/

Other key FY 2014 achievements include:

- Demonstrated an aerodynamic model enabling stall recovery training for commercial airline pilots. This surpasses the capabilities of current day simulators. Simulation of large transport airplanes in upset conditions remains a topic of high interest to commercial aviation, as part of the effort to reduce the risk of fatal loss-of-control accidents.

- Completed Low Boom Flight Demonstrator Conceptual Design studies. This is a key step toward demonstrating the design tools and the feasibility of low-boom supersonic vehicles.

- Completed high-fidelity experimental and computer simulations to determine the potential benefit of the truss-braced wing technology concept. This concept is a promising technology for designing lighter-weight, lower-drag wings that would enable reduced fuel use in transport aircraft.

- Modeled and designed a low alternating current-loss, fully superconducting electric generator to be used in a distributed propulsion aircraft configuration. This is a concept that would allow multiple electric motors to drive many distributed fans for use in an ultra-efficient hybrid electric aircraft.

- Completed demonstration of a wireless sensor providing lightning protection. It also can detect and diagnose damage in composite structures, using unique electrical signatures related to amplitude, frequency, bandwidth, and phase.

- Conducted a human-in-the-loop simulation where unmanned aircraft were mixed with piloted aircraft and subjected to a range of test conditions. This was the first in an integrated, continual flight test campaign planned over three years through FY 2016. Subsequent testing of the Unmanned Aircraft Systems will demonstrate increased complexity in the testing environment.

Strategic Objective 2.2: Advance knowledge of Earth as a system to meet the challenges of environmental change, and to improve life on our planet.

NASA's Earth Science programs shape an interdisciplinary view of Earth, exploring the interaction among the atmosphere, oceans, ice sheets, land surface interior, and life itself, which enables scientists to measure global and climate changes and to inform decisions by Government, organizations, and people. NASA's global observations provide a unique vantage point from which to study and gain understanding of changes in our planet. Since the Agency's inception in 1958, NASA has established itself as a world leader in Earth science and climate studies.

NASA does more than develop and build Earth-observing spacecraft and sensors. The Agency's multi-disciplinary team of scientists, engineers, and computer modelers also analyze vast archives of data for insights into Earth's interconnected systems -- atmosphere, ocean, ice, land, biosphere -- and openly provide that data to the global community. NASA designs and deploys airborne, ground-based and ocean-going field campaigns that complement, enhance, and improve space-based observational capabilities. Also, NASA works with other Government agencies and partner organizations to apply NASA data and computer models to improve decision-making and

solve problems.

Successful Launches of GPM and OCO-2

The Global Precipitation Measurement (GPM) Core Observatory launched on February 27, 2014 from Tanegashima Space Center, Japan. The launch of this mission inaugurates an unprecedented international satellite constellation to produce frequent global observations of rainfall and snowfall – revolutionary new data that will help answer questions about our planet's life-sustaining water cycle and improve weather forecasting and water resource management. NASA and JAXA developed GPM as a global successor to the Tropical Rainfall Measuring Mission (TRMM).

Through improved measurements of precipitation globally, the GPM mission will help to advance our understanding of Earth's water and energy cycle, improve forecasting of extreme events that cause natural hazards and disasters, and extend current capabilities in using accurate and timely information about precipitation to directly benefit society. GPM's initial on-orbit operations are going extremely well.

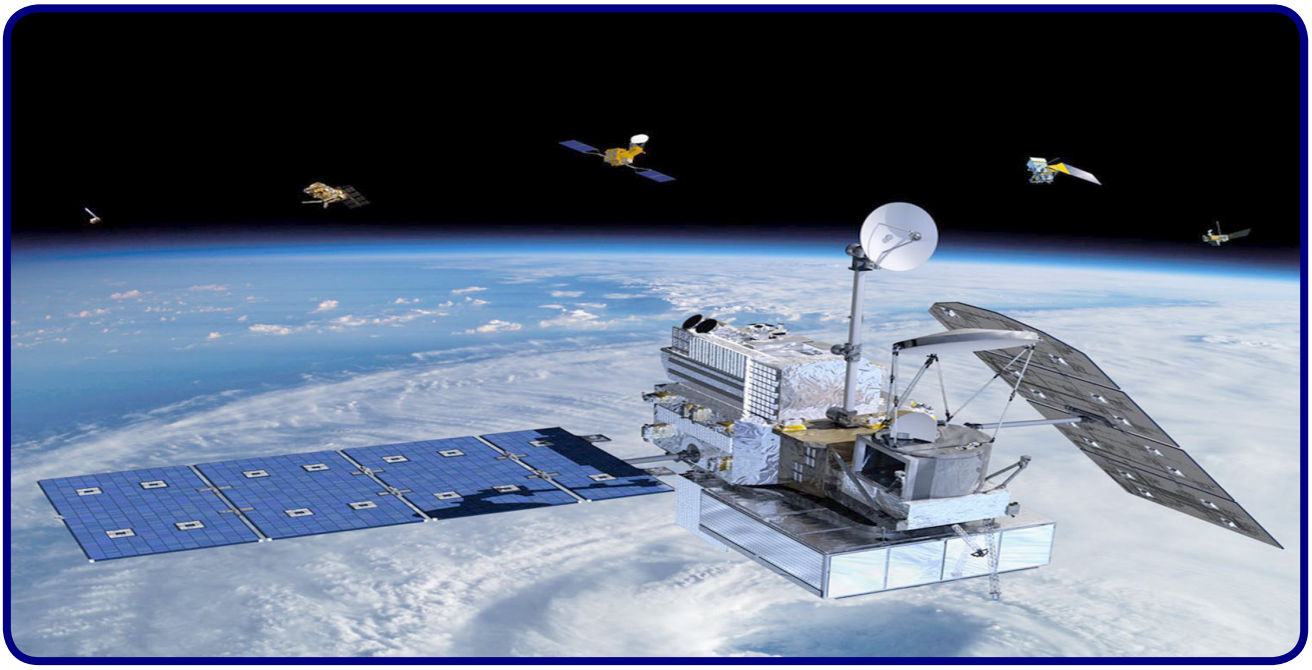


Image Caption: The GPM mission is an international constellation of satellites that provides next-generation observations of global precipitation approximately every three hours. The highly detailed data provided by the GPM Core Observatory, shown in the foreground, unifies and advances precipitation measurements made by other satellites in the constellation. (Credit: NASA)

On July 2, 2014, the successful launch of the Orbiting Carbon Observatory-2 (OCO-2) from Vandenberg Air Force Base followed the successful launch of the GPM Core Observatory. As carbon dioxide levels in Earth's atmosphere continue to rise, OCO-2 will make a completely new set of global, satellite measurements of the still mysterious ways that carbon moves through the atmosphere, land, and ocean. OCO-2 took its position at the lead of NASA's polar-orbiting A-Train constellation of Earth-observing satellites on August 3, as planned.

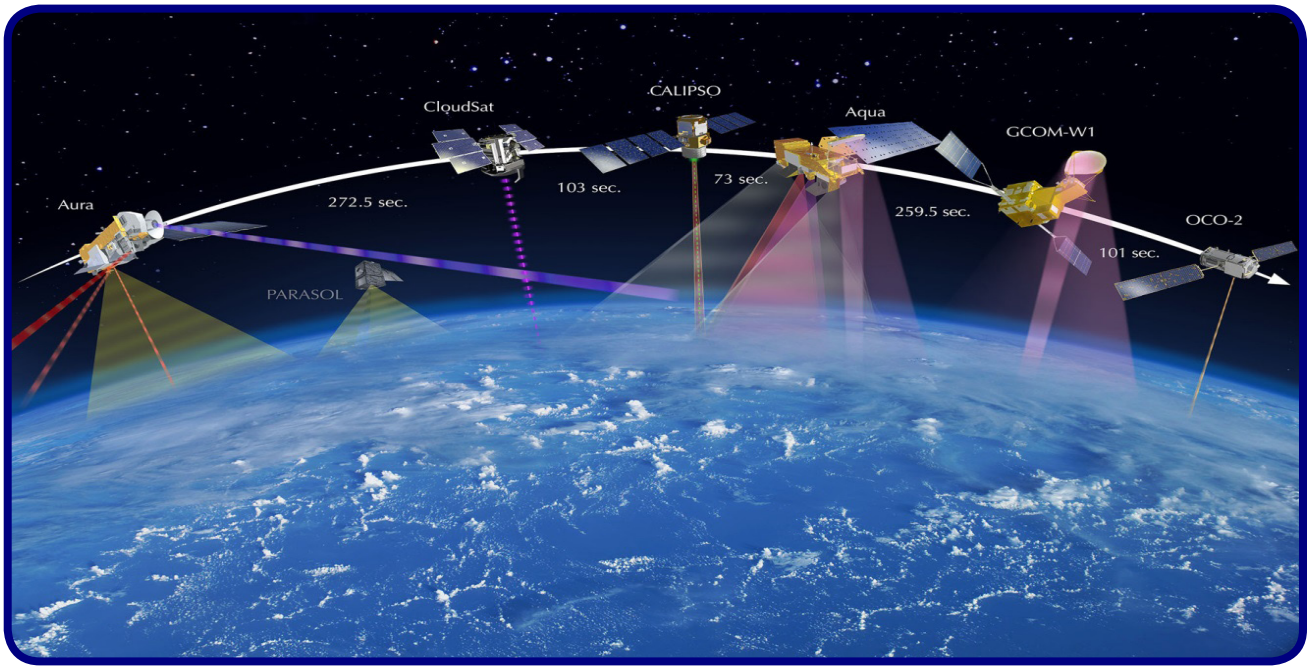


Image Caption: In August, OCO-2 took its position at the lead of NASA's polar-orbiting Afternoon (A-Train) Constellation of Earth-observing satellites, which currently includes GCOM-W1 (a JAXA spacecraft), Aqua, CALIPSO, CloudSat, and Aura. The instruments on these precisely engineered satellites make almost simultaneous measurements of clouds, aerosols, atmospheric chemistry, and other elements critical to understanding Earth's changing climate. (Credit: NASA)

Other key FY 2014 achievements include:

- Completed PDRs and confirmed both the Cyclone Global Navigation Satellite System (CYGNSS/EV-2) and Gravity Recovery and Climate Experiment (GRACE) Follow-On mission.

- Completed the Instrument Thermal Vacuum Test for the Soil Moisture Active Passive (SMAP) mission in June 2014.

- The Third National Climate Assessment (NCA) report, a product of the U.S. Global Change Research Program (USGCRP), was released in May 2014. The NCA is a quadrennial report, mandated under the Global Change Research Act of 1990, which summarizes the science of climate change, analyzes the impacts on regions and sectors within the United States, and projects changes through the end of the century. As a key USGCRP agency, NASA played a major role in the Third NCA report. NASA science underpinned numerous aspects of the report and was featured in numerous report chapters. For more information, see: http://nca2014.globalchange.gov/

- The NASA Carbon Monitoring System (CMS) project uses satellite and airborne remote sensing capabilities to prototype key data products for carbon monitoring, reporting, and verification. Accomplishments to date include the development of a continental U.S. biomass data product and a global carbon flux product; demonstrations of remote sensing-based carbon monitoring capabilities in support of local- and regional-scale carbon management projects; scoping of potential new ocean carbon monitoring products; and engagement of carbon monitoring

stakeholders to better understand their needs for carbon data and information products. The CMS project has developed one of the most advanced carbon data assimilation systems in the world that integrates satellite and surface observations related to anthropogenic, oceanic, terrestrial, and atmospheric carbon.

- Working closely with the Environmental Protection Agency (EPA), researchers on a NASA Applied Sciences project incorporated Moderate Resolution Imaging Spectroradiometer (MODIS) aerosol optical depth (AOD) measurements into the EPA's AirNow air quality alert system. The new hybrid system uses satellite AOD measurements to fill in the gaps in the ground-level monitoring network, providing coverage to 18 million more people than the original ground based system.

- The CubeSAT On-board processing Validation Experiment (COVE) launched aboard the Michigan Multipurpose Minisatellite (MCubed) cubesat in December 2013. MCubed/COVE-2 is validating on-board data processing technology in space. This technology could greatly reduce the science data transmission rate required for on-orbit operations.

Strategic Objective 2.3: Optimize Agency technology investments, foster open innovation, and facilitate technology infusion, ensuring the greatest National benefit.

NASA's Office of the Chief Technologist (OCT) enables critical technology development and open innovation, optimizes NASA's technology portfolio, and maximizes the transfer of NASA technology to U.S. partners. This work is performed under the Partnership Development and Strategic Integration program.

NASA Launches Technology Transfer 'Super Tool'

NASA developed an extensive intellectual property portfolio of innovative technologies in its conduct of taxpayer-funded space and aeronautics missions. OCT works diligently to ensure transfer and commercial application of these technologies in order to create new markets, new jobs, to enhance the quality of life on Earth, and to bolster the American economy. To that end, NASA piloted its Quick Launch Licensing project to provide an innovative approach to technology transfer. See: https://quicklaunch.ndc.nasa.gov

Under Quick Launch, obtaining licenses is easy, quick, and inexpensive. There is a greatly simplified license application and license agreement process developed by OCT in collaboration with the Headquarters Office of the General Counsel. Licenses offered are non-exclusive and feature modest, pre-established, upfront licensing fees and fixed annual royalty payments, as well as a pre-determined licensed field of use.

The project went live in November 2013 as a "proof-of-concept" approach, initially focusing on technologies that had not generated commercial interest, had lower Technology Readiness Levels, lacked ongoing Principle Investigator support, and/or had significant upcoming maintenance fees. Now that the idea has taken hold and initial interest is encouraging, Quick Launch expansion plans include licenses of greater commercial value offered at higher, but still established, initial and annual royalty terms.

Other key FY 2014 achievements include:

- NASA continued to track and analyze technology investments in TechPort, a Web-based software system that serves as NASA's integrated technology data source and decision support tool. In FY 2014, NASA enhanced TechPort by improving usability, increasing system operation speed, improving security, and configuring the system for public release. NASA completed all major milestones to enable public release in FY 2015.

- NASA is reaching new audiences for licensing opportunities and using crowdsourcing to help find secondary applications for NASA technologies. OCT engaged with a start-up company called Marblar to enable crowdsourcing of new ideas and products using NASA technologies. NASA received 25 market summaries and one license.

- The Asteroid Grand Challenge announced several new partnerships, including Space Act Agreements with Planetary Resources, SpaceGAMBIT, Maui Makers, and Slooh. Other accomplishments for the Asteroid Grand Challenge are available at : http://www.nasa.gov/content/asteroid-grand-challenge-first-anniversary/

- In April 2014, a new software catalog made available NASA-developed code for public use. With over 1,000 codes organized into 15 broad subject matter categories, this catalog offers a large portfolio of software products for a wide variety of applications. NASA code is available at no cost. More information is available at: http://www.nasa.gov/content/new-catalog-brings-nasa-software-down-to-earth/

Strategic Objective 2.4: Advance the Nation's Science, Technology, Engineering, and Math (STEM) education and workforce pipeline by working collaboratively with other agencies to engage students, teachers and faculty in NASA's missions and unique assets.

NASA's education programs work in collaboration with other Federal agencies to improve the quality of science, technology, engineering, and math (STEM) education in the United States, which supports both NASA's strategic plan and the Administration's STEM policy. To maintain a globally competitive Nation, our education programs develop and deliver activities that support the growth of NASA's and the Nation's STEM workforce, help develop STEM educators, engage and establish partnerships with institutions, and inspire and educate the public.

Image Caption: After final inspection by KSC lab safety, members of the UR-1 Team turn the experiment over to KSC for loading into the SpaceX-3 Dragon spacecraft. The experiment was launched to the ISS in April 2014. (Credit: NASA)

Ground-Based to Flight-Based Research with University Research-1 (UR-1)

In FY 2014, a collaborative mission through NASA's ISS Program, five universities, and the NanoRacks commercial platform advanced ground-based student cancer research to flight-based research aboard the ISS entitled, University Research-1 (UR-1). The ground-based research, "The Investigation of Countermeasures to Modulate and Augment System," was initially funded through the NASA Minority University Research and Education Project (MUREP). MUREP enhances the research, academic, and technology capabilities of Historically Black Colleges and Universities, Hispanic Serving Institutions, Tribal Colleges and Universities, Asian American and Native American Pacific Islander-Serving Institutions, and other Minority Serving Institutions (MSIs) through multiyear grants awarded to MSIs.

The ground-based research was converted to flight-based research yielding UR-1 results focused on cancer cells and the effects of space radiation on the immune system. The research addressed critical risks to the health of the astronauts and humankind. The team of professors, students, and NASA scientists traveled to KSC to watch the successful launch of their experiment to the ISS in April 2014. The five UR-1 participating universities are Texas Southern University, Prairie View A&M University, Tougaloo College, Jarvis Christian College, and Savannah State University. Additional information concerning this research can be found at: http://www.nasa.gov/mission_pages/station/research/experiments/1246.html.

Other key FY 2014 achievements include:

- NASA and the Department of Education partnered on several activities. In July 2013, the two agencies signed a Space Act Agreement to launch a collaborative pilot education initiative to infuse NASA content into the Department of Education's 21st Century Community Learning Centers, providing academic enrichment opportunities during non-school hours or expanded learning time for students and their families, particularly students who attend schools in under-resourced communities

- NASA participated in several Committee on STEM Education Interagency Working Groups, which facilitated increased communication and collaboration among Federal agencies with regard to STEM education.

- The seventh annual RockOn! Workshop provided 61 community college and university students and instructors the opportunity to learn how to build a scientific payload for suborbital rocket flight and experience what it means to be a rocket scientist. It took place at NASA's Wallops Flight Facility from June 21-26, 2014 as part of "Rocket Week."

Strategic Goal 3:
Serve the American public and accomplish our Mission by effectively managing our people, technical capabilities, and infrastructure.

NASA's Mission requires dedicated, knowledgeable people and cutting-edge facilities and capabilities to provide the tools and support necessary to carry out our ambitious tasks. The programs under Strategic Goal 3 support all of NASA's space-, air-, and Earth-based research and innovation activities, producing the best return on the Nation's investment. This goal includes NA-

SA's objectives for Mission Support, technical capabilities, information technology (IT) services, and Safety and Mission Success.

Strategic Objective 3.1: Attract and advance a highly skilled, competent, and diverse workforce, cultivate an innovative work environment, and provide the facilities, tools, and services needed to conduct NASA's missions.

NASA's workforce and institutional capabilities enable us to successfully conduct our missions. Programs aligned with Strategic Objective 3.1 ensure effective management of human capital, finance, information technology, infrastructure, acquisitions, security, real and personal property, occupational health and safety, equal employment opportunity and diversity, small business programs, external relations, internal and external communications, stakeholder engagement, and other essential corporate functions.

NASA named the Best Place to Work in the Federal Government for Second Year

NASA's most powerful asset for achieving mission success is a multidisciplinary team of diverse, competent people across all of NASA. For the second consecutive year, NASA was voted the Best Place to Work in the Federal Government, according to the Partnership for Public Service. Based on 2012 Employee Viewpoint Survey (EVS) results, this survey also named NASA the top-ranked large agency on innovation. These results are a testament to the excellence of our workforce and their determination to maintain America's leadership in space exploration.

Diversity and Inclusion Progress

As a key component of NASA's 2014 Strategic Plan is attracting and advancing a highly-skilled and diverse workforce, in FY 2014 NASA launched its second Diversity & Inclusion (D&I) Survey of the workforce. NASA seeks to harness the benefits of diversity and inclusion and infuse the NASA workforce with the spirit of innovation. The results of the 2014 D&I Survey show that NASA employees, by an overwhelming margin, believe that NASA promotes fair treatment of employees, regardless of their different diversity characteristics, and understand that having employees with diverse backgrounds is a business advantage for NASA. Overall, it appears a continued emphasis on D&I is helping to maintain NASA's position as a leading employer of choice among government agencies.

NASA continues focus on sustainability

Providing sustainable facilities and tools are essential to providing the work environment and services needed to effectively conduct NASA's missions. In FY 2014, NASA continued its focus on sustainability, with six buildings certified as sustainable per the U.S. Green Building Council LEED Rating system. The Armstrong Flight Research Center's Facilities Support Center achieved a Platinum certification in June. NASA's inventory of sustainable facilities now exceeds 2.3 million square feet. NASA surpassed one of the primary energy conservation and green energy metrics of the Energy Independence and Security Act of 2007, and was very close to meeting another. NASA increased its use of renewable energy Agency-wide by 7.6 percent, and was within 0.6 percent of meeting the energy intensity goal reduction of 27 percent.

Image Caption: NASA Armstrong's new Facilities Support Center has been certified that it met the Leadership in Energy and Environmental Design (LEED) new construction platinum standard for environment and energy efficiency. The entire 38,000-square-foot structure is lit by light-emitting diode fixtures, which consume only a tiny fraction of the electricity used by conventional florescent lights. (Credit: NASA/Tom Tschida)

Other key achievements in FY 2014 include:

- NASA finalized the Environmental Impact Statement for the cleanup and demolition of Santa Susana Field Laboratory, which is the first step in aiding NASA to divest itself of facilities that no longer meet mission needs.
- NASA continues to make progress in the reduction of transaction costs and the management of high risk contract actions. The number of new Cost Plus Award Fee Contracts, delivery/task order and non-competed actions are all down measurably for the same period in FY 2013.
- NASA has exceeded OMB's Sustainability Goals for Fleet Management. NASA successfully reduced Agency Vehicles by 137 for a cost savings of $499K. NASA has also reduced Agency Petroleum Usage and increased Alternative Fuel Usage exceeding the OMB metrics for both.

Strategic Objective 3.2: Ensure the availability and continued advance of strategic technical programmatic capabilities to sustain NASA's Mission.

NASA's technical capabilities and assets support NASA missions, as well as the work of others outside of the Agency. The programs under this Objective ensure that our key capabilities and critical assets will be available in the future to support the missions that require them, such as launch services to NASA and civil sector missions, as well as an uninterrupted, reliable space communications network to allow data transmissions to Earth from space.

New Satellites in the TDRS Constellation

The Tracking and Data Relay Satellite (TDRS) Constellation provides critical communications services to a diverse fleet of spacecraft. These satellites will ensure the Space Network's continuation of around-the-clock, high throughput communications services to NASA's missions; serving the scientific community and human spaceflight program for many years to come. To sustain this critical capability, the eleventh TDRS spacecraft (TDRS-K), which was launched in 2013, was accepted and approved for operations. The twelfth TDRS spacecraft (TDRS-L) was launched in January 2014 and has been accepted for operations.

Image Caption: Members of the news media are given an opportunity for an up-close look at the TDRS-L spacecraft undergoing preflight processing inside the Astrotech payload processing facility in Titusville on January 3, 2014. (Credit: NASA/Dimitri Gerondidakis)

Other key FY 2014 achievements include:

- The Launch Services program achieved a 100 percent success rate in FY 2014 with the successful launch of three NASA missions, putting over $800 million worth of spacecraft into orbit to provide operational communications data and enabling first-ever science with the launch of MAVEN, TDRS-L, and OCO-2.

- The Rocket Propulsion Test (RPT) program performed 313 tests for 272,393 seconds, while maintaining 100 percent of availability. RPT's customers included the SLS program to test the J-2X engine (a candidate engine for the SLS second stage), the U.S. Air Force for RS-68 engine testing, and numerous commercial partners, such as Orbital, SpaceX, MDA, and Boeing. Major renovations to the B-2 test stand at SSC are also underway in preparation for SLS core stage testing.

- The Lunar Laser Communications Demonstration (LLCD) on the LADEE spacecraft demonstrated communications via laser from the Moon to the Earth at 622 megabits per second (Mbps) in October of 2013. This accomplishment demonstrated the possibilities of laser communications technology, with four times the data return of conventional radio communications from the Moon, and was recognized with an R&D 100 Award from *R&D Magazine*, a Breakthrough Award from *Popular Mechanics*, and a nomination for the prestigious Collier Trophy.

- The Deep Space Network (DSN), which turned 50 years old on December 24, 2013, provides communication and tracking services to over 30 NASA and non-NASA missions in deep space. The first in a series of new 34 meter deep space beam waveguide antennas (DSS-35 in Canberra, Australia) achieved operational status in the fourth quarter of FY 2014. These new antennas will provide enhanced capacity to enable future missions.

Image caption: NASA's newest Deep Space Station (DSS-35) in Canberra, Australia. (Credit: NASA/Miguel Marina)

Image Caption: J-2X Engine No. 10002 was test fired on April 17, 2013, at Stennis Space Center. The J-2X is designed to power the second stage of the 130-metric ton heavy-lift version of the Space Launch System (SLS). J-2X testing provided valuable data and experience for the team developing the RS-25 engine, which will power the core stage of NASA's new SLS. (Credit: NASA)

Strategic Objective 3.3: Provide secure, effective, and affordable information technologies and services that enable NASA's Mission.

Information technology (IT) is a critical component of NASA's infrastructure to enable mission success. The Agency IT Services (AITS) program provides the policy and management for NASA's enterprise IT services including end user services, business applications, network management, computing platforms and data centers, and web services for the Agency's websites. IT security is a crucial element within the delivery of these services to ensure the confidentiality, integrity, and availability of NASA's information assets. The AITS program provides innovative IT solutions to assist NASA's scientists, engineers, and analysts with cost-effectively achieving their mission. The program also improves citizen access to NASA's scientific and technical information and increases citizen participation in NASA's diverse activities.

Leveraging the Cloud to Reduce Operational Costs

The Web Services program's ongoing transition of NASA's Web applications to a centralized cloud platform is reducing Operations and Maintenance (O&M) costs. NASA has migrated 158 Web applications into the production cloud environment managed by our WESTPrime contract. Following these migrations, NASA's focus shifted to the consolidation and decommissioning of applications and websites when practical to reduce costs. NASA decommissioned 45 applications that were no longer relevant for their programs or were consolidated into other existing websites and applications. These efforts led to a $3M decrease in O&M costs as compared to the prior year. Furthermore, the migration of NASA Headquarters' applications to the centralized environment reduced the Headquarters' data center footprint by 60 percent.

Enhancements to NASA's Cybersecurity

NASA expanded the Web Application Security Program (WASP) in FY 2014 and implemented an automated scanning process to identify security vulnerabilities, prioritize criticality of vulnerabilities, and coordinate with Centers to mitigate the related issues. In addition to WASP, NASA has continued to conduct in-depth penetration testing at individual Centers. These penetration testing activities have driven corrective actions for 195 discovered vulnerabilities as of June 30, 2014. In support of OMB's Cross-Agency Priority (CAP) Goal for Cybersecurity, NASA achieved over 75 percent compliance for

strong authentication using Personal Identity Verification (PIV) authentication for Windows systems. The Agency also procured and deployed intrusion detection systems (IDS) on the NASA Mission and Research Networks.

Other key FY 2014 achievements include:

- NASA's International Space Apps Challenge is an annual mass collaboration over a 48-hour period in cities around the world. The Challenge utilizes openly available data, supplied through NASA's missions and technology, and the talent of global volunteers to advance space exploration and improve the quality of life on Earth. In this third-annual challenge, more than 8,000 volunteers in 95 cities and 46 countries participated in 40 challenges. In three years, nearly 2,000 solutions have resulted in crowd-sourced methods to monitor air, water, and urban pollution, track environmental mishaps, alert citizens of weather or health-related disasters, and track the stars. For more, see: https://2014.spaceappschallenge.org/

- In alignment with the 2014 NASA Strategic Plan, NASA published the 2014 Information Resources Management (IRM) Strategic Plan. The three IRM goals and underlying objectives focus our IT community on providing mission-enabling IT capabilities, risk-based cybersecurity, and a sustainable management approach to support NASA's diverse mission needs. For more, see: http://www.nasa.gov/offices/ocio/IRM_Plan.html

Image Caption: NASA's Security Operations Center (SOC) provides a coordinated operational and technical approach to ensuring the protection of the Agency's information assets. This year, NASA held the first Agency-wide incident response exercise that involved the NASA SOC and incident response teams across all NASA Centers. (Credit: NASA ARC/Charles J Guest)

Strategic Objective 3.4: Ensure effective management of NASA programs and operations to complete the mission safely and successfully.

Safety and mission success programs protect the health and safety of the NASA workforce and improve the likelihood that NASA's programs, projects, and operations will be completed safely and successfully. NASA's commitment to safety and mission success extends to the American public, our employees, our commercial partners, and our contractors. Safety and Mission Success activities are conducted by the Office of the Chief Engineer (OCE), Office of Safety and Mission Assurance (OSMA), and Office of the Chief Health and Medical Officer (OCH-

MO). NASA's Safety and Mission Success (SMS) program successfully implemented its strategic objective of enhancing mission success of NASA's programs, projects, and operations, while ensuring the safety and health of the public and the NASA workforce in FY 2014. SMS demonstrated this by:

- Zero fatalities or permanent disabling injuries to the public resulting from NASA activities.

- Maintaining a Total Case Rate and Lost Time Case Rate that exceeded the goals of the President's Protecting Our Workers and Ensuring Reemployment initiative.

- Reducing the non-mission failure damage to NASA assets.

- Ensuring 100 percent of Category 1 and 2 projects used Agency Safety and Mission Success policy, procedures and independent assessments focused on both technical and programmatic mission success; and

- Ensuring that 100 percent of the engineering and programmatic workforce had access to the standards and knowledge base needed to maintain and build their skills.

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Financial Performance

CFO Letter

February 17, 2015

I am pleased to present the FY 2014 financial highlights and financial statements on behalf of the National Aeronautics and Space Administration (NASA). NASA is committed to the highest standards of financial accountability in support of the Nation's aeronautics and space missions, as demonstrated by this Summary of Performance and Financial Information.

This summary provides highlights of the Agency's efforts in FY 2014 to achieve the vision and goals set forth in the Strategic Plan and demonstrates the intersection between NASA's program and financial management. As the complexity and diversity of the mission portfolio has grown, the Agency's financial systems and processes have evolved to meet expanding information needs. Similar to the progress in our mission portfolios, NASA continues to make progress in the effectiveness of our financial management practices and systems.

As evidence that our efforts are having tangible results, I take great pride in reporting that for the fourth year in a row NASA received an unmodified "clean" opinion on our financial statements, with no material weaknesses or significant deficiencies. I am also pleased to report that NASA is in substantial compliance with the Federal Financial Management Improvement Act for FY 2014.

The Financial Highlights that immediately follow explain how NASA has used the funds entrusted to it to perform its mission and achieve the results described in this document's Performance section.

I am pleased with our achievements, and remain committed to ensuring sound financial management that delivers reliable and actionable information for both internal and external decision makers and stakeholders. I appreciate the continued support of the entire Agency, with special thanks to the Office of Inspector General. More detailed performance reporting is available in our Annual Performance Report, which was released with the President's FY 2016 Budget on February 2, 2015.

David P. Radzanowski
Chief Financial Officer

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Financial Highlights

This section provides highlights of NASA's financial performance for fiscal year (FY) 2014. The highlights explain the financial results of program and operational decisions. Key components of this section include:

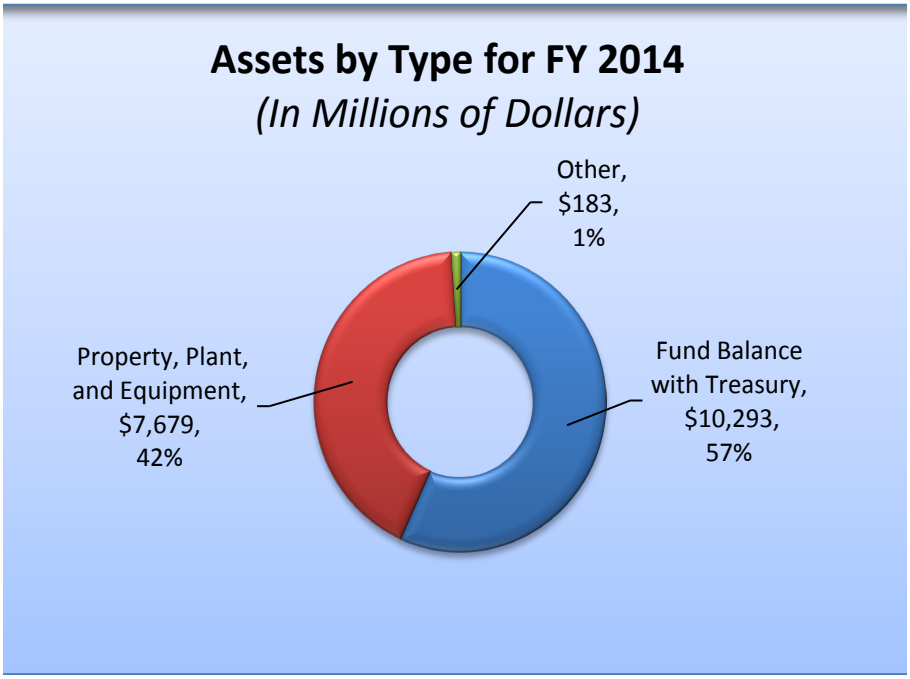
Overview of Financial Position:	Balance Sheet
Sources of Funding:	Statement of Budgetary Resources
Results of Operations:	Statement of Net Cost

Overview of Financial Position

NASA's Balance Sheet provides a snapshot of the Agency's financial position as of September 30, 2014. It displays amounts in three primary categories:

- Assets, which are the future economic benefits owned or available for use by NASA;
- Liabilities, which are amounts owed by NASA but not yet paid; and
- Net Position, which is comparable to net worth for private sector organizations.

Balance Sheet Categories *(In Millions of Dollars)*	2014	2013	Percent Change
Total Assets	**$ 18,155**	**$ 18,207**	**0**
Fund Balance with Treasury	10,293	9,771	5
Property Plant and Equipment	7,679	8,261	(7)
Other	183	175	5
Total Liabilities	**$ 4,560**	**$ 4,275**	**7**
Other Liabilities	1,673	1,578	6
Accounts Payable	1,565	1,403	12
Environmental and Disposal Liabilities	1,274	1,243	2
Federal Employee and Veteran Benefits	48	51	(6)
Total Net Position	**$ 13,595**	**$ 13,932**	**(2)**
Unexpended Appropriations	7,413	7,113	4
Cumulative Results of Operations	6,182	6,819	(9)

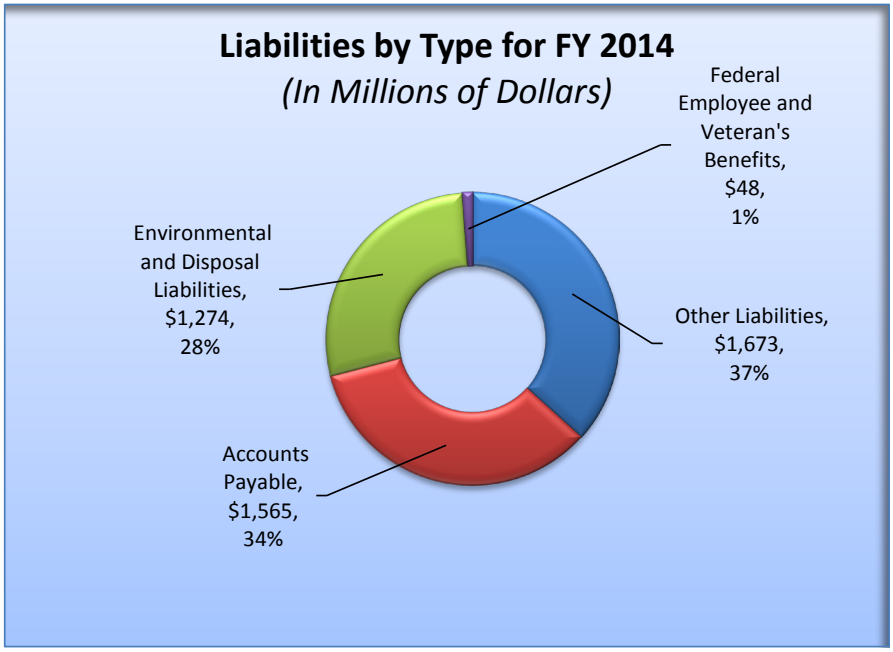


Assets were the largest of the three categories (Liabilities plus Net Position will always equal Total Assets). NASA's asset balance at the end of FY 2014 was $18.2 billion.

The Agency's Fund Balance with Treasury (FBWT) and its Property, Plant and Equipment (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 $10.3 billion, or 57 percent of total assets. This cash balance included Congressional appropriation funds available for NASA mission work (e.g. employee labor or purchased goods or services from contractors) that have not yet been paid.

NASA's PP&E had a net book value of almost $8 billion in FY 2014, which was 7 percent lower than in FY 2013. The decrease was driven by FY 2014 depreciation of $977 million for the International Space Station (ISS). The ISS, which was completed in 2011 and has a total acquisition cost as of September 30, 2014 of $10.4 billion, is NASA's single largest asset. Excluding ISS depreciation, NASA PP&E increased by $396 million in FY 2014 as the Agency continues to invest in the facilities and institutional equipment necessary to support NASA's exploration mission.



Liabilities for FY 2014 were $4.6 billion. Accounts Payable and Other Liabilities represent the majority of NASA's liabilities. NASA contracts with the private sector for many of the products and services that are used to execute NASA missions. NASA's Accounts Payable and Other Liabilities primarily represent NASA's unpaid payroll and private sector contractor costs incurred for goods and services to accomplish NASA mission requirements.

Other Liabilities, which primarily represents an estimate of accrued contractor, payroll and other costs incurred, that are not yet payable, was the Agency's single largest liability at $1.7 billion, or 37 percent of total liabilities. Other Liabilities increased by $95 million.

Accounts Payable, which represents the amount owed to other entities, was $1.6 billion at the end of the FY 2014, an increase of $162 million.

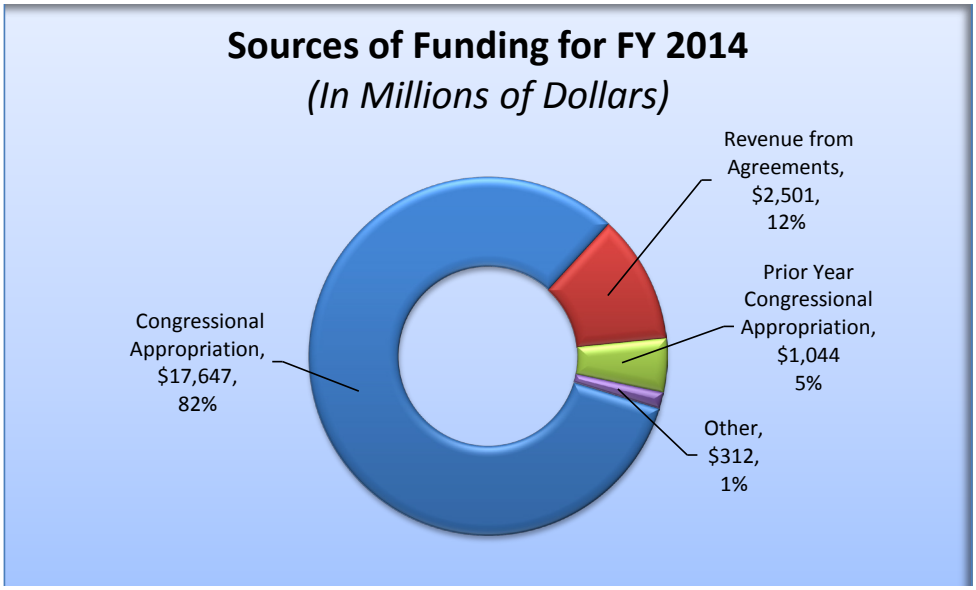
Environmental and Disposal Liabilities at $1.3 billion represents the estimated cost to cleanup both known and projected environmental hazards. The FY 2014 increase of $31 million was due primarily to increases in estimated cleanup costs for existing environmental restoration projects for all NASA locations and facilities.

Net Position, comprised of Unexpended Congressional Appropriations and Cumulative Results of Operations ("net worth"), decreased by $337 million, or 2 percent, from FY 2013. Cumulative Results of Operations, at $6.2 billion, were down by 9 percent from FY 2013 balances, due primarily to the decrease in PP&E. Unexpended Congressional Appropriations, at $7.4 billion, increased by 4 percent from FY 2013 balances. This was due primarily to an increase in unobligated balances that remain available for future use.

Sources of Funding

The Statement of Budgetary Resources provides information on the resources 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 2014, the total funds available for use by the Agency was $21.5 billion. NASA's total budget authority was $20.1 billion, comprised of both Congressional Appropriations (from current and prior fiscal years) and revenue earned from partnerships.

Appropriations from Congress for FY 2014, at $17.6 billion, comprised 82 percent of the funds available for use by the Agency. Congress designates the funding available to the Agency for a specific NASA mission or purpose. Appropriations that remained available from prior years comprised $1.0 billion, or 5 percent, of NASA's available resources in FY 2014.

NASA's funding also included $2.5 billion in FY 2014 for revenue from agreements with other governmental organizations or private entities. These earned revenues are received under NASA's authority to provide goods, services or use of facilities to other entities on a reimbursable basis.

Of the $21.5 billion funding available to NASA in FY 2014, NASA obligated $20.3 billion for programmatic and institutional use. An obligation results from an agreement that 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 $1.2 billion has not yet been obligated.

Results of Operations

The Statement of Net Cost presents Net Cost of Operations by strategic goal and for NASA overall. NASA's strategic goals are described in the Mission Performance section of this Agency Financial Report. As discussed in this section, the Agency established new strategic goals for FY 2014. Prior year costs were reclassified for comparability. The Net Cost of Operations represents gross cost incurred less revenue earned for work performed for other government organizations or private entities. For FY 2014, NASA's gross cost was $20.3 billion. Earned revenue from other governmental organizations or private entities was $2.1 billion, or 11 percent of gross costs, leaving NASA with an FY 2014 net cost of $18.2 billion.

Gross Cost of Operations

NASA's day-to-day operations are performed at NASA and contractor offices and facilities around the globe and in space.

Gross Costs of Operations is presented in the following table, detailing select NASA programs that supported each strategic goal. Highlights of NASA program activities that contributed to FY 2014 gross costs are provided below for each strategic goal. A discussion of activities and costs that were reimbursed primarily by other governmental organizations or private entities (for example, earned revenue) is also provided.

Gross Cost by Strategic Goal *(In Millions of Dollars)*		2014		2013	Percent Change
Strategic Goal 1	**$**	**11,788**	**$**	**11,496**	**3**
International Space Station		2,921		2,853	2
Space Launch Systems		1,825		1,626	12
Multi-Purpose Crew Vehicle		1,041		1,120	(7)
Other NASA Programs		6,001		5,897	2
Strategic Goal 2	**$**	**3,646**	**$**	**3,663**	**0**
Earth Systematic Missions		590		684	(14)
Earth Science Research		420		429	(2)
Earth Science Multi-Mission		159		151	5
Other NASA Programs		2,477		2,399	3
Strategic Goal 3	**$**	**4,895**	**$**	**5,060**	**(3)**
Center Management and Operations		1,993		1,999	0
Space Communications and Navigation		566		528	7
Agency Management		385		369	4
Other NASA Programs		1,951		2,164	(10)
Total Gross Costs by Strategic Goal	**$**	**20,329**	**$**	**20,219**	**1**

Strategic Goal 1: Expand the frontiers of knowledge, capability, and opportunity in Space.

Gross costs for Strategic Goal 1 were $11.8 billion, an increase of $292 million, or 3 percent, over FY 2013 costs. The costs for this strategic goal represent 58 percent of total Agency gross cost. The three primary programs that support this goal (ISS, SLS, and the Orion MPCV) contributed over 50 percent of the cost for Strategic Goal 1:

- The ISS Program, with FY 2014 costs of $2.9 billion, represents 14 percent of NASA's total gross cost. ISS costs were $68 million higher in FY 2014 than in FY 2013. FY 2014 costs were largely driven by successful launches of two domestic commercial cargo transportation systems.

- The SLS program had costs of $1.8 billion in FY 2014, an increase of $199 million over FY 2013 costs. The primary driver of SLS costs was continued development of the SLS heavy-lift rocket for the Launch Vehicles project. The SLS program completed a key development milestone in 2014, the Critical Design Review of the SLS Core Stage.

- The Orion MPCV program, with costs of $1.0 billion in FY 2014, is preparing the Orion spacecraft for Exploration Flight Test-1 in December 2014. In FY 2014, NASA assembled the parts, components, structures, and mechanisms into the Orion crew module, service module, and launch abort system.

Other Strategic Goal 1 programs with significant costs were the James Webb Space Telescope (JWST) and Commercial Crew programs. With costs of $625 million in FY 2014, $27 million higher than in 2013, the JWST made progress toward meeting its planned launch date of October 2018. Commercial Crew program costs decreased by $205 million in FY 2014, to a total cost of $425 million. NASA continued to work with industry providers through this program to complete partner commercial crew transportation system design and provide NASA certification for those systems to carry astronauts into orbit. NASA and its industry partners achieved a critical milestone in FY 2014 with the completion of reviews detailing how

each industry partner plans to meet NASA's certification requirements to transport space station crew members to and from the ISS.

Strategic Goal 2: Advance understanding of Earth and develop technologies to improve the quality of life on our home planet.

Gross costs for Strategic Goal 2 were $3.6 billion, a decrease of $17 million from FY 2013. The costs for this strategic goal represent 18 percent of total Agency gross cost. Almost half of the costs incurred for Strategic Goal 2 are in support of activities performed for other governmental organizations or private entities who reimburse NASA for these costs (earned revenue). The primary reimbursable activities are described in the earned revenue discussion below.

Three of the largest NASA programs supporting Strategic Goal 2 were the Earth Systematic Missions, Earth Science Research, and Earth Science Multi-Mission Operations programs.

- The Soil Moisture Active Passive (SMAP) project within the Earth Systematic Missions program had costs of $140 million in FY 2014, $60.9 million less than FY 2013 costs. SMAP will provide global measurements of soil moisture and its freeze/thaw state. These measurements will be used to enhance understanding of processes that link the water, energy and carbon cycles, and to extend the capabilities of weather and climate prediction models. SMAP completed the Instrument Thermal Vacuum Test in June 2014.

- Earth Science Research and Analysis, a major project in the Earth Science Research Program, is comprised mainly of individual investigator activities organized around scientific disciplines. These activities had a total cost in FY 2014 of $140 million, $0.1 million more than FY 2013 costs.

- Multi-Mission Operations projects, with $132 million in FY 2014 costs, acquire, preserve, and distribute observational data from operating spacecraft to support Earth Science focus areas. Costs for these projects were $9 million higher than FY 2013 costs.

Other significant projects contributing to costs for Strategic Goal 2 were the Orbiting Carbon Observatory-2 (OCO-2) and Global Precipitation Measurement (GPM) programs, and efforts to advance the nation's science, technology, engineering, and math (STEM) education. OCO-2 had costs of $90 million in FY 2014, $6 million more than FY 2103. OCO-2, successfully launched on July 2, 2014, will make a completely new set of global satellite measurements of the ways that carbon moves through the atmosphere, land, and ocean. GPM, with FY 2014 costs of $38 million, was launched on February 27, 2014. GPM inaugurates an international satellite constellation to produce frequent global observations of rainfall and snowfall. STEM projects had costs of $55 million in FY 2014, $23 million less than FY 2013.

Strategic Goal 3: Serve the American public and accomplish our Mission by effectively managing our people, technical capabilities, and infrastructure.

Gross costs for Strategic Goal 3 were $4.9 billion in FY 2014, a decrease of $165 million from FY 2013. The costs for this strategic goal represent 24 percent of total Agency gross cost. Three of the largest NASA programs supporting Strategic Goal 3 were

Center Management and Operations, Agency Management, and Space Communication and Navigation.

- In FY 2014, Center Management and Operations (CMO) had costs of $2.0 billion in FY 2014, a decrease of $6 million from FY 2013. CMO directly supports Agency programs and projects that reside at and are executed by NASA Centers. CMO provides for the care of institutional assets, establishing and maintaining the staff and their competencies, and the maintenance and operation of facilities required by current and future programs and projects at the Centers.

- NASA's Space Communication and Navigation (SCaN) program, with total FY 2014 costs of $566 million, provides communications services that are essential to the operations of NASA's space flight missions. The three networks, Deep Space Network (DSN), Near Earth Network (NEN) and Space Network (SN) provide support to over 100 NASA and non-NASA missions. To support the network, NASA's twelfth Tracking and Data Relay Satellite (TDRS) spacecraft (TDRS-L) was launched in January 2014 and has been accepted for operations.

- Agency Management, with FY 2014 costs of $385 million, provides for the management and oversight of Agency missions, programs, functions and performance of NASA-wide mission support activities. Agency Management operations activities at NASA Headquarters ensure that core services are ready and available Agency-wide for performing mission roles and responsibilities, Agency operations are effective and efficient, and activities are conducted in accordance with all statutory, regulatory, and fiduciary requirements.

Earned Revenue

Total earned revenue, for example, work performed by NASA for other governmental organizations or private entities, for the Agency was $2.1 billion in FY 2014, a decrease of $150 million from FY 2013. Two programs accounted for 62 percent of NASA's earned revenue in FY 2014: Joint Polar Satellite System (JPSS) and Geostationary Operational Environmental Satellites – R Series (GOES-R).

NASA supports JPSS in partnership with the National Oceanic and Atmospheric Administration (NOAA). JPSS had earned revenue of $759 million in FY 2014, an increase of $13 million from FY 2013. JPSS completed the Critical Design Review in FY 2014, with launch scheduled for early 2017.

Also in partnership with NOAA, GOES-R provides improvements in the detection and observations of environmental phenomena that directly affect public safety, protection of property and our nation's economic health and prosperity. The first satellite in the GOES-R series is scheduled for launch in early 2016. Earned revenue from GOES-R was $564 million in FY 2014, an increase of $59 million from FY 2013.

Earned revenue by strategic goal is presented on the Statement of Net Cost, which can be found in the Financial Section (page 71) of the AFR.

Limitation of the Financial Statements

The principal financial statements have been prepared to report the financial position and results of operations of NASA, pursuant to the requirements of 31 U.S.C. 3515(b). While the statements have been prepared from the books and records of NASA in accordance with the U.S. generally accepted accounting principles for Federal entities and in the formats prescribed by the Office of Management and Budget (OMB) Circular A-136, the statements are in addition to the financial reports used to monitor and control budgetary resources, which are prepared from the same books and records. The statements should be read with the realization that they are for a component of the U.S. Government, a sovereign entity.

Image Caption: Orbiting Carbon Observatory-2 (OCO-2) Aboard Delta II Rocket - The launch gantry is rolled back to reveal the United Launch Alliance Delta II rocket with the OCO-2 satellite onboard, at the Space Launch Complex 2, Monday, June 30, 2014, Vandenberg Air Force Base, Calif. OCO-2 will measure the global distribution of carbon dioxide, the leading human-produced greenhouse gas driving changes in Earth's climate. (Credit: NASA/Bill Ingalls)

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Systems, Controls, and Legal Compliance

Image Caption: America's Next Rocket (Artist Depiction) - NASA's Space Launch System, or SLS, will be the most powerful rocket in history. The flexible, evolvable design of this advanced, heavy-lift launch vehicle will meet a variety of crew and cargo mission needs. (Credit: NASA)

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Systems, Controls and Legal Compliance

Management Assurances

Administrator's Statement of Assurance

November 14, 2014

NASA management is responsible for establishing and maintaining effective internal control and financial management systems that meet the objectives of the Federal Managers' Financial Integrity Act (FMFIA), the Federal Financial Management Improvement Act (FFMIA), as well as all other related laws and guidance. NASA is committed to a robust and comprehensive internal control program. We recognize that ensuring the effective, efficient, economical, and responsible use of the resources that have been provided to the Agency is not only good stewardship, but also the right approach to maximize our progress toward the realization of our mission goals. Integrity and ethical values are emphasized throughout the Agency and communicated both formally and informally through training, codification in policy, and through organizational norms and culture. As a result, managers and employees throughout the Agency are active on a daily basis in identifying or updating key control objectives, assessing risks, implementing controls or other mitigating strategies, conducting reviews, and taking corrective actions as necessary.

NASA conducted its Fiscal Year 2014 annual assessment of the effectiveness of internal controls over operations and compliance with applicable laws and regulations in accordance with FMFIA and the Office of Management and Budget (OMB) Circular A-123, *Management's Responsibility for Internal Control*. Based on the results of this evaluation, NASA can provide reasonable assurance that its internal controls over the effectiveness and efficiency of operations and compliance with applicable laws and regulations as of September 30, 2014, were operating effectively and no material weaknesses were found in the design or operation of the internal controls.

In addition, NASA's Office of the Chief Financial Officer performed an assessment of the effectiveness of internal controls over financial reporting in compliance with OMB Circular A-123, Appendix A-*Internal Control over Financial Reporting*. Based on the results of the evaluation, there were no material weaknesses identified in the design or operation of these controls. NASA provides reasonable assurance that internal controls over financial reporting are operating effectively, as of June 30, 2014. Finally, in accordance with the requirements of

the FFMIA, we assessed the implementation and maintenance of NASA financial management systems. We found that these substantially comply with Federal financial management systems requirements, applicable Federal accounting standards, and the U.S. Government Standard General Ledger at the transaction level.

In conclusion, NASA makes an "unqualified statement of assurance" that its internal controls for FY 2014 were operating effectively.

NASA will continue its commitment to ensuring a sound system of internal control exists over operations, reporting, and financial systems and will continue to monitor and enhance its quality assurance activities.

Charles F. Bolden, Jr.
Administrator

Financial Systems Strategies

NASA's Core Financial (CF) management system is the Systems Applications & Products (SAP) Enterprise Resources Planning (ERP) Suite. The CF system is an Agency-wide solution for all Centers and installations, and has served as NASA's financial accounting system of record since 2003. It is the foundation of NASA's ability to achieve its financial management objectives and management of the budget. Since its initial implementation, CF has been enhanced and expanded to demonstrate measurable progress toward achieving compliance with Federal Managers' Financial Integrity Act (FMFIA) and Federal Financial Management Improvement Act (FFMIA), and an unmodified financial audit opinion.

To date, NASA has implemented the following modules: funds management, financial accounting, sales and distribution, investment management, materials management, controlling (cost), project systems, and real estate, as well as a Contractor Cost Reporting (CCR) extension. Collectively, these integrated components make up NASA's financial system of record for financial statements, external reports, project analysis, and management control. Transactions within the integrated modules and interfaces are recorded on a real time basis. The SAP ERP is supported by other commercial off-the-shelf (COTS) software, NASA developed applications, and interfaces with systems managed by other Federal agencies.

NASA's Contract Management Module (CMM) / PRISM is used as a hub to modernize/standardize NASA's contract writing. It provides an integrated Agency-wide procurement solution that interfaces real time with CF and promotes NASA's internal initiatives to optimize business operations.

This year, NASA completed implementation of the Concur Government Edition (CGE) system, an eGov initiative providing Agency-wide travel processing, and successfully integrated this system with its CF system.

Also this year, NASA developed and released three new enhancements to the Performance Measures Module (PMM), which supports NASA's Budget Formulation and Execution (BFEM) system, to meet current GPRAMA mandates and OMB requirements for Federal strategic planning, performance management and reporting. Currently, NASA is in the process of developing enhancement capabilities required by GPRAMA and OMB to meet current mandates.

NASA is also in the process of implementing Wide Area Workflow, the Department of Defense e-invoicing solution that will improve payment cycle time, reduce interest penalties, and reduce long-term operating cost.

These systems, along with others, such as Business Intelligence, eBudget, Metadata Manager and Bankcard, are integrated within the NASA Financial Management System environment. The NASA Enterprise Applications Competency Center (NEACC) operates and maintains the broad spectrum of NASA's Enterprise Applications for nine lines of business (including Financial Management, Procurement, and Human Capital), with an emphasis on fully integrating business process expertise with application and technical know-how. Administrative and transactional business activities are supported by the NSSC and support the following functional areas: financial management,

human resources, procurement, information technology and Agency business support.

In sum, NASA's CF system, its interfacing systems, and Agency and Center personnel support the execution of NASA's Strategic and Project Performance Goals and allow NASA to effectively manage enterprise data and information per the Agency's vision for Enterprise Architecture. The integrated nature of the business systems and processes have strengthened NASA's internal controls and transparency. The CF System enables NASA to achieve its Enterprise Architecture target-state goal of systems rationalization and providing cost-effective and reliable applications to support NASA's mission.

Looking Forward

Image Caption: Grand Swirls from NASA's Hubble - This new Hubble image shows NGC 1566, a beautiful galaxy located approximately 40 million light-years away in the constellation of Dorado (The Dolphinfish). NGC 1566 is an intermediate spiral galaxy, meaning that while it does not have a well-defined bar-shaped region of stars at its center — like barred spirals — it is not quite an unbarred spiral either. (Credit: ESA/ Hubble & NASA, Acknowledgement: Flickr user Det58)

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Looking Forward

In FY 2015, NASA will build on the successes achieved across FY 2014, as we expand the frontiers of knowledge, capability, and opportunity. NASA, our partners, and the Nation are embarking upon an ambitious exploration program that will incorporate new technologies and leverage proven capabilities as we expand our reach out into the solar system. NASA is entering a new era in human spaceflight of exploration beyond low Earth orbit. This new era in space exploration commenced in early FY 2015 with Exploration Flight Test-1 (EFT-1), the first launch of the Orion MPCV spacecraft. This successful launch was the first key test flight of a component of the architecture needed for human exploration beyond low Earth orbit. The unmanned EFT-1 flight took Orion to an altitude of approximately 3,600 miles above the Earth's surface, more than 15 times farther than the International Space Station's (ISS) orbital position. By flying Orion out to those distances, NASA will be able to see how Orion performs in and returns from deep space journeys.

In addition, to gain knowledge about how humans live and work in space, a joint US-Russian one-year mission will start in 2015. American astronaut Scott Kelly and Russian cosmonaut Mikhail Kornienko will live on the ISS for one year, which is twice as long as crew members typically stay on the space station. The mission's investigation of genetics and the effects of long-duration spaceflight on humans will be assisted through comparisons with astronaut Scott Kelly's identical twin, retired astronaut Mark Kelly, who will remain on Earth.

Also in FY 2015, SpaceX, one of NASA's commercial partners, will launch the Bigelow Expandable Activity Module (BEAM) to the ISS – an expandable habitat for ISS. BEAM will demonstrate inflatable technology and applications for human spaceflight and exploration activities.

NASA science programs will continue to seek answers to profound questions, address the need to understand our place in the Universe, and provide information to policy makers who address issues affecting all life on Earth. NASA is also working to improve its operations and is increasingly launching its science missions on schedule and on budget.

NASA will launch several science missions in FY 2015, including the Magnetospheric MultiScale Mission (MMS). This unmanned mission will utilize four spacecraft flying in a tetrahedral formation to conduct research on the Earth's magnetosphere. NASA will also launch the Soil Moisture Active Passive (SMAP) mission. This fleet of NASA satellites will observe every phase of Earth's critical water cycle. SMAP will measure surface soil moisture and freeze-thaw state. These measurements will enable improvements in weather forecasts, flood and drought forecasts, and predictions of agricultural productivity and climate change.

NASA will also continue to make strides in the development of other key science missions for future launches including:

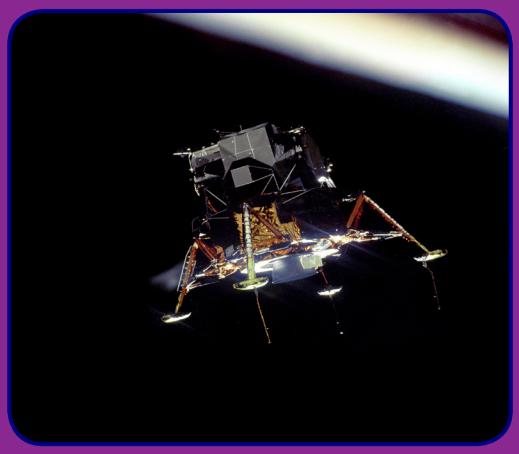
- Solar Probe Plus (SPP)
- Solar Orbiter Collaboration (SOC)

- Ionospheric Connection (ICON)
- Global-scale Observations of the Limb and Disk (GOLD)
- Transiting Exoplanet Survey Satellite (TESS)
- Neutron star Interior Composition Explorer (NICER)
- Origins-Spectral Interpretation-Resource Identification-Security-Regolith Explorer (OSIRIS-REx)
- InSight
- Mars 2020
- Ice, Cloud,and land Elevation Satellite-2 (ICESat-2)
- James Webb Space Telescope (JWST)

NASA expects its innovative research activities and technology development to lead to future spacecraft advancements, support life in space, and enable the next generation air transportation system. American technological leadership is vital to our national security, economic prosperity, and global standing. NASA will remain committed to contributing to STEM education, the Nation's economic vitality, and stewardship of Earth.

Humanity's future in space is bright, and NASA is leading the way. We reach for new heights, toward our next giant leap. As a foundational component of this journey, NASA will continue to focus on fiscal responsibility, performance management, and long-term affordability, all the while addressing management challenges or risks that may pose a roadblock to future success.

On Dec. 6, 1998, the crew of space shuttle mission STS-88 began construction of the International Space Station, attaching the U.S.-built Unity node and the Russian-built Zarya module together in orbit. The crew carried a large-format IMAX® camera, used to take this image of Unity lifted out of Endeavour's payload bay to position it upright for connection to Zarya (online December 6, 2013). (Credit: NASA)



The Apollo 11 Lunar Module Eagle, in a landing configuration was photographed in lunar orbit. (Credit: NASA)

The Orbital Sciences Corporation Antares rocket, with the Cygnus spacecraft onboard, is rolled out of the Horizontal Integration Facility. (Credit: NASA)

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