



National Aeronautics and
Space Administration
Focusing on Results
Through the
President's Management Agenda

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Table of Contents

Introduction: The Importance of Results.....	1
Program Results (GPRA) and Management Results (PMA)	1
What We Do: Program Results (GPRA)—Brief Overview	2
How We Do It: Management Results (PMA)—In-Depth Discussion.....	3
How We Did Business Four Years Ago.....	4
What We Have Done to Manage Better Through PMA	6
How Do We Know Whether Our PMA Effort Is Succeeding?	10
What More Can We Achieve Through PMA in the Coming Years?.....	11
What Kind of Program Goals Will PMA Achievements Facilitate?	13
The Basis for NASA’s Focus on Results	14



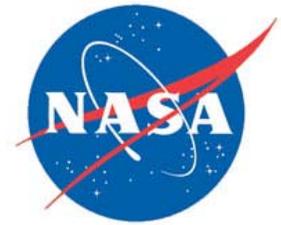
Introduction: The Importance of Results

NASA Exists to Achieve Results. How Well Do We Succeed?

NASA exists in order to achieve results. This is a given; it is what citizens expect from Federal agencies and is implicit in the legislation that established NASA. But does NASA achieve the right results at an acceptable cost? How would we know if we did or not?

Results Matter!

This knowledge is important. It is important to citizens because they foot the bill. It is important to the White House and Congress, who must decide what agencies will do and how much money it should cost. But it is also important to us as Agency employees to know whether NASA is actually accomplishing what it is responsible for doing, and spending the taxpayer's investment well in the process. We devote a large portion of our lives—in many cases, decades—to working at NASA. We often know in a narrow sense whether we have done a good job on a particular project, but is our Agency in general accomplishing its mission and doing so efficiently? Results matter! What is NASA's results agenda?



Program Results (GPRA) and Management Results (PMA)

To set the agenda for what NASA is to achieve using the resources entrusted to us, several mechanisms have been established. The primary two are the Government Performance and Results Act of 1993 (GPRA) and the President's Management Agenda (PMA). GPRA is concerned with establishing *what* our results are; the PMA, with *how* we manage our efforts to achieve them. Although this discussion will focus on management improvements achieved through PMA, let's first briefly review where GPRA fits into the results picture to provide context for the PMA discussion.



What We Do: Program Results (GPRA)—Brief Overview

Top-Level Program Results: Our Mission and Strategic Goals

Mission	Goals
To understand and protect our home planet,	<ul style="list-style-type: none"> • Understand Earth’s system and apply Earth system science to improve the prediction of climate, weather, and natural hazards. • Enable a safer, more secure, efficient, and environmentally friendly air transportation system. • Create a more secure world and improve the quality of life by investing in technologies and collaborating with other agencies, industry, and academia.
To explore the universe and search for life,	<ul style="list-style-type: none"> • Explore the fundamental principles of physics, chemistry, and biology through research in the unique natural laboratory of space. • Explore the solar system and the universe beyond, understand the origin and evolution of life, and search for evidence of life elsewhere.
To inspire the next generation of explorers,	<ul style="list-style-type: none"> • Inspire and motivate students to pursue careers in science, technology, engineering, and mathematics. • Engage the public in shaping and sharing the experience of exploration and discovery.
. . . as only NASA can.	<ul style="list-style-type: none"> • Ensure the provision of space access and improve it by increasing safety, reliability, and affordability. • Extend the duration and boundaries of human space flight to create new opportunities for exploration and discovery. • Enable revolutionary capabilities through new technology.

As the above chart of NASA’s Mission and *Strategic Plan* Goals shows, GPRA is concerned with *program* results, such as improving weather prediction, understanding the origin of life, and improving access to space. GPRA requires agencies to state their long-term planned results in a Strategic Plan and their shorter-term planned results in an Annual Performance Plan, and then to follow up with an *Annual Performance Report*¹ describing how well the Agency did in accomplishing the annual plan’s goals.

What are some examples of recent successful program results at NASA? The following are instances from FY 2003.

¹Now part of the annual *Performance and Accountability Report* (PAR).



The widely watched adventures of the rovers Spirit and Opportunity on Mars are excellent examples. These hardy explorers have already sent us invaluable clues to Mars's history (and by extension, Earth's), its present composition and resources, and its future potential to sustain human habitation. We launched the Spitzer Space Telescope, the largest-ever space-based infrared telescope, which peers deep into space to detect stars and planetary systems being born. We used other data to determine the universe's age and contents and to confirm that it is expanding at an increasing rate. We launched a new mission to understand the Sun's influence on Earth, with likely benefits for both scientific knowledge and protecting telecommunications and other Earth activities from solar disturbances.

We used satellite data to map Earth's gravity field with unprecedented accuracy to benefit weather and climate change models. We have made strides in identifying how the heat generated by cities affects local rainfall and weather; in quantifying and studying the global impacts of polar ice cap changes; and in identifying the causes, extent, and impact of fluctuating plant coverage on land and phytoplankton in the ocean. We are helping to better identify aerosols and their impacts, to improve the daily air quality forecasts issued throughout the United States.

We advanced the development of a Smart Icing System to detect ice forming on aircraft and deploy protection against it and tested a new system to provide pilots a clear-weather, daytime view of obstacles, terrain, and air traffic even in poor weather and at night. We demonstrated technologies to reduce aircraft emissions that cause ozone depletion and smog. We tested a promising way to increase aircraft speed and lift with no increase in engine size, reducing both fuel costs and pollution. Our successful tests of a new way to reduce sonic booms will help pave the way for environmentally acceptable supersonic aircraft. We also demonstrated a new Multi-Center Traffic Management Advisor to help air traffic controllers manage arrivals from multiple points across multiple routes, for safer flights with fewer delays.

During the Shuttle stand-down that ensued after the loss of the Space Shuttle *Columbia*, NASA used Russian launch vehicles for crew rotation and resupply; our international partners agreed to fully support these efforts. This was of course far from what we had planned for the year, but that it worked as well as it did attests to the flexibility and resourcefulness of our planning and implementation methods as well as to the soundness of our international teamwork. As a result, in November 2003, the International Space Station celebrated its third year as a continuously inhabited orbiting laboratory. During FY 2003, the tally of its science investigations reached 70, including 23 biological and physical research experiments during that year. In addition, eight of eight planned NASA launches of non-crewed payloads on expendable launch vehicles were successful.

How We Do It: Management Results (PMA)—In-Depth Discussion

We can pursue program results such as those above in an intelligent, cost-effective way or in a haphazard, wasteful way; we can manage our programs well or poorly. The quality of management often determines whether an agency accomplishes its planned results, how long it takes, how much it costs, and the extent to which the results benefit citizens: if results are late, disproportionately expensive, out of touch with national needs, or delivered to citizens ineffectively or not at all, the net result may be harmful, and would in any case be a waste of scarce taxpayer resources.



PMA success helps agencies achieve program success. The PMA, issued in 2001, is an explicit effort to address five key aspects of Federal agency management. The five PMA initiatives are as follows:

Management Results Through PMA

PMA Initiative	What and Why
Budget and Performance Integration	Link budget resources to program results; then use program performance information to make better budget and management decisions.
Strategic Management of Human Capital	Maximize the value of each agency's most important resource, its workforce.
Competitive Sourcing	Regularly examine commercial activities the government performs to determine if it is more efficient to have Federal employees or an outside contractor perform them.
Improved Financial Performance	Provide managers with timely, meaningful, consistent, and useful financial data.
Expanded Electronic Government	Manage information technology resources better and use Electronic Government (E-Government) to improve service delivery.

The Office of Management and Budget (OMB) oversees the PMA effort and rates each Agency quarterly on its success, both in absolute terms—was the goal achieved yet or not—and in terms of degree of improvement, using a “stoplight” chart with red designating poor performance, yellow, mixed or partial success, and green, success. In the short time since the PMA was issued, NASA has already achieved significant management results in many areas. Although we started out “red” in all areas except Improved Financial Performance, where we were rated “yellow,” we are now “green” for Integrated Budget and Performance and Human Capital, “yellow” for Competitive Sourcing and Expanded Electronic Government (E-Government), and “red” only for Improved Financial Performance. The sections that follow describe the management problems NASA faced and how PMA has helped us address them.

How We Did Business Four Years Ago

Before PMA, NASA, like many agencies, faced significant problems in each area that PMA aims to improve:

With regard to *Budget and Performance Integration*, we had no way to align budgets with performance goals and results. Without this linkage, it is impossible for taxpayers to know what is the result of their investment. Federal managers similarly cannot identify the cost of specific efforts, and therefore cannot make intelligent cost- and results-based tradeoffs among goals. But achieving the linkage was going to be a challenge. Our budget document was complicated



and afforded no way to assign costs to goals. Further, although civil service staff and other overhead exist only to support our programs, our program budgets omitted these costs, which were instead held in a separate budget appropriation. How could we allocate such costs among programs, let alone among goals? But unless we did so, we would be understating the true cost of NASA's programs. Finally, once having found a way to link budget and performance, we would need to ensure that management used the information to make better budget and program decisions.

With regard to *Improved Financial Management*, Headquarters and each of our 10 field Centers used its own in-house-developed financial systems and Center-unique policies and processes. Because data formats were not standardized and systems were not integrated or interfaced, most of the systems did not “talk” to each other. Consequently, current financial information was not readily available to NASA management, and the sophisticated Agency-wide analyses needed for top-notch financial management were unwieldy. We would need to integrate financial data from the 10 Centers into a single data set. We would need to institute one financial system with consistent practices Agency-wide to manage all of our activities as one NASA and produce Agency-wide financial data promptly and accurately.

In *Human Capital*, years of downsizing had produced skills imbalances in many areas, and we faced the prospect of further losses of experience and corporate knowledge, especially in the scientific and technical workforce. Much of the current workforce is eligible to retire, or will be eligible in a few years, there are fewer qualified science and technology workers in the education pipeline, and there is greater competition in the job market for such workers. To address skills imbalances and prevent competency gaps, we would need to use our current workforce more effectively, improve hiring mechanisms, and plan wisely for the future. This included a way to identify Agency-wide our near- and long-term competency needs; a way to accurately identify our current workforce's abilities and target them to where they are most needed; and a strategy for attracting, hiring, and retaining workers with key competencies. We would need to establish a more corporate approach to leadership development and succession planning to ensure we continued to have effective leaders for the future. We would also need to ensure that training programs aligned with the Agency's goals and mission, so as to build the competencies needed to reach our goals and achieve mission success.

In the area of *Electronic Government*, we needed to improve the efficiency and effectiveness of our information technology (IT) resources. In the decade before PMA, we had already made major IT improvements, consolidating mainframes and networks and outsourcing desktop computing. But further integration and streamlining were needed, in particular a move from Center-specific IT solutions to NASA-wide solutions aligned with both our strategic direction and Federal initiatives. These new IT answers would need to provide more efficient solutions to Agency problems rather than merely automate existing processes, which would often only perpetuate redundancies and stovepipes. And while adhering to cost, schedule, performance, and security parameters, we would need to stay flexible as our business needs continued to change.

In *Competitive Sourcing*, we needed to determine whether there were more effective and efficient ways for the Agency to perform its mission. There was no process in place for reviewing NASA's FAIR Act inventory and determining which functions, if any, currently performed by civil servants could potentially be performed by contractors. We needed to develop a competitive sourcing plan that established definite timeframes for performing functional area reviews, and link the FAIR Act inventory to this plan.



What We Have Done to Manage Better Through PMA

Our Process: NASA's management was determined to overcome these management challenges and gave PMA high visibility within the Agency. The Administrator designated the highest-ranking persons in each relevant functional area as the "champion" accountable for the associated PMA initiative. Each champion's photo appeared at the top of a master list of actions that he or she would need to accomplish to address the PMA challenge, along with the OMB spotlight chart rating, and the list was posted on the web; accountability was thus not only corporate, but personal. The champions and their staff worked with OMB to devise detailed written agreements for what NASA would need to accomplish in each area to earn a "green" rating. Senior management reviewed PMA progress weekly to maintain focus and momentum.

Our Results: The effort has paid off. We have made major strides in each of the PMA areas.

In the area of *Budget and Performance Integration*:

First, we now have an integrated set of strategic planning documents. Our Agency *Strategic Plan* defines NASA's long-range performance goals. Enterprise² Strategies provide roadmaps to elaborate how we will accomplish them. Center Implementation Plans define the human resources, infrastructure, and other strategic capabilities that the 10 Centers will provide to enable our programs and projects to achieve the Strategic Plan's goals. At all levels—Center, Enterprise, and Agency—we now work to a single plan.

We integrated performance with budget and documented the linkage via a new *Integrated Budget and Performance Document*. Key to this success is a new budget structure. The previous budget structure, focused at the program level, was extremely complicated and, as noted above, afforded no way to link budget with goals. The new budget structure groups programs together logically into "Themes;" examples of Themes are *Mars Exploration* and *Earth System Science*. As Themes are responsible for achieving specific performance goals and are also associated with a specific budget amount, Themes link dollars with results, thereby accomplishing the central challenge of Budget and Performance Integration. We can manage these Themes as "investment portfolios:" knowing how much a given result is budgeted to cost, we can make informed tradeoffs of budget and results both within and among Themes. In addition to linking budget and performance conceptually at the Theme level, the IBPD literally integrates the budget request with the Annual Performance Plan mentioned above. These are no longer two separate documents as in the past; rather, each Theme's performance commitments appear along with its budget request.

An important aspect of this effort was the introduction of full-cost budgeting. Whereas in past budget requests, program budgets primarily contained contract funds, while civil service salaries and overhead were held in a separate appropriation, now the budget request for each program includes its share of these other costs. For the first time, we know the full cost of programs and can manage accordingly. Also enhancing management by providing easy access to information on budget and performance is our new management information system, Erasmus. It allows any employee to view online any Theme's performance in terms of budget, schedule, major

²Note: During summer 2004, NASA is undergoing a transformation that will replace Enterprises with Missions. The transformation is expected to be complete by August 1, 2004. The Agency *Strategic Plan* will continue to serve as the starting point for lower-level, more detailed plans.



milestones, and GPRA performance goals. NASA is using this system in management reviews as input to budget and management decisions

In Improved Financial Management:

We implemented the Integrated Financial Management Program (IFMP). IFMP uses commercial web-enabled systems and software in a conscious effort to avoid the stovepiped approach of the past in favor of a consistent Agencywide solution. IFMP standardizes financial data and processes across Headquarters and the 10 Centers. It replaces 140 disparate legacy financial systems with a unified system allowing programs spanning multiple Centers to quickly access all their financial information and making financial data more timely, useful, reliable, and accessible. IFMP's improved financial, physical, and human resource management benefits employees, citizens, and businesses.

IFMP has sped up our financial operations and made financial analysis more insightful. For example, the Core Financial System, a real-time transaction system, provides virtually instantaneous data on funds availability, actual costs incurred, cost allocation, purchasing, accounts payable and receivable, and other financial matters. It has enabled us to streamline our processes, accelerating several key business processes already, including goods and services acquisition, closing accounts at month's end, and payment processing. For example, month-end closings now take one to three days instead of one to three weeks. And moving away from transactions-based processes to focus on data analysis not only provides more useful products to our customers, but also more meaningful, challenging work for our employees.

In Strategic Management of Human Capital:

We produced a Strategic Human Capital Plan (SHCP) and an accompanying Strategic Human Capital Implementation Plan (SCHIP). Together they describe an integrated, systematic approach to ensuring that NASA has a high-performing workforce both now and in the future. The SHCP identifies goals, strategies, and improvement initiatives, using a flexible, long-term approach that can accommodate changes in program direction. The SCHIP provides action plans for how to achieve our human capital goals and is updated as needed.

One of the SHCP's improvement initiatives is the Agencywide Competency Management System (CMS). This is one of the Agency's most crucial new workforce planning and analysis tools, providing our first-ever Agency-wide inventory of the workforce competencies NASA needs to accomplish its mission, and using a consistent terminology Agencywide. The CMS helps us better identify, manage, and report Agency competency strengths and needs. Competency information derived from workforce data analysis enables more focused and integrated recruitment, retention, training, and workforce development and succession planning.

We have enhanced our recruitment efforts. In addition to individual Center recruitment activities, we have established an active corporate recruitment effort targeting "at risk" competencies from a One-NASA perspective. In the fall of 2003, NASA senior leaders and hiring managers participated in 14 recruitment events, including on-campus visits, and extended tentative offers of employment to students. Of those students offered NASA jobs, 82 percent have accepted to date. They are either already working with us or will be on our rolls by September 2004.

We sought and obtained workforce flexibilities to help us recruit and retain talent now and in the future. To address the dwindling science and engineering student pipeline, we are working to ensure that our Education Programs reach a diverse student population and inspire students to



pursue studies in science and technology disciplines that the Agency will need in its future workforce. We will continue to meet some of our workforce needs, and maximize the return on our education program investments, by recruiting student participants of NASA research and internship programs into NASA jobs. We have improved our hiring mechanisms as well. NASA STARS, our automated resume system, gives candidates the convenience of applying online. It has reduced the time needed to fill vacancies by over 35 percent and yields over four times more applicants per position, on average, than the previous manual process. It saves 40,000 work hours annually and enjoys a 98 percent satisfaction rate among applicants, according to a survey taken immediately upon submitting the applications.

Just as we have better aligned workforce recruitment and retention with Agency needs, we have worked to ensure that our leadership and management development is aligned to the Agency Strategic Plan. Our Leadership Model governs how we develop employees to fill four key leadership roles—influence leaders, managers/supervisors, senior leaders, and executive leaders. It identifies competencies needed for each role and the training and development that can enhance each competency. The Leadership Model is central to NASA's succession planning. Its integrated approach to defining leadership competencies provides a single umbrella under which we create and refine all our development programs, ensuring a One NASA approach. NASA's senior leaders help design and conduct leadership development activities through programs such as the SES Candidate Development Program, the Leadership Development Program, and the Fellowship Program. NASA has also enhanced its coaching and mentoring activities and increased emphasis on facilitating leadership mobility to obtain career-broadening experience.

In the area of *Expanded Electronic Government*:

We produced NASA's first set of integrated plans for IT management. A key component, our updated Enterprise Architecture, delineates NASA's current IT and our planned future improvements, including better electronic information delivery to non-NASA users such as educators, researchers, other organizations, businesses, and the general public. This comprehensive picture illuminates opportunities such as consolidating technologies to eliminate redundancies, and demonstrates how NASA may in the future expand its participation in Federal E-Government initiatives.

We have improved how we manage our IT investments, from selection to implementation. Our new IT Capital Planning and Investment Control process document states the criteria we use to evaluate potential IT investments, using a detailed business case to demonstrate whether the investment aligns with other NASA activities and meets cost, schedule, and performance goals. Having this well-defined process increases insight into our IT investment portfolio. We also developed NASA's first integrated Office Automation, Infrastructure, and Telecommunications business case, which analyzes the general purpose IT investments needed to support NASA's mission. This business case is integrated with our Enterprise Architecture, so that NASA can manage a widely distributed IT infrastructure in a coordinated manner rather than investment by investment.

We have also set and begun to attain new goals to improve how NASA protects IT resources from inappropriate access, disclosure, and compromise. We are comprehensively redesigning our IT security management approach, establishing Agency-level plans for our common infrastructure systems, updating security policies to reflect new Federal standards, and developing a system to track and correct vulnerabilities. All of this has made more of our systems more consistent with Federal standards, and considerably improved our security posture.



IT and E-Government are integral to many components of NASA's mission, including "...to inspire the next generation of explorers as only NASA can." NASA has amazing stories to tell, and the information that we gather is a unique resource for the Nation and the world. To tell these stories and share this resource, we have targeted information services to our audiences' interests and needs. Some of our most successful outreach is through our redesigned Web Portal, created in partnership by NASA's education, public affairs, science, and IT communities to deliver dynamic content to a wide range of audiences. The NASA Portal has proven an exemplary citizen-oriented E-Government service; since its launch last February, it has attracted more than 11.8 billion hits and been accessed by over 92 million unique users.

We actively contribute to a number of Federal E-Government initiatives. We are committed to adopting Federal best practices and Government-wide services where this will make our operations more effective and help us better deliver information and services to users in other agencies, academia, business, and the general public. To this end, we participate in at least one initiative in each of the five Federal E-Government portfolios and are implementing Federal E-Government solutions as they become available. For example, we are migrating our payroll and personnel operations to the Department of the Interior's E-Payroll system in August 2004, will be using the Federal "Go-Learn" E-Training system by the end of June 2005, and will adopt a new Agency travel service provider under the E-Travel initiative in late 2006.

In the area of *Competitive Sourcing*:

We began by consolidating all Competitive Sourcing activities (the FAIR Act inventory, competitive sourcing plan development, etc.) under the Associate Administrator for Procurement, and created a dedicated Agency Competitive Sourcing Team (ACST) to provide leadership on competitive sourcing issues. We established a Competitive Sourcing Review Board comprised of senior NASA managers and we named Agency-wide points of contact to facilitate communication. So that everyone understood our FAIR Act Inventory process and why the inventory was necessary, we established standard criteria for inventory preparation and provided process training for senior management. This enabled our process to succeed and to generate an inventory that is both more accurate and more consistent with OMB guidance.

Our competitive sourcing plan defines a process and schedule for reviewing each position that the FAIR Act inventory reports as being available for competition. This process and schedule ensures that our review is systematic and based on established criteria such as location, similarity of activity, etc. We have initiated two standard competitions—Langley Metallic Test Article and General Precision Machining and the NASA Shared Services Center—and appointed the officials who will conduct them. The ACST will continue to monitor competitive sourcing activities on an ongoing basis. In addition to standard competitions, science competitions remain crucial to NASA's strategy for finding, whether in the public or private sector, the best performers for our research at the most competitive cost. We conduct public-private competitions nearly continuously, seeking to fund scientific research based on the research proposals' scientific merits and costs, ensuring that our science efforts remain both world-class and cost-effective. Our most recent (2004) FAIR Act inventory identifies 445 scientists and engineers engaged in NASA science projects as a result of winning competitions under NASA Research Announcements (NRAs) and Announcements of Opportunity (AOs).

Competitive Sourcing is a key tool in NASA's effort to rebalance our workforce skill mix. By encouraging the combination of related activities, it improves efficiency and information exchange and eliminates needless redundancies. And coordinated with human capital initiatives, Competitive Sourcing is creating efficiencies that will allow NASA to allocate resources better, matching skills to mission needs.



How Do We Know Whether Our PMA Effort Is Succeeding?

NASA's commitment to results starts at the top with the Administrator. His two primary mechanisms for continuous improvement are:

- *Enforcing accountability and monitoring progress* through weekly PMA progress reports, and
- *Clarifying goals* through regular televised discussions with the entire Agency.

Accountability and Progress

At the beginning of his tenure, the Administrator installed a system to make senior managers accountable for PMA's success. He appointed five "Champions" from among top management to be responsible for the five initiatives. Each Monday at senior staff meeting, each Champion provides a detailed PMA progress report covering success criteria that still need to be met, obstacles, and steps taken over the past week and planned for the next week. The reports are posted online so that any employee can see where each PMA effort stands. In addition, the PMA Champions each institute their own methods for tracking progress within their organizations.

Clarifying Goals

A periodic "NASA Update with the Administrator" is the primary vehicle to clarify where the Agency is going. This is a talk at which the Administrator addresses employees in the Headquarters auditorium and, via live broadcast on NASA TV, all employees Agency-wide. Audio links to the Centers enable any employee to ask questions and volunteer ideas. In addition to addressing program issues, this update is an opportunity for the Administrator to take the case for management reform, including PMA, directly to the employees. Although he also meets regularly with senior managers to clarify goals, these updates ensure that everyone at NASA hears the same message.

Program-Specific Accountability, Clarification, and Progress Monitoring

In addition to these Agency-wide mechanisms, NASA uses other means to clarify direction, ensure accountability, and monitor progress on specific PMA components. Some examples are:

Training: The Agency assesses training needs via formal surveys, interviews with managers and customers, and focus groups, to ensure training investments are aligned with competency needs. A series of panels and leadership committees reviews training and development budgets to verify strategic direction and soundness of content. We also evaluate the effectiveness of these programs using student evaluations, on-the-job assessments, and pre-and post-tests.

Leadership Development and Succession Planning: NASA uses analyses of workforce demographics including forecasts of future retirements and other turnover to help inform succession planning. NASA also makes public its leadership evaluation and selection criteria.



Staffing: CMS and workforce planning are integrated with the annual budget formulation cycle. The Agency evaluates the effectiveness of the staffing process by use of online applicant surveys, interviews with hiring managers and selecting officials, and audits of hiring actions.

Employee Performance: NASA's performance management system—the Employee Performance Communication System—emphasizes supervisor/employee dialogue in assessing employee performance. The system, together with the Agency's rewards and recognition program, helps employees understand how their work aligns with their organization's and NASA's goals and how employee performance contributes to achieving those goals. Employee satisfaction surveys such as the Federal Human Capital Survey help assess the employee performance evaluation system's effectiveness.

Management Performance: Explicit performance criteria hold members of the Senior Executive Service directly accountable not only for their own performance results but also for their success in strategic management of human capital, including effective performance-based employee evaluations. These criteria are then cascaded to employee performance plans, thereby aligning employees' performance expectations to a uniform set of factors, linking them to the *Strategic Plan*, and ensuring a One-NASA approach to performance accountability.

Competitive Sourcing: Senior staff receive weekly status reports on current public-private competitions that explain any variance from the planned schedule. The Employee Performance Plans of the Agency Competitive Sourcing Official and of each competition official all contain competition-specific performance factors. The Agency Competitive Sourcing Team monitors milestones for each standard competition and provides regulatory guidance and advice. NASA also publicizes progress and results on its overall Competitive Sourcing website (<http://competitivesourcing.nasa.gov/>) and on competition-specific websites such as the NASA Shared Services site (<http://nssc.nasa.gov/>).

Electronic Government: NASA uses management reviews to assess progress, monitoring each major IT investment's cost, schedule, and technical performance against established goals. We use a stoplight scorecard to assess and report on IT security operations and restructuring, such as the number of IT security plans meeting specific goals for contingency testing. We establish and monitor performance measures in many areas. Information delivery through the NASA Portal is measured using statistics such as the daily number of users and hits and a customer satisfaction survey randomly presented to site visitors. After the new NASA Portal was deployed in February 2003, overall customer satisfaction ratings jumped 8 percent, ratings for site navigation and search rose by nearly 10 percent, and users praised the site's improved navigability.

What More Can We Achieve Through PMA in the Coming Years?

Having made so much progress to date, we are confident of achieving our long-term management goals. Our vision for NASA's future is an organization where each resource makes optimal contributions toward achieving our mission.

Our most important resource will always be our workforce. Now and in the future, we will realign the workforce as needed to fulfill NASA's strategic priorities, in particular *The Vision for Space Exploration*. Solid data and analyses will enable us to specify short- and long-term needs by competency and prescribe the optimum mix of civil service, industry, and academic



personnel. Better workforce planning and deployment tools will enable line managers to consistently fill vacancies promptly with workers who have the competency mix needed to do the job well. Our civil service workforce will be more mobile, deployable where needed to carry out activities that only NASA can perform.

We are committed to maintaining a training and development effort that is best-in-class, to keep our workforce's skills cutting-edge. Meanwhile, we will expand NASA's community of knowledge-sharing project managers to better capture and share lessons learned and best practices, making institutional memory sustainable across generations. Outside NASA, we will share knowledge actively with our interagency, academic, and industry partners.

We will refine the Employee Performance Communication System to make meaningful distinctions in employee performance and identify the Agency's top performers.

We will consistently use performance results to help guide budget and management decisions. Not only will management consult data in the online management information system, Erasmus, for both formal performance briefings and informal status checks, but employees will regularly use the system to view progress on NASA programs. Program managers will be accustomed to reporting their results frankly and promptly and accounting for divergences from plan. As a result, top managers will be better informed, and line managers will have more confidence that openness is truly an Agency-wide value, and will communicate accordingly. The data will function as a catalyst for discussion that makes possible better informed, more widely understood decisions.

Our budget formulation system will allow us to develop budgets in full cost and to quickly make adjustments (including full cost impacts) based on performance. Managers will similarly be accustomed to managing in full cost, and will seek the most cost-effective uses of their resources to accomplish the results for which they are responsible. This includes choosing among supporting service providers for their programs, rewarding service providers that provide needed services reliably at lower cost, and causing the phaseout of service providers that are less productive. We will also conduct our accounting activities in full cost, so that our records will show the true cost of our programs.

We will continue to optimize our use of IT to support NASA's mission. We will deliver new IT tools quickly and economically to enable the workforce to capture, disseminate, and reuse the knowledge it generates. Central to NASA's success is our ability to collaborate virtually with both internal and external partners, for seamless information delivery and exchange regardless of time differences or geographic boundaries. IT will increasingly expand and speed the flow of NASA information from space or Earth to the laboratory, the office, the home, and the classroom, increasing the benefit to all from the Agency's discoveries. IT will also continue to streamline Agency management processes such as human capital management, increasing outreach to potential employees. We will appropriately align NASA's E-Government activities with related Federal initiatives, utilizing Government-wide solutions to benefit from best practices and economies of scale.

We will continue to systematically seek new opportunities for competitive sourcing throughout NASA, focusing on areas with the greatest opportunity to improve effectiveness and productivity. In addition to competitions targeted to activities that do not need to be done by civil servants, we will continue to rely on competition as a way to ensure that our research efforts are world-class. Our public-private competitions for scientific research make awards based solely on which proposals provide best value to NASA. Through competitive sourcing, we will



continue to improve quality and productivity, providing American taxpayers with maximum value for their tax dollar, generating savings that can be redirected to the core mission activities.

What Kind of Program Goals Will PMA Achievements Facilitate?

We do not improve budget and performance integration, E-Government, human capital management, or any of the other PMA focus areas for their own sakes. Rather, these are management mechanisms, means to achieve ends. *PMA results are crucial to improving program results.* What kind of program results will NASA achieve as a result of good management?

NASA is faced with challenges in every area of its activity, including the superb challenge of the exploration initiative. Each of the five PMA initiatives will boost NASA's ability to accomplish these program challenges. The importance of Human Capital activities is obvious. NASA is at its core the scientists, engineers, explorers, educators, and management and administrative staff that do the work. NASA's accomplishment will always only be as good as its employees. The Human Capital PMA initiative will ensure that we maintain the high-performing workforce needed to achieve NASA's Vision and Mission, despite loss of senior staff to retirements and despite fierce competition from other organizations for the talent NASA needs. The Human Capital initiative will support the teams that design and build the safer, more capable crew launch vehicle that will succeed the Space Shuttle; the aeronautics group that will test the next aviation breakthrough; the Earth scientists that discern and demonstrate a new fundamental truth about Earth; the biologist who designs a space-based experiment that eventually results in thousands of lives saved on Earth; the explorer who first steps onto Mars; and the supporting administrative and management staff that make it all possible. Competitive Sourcing will bring related programmatic benefits, expanding the sources of personnel for our activities and suppliers for our services, and ensuring that we get the best result for our money. The savings that Competitive Sourcing generates will go back into programs to make possible that extra mile that we otherwise could not travel.

Similarly, the importance of E-Government to our initiatives goes almost without saying. NASA relies on IT for everything that we do. Better IT—better suited to the need, obtained in a timely, cost-efficient way, and deployed intelligently—will be a key driver in determining how far and how fast we can go in achieving all our goals. More specifically, E-Government will continue to be the vehicle of choice for much of our education and outreach, as the Internet and other multimedia electronic resources provide fast, engaging, cost-effective ways to share the results of our work.

Budget and Performance Integration and Improving Financial Management are two sides of the same coin. Estimating costs of exploration and discovery is challenging, but as we better determine what our goals will cost, we can make better choices among goals. With greater confidence in the cost projections, we will with greater certainty decide which are the best investments. The credibility of NASA's promises to reach the Moon and Mars and venture beyond them depends on our ability to link budgets and goals. To back up this cost/performance linkage, we will have sound financial systems that support full cost budgeting, management, and accounting. Budget and Performance Integration and Improving Financial Management are key to the credibility that must be behind every goal NASA sets as part of its investment plan for use of taxpayer funds.



Our PMA achievements will give us the capable, flexible workforce, the enabling IT, and the accurate financial and management support that our future requires. They will lead to state-of-the-art capabilities 10 years out that we cannot even imagine today. They will earn NASA a reputation for consistently meeting our commitments whenever we undertake a research endeavor, scientific mission, or human exploration.

The Basis for NASA's Focus on Results

Our focus on results is based on two principles:

1. The reason for results: NASA exists only to serve citizens—the taxpayers who pay for what we do. We owe our customers—our neighbors, our families, our Nation—good value for their money. At NASA this means research consciously directed at answering the science and technology questions most likely to increase our understanding of the universe, enhance our quality of life, and inspire and inform our citizens, especially our present and future science and technology workforce. To do this requires programs that are well-designed, well-focused, and well run. It also means meeting commitments on cost, schedule, and performance.

2. The key to results: to succeed, NASA needs high quality employees that are well trained, clearly directed, and properly motivated. This is where you, the employee, come in. The PMA initiatives are designed to make you more effective members of the NASA workforce, for your greater job satisfaction and success as well as to advance the Agency mission. Take advantage of the human resources innovations discussed above and others as they are introduced. If you are a manager, look into alternative sources where appropriate and cost-effective to improve how your organization does its job. Access the Erasmus online system to find out how Agency programs and projects are performing. Use to the maximum the superb IT resources provided by the Agency. The Agency wants to empower employees because in so doing NASA itself becomes more capable. Like all change, PMA changes entail risk and uncertainty, but can also offer significant benefits to employees as well as to the government as a whole.

PMA's focus on results should already be benefiting your organization in many ways, from the speed with which positions are filled with qualified candidates, to your increased understanding of what is expected of you in your job and how you are performing. The integrated budget and the performance plan combined with full costing allow you to understand more clearly the Agency's investment in reaching its goals. The linkage from *Strategic Plan* down to each employee's performance plan and evaluation provides you a better understanding of why your work matters. Financial system improvements allow faster access to the resources you need and greater visibility over them. Through your regular duties, special projects as assigned, and contribution to "Freedom to Manage" and "One NASA," all of you have contributed to helping NASA fulfill its mission and do so more efficiently. All of this is reason to take special pride in your service to America as a NASA employee.

Looking toward the future, the PMA advances discussed above will benefit you through better training, IT support, financial management tools, and program decisions based on sound performance data and cost estimates. Not only will you have better means and strategies for doing your work, but even more important, you will have the profound satisfaction knowing you are helping to make things better.





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www.nasa.gov/about/highlights/HP_Management.html