WELCOME!

WELCOME to NASA's Human Capital 2015: A Guide to Building a Highly Engaged Workforce! We've designed this plan to be more than just a simple document, but rather a multimedia interactive experience. There are a few things you'll need to bear in mind to get the most out of this plan...

FIRST OF ALL, it's helpful to realize that this can be read as a standard PDF document – scrolling through from the Title Page to the final page is one way of reading the document thoroughly and making sure that you don't miss a thing.

ALTERNATIVELY, you can use the hyperlinks on the Title Page, Table of Contents, and at the bottom of each of the other pages, to navigate directly to the content that is of most interest to you.

The **Title Page (pg. 2)** and **Table of Contents (pg. 3)** contain hyperlinks that will take you directly to each of the major sections of the plan. On the Title Page, by hovering over each of the picture boxes with your mouse you can see the symbol associated with each of those sections, and by clicking on them you will be taken directly to that section. You can also go straight to the section you're interested in by clicking on it in the Table of Contents.

Once you're in one of the sections of the plan, you'll see a number of icons at the bottom of each page. You'll recognize some of them as the symbols associated with the different sections of the plan. Clicking on the

'previous' or 'next' links at the bottom of each page will move you one page forward or backward in the document. Clicking on the House icon will take you to the Table of Contents page where you will be able to choose to navigate to any other section of the plan. And finally, clicking on any of the symbols associated with the sections of the plan will take you directly to the first page of that section.

THROUGHOUT the plan you will find **informative links** (that are underlined) to web resources and **online videos**. These links to external resources are also collected together on the final pages of each section of the plan. Clicking on these links will open them in your default web browser.

https://www.youtube.com/watch?v=u6XAPnuFjJc

NOW, we hope you feel empowered to go forth and explore this plan thoroughly, extract some valuable tips and techniques, and continue to make NASA one of the best places to work!

National Aeronautics and Space Administration

NASA Human Capital 2015: A Guide to Building a Highly Engaged Workforce

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An artist's rendition of the next Landsat satellite, the Landsat Data Continuity Mission (LDCM) was launched in Feb. 2013. The Landsat program is the longest continuous global record of Earth observations from space – ever.

Photo credit: NASA

With the Space Launch System (SLS) in the background, NASA Administrator Charles Bolden spoke during a visit to the agency's Michoud Assembly Facility in New Orleans. Bolden was joined by Sen. David Vitter of Louisiana to observe progress made on the SLS.

Photo credit: NASA

NASA Human Capital 2015:
A Guide to Building a Highly Engaged Workforce

The last several years have marked a time of profound change for NASA. New missions and programs pose unprecedented technical and managerial challenges. Relationships with private industry and international partners have undergone dramatic shifts. Practitioners face increasing pressure to do more with less while still maintaining a laser focus on mission success. Our workforce can only succeed in a vibrant culture that supports bold ideas, novel ways of working together, and continuous learning.

For our Human Capital community, this calls for fresh approaches to motivating and engaging the workforce. As the best place to work in the federal government in 2014 according to the Partnership for Public Service rankings, NASA already has significant strengths from which to build. But organizational culture does not happen by accident. As Human Capital professionals, it's our job to promote and encourage practices that foster creativity and innovation in everything the Agency does, from science to accounting to facilities management.

This plan is ambitious in scope for an organization as large and diverse as NASA. It does not cover everything that we do as Human Capital professionals. Instead, it focuses on a few specific priorities that can drive employee engagement and make NASA an even better place to work.

Recognizing and Rewarding Innovative Performance

We all appreciate when others recognize our contributions and achievements. Recognition serves as a tool for reinforcing the behaviors that drive NASA to excellence. NASA already has many highly developed formal rewards and recognition programs, which have served the Agency well in encouraging employees to achieve great things.

This plan focuses on finding ways to recognize and reward desired ways of working and desired behaviors while work is happening—creativity, innovation, collaboration, teamwork, etc.—rather than after it has been successfully completed. There are several informal Agency programs and Center-specific programs that recognize and reward employees for their innovative behaviors. Many Centers also have trainings and workshops recognizing innovative performance, and many have also designed non-traditional programs, policies and communications to recognize and reward innovation.

Engaging and Connecting the Workforce

Truly engaged employees are likely to be NASA's best source of new ideas. They also are more productive, get better results, and operate more safely than less engaged employees. The single most important way to engage workers is to enable them to make progress in meaningful work. Fortunately, there's no shortage of meaningful work at NASA.

The challenge is ensuring that each employee understands the mission and how his or her work relates to agency's mission. Increasing engagement requires utilizing a combination of tools that resonate with our diverse workforce. There are a number of efforts underway to engage the workforce, including two-way conversations with top Agency leaders, cross-Agency collaborations, visual connections, physical spaces for collaboration, and communities of interest.

Building Model Supervisors and Leaders

Managers and leaders play a critical role in establishing and sustaining an innovative and creative culture. NASA has experienced steady improvement over the last decade in surveys that measure supervisory effectiveness.

To continue improving in this area, NASA can draw on existing efforts to: develop systems that support the development and use of management and leadership skills; create an environment that allows for learning at all levels; pursue succession planning; recruit interested candidates and invest in them; and establish organizational development (OD) capabilities that are accessible and actively supporting all Centers.

Key Enablers

The success of this effort to encourage a culture of creativity and innovation also depends on factors that have been identified as key enablers of change and growth.

These include:

- Communications that are timely, tailored to the appropriate audience, and multi-directional rather than top-down;
- Policies, programs, and systems that align with efforts to build an innovative, creative culture in areas ranging from workforce planning to recruitment and selection; and
- A Human Capital organization that leads by example—by empowering its people, embracing change, and adopting best practices for enhancing collaboration and teamwork.

The Path Forward

Given the complex dynamics that shape the culture of an organization as large and diverse as NASA, the activities necessary to realize this vision cannot be rigidly predetermined, sequenced, and executed with the precision of an engineering management plan. With that in mind, there are actions to guide NASA's Human Capital organizations in planning, mid-course adjustments, and measurement of the desired change.

- Determine what's currently being done in the areas of recognizing and rewarding innovative performance, engaging and connecting the workforce, and building model supervisors and leaders.
- Build on existing strengths.
- Identify one or two top priorities.
- Take action, monitor progress, and modify as needed.

The most important shift this requires is toward a mindset focused on influencing ways of being—ways that managers, supervisors, and employees can participate in creating an environment that energizes and sustains all of us at NASA.
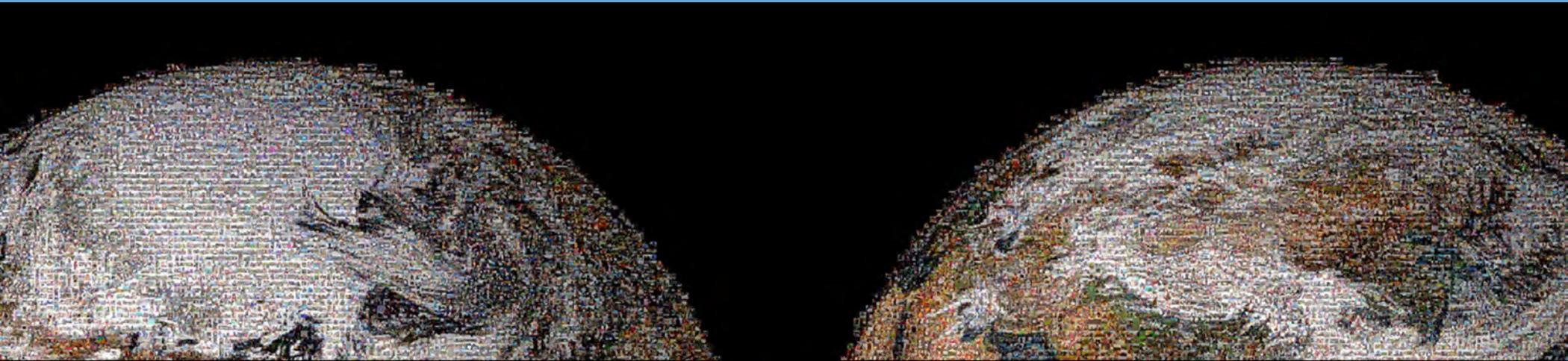
On Earth Day 2014, NASA asked people around the world a simple question – "Where are you on Earth right now?" We asked people to answer the question on social media, with a selfie. The 3.2 gigapixel Global Selfie mosaic, hosted by GigaPan, was made with 36,422 individual images that were posted to social media sites on or around Earth Day.
Photo credit: NASA

NASA operates in a very different landscape today than it did a decade ago. The retirement of the Space Shuttle, the emergence of new commercial spaceflight capabilities, and the proliferation of small satellites are just a few indicators of the dramatic changes that have taken place within the Agency and across the broader aerospace enterprise over the past several years.

As NASA adapts to these and other broad shifts while pursuing a portfolio of bold missions, one thing remains constant: the need for its workforce to respond to the challenges it faces with creativity and innovation. This demands a diverse and inclusive culture that values and supports NASA's people as they execute the Agency's vision, mission, and strategic goals.

The NASA Culture Strategy, developed in consultation with NASA's Strategic Management Council, identified three focus areas to promote a culture that fosters innovation and creativity across the Agency:

- Recognizing and rewarding innovative performance;
- Engaging and connecting the workforce; and
- Building model supervisors and leaders.

The decision to align the Agency's Human Capital Plan with the Culture Strategy underscores the value NASA places on specific workplace practices—how work is performed—and the vital link between culture and accomplishment. NASA's people continue to push the boundaries of knowledge and achievement for the benefit of the nation and all mankind. Their efforts can only succeed in a vibrant culture that supports bold ideas, new ways of working together, and continuous learning. This Human Capital Plan serves as the blueprint for NASA's Human Capital community to translate these priorities for cultural change into action. To create the future, we must create the context.
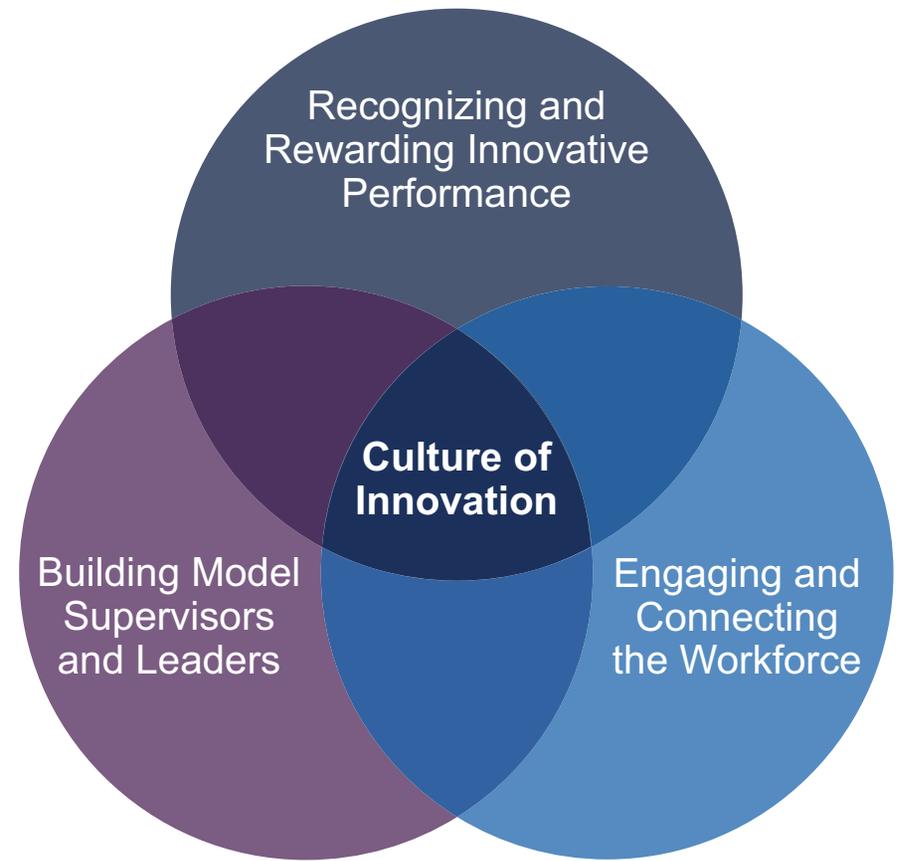

Figure 1. The three focus areas identified in the NASA Culture Strategy provide the basis for the Human Capital Plan.

Defining Culture, Creativity and Innovation

At the most basic level, organizational culture can be understood as "the way things get done around here." One of the most oft-cited academic definitions by a leading scholar in the field identifies it as:

"...a pattern of basic assumptions invented, discovered, or developed by a given group, as it learns to cope with its problems of external adaptation and internal integration." [1]

For the purpose of this plan, the definition can be inferred from the desired outcome: to encourage a culture that allows employees to feel motivated and supported, and that enables creativity and innovation.

While the terms "creativity" and "innovation" are often used interchangeably, there has been a significant amount of academic research done on their similarities and differences. Some researchers suggest that creativity refers to the process of generating new and useful ideas. Innovation, on the other hand, applies to implementation or taking that idea and putting it to use.

In the context of a Human Capital Plan dedicated to promoting a culture that motivates and supports everyone at NASA, we subscribe to the definition offered by Professor Teresa Amabile of Harvard Business School, who proposed that everyone has the potential to be creative, and that the social environment of an organization affects the level and frequency of creativity.[2]

To encourage workplace practices where creativity and innovation are the norm, we must address everything—communications practices, rewards and recognition programs, evaluation measures, organizational silos, work spaces, supervisor and management development, and policies—that can play a part in enabling the change we seek.

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[1] Schein, Edgar H., "Coming to a New Awareness of Organizational Culture," *Sloan Management Review*, 25:2 (1984:Winter) p.3. Accessed online 2 June 2014 at:
   https://blog.itu.dk/SFOL-F2013/files/2013/03/culture_schein.pdf

[2] Teresa M. Amabile, "Creativity and Innovation in Organizations," *Harvard Business School working paper* 9-296-239, January 5, 1996.

This is a picture of the "For Inspiration and Recognition of Science and Technology" (FIRST) Robotics Team 442 – Redstone Robotics, a team comprised of students from Lee and New Century High Schools in Huntsville, Alabama. Redstone Robotics was awarded the 2013 NASA/Marshall Space Flight Center FIRST Robotics House Team grant in September 2012.

*Photo credit: NASA/ MSFC/Emmett L Given*

We all appreciate when others recognize our contributions and achievements. Recognition serves as a tool for reinforcing the behaviors that drive NASA to excellence and boosts employees' engagement. It creates a heightened awareness of what NASA values and appreciates and causes a "ripple effect" that reaches far beyond the recipient.

One suggested definition of employee recognition is "the opportunity to acknowledge the unique contribution or the value of expertise and experience of an employee or a team."[3]

On the other hand, a reward is often thought of as "something given in return for good done; recompense, remuneration, compensation for services."[4]

The literature around rewards and recognition makes much of intrinsic and extrinsic motivation, concepts of total compensation, and attempts to formalize the mathematical relationships between rewards, recognition, profits, and sales goals. For purposes of this Human Capital Plan, we especially appreciate the insights of **Dan Pink on motivation**: individuals need opportunities to develop autonomy, mastery, and purpose. Efforts to promote this sense of self-efficacy are important and worthwhile.

https://www.youtube.com/watch?v=u6XAPnuFjJc
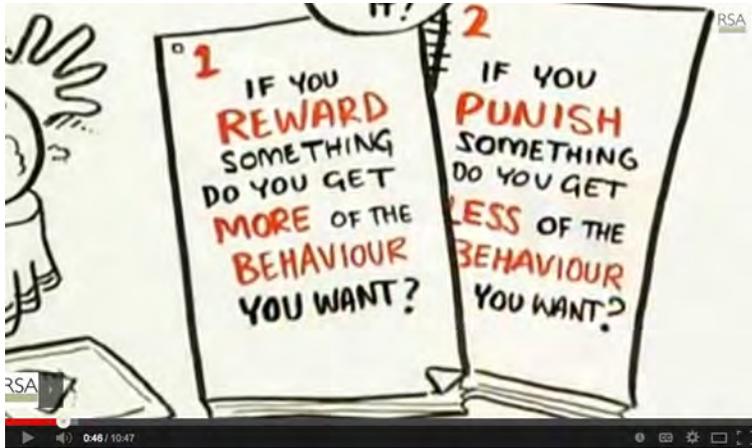
NASA has highly developed formal rewards and recognition programs that have served the Agency well in encouraging employees to contribute, stretch, and achieve great things. NASA's Honor Awards, Performance Awards, Time-off Awards, Special Act Awards, etc., and both formal and informal recognition practices all have their place and roles. Some, like the Honor Awards, serve as important elements of NASA's unique culture. A common thread among most formal awards is the emphasis on a particularly significant successful result, accomplishment, outcome, or artifact (i.e., the "thing" that got done). The NASA Culture Strategy deliberately focused on an additional orientation: recognizing and rewarding desired ways of working and desired behaviors while work is happening (e.g., creativity, innovation, collaboration, teamwork).

Periodically, the Agency has updated or revamped its formal awards programs. This Plan does not address that periodic desire for redesign. Instead, we focus on ways of being—ways that managers, supervisors, and employees can participate in creating an environment that energizes and sustains all of us at NASA.

How do we get the desired behavior change to become part of the cultural DNA of our Human Capital organizations? First, individuals within the organization must understand the need for change and most importantly "what's in it for me (WIIFM)." Asking for creativity and innovation while evaluating (recognizing and rewarding) employees for status quo results will invariably reinforce existing behaviors and attitudes.

[3] Government of the Northern Territory of Australia

[4] Webster's Third New International Dictionary

How Employees See It

NASA uses the aggregate of the Employee Viewpoint Survey Recognizing Innovation Index to measure what employees are saying about how their creativity and innovative behaviors are being rewarded and appreciated.

Employee Viewpoint Survey – Recognizing Innovation Index

Index Trend Line - % Positive Responses
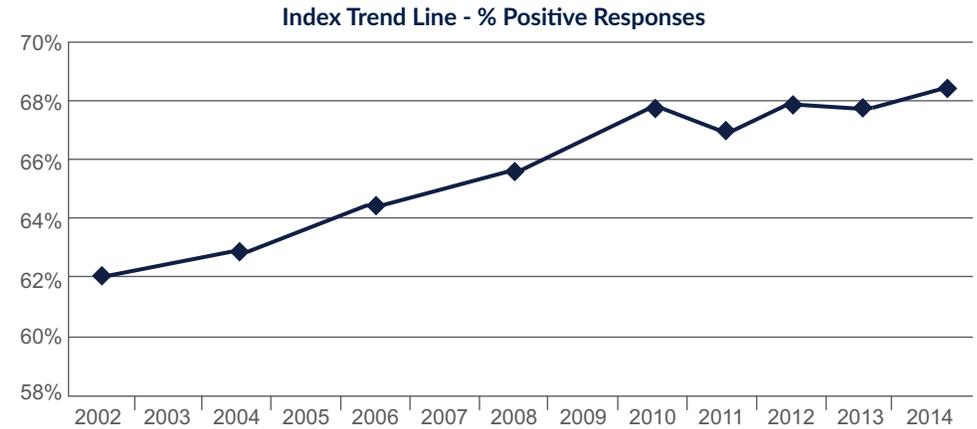
Recognizing Innovation Index	2002	2004	2006	2008	2010	2011	2012	2013	2014	Change
Employees are recognized for providing high quality products and services.	61.9	61.9	63.5	65.0	70.8	70.4	71.0	69.8	69.3	**7.4**
Employees are given a sense of personal empowerment with respect to work processes.	56.3	58.7	58.4	60.4	63.2	62.4	62.1	63.3	64.6	**8.3**
I feel encouraged to come up with new and better ways of doing things.	72.0	75.2	76.3	75.1	75.4	74.3	76.5	76.8	77.6	**5.6**
Creativity and innovation are rewarded.	58.6	57.8	60.3	62.0	62.3	61.3	62.9	61.6	62.8	**4.2**
Trend Line	**62.2**	**63.4**	**64.6**	**65.6**	**67.9**	**67.1**	**68.1**	**67.9**	**68.6**	**6.4**

Figure 2. Employee Viewpoint Survey trend on rewarding and recognizing innovative performance.

# Everybody Is Creative. Everyone Is Responsible.

Successful innovation in organizations needs to be nurtured. To get creativity and innovation flowing, it is up to Agency management and leaders to set the tone and to reinforce desired behaviors through rewards and recognition. Yet, in reality, each individual can and should contribute to creating a work environment conducive to creative and innovative workplace practices. As Human Capital employees, we are expected to be creative in achieving goals to support mission success. This shared responsibility helps employees not only tackle projects in creative ways (driving overall innovation) but also makes for more engaged employees. That creates an environment where employees can freely contribute their energy, efforts, ideas and processes. This sub-section focuses on individual responsibility.

Crete Carrier is one of the highest paying trucking companies, with high marks from employees and a high customer experience. This is a company that understands the link between greatness and rewarding and recognizing employees who excel in desired behaviors.

Innovation does not happen without engagement, commitment and desire across the organization. Our most valuable resource is the individual employee. Everything else simply enables and supports.

How can we be creative and innovative? How can we support these behaviors? There are a number of ways to engage employees to be creative and innovative. One way is to help shift their perspectives from "business as usual."

https://www.youtube.com/watch?v=9TskeE43Q1M
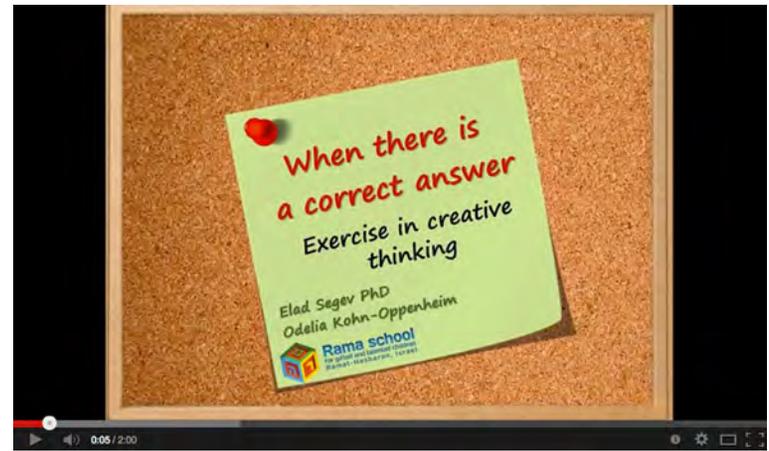
In this example, students were asked to either "complete the drawing the right way," or to "complete the drawing." By noting that there was not a prescribed "right" way to do things, the student responses were much more creative. As Human Capital professionals, we can encourage our employees to look beyond the "right" way to do something, and to be creative and innovative in their daily activities.

Another way to encourage creativity and innovation is to make work more fun. In **Fun Theory**, people try to make activities fun to change people's behavior for the better. In one example, the creators **turned a staircase into a live piano**, encouraging people to take the stairs instead of using the escalator.

https://www.youtube.com/watch?v=2lXh2n0aPyw

Within NASA, there are myriad examples of our organizations encouraging and highlighting creativity and innovation. Goddard Space Flight Center, for example, showcases employee engagement and innovation through the **"We are Goddard"** campaign, which highlights different employees and their work. At Headquarters, the Office of the Chief Financial Officer has a focus area of learning and growing together. They hold monthly lunch and learns where team members present on different leadership topics and areas related to their technical expertise, and, to encourage informal collaboration, the CFO took advantage of the recent building renovation to create an open space with moving tables and chairs where people can meet informally, have lunch or come together without having to search for a meeting room. Kennedy Space Center hosts an Innovation Day, and other Centers highlight innovation through awards, daylong fairs, and other activities.

A Self-Evaluation: What Can You Do?

Creativity flows from motivation. Whether through rewards, intrinsic fulfillment, or something else (supportive climate, tools and resources, professional training, or time to reflect), employees need to be motivated. This is a simple self-evaluation checklist to evaluate an organization's approach to encouraging co-workers and/or rewarding and recognizing creative and innovative behavior. It is not meant to be all-inclusive. **(See The Sources of Innovation and Creativity)**

	Yes	Somewhat	No	N/A
Climate				
Identify and manage obstacles				
Dedicate common space (huddle room, learning Center, cross-pollination forums)				
Promote collaboration				
Encourage responsible risk taking				
Use events, such as charity events or lunchtime lectures, to promote inter-departmental interaction				
Schedule mini-conferences where internal groups present their ideas to one another				
Provide the time and opportunity to disengage from the status quo				
Make resources (funds, materials, facilities and time) available for experimentation				
Use existing Agency and Center awards programs				
Relationships				
Ask for employees' input in decision-making				
Give informational feedback on original ideas				
Tolerate ambiguity				
Allow mistakes				
Share success stories concerning invention of a new product, process, or approach				
Encourage creative collaboration				
Role Modeling				
Explain how creativity and innovation relate to the Agency's vision and goals				
Acknowledge those who consistently contribute ideas, knowledge, and/or time				
Set a personal quota of one new idea a day				
Try solutions that depart from the status quo				
Use collaborative technology				
Read literature and/or participate in a learning activity on creativity and innovation				
Make innovation self-rewarding. Being perceived as an expert by peers and management matters.				

Figure 3. Self-evaluation checklist for recognizing and rewarding innovative performance.

Are you modeling the change you want to see in others? Are you encouraging and supporting an environment conducive to creative and innovative behavior?

There is always more work to be done and value in evaluating an organization's approach and behaviors. Avoid the temptation to separate "innovation" from "everyday work." Innovation is part of day-to-day life; strive to create a fostering, sustainable environment where it can prosper. Maintain momentum and enthusiasm by recognizing and rewarding employees for behaviors that exemplify this approach.

Rewarding Innovation

Across NASA Centers, Human Capital professionals are creating unique ways to reward innovation and support progress in this area. In addition to previously mentioned Agency-wide Innovation awards, a number of informal Agency programs and Center-specific programs recognize and reward employees for their innovative behavior.

NASA's Innovation Awards program is an Agency-wide effort to encourage, recognize, and celebrate innovative performance across the Agency. These awards create a corporate culture of recognizing and rewarding innovative performance in a meaningful way, and establish an annual process to recognize the best new ideas and projects showcasing innovative behaviors. They are open to both civil servants and contractors, and aim to recognize innovation in two separate categories: "Lean Forward; Fail Smart," and "Champion of Innovation."

- The Lean Forward; Fail Smart award is designed to encourage, recognize, and celebrate the spirit that propels individuals to take the risk to innovate and learn from their attempt(s) when they miss the mark.
- The Champion of Innovation award recognizes the unique role that supervisors play in fostering innovation at NASA. In addition to making their own innovative efforts, they can encourage and motivate employees by setting a tone that allows employees to think differently and become creative problem solvers.

In order to receive one of the awards, employees must submit an innovation narrative and video clip of the presenter(s) detailing the innovative idea/

project/behavior. An Innovation Award panel ranks the nominations and places them online for public voting. The top finalists are selected by public voting in each category.

In addition to the Innovation Awards, the Agency is designing a NASA coin, which supervisors, managers and leaders can give to employees to reward innovative performance across the Agency. These coins serve as a powerful memento for recognizing innovative excellence.

At the Center-level, there are a variety of creative ways to recognize and reward innovative behavior. Many Centers have their own awards for innovative performance. For example:

- The Headquarters Human Resources Management Division staff has created a "Gumby Award," which awards a small Gumby statuette to the staff member who has been the most flexible and gone the extra mile since the last meeting.
- At Johnson Space Center, the Center Director gives out an Innovation award to highlight innovative behavior on the part of an individual or team.

See **Non-Monetary Forms of Recognition** for a list of ideas for non-monetary awards.

NASA also participates in **external awards** for innovation. At the Agency-wide level, Centers can submit names and applications for external awards. In addition, some Centers also submit their own candidates for other external awards. For example, many Centers submit applications for the Black Engineer of the Year Award, American Institute of Aeronautics and Astronautics Awards, and the Society of Women Engineers Awards.

Recognizing Innovation

In addition to awards, many Centers have trainings and workshops recognizing innovative performance. Langley Research Center holds **Colloquium lectures**, which provide an opportunity for employees to learn more about a particular research or engineering function. The lectures are coordinated and given by different organizations, usually in science and engineering.

Many Centers have also designed non-traditional programs, policies and communications to recognize and reward innovation. Goddard Space Flight Center has piloted the Human Capital Design Plan, which is an Office of Personnel Management training on brainstorming and creating an environment for innovation. They have also scheduled "No-Meeting Fridays" at the Center, which helps to free up time for people to be more reflective.

These are just a few of the programs across the Agency that recognize and reward innovative behavior. A list of programs across Centers is provided in the **Appendix** section of this chapter.

Appendix | Recognizing and Rewarding Innovative Performance Resources

Learning Resources and Examples

SATERN Recognizing and Rewarding Innovative Performance Curriculum

Training and development options already in SATERN that Agency and Centers have used to further understanding of recognizing and rewarding innovative performance—classes, online learning ops, books 24x7, etc.

https://satern.nasa.gov/learning/user/deeplink_re direct.jsp?linkId=CURRICULA&qualID=AG-RRINNOVATION-C

Learners with iPhones or iPads may also sign up for this curriculum via iTunes University at:
https://itunesu.itunes.apple.com/enroll/J47-CSB-6JE

Examples of Innovative Performance at NASA:
https://hr.nasa.gov/portal/server.pt/community/ innovation%40nasa/448/innovation_feature_archive/133924
(Portal access only)

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Dan Pink on motivation:
http://www.ted.com/talks/dan_pink_on_motivation

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RSA Animate - Drive: The surprising truth about what motivates us:
https://www.youtube.com/watch?v=u6XAPnuFjJc

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When there is a correct answer - Exercise in creative thinking:
https://www.youtube.com/watch?v=9TskeE43Q1M

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Fun Theory:
http://www.thefuntheory.com

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"Fun Theory: Turning a staircase...":
https://www.youtube.com/watch?v=2lXh2n0aPyw

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We are Goddard:
http://www.nasa.gov/Centers/goddard/about/people/ index.html#.U9pccEhEx4W

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Adams, Karlyn. "The Sources of Innovation and Creativity":
http://www.fpspi.org/pdf/innovcreativity.pdf

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External Awards:
http://nasapeople.nasa.gov/awards/external_awards. htm

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Langley Research Center holds Colloquium lectures:
http://colloqsigma.larc.nasa.gov

Appendix | The Innovation Quiz

Where do innovations come from? What inspires invention? These questions can provide insight into how we can improve our capacity to search for opportunities.

In the left-hand column is a list of twelve products or processes. In the right-hand column is a list of seventeen possible sources of inspiration for these products or processes. Your task is to correctly match the product on the left to its inspiration source on the right.

Product	Source of Inspiration or Need
1. Band-Aid®	a. College game using tie pins
2. FedEx	b. Children's toy tops
3. Frisbee®	c. Farm implements
4. Hacky Sack	d. Science fiction movies with flying saucers
5. Gyroscope	e. A better bookmark for church hymnal
6. Liquid Paper	f. Medication for treating heart problems
7. Martial arts weapons	g. Burrs stuck to a pair of pants
8. Masking tape	h. A way to exercise after knee surgery
9. Post-it® Notes	i. Naval engineer working with tension springs
10. The Slinky	j. Australian children's exercise ring
11. Velcro	k. Fish hook caught in a net
12. Viagra	l. Observing auto painters painting two-tone cars
	m. How artists painted over their mistakes
	n. A spouse who cut her fingers in the kitchen
	o. Medication for treating arthritis
	p. Math class in topology
	q. Glue spilled on a notepad

The Leadership Challenge Workshop, 3rd Ed. Revised. Copyright © 2006 by James M. Kouzes and Barry Z. Posner.

Answer key: 1-n; 2-p; 3-a; 4-h; 5-b; 6-m; 7-c; 8-l; 9-e; 10-i; 11-g; 12-o.

Appendix | Non-Monetary Forms of Recognition

- Top management meets with all new employees on a regular basis.
- Leadership hosts or participates in every event, formal or informal (e.g., design reviews, staff meetings, parties, awards ceremonies, picnics, workshops, etc.)
- Monthly lunch with the Associate/Assistant Administrator.
- Senior leaders have lunch with all new hires for a given month. (Example: all new hires for the month of June have lunch with a senior leader the first or second week of July.)
- Handwritten notes sent for birthdays, encouragement, special recognition and appreciation.
- Food (happy hour, Center picnics).
- Shadow an Official In Charge (OIC).
- Create a peer award that group members pass around to each other each week. The recipient of the award the week before gets to choose who receives it in the current week.
- Billboard of Stars: As a simple team affirmation, place a bulletin board of stars at some central location in the building or office.
- Friday Thoughts: At the end of each week, ask employees to take a moment to think back to what people have done for the group during the week and offer accolades/kudos.
- E-Card Appreciation: Create a recognition system that makes it easy to send free electronic thank-you notes for others' accomplishments on the job. Send these to the recipient with a courtesy copy to the boss.
- Gumby (or another item): Given at the monthly all-hands meeting to the individual viewed by the management team to have stretched and provided top-notch support during the previous 30 days.

- Have a repertoire of impromptu team building exercises that build morale and collaboration.
  - These don't always need to be structured.
  - Impromptu events can sometimes have more impact than the planned ones.
- Lunch-and-learns: Enables staff members to share their knowledge with one another and other organizations.
- Use supervisor's authority to excuse/dismiss employees up to 59 minutes without charge to leave, when appropriate.

Other Actions to Motivate All Employees

- Provide clarity often: articulate the goal in clear terms.
- Demonstrate inclusiveness.
- Be accessible: Engage staff daily—not just at all-hands or staff meetings.
- Management by Walking Around (engaging employees spontaneously in their offices, in hallways, etc.). Also known as Walk Abouts.
- Allow decisions to be made at the lowest level possible.
- Voice support for and uphold the need for work/life balance.
- Pay attention to the potential of every employee: leadership development assignments, Federal Executive Institute training, Mid-Level Leadership Program, NASA FIRST, etc.
- Provide a mechanism for personnel to ask questions anonymously at frequent all-hands meetings.
- Be overtly personable: know who does what job across the organization.

A group of NASA Interns learning on the job. Many NASA employees begin their careers at NASA as interns.

Photo credit: NASA/Victoria Weeks

"The best way to lead people into the future is to connect with them deeply in the present."

— James Kouzes and Barry Posner

Engaged employees are more productive, get better results, and operate more safely than less engaged employees. They tend to provide better customer service and stay longer with the organization. They are also more likely to take an interest in developing new skills and advancing in their careers. And just as engagement drives positive behaviors, its absence hurts an organization. Disengaged workers cost federal agencies due to lost productivity and employee turnover.[5] Disengaged employees are also more likely to pursue other opportunities for employment and more likely to leave.

For the millennial generation, engaging work is a top priority.[6] *Aviation Week's* annual survey of young professionals found that millennials place a premium on challenging work that makes good use of their skills.[7] As young professionals enter the workforce, NASA will have to continue providing meaningful work opportunities that enable employees to grow and fulfill their potential at the Agency.

Truly engaged employees are likely to be NASA's best source of new ideas. Their energy and enthusiasm makes them an inspiration to fellow employees and a powerful force for attracting new employees.

NASA is strong in the area of employee engagement. The 2014 Federal Employment Viewpoint Survey (EVS) found that NASA had the highest department or large Agency score, with 77 percent of employees giving the Agency a positive rating.

[5, 6] Clement Christensen, "4 Reasons Why Investing in Employee Engagement Matters," *Government Executive*, March 26, 2013.

[7] Aviation Week Workforce Study 2012, p 27. Accessed 18 July 2014 at: http://awin.aviationweek.com/portals/awin/workforce_2012/WF-study2012.pdf.

Employee Engagement Index – Percent Positive

Leaders Lead — 68%

My Agency's Leadership
...Fosters motivation and commitment
...Maintains high integrity
...Communicates the agency's goals
...Earns respect from employees

Supervisors — 84%

My Supervisor
...Supports employee development
...Listens to me
...Treats me with respect
...Has my trust and confidence

Intrinsic Work Experiences — 80%

As an Employee, I
...Feel encouraged to do better
...Feel accomplished
...Know what's expected of me
...Know how my job relates to agency goals

77%

Employee Engagement
Governmentwide: 63%

Figure 4. Government-wide Employee Viewpoint Survey results on employee engagement; NASA noted as highest in government.

Even with this positive rating, NASA still has room for growth in this area. NASA should continue to monitor its engagement ratings closely. According to Forbes[8], 79 percent of businesses are worried seriously about engagement and retention. Disengaged workers are everywhere. Recent Gallup research shows that globally only 13 percent of employees are highly engaged at work.

[8] "The Five Elements Of A Simply Irresistible Organization" by Josh Bersin, April 4, 2014.

Challenges

Despite its high overall rating for employee engagement, NASA, like other organizations, faces several challenges. A recent Bain & Company report found the lowest engagement scores among employees with the most years of service, those working at the lowest levels within the organization, and those in service organizations. (These organizations provide administrative services versus those organizations that are producing products.) With more than one-third (37.8%) of NASA civil servants on the job having 25 years or more, NASA faces a significant challenge in engaging its most experienced workforce.

Strategies for Engaging and Connecting the Workforce

So how do we go about engaging our workers? According to the Gallup-Healthways Wellbeing Index, the single most important way to engage workers is to enable them to make progress in meaningful work as previously mentioned. (Recall Daniel Pink's emphasis on the importance of a sense of purpose in the Recognizing and Rewarding Innovative Performance section.)

There's no shortage of meaningful work at NASA—the challenge is ensuring that each employee understands the mission and how his or her work relates to it. One department felt so strongly about this that it actually wrote it in stone. Building a highly engaged workforce will require utilizing a combination of tools that resonate with our diverse workforce.

Two-Way Conversations

NASA currently employs a variety of tools, techniques and practices to facilitate two-way conversations.

- Chats with Charlie. Headquarters has scheduled "Chats with Charlie"— NASA Administrator Charlie Bolden—who will respond directly to employee questions. Several Centers have their own versions of "open door" regularly scheduled meetings with various levels of leadership, which support this communication and connection philosophy.

- New Supervisor Lunch and Learn. Marshall Space Flight Center has instituted a process where new supervisors can interact and ask questions of other supervisors. This type of forum is helpful for problem solving, communication, and increased collaboration within the supervisory ranks.

- World Cafés. These events are a series of small-group discussions designed to create a living network of collaborative dialogue among participants. Last year GRC hosted a World Café. Over a period of two days, they held four 2½ hour sessions, with each session having the capacity of 56 people (4 people to a table). At each table participants found markers and large sheets of paper, and they were encouraged to collectively tell their story in words and pictures.

These cafés were open to all employees and contractors, and were designed to maximize conversations and knowledge. Each of the three rounds lasted 20-30 minutes, and at the conclusion of each round, participants were invited to move to a different table to begin another focusing on one of three questions:

Think of a time when you navigated through significant change... a change experience that you are proud of how you conducted yourself. What skills, techniques and attitude helped you to embrace the change? What of these capabilities is relevant in this change ahead of us?

What do you need to succeed to support this change with confidence?

Can you share one adjective that describes your reaction to the proposed changes?

One person stayed behind at each table to share the collective knowledge of the previous group with the incoming group. At the end of all rounds, all posters were hung gallery-style for participants to review and discuss. Senior leaders including the Center Director interacted with participants by joining in a dialogue around the posters. Glenn used this time as an

investment in improving internal communications and in examining the ideas generated at the World Café for future Center-wide endeavors.

Similar to the World Café events are "Ask Me Anything" virtual events. Inspired by the popular Reddit events, these feature a NASA expert (from mission chief scientists to social media gurus to unknown Cinderellas) working on exciting, but unknown, experiments or projects. During a real-time virtual event, employees around NASA can ask questions on any topic of interest for a period of 30 minutes. These inquiry sessions are designed for internal use, as an open forum for innovation and engagement.

Cross-Agency Collaboration

At NASA, connecting for collaboration and problem solving is essential to our mission. There are myriad collaboration tools and initiatives across the Agency.

NASA@work is a discussion-based software platform that provides the ability to communicate and exchange ideas on the most pressing R&D and business challenges. It gives the opportunity to obtain solutions from employees at different Centers and provides a private, transparent and collaborative environment for solving important internal problems. Challenges are submitted through the website and people can generate assistance or helpfully critique the solutions presented by others. All information generated and posted on the NASA@work website is treated as highly confidential and secure.

Virtual Summit for Senior Executive Service

A recent example of connecting and collaboration across the Agency was the Virtual Summit for Senior Executive Service employees. This summit provided a forum for executives to connect and engage across the Agency. Through the use of Adobe Connect and other technology tools, executives were able to connect and interact with each other. Videos and tools such as Lync and Vidyo can also support this type of connection and collaboration.

Virtual Collaboration Project

The Virtual Collaboration project grew out of the Virtual Executive Summit. Currently, a team of civil servants and contractors led by the Office of Human Capital Management is working to formalize the process so that others can use this technique as well.

Innovation Summit

Johnson Space Center (JSC) hosted an Innovation Summit in 2013 in association with the Conrad Foundation, which served as a launch pad for breakthrough technologies from the Spirit of Innovation Awards' Finalist Teams. (The Spirit of Innovation Challenge ties back to former astronaut Pete Conrad, and it's for students ages 13-18.)
(See The Spirit of Innovation Challenge) Teams presented their product to the judges, with time built in for Q&A with the judging panel and discussions about cutting-edge topics in science and entrepreneurship. The evenings provided informal networking opportunities. Throughout the event, open communication and collaboration was the focus. The organizers encouraged all attendees to come to the Summit with the idea that they would find friends of all ages who will help them become the next great innovators.

CREATE
COLLABORATE
CONTACT
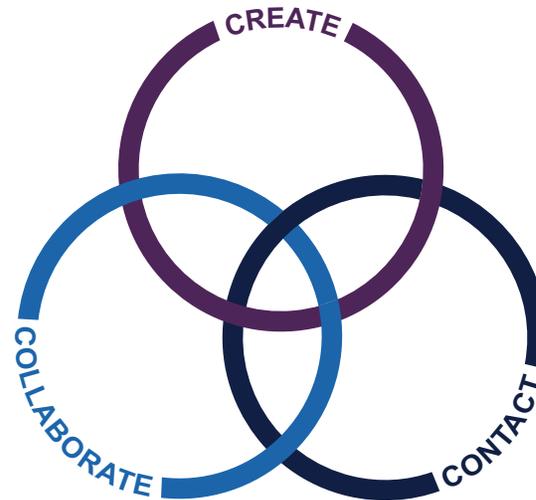
JSC 2.0

1. What did you hear today that is useful for us at JSC?

2. What can we do to make collaboration across JSC easier and more likely to occur?

3. What incentives would keep the momentum going forward?

4. What can you do to enable JSC to affordable and effectively advance human spaceflight?

The Hub

Coming soon is a new site called "The Hub." This will be an internal NASA web page where people can share their thoughts, find information on subjects and events, discuss, connect, collaborate, and form new partnerships. NASA employees can take advantage of the Hub to build networks of people, share and learn stories of NASA people, share resources, provide feedback, send shout-outs, and contribute content for others' benefit. The Hub is for anybody with a NASA email account to connect and communicate about anything at anytime with anyone: no profile, no password, no access to request.
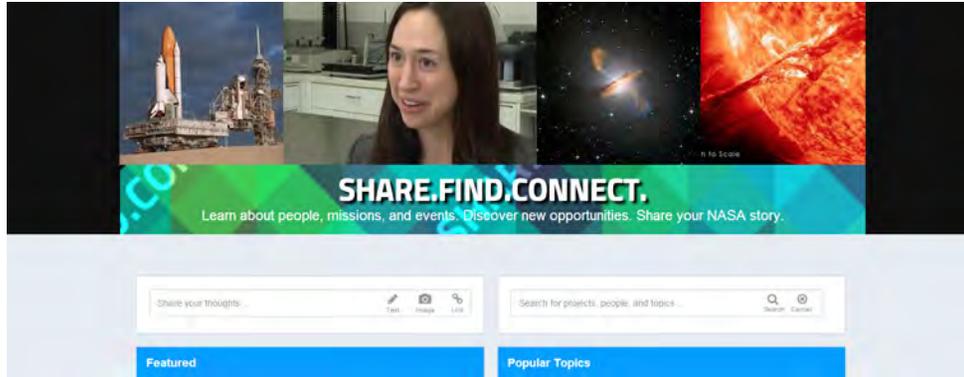
Visual Connections

For those who prefer to connect on a visual level, there are several video and photo campaigns across NASA.

"Welcome to My Lab" is a series of 2 to 4 minute videos that enable scientists, researchers and engineers to introduce themselves, their work, and their teams in the context of NASA's mission.

"Tell your NASA Story" videos profile a wide variety of employees at each Center telling stories of their personal NASA journeys—how they arrived at the Agency, what they do, and why they do it.

The Best Place to Work photo campaign illustrates the wealth of different occupations at NASA, enabling the public to see that NASA is far more than the human space flight program, and shining a light on people whose efforts often go unrecognized.

"**i am goddard**" spotlights individual employees and their work. Posters are placed throughout the Center with a picture and story for each participating employee. A longer article is available on the Goddard website. This campaign helps employees discover the diversity across the Center.

"Scientist Selfies" provide an avenue to engage less extroverted employees who may be comfortable with a more casual form of self-presentation.

The Power of Physical Space

Sometimes engaging and collaborating can be about finding the right space to work together. Some Centers have provided workspaces that enable visibility, openness and greater employee mobility to foster engagement. You can find information about intentional collaborative spaces across NASA at: **CollaborationSpace@NASA.** Some of these collaborative spaces are as outlined below.

The Navigation Center at LaRC was established out of the need to identify a solution to save their wind tunnels. The Center needed to find a way to increase efficiency and reduce the costs. A team was brought together to identify a solution. As a result, the Navigation Center space was identified to support their efforts.

KSC has established a space with white boards everywhere in the room as a way to stimulate innovation and creativity.

Co-Lab at LaRC is a roving collaborative work session. An employee sends out an invitation for a group to meet. The location is always different. The group eats lunch together, then starts working together. It is an opportunity to meet people and brainstorm. These meetings last for about a year.

JSC established a physical space and has the workforce move around. The room is outfitted with mobile tables, chairs and whiteboards. It allows employees to get out of their office and share ideas.
(See JSC Collaboration Center)

ARC has come up with the idea of remote white boarding so that employees can write on the white board from different locations. This has not quite found a home as yet, but it shows how technology can support the innovation space. ARC also pioneered efforts to enhance collaboration through NASA CoLab, which sought new ways to connect people through both physical and virtual spaces. (CoLab no longer exists, but people who are interested in doing something new at their Centers may wish to discuss this early innovative effort with their colleagues from ARC to build upon its approach.)

In general, when workers are more likely to see each other, they are more likely to connect and collaborate. Employees need the ability to collaborate, problem-solve and create, and technology alone is necessary but insufficient to connect them. The physical characteristics of a workspace have a profound impact on the way employees interact within it.

In recent years, many organizations have moved toward adopting open floor plans in an effort to encourage collaboration. But the results of this trend have been mixed. Employees in cubicles receive 29% more interruptions than those in private offices, according to research from the University of California – Irvine. In other words, open space doesn't guarantee water cooler effects or more conversations.

One key to success for these physical spaces is that everyone has access. In addition, the rooms need to be equipped with the right furniture and boards.

Communities of Interest

Whether the workspace is open or behind closed doors, another way of engaging and connecting employees is by establishing multiple communities of interest.

A community of interest can be a softball league, a caregiver support group or any regularly scheduled group who shares a common interest or passion. Participation has multiple advantages: it gives members a networking platform to share personal knowledge, information and experience, provides an opportunity to share good practices and learn from previous mistakes and generally establishes a bond that goes beyond the work group.

Several of these communities of interest have been established at Langley Research Center (LaRC) with the intent to refresh and provide some time to unwind through meditation and other forms of stress reduction, like tai chi classes or "lunch and learn" sessions on stress reduction. Studies have shown a strong link between stress reduction and meditation, enabling employees to accomplish more during the workday, maximize productivity, and feel more settled and comfortable in the work environment.

How Can the Human Capital Community Support This Effort?

The Human Capital community can serve as role models for others across the Agency by embracing engagement and connection practices in its own daily workings. Through tools such as Virtual Collaboration, World Cafés and the upcoming Hub, they can enhance engagement and connection. By learning more about what's happening across the Agency and identifying tools that can be utilized by the Human Capital community, they can expand their own efforts to engage and connect and enhance their ability to support others across NASA seeking to deepen engagement.

Conclusion

Engaging and connecting the workforce is a continuous effort. This calls for a strategy to connect employees at every level, help employees understand how each job contributes to the overall success of NASA, and provide opportunities for two-way conversations that can serve as open and honest dialogues.

Appendix | Tools, Techniques and Practices for Engaging and Connecting the Workforce

Tool, Technique or Practice	Location	What is it?
Just in Time information (News articles, Town Halls, Email notices)	Several Centers	Written and oral communication that responds to a situation in real-time
"Chats with Charlie"	Agency	Administrator responds directly to employee questions
"Open Door" regularly scheduled meetings	Several Centers	Opportunity for communication and connection with leaders
New Supervisor Lunch and Learn	Marshall Space Flight Center	Opportunity for new supervisors to interact with seasoned supervisors
World Cafés	Glenn Research Center	Small group discussions designed to create collaborative dialogue among participants
"Ask Me Anything" Events	Agency	Virtual Events hosted by a NASA expert to promote innovation and engagement
Virtual Summit	Agency	Forum for executives to be connected and engaged; uses a variety of technology tools
Innovation Summit	Johnson Space Flight Center	Opportunity to join innovative discussions about cutting edge topics in science and entrepreneurship
The Hub	Agency	Future internal NASA page where people can share their thoughts, discuss and connect
Welcome to My Lab	Agency	Short video visits to scientists, researchers and engineers across the Agency
Tell your NASA Story	Agency	Video campaign for employees to share their NASA journey
Best Place to Work	Agency	Public photo program to put a face to NASA employees.
"i am goddard"	Goddard Space Flight Center	Campaign to spotlight individual employees
Scientist Selfies	Agency	Photo program that provides an avenue to engage the less extroverted employees
Physical Space	Several Centers	Work space that promotes openness and fosters engagement
Communities of Interest	Several Centers	Way to bring employees together who share common interests
NASA Engineering Network	Agency	Connects people through communities of practice.

Appendix | Engaging and Connecting the Workforce – Resources

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The Spirit of Innovation Challenge:
http://www.conradawards.org

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i am goddard:
http://iamgoddard.gsfc.nasa.gov

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Collaboration Space @ NASA:
http://open.nasa.gov/blog/2012/03/28/the-space-to-collaborate-the-space-to-share

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JSC Collaboration Center:
http://open.nasa.gov/blog/2012/03/28/the-space-to-collaborate-the-space-to-share

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NASA CoLab:
http://appel.nasa.gov/wp-content/uploads/sites/2/2013/05/NASA_APPEL_ASK_31i_nasa_colab.pdf

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NASA Engineering Network:
External Users:
http://www.nasa.gov/content/nasa-engineering-network-communities-of-practice/#.VHXkdovF9Zg

Internal to NASA:
https://NEN.NASA.GOV

Appendix | Engaging and Connecting the Workforce – Resources

Connecting and Collaborating Index	2002	2004	2006	2008	2010	2011	2012	2013	2014	Change
Managers promote communication among different work units.	63.6	66.4	67.5	69.4	69.9	69.0	69.4	70.4	69.6	6.0
Employees in my work unit share job knowledge with each other.	77.8	79.4	78.5	80.6	78.7	79.3	81.2	81.4	82.4	4.6
The people I work with cooperate to get the job done.*	87.3	91.4	90.3	91.3	85.8	85.0	85.6	85.3	85.8	-1.5
Trend Line	76.2	79.1	78.8	80.4	78.1	77.8	78.7	79.1	79.3	3.1
Managers support collaboration across work objectives.**	-	-	-	-	74.4	74.1	75.0	76.1	74.8	0.4
Trend Line	-	-	-	-	77.2	76.9	77.8	78.3	78.2	1.0

Table 1: 2014 Employee Viewpoint Survey Connecting and Collaborating Index
* Wording change in 2013; previous surveys were worded "The people I work with cooperate to do my job well."
** Question first introduced in 2010 EVS.

% Positive Responses
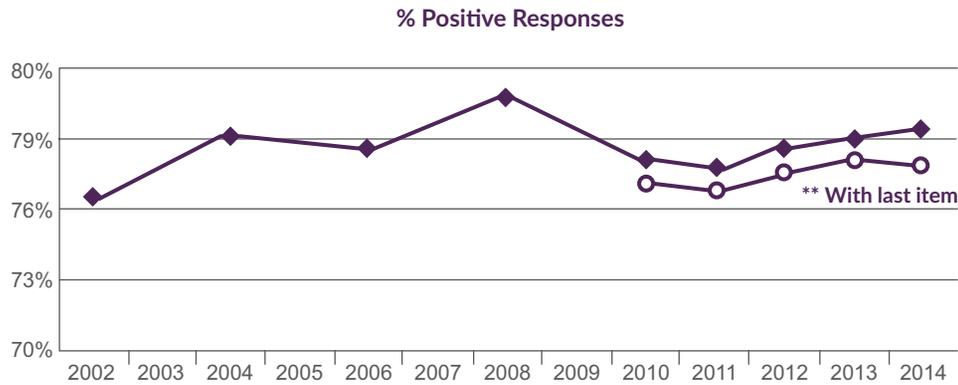
Employees at the 2013 Sustainability Fair on September 18th in front of the Ad Building at Glenn Research Center.
Photo credit: NASA/ Bridget Caswell

Management and leadership are critical functions for any high-performing organization. In the context of this effort to shape the Agency's culture, the goals for developing model supervisors and leaders are to:

- Expand the capacity and awareness of individuals to perform as leaders and managers in formal and informal roles;
- Engage and retain individuals with high potential; and
- Increase the ability of leaders and supervisors to meet changing organizational needs.

Building this capacity will enhance the organization's ability to function effectively, anticipate and adapt to an ever-changing environment, grow from within, and develop a learning mindset among its leaders and supervisors.

The Partnership for Public Service has developed a Supervisory Effectiveness Index for leadership using various Employee Viewpoint Survey (EVS) questions, which NASA uses to gauge its effectiveness in this area. (See Table 1: Supervisory Effectiveness Index.) NASA has seen continual overall improvement in this index over the last decade. (See Figure 1: Supervisor Effectiveness Index Trend.)

Supervisory Effectiveness Index	2002	2004	2006	2008	2010	2011	2012	2013	2014	Change
My supervisor/team leader provides me with the opportunities to demonstrate my leadership skills.	70.5	73.7	74.2	74.0	77.5	78.0	79.6	79.8	79.4	8.9
Supervisors/team leaders in my work unit support employee development.	72.0	80.6	80.4	79.5	79.9	80.7	80.8	80.8	81.6	9.6
Overall, how good a job do you feel is being done by your immediate supervisor/team leader?	72.1	75.2	75.2	75.6	78.8	79.0	80.1	81.1	81.9	9.8
Discussions with my supervisor/team leader about my performance are worthwhile.	67.8	68.9	66.3	66.6	71.6	71.6	73.1	73.3	74.5	6.7
Trend Line	70.1	74.4	73.6	73.4	76.3	76.8	77.8	78.0	78.5	8.4

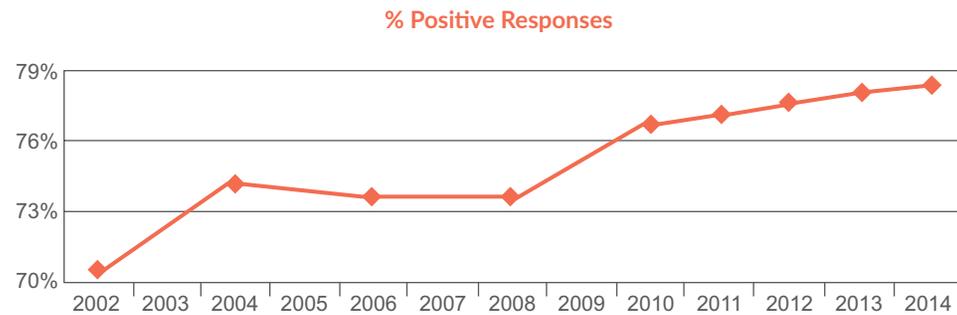Table 1: Supervisory Effectiveness Index

% Positive Responses

Figure 1: Supervisory Effectiveness Index Trend

While there are many challenges in the current environment including shrinking budgets, reduced staff, political turmoil, and constantly changing government systems and requirements, there are an abundance of productive actions and resources related to building management and leadership skills throughout the organization that can be replicated. **See Tools and Strategies for Building Model Supervisors and Leaders.** The NASA Human Capital community should work intentionally, both collectively and within individual Centers, to leverage these activities and continue building this capacity.

- Provide models. It is imperative that key leaders model desirable leadership and management skills and publicly recognize how these skills enable the Agency to achieve its mission. The Human Capital community should identify exemplary practices and behaviors that distinguish extraordinary supervisory qualities, and it should set the standard for performance for leaders and managers across the Agency. Our actions speak louder than our teachings and words; therefore, it is vital that we lead by demonstrating superior leadership and management skills at all levels.

> *"Not the cry, but the flight of a wild duck, leads the flock to fly and follow."*
> *— Chinese Proverb*

To that end, the Human Capital community must provide training, coaching, mentoring, organizational development services, and other support. **Tools and Strategies for Building Model Supervisors and Leaders** includes a listing of some current Agency tools and strategies for building model supervisors and leaders. (It is not comprehensive, and it should continue to grow.)

For example, the Leadership Development Series at Marshall Space Flight Center provides training and mentoring in knowledge and skills crucial for effective leadership and management, including areas such as means for developing self-awareness, team and group dynamics, and organizational culture.

The foundation of this effort is through a practice called Appreciative Inquiry (AI): building on the strengths of individuals and teams, not just focusing on the weaknesses. One of the key tenets of AI is that by reversing the tendency of most organizations to focus 80 percent of their attention and resources on problem-solving and instead focus 80 percent on identifying and building upon the organization's strengths, the organization can achieve positive outcomes far surpassing those obtained via the problem-solving approach. Much research over the past 30 years suggests the strength-based approach will always be more successful than the traditional approach. (Various studies by David Cooperrider, Ronald Fry, Diana Whitney, Frank Barrett, and others demonstrates this; Gallup's Strength Finder research also validates this approach.)

- Distinguish between management and leadership activities and skills. The distinctions between leadership and management can be understood when thinking about leadership as influencing the behavior of people toward common goals. Those in leadership positions are responsible for developing and communicating the organization's strategy. Leadership includes: scanning the environment for potential opportunities, challenges, or threats; setting direction; aligning staff; and providing an environment that promotes engagement and learning. Leaders can rely on referent or personal power but may also have positional power. (As described in Wikipedia, referent power is power of an individual over the team or followers, based on a high level of identification with, admiration of, or respect for the power-holder/leader.)

> *The fundamental purpose of management is to keep the current system functioning. The fundamental purpose of leadership is to produce useful change, especially non-incremental change.*
> *— John P. Kotter*

Management responsibilities include the tactical work of executing the organization's strategy, including:

- Establishing goals, objectives and expectations with staff;
- Managing day-to-day performance;
- Motivating employees to do their best work; and
- Organizing, controlling and improving systems and processes necessary for individuals and the organization to deliver results.

Managers often rely on positional power to achieve their work. (Positional power means the power that comes from a person's formal title, role, or position.) The ability to articulate the differences between leaders and managers enables others to understand why both roles are necessary, helps identify the skills and attributes needed for each role, and provides managers and leaders with a framework for making informed assessments of the skills and attributes needed for a given situation.

- Create systems to support development and use of management and leadership skills. Sustainable change must be reflected in the way the organization functions. The Human Capital community's policies and systems should reflect and support the desired culture for model supervisors and leaders. We should reduce the administrative burden for supervisors and leaders so they can spend more time interacting with staff. For instance, do supervisors have to write up an award nomination, or could they send in a video or audio clip with the justification? Johnson Space Center uses this approach for some of its awards. Some areas to review include:

- Documents and policies that define supervisor and leadership expectations and associated activities. These include position descriptions, performance standards, and models, among others. They should discuss skills in observable, behavioral terms and avoid technical jargon.

- Hiring practices. While it is important to know and assess an individual's ability to perform technical work, so-called soft skills and emotional intelligence are necessary to assess a person's character, communication skills, and abilities such as conflict resolution and negotiation, personal effectiveness, creative problem solving, strategic thinking, team building, and persuasiveness, to name a few. In many cases behaviorally-based interview questions can elicit this information.

- Accountability for management and leadership. While it is important to have clear performance standards for supervisors and leaders, it is just as important for them to provide frequent, timely, ongoing feedback, mentoring and coaching on performance to their people as it occurs throughout the year (not just limited to EPCS milestones.) **(See Supervisor Element 1: Supervisory Competencies)**

> *"Tell me how you will measure me and I will tell you how I will behave."*
> — *Eli Goldratt*

- Opportunities to recognize and reward supervisory skills. We need to reward supervisory and leadership skills necessary for the organization to thrive in the same way that we recognize technical skills. **(See Champion of Innovation Award)**

- Commitment to diversity and inclusion. Diversity and inclusion are crucial to NASA's success. The Agency and each Center have issued a **NASA Diversity and Inclusion Strategic Implementation Plan (DISP)**. Each supervisor and manager should become familiar with both plans. Multiple perspectives are needed to solve complex, one-of-a-kind problems. Organizations that leverage diversity have greater adaptability and flexibility in handling rapidly changing environments. Furthermore, the students seeking degrees in science and engineering today are from increasingly diverse backgrounds, and NASA must be able to attract and retain an exceptional workforce. Steve Robbins produced a video for use at MSFC geared toward supervisors around "How to create the right environment." Please contact Susan Cloud at MSFC for further information about seeing this video. For additional video resources on diversity, see Steve Robbins' Web site at: **http://slrobbins.com/resources.**

Since diversity and inclusion are crucial to collaboration, it is critical that supervisors and managers proactively express and demonstrate their support for these practices in the ways they engage employees, and in the decisions they make around hiring, awards, and professional development. One challenge for supervisors is in finding ways to draw out diverse ideas from members of their teams, and then lead their teams to turn those ideas into actions. "Optimizing Critical Decisions Using the Dynamics of D&I" **(See Tool and Strategies for Building Model Supervisors and Leaders)** provides training in these skills, which can result in greater employee engagement and innovation.

- Track required training for supervisors. The HC community must have efficient ways to track training and notify supervisors of training requirements. JSC has a system for doing so.

- Evaluate training and other efforts. We must evaluate what we do to practice continuous improvement. GSFC uses a polling tool to evaluate sessions to obtain information during an event.

- **Utilize a holistic approach to build supervisor and leadership skills.** The Human Capital community is challenged with building an intelligent (emotionally and technically) organization that knows how to learn. The "whole leader/whole manager" concept, which addresses a range of topics including personal mastery, systems thinking, emotional intelligence, physical health, and development of others, emphasizes the importance of developing a set of broad capacities. This requires a wide array of professional development activities rather than sole reliance on traditional training programs. With budget reductions, we need to learn how to encourage leadership learning and experiences in new cost effective ways. We must investigate experiences such as mentoring, detail assignments to other organizations (intra-Center and inter-Center), on-the-job training, e-learning and social networking options.
  (See Tools and Strategies for Building Model Supervisors and Leaders).

In addition, the Human Capital community must develop common organizational development (OD) tools and share resources to support the evolving culture. One area for consideration is to provide proactive OD services and orientations when managers are transitioning to a new group. For example, Management Orientation @ Marshall offer opportunities for new supervisors and their teams to engage in an OD facilitated discussion about shared expectations, which leads to greater understanding of respective interests, personalities, backgrounds and motivations. These have proven very effective in getting supervisors and teams up to speed more quickly and establishing healthy relationships earlier. Further, Headquarters has a checklist for the manager of a new supervisor to help with orientation and mentorship.

- **Create the environment that allows for learning at all levels.** An organization needs to be dynamic to evolve. The Human Capital Community needs to nurture an open collaborative culture that embraces diversity, and empowers staff so learning occurs at all levels.
- **Utilize coaching.** While coaching is one of the most powerful tools that a leader can draw on to achieve results, it can also be used on a peer level to bring out the best in those working on projects and activities.
- **Build a "brain friendly" environment.** Create a safe environment where challenge is maximized and threat is minimized—intentionally. This

seemingly soft idea is supported by hard science. A positive environment fosters the production of dopamine, a feel-good neurotransmitter. Like a pump recycling water through a fountain, optimism promotes dopamine and dopamine propels optimism. A positive environment also produces more noradrenaline, a neurotransmitter that provides you physical energy to act on your motivation, and it activates the prefrontal cortex, which is responsible for long-term planning and judgment.[9]

- **Shift decisions to the lowest possible level.** By empowering employees to make decisions while at lower levels in the organization, they will have opportunities to build skills progressively throughout their careers.
  (Learn more about how this worked for the Automobile Association of America)
- **Learn from mistakes.** Learning from experience is fundamental to organizations that undertake complex projects. This requires encouraging people to speak up and voice dissenting opinions. GSFC's **Pause and Learn Framework** offers one example of a structured approach to regular learning throughout a program or project's life cycle.

> *Success is not final, failure is not fatal: it is the courage to continue that counts.*
> *— Winston Churchill*

- **Help managers develop communications skills.** The development of communications skills and leadership qualities are crucial for working with, managing, and leading people. Skills in areas such as nonverbal communication, listening to others, improving the ability to empathize with others, and managing relationships will improve an individual's ability to lead or manage.
- **Actively pursue succession planning.** NASA faces coming workforce gaps created by retirement and attrition, and skill gaps created by changing program skill requirements.

Succession planning provides a systematic process to identify, assess and develop employees as organizations seek to prepare for the future. A succession planning program that identifies competencies and attributes for higher positions and possible candidates with matching competencies and appropriate experience is in order.

[9] Howard, Pierce J. *The Owner's Manual for the Brain: Everyday Applications from Mind-Brain Research.* Austin: Bard Press, 2006.

The "Whole Leader/Whole Manager" approach mentioned earlier will help the Agency develop a strong pipeline of candidates. The Human Capital community, along with the Agency's leadership, is responsible for identifying and cultivating those in the pipeline. Programs such as the Senior Executive Service Candidate Development Program (SESCDP), can play a central part in this process. It is important to recognize that participation in training and development does not promise progression and promotions, but it can support the behaviors and skills needed to advance throughout a career. There are also limited resources for supporting the development of supervisors and managers.

- Recruit interested candidates and invest in them. Centers should develop training for team leads, survey those individuals for interest in becoming supervisors, and then offer 80 hours of training to those team leads in areas of self-awareness and assessments, group and team dynamics, and organizational culture. This training should also cover the "nuts and bolts" of human resources. New supervisors also need to learn how to have effective developmental conversations with their team members. For instance, **Tool and Strategies for Building Model Supervisors and Leaders** includes a course offered at Marshall Space Flight Center called "Developmental Conversations," which helps supervisors and employees know their roles, responsibilities, and accountabilities. This would allow Centers to see who is interested in management, and also identify candidates with management potential. It would not be a definitive determination of supervisory aptitude, but it would provide development for those who are interested, and help to prepare people for a transition into management. Several Centers are creating pools of "high-potentials" for growth through development programs and leaderships. Center leaders and Personnel Management Advisory Committees review the pools of potential candidates.
- Establish OD capabilities accessible to every Center. The key to strengthening and building extraordinary leaders and managers is establishing organizational development capabilities accessible by each Center. OD capabilities are particularly strong at JSC, MSFC, ARC, and HQ HRMD, and possibly other Centers that were not able to participate in this

planning effort. The fruits of these capabilities are reflected in the EVS results. For example, Marshall's EVS scores for supervisors are consistently and significantly higher than most. The common theme that emerged from the data is that "employees felt their supervisors cared about them as a whole person." MSFC attributes its EVS results in this area to a host of practices, but they are also attributable in part to strong OD capabilities that engage and strengthen supervisors and their teams. In order to build Whole Leader/Whole Manager qualities, we must establish capability that strengthens hard skills as well as soft skills.

This means that each Center must assess its Human Capital organization, establish an OD capability that will enable the kind of training, experiential learning, facilitated interaction, and assessment tools needed for its supervisors and managers, and establish planning practices over time.

Establishing effective baseline OD capability will require tools and resources; some of this support will be provided at the Agency level. This could be done by building a network of OD capability and resources across the Agency. It will also require each Center to invest in increased learning around self-awareness, team and group dynamics, organizational culture, and supervisor assimilation. Establishing highly effective OD capacity will require more from some Centers than others, and it will take time, but it should not be postponed or delayed. It cannot be done entirely virtually or by importing experts. OD specialists need to learn the cultures of their Center organizations and their needs.

Organizational development is not a panacea for all ills, but it is an essential capability in a 21st century organization such as NASA. Achieving this baseline capability in OD will require change management around the implementation of these plans.

NASA expects high performance from its employees. In return, its employees have a right to expect outstanding supervisors and leaders. It is imperative for the Human Capital community to build the capabilities of supervisors and leaders in order to ensure that NASA can continue to meet the challenges it face.

First Steps for Supervisors:

- Strengthen relationships with employees. Consider using assessment tools for individuals and teams.
- Incorporate trainings such as Speed of Trust, Crucial Conversations and the Human Element courses to build relationships in your organization.
- Plan and attend social events for your team to allow them to build relationships and shared understanding.
- Hold "Lunch and Learning" sessions with your team on relevant topics.
- Be transparent around communications with your team—tell them what you know, what you don't know, and what you wish you knew.

First Steps for Human Capital Organizations:

- Reach out to colleagues at other Centers to learn from them and share programs.
- Conduct an assessment of Center OD needs to create a capability plan with a timeline.
- Establish an effective OD capability and capacity at each Center and actively promote its use.
- Adopt programs and offer learning opportunities to build model supervisors and leaders. This can be done in collaboration with other Center HC organizations.

The following appendices to this section include section resources and references to help train and develop supervisors and leaders:

- **Tools and Strategies for Building Model Supervisors.**
- **Supervisor Element 1: Supervisory Competencies and Leaders.**
- **Leading from your Core Assessment Crosswalk.**
- **Supervisory Development Videos.**
- **Building Model Supervisors and Leaders − Resources.**

Appendix | Tools and Strategies for Building Model Supervisors and Leaders

The listed tools and strategies is not a comprehensive inventory. They highlight some of the practices that have worked across the Agency.

Tool/Strategy	Example	Links/Resources
Assessments: Self and 360-assessments help individuals increase awareness and understand commonalities and differences in the workplace; provide common language; and can be used to help persons better understand interactions in the workplace. (See Marshall's Leading from your Core Assessment Crosswalk)	MBTI	https://www.cpp.com/products/mbti/index.aspx
	DiSC	http://www.resourcesunlimited.com/DiSC-What-is-DiSC.asp
	ESCI	http://www.haygroup.com/leadershipandtalentondemand/ourproducts/item_details.aspx?itemid=58&type=1&t=2
	Fundamental Interpersonal Relations Orientation (FIRO)	https://www.cpp.com/products/firo-b/index.aspx
	Strong Interest Inventory	https://www.cpp.com/products/strong/index.aspx
	Gallup Strength Finder	http://strengths.gallup.com/default.aspx
	Strength Deployment Inventory (SDI)	http://www.strengthdeployment.com
	Social and Emotional Intelligence Profile (SEIP)	www.The-ISEI.com
	Thomas-Killman Inventory (TKI)	https://www.cpp.com/products/tki/index.aspx
	16PF	http://www.ipat.com/Pages/homepage.aspx
	Coaching for Performance	
	Hogan	www.hoganassessments.com
	Workplace Big 5	http://www.centacs.com
	4D	http://www.4-dsystems.com

Appendix | Tools and Strategies for Building Model Supervisors and Leaders

Tool/Strategy	Example	Links/Resources
Programs	New Supervisors Orientation/Assimilation Sessions	Assimilation sessions are for supervisors to a new area and helps them and their organizations to get up to speed quickly and promotes greater understanding of expectations.
	LASER	Agency Supervisors Cohort Program.
	LEaD Program	For GS-11s and 12s in Mission Support Organizations.
	Agency Leadership Programs (Short)	BEP, LTI, LEC, CO, etc.
	Agency Leadership Programs (Long)	NASA FIRST, Mid-Level Leader Program (MLLP), SES Candidate Development Program (CDP).
	Federal Executive Institute Programs and other OPM Leadership Programs	**http://leadership.opm.gov**
	JSC Leadership Curriculum	
	GSFC Leadership Curriculum	
	KFC Leadership Curriculum	
	ASPIRE Leadership Program	9 month leadership program for GS 8-12s
	Rocket University	RU utilizes combination of APPEL (Program/Project and Engineering Leadership) courses, and NASA subject matter experts to develop discipline specific technical curriculums, in conjunction with the opportunity to exercise those skills in various applied labs and hands on experience in the design, testing, fabrication implementation and lessons learned of a short lifecycle engineering project. Targeted for GS 7-13 assigned to engineering, research or scientific position.

Appendix | Tools and Strategies for Building Model Supervisors and Leaders

Tool/Strategy	Example	Links/Resources
Supervisory Skills Training	Establishing Yourself in a Management Role	HQ can provide materials.
	Practical HR Solutions for Supervisors (PHRSS) Course	For supervisors in their first two years—moving to a virtual offering.
	Optimizing Critical Decisions Using the Dynamics of Diversity and Inclusion	Assists supervisors and managers in learning skills on how to draw out diverse ideas from team members and coalesce into decisions and next steps.
	Foundations in Leadership	3 days of leadership training for GS12-13s on being an influence leader.
	Transitioning New Managers Assimilations	1 day assimilation helping leaders and their team start up with information on expectations, decision approach and hot buttons.
	Leadership Development Series	For GS 14/15s: Three 3-day components: Develop Self-Awareness, Team and Group Dynamics, Organizational Culture.
	Executive Coaching	4D-12 sessions
	Lunch & Learn Sessions	Supervisor learning sessions with speakers on timely management topics.
	Maximizing Performance Through Coaching	2 day workshop on coaching skills for supervisors.
	Supervisory Quick Start	A two-hour high level overview of the HR tools and guidance new managers/supervisors need to begin managing their teams.
	GRC Supervisory Curriculum	Four hour sessions on a variety of topics (Employee & Organizational Development, Change Management, IDP's, Crucial Conversations, Five Languages of Appreciation).
	New Supervisor Orientation	4 day workshop on management, labor relations, human resources issues and the nuts and bolts of new supervisor duties.
	Developmental Conversations	Half-day session helps supervisors and employees know their roles, responsibilities, and accountabilities in developing their careers.

Appendix | Tools and Strategies for Building Model Supervisors and Leaders

Tool/Strategy	Example	Links/Resources
Cohort Sessions	New Executive Orientation	Year-long program with mostly short round table discussions with leaders and sessions on topics such as Executive Evaluations.
	Cohort Network	Quarterly sessions for Leads, Supervisors and Managers that are 1-2 hours on current topics (Coaching for Performance; Lessons Learned from the Furlough; How to Talk to Staff about the Budget).
	CFO Strengthening Management Outcomes meetings	Managed by the OCFO, these meetings bring the supervisors and managers in the CFO office together to discuss management priorities and provide short training sessions.
	CFO Leadership Forums	Managed by the OCFO, these meetings are open to the entire CFO Staff to discuss readings and invite speakers to talk on leadership.
Self-Paced Options	iTunes University	**https://itunesu.itunes.apple.com/enroll/J47-CSB-6JE**
	SkillSoft Training classes	See SATERN
	Books 24/7	**https://satern.nasa.gov/customcontent/splash_page** (proceed to log-in)
	Toolkits	HR Portal Toolkits; HQ's HR on the Go
Peer to Peer Learning & Social Networking	Action Learning Groups	
	Mentoring & Reverse Mentoring	
Performance & Accountability Options	EPCS/SPACE	
	Crucial Conversations	
	Giving & Receiving Feedback	

Appendix | Supervisor Element 1: Supervisory Competencies

Mandatory supervisory elements for EPCS – with performance standards and indicators.

Rating Level	Performance Indicators and Standards
5	**Substantively Exceeds Expectations – Performance Indicators** **Indicators are examples of performance at this level, not all inclusive lists or "must meet" requirements** **Leading and Managing** • Communicates effectively to facilitate adaptation to controversial or difficult changes; executes change management strategies that are particularly efficient/effective, or that benefit individuals beyond immediate organization. • Fosters collaboration and teamwork across non-traditional boundaries to achieve innovative and effective solutions to difficult problems. • Manages programs and subordinates to achieve a high level of mission success, effectiveness and/or customer satisfaction. • Anticipates and proactively/effectively addresses employee and/or team needs for information and support to maintain high degree of agility. • Inspires a high level of morale in the supervised organization, even in times of turmoil/peak workload, exceptionally short deadlines, or significant staff shortages. • Exemplary management recognized through sources such as customer or employee-provided feedback. • Proactively takes on and successfully resolves employee problem situations (e.g., misconduct, chronic poor attendance, interpersonal conflicts) that are particularly difficult, intractable or sensitive. **Achieving Results** • Achieves positive organizational results which exceed the norm. • Organization's success significantly contributes to achievement of Center, Agency-level or government-wide initiatives. • Identifies and leverages effective staffing solutions to achieve priorities in uncertain or rapidly changing environments. • Develops and implements new approaches which improve productivity, mission results, or operational efficiency, or generate substantial savings of time or money. • Evidences improved organizational safety performance by reduced rates for mishaps, reportable cases, lost time cases, and first aid cases. **Resources Management** • Develops resource options and recommended solutions which significantly improve performance or facilitate recovery from major setbacks during the performance period. • Anticipates and mitigates significant risks to mission success through adjustments to priorities, work schedules and resources.

Rating Level	Performance Indicators and Standards

5	**Equal Opportunity and Diversity/Inclusion**
	• Participates in Center or Agency development and implementation of equal employment opportunity (EEO) and diversity/inclusion (D/I) plans, programs, and activities.
	• Participates in and/or encourages employees to participate in more advanced voluntary EEO or D/I activities, such as dialogues, conflict resolution training, etc.
	• Works proactively to address/resolve situations that might lead to EEO complaints or grievances; for example, engages EEO or Human Resources staff in devising plans to address such situations, provides assistance to employees to help with problem solving and resolving conflicts.
	• Takes positive steps to "make the business case" for D/I at NASA by articulating to managers and/or employees why D/I issues are relevant to NASA and its mission.
	• Works to broaden the diversity of applicant pools for NASA or Center jobs by means such as:
	  − Participates with HR to establish focused recruitment plans.
	  − Utilizes non-traditional sources when advertising vacancies.
	  − Considers Schedule A appointments to hire individuals with disabilities.
	  − Seeks expertise of employee resource/affinity groups to assist in outreach and recruitment efforts.

3	**Meets Expectations – Performance Standards** **Leading and Managing** • Conducts supervisory responsibilities in an effective and timely manner in accordance with Center, NASA and government-wide policies. • Effectively responds to and implements changes within the organization and workforce. • Supports and encourages flexible and innovative approaches to conduct work and meet performance requirements. • Exhibits effective and respectful communication, collaboration and teamwork. • Ensures that relevant information, results and decisions are timely/effectively communicated to staff. • Provides appropriate support for effective transition of new employees into the organization. • Recognizes and supports the needs of employees to balance work and personal life.

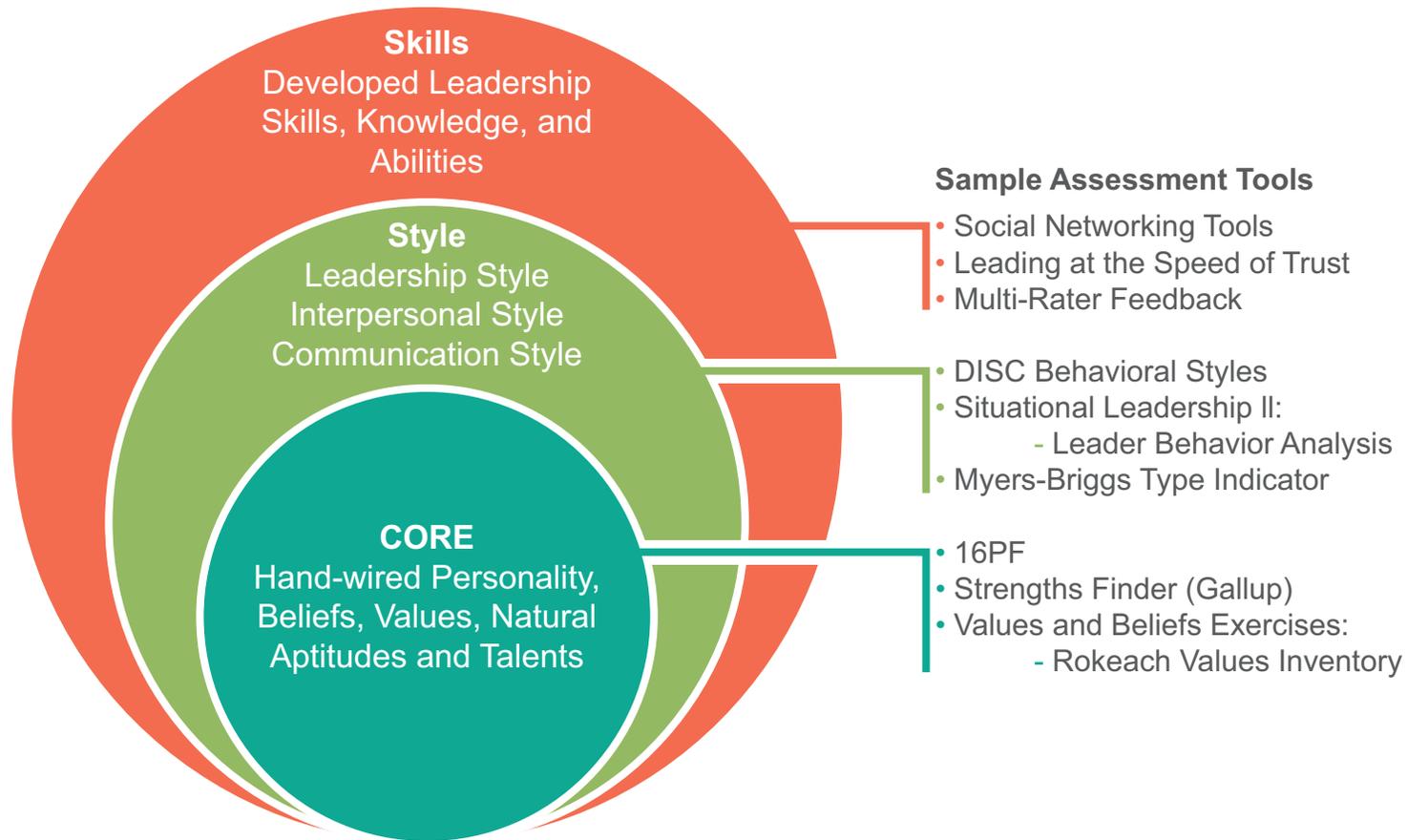| Rating Level	Performance Indicators and Standards
3	**Achieving Results** • Demonstrates commitment to NASA's core values of safety, integrity, teamwork, and excellence while pursuing mission success and the accomplishment of Agency and Center goals and objectives. • Evidences commitment to safety by maintaining and inspecting assigned area(s) of responsibility to ensure compliance with applicable safety and occupational health regulations, policies, and procedures; and ensuring expeditious corrective action to resolve unsafe conditions and/or procedures. • Establishes and achieves realistic, measurable, and results-oriented short- and long-term organizational goals and objectives based on the Agency's Strategic Plan, Government-wide initiatives and Center priorities. • Responds to potential or actual problems relating to the achievement of functional critical elements by identifying and diagnosing issues, determining alternative courses of action, and elevating to higher-level officials in a timely manner if necessary/appropriate. • Utilizes performance results, employee input and/or customer feedback to develop/implement initiatives to improve program/project performance, functional support, or service delivery. **Resources Management** • Based on assessment of current and future workforce needs, assigns individuals/teams and balances workload to efficiently and effectively accomplish the organization's goals and objectives. • Prepares clear and defensible program/project/functional budgets within guidelines and by due dates. • Periodically reviews programs/projects/functional and contractor performance to monitor progress against cost/performance milestones and goals, including contractor costs. Notable unutilized funds, schedule delays, or cost overruns are immediately brought to the attention of senior management. • Utilizes appropriate hiring flexibilities to address skills imbalances and succession needs; well-qualified candidates are hired, developed, and promoted with adherence to the Merit Systems Principles and Equal Employment Opportunity policy. **Equal Opportunity and Diversity/Inclusion** • Promotes and leads an inclusive work environment in which employees are valued/respected for individual and cultural differences and their talents are fully utilized. • Internal and external interactions are respectful, appropriately cooperative and flexible, and facilitate the open exchange of ideas and opinions from diverse groups; so as to establish trust and to foster cooperation and knowledge sharing. Encourages and expects employees to do likewise. • Makes supervisory decisions (e.g., hiring, work assignments, performance ratings, awards, promotions, training and development selections, etc.) fairly and without discrimination. • Promotes a work environment that is free of discrimination, harassment, and retaliation of any kind, and accessible to individuals with disabilities. • Encourages, recognizes and rewards employees for innovation and creativity. • Provides challenging assignments and continuing educational and skill improvement opportunities to employees, to develop strengths and address areas where improvement is needed; leverages development opportunities to promote staff advancement and meet future organizational needs. • Works with Human Resources to successfully address situations in which an employee's unacceptable performance is not corrected by informal efforts (e.g., feedback/assistance, providing training, clarifying expectations). • Is viewed as a role model for others; is sought after as a mentor; engages in activities that promote supervisory excellence at the Center or Agency level.

Appendix | Supervisor Element 1: Supervisory Competencies

Rating Level	Performance Indicators and Standards
5	**Significantly Exceeds Expectations – Performance Indicators** **Indicators are examples of performance at this level, not all-inclusive lists or "must meet" requirements** • Encourages and facilitates/supports substantive employee participation in development of performance plans. • Performance plans, feedback to employees and rating narratives demonstrate particularly high quality. • Proactively identifies, presents, and promotes management strategies that aim to improve employee performance and engagement. • Identifies and employs creative opportunities for recognizing outstanding performance. • Encourages, recognizes and rewards employees for innovation and creativity. • Provides challenging assignments and continuing educational and skill improvement opportunities to employees, to develop strengths and address areas where improvement is needed; leverages development opportunities to promote staff advancement and meet future organizational needs. • Works with Human Resources to successfully address situations in which an employee's unacceptable performance is not corrected by informal efforts (e.g., feedback/assistance, providing training, clarifying expectations). • Is viewed as a role model for others; is sought after as a mentor; engages in activities that promote supervisory excellence at the Center or Agency level.

3	**Meets Expectations – Performance Standards**
	Conducts employee performance management responsibilities in an effective manner and in accordance with NASA, Center and government-wide policies and guidelines, to include normally completing required steps in the appraisal cycle by established due dates. Major elements of these responsibilities are:
	
	• Develops performance plans for subordinates that:
	  − Contain at least one element clearly aligned to Agency goals and objectives,
	  − Incorporate responsibilities for details and matrixed assignments; and
	  − Include performance elements, standards and indicators that are appropriately challenging for the grade level, hold employees accountable for results, and provide sufficient detail to adequately communicate expectations.
	• Encourages employees to provide self-assessments regarding their performance at mid-point and end of the appraisal cycle; requests, considers, and retains feedback on employees' performance from appropriate sources (e.g., project managers, detail supervisors, subordinates); and provides timely and meaningful input to Rating Officials of detailee and matrixed employees.
	• Accurately appraises employee performance in relation to established elements and standards/indicators; and includes narrative summaries that satisfactorily justify the assigned ratings. Ensures that performance awards are commensurate with summary ratings and that all other recognition is appropriately aligned with level of responsibility and progress toward organizational goals and objectives.
	• Conducts timely, meaningful, face-to-face performance discussions with employees at least 3 times each year (e.g., plan development, mid-point and end of cycle) to communicate performance expectations, provide feedback, identify training and development needs, etc., except in situations where face-to-face discussions are not feasible (e.g., not co-located, students, extended absences).
	• Provides employees opportunities to excel and encourages individual development through appropriate use of coaching, mentoring, special project/detail assignments, and training.
	• Addresses employee performance issues in a timely and appropriate manner with guidance from Center Human Resources staff and in accordance with NASA, Center and Government-wide policies and guidelines.

Appendix | Leading from your Core Assessment Crosswalk

Skills
Developed Leadership Skills, Knowledge, and Abilities

Style
Leadership Style
Interpersonal Style
Communication Style

CORE
Hand-wired Personality, Beliefs, Values, Natural Aptitudes and Talents

Sample Assessment Tools

- Social Networking Tools
- Leading at the Speed of Trust
- Multi-Rater Feedback

- DISC Behavioral Styles
- Situational Leadership II:
    - Leader Behavior Analysis
- Myers-Briggs Type Indicator

- 16PF
- Strengths Finder (Gallup)
- Values and Beliefs Exercises:
    - Rokeach Values Inventory

The most effective leaders know more than their business. They also know themselves. Through this program leaders pause long enough to honestly take stock of what they bring to their roles in moving change forward so they can lead more capably and consistently.

Appendix | Supervisory Development Videos

YouTube

The Rarest Commodity is leadership without Ego: Bob Davids at TEDxESCP with Korean Transcript (한글 자막, 일부 발췌)
http://www.youtube.com/watch?v=geDmxYISMKA
Published on Apr 7, 2014. 7:36
Leadership Competencies – Team Building

Leadership: Common Mistakes Made by Newly Promoted Supervisors, Team Leaders and Managers
http://www.youtube.com/watch?v=Dde22DMuhFE
Uploaded on Mar 5, 2010.
5:32 Once promoted to being a supervisor or team leader, the new boss thinks that he or she has to answer every question or solve every problem. Leadership expert Greg Schinkel from Unique Training & Development shares insights into how to be more effective and build the strength of the team. http://UniqueDevelopment.com

Leadership Competencies – Problem Solving

Changing the Workplace Environment — Inside E Street | AARP
www.youtube.com/watch?v=0d04_ZztJWo
Apr 9, 2012 - Uploaded by AARP. 8:10
Ergonomist Josh Kerst shares with us some of the small physical changes in an office that can have a positive effect on older employees.
Leadership Competencies – Leveraging Diversity

6 Ways to Change a Toxic or Hostile Work Environment
www.youtube.com/watch?v=1BS1HL7OKAc
Mar 13, 2014 - Uploaded by Peter Barron Stark. 3:45
Peter B. Stark discusses how you can fix a toxic work environment.
Leadership competencies – Problem Solving

Create a Positive, Energized Work Environment
Explains 7 actions a leader can take to create a positive workplace.
www.youtube.com/watch?v=MfgD3ath4z0
May 7, 2012 - Uploaded by Jeff Gibbs. 2:02
Fundamental Leadership – Interpersonal Skills

Top 10 Differences between Managers and Leaders
http://www.youtube.com/watch?v=8ubRzzirRKs
Uploaded on Oct 9, 2011. Scott Williams. 5:48
This short video from @ScottWilliams provides 10 clear distinctions to help understand the difference between a manager and a leader. Thanks to Samson Varughese for bringing the video to life.
Performance Management – Motivating and Engaging Employees

Apple CEO Tim Cook on Inspirational Leaders
http://www.youtube.com/watch?v=xIL1IanpyFk
Published on May 30, 2013. 2:35
Apple CEO Tim Cook talks about the two leaders who most inspire him and why he keeps pictures of them in his office. Cook spoke as part of his class reunion at Duke University's Fuqua School of Business.
(www.fuqua.duke.edu) Fundamental Leadership – Public Service Motivation

Apple CEO Tim Cook Explains His Three Focuses (People, Strategy, and Execution)
http://www.youtube.com/watch?v=0ymQPf3QAF4
Published on May 30, 2013. 1:25
Apple CEO Tim Cook talk about the three things he focuses on each day. Cook spoke as part of his class reunion at Duke University's Fuqua School of Business.
(www.fuqua.duke.edu)
Leadership Competencies – Strategic Thinking

Appendix | Supervisory Development Videos

Minnesota Study Looks at New Best Buy Work Environment
http://www.youtube.com/watch?v=bT53zByCY9Y
Uploaded on Apr 6, 2011. 3:23
New research from the University of Minnesota finds that a workplace environment that allows employees to change when and where they work based on their individual needs and job responsibilities, positively affects the work-family interface and reduces turnover.
Talent Management – Work-Life Balance

Ask an Expert - Work/Life Balance, Presented by LinkedIn
http://www.youtube.com/watch?v=g0PLhdCPjxA
Published on Sep 4, 2012. 3:42
www.linkedin.com/womenconnect - Lindsey Pollak is a global spokesperson for LinkedIn as well as a career and workplace consultant. She's here to help you find the work/life balance needed to have a successful career while maintaining a fulfilling personal life.
Talent Management – Work-Life Balance

Business Writing Skills Tutorial: Learn How to Write More Effectively
http://www.youtube.com/watch?v=E4OqrNMcZKU
Published on Jun 28, 2012. 3:59
The better your writing skills are, the better the impression you'll make on the people around you -- including your boss, your colleagues, and your clients. You never know how far these good impressions will take you! Fundamental Leadership – Written Communication

Steve Jobs Talks about Managing People
http://www.youtube.com/watch?v=f60dheI4ARg
Uploaded on Jun 12, 2010. 2:25
"we are organized like a startup"
Performance Management – Motivating and Engaging Employees

Leadership: The Coaching Mindset for Engaging and Developing Others
http://www.youtube.com/watch?v=P5MZFlwbBAc
Published on Jan 30, 2014. 3:34
Sam Bacharach is the McKelvey-Grant Professor of Labor Management at Cornell University's ILR School. He is the director of ILR's New York City-based Institute for Workplace Studies as well as the director of the Smithers Institute and the director of the New York City-based Master of Professional Studies. He received his BS in economics from NYU and his MS and PhD from the University of Wisconsin. The Coaching Mindset for Engaging and Developing Others is one of ten courses developed by Prof. Bacharach and eCornell offered through eCornell's RedShift on-demand solutions.
http://bit.ly/1bdfVwQ. Performance Management – Mentoring and Coaching

8 Steps, Step 1 Workforce Planning
http://www.youtube.com/watch?v=yEIUfm-qP70
Mike Moore explains the 8 Steps, starting with Workforce Planning. Talent Management – Workforce Planning

Ted Talks

Simon Sinek: Why Good Leaders Make You Feel Safe – Ted Talks
Published on May 19, 2014. 11:58
http://www.youtube.com/watch?v=lmyZMtPVodo
What makes a great leader? Management theorist Simon Sinek suggests, it's someone who makes their employees feel secure, who draws staffers into a circle of trust. But creating trust and safety — especially in an uneven economy — means taking on big responsibility.
Fundamental Competencies - Accountability

Drew Dudley "Everyday Leadership" - Ted Talks
http://www.youtube.com/watch?v=HR2UnsOuKxo
Published on Feb 20, 2013. 6:14
We have all changed someone's life — usually without even realizing it. In this funny talk, Drew Dudley calls on all of us to celebrate leadership as the everyday act of improving each other's lives. Drew Dudley believes leadership is not a characteristic reserved for the extraordinary. He works to help people discover the leader within themselves. Leadership Competencies – Developing Others

Dan Pink: The Puzzle of Motivation – Ted Talks
http://www.youtube.com/watch?v=rrkrvAUbU9Y
Uploaded on Aug 25, 2009. 18:36
Career analyst Dan Pink examines the puzzle of motivation, starting with a fact that social scientists know but most managers don't: Traditional rewards aren't always as effective as we think. Listen for illuminating stories -- and maybe, a way forward.
Performance Management – Motivating and Engaging Employees

Appendix | Supervisory Development Videos

Ted Talks

Nigel Marsh: How to Make Work-Life Balance Work – Ted Talks

Uploaded on Feb 7, 2011. 9:55

http://www.youtube.com/watch?v=jdpIKXLLYYM

Work-life balance, says Nigel Marsh, is too important to be left in the hands of your employer. At TEDxSydney, Marsh lays out an ideal day balanced between family time, personal time and productivity -- and offers some stirring encouragement to make it happen.
Talent Management – Work-Life Balance

Rethinking Work-Life Balance – Ted Talks

Richard St. John: "Success is a continuous journey" – Ted Talks

Uploaded on Jun 15, 2009. 4:08

http://www.youtube.com/watch?v=CgNx9Bgac1I

In his typically candid style, Richard St. John reminds us that success is not a one-way street, but a constant journey. He uses the story of his business' rise and fall to illustrate a valuable lesson -- when we stop trying, we fail. Leadership Competencies - Accountability

Stanley McChrystal: Listen, Learn ... Then Lead – Ted Talks

http://www.youtube.com/watch?v=FmpIMt95ndU

Uploaded on Apr 6, 2011. 15:38

Four-star general Stanley McChrystal shares what he learned about leadership over his decades in the military. How can you build a sense of shared purpose among people of many ages and skill sets? By listening and learning -- and addressing the possibility of failure. Leadership Competencies – Developing Others

Shawn Achor: The Happy Secret to Better Work – Ted Talks

http://www.youtube.com/watch?v=fLJsdqxnZb0

Uploaded on Feb 1, 2012. 12:20

We believe that we should work to be happy, but could that be backwards? In this fast-moving and entertaining talk from TEDxBloomington, psychologist Shawn Achor argues that actually happiness inspires productivity.
Performance Management – Motivating and Engaging Employees

Simon Sinek: How Great Leaders Inspire Action (excerpt) – Ted Talks

http://www.youtube.com/watch?v=I34rV8IVb84

Published on Aug 14, 2013. 3:07

Simon Sinek presents a simple but powerful model for how leaders inspire action, starting with a golden circle and the question "Why?"

Original source: **http://www.ted.com/talks/ simon_sinek_how_great_leaders_inspire_action? language=en** (full talk) | Uploaded on May 4, 2010. 18:34 Simon Sinek presents a simple but powerful model for how leaders inspire action, starting with a golden circle and the question "Why?" His examples include Apple, Martin Luther King, and the Wright brothers -- and as a counterpoint Tivo, which (until a recent court victory that tripled its stock price) appeared to be struggling. Leadership Competencies – Creativity and Innovation

Skillsoft

When People Will Change Featuring David Goldsmith

http://skillport.books24x7.com/VideoViewer. aspx?bkid=62879

David Goldsmith© 2014. 3:00

People will change behavior when they are offered new information that resonates with them—helps them connect the dots— AND they perceive a 51 percent chance that change will move them forward AND they feel supported or prepared to make the change. Leadership Competencies – Developing Others

Appendix | Building Model Supervisors and Leaders – Resources

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Learn More About How This Worked for the Automobile Association of America:

http://www.sbnonline.com/market/northern-california-editions/#.U2xaS_ldW8E

Pause and Learn Framework:

http://www.nasa.gov/Centers/goddard/about/organizations/OCKO/pause/#.U9jofKhEx4V

NASA unveiled an upgraded Payload Operations Integration Center at the Marshall Space Flight Center. The operations center's new capabilities enhance collaboration and enable the ground team to efficiently help the International Space Station crew and researchers around the world perform cutting-edge science in the unique space environment.

Photo credit: NASA/MSFC/Emmett Given

While this Human Capital Plan provides a blueprint for action in three focus areas, culture change is a holistic process that needs to be supported from multiple directions. The most critical of these can be thought of as key enablers—factors that are essential to the success of this change initiative. These include open and frequent communications, policies that facilitate change rather than inhibiting it, and a high-functioning Human Capital organization that leads by example and models the behaviors it seeks to promote across the Agency.

1. Communications

Culture change is impossible without effective communication, which is essential for building the trust necessary to persuade people to adopt new behaviors.

Any effort in this area must account for both internal and external communication. Internal communication refers to how the Human Capital community communicates with itself, while external communications focuses on our external stakeholders or client organizations and managers. Many of the principles are the same for both populations, but effective communication begins with understanding the needs of the intended audience.

- Communications must be timely. We build credibility and trust with colleagues by sharing important information as quickly as possible. Conversely, trust suffers if we withhold information or it leaks from third-party sources. Dispelling rumors requires more effort than communicating accurate information early.
- Good communication flows continuously in many directions. If all communication is one-way and offers no opportunity for discussion or feedback, we may not hear frustrations or concerns. Or we may miss an opportunity to clarify misunderstandings or to learn from our colleagues' insights. An offer to hold a dialogue must be genuine, and people who take part will rightly expect that their input matters. A failure to respond will be recognized as a mere exercise in public relations that ultimately diminishes credibility. Good communication is also continuous rather than sporadic. By modeling openness in our communications, we invite others to communicate freely with us, which creates a virtuous cycle.

- The medium matters. There are myriad channels for communicating at NASA, ranging from posters to email to videos to social media. The challenge is in selecting the appropriate channel(s) for a specific message. Questions to consider when choosing the right medium include:
  - How critical or timely is the information?
  - How many people need to hear the message?
  - What communications channels does the intended audience prefer?
  - What emotional response might the intended audience have?
  - What measures will indicate how well the message reached its intended audience?

Many messages require a multimedia approach, while others may only be suitable for a single communications channel.

Internal Communications

Robust internal HR communications are critical to ensuring that the HR community is well informed and aware of the rich array of programs and services available across the Agency.

HR can use tools such as subject-specific listservs, teleconferences, or multimedia systems such as Lync, Vidyo, or WebEx. Each of these allows for asynchronous and synchronous modes of communications. Recognizing how each can be used to aid in the exchange of information and ideas is critical. A listserv, for example, may be best used in sharing information about upcoming policies, regulations, or new laws that will affect the community. Lync, WebEx, and Vidyo enable discussion and immediate feedback. Collaboration tools such as SharePoint allow for sharing documents and other materials where the group is distributed over a wide geographical area and in different time zones.

HR University allows the HR community to conduct educational sessions covering a wide variety of topics. The overall goal of HR University is to provide the HR community access to knowledge from subject matter experts in the field.

External Communications

Good communication starts with listening. This requires homework and a willingness to engage managers and employees in order to understand their world:

- Have budget or other policy decisions impacted the program?
- Has a reorganization recently taken place?
- Are there lingering sensitivities from past issues?
- How does this audience view the Human Capital organization?

Effective external communications require a good working knowledge of the history and working style of the client organization.

When communicating across the Agency, information should be disseminated using a range of approaches. NASA employees do not respond uniformly to social media, telephone calls, posters, or email. When trying to reach the widest possible audience, a layered approach offers the opportunity for multiple "touch points" with individuals across the organization.

The Hub, a new online channel for communications, will enable the HR community to reach out to employees and other stakeholders and receive feedback on policies and programs that affect the workforce.

2. Policies, Programs, and Systems that Support Building an Innovative, Creative Culture

NASA's Human Capital policies, programs, and HR IT tools and systems have many stakeholders, from the Human Capital community itself to the Office of Personnel Management and Congress. While laws and regulations shape the broad contours of policies, The Agency and, often, the Centers have significant discretion in determining the specifics. In order to achieve the intentions of this Plan, our policies, programs, and systems have to align with our efforts to make culture change a reality. When revising, updating, or developing new policies, program, and systems for the Human Capital community and the workforce, HC practitioners should include considerations that will help promote a culture where employees are empowered to be innovative and creative:

- How can the policy support engaging or connecting the workforce?
- How can the program support recognizing and rewarding innovative performance?
- Is innovative performance or creativity encouraged rather than discouraged by specific elements of the HC system or tool?
- How will a model supervisor/leader administer this policy or program?
- How should the policy, program, or system rollout be planned to assure that supervisors and leaders have the support they will need to implement or operate within it?

Culture change never happens by virtue of policy or program decree, or by virtue of a mandatory process or system, but all these elements must play an enabling role rather than an inhibiting one.

The Human Capital infrastructure may be the most important tool an organization has to drive what its culture will become. From its vantage point as a support function within the broader organization, the Human Capital community is in a unique position to be an influence leader for approaching work in new and innovative ways.

Many of the work, activities, and tasks of various functions—the "what" of Human Capital work—will remain largely the same, but a different focus on "how" the work is accomplished and a broader view of its value added to the Agency can encourage the desired environment.

Each Human Capital function already performs within a set of constraints and goals. Often those have become the automatic intentions of the function. As the Human Capital community "becomes the change it wishes to see" in the NASA culture, consideration for culture can become a layer of conscious intentionality. Over time, consideration for the culture can become part and parcel of everything that occurs across the Human Capital community. The overarching focus will always be on how to best support and enable our customers in pursuit of their missions and goals, but as a community we must acknowledge the values of our organization and the part we play in fully embodying them, modeling them, and leading others by example.

Whether or not human resource specialists do so consciously, a set of questions already defines how work is approached. Questions like "How can we meet the letter of the law?" are so automatic that they may not even be articulated, but they still shape the end product. Each Human Capital function can determine a set of questions that will guide them in supporting the culture, going beyond meeting the mere "letter of the law" to support important and fundamental cultural changes. Over time, they too will become part of the invisible fabric of how the work gets done.

- Staffing—Recruitment– Do job postings on USAJobs succinctly communicate the cultural expectations of people who work at NASA? Do we explicitly talk about collaboration and innovation in everyday work processes as well as the mission of the Agency? How can we communicate that cultural fit is as important to our selection process as technical fit? Innovation, engagement, and the qualities we seek in model supervisors are all legitimate criteria, and we need to consider how we communicate these qualities alongside the more technical ones.
- Staffing—Selection– Have we trained interviewers to design questions that identify the traits we desire to promote a culture of creativity and innovation? Are we asking questions that get at the candidate's predisposition for engagement? Do we learn how well they collaborate? Do we assess their communication skills with previous coworkers? Do

we determine whether the candidate has a history of innovating in large and small ways? Once questions have been developed, how do we assure that those questions are asked? How do we encourage the selection of candidates for qualities that are important to our culture as well as for technical skills?

- On-boarding– Culture is an important part of the onboarding process, from the first encounter to the socialization process once an individual has joined the workforce. Research by Hewitt Associates has shown that organizations that invest time and resources in employee onboarding benefit from greater engagement from employees throughout their careers. What are the stories we want to encourage people to tell over and over again? How do we train those who will "buddy" with newcomers to talk about how we work together, and what it means to engage, connect, and innovate?

- Workforce planning– As we plan for future generations of NASA leaders and staff, what have we identified that will support the development of a culture of innovation and creativity in the future?

- Reorganizations– When reorganizations occur, do we intentionally use change management professionals to assure that the culture focus areas are an explicit part of the redesign?

- Supervisory and leadership training programs– The conversations that occur among managers, supervisors, and employees fundamentally change if we encourage innovation. Do all leadership development programs include components about communicating for innovation? Do all leadership development programs explore non-monetary means for recognizing and rewarding innovative performance? How do we measure innovative performance?

- Labor and employee relations– How do we encourage deeper and broader connections among the workforce? What is our role in building model supervisors? How can we innovate in our approach to relationship building among employees, supervisors and labor organizations?

- Accountability– How can accountability reviews recognize positive efforts of supporting a culture of innovation and creativity, while acknowledging the necessity to abide by certain guidelines and restrictions? How can we communicate, promote, and encourage best practices? What practices might discourage the change we seek to effect?

- Virtual collaboration– Does our community model the use of new technology to engage and connect the Human Capital workforce? How do we reward innovative efforts in the Human Capital community?

3. A Human Capital Organization that Leads by Example

In addition to including culture considerations into the body of our everyday work and functional responsibilities for NASA, the Human Capital community on the whole, and our Center HC offices individually, must attend to ourselves and our organizational health and effectiveness as we would any NASA "client" organization. Our people have real lives with successes, learning, struggles, disappointments, and growth. Our leaders have strengths and weaknesses, vision and blind spots, like all leaders. Our people interact with each other in ways that are open and collaborative and sometimes in other ways that are less healthy and productive. Our people mature and change, sometimes move on or move away; our resources and priorities shift over time. In short, we in Human Capital must be conscious and respond to the fact that we face the same challenges and opportunities that all NASA organizations face. And yet, we are uniquely situated to bring our tremendous capacities and capabilities to bear. We can choose to build upon our strengths and values in the ways we operate with each other, the stories we tell, the ways we connect, listen, and engage with others, the ways we lead our own people, and the openness and priority we place on learning, growth, resilience, and adaptability. We can "be the change we wish to see in the world."

When we think of our Human Capital community, we would do well to consider what we look like to other external observers:

- Would they think our leaders and supervisors are models for them to emulate?
- Would they consider our people connected to other NASA people and missions?
- Would they see evidence that we encourage appropriate risks, new ideas, and innovation from our people?
- Could they tell that we recognize and reward innovative behavior among those working in our own organization?
- Or would they see something else?

We may need to step out of our comfort zone and leave behind the stone-like fortress of behaviors traditionally associated with how excellent human resources services are delivered, how they are led and managed, and how human resources practitioners perform their duties. In all of our work and actions, we must lead by example. Some questions for us to reflect upon within the Human Capital community:

- Have we empowered our people to connect, collaborate, and learn from each other in normal ways of living and working? If we have, are they doing so?
- While we certainly endorse formal means of collaboration and teamwork (ViTs and special project teams), have we given our people permission to collaborate informally and contribute whenever it makes sense within the normal scope of their work at NASA?
- Can they pick up the phone or place a Vidyo call to any colleague at any Center? Or do we control their access to others' ideas, input, and feedback? Does our culture encourage connection and learning, or does it encourage isolation and the status quo?
- Are Human Capital people aware of and supportive of each other? Do they cross boundaries? Do we encourage or discourage this?
- Do our leaders value developing their people, and do they take action on this value? Do we take this beyond the obligatory "your turn for training this year" to a place of finding opportunities to grow and learn, independent of formal training only?

- Do our people and leaders embrace change? Are they resilient and adaptable? Or does change throw a wrench in the works and cause major disruption?
- How have we equipped our people and leaders to deal with change while maintaining health, balance, and motivation?
- What are the stories we tell each other? Do they support and uplift us, or do they bring us down and demotivate us? We have choices.
- What are our day-to-day rituals—the public expressions and symbols of our values? What do they say about us as a culture? Who do we include in meetings? How are meetings structured? How are birthdays or other occasions acknowledged? If our rituals do not support our desired culture, how do we talk about what they say, and how do we collectively choose rituals that do support what we want to create?
- Are Human Capital employees excited about their work, connected with each other, and refreshed and invigorated?

The Human Capital community deserves to live and work in the same fantastically motivating culture that we wish to help NASA continue to achieve for all NASA people and leaders. We must attend to the health of our HC organizations, so that they can lead the way for others to follow.

Artist Concept, Space Launch System, 130-Metric-Ton Configuration - This artist concept shows the 70-metric-ton configuration of NASA's Space Launch System (SLS) during launch. America's new heavy-lift rocket will be the largest launch vehicle ever built and more powerful than the Saturn V rocket that carried Apollo astronauts to the moon. The 130-metric-ton-configuration (143 tons) will lift more than 286,000 pounds and provide 20 percent more thrust than the Saturn V.

Photo credit: NASA/MSFC

With its focus on promoting a culture of innovation and creativity across NASA, this Human Capital Plan is ambitious in scope. Given the complex dynamics that shape the culture of an organization as large and diverse as NASA, the activities necessary to realize this vision cannot be rigidly predetermined, sequenced, and executed with the precision of an engineering management plan. With that in mind, there are actions in each of the three focus areas to guide planning, mid-course adjustments, and measurement of the desired change.

Focus on influencing ways of being—ways that managers, supervisors, and employees can participate in creating an environment that energizes and sustains all of us at NASA.

For each element of this HC plan, we recommend the following general approach:

- Determine where you are now on the spectrum of "just starting to think about this" to "being very experienced and lighting the way for others".
- Start where you are.
- Build on your strengths.
- Decide on your highest priorities and most important items to do now—maybe one or two initially.
- Do what makes sense, monitor, and keep moving.

Success in any of these areas is positive and infectious!

Orion Recovery

(Dec. 5, 2014) — NASA's Orion spacecraft awaits the U.S. Navy's USS Anchorage for a ride home. Orion launched into space on a two-orbit, 4.5-hour test flight at 7:05 am EST on Dec. 5, 2014, and safely splashed down in the Pacific Ocean, where a combined team from NASA, the Navy and Orion prime contractor Lockheed Martin retrieved it for return to shore on board the Anchorage.

Photo Credit: NASA

Recognizing and Rewarding Innovative Performance

Agency management and leaders set the tone and reinforce desired behaviors through rewards and recognition. Yet, in reality, each individual can and should contribute to creating a work environment conducive to creative and innovative workplace practices.

- All Human Capital organizations should take the **self-evaluation** to determine their organization's approach to encouraging co-workers and/or rewarding and recognizing creative and innovative behavior.
- All supervisors, managers, and team leads should review the list of ways to reward and recognize co-workers through non-monetary awards:
  - Commit to trying at least two of them.
  - Share successful approaches with colleagues through communications channels such as social media.
- Develop convenient social media connections for NASA supervisors (or publicize and share with other Centers if already existing); ensure appropriate access and ways to reinforce open discussion and connection among supervisors.
- Using existing supervisor/leader/employee forums, social events, meetings, all-hands, etc., include intentional content to raise awareness of all parties on this NASA culture area of emphasis; demonstrate that leaders are tracking how we recognize and reward innovative behavior, and share examples in meaningful ways with others.
- Center HC offices, particularly the Training and Development community, should target some of their work with supervisors, team leads, and senior leaders to help them develop understanding and leadership behaviors aligned with creating space for employee engagement—not just accountability for tasks and performance elements. This will look different for each Center, depending on the state of their leadership team, their particular missions and cultures, etc., but the underlying message that we care about and appreciate our people as whole people who can contribute and produce in many ways is central to our success. Consider:
  - Developing brief online, virtual, or in-person learning for leaders and rank and file workers to expand thinking about roles, their work, and their ability to contribute. Utilize some of the short videos noted in this plan (pages 8-10) to reinforce an appreciative learning culture.
- Celebrating successes and examples of employees who are being recognized and rewarded for their creativity and innovation within and beyond their assigned duties.
- Reinforcing "permission" of supervisors and employees to have new ideas and to explore and act on them—accepting/allowing appropriate degrees of freedom and risk for the situation.
  - Bring it up at staff meetings when colleagues have ventured into creative, innovative territory, and let them share with others what they're thinking.
  - Encourage the space to generate energy and enthusiasm.
  - Build on strengths of your organization.
- Use the Champion of Innovation Award, the Lean Forward; Fail Smart award, and the NASA Innovation Coin of Excellence awards to recognize employees' innovative behavior and contributions.

Changes in employee perceptions will be measured in responses to the relevant questions in the Employee Viewpoint Survey.

Engaging and Connecting the Workforce

Truly engaged employees are likely to be NASA's best source of new ideas. Their energy and enthusiasm makes them an inspiration to fellow employees and a powerful force for attracting new employees.

Organizations should review the tools mentioned in this plan and assess their current efforts in engaging and connecting the workforce to identify gaps and possible new approaches.

Organizations should proactively seek to broaden their networks through activities such as:

- Building connections at other Centers, either by picking up the phone or using virtual meeting/video teleconference technology.
- Creating communities of practice, within Centers or across the Agency.
- Hosting low-cost social events with the explicit purpose of bringing together people who might not otherwise meet.

Take advantage of the Hub to build networks of people, share and learn stories of NASA people, collaborate, share resources, provide feedback, send shout-outs, and contribute content for others' benefit. The Hub is for anybody in NASA to connect and communicate about anything at anytime with anyone: Anybody, anything, anytime, with anyone. No profile to create. No password to remember. No access to request. If you work at NASA, it's for you.

Model connecting and collaborating by our Human Capital staff across all functions and disciplines:

- Get out to our clients to see and understand their work and their passions.
- Connect and communicate within our own HC community across Center and functional lines. Pick up the phone. Place a Lync or Vidyo call. Attend the HR Community VITS meetings. Share successes, struggles, ideas, energy. Build enthusiasm and engagement among ourselves. It will spread to others.

- Practice what we preach.
- Be the change we want to see at NASA.

Embrace and model the use of virtual collaboration tools. Human beings are sensory creatures by nature. Using multimedia methods to connect and communicate beyond the written or aural modes can add tremendous richness to the collaborative experience. New tools for videoconferencing enable us to pick up nonverbal communication, which can be critical for understanding emotion and context. We need to take advantage of the visual and multimedia options to connect.

Help Center organizations and individuals understand their connection and contributions to NASA missions, where needed. While the tremendous mission shifts of the last decade have created some uncertainty and disconnection, the NASA of the next 50 years is jammed full of learning, growth, and opportunities to contribute. People sometimes need help seeing a new future. HC offices can help with change management and organizational development support.

In the next year, implement two or three methods for Center employees and leaders to connect in meaningful 2-way communications (see page 21).

Consider how Center efforts to promote diversity and inclusion might complement and reinforce the NASA culture priority for NASA people to engage and connect with each other and NASA's missions. Build on momentum already underway.

Changes in employee perceptions will be measured in responses to the relevant questions in the Employee Viewpoint Survey.

Building Model Supervisors and Leaders

The challenge of building model supervisors and leaders extends beyond traditional management training initiatives to the need for broad capabilities in organizational development.

- Establish/enhance/maintain organizational development (OD) capabilities accessible to every Center. All Center HC offices should evaluate the Centers needs and capabilities around organizational development. Diverse, effective, productive, and sustainable organizations are imperative as the NASA of the 21st century continues to unfold.
    - OD and growth takes time; if we are serious about influencing culture and behavior for the better, HC offices must devote resources to helping whole organizations (employees, supervisors, and leaders) behave differently, learn new approaches, and experience successful outcomes in ways that encourage employee engagement and involvement. Centers have varying experience and capacity to deliver OD support and services. If not already present, each Center should establish a basic OD capability.
    - Center OD professionals should create a capability plan with a phased timeline to begin addressing OD needs and priorities for Center organizations (or keep addressing them, if already robust).
    - Human Capital practitioners are being asked to operate as agents of change. We must support our own people in their development, as many of them shift from processing and fulfilling customer-generated tasks, to a proactive stance—helping NASA employees, supervisors, and leaders contribute to and create the space for engagement, involvement, and extraordinary accomplishment. This is true in every functional area associated with HC—from helping to hire the best people, supervisors and leaders, to designing HC systems and tools that support collaboration and connections, to addressing individual and organizational performance, change, and development.
    - We need to consider our own HC organization as a client that can benefit from OD support, and we need to source that support appropriately. Just as physicians are ill-advised to treat themselves, and hair stylists cannot cut their own hair, Center HC organizations likely will need OD support from beyond Center borders to enable effective organizational change.

- Identify potential supervisory candidates among team leads, and develop a talent pipeline for the organization.
- Recruit interested candidates and invest in them. Adapt evaluation practices in the selection of supervisors and leaders that specifically address ability to lead, orientation toward developing others, diversity, innovation, creativity, and aptitude/openness for creating positive work environments—well beyond simple accountability for tasks and results regardless of effect on self or others.
    - To build model supervisors and leaders, we must go beyond selecting supervisors on the basis of their technical excellence, and we must ensure that they want to be supervisors and are willing to commit themselves to the discipline of supervision.
- Use the new NASA "Environment Matters" 360 degree assessment tool for supervisors and leaders to understand the impact they are having on employee contributions, engagement, recognition and the full set of major touch-points included in the assessment tool.
- Particularly for first-line supervisors: take advantage of the mid-week virtual development opportunities being made available to all Centers during each session of the 14-month LASER supervisor cohort development program (e.g., Engaging Employees Appreciatively, Managing Relationships, and future topics).
- Strengthen and support supervisor and leader development in how to tell their own story and how to effectively listen to the stories of their employees.
- Incorporate pause, reflection, resilience, and wellness as key priorities for supervisors and leaders—not as afterthoughts when all the problems are solved and the fires are put out.
    - From focus groups and surveys, we have anecdotal evidence from employees that we are burning out our supervisors and leaders.
    - From qualitative employee data collected about their experiences and work environments during development of the new "Environment Matters-360" assessment, we know that many supervisors, leaders, and employees are not working together in ways that sustain engagement, commitment, and discretionary effort. And, unfortunately, in some cases, the data showed that we are creating miserable environments for our people, even while accomplishing our tasks and meeting our performance elements.

- By helping supervisors find balance through pause, reflection, resilience, and wellness, we can do better.
- Review and strengthen new and continuing supervisor development programs at Centers to ensure that they address the development needs of supervisors from the culture perspective of supporting an engaged and committed workforce—the full meaning of the words "leadership and management" and not just all the requirements and procedures we train supervisors to do.
  - We know that supervisors are the key to influencing the day to day experiences of the vast majority of NASA employees. The research literature around employee engagement supports the conclusion that the immediate supervisor's management practices are what keeps employees committed, particularly appreciation, challenging work, recognizing and rewarding performance, expanding responsibilities, continuous learning, career/professional development, and work/life balance.
- Review the current and ongoing programs and approaches in place at Centers (partial list at **Tools and Strategies for Building Model Supervisors and Leaders** based on contributions to this plan). Consider implementing, adapting, or collaborating with other Centers to leverage their experience and development capacity.
  - The NASA Human Capital community should work intentionally, both collectively and within individual Centers, to leverage these activities and continue building this capacity.
- Build a compelling and meaningful Agency-wide supervisory development strategy.
- Provide models. It is imperative that key leaders model desirable leadership and management skills and publicly recognize how these skills enable the Agency to achieve its mission. The Human Capital community should identify exemplary practices and behaviors that distinguish extraordinary supervisory qualities, and it should set the standard for performance for leaders and managers across the Agency.
- Distinguish between management and leadership activities and skills.
- Create systems to support development and use of management and leadership skills.
- Utilize a holistic approach to build supervisor and leadership skills.
- Create the environment that allows for learning at all levels.

- Actively pursue succession planning.
- Send a "Tip of the Day" email to supervisors to build a sense of identity and engage the supervisory community in ownership of the culture change initiative.

First Steps for Supervisors:

- Strengthen relationships with employees. Consider using assessment tools for individuals and teams.
- Incorporate trainings such as Speed of Trust, Crucial Conversations and the Human Element courses to build relationships in your organization.
- Plan social events for your team to allow them to build relationships and shared understanding.
- Hold "Lunch and Learning" sessions with your team on relevant topics.
- Be transparent around communications with your team—tell them what you know, what you don't know, and what you wish you knew.

First Steps for Human Capital Organizations:

- Reach out to colleagues at other Centers to learn from them and share programs.
- Conduct an assessment of Center OD needs to create a capability plan with a timeline.
- Establish at least a minimum OD capability at each Center.
- Adopt programs and offer learning opportunities to build model supervisors and managers. This can be done in collaboration with other Center HC organizations.
- Create "content buckets" for supervisors and leaders—30 minutes, 1 hour, ½ day options for ways to further culture outcomes in general or building model supervisors and leaders specifically.

Our progress on building model supervisors and leaders will be measured by NASA using the Partnership for Public Service's index on Supervisory Effectiveness with NASA-specific Employee Viewpoint Survey data and trends.

Key Enablers:

- Focus on improved workforce communications—HC offices need to support, collaborate, and sometimes lead.

- Align HC/HR policies with our efforts to make culture change a reality:
  - How can the policy support engaging or connecting the workforce?
  - How can the policy support recognizing and rewarding innovative performance?
  - Is innovative performance or creativity encouraged rather than discouraged by specific elements of the policy?
  - How will a model supervisor/leader administer this policy? How should the policy rollout be planned to assure that supervisors and leaders have the support they will need to implement it?

Culture change never happens by virtue of policy decree, but policy must play an enabling role rather than an inhibiting one.

- Intentionally support and model building an innovative creative culture in every aspect of HC/HR operation.

  - Operations are primarily compliance and satisfaction-driven cultures (staffing, accountability, advisory services, etc.). We can benefit the Agency's culture needs while still providing excellent and compliant HR operations. This just requires considering the whole picture while we operate—something we largely have not made a priority yet.
  - Effecting this culture change is not a matter of "either/or"—it is a "yes, and..." We can have compliant announcements and still market NASA's need for supervisory excellence and a positive work environment. We can reinforce employee creativity and empowerment while we maintain accountability for performance and results.
- Engage appropriate stakeholders.
- Ensure leaders are watching and leading this process.

Participants at a "Leading Through Influence" Course.
Photo credit: NASA/GRC/Tonyia J. Williams

NASA's Workforce − Resources

At the beginning of FY 2014, NASA's workforce was shaped by a number of internal and external factors including low attrition rates, downsizing of its workforce (civil service downsizing over a 20 year period and on-site contractor downsizing over the past 4 years) and budgets (in nominal and inflation adjusted dollars), hiring trends, and hiring pipelines. At the beginning of FY 2014, NASA's civil service population was 18,266 employees. In FY 2013 NASA's Full-Time Equivalent workforce was 17,697 FTE [1] ; a 1.5% decrease from the previous year. In addition, NASA Centers hosted 34,864 Work Year Equivalent (WYE) [2] of contractors [3] in FY 2013; a 22% decrease from FY 2007.
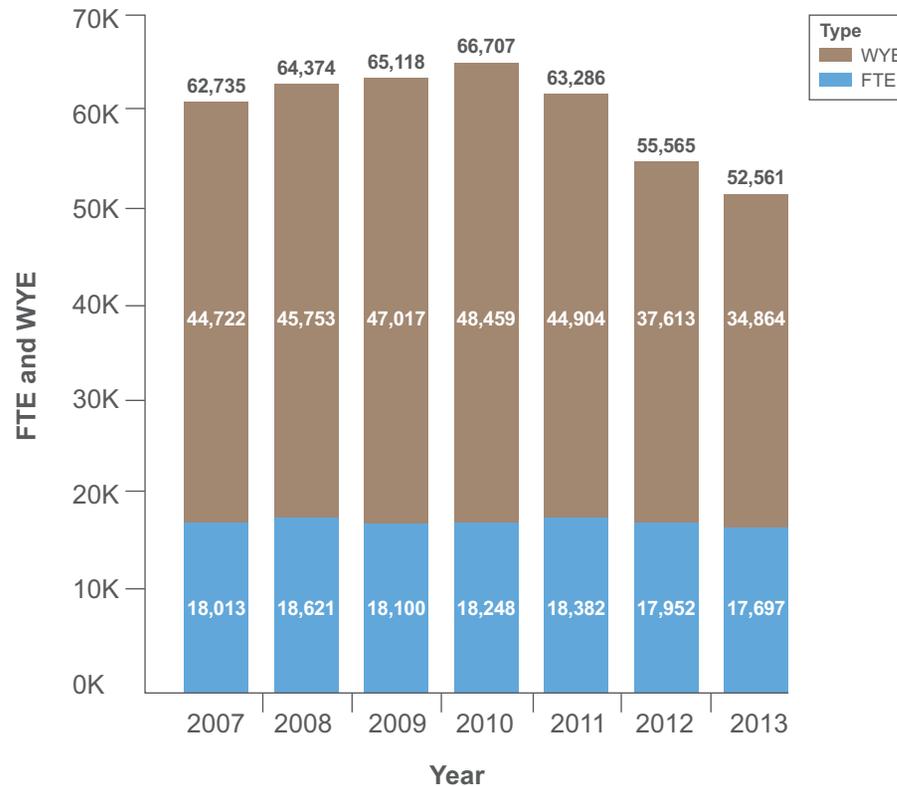
[1] FTE is an annual calculation based on the number of hours worked during the fiscal year and describes how many full-time equivalent employees worked for NASA during the year. The FTE will always be lower than the total workforce size due to the mix of employee type and phasing of employees leaving the Agency and hiring of new employees.

[2] WYE is a calculation used to approximate the estimated number of contractor employees that it took to complete a full year's worth of work. It is similar to the calculation for an FTE which is used to determine how many full-time employees it would take to perform an annual amount of work.

[3] The term contractors includes on- or near-site contractors performing recurring work at NASA's Centers; generally, Prime Contractors are not included in these counts.

Historical Workforce Trends

NASA's workforce's attributes have changed over the past 20 years. In this section, individual attribute changes will be shown through the historical lens along with possible implications for the future makeup of NASA's workforce.
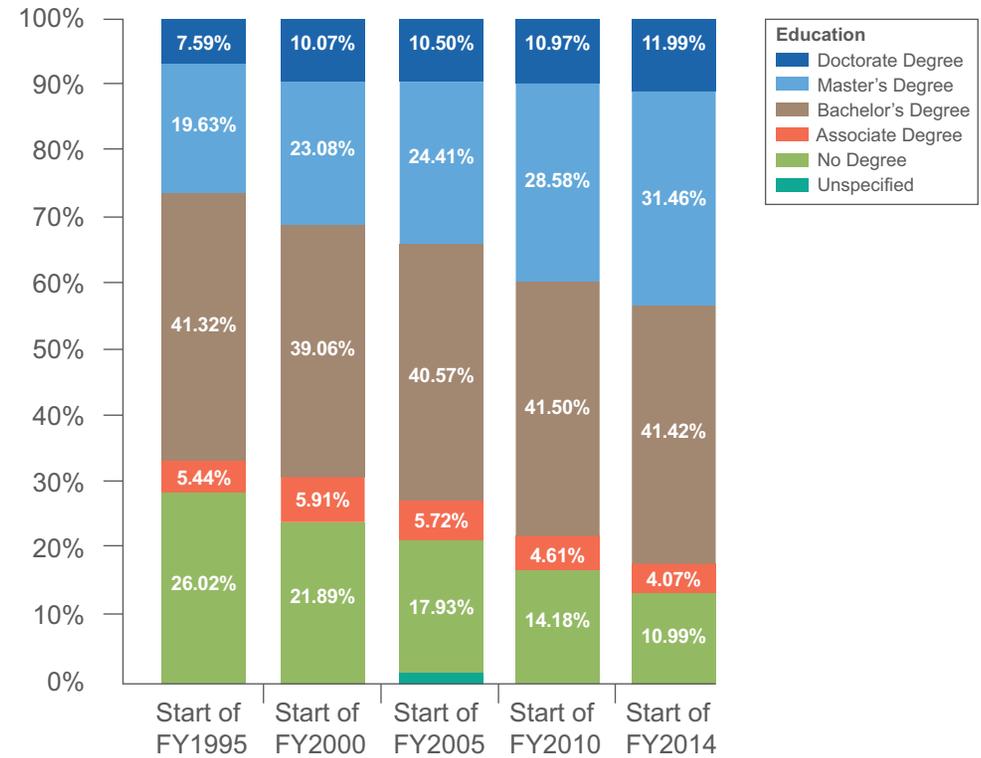
General Employment Trends

NASA's employees are mostly located at nine main field Centers throughout the country along with a headquarters facility in Washington, DC. Traditionally, each of NASA's field Centers performed a unique body of work that facilitated NASA's mission. Over the past ten years, NASA's Centers have become more diversified, as a business decision was made to ensure that Constellation project work was assigned to each Center. As a result, NASA's Centers no longer have a blend of skills within their workforce that is absolutely unique to their Center only. Many NASA employees spend their time working on multiple projects (sometimes managed at multiple Centers) throughout the day.

Approximately 64% of NASA's civil service workforce is classified as Scientists or Engineers (S&E). Twenty-nine (29%) percent of NASA's workforce is classified as Professional/Administrative. About 4% of NASA civil servants are technicians.

Education

Over the past 20 years, NASA's workforce has become much more educated. As NASA has systematically contracted out many non-inherently governmental operational tasks and focused more of its civil service efforts on work either directly working on mission direct or inherently governmental mission support activities, this has required a more highly educated workforce. Currently, about 12% of NASA's workforce has a Doctorate degree, and close to 45% of the civil service

Education Level – 20 Year Trend

	Start of FY1995	Start of FY2000	Start of FY2005	Start of FY2010	Start of FY2014
Doctorate Degree	7.59%	10.07%	10.50%	10.97%	11.99%
Master's Degree	19.63%	23.08%	24.41%	28.58%	31.46%
Bachelor's Degree	41.32%	39.06%	40.57%	41.50%	41.42%
Associate Degree	5.44%	5.91%	5.72%	4.61%	4.07%
No Degree	26.02%	21.89%	17.93%	14.18%	10.99%
Unspecified					

Education
- Doctorate Degree
- Master's Degree
- Bachelor's Degree
- Associate Degree
- No Degree
- Unspecified

Over the years, NASA's workforce has become more highly educated. Currently, close to 45% of NASA's workforce have at least one advanced degree.

workforce has at least a Master's or professional degree. Less than 15% of NASA's workforce has not completed a Bachelor's degree.
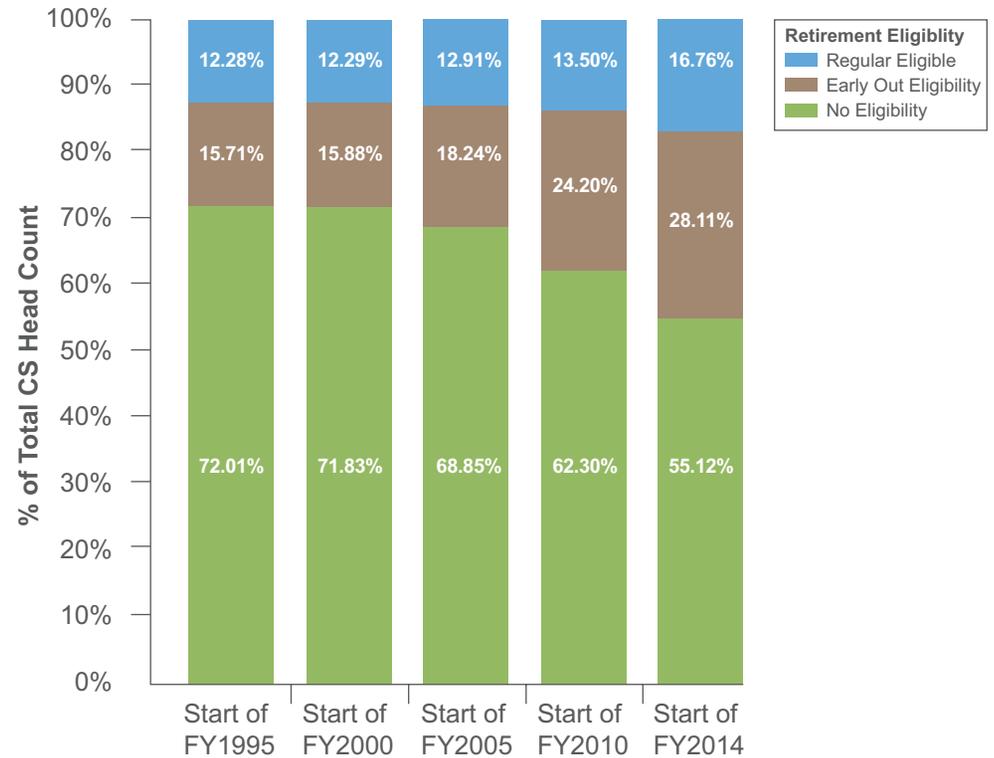
As NASA continues to focus more of its workforce on mission direct projects, this trend should continue into the near future. NASA will continue to be a highly educated organization doing cutting-edge scientific and engineering research and development.

Retirement Eligibility

As NASA's average age has continued to increase, the portion of NASA's workforce that is eligible to retire has also increased. At the beginning of FY 2014, about 17% of NASA's workforce was eligible for retirement. Even more significant, an additional 28% of NASA's workforce is eligible for "early out" reduced retirement benefits. This portion of the workforce will become fully retirement eligible within the next 5 years.

Even though it is possible for a large portion of NASA's workforce to retire in the next few years, historically, only about 15-20% of employees that are retirement eligible each year will actually retire during the year. NASA has very low attrition rates. Over the past 10 years, the average annual attrition rate has been about 5% for non-student employees. On average, a NASA employee will stay with NASA for at least five years after becoming retirement eligible before actually leaving the Agency. For scientists and engineers, this number is even higher, at 8.9 years and 6.5 years respectively. NASA's attrition models do not indicate that we will lose a large portion of our workforce during any one year in the near future; however, we expect to see a mild increase (an additional 2-4%) in the attrition rate as a larger portion of the workforce becomes retirement eligible.

Retirement Eligibility – 20 Year Trend

Retirement Eligiblity
- Regular Eligible
- Early Out Eligibility
- No Eligibility

	Start of FY1995	Start of FY2000	Start of FY2005	Start of FY2010	Start of FY2014
Regular Eligible	12.28%	12.29%	12.91%	13.50%	16.76%
Early Out Eligibility	15.71%	15.88%	18.24%	24.20%	28.11%
No Eligibility	72.01%	71.83%	68.85%	62.30%	55.12%

Y-axis: % of Total CS Head Count

Over the past 20 years, NASA's retirement eligible workforce has grown. Currently, about 45% of NASA's civil service workforce are either retirement eligible or eligible for early retirement benefits.
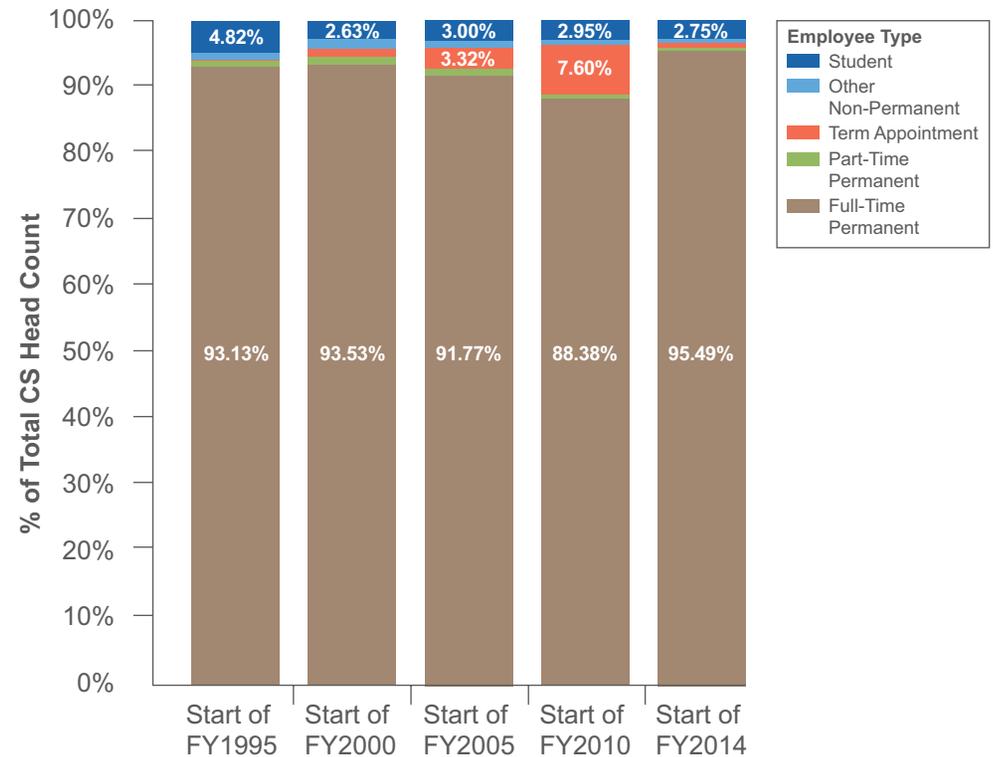
Employee Type

Historically, NASA's civil service workforce has been predominately full-time permanent. A work life profile of many of NASA's Science and Engineering employees includes beginning their career as a CO-OP student, converting to full-time permanent status when they graduate from college, then working at NASA for the next 30+ years until they retire. The main pipelines for NASA's workforce has been either the CO-OP (now called Interns as part of the Pathways Program) Program or from the ranks of NASA's contractor population. In 2012, 87% of NASA's outside hires came from either the contractor workforce, other federal government agencies or some past affiliation with NASA.

Future generational and budgetary trends indicate that a larger portion of NASA's future workforce may be non-permanent in the future. **As evidenced by Aviation Week's annual survey of young professionals across the aerospace enterprise**, rising generational preferences include a desire to do more short-term project work and a willingness to move from one organization to another. As NASA's budgets continue to tighten, NASA's projects may be forced to consider using workers hired specifically to work on one specific project knowing that they will leave NASA's employ at the conclusion of that project.

Employee Type – 20 Year Trend

Employee Type
- Student
- Other Non-Permanent
- Term Appointment
- Part-Time Permanent
- Full-Time Permanent

|	Start of FY1995	Start of FY2000	Start of FY2005	Start of FY2010	Start of FY2014
Student	4.82%	2.63%	3.00%	2.95%	2.75%
Term Appointment			3.32%	7.60%	
Full-Time Permanent	93.13%	93.53%	91.77%	88.38%	95.49%

NASA's workforce has always been comprised mostly of Full-Time Permanent employees.

Age

Currently, NASA has more employees between ages 50 and 54 than in any other 5-year age group. At the beginning of FY 2014, NASA's average age was 48.0 years old, and the majority of NASA's workforce is now 50 or older. During the 1990s, in part in response to the National Performance Review (now called the National Partnership for Reinventing Government) and in part in response to budgetary and programmatic requirements, NASA began shrinking its civil service workforce. Over the past five years, NASA, again due to budgetary and programmatic requirements, has continued to shrink its workforce. One method used to shrink the workforce is to limit the amount of hiring to a rate that is lower than its attrition rate. As NASA has few hiring opportunities, Center management has determined that many of NASA's hiring opportunities should be used on employees that already have experience working on NASA projects. NASA's two main hiring pipelines include the Intern Program (for college students) and mid-career hires from NASA's contractor workforce.

Age Groups – 20 Year Trend
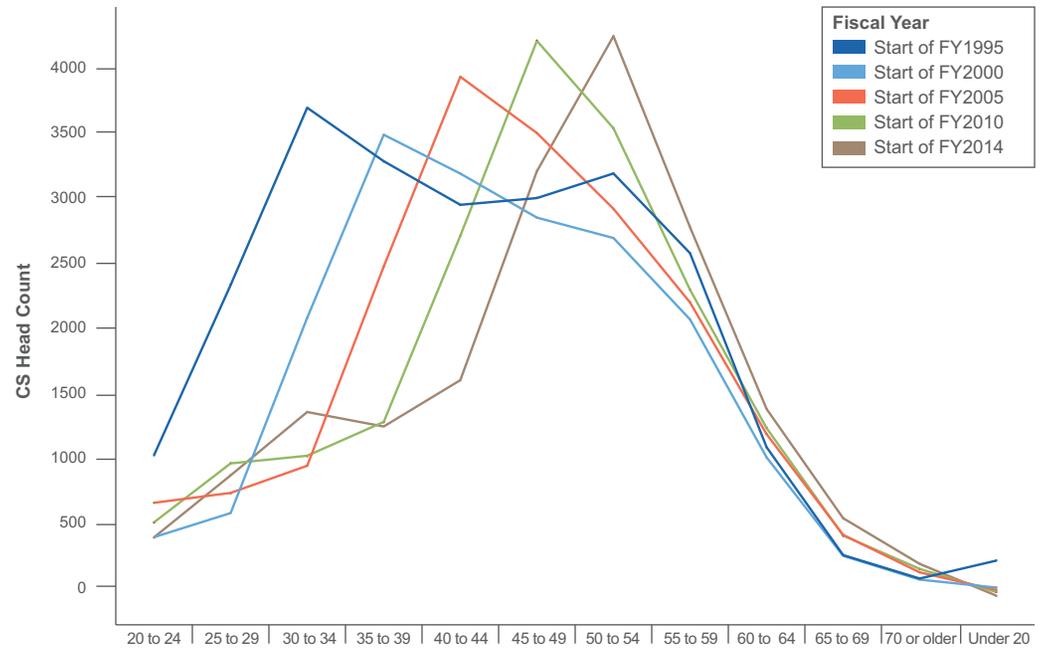
The age group with the highest number of NASA employees continues to move to the right.

Future Trends that Might Affect NASA's Workforce

Although it is difficult to forecast which trends will affect NASA's workforce in the future, it is clear that some influences from outside of the Agency as well as NASA-unique trends will contribute to the state of NASA's future workforce. One of the largest external influencers is NASA's share of the federal budget. Since the end of the Shuttle era, NASA's budget has been shrinking (in terms of nominal dollars in some years, and in inflation adjusted dollars). Paying NASA's civil service workforce currently takes about 15% of NASA's total budget. If NASA's budget continues to shrink or remain flat, due to inflation and general pay increases, the current workforce budget will only be able to support about half of NASA current workforce size.

Other political influences might affect the shape of NASA's future workforce. Over the past decade, scientific and exploration emphases have changed the core of NASA's human space flight and exploration work. NASA's science emphases, although directed partially by an outside cadre of world-class scientists, has changed from being outward looking to earth-bound focus areas. Over the past decade, NASA has retired the Space Shuttle fleet and has finished building – and has ongoing research and technology development on – the International Space Station. NASA is now starting to focus more on deep space missions rather than only on near-earth missions. NASA's latest goals include an effort to send humans to Mars and many of NASA's missions are aimed at creating the hardware, technology and knowhow to make this goal a reality. The nature of NASA's work can change based on the vision of different presidential administrations; for instance, there is no guarantee that Earth science will continue to be a high priority after the next presidential election.

A third force is internal changes regarding work assignments to NASA employees. A current example of this is the Technical Capabilities Assessment Team (TCAT) and affiliated studies that will affect which types of projects are assigned to each Center. **(See Technical Capabilities Assessment Team)**

What Might NASA Look Like in the Future

NASA's civil service workforce will be smaller than it is now

Budgetary realities and programmatic decisions and requirements will continue to force the civil service workforce size to shrink. NASA will continue to evolve toward a workforce that is predominantly mission-oriented. More and more non-inherently governmental mission support work will be contracted out and inherently governmental mission support work will be reorganized to more efficiently support the mission with fewer resources.
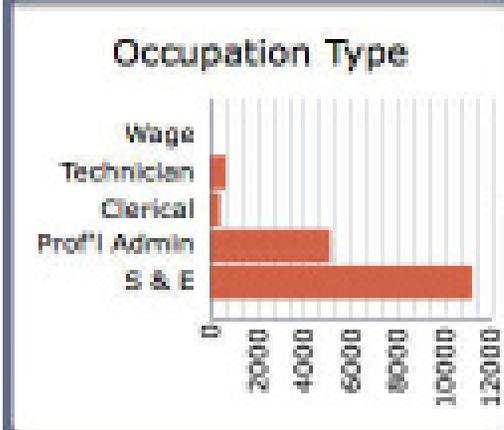
Technology will affect how NASA employees work, collaborate, and communicate

Technology is making it possible for NASA's workforce to work on projects that are managed away from where the worker currently sits. Many NASA work teams are no longer co-located. Video links and other new communication options and collaborative document storage and sharing are already changing how NASA's workforce works together. NASA is already moving toward this paradigm using the new "Work from Anywhere" initiative to prove that NASA's workforce does not need to sit in a NASA provided office or laboratory in order to efficiently and effectively do NASA's work.

NASA's Civil Service workforce will be more mobile than it is now

In the future, NASA's workforce will be more geographically diverse, working from anywhere for multiple projects and multiple Centers. NASA's management of its workforce will be less stovepiped and less reliant on traditional Center-centric management paradigms and migrate the workforce to a more holistic NASA-centric management structure. The workforce experience will also include more time working outside of NASA for the private sector, universities or nonprofit organizations.
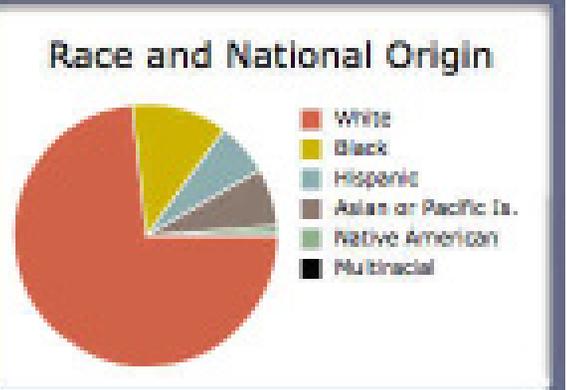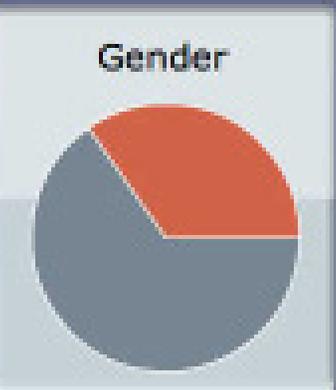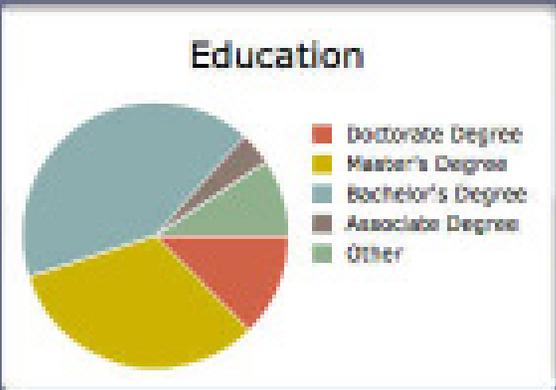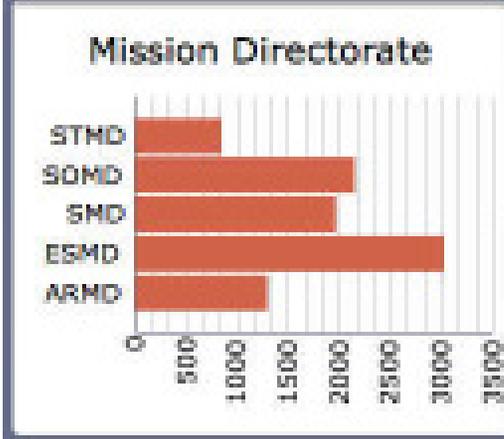
Occupation Type

Wage
Technician
Clerical
Prof'l Admin
S & E

(0, 2000, 4000, 6000, 8000, 10000, 12000)

Retirement Eligibility

(0%, 50%, 100%)

Mission Directorate

STMD
SOMD
SMD
ESMD
ARMD

(0, 500, 1000, 1500, 2000, 2500, 3000, 3500)

Age Groups
by Employee Type

(35%, 30%, 25%, 20%, 15%, 10%, 5%, 0%)

Under 20, 20 to 24, 25 to 29, 30 to 34, 35 to 39, 40 to 44, 45 to 49, 50 to 54, 55 to 59, 60 to 64, 65 to 69, 70 or older

● Full-Time Permanent ◆ Part-Time Permanent ✦ Term Appointment ▲ Other Non-Permanent ✕ Non-Student Employees

Average Age	Years of Federal Service	Average GS Grade
48.8	19.3	13.4

Education

- Doctorate Degree
- Master's Degree
- Bachelor's Degree
- Associate Degree
- Other

Gender

Race and National Origin

- White
- Black
- Hispanic
- Asian or Pacific Is.
- Native American
- Multiracial

Data as of Pay Period ending May 17, 2014

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Aviation Week Workforce Study 2012
http://awin.aviationweek.com/portals/awin/
workforce_2012/WF-study2012.pdf

Technical Capabilities Assessment Team
(TCAT):
https://tcat.hq.nasa.gov/index

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