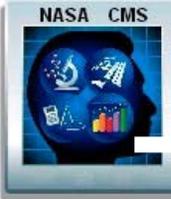


NASA
Competency Management System
Awareness Briefing
October 2003

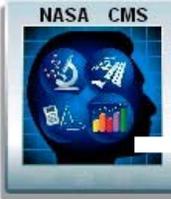




Awareness Briefing Topics

- First Things First: What are Competencies and Competency Management?
- Purpose and Background of the Competency Management System (CMS)
- Description of the System
- The Value of Competency Management and the NASA CMS
- What do you need from me?

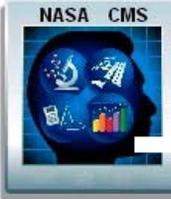




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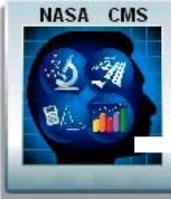




What are Competencies?

- In NASA's view, competencies are brainpower, know-how, knowledge, and real capabilities – what it takes to accomplish the mission
- Employees possess competencies, and positions have competency requirements which, when filled, enable NASA to accomplish its work
- Workforce Competencies are comprised of a:
 - reference number, or designator
 - title
 - complete definition





Competency Example

WORKFORCE COMPETENCY

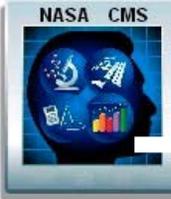
COMPETENCY DESIGNATOR *ASTAST*

COMPETENCY TITLE *ASTRONOMY & ASTROPHYSICS*

COMPETENCY DEFINITION

Knowledge of the fundamental processes of radiation and dynamics for the study of the structure and composition of the Solar System, other planetary systems, stars and stellar systems, galaxies, and the structure and evolution of matter and cosmology. Use a variety of observational methods, data analysis techniques and theoretical models to characterize the physical and dynamical states of celestial objects, determine formation history and predict future evolution. Use physics and chemistry knowledge to conduct observational and theoretical studies and modeling of stars, nebulae, galaxies, and systems of stars and galaxies, and of circumstellar, interstellar and intergalactic media, particles, molecules and radiation fields, in all electromagnetic wavelength ranges. Includes study of specialty areas such as Gamma Ray & X-Ray Astronomy and Cosmic Ray Astrophysics, in which electromagnetic waves, x-ray emissions and cosmic ray particles provide data for examining the content, structure, origin and evolution of space elements

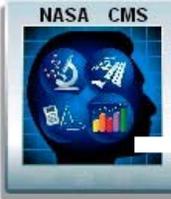




What is Competency Management?

- Competencies are assets, similar to financial or infrastructure assets, necessary for NASA employees to perform the Agency's work and accomplish missions
- As with financial or institutional asset management, Competency Management seeks to align the quantity and type of competencies in the Agency with current and future competency needs

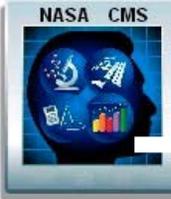




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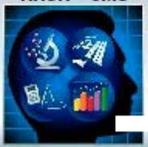




Why Was CMS Created?

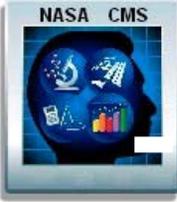
- **In response to the President's Management Agenda & NASA Strategic Human Capital Plan.** Strategic management of human capital is critical for strengthening the Agency. The workforce is an asset just like infrastructure or financial capital
- **In the spirit of "One NASA".** An Agency-wide system, shared by all Centers, was required for measuring and communicating workforce capability
- **To assess alignment with work of Agency.** A methodology was needed for measuring imbalances in current or future workforce compared to NASA strategies and Program and Project requirements
- **To support effective delivery of Human Capital Programs.** A process was required to support decisions about how to invest wisely in areas such as training and development, recruiting, career planning





CMS Links Strategies to Workforce Capabilities





How was CMS Developed?

- An **Agency-wide Team** was established in 2002 with representatives from every Center
- Team members included **Subject Matter Experts** at every Center, resulting in a broad representation of ideas and inputs from across NASA

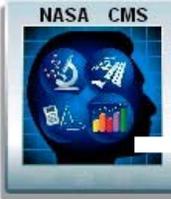




How was CMS Developed?

- The team followed a **three-phase development** model:
 - i. Development of an Agency-wide competency language
 - ii. Creation of datasets for assessment and measurement of competencies in the workforce
 - iii. Establishment of an IT tool and processes to support data collection, storage and reporting

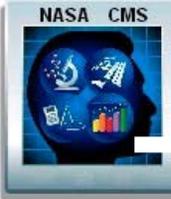




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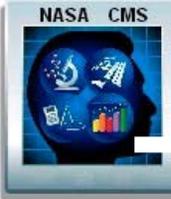




What is CMS?

- A workforce competency planning and analysis tool
- A comprehensive system of methodologies and tools to enable the collection, validation, interpretation, and dissemination of Agency competencies that are tied to organizational strategies

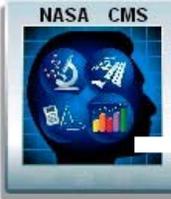




Elements of CMS

- **DICTIONARY** of competencies
- **STRUCTURE** for competencies
- **DATASETS**, or measurements using competencies
- **REPORTS**, which are outputs of Dataset analyses
- **IT TOOL**, a web-enabled system
- **PROCESSES**, which describe how and when to use CMS

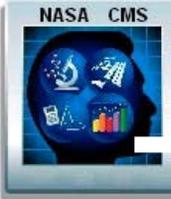




DICTIONARY: What does it Capture?

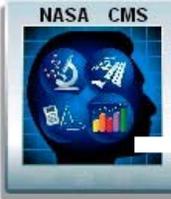
- The Dictionary categorizes the breadth of NASA's Corporate Knowledge
- The Dictionary documents the workforce competencies necessary to support the Agency's strategic plans and goals





DICTIONARY: Competency Hierarchy

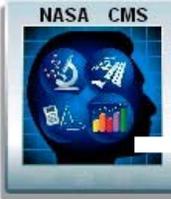




COMPETENCY STRUCTURE: What is it?

- The Competency Structure describes all the information that could be collected about a competency
- Key terms in the structure include:
 - **Tier Levels** – descriptions of level of expertise in a competency, from beginner to expert
 - **Validation** – identifies source of information about the competency. Did the *employee* select a competency him or herself, or did the *supervisor or manager* assign the competency to the employee or position? etc
 - **Evidences** – supporting information describing how an employee has demonstrated a competency





COMPETENCY STRUCTURE: Picture

WORKFORCE COMPETENCY

COMPETENCY DESIGNATOR

COMP101

COMPETENCY TITLE

ASTRONOMY

COMPETENCY DEFINITION

Stares intently at the sky.

TIER LEVELS

- LEVEL 4** •Can name a constellation
- LEVEL 3** •Can find a constellation
- LEVEL 2** •Can spot a star.
- LEVEL 1** • Can tell the difference between day and night
• Can tell difference between inside and outside

TIER INDICATORS

1: Employee Self Certified

05 / 08 / 00

I do astronomy stuff

I do all the blue stuff

I can turn lights on and off in a room

VALIDATION LEVEL

VALIDATION DATE

COMPETENCY EVIDENCES

TIER EVIDENCES

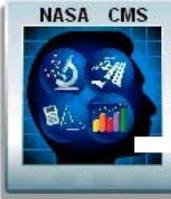
INDICATOR EVIDENCES

SUB-COMPETENCIES

COMP101-A STAR GAZING

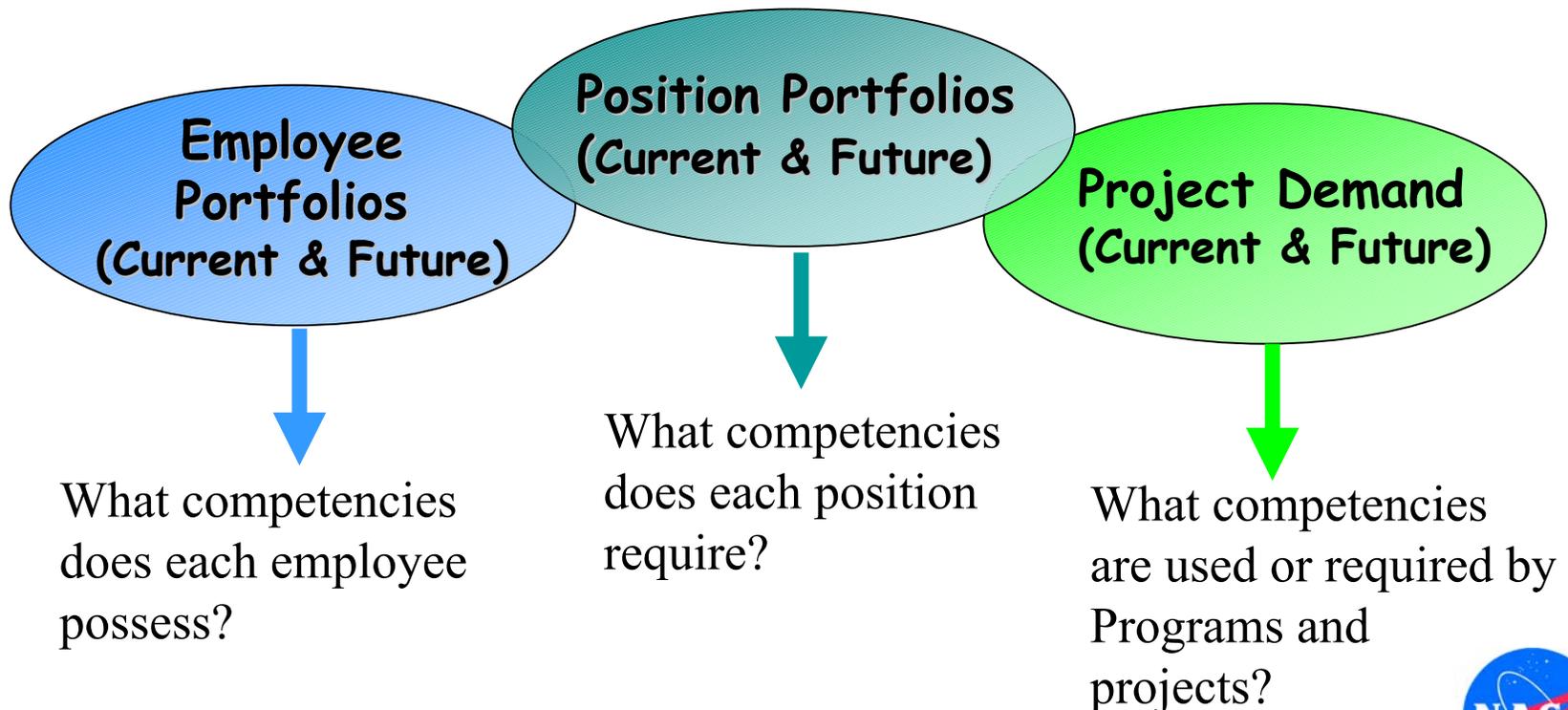
COMP101-B MOON MEASUREMENT TECHNOLOGY

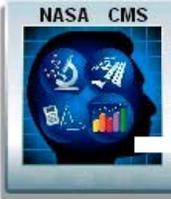




DATASETS: An Overview

CMS contains **Datasets**, representing different Workforce Competency measurements that will be useful for managing competencies at the Centers and the Agency



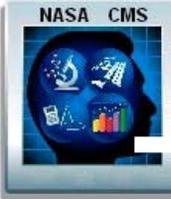


DATASETS: Description

Employee Portfolios (Current & Future)

- Employee portfolios contain **inventories of competencies employees currently possess**. Every NASA civil service employee will have his or her own portfolio of competencies
- To create a portfolio, employees, in collaboration with supervisors, can choose one or more competencies from the NASA Workforce Competency Dictionary, using the web-enabled IT tool to review enter their selections and review their competencies and definitions
- Future portfolios are automatically generated by CMS and reflect what competencies are likely to remain available to the Agency given attrition trends



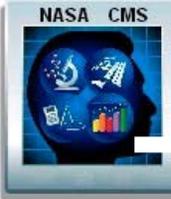


DATASETS: Description

Position Portfolios (Current & Future)

- Position portfolios contain **inventories of competencies currently required by each civil service position**
- Managers use the IT tool to select portfolios of competencies for each position in their organizations, including a **PRIMARY COMPETENCY** that best represents the knowledge for which the position is used. The primary competency simplifies data analysis when forecasting with competencies
- Managers will also be able to **forecast competencies they believe will be required for their organizations' positions in the future**



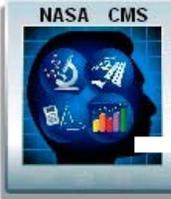


DATASETS: Description

Project Demand (Current & Future)

- Current project demand will be automatically generated by the CMS system and will **report how competencies are currently distributed across Programs and Projects at the Agency**
- Project managers can also forecast **competencies NASA programs and projects are likely to require in the future**, using summaries of current competency utilization as a starting point



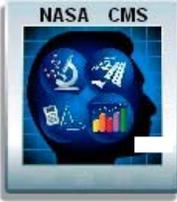


REPORTS: An Overview

CMS will generate a variety of reports to aid in management of competencies at Centers and the Agency, including:

- **Inventory Reports** – outputs created by any of the datasets
- **Trend Reports** – differences between current and future competency portfolios for employees, or positions, or programs/projects
- **Gap Reports** – differences between the supply of competencies and the requirement for competencies



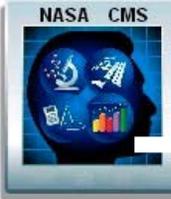


IT TOOL: An Overview

The CMS IT Tool is accessible through the intranet and is designed to:

- Collect information for datasets from employees, managers, or HR
- Provide standard and ad hoc reports
- Enable users to look up specific competencies, positions, or projects
- Integrate data with other systems, such as NPPS, Time and Attendance, and Center-based systems



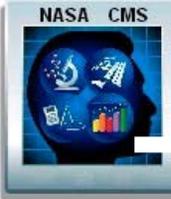


CMS PROCESSES

In order to provide current and useful data, it is anticipated:

- Centers will provide data to CMS annually, in preparation for budget planning
- CMS will be incorporated into existing business processes wherever possible; for example, CMS updating will be included in the process of transferring an employee to a new position





Awareness Briefing Topics

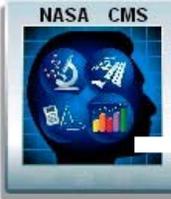
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Competency Management Establishes a Common Language for Many Endeavors



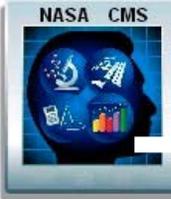


Supporting the strategic management of human capital

CMS can support human capital decisions by:

- Identifying competencies at risk due to attrition
- Assessing gaps between competency requirements and available competencies
- Exploring workforce impact of alternative project scenarios in the future
- Providing insight into how to close gaps using such measures as training/development, hiring or reassignment





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Employees

- Employees may be asked to build and update their competency portfolios using the CMS online IT tool
- Employees and supervisors will be able to discuss position portfolios
- These portfolios can be useful for career, development and assignment discussions

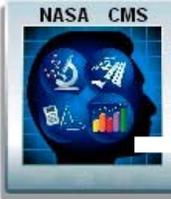




Managers

- Managers may be asked to build competency portfolios for positions in their organizations, and review employee portfolios
- Managers will be able to forecast competency requirements by position
- Managers can use the tool to generate reports, and look up competencies
- Managers can use gap information to inform a variety of activities such as development discussions with employees, and hiring or reassignments





Project Managers

- Project managers will be asked to review competency utilization for their projects and use this information as a starting point for forecasting future competency requirements
- Project Managers can use the tool to generate reports, and look up competencies
- Project managers can use gap information to identify staffing priorities





For More Information about CMS, Please Contact:

- Center Representative: Susan Gentile, CD02, 544-5902
- HQ managerial contact: Patrick Simpkins, 202-358-1386
- HQ technical contact: Chris Carlson, 202-358-0487

