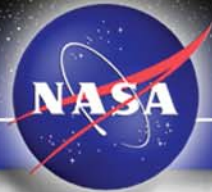




PM Challenge 2006: Addressing NASA's Changing Landscape

**Dr. Ed Hoffman
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(APPEL)**

March 21, 2006



Where Are We Headed?



- **Rebuild Engineering Excellence (Systems Engineering)**
 - Partnership with Best of Best (Industry, Academia, Associations, Government)
 - Accelerating Technical Excellence Option
 - Masters of Technical Excellence Distinguished Speaker Series
 - Short/Long Duration University Courses
 - Hands-on Experience (Center/Industry Exchanges)
- **Exploration Mission Specific Training**
 - Rapid Deployment Training (90 projects currently)
 - Expert Practitioners
 - Performance Assessment, Mentoring and Coaching
- **Project Management and Engineering Development Program (PMEDP)**
 - “Foundation Series” for Programmatic and Engineering Excellence
 - Modeling/Simulation
- **Communications**
 - ASK OCE, ASK Magazine, Webcasts
 - Case Studies and Knowledge Capture & Reusability
 - Project Management Challenge and Master’s Forums
- **Software Engineering Discipline**
 - Working for all project teams to achieve CMMI level 3 status



What's New Since PM Challenge '05?



- Administrator Michael Griffin – Commitment to Exploration
 - Making the United States a Space-Faring Nation
 - Making the Earth a Space-Faring Civilization
 - The Moon is a step to achieve these goals because we have the “know-how” and it is close
 - Strategic Management and Governance Handbook and Strategic Plan
 - OCE Focus on Technical Excellence
 - APPEL's Strategic Direction
- Academy of Program/Project & Engineering Leadership



Administrator's Priority for Agency



- One word:
EXPLORATION



“...the best mission statement NASA has had in 40 years, to be honest.”

**-Administrator Griffin,
September 19, 2005 press
conference
on ESAS**





Questions of Faith



- Why should the country give NASA the resources for the most complex and challenging mission ever?
- What must NASA do to ensure mission success?



Technical Excellence



Goal:

To refine our way of doing business so that over the **long-term** technical excellence, safety and mission success are part of our institution.

- Personal Accountability
- Organizational Responsibility
 - ✓ Training
 - ✓ Tools
 - ✓ Environment
- Team Responsibility – Where the results happen



Personal Accountability



Each individual:

- contributes to success.
- must understand and believe that he/she is responsible for the success of the mission.
- needs the knowledge and confidence to speak up when something is amiss.

When people fail to speak up,
the results can be disastrous.



Organizational Responsibility

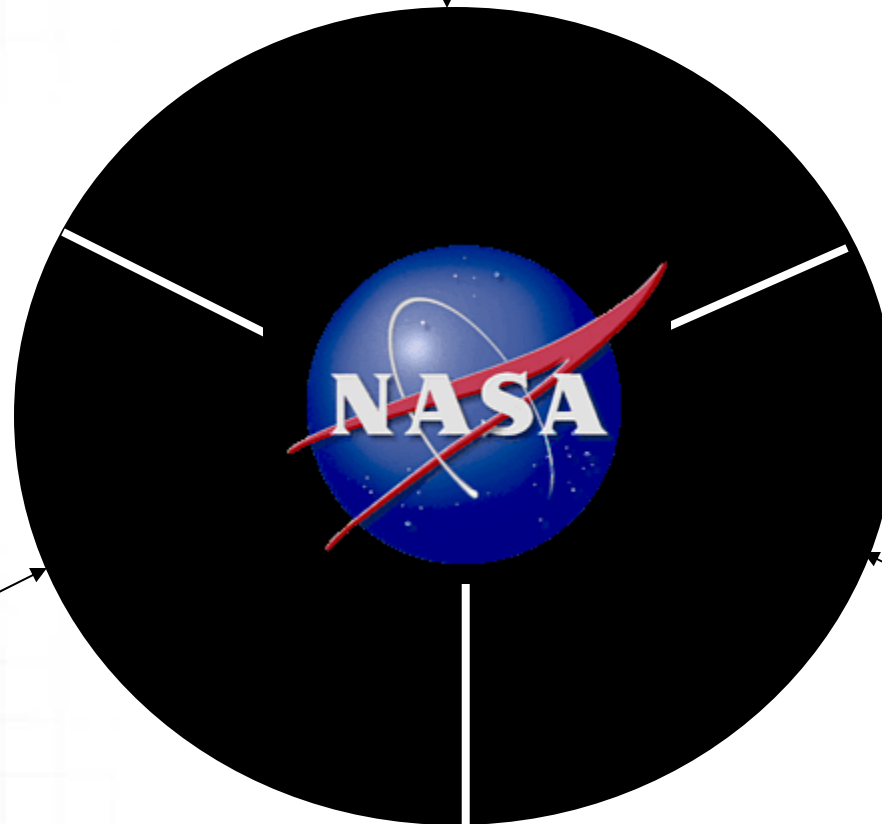


Tools

- Facilities
- Resources
- Standard processes and procedures

Training

- Teaches and reinforces organizational values and beliefs.
- An engineering philosophy to ground approach to technical work.
- Ensures we are knowledgeable of standards, specifications, procedures and processes.



Environment

Requires:

- regular and open communication so that individuals feel comfortable exercising their personal responsibility.
- satisfying and rewarding career track for those who remain in the technical field.



Team Responsibility



Successful Missions, Programs, Projects...

- Adopt a Will to Win
- Create a Results-Oriented Focus
- Foster Sensitivity to Context
- Collaborate Through Trust



APPEL Mission



APPEL provides leadership, advice, direction, and support for the development & learning of the NASA program/project management & engineering community.

- ✓ We train the technical workforce through a competency-based and experiential development process.
- ✓ We promote continuous learning through our blended learning model, which leverages the expertise of university and private industry partners.
- ✓ We offer performance enhancement to our project teams through expert consulting, rapid deployment training, coaching, and mentoring.
- ✓ We facilitate the dissemination of lessons learned through online resources and communities of practice.





APPEL Learning Architecture

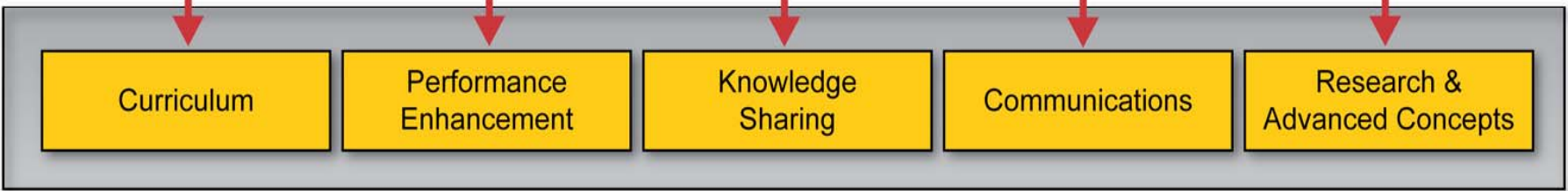


Project Management and Engineering Development Program (PMEDP)



Blended Learning Model: 5 Business Lines

90/10 Rule





APPEL Guiding Principles



- Committed to NASA
- Mission Focused and Aligned
- Integration of Technical Workforce Development
- Standards-Driven
- Employ Best of the Best Experts from Government, Industry, Universities and Associations
- Adaptable and Modular Platforms of Learning
- Measuring and Assessing Performance
- Regional



APPEL's Professional Development for Technical Excellence Framework



The Mission

Requirements

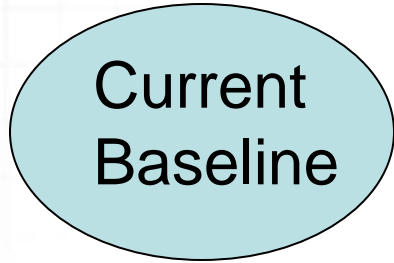
- Exploration
- Technical Excellence

Engineering of Complex Systems

Project Management

Systems Engineering

Discipline Engineering



Current Baseline

Resources

- APPEL PMEDP
- "Foundations"

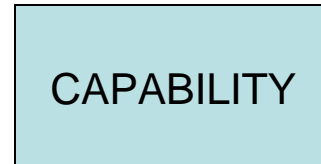
-Center Best Practices

NESC

Universities

Industry

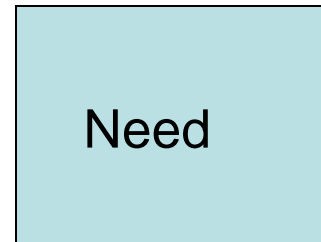
Associations



CAPABILITY

Gap

Analysis



Need

The Approach

Professional Development for Technical Excellence



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