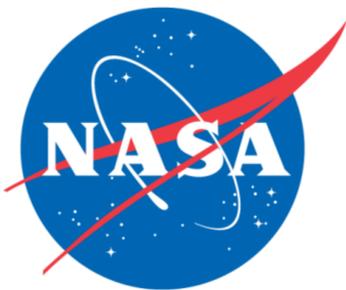




THE FLIGHT PROJECTS DIRECTORATE

BUSINESS CHANGE INITIATIVE (BCI)

Presentation to the
Flight Projects Directorate
All Hands Meeting
May 8, 2012



Why is Change Needed?

Internal challenges include *rising costs, schedule delays, disparate processes*, diminishment of institutional processes and tools, a need to ensure optimally-trained staff, and a *retirement wave* that will seriously impact our need to capture knowledge and best practices

External challenges include a significant *increase in external reviews and data requests*; greater competition and *stakeholder pressure*; significant *perceptions of GSFC's budgeting and scheduling challenges*; and our *peers have made strides* in all aspects and are outmaneuvering and marketing on our weaknesses (e.g., Goddard is good but they won't stay within budget or on schedule)

Our world is changing as evidenced by recent *GAO findings* that NASA is not managing its projects well; *budgets are tightening* that will lead to additional scrutiny for selection—past performance does matter; being the “most technically competent” will no longer be enough

We are recognized globally as being world class in mission development and execution of projects, but we are not consistently utilizing best practices or being recognized for staying within budget or on schedule , and this has to change now!

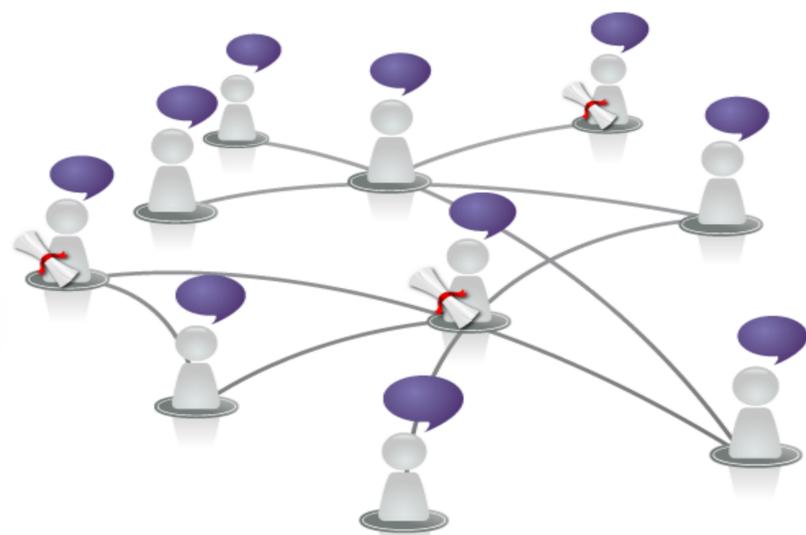
Our Goal—FPD consistently applies the best practices and actions to ensure cost effective and on-time delivery of all projects

Current State



A disparate community with pockets of expertise that are not well known and where projects create their own unique solutions to solve problems

Future State

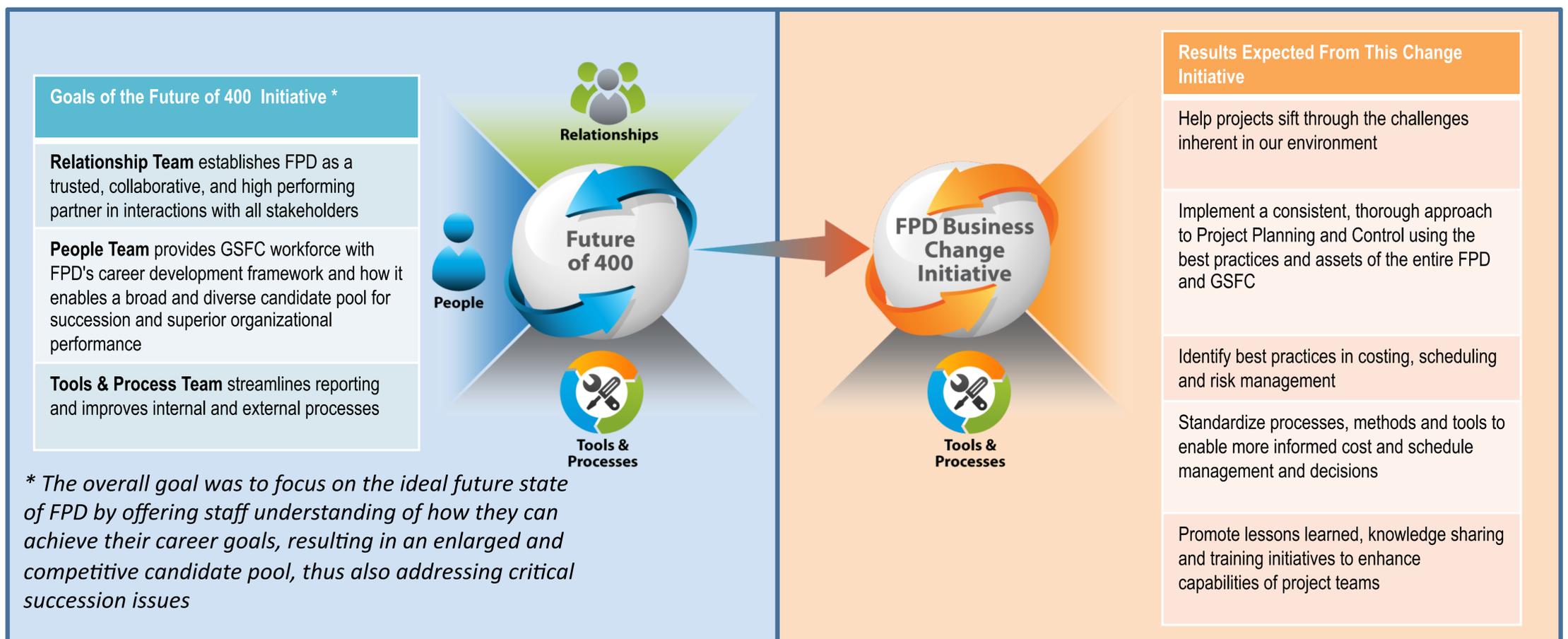


An integrated community to educate, openly share and instill best practices across the organization and within the projects

Our ideal state is to be recognized as world class in all three elements of project management—cost, schedule and technical management—with known subject matter experts integrated across the community. We need your assistance in identifying and supporting your SMEs in this role



The **Creating a New Future** (Future of 400) initiative allowed us to focus on people, relationships, tools and processes. **The FPD BCI** is leveraging the framework established by the Future of 400 and focusing on the business tools and processes needing improvement



**The Future of 400 Initiative
Creating a New Future**

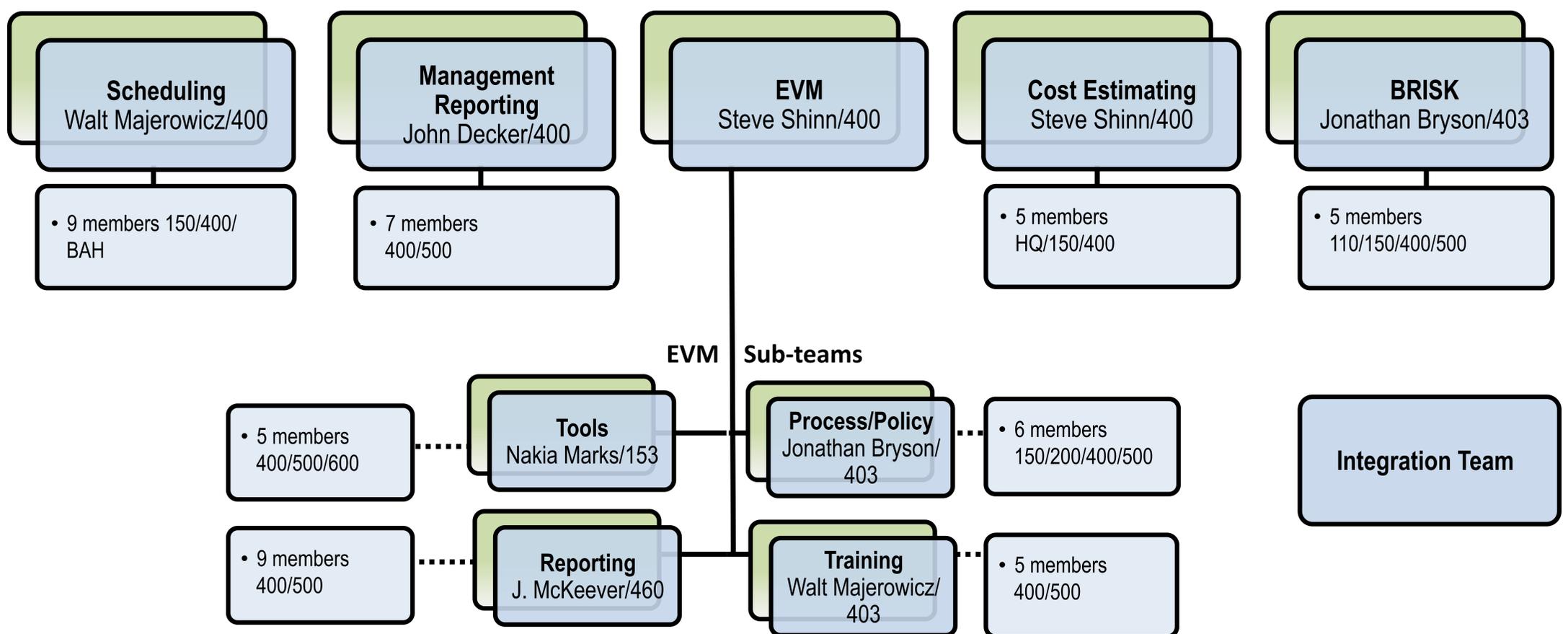
**The Flight Project Directorate
BCI**

FPD Business Change Initiative

- Code 400 started the BCI in late 2011. Five Action Teams focus on tangible actions to improve our processes and effectiveness and for transference of knowledge and best practices:
 - Scheduling Action Team
 - Management Reporting Action Team
 - Earned Value Management (EVM) Action Team
 - Business Rapid Information Skills & Knowledge (BRISK) Action Team
 - Cost Estimating Action Team
- **Action Teams** will progress through a five-step process that guides the change from concept vision and definition through rollout and deployment
- **Collaboration is key**—the BCI is guided by Code 400 Civil Servants and contractors and requires alignment and coordination with the Office of Human Capital Management /110, Office of the Chief Financial Officer/150, Applied Engineering and Technology Directorate/500, and other partners
- As we go forward, we can use this process to tackle other changes in the Directorate or at the Center



Action Team Structure: Leadership, Resources, and Projects

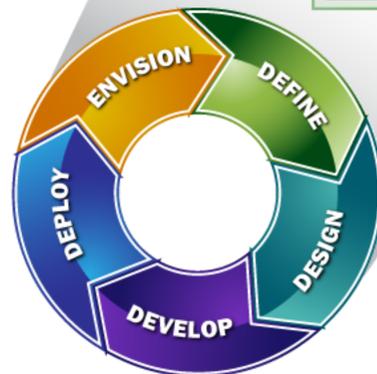


The Action Teams are comprised of personnel from around the Directorate and the Center. Each Action Team is reaching out to stakeholders for ideas, artifacts and best practices. Even if you are *not* on an Action Team, **everyone** is a stakeholder. Contact any of the individuals noted above with your ideas and insights.

Action Teams follow a simple and repeatable eight step process:



...and key findings, best practices, and subject matter expert discovery will be captured and shared along the way



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What We're Doing -- Summary of Activities Being Undertaken by the Action Teams

By the end of the year, each Action Team will have:

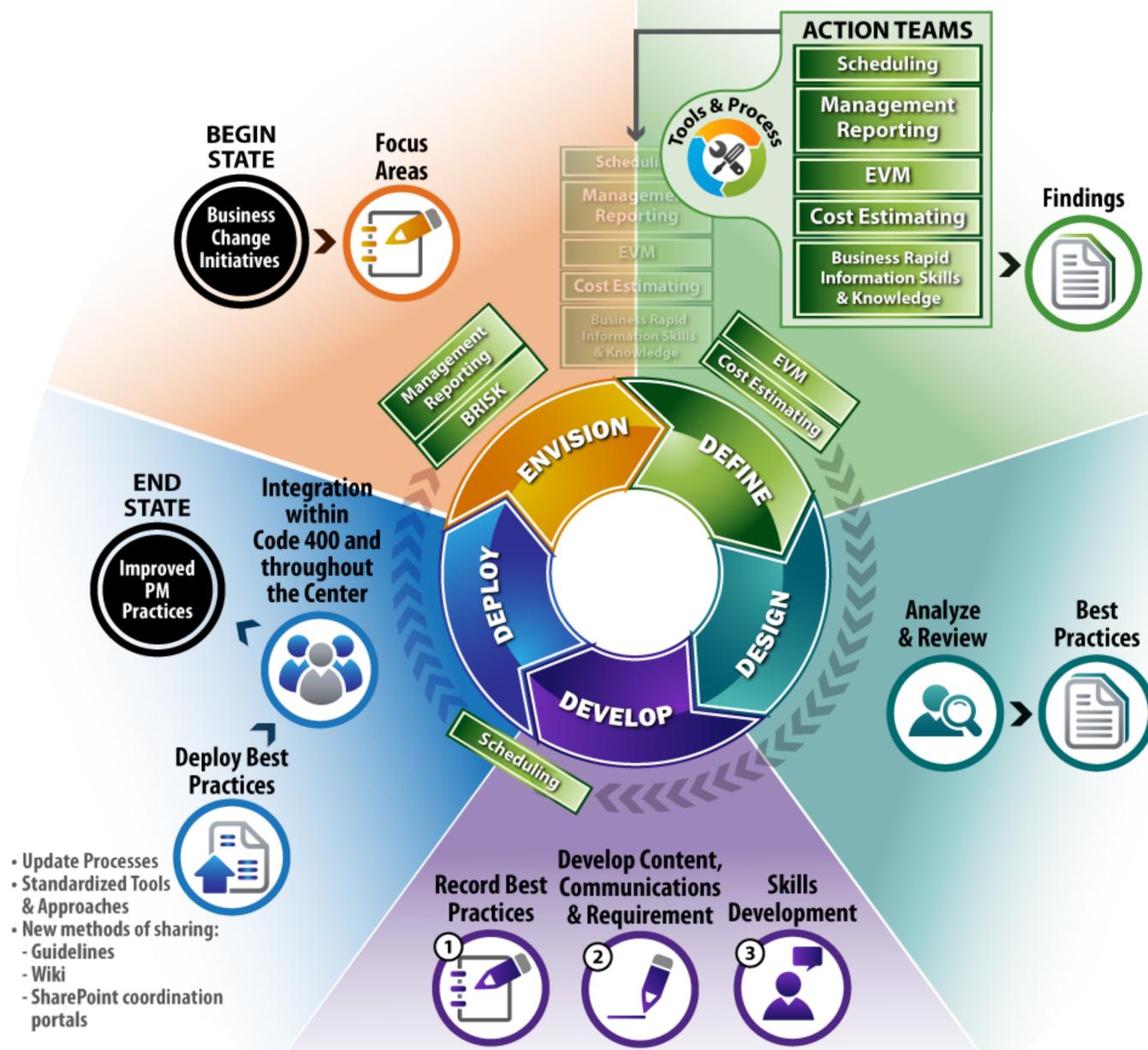
- Formed Action Teams
- Held Kick-Off Meetings
- Identified capabilities and processes that must continue
- Set overall areas for improvement
- Set a calendar of meetings and deliverables
- Identified and evaluated key projects to review
- Assessed, prioritized and selected best practices
- Categorized best practices according to Green, Yellow or Red
 - Green** -- keep and disseminate throughout the Directorate
 - Yellow and Red** -- practices that need improvement, consolidation or abandonment
- Drafted plans for implementation of the recommended best practices
- Identified tools, templates, rollout and support plan for the new process
- Held a series of implementation workshops
- Outlined a master timeline and transition plan
- Trained key players who interface in the new process
- Implemented, revised, monitored and institutionalized the full-scale process
- Published and distributed the new process policy throughout the Directorate
- Later evaluated the new process to ensure all support mechanisms, including tools, are in place and functioning and improve, as needed
- Conducted quality assurance audits on process efficiency benchmarks
- Implemented, revised, monitored and institutionalized a host of new processes

FPD All-Hands BCI Presentation - 9

Action Integration Team ensures consistency among Action Teams and knowledge sharing



Our Strategic Improvement Change Continuum Process Overview



We define the activities, methodologies, and techniques needed to transform the organization through the entire life cycle, which extends from concept vision and definition through rollout and deployment

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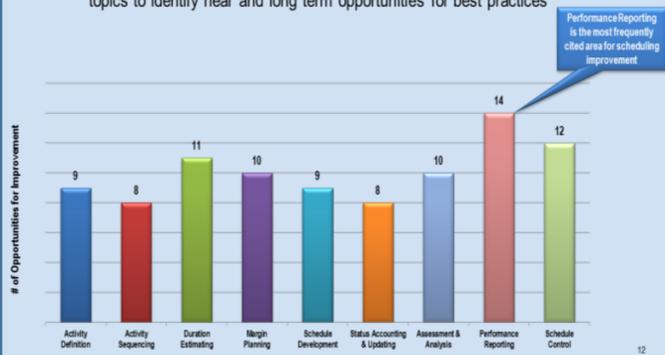


Action Team	Goals	Progress Highlights
Scheduling	Implement a consistent, thorough approach to scheduling and tracking	<ul style="list-style-type: none"> ✓ Interviewed 12 projects for best practices ✓ Established common set of Scheduling Principles ✓ Updating guidelines (e.g. NPR7120.7)
Management Reporting	Identify key reviews and activities to improve indicators and insight for keeping projects “on course.” Analyze and streamline more efficient reporting for projects	<ul style="list-style-type: none"> ✓ Assessed stakeholder needs for MSR reporting ✓ Currently streamlining the data collection process ✓ Assessing scope of reviews identifying key outcomes/improvements
EVM	Improve EVM elements (tools, process, policy, training, and reporting) allowing the Center to work efficiently and effectively	<ul style="list-style-type: none"> ✓ Identified sub-teams and initiated meetings ✓ Preparing EVM All-hands meeting (5/16) to engage community
Business Rapid Information Skills & Knowledge	Build a sustainable, accessible knowledge base and skill set for business personnel	<ul style="list-style-type: none"> ✓ Identifying parallel efforts underway in Code 150, Code 500/AETD, PAAC contract, and at the Division and Project levels ✓ Coordinating activities to improve repositories ✓ Supporting training needed for other Action Teams
Cost Estimating	Create standard operating procedures and approaches to cost estimating for key project milestones	<ul style="list-style-type: none"> ✓ Identifying key SMEs at GSFC who can guide a project JCL and other critical project checkpoint requirements ✓ Evaluating tool options – viewed demo of JACS and DICE

Example: Schedule Action Team Current Findings

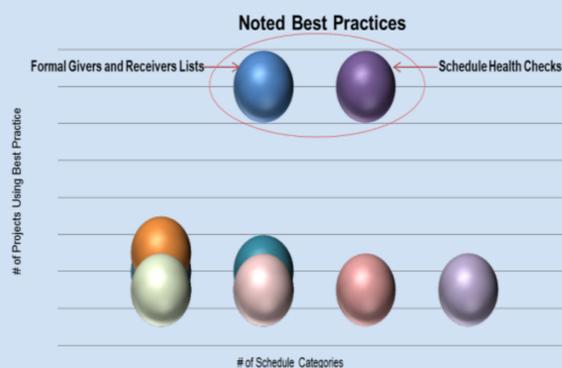
The Scheduling Action Team Uncovered Significant Opportunities for Improvement

- Expert interviews identified and validated topic findings
- External reviews will be conducted to identify and validate industry best practices and standards
- Findings will go through the formal discovery process based on scheduling topics to identify near and long term opportunities for best practices



Opportunities for improvement

Best Practices for Scheduling Action Team



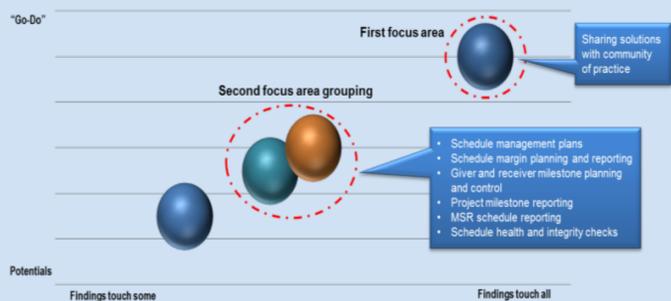
- Best practice areas were noted across all the projects and only two were consistently used by each project
- Each project had one or two best practices but many were in different areas

Best Practice Areas Identified

Best Practices

- Document Schedule Requirements in the Project Schedule Management Plan
- Assign a Lead Planner/Scheduler to the Project
- Organize the Project Schedule Office / War Room
- Plan a Successful Schedule Summit
- Develop the Project-Level Integrated Master Schedule
- Develop In-House Subsystem Schedules Using the Product Development Lead Checklist
- Create an Integrated Master Schedule Database in MS Project
- Estimate Realistic Activity Durations
- Document the Schedule Basis of Estimate
- Verify Schedule Integrity with Schedule Health Checks
- Identify and Control Giver/Receiver Milestones
- Plan the Project Schedule Margin
- Establish and Control the Schedule Baseline
- Implement a Schedule Control Board
- Status and Update the Project Integrated Master Schedule
- Design the Project Schedule Book
- Report the Critical Path for MSR
- Perform a Schedule Risk Analysis and Report the Results
- Assess Baseline Schedule Performance with the Baseline Execution Index (BEI)
- Assess Current Schedule Performance with the Current Execution Index (CEI)
- Assess Near-Term Schedule Stability with the Volatility Index (VI)
- Assess Schedule Efficiency Along the Critical Path
- Report Project Control Milestone Performance and Forecast
- Report Total Slack Changes and Trends
- Report Schedule Margin-to-Launch Trend
- Prepare and Update the Critical Milestone Schedule for MSR
- Prepare an Integrated Master Schedule Data Requirements Document
- Resource/Cost Load the Project Integrated Master Schedule
- Archive the Project Integrated Master Schedule
- Assess Current Schedule Performance with the Monthly Hit/Miss Index Reporting Summary Status with the Schedule Scorecard

Near Term Opportunities for Scheduling



- Preliminary reviews have uncovered potential near term opportunities to improve in the next six months
 - These practices are considered to be relatively stable and do not need frequent transformation to respond
 - Multiple projects already perform similar or identical practices so change should be reasonably implementable

Near Term Next Steps

FPD Planning & Scheduling Principles

- Projects develop and maintain end-to-end, Critical Path Method-based Integrated Master Schedules (IMS)
- Project schedule duration estimates are realistic and achievable
- Project schedule margins are adequate and based on assessments of risk
- Project schedules are baselined and maintained using a disciplined schedule control process
- Project schedules are consistently and regularly updated with accurate status, progress and forecasts
- Project schedules are analyzed to validate the integrity of the baseline and forecast, evaluate performance, and assess the magnitude, impact, and significance of actual and forecast variances from the baseline and current operating schedules
- Project schedule reports, metrics and trends provide meaningful visibility and insight into schedule plan, performance, forecast and risk for management decision making and control
- Project schedule baselines and forecasts are aligned and reconciled with actual and projected resource availability
- Project schedule requirements are documented in a Schedule Management Plan (or an equivalent section in a Project Management Plan)
- The project IMS is archived at all major mission lifecycle milestones Key Decision Points to support future project planning and lessons learned across the FPD

Principles



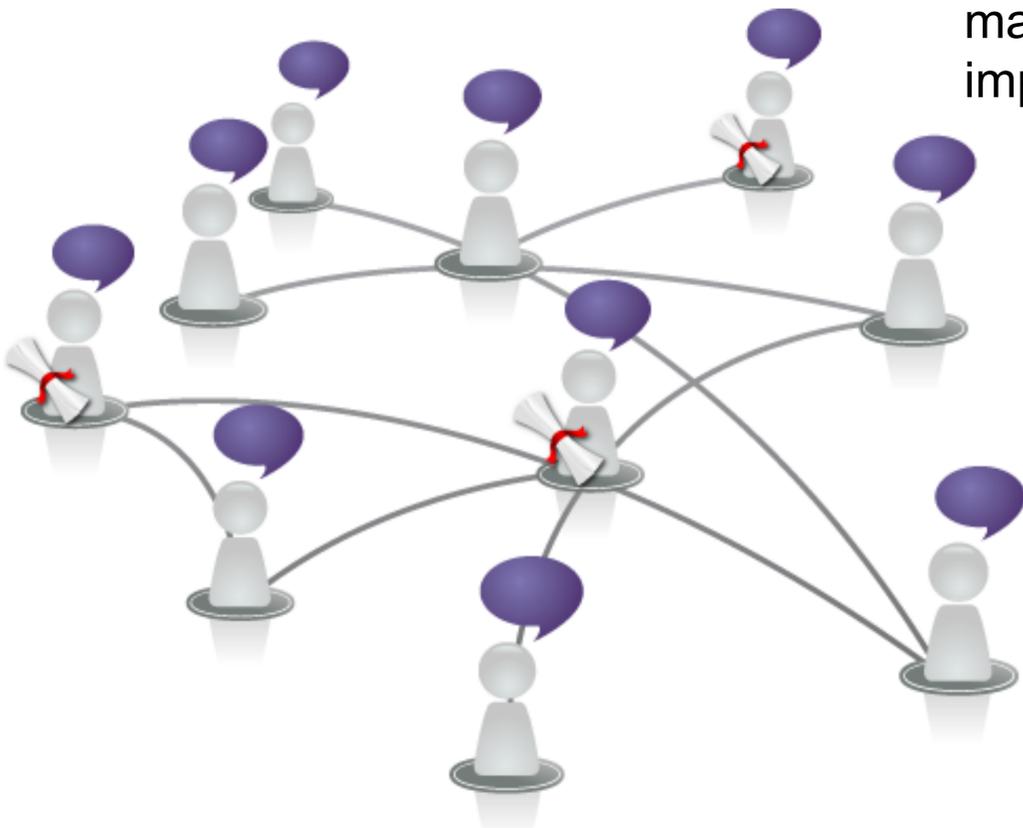
As a Team, we must get involved to:

- Improve and embrace new project management business practices
- Endorse change and share knowledge and resources
- Actively engage with action teams to seek breakthroughs and ensure long-lasting change
- Collaborate across projects and Directorate and evolve to a community of known experts and practitioners
- Use Code 400 as a “compass” to direct projects to improved practices and resources
- Make change a priority
- Enable the next generation of business management personnel to sustain NASA’s success

I highly encourage and warmly invite you to get involved and contact the Action Team leads to provide insights and assistance

The Future:

We will uncover best practices and identify subject matter experts to leverage across the Center to improve our project management practices



Outcomes to include a proliferation of new approaches:

- Revamped and relevant training
- Improved workforce collaboration and feedback
- Implemented best practices across all the business practices
- Standardized tools and approaches
- New knowledge management, repositories and portals
- Standard operating procedures/guidelines

The future of our projects is an integrated community of “expert” practitioners yielding:

- Improved cost and schedule performance
- Higher efficiency of projects and teams
- Improved integration and collaboration across teams
- Recognized lists of business systems SMEs
- Improved business training and skills development