Maintaining Institutionalization After the Appraisal Team Leaves

BAE Systems
Electronics and Integrated Solutions Operating Group
Nashua, New Hampshire
USA

Presentation Agenda

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- Introduction
  - The Organizational Facts
  - Experience Basis for Premise and Presented Approach

- "Elastic Band Phenomenon"
  - Comfort Zone Scenarios

- Making It Easy To Do The Right Things

- Conclusion

- Final Thoughts

Electronics & Integrated Solutions Operating Group

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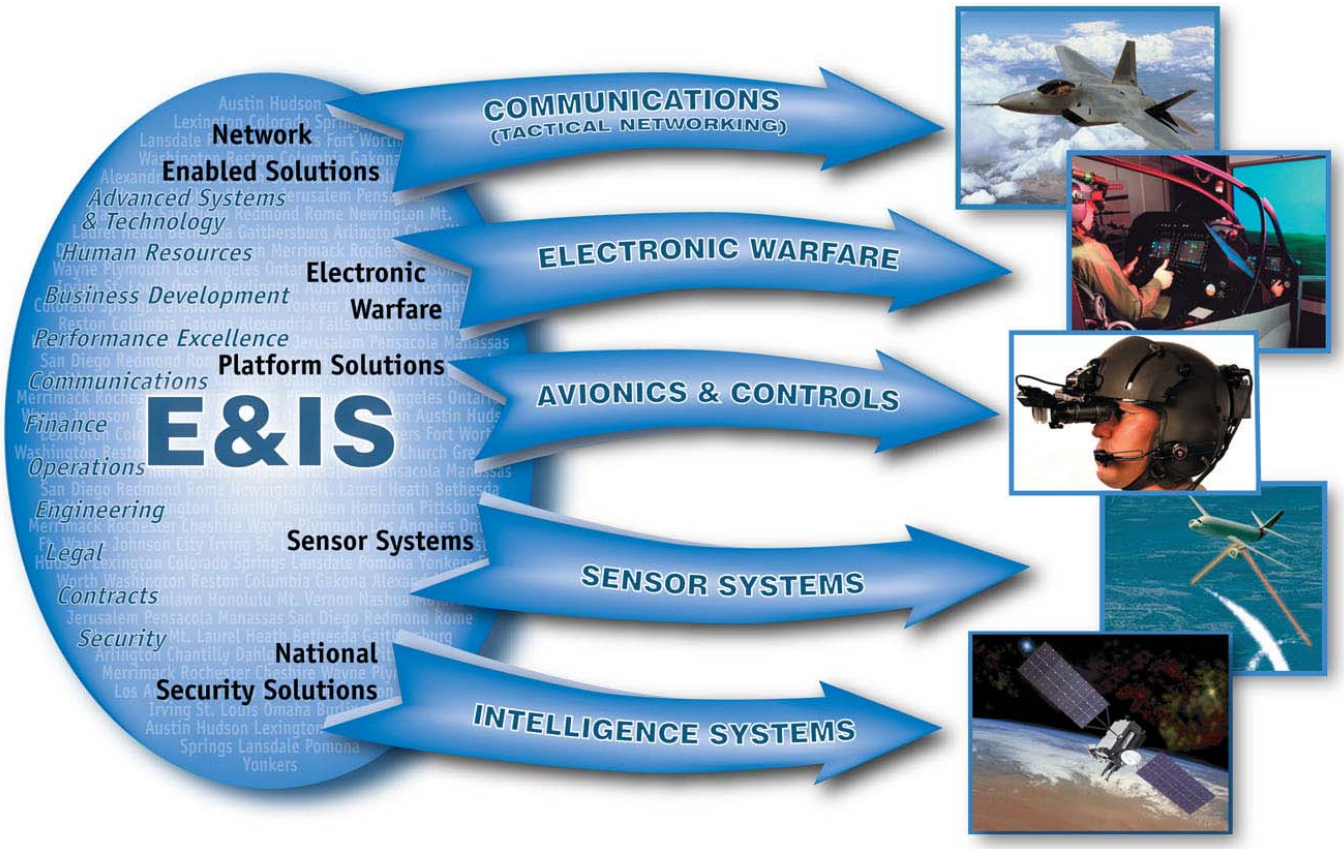

Electronic Warfare

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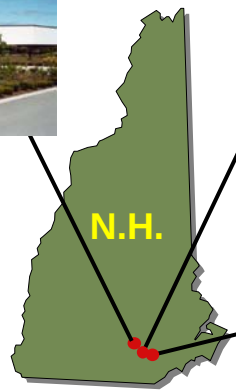
Pomona

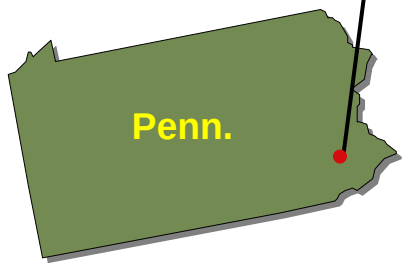
Merrimack

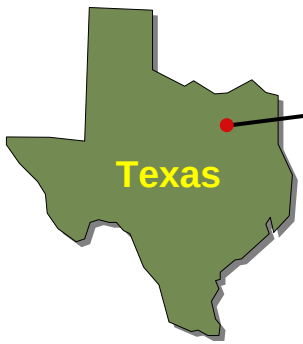


Nashua

Hudson

Lansdale





Fort Worth

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Sensor Systems

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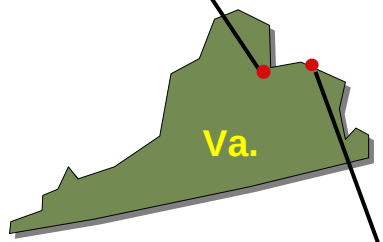
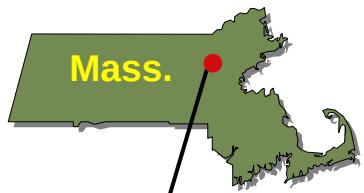
Mojave

Austin

Manassas

Jerusalem (Rokar)

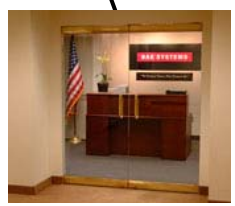




Merrimack

Nashua

Lexington



Washington, D.C.

Experience Basis for Premise and Presented Approach

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- Twelve years experience with appraisals and assessments
  - Four Software CMM® assessments
  - Two EIA / IS 731 appraisals
  - Two CMMI® appraisals
- SEI certified *Introduction to CMMI®* instructor on Enterprise Process Group staff
- Enterprise Process Group participant on SEI SCAMPI℠ upgrade team

Process Development Time Line

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2006 Continue evolving process based on process improvement suggestions
Further expanding use of process

2005 Expanded Level 4 and 5 behaviors from systems and software
Implemented process improvement to enhance process usability
Class A appraisal assesses process (CMMI® SE / SW) at Level 3

2004 Class B appraisal assesses process (CMMI® SE / SW / IPPD / SS) at Level 4
Integrated Product Development Process implemented

2003 Enterprise Process Group officially formed
Management and technical (SE / SW) processes developed

Customer requirements for CMMI® appearing in RFPs

2002 Systems Engineering Process assessed at EIA / IS - 731 Level 3
SW process updated to SW-CMM Level 5
Development of an integrated process begins

2001 Gap analysis performed for engineering and program management processes
Software process assessed at SW-CMM Level 4

2000

1998 Software process assessed at SW-CMM Level 3

1994

BAE SYSTEMS Lifecycle Management
CMMI® released by SEI
PMBOK® focus introduced

The “Elastic Band Phenomenon”

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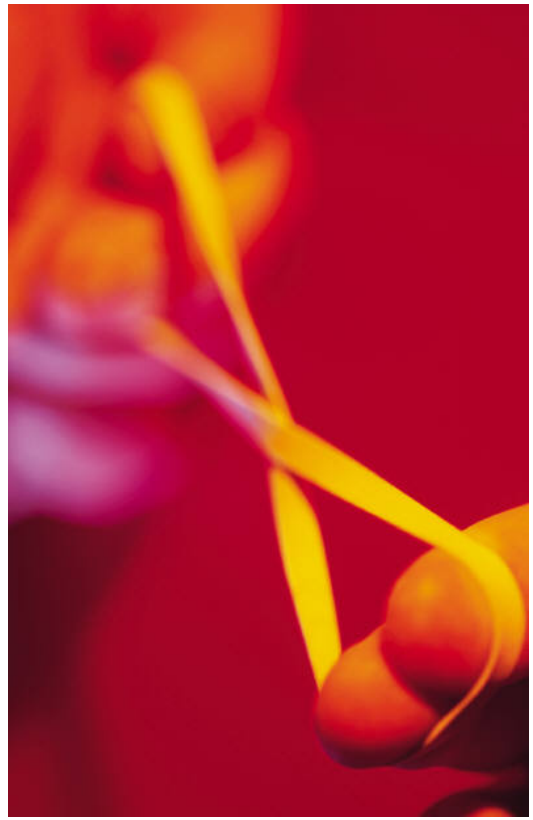
- The Elastic Band Phenomenon Premise
  - Once a formal appraisal or audit has been completed, the high energy and extra attention to process compliance will naturally wane, and the organization will tend to migrate toward the pre-appraisal comfort zone



Comfort Zone Scenarios

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The appraisal coverage (AC) is less than the organization's comfort zone (CZ)

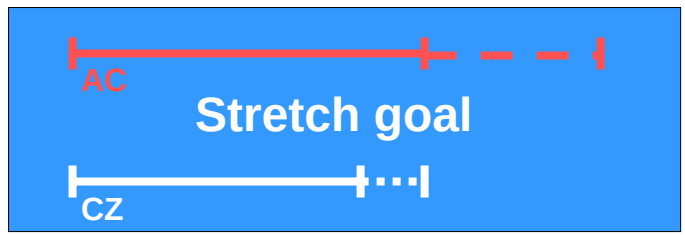
- Following the appraisal, the organization remains in its comfort zone

The appraisal coverage is equal to the organization's comfort zone

- Following the appraisal, the organization remains in its comfort zone

The appraisal coverage stretches the organization's comfort zone

- Following the appraisal, the organization reverts back to some point less than its original comfort zone (Elastic Band Phenomenon)



Post-Appraisal Organizational Impact
(Reduced Comfort Zone)

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Any reduction to process compliance emphasis may result in:

- Non-uniform application of the process
  - Reduced familiarity with the process through non-use
  - Increased cost of rework for process compliance
- Confusion as to when it is right to follow the process
  - Impression that compliance is only needed to pass appraisals
- Practitioners' frustration with management for providing mixed signals on process compliance
  - Partial/Minimal process compliance; quality suspect

Potential for Poor Project Planning and Poor Project Execution

Making It Easy To Do The Right Things

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- To facilitate institutionalization, the Enterprise Process Group ensures the process is easy to use

- Approaches/techniques we are using:
  - Process marketing
  - Ease of access
  - Process training
  - Facilitated project start-up
  - Planning work product reviews
  - Process automation and process aids
  - Internal process assessments
  - Active process ombudsman
  - Web-based process tips
  - Solicited process improvement ideas

Process Marketing

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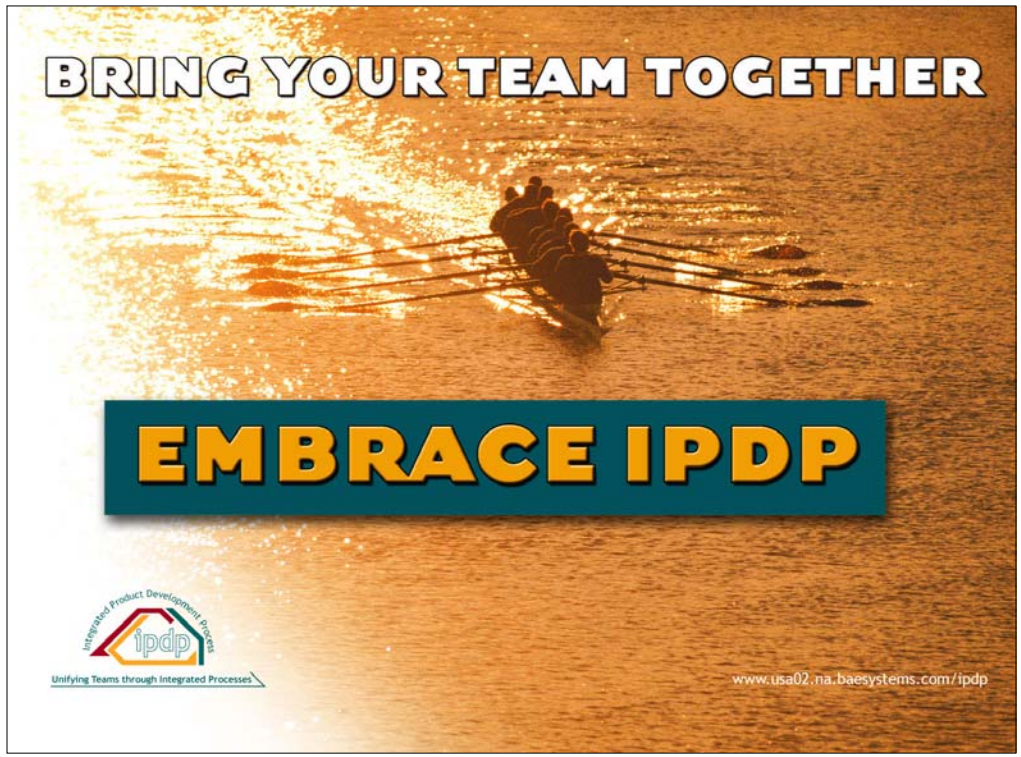
- Display eye-catching posters around your company
- Instill a message:
  "Bring Your Team Together"
- Reinforce with a slogan:
  "Unifying Teams Through Integrated Processes"
- Develop a logo:
  "IPDP" is our Integrated Product Development Process



Ease of Access

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Institute a comprehensive Web site that is easily navigated

Process Training

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- Effective training is key to the success of a process
  - Multiple levels of training required
- Process introduction course
  - General material and recent changes
  - Annual refresher required
- Integrated training for both the planning and execution phases
  - Includes project management and technical management
- Related training for Peer Reviews, Decision Making, Risk Management, and Supplier Management

Facilitated Project Start-up

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- The Enterprise Process Group and the Project Team coordinate the launch activities to develop a comprehensive project plan in a timely manner

- The Project Launch mentoring environment
  - Is a series of modules designed around project planning
  - Provides reinforcement of the process
  - Scopes the process based on project attributes
  - Facilitates planning work product development with project team leads

Planning Work Product Reviews

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– The Enterprise Process Group is actively engaged in the project's planning activities

- Guides planning work product development during Project Launch
- Participates as a stakeholder
- Checks planning work products compliance
  - Review lists guide the development of work products and are used as the checklists for audits

Enterprise Process Group Partners with the Project Team during Project Planning

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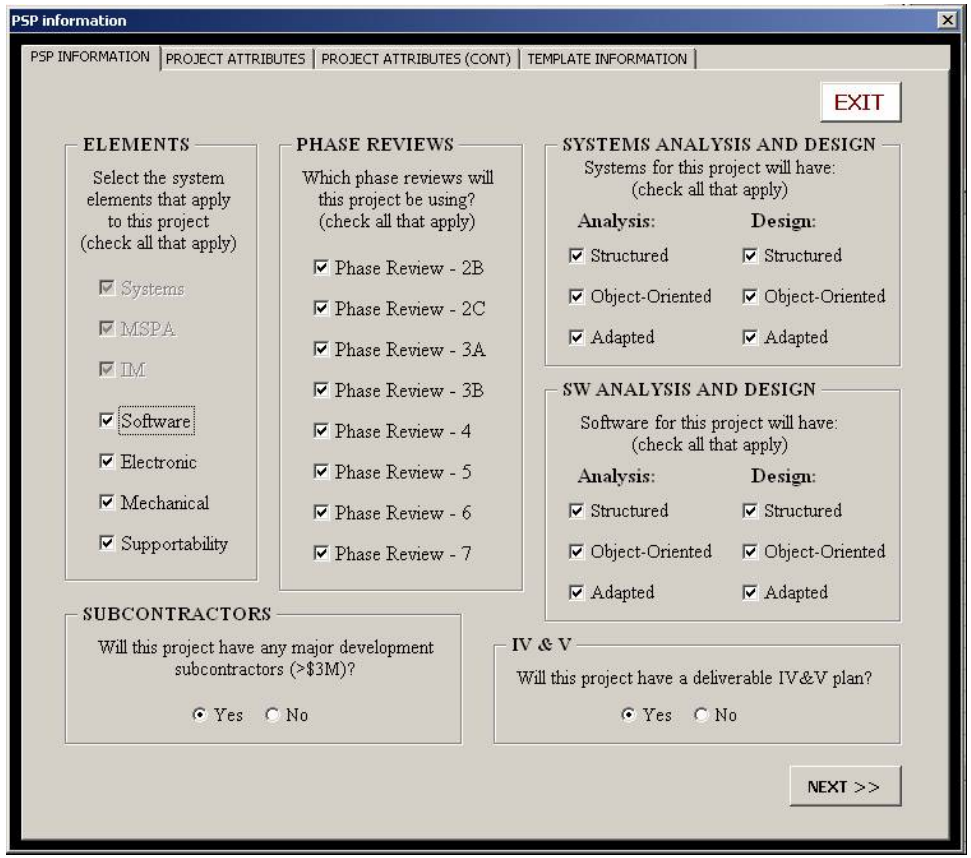
Process Customization Aid

- Uses a series of questions to help the project team select the applicable process elements
- Establishes the standard project shared area
- Pre-populates project information within the planning work products



Automation facilitates process use and compliance

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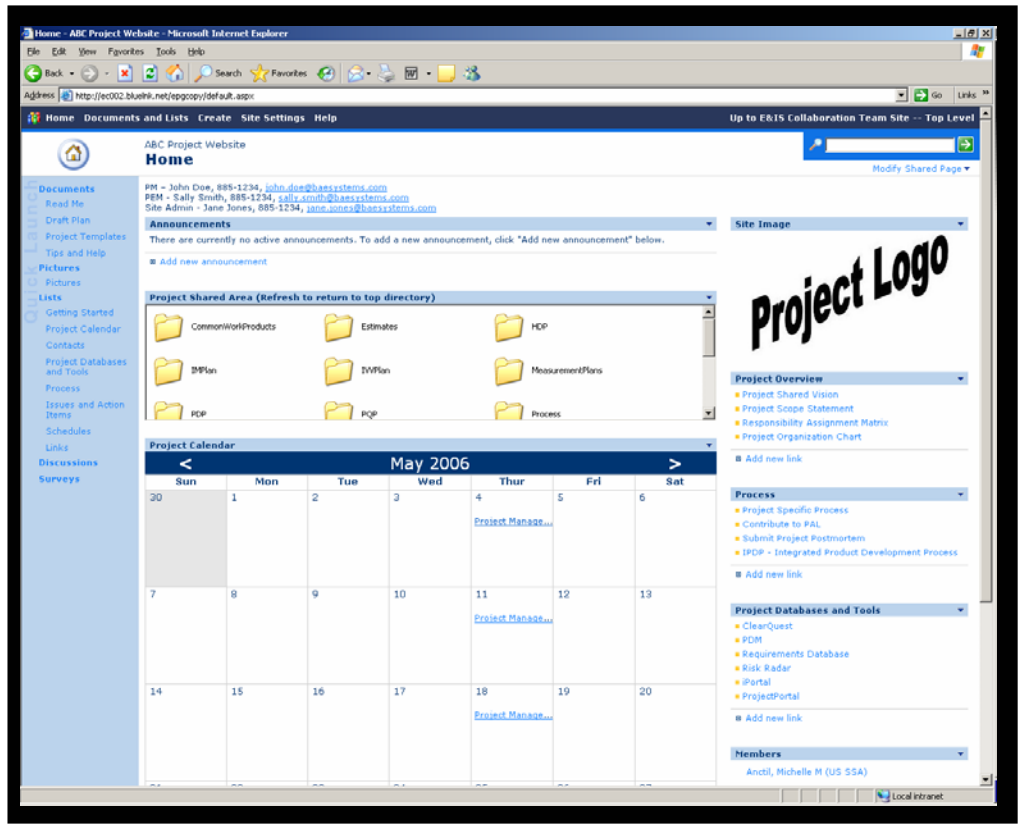
Project SharePoint Template

- Enables a collaborative team environment
- Supports and automates aspects of the process
  - Issues & actions tracking
  - Project calendar
- Provides a single point of access for project information
- Common format allows new project personnel to quickly find project information



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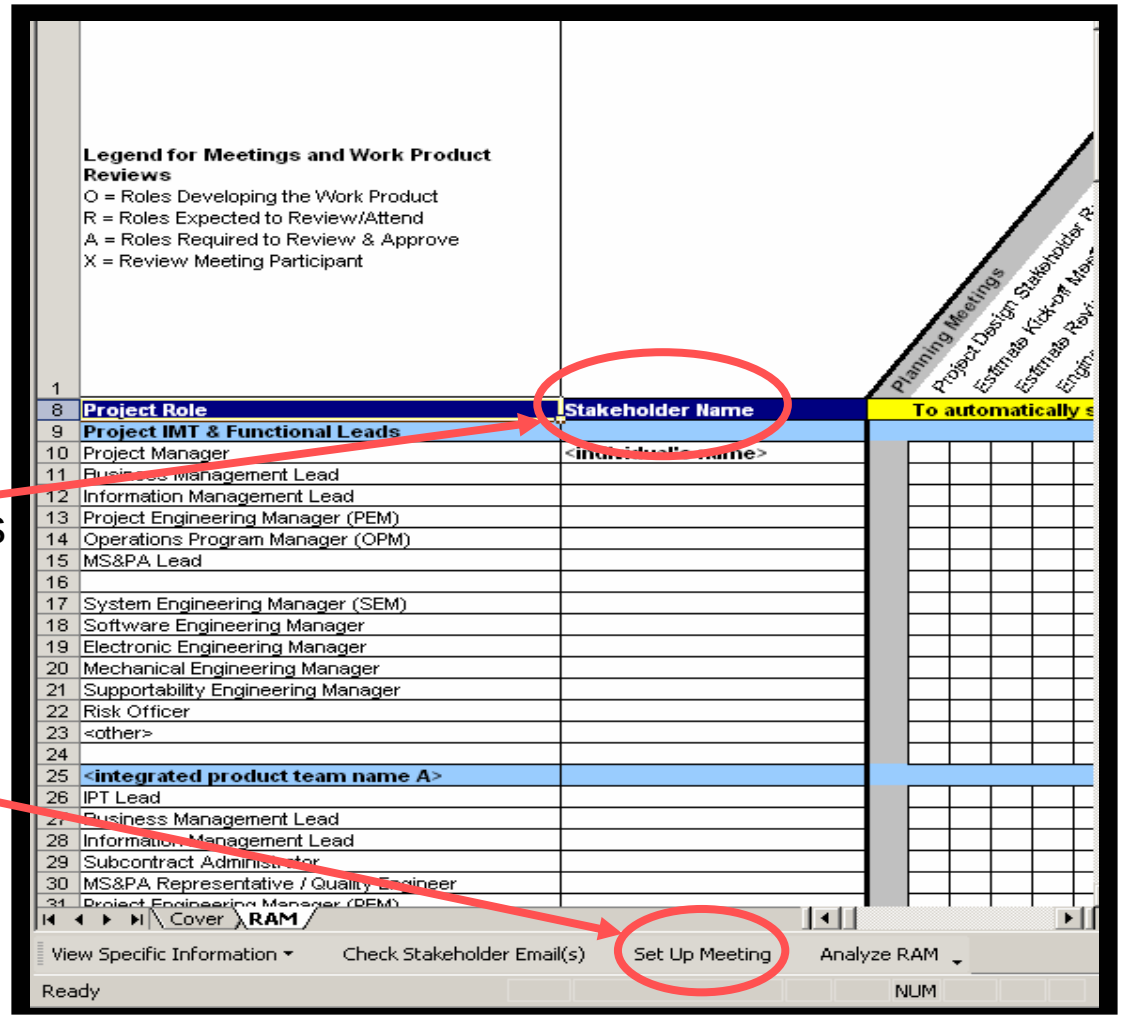
Responsibility Assignment Matrix (RAM) Aid

- Facilitates preparation for project meetings and work product reviews
- Ensures accurate stakeholder involvement for specific reviews
- Automates meeting invitations using MS Outlook
- Creates agenda, attendee list and minutes template



Internal Process Assessments

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- Align with CMMI® and are independently conducted
  - Performed on individual projects
  - Staffed with people knowledgeable in the CMMI® and the organizational process
  - May be conducted periodically on projects with long durations
  - Similar to a Class B (without the organizational elements)
- Check for compliance with CMMI® and the organizational process
- Assess application and understanding of the process
- Indicate the effectiveness of:
  - Process institutionalization
  - Process training
  - Project start-up process

Active Process Ombudsman

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- Web-based mechanism to ask process-related questions
  - How does the process apply?
  - Where do I find…?
  - Can you tell me how this practice relates to my project?

- Quick response is provided
  - Process Ombudsman confirms content and intent with requestor
  - Answer is developed and vetted with process team
  - Response sent back to requestor

- Web-based Frequently Asked Questions (FAQs) developed from Process Ombudsman activity

Web-based Process Tips

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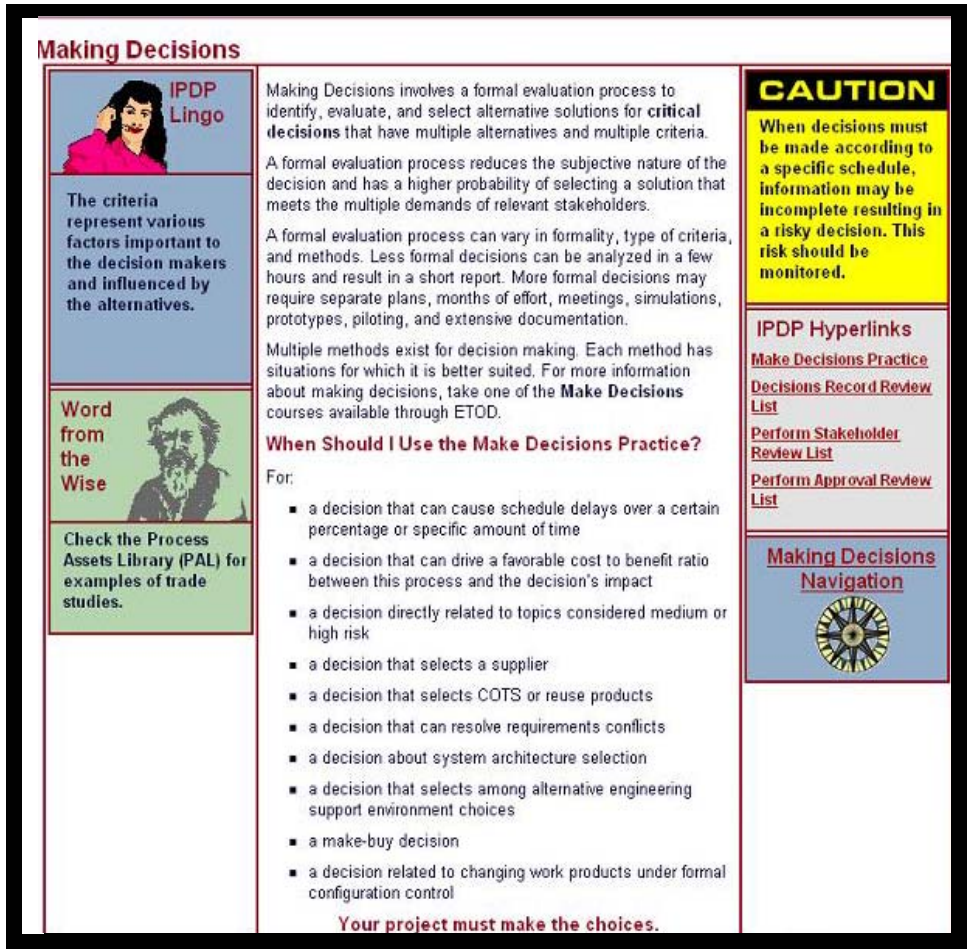
- Process Tips provide quick access to additional guidance
  - Focused on specific process topics
- Portal to the process
  - Provides interpretation of process intent
  - Reinforces process definitions
  - Reinforces correct behavior
  - Alerts of common misunderstandings
  - Links to related items



Solicited Process Improvement Ideas

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- Enterprise Process Group actively solicits improvement suggestions from users
  - Accomplished directly through the Process Web site
  - Rewards for best suggestions
  - Results in process updates
- User involvement facilitates buy-in
  - Enables best practices
  - Encourages continuing inputs
  - Improved process enhances process institutionalization

Institutionalization is Enabled through User Involvement

Institutionalization….Raising the Bar (Expanding the Comfort Zone)

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- Expand the use of process to a wider spectrum of projects
  - Familiarize the largest possible audience with the process and the process terminology
- Leverage process, by its use, during proposal preparation
  - Ease transition between the proposal, and project planning and execution
    - Development of planning artifacts, technical plans, top-level system architecture that are aligned or compliant with the process
  - Design quality in (by use of the process) from the beginning

Reduces future Elastic Band Phenomena

Conclusion

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- Establish an organizational standard process
  - It must be comprehensive, concise, coherent; yet easily usable
- Be watchful of the organization being pulled out of its comfort zone, and then relaxing to a previous level or lower (Elastic Band Phenomenon)
- Provide process support and process aids to reduce the tendency to revert to a relaxed state
  - To make the process easier to understand and use correctly
  - To make compliance routine; not unique (institutionalization)
- Implement process improvement as part of the process
  - Methods to suggest improvements must be easy to use
  - Suggestions must be embraced as improvement opportunities

Final Thoughts

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–Questions?

–Comments?

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