CMMI: Does it Help Us Perform?

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Mission Systems Sector

- **A leading integrator of complex, mission-enabling systems**

- **2004 Sales - ~$5.0B**

- **18,500 employees in 50 states and in 23 countries**

- **1500 active contracts**

- **Domain expertise in priority, high-growth segments**

- **Premier provider of mission critical end-to-end solutions**
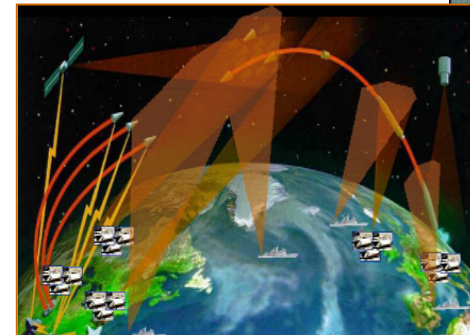
Focused on program performance

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Does CMMI Help Programs Perform?

- **CMMI is necessary but, alone, is not sufficient**
- **Programs must also have**
    - Management and Customer commitment
    - Reasonable and stable requirements
    - Adequate and trained, talented resources
    - Experienced organizations with domain knowledge
- **BUT …**
    - Even with all of these, program organizations don't have the time to invent best practices
    - Employment of good process is essential to success
- **AND …**
    - Using CMMI is the best means we've found to repeatedly deploy our best processes and practices to new programs

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What We Have Learned -
It's Not What You Do, But When You Do It!

- **Programs need to apply key basic processes early (even prior to award)**

    - Integrated Project Management (IPM)

    - Program Planning (PP)

    - Program Monitoring and Control (PPMC)

    - Risk Management (RSKM)

    - Requirements Management (RM) and Requirements Development (RD)

    - Measurement and Analysis

    - Decision Analysis and Resolution

- **Good processes enhance good decision making**

- **Builds the discipline needed for success under 'start up stress'**

> *We concentrate on putting proven processes in place before program kick off!*

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Mission Systems Emphasizes 'Early Start'

These processes are mandatory although they can be tailored or waived as to the unique circumstances of each particular program

- **Process / Waiver Checklist**

  - Every project is required to identify the processes that it will adopt and which it intends to request to be waived – **during the proposal phase**

- **Project kick off**

  - Every project is required to report on its adoption of process and progress towards execution in a kick-off Process Review
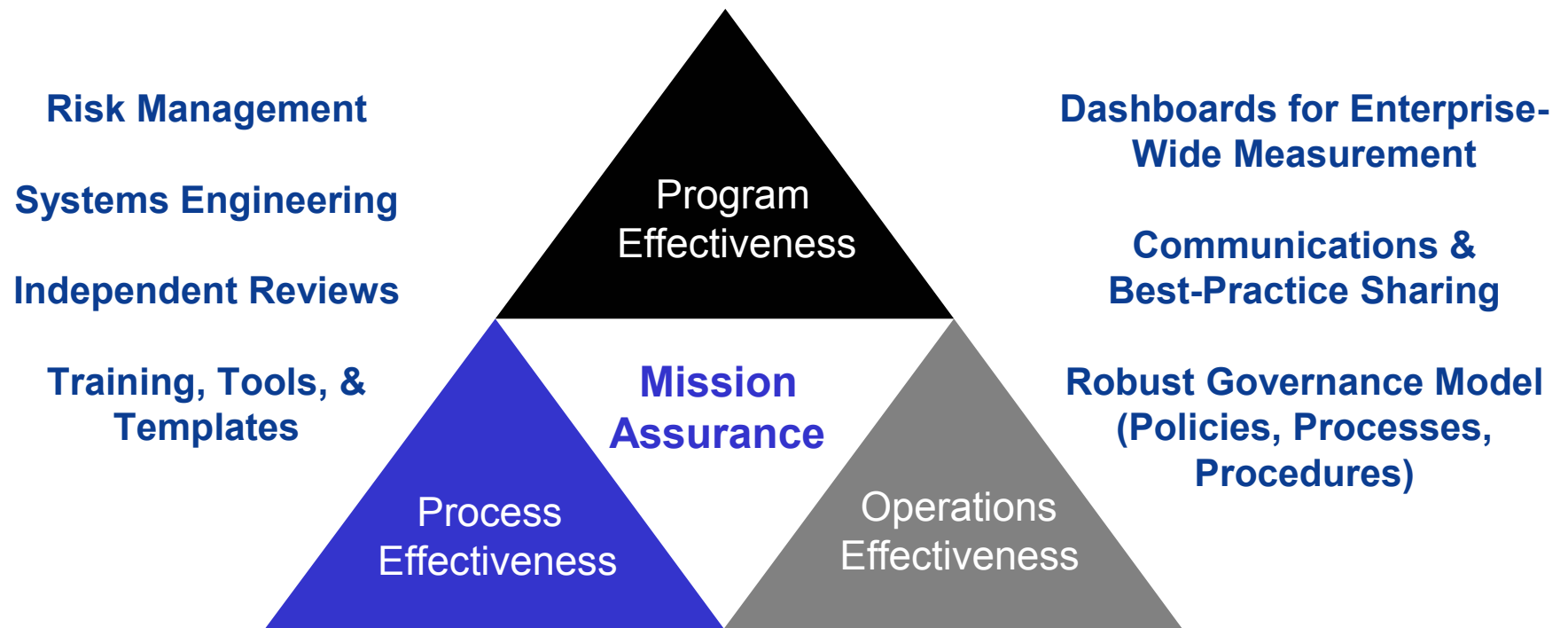
- **Project Process CMMI Guidance**

  - Every project is provided with guidelines on which process areas should be in place early and what activities should be included

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Does It Work?

- **Post award SCAMPI Bs**
  - Successfully demonstrates that programs were operating at expected maturity within 6 months of project kick off
    - Naturally, some work products that are created later in the project life cycle won't be available
  - Two SCAMPI Bs in the last few months demonstrate our early process focus results in executing Mission Systems processes from start up

- **Internal SCAMPI C appraisals ensure projects are ready before we formally appraise them for public release**

- **Use of PIIDs "on-line" has made electronic verification of process deployment simple and effective in a multi-site organization**

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Mission Success Requires Multiple Approaches

Risk Management

Systems Engineering

Independent Reviews

Training, Tools, & Templates

Dashboards for Enterprise-Wide Measurement

Communications & Best-Practice Sharing

Robust Governance Model (Policies, Processes, Procedures)

Program Effectiveness

Mission Assurance

Process Effectiveness

Operations Effectiveness

CMMI Level 5 for Software, Systems, and Services

ISO 9001 and AS-9100 Certification

Six Sigma

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Early Starts Result in Proven Maturity

- **Mission Systems has made a major investment in process improvement**
- **We believe that our emphasis on early start is a large contributor to these results**

Organization	Level 5	Level 4	Level 3	Level 2	Total
Northrop Grumman	16*	-	8	-	24
▪ **Mission Systems**	11*	-	3	-	14
U.S. Government	2	-	-	12	14
▪ **DoD**	2	-	-	7	9
Raytheon	3	1	10	-	14
IBM (International)	6	1	6	-	13
SAIC	5	-	4	3	12
Lockheed Martin	2	3	6	-	11

Source: Software Engineering Institute Publicly Reported CMMI Appraisals website
- http://seir.sei.cmu.edu/pars/pars_list_iframe.asp

* 4 other appraisals not yet listed

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