YOUR ADVANTAGE.
AND THEN SOME.

Managing Complex Programs

MG John W. Holly, USA (Ret.)

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Theory vs. Practice

- Challenges
  - Technical Complexity
  - Multiple Interfaces
  - External Factors

- Reality
  - Dynamic not Static
  - 2d (and 3d) Order Effects are important
  - Governance Model
  - Decision Making is Required
  - Capabilities Based drives *Personal* accountability
  - Agility is an advantage
  - Focus on what is really important

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Expectations

- **Technical Competence**

- **Management Competence**

- **Leadership**

> *"Leadership is the art of accomplishing more than the science of management says is possible."* *GEN Colin Powell*

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Technical Competence

- Understand the product; not just the technology
- Use all of the tools available
- Focus on the margins
- Maintain rigor in the change control process
  - What is a class 2 change?
  - Deep dive audits to validate class 2 changes
- Document trades well

A capability-based approach does not obviate the need for disciplined systems engineering.

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Management Competence

- Absolute Honesty
- Focus on the problem *and the solution*
- Be a "Thought Leader"
- Manage technology
  - Hurdle, barrier, or breakthrough?
  - Brutal honest – be your own worst critic
  - Establish a cut off plan for ideas that do not work
- Know the difference between data, information, and judgment
- Common Enterprise Metrics

Curiosity decreases as a test event nears.

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Leadership

- Use technology as an enabler – it is not a substitute for leadership
- Harness technology – do not become a slave to it
- Identify problems *and* follow through with solutions
- Influence investment decisions
- Look beyond what you do well – focus on adding value

If everyone is thinking the same; no one is thinking...

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Risk Based Leadership

- Manage risk – do not simply monitor it!
  - Be aggressive
  - Ask questions – what could have happened, and why did it not?
- Follow careful planning with deliberative execution
- Be a leader: Swift … decisive … sure

To achieve great things, one must take risks.

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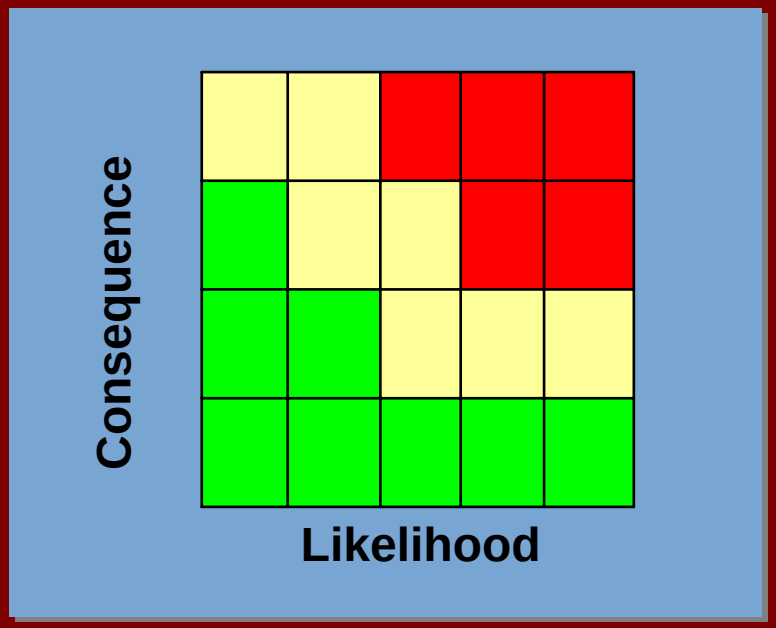
Risk in Defense Programs



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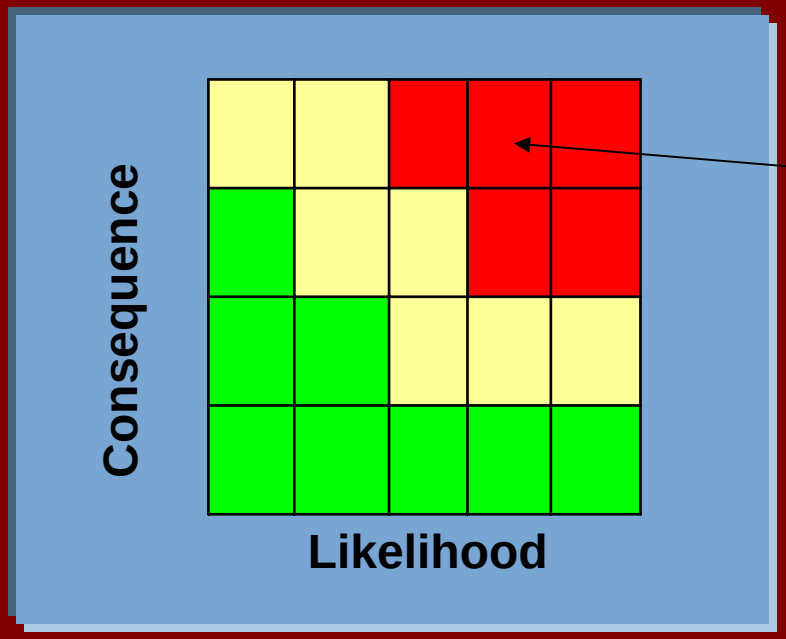
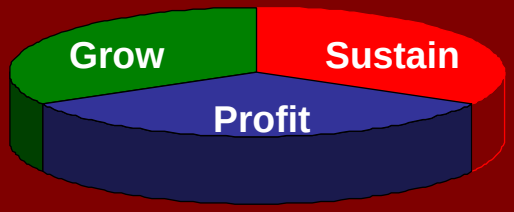
Change Management



Inability to control Change in Vendor & Subcontractor base



Contributing Factor: Regulatory Change Rate

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Case Study: Subcontractor Change Management

ATACMS

Insulation de-bond

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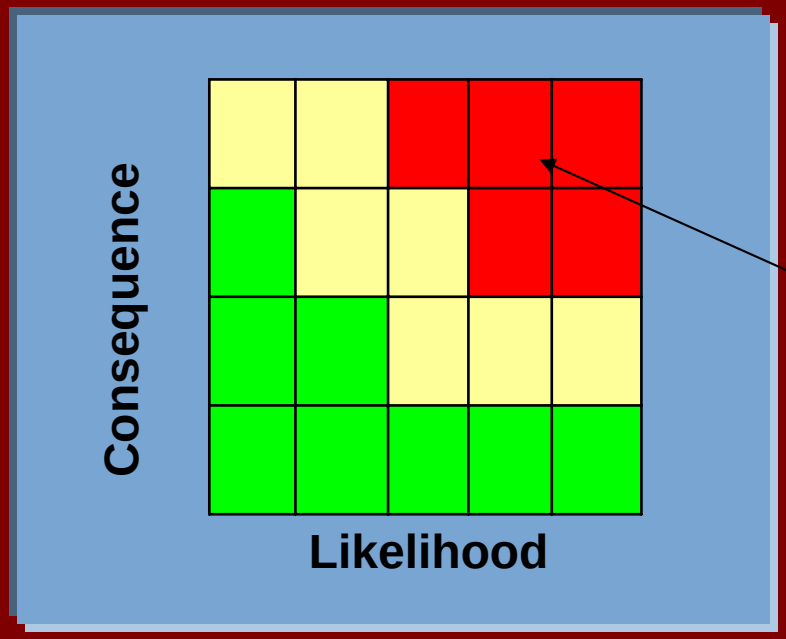
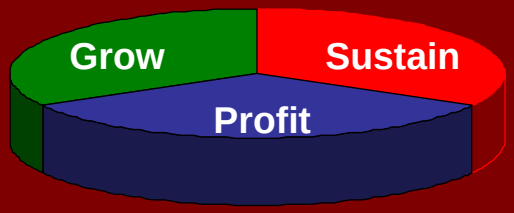
Configuration Management



Lack of Configuration Management Rigor



Contributing Factor: Increased System Complexity

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Case Study: Subcontractor & Vendor Change Management

Ground Based Interceptor: IFT-9

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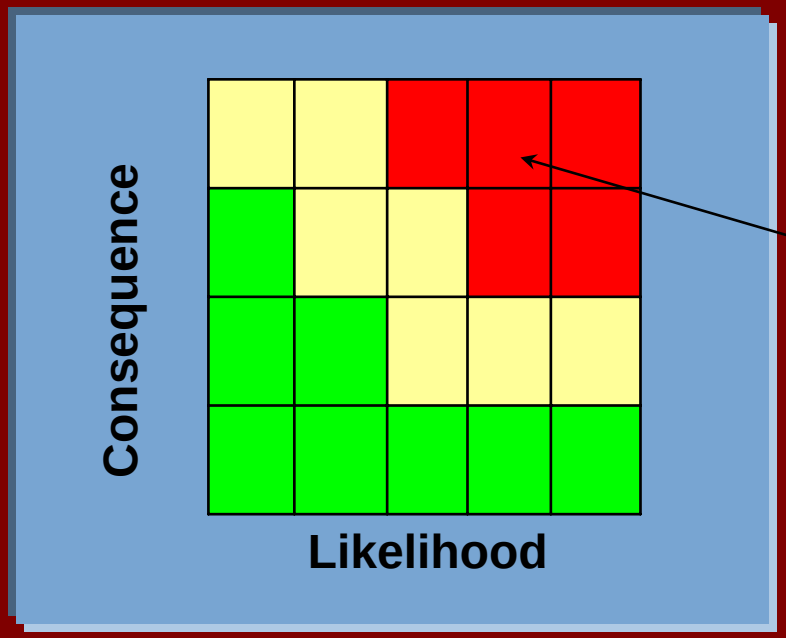
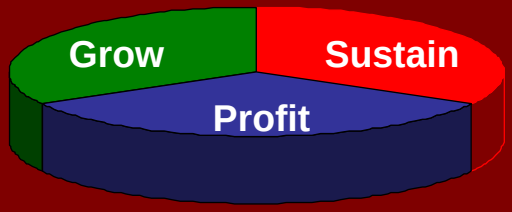
System Complexity



Failure to appreciate impact of First Time Integration Tasks

Contributing Factor: Increased Complexity with Decreasing Budgets



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Case Study: System Complexity

Exo-atmospheric Kill Vehicle 4 consecutive intercept successes

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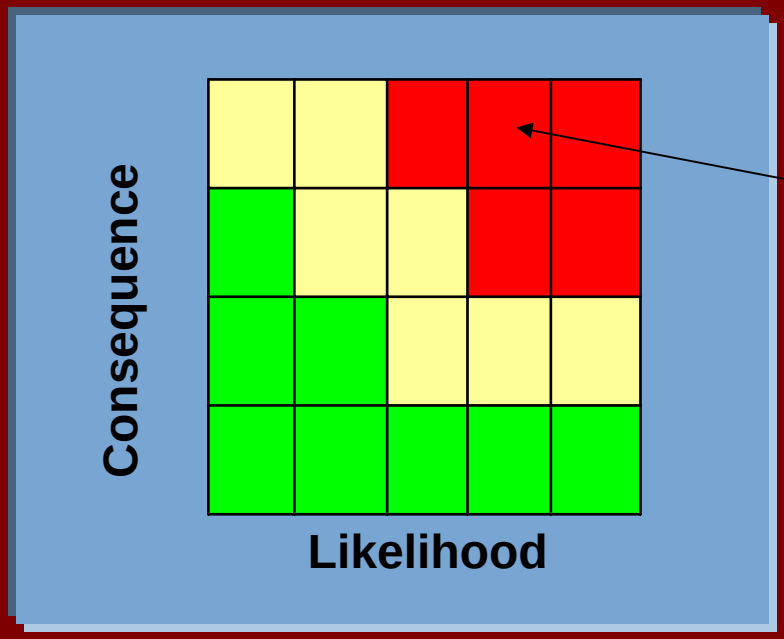
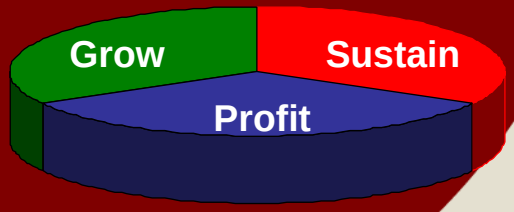
Cost Reduction Initiatives



Second Order Effects of Cost Reduction Programs

38 DefenseNews December 12, 2005 ★

DoD Program Managers Cannot Halt Overruns



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Case Study: Second Order Effects of Cost Reduction Programs

HELLFIRE Motor Cost Reduction Initiative

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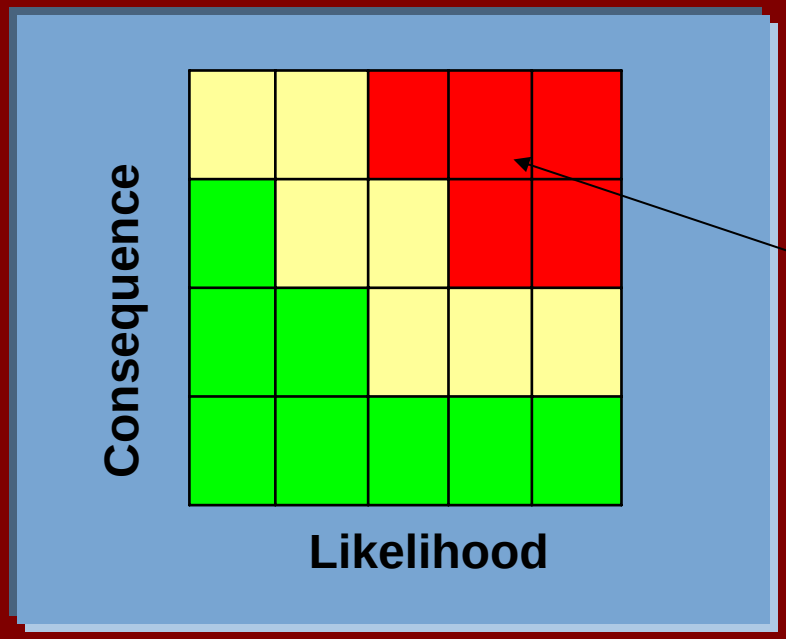
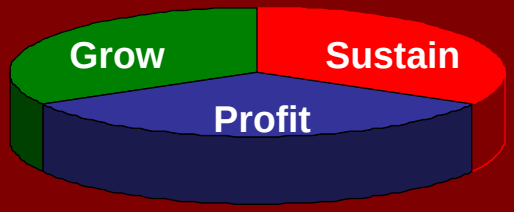
Risk Mitigation



Monitoring instead of Mitigating Risk

Contributing Factor:
Continued Budget Pressure



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Case Study: Single Source

Ground Based Interceptor (GBI) Motor

- Risk Mitigation Strategy
- September 2002: CSD Explosions

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Closing Thoughts

- Focus on the mission; not the organization chart
- Unpredicted challenges present great opportunities – exploit them
- Tell me what I need to know; not everything that you know
- Best people on biggest opportunities
- The first report is always wrong
- Be a high impact player
- Manage the margins
- Aggressively Manage Risk

"Criticism is easy; achievement is more difficult."
Sir Winston Churchill
22 January 1941

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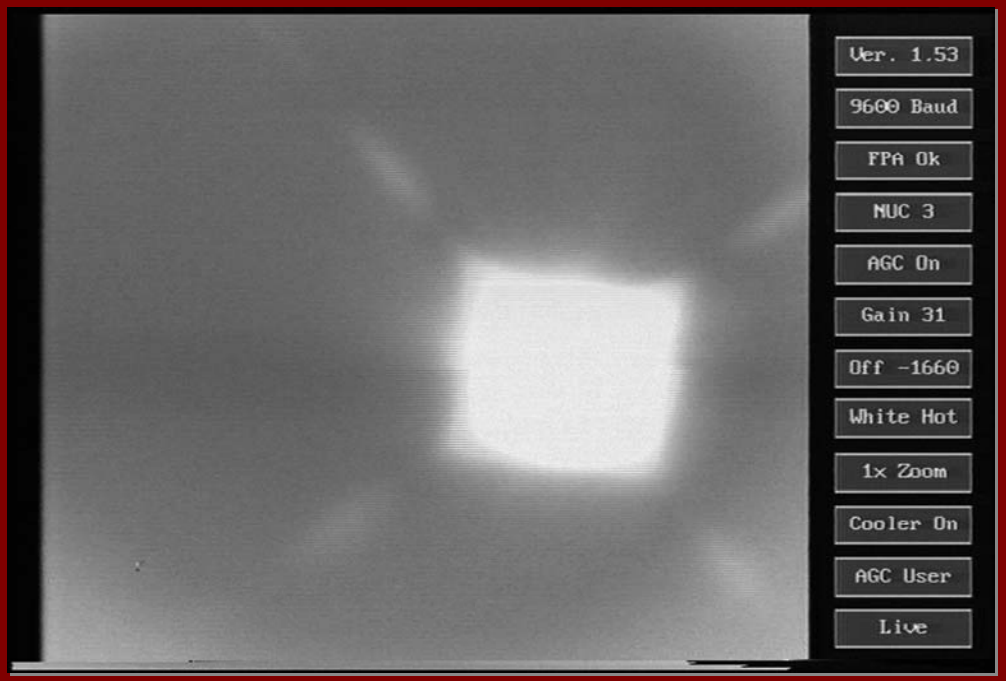
Summary

- Manage Risk
- Performance Counts



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Back-Up Slides

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Points to Remember

- Manage the margins
- Lead from the front
- Retain your options as long as possible
- Ideas and execution are the keys
- Careful planning and deliberate execution
- Be right or wrong; but not indecisive
- Maintain rigor in change control
- Be data rich and opinion poor
- Manage to a common set of metrics

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Risk Drivers

- Complexity
- Process Controls
- Precision
- Reliability
- Cost
- Schedule
- Technical Maturity
- Producibility
- Discipline & Rigor
- Quality Assurance
- Configuration / Change Management

So What?

Risk Management Drives Performance

… and
Past Performance Drives Future Growth