

THE VALUE OF PERFORMANCE.
NORTHROP GRUMMAN

Industry Executives Panel

*How Systems Engineering
contributes to program success –
some real-world examples*

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Today's Environment Continues to Demand Complex and Resilient Systems

- Changing environment and threats
- More emphasis on multi-mission capability, adaptability and resiliency
- Results in increased complexity in functional architecture
- Systems have complex interfaces with numerous components
- The growth in the software footprint shows no signs of slowing down
- Demand for an effective systems engineering capability



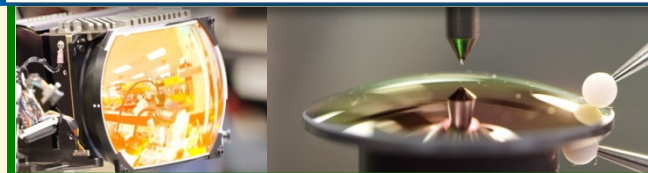
Leveraging Systems Thinking to Deliver Mission Success

Security Needs Overlap

Aerospace Systems



Technology
Services



Mission
Systems

Solving the most challenging, complex problems and delivering innovative and affordable solutions that make our world safer

- **Emphasis on Systems Engineering**
 - Adequately resourced and sufficient expertise is applied early in the program
 - Requirements are well-managed
 - Acceptance and sell-off criteria is clearly defined
 - Leading indicators / predictive metrics leveraged to manage program
 - Agreed-to entrance and exit criteria at key milestones with the customer

- **Enterprise Risk & Opportunity Management**
 - Top-down emphasis and process management
 - Process is engrained/utilized throughout the program life cycle (horizontal/vertical)

- **Scope Management and Partnership**
 - Clear scope definition (requirements specificity and acceptance criteria)
 - Orchestrating baseline integrity throughout the product development cycle
 - Change management “cell”
 - Frequent customer-contractor teamwork

- Comprehensive Planning, Scheduling and Resourcing
 - Baseline development & control
 - Healthy IMS with disciplined critical path development, management and analysis
 - Detailed labor resource planning, execution and control
 - Currency of schedule - “Page and Line”
- Program Integration
 - Early adequate planning
 - Breadth and depth
 - Program dependencies managed effectively
- Subcontract Management (includes Supply Chain Management)
 - Subcontract management strategy in-place and aligned with execution strategy
 - Scope management with suppliers aligned with top-level program needs
 - Insight into primary and sub-tier subcontractors – no surprises
 - Ts and Cs alignment

Systems Engineering Success = Program Success



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