



PRESIDENT'S COMMISSION ON MOON, MARS & BEYOND

04

Systems-of-Systems

Important – But Easier Said Than Done

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Space Exploration Management

- Mission Success
- Do It Right the First Time
- Leverage Expertise of Many Different Organizations & Infrastructures
- Need to have a clear understanding of
 - Cost, Schedule, Performance
 - Across Many Different Systems & Platforms
- Understand the Full Impact of Epochs -- Many Spirals and Sub-Spirals
 - Inter-related Cost and Schedule
- Manage Risks
- SEIT Early and Often

Thick Integration Capability

SEIT Functions

- Architecture Definition and Modification
- Effects Based – Parametric Analysis
- Requirements and Analysis Decomposition and Allocation
- Defining and Controlling Interfaces
- Configuration Management
- Commonality/Standard Definition and Monitor & Control
- Risk, Margin, TBX Management, Retirement and Reallocation
- Test and Verification Standards
- Program Execution Cadence



The Eyes, Ears and Muscle of the Program Manager

Attributes

- Now Thru Program Entire Life Cycle
- Mission Understanding -- Best People
 - With Recent H/W & S/W Program Experience
- Consistency of Purpose – Watch IPTs
- Disciplined Process & Controls
- **Timely** and Analytic Based Decision Making



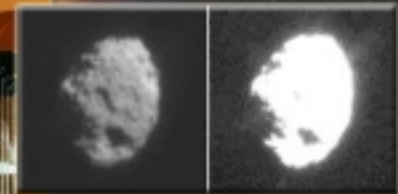
Hubble Space Telescope



Stardust



Mars Rover



Cost, Schedule, Cross Program Synergy

Systems of Systems Integration Models

Missile Defense Agency Systems Integration

- Two National Teams
- Industry & Government
- Requirements & Architecture Focus
- OCI Fire Wall

A/F Transformational Communications Architecture

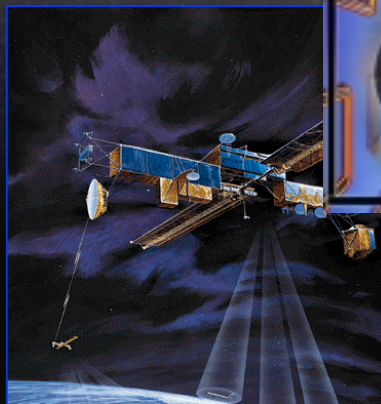
- Large SEIT of Many Companies
- Industry & Government
- Total Systems of Systems SEIT
- OCI Fire Wall



THADD



MKV



Space Segment



Network



Tech Development

Full Spectrum Mission Support