



# INCOSE Model Based Systems Engineering (MBSE) Challenge

June 26, 2007



# MBSE Challenge Background



- Initiated at INCOSE 2007 IW to promote MBSE
- Considered part of INCOSE MBSE Initiative
- Briefed to the TLT
- MBSE Lead – Mark Sampson
- Deputies – R. Griego, S. Friedenthal



# MBSE Challenge Objectives



- Demonstrate solution to “Challenging” problems using MBSE
  - real world problem domain
  - non-trivial, broad application
  - shareable (e.g., unclassified, non-proprietary)
- Expect multiple MBSE Challenge Teams focused in different application domains
  - e.g., space systems, energy, urban transportation



# MBSE Challenge Purpose



- Share insights, issues, and codification of MBSE practices
- Promote wider usage of MBSE
- Solve real world problems
- Attract resources to advance the MBSE practice
- Foster collaboration among and across domains



# MBSE Challenge Teams



- Focused in a particular application domain
- Potential participants
  - INCOSE Chapters, Working Groups
  - Companies and Organizations
  - Government agencies
  - Academia/Research
  - Other professional associations
- Encourage broad participation and collaboration
  - Geographically
  - Technical expertise
  - Tools sets used



# MBSE Challenge Timeline



- IS07
  - Present Challenge Team Approach
    - Description of problem
    - Technical approach to be used
    - Expected deliverables and outcomes
    - Collaboration approach
- IW08
  - Present Challenge Team Status
- IS08
  - Present Challenge Team Results
    - Solution and supporting models
    - MBSE practices used
    - Model interchange capabilities
    - MBSE metrics/value
    - MBSE findings, issues, and recommendations
    - Training material
    - Plan forward
- ISO9, 10, ...
  - Follow-on Challenge Team Results



# IS07 MBSE Challenge Agenda



- 3:30-3:45 Introduction/overview
- 3:45-4:10 Space Systems
- 4:10-4:35 Avionics Sys/SW Integration
- 4:35-5:00 Mechatronics
- 5:00-5:25 Intelligent Enterprises
- 5:xx-5:yy GEOSS Architecture
- 5:25-5:30 Wrap up/Next Steps



# Other Possible MBSE Application Domains



- Energy
- Urban transportation
- Automotive
- Health Care
- Net Centric Operations
- Anti-Terrorism
- ...

**Other Teams Welcome To  
Step Up to “THE CHALLENGE”**