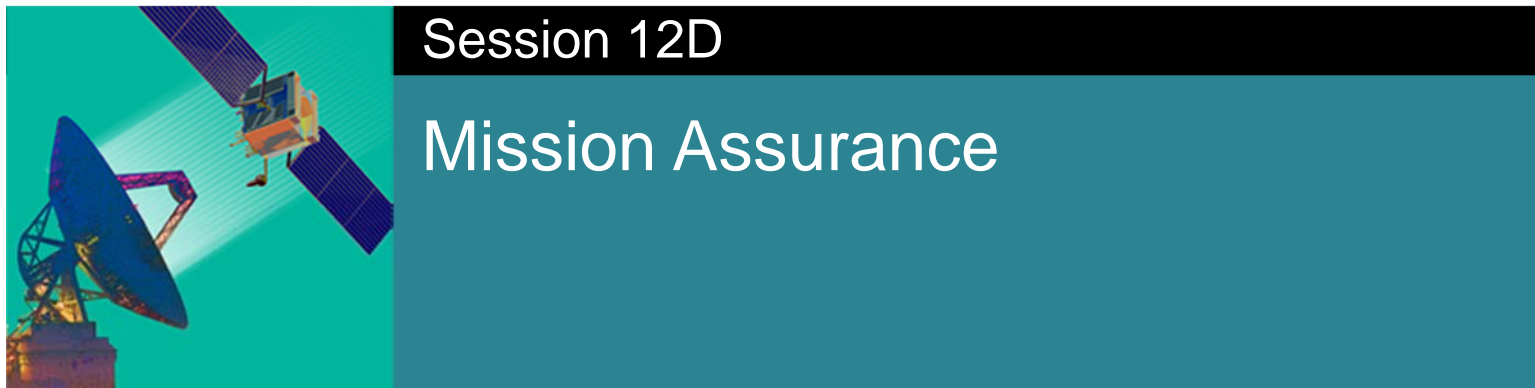


Working Group Outbrief

Ground System Architectures Workshop

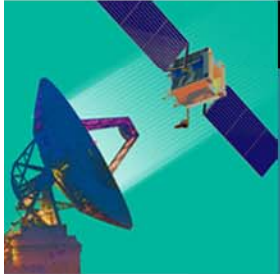


Session 12D

Mission Assurance

Julie White, Al Hoheb, The Aerospace Corporation

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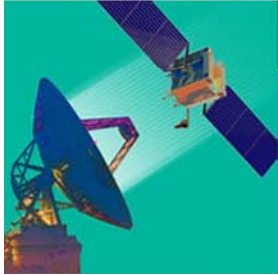


Session 12D Ground Systems Mission Assurance

Session Goals

- Background: Most space systems Mission Assurance information concentrates on the space segment
- Goals:
- Define Ground System Mission Assurance
 - “Disciplined application of proven processes”
- Recap the published results from last year's very successful working session "What Contributes to Ground Systems Mission Assurance,"
- Convene a panel to discuss Ground Systems Mission Assurance, "What Works, What Doesn't Work”
- Provide presentations on emerging standards and their application

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Session 12D Ground Systems Mission Assurance

Presenters/Panelists

Panel Session and Discussion - *What Works, What Doesn't in GS MA?*

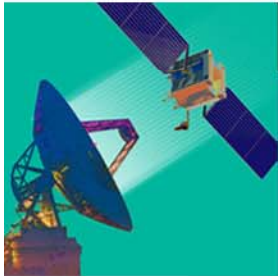
(Chris Stevens, The Aerospace Corporation moderator)

- Rick Donnelly/The Aerospace Corporation
- Jody Gunn/JPL
- Rick Hefner/Northrop Grumman
- Brian Shaw/The Aerospace Corporation

Ground Systems Mission Assurance Presentations

- *Software Development Std for Space Systems (Karen Owens and Suellen Eslinger, The Aerospace Corporation)*
- *Ground System Test Standard (Brian Shaw, The Aerospace Corporation)*
- *ESA Software Standards for GS MA (Dr. Mario Merri, ESA)*
- *The Role of Process: What Works and What Doesn't (Rick Hefner, Northrop Grumman)*

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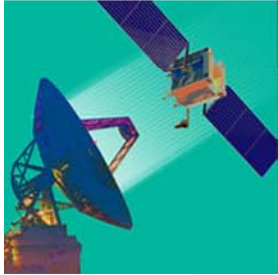


Session 12D Ground Systems Mission Assurance

Key Points

- What Works
 - We have a body of GS standards mature enough to discuss, tailor and put on-contract
 - Enables the acquirer role and defines the developer role to do the right things
 - Our mistakes are repeatable, resulting in captured LL, and enabling discussion
- What Doesn't Work
 - We need to discuss the set of standards, debate their use, tailor them to the application, ensure they fit the purpose and business case
 - Address the question “How much MA is enough?”
 - Throwing out proven processes because they cost a lot
 - “Certification” of MA
 - Antagonistic role between QA/MA and developers
 - People resist, but need to be trained on proven processes
 - Lessons Learned need to be communicated; not easy to enable/automate

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Session 12D Ground Systems Mission Assurance

Conclusions

- Collectively, the ground systems community has sufficient knowledge to ensure performance and assure the mission
 - An exception is inadequate Mission Assurance confidence measures; to define how much MA is enough
- Individually, we are challenged to leverage community knowledge
 - Pressure to perform and have barriers to re-tool or re-train
 - Inadequate communication of the body of knowledge (techniques, heuristics, measures, lessons learned, etc.)
- While MA is “everyone’s” job, it is important to have the creative tension of MA/QA professionals to provide the independent view
- In the spirit of improved sharing
 - ESA standards: www.ecss.nl
 - US standards: www.everyspec.com