

# AIAA/USU Conference on Small Satellites

***“There are small satellites but  
there are no small missions!”***

General (ret) Lance W. Lord

August 15, 2006

# AIAA/USU Conference on Small Satellites Overview

- “Where we have been” – The Environment and where we find ourselves today
- “Where we are going” – The demands of the space profession
- “Shaping the Future” – It’s the best way to predict what will happen next!
- Note: I’ll talk from the payload perspective but we all realize launch and ground systems are critical parts of the mission.

# Where we have been

- *“Although many space goals require the use of large, complex satellites, there remain important roles for smaller, low-cost systems.”* AIAA, **Small Satellites: Neglected Opportunity Position Paper**, August 1994
- Velocity of change is high in our business but the basic need for small satellites remains – high risk R&D, testing and training of space professionals and military applications

# Where we have been

- So how do we find a way to match our small satellite programs with the resources needed to sustain them given the current environment?
- We have to take advantage of the changing environment and form new partnerships for tomorrow's questions not those of today. **“There are small satellites but no small missions!”**

# Where we are going

- Shaping the future is possible – but the profession demands a framework for success.
- Why frameworks are important – think concept of operations (CONOPS) from your partner's perspective
- Technical failures do happen but without a CONOPS and dialogue bad things will surely happen
- A couple of good CONOPS examples: 1-800 GPS Problems and Presidential Policy on Position, Navigation and Timing

# Where we are going

- Two more good CONOPS examples: Space surveillance information sharing and defense use of commercial satellite communications
- Therefore, I argue the best way to set the course for future success is to develop *CONOPS partnerships*
- Closer relationships between developers and users from the beginning is essential -- I call this “talking to the troops” or T4

# Shaping the Future

- A key component of a competitive framework and strategy for shaping the future is a closer developer and user relationship -- ask the tough questions about emerging opportunities!
- For example: How can we use small satellites to make the application of force more precise?
- How can we use small satellites to help the soldier on the ground or the airman or sailor?
- How can we use small satellites to dissuade or deter an enemy?
- If we can help answer these kinds of questions the resources will become available to build, launch and operate the systems

# Summary

- “Where we have been” -- roles remain for small satellites
- “Where we are going” -- establish a framework for success with CONOPS partnerships
- “Shaping the future” -- ask the tough questions about emerging opportunities