NASA's Commercial Communications Technology Program

Presented to:
The Workshop on Satellite Networks:
Architectures, Applications, and Technologies
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Vision

"Changing the way NASA and the Nation communicate through space"
Commercial Satellite Communications Program

• Mission
  – Enable NASA’s Use of Commercial Satellites for All Its Operational Needs In and From Space
    • Ensure Availability of Commercial Assets
    • Reduce NASA Operations Costs
  – Promote Communications Satellites for the Maximum Benefit to Society through:
    • Increased Economic Security
    • Cost Effective Services
    • Universal Availability
    • Capable, Reliable Communications for All Government Users

LeRC Space Communications Program

LeRC Roles:
• Lead Center for spectrum management
• Enabling technology for high-performance comm systems
• Investment leverage from SatCom industry sector & DoD
NASA Transition to Commercial Assets

Vision for Tomorrow....

NASA

Commercial GEO

Commercially owned and operated services and frequencies

Commercial Infrastructure

Commercial LEO/ MEO

NASA owned and operated services and frequencies

NASA LEO S/C

White Sands

NASCOM Net

NASA-Industry Relationship

Enterprise Missions

Comm & Ops Services

Pre-Competitive Technology

Commercial Setcom's

Commercial: New & Improved Services for Commercial & Government Users

Commercial Customers

Aerospace Industry Sector

NASA

SOMO

LeRC

Transition to Commercial Assets

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Government Led Programs Elements and Objectives for Satellites in Global Information Infrastructure

A. Coordinate/Integrate Government Program (NASA, DoD, etc.)

- Use government “Space Technology Alliance” - AF Research Lab, NASA, NRO, DDR&E, BMDO, ONR
- Coordinate with “Satellite Alliance” for industry/academic/government interaction and program development.
- Government led workshops
Government Led Programs Elements and Objectives for Satellites in Global Information Infrastructure

B. Achieve Seamless Interoperable Satellite & Terrestrial Networks

- Implement via architectures, standards, & protocols.
- Develop and adopt commercial standards in close cooperation with industry (e.g. Telecommunications Industry Association)
- Perform experiments & validation testing (GIBN, ACTS, etc.)
- Develop next generation architectures with goal of global interoperability.

C. Establish Program to Enhance Satcom Professional, Technical Workforce

- Meet needs of Communications Satellite Industry.
- Involve Universities, Govt. Research Labs, and Industry.
- Integrate with Precompetitive Technology Program

Program Development Discussion - Tue. June 2
O’Hare Room, 3:30pm
Ms. Joanne Poe, Moderator
D. Precompetitive Technology Development

- Vision - Global Information Infrastructure
- Target - Next generation space-based networks.
- Integrated commercial and government customers
- Goal - Prioritized program plan
- Participants - Academia/Government/Industry

Program Development Discussion - Wed. June 3
O'Hare Room, 3:30pm
Dr. Charles Raquet, Moderator

E. Effective Utilization of Spectrum & Orbit Assets

- Create commercial satellite conducive national/international regulatory environment.
- Advance government/non-government shared spectrum
- Share satellite/wireless terrestrial communications services