SMALL SATELLITE RISKS & INSURANCE

20TH ANNUAL SPRSA SYMPOSIUM

NASA Ames Research Center
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BUSINESS IN SPACE
UNIQUE OPPORTUNITIES AND CHALLENGES

• Using space assets can be very rewarding
  ➢ National Security and Science
  ➢ Commercial Business

• Risk associated with space assets are unique
  ➢ Industry veterans have historically driven the methodology
  ➢ Entrepreneurial ventures challenging the status quo

• Many risks are insurable, but some risks are not
  ➢ Physical damage to payloads, launch systems and ground equipment
  ➢ Liability for damages to others
  ➢ Execution of your business
RISKS OF DOING BUSINESS IN SPACE MUST BE CAREFULLY MANAGED

• Physical damage / mission success
  ➢ Loss of your assets
  ➢ Consequences to your business

• Liability for damages to others
  ➢ Certain liabilities to 3rd parties allocated by regulations
  ➢ Certain liabilities to related parties determined by contract
  ➢ Certain liabilities to others remain

• Performance of suppliers, customers, and regulators
  ➢ Technology risk / execution risk
  ➢ Financial risk & credit risk
  ➢ Political risk & contract risk
  ➢ Cyber and computer crime risk
INSURABLE RISKS
COVERAGES TAILORED TO SPACE RISKS

• Property coverages
  ➢ Spacecraft prelaunch, launch and in-orbit coverages readily available
  ➢ Coverages for buildings, contents, equipment readily available
  ➢ Includes coverage for consequential losses

• Liability coverages
  ➢ Launch liability to 3\textsuperscript{rd} parties coverage required by the launching state
  ➢ In-orbit liability coverage / product liability coverage
    • Required by certain states
  ➢ D&O, general liability, fiduciary liability, cyber liability, etc.
  ➢ Errors and omissions and professional liability
INSURABLE RISKS
INSURANCE PURCHASING PRACTICES

• Large commercial programs typically buy insurance or have alternative risk funding mechanisms in place
  ➢ Operators, manufacturers, launch service providers
  ➢ Driven by shareholder desire to protect their investments

• Emerging commercial programs often self insure
  ➢ Entrepreneurial ventures challenging the status quo
  ➢ Increased tolerance for accepting risk
  ➢ Shorter lived smallsats can be considered as consumables

• US Government programs typically self insure
  ➢ Some risk transferred to contractors / supplies contractually
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