Space Technology Mission Directorate
Science Mission Directorate

Small Spacecraft Systems Virtual Institute
(S³VI)

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NASA desires to advance clear communications, coordination, and consistent guidance regarding small spacecraft activities across the agency. To that end, $S^3$VI shall:

- Enhance internal integration
- Act as single point of contact for information dissemination
- Serve as repository for streamlined development approaches and processes
- Provide US smallsat research community with access to mission enabling information
  - Within NASA
  - Other government agencies (OGAs)
  - Academia
  - Industry
Year 1 Tasks

- Develop and maintain the NASA Small Spacecraft Web Portal
- Support the NASA Small Spacecraft Community of Practice (CoP)
- Support the NASA Small Spacecraft Coordination Group (STMD/C. Baker + SMD/M. Seabloom).
  - HEO coordination in process
- Maintain and update the STMD Small Spacecraft Technology State of the Art (SoA) report
  - Linked into Web Portal
Web Portal
https://www.nasa.gov/smallsat-institute
Key S³VI Web Portal Features

- Small Spacecraft Body of Knowledge (SSBoK)
  - SoA (already exists); online web access, self submittal feature
  - Lessons Learned dbs (to be developed/acquired)
  - CoP db (after transition from OSMA)
  - Other dbs (i.e., component catalogues, test libraries, etc.)
- NASA small spacecraft mission and tech funding opportunities
- Launch opportunities (including CSLI, DoD*, commercial)
- Working Groups repositories, collaboration tool kits, proceedings
- Smallsat Seminar Series
- External links of interest to community, including upcoming smallsat workshops, conferences, events, etc.
- Virtual Collaboration Tools

*Some DoD launch information not for wide dissemination.*
• Small Spacecraft Reliability WG (*up and running*)
  – Co-chaired by GSFC and JPL; NASA + OGAs membership
  – Create pathway for science and exploration quality smallsats
  – First open meeting with industry March 14-15 in Pasadena
    • $S^3$VI proposes to collect, organize, and ingest proceedings and support future activities
• Smallsat Access to Space WG (*in formulation*)
  – Initial members: GSFC (lead), ARC, MSFC, KSC, and JPL
  – Support NASA-wide rideshare capabilities and policies development
• Examples of other potential WGs (*TBD start dates*)
  – Smallsat propulsion
  – Deep space communications for smallsats
  – Smallsat power
  – Smallsat testing philosophy (*may be part of Reliability WG?*)
  – Frequency licensing for smallsats
  – Orbital debris
Top Challenges

• Ability to extract key knowledge from Centers, other sources
  – Proprietary/competitive issues
  – Rapidly changing domain

• Data management/distribution policies
  – ITAR
  – Proprietary data
  – Sensitive But Unclassified (SBU) data
  – Competition sensitive information
  – NO CLASSIFIED MATERIALS/DATA
    » Developing data management plan to address various concerns; includes a tiered access plan
Forrester Research: Once a business deploys four to five collaboration tools, there is a significant improvement in benefits from the technologies.

Gartner: “Hyperconnectedness will lead to a push for more work to occur in formal and informal relationships across enterprise boundaries… and that has implications for how people work and how IT augments or supports that work.”

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• https://www.surveymonkey.com/r/HKSSZSK