



National Aeronautics and
Space Administration

EXPLORE

NASA SmallSats and CubeSats Update

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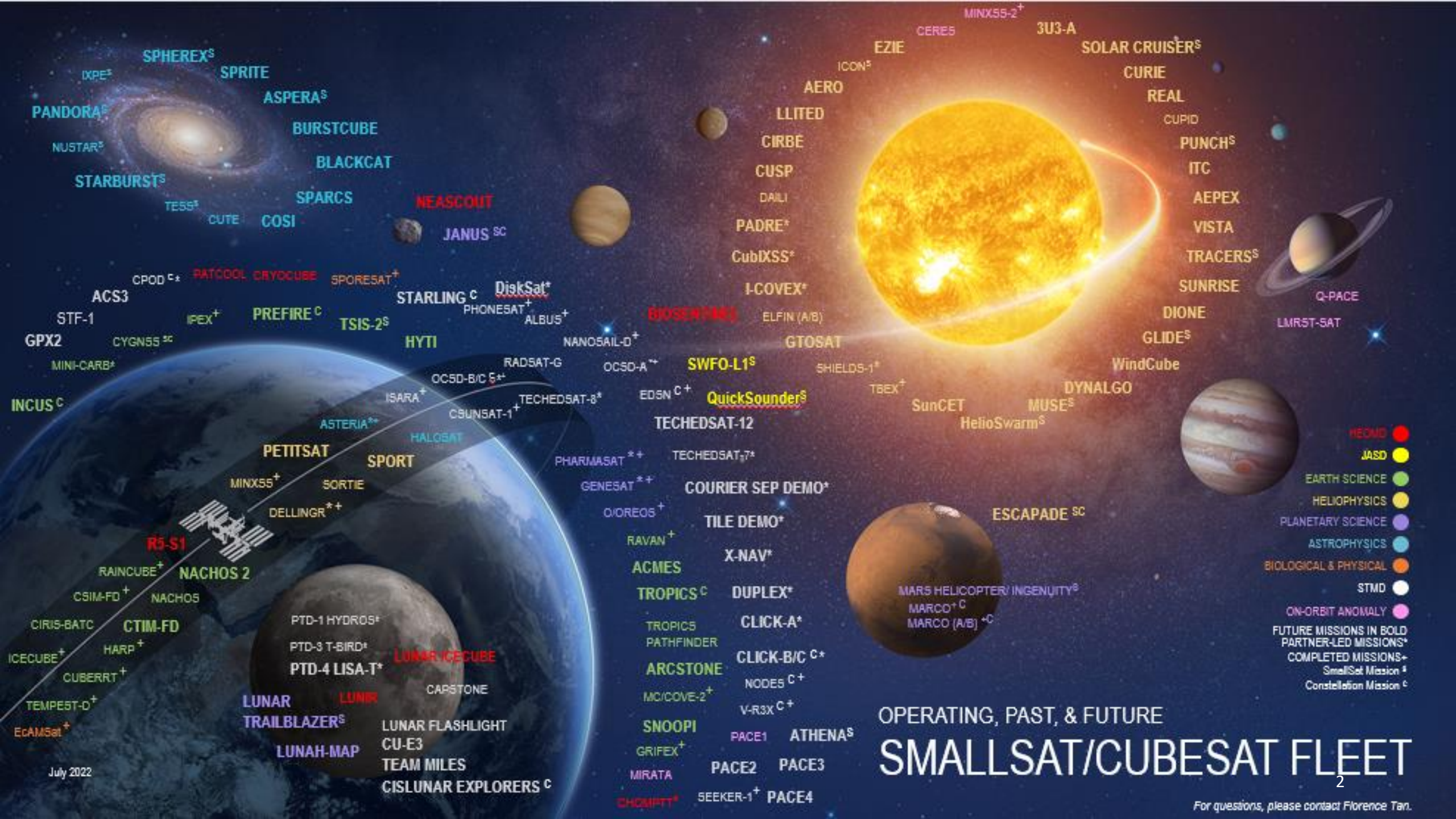
Science Mission Directorate (SMD)

Chair, Small Spacecraft Coordination Group

NASA Headquarters

May 2022





- HEOMD ●
- JASD ●
- EARTH SCIENCE ●
- HELIOPHYSICS ●
- PLANETARY SCIENCE ●
- ASTROPHYSICS ●
- BIOLOGICAL & PHYSICAL ●
- STMD ●
- ON-ORBIT ANOMALY ●
- FUTURE MISSIONS IN BOLD
- PARTNER-LED MISSIONS⁺
- COMPLETED MISSIONS⁺
- SmallSat Mission⁺
- Constellation Mission⁺

OPERATING, PAST, & FUTURE SMALLSAT/CUBESAT FLEET

NASA SmallSat Status

Missions (formulation or development) as of April 2022

ASPERA (APD)
BLACKCAT (APD)
BURSTCUBE (APD)
COSI (APD)
PANDORA (APD)
SPARCS (APD)
SPHEREX (APD)
SPRITE (APD)
STARBURST (APD)
ACMES (ESD)
ARCSTONE (ESD)
CTIM-FD (ESD)
HYTI (ESD)
INCUS (ESD)
NACHOS (ESD)
PREFIRE (ESD)
SNOOPI (ESD)
TROPICS (ESD)
TSIS-2 (ESD)
AEPEX (HPD)
AERO/VISTA (HPD)
CIRBE (HPD)
CUBIXSS (HPD)
CURIE (HPD)
CUSP (HPD)
DIONE (HPD)
DYNAGLO (HPD)
ESCAPADE (HPD)
EZIE (HPD)
HELIOSWARM (HPD)
GLIDE (HPD)
GTOSAT (HPD)
I-COVEX (HPD)
ITC (HPD)
LLITED (HPD)
MUSE (HPD)
PADRE (HPD)
PETITSAT (HPD)
PUNCH (HPD)
REAL(HPD)
SOLAR CRUISER (HPD)
TRACERS (HPD)
SPORT (HPD)
SUNRISE (HPD)
SunCET (HPD)
WINDCUBE (HPD)
SWFO-L1 (JASD)
JANUS (PSD)
LUNAR TRAILBLAZER (PSD)
LunaH-Map (PSD)
ACS3 (STMD)
CISLUNAR EXPLORERS(STMD)

CLICK A (STMD)
CLICK B/C (STMD)
CAPSTONE (STMD / HEOMD)
COURIER SEP DEMO (STMD)
CPOD (STMD)
CU-E3 (STMD)
DUPLEX (STMD)
LUNAR FLASHLIGHT (STMD)
PACE-2 (STMD)
PACE 3 (STMD)
PACE 4 (STMD)
PTD-3 TBIRD (STMD)
PTD-4 LISA-T (STMD)
STARLING (STMD)
TEAM MILES (STMD)
TECHEDSAT-12 (STMD)
X-NAV (STMD)
BIOSENTINEL (HEOMD)
LUNAR ICECUBE (HEOMD)
LUNIR (HEOMD)
NEASCOUT (HEOMD)
Studies Selected
DORADO (APD)
ARCS (HPD MIDEX)

Launched/Deployed

CIRIS-BATC (ESD)
CUPID (HPD)
SORTIE (HPD)
DAILI (HPD)
TECHEDSAT-7 (STMD)
TILE DEMO (STMD)

Deorbited/ EOM

CSIM-FD (ESD)
CUBERRT (ESD)
DELINGR (HPD)
HaloSat (APD)
HARP (ESD)
RAINCUBE (ESD)
TBEX (HPD)
TEMPEST-D (ESD)
V-R3X (STMD)

Failed

Q-PACE (PSD)
PACE 1 (STMD)

Operating

CIRIS-BATC (ESD)
CYGNSS (ESD)
TROPICS Pathfinder (ESD)
CHOMPTT (STMD)
CUTE (APD)
ELFIN (HPD)
PTD-1 HYDROS (STMD)
ICON (HPD)
IXPE (APD)
NUSTAR (APD)
ICON (HPD)
RADSAT-G (STMD)
SHIELDS (HPD)
TECHEDSAT-8 (STMD)
TESS (APD)

White: 3U or 6U units
Dark Blue: MiniSat
Yellow: Multiple units
Blue: ESPA-Class Mission
Green: 12U Mission

Missions in formulation or development are trending towards larger form factors or constellations

Activities 2021-2022

- Community Engagement with PI communities
 - SmallSat LEARN “Learning from Experiences, Achievements, and Resolution Navigation” Forum
 - SmallSat CoP, Science, and Industry Webinars
- Lessons Learned Reports/Websites
 - Released [2021 Virtual SmallSat Forum Report](#)
- State of The Art Report
- SmallSat Reliability Institute [Website](#)
- Access to Space Opportunities (VADR, FOP, CSLI)



NASA Ask Me Anything Panels

Location: ESLC 130 (auditorium)

Ask Me Anything Panel 1: **Tues., Aug. 9, 9:45AM – 10:45AM**

- Access to Space
- Conjunction Assessment and Mitigation

Ask Me Anything Panel 2: **Tues., Aug. 9, 12:45PM – 1:45PM**

- CyberSecurity and Enterprise Protection
- Communications Licensing
- Anomaly Reporting

Ask Me Anything Panel 3: **Wed., Aug. 10, 9:45AM – 10:45AM**

- Small spacecraft-related opportunities available in NASA's Research Opportunities in Space and Earth Sciences (ROSES) 2022 and other solicitations

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with us COME

"Twenty years from now you will be more disappointed by the things that you didn't do than by the ones you did do. So throw off the bowlines. Sail away from the safe harbor. Catch the trade winds in your sails. Explore. Dream. Discover." Mark Twain