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Access to Space for Small Satellite Missions (5)

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## NASA'S CUBESAT LAUNCH INITIATIVE – ENABLING BROAD ACCESS TO SPACE

**Abstract**

CubeSats are playing an increasingly larger role in exploration, technology demonstrations, scientific research and educational investigations at the National Aeronautics and Space Administration (NASA). These miniature satellites provide a low-cost platform for NASA missions, including planetary space exploration; Earth observation; and technology demonstrations such as cutting-edge laser communications, energy storage, in-space propulsion and autonomous movement capabilities. They also allow educators an inexpensive means to engage students in all phases of satellite development, operation and exploitation through real world, hands-on research and development experience on NASA-funded opportunities. These advancements in turn are enabling an emerging and fast growing commercial industry to support a wide application user base.

NASA as an agency of the U.S. federal government has the responsibility to ensure the full use of the nation's investment in research and development, and broaden the U.S. technology base by moving new knowledge into the development of new products and processes outside the government. It is required to encourage and facilitate cooperation among Federal laboratories, state and local governments and universities, in order to assist in the transfer of technology to the marketplace. The CubeSat Launch Initiative utilizes Cooperative Research and Development Agreements with satellite development partners to provide collaborating parties access to NASA goods, services and facilities that are not being fully utilized to accomplish NASA mission needs and which can be made available on a non-interference basis to support the transfer of NASA technology development.

For the past six years, NASA has enabled the launch of these small research satellites, or CubeSats through the CubeSat Launch Initiative for educational institutions, universities, non-profit organizations and NASA field centers through the Educational Launch of Nanosatellite (ELaNa) missions. Launch opportunities are made available via existing launch services of government payloads on previously planned launches, commercial missions or as International Space Station deployments, as well as dedicated CubeSat launches from the newly selected Venture Class Launch Services contracts. Since its inception of CubeSat Launch Initiative, NASA has selected over 125 CubeSat missions from 72 unique organizations and has launched 50 CubeSats into orbit on twelve ELaNa Missions. This briefing will provide a status and overview of missions and community involvement, availability of launch vehicles along with key new technologies and science investigations being investigated.