

## CubeSat Launch Initiative ELaNa 35 and 33

Mission Name	Launch Date	Deployment Status	Rocket	Mission Description	Organization(s)
PTD-1 (Pathfinder Technology Demonstrator 1)	1/24/21	1/24/2021 01:16.28 UTC from Sherpa-FX dispenser	Falcon 9	This project will test the operation of a variety of novel technologies on five demonstration missions on a 6U CubeSat. PTD-1 is the first of five of these demonstrations that will test the HYDROS-C water thruster developed by Tethers Unlimited.	NASA's Ames Research Center & Glen Research Center, Tyvak Nanosatellite Systems
VR3X	1/24/21	1/24/2021 00:59:09 UCT Maverick's Mercury Dispenser	Falcon 9	V-R3x consists of three 1U CubeSats aimed to demonstrate novel spacecraft swarm technologies and techniques for radio networking and navigation. This small scale demonstration will allow the implementation for future larger multi-spacecraft missions, enabling NASA to pursue its future science, technology, and exploration goals.	NASA's Ames Research Center, Stanford University, and Carnegie Mellon University
IT-SPINS (Ionospheric-Thermospheric Scanning Photometer for Ion-Neutral Studies)	2/20/21	6/29/2021	NG-15 – Antares	This mission will provide the first two-dimensional (2D) tomographic imaging from a 3U research CubeSat, addressing the basic nature of the nocturnal ionosphere. Once deployed, the 3U CubeSat will commence a more than six-month mission of measuring the properties of Earth's atmosphere at the edge of outer space.	Montana State University, Applied Physics Laboratory at Johns Hopkins University