



D3 mounted to a host satellite



DEORBIT
DRAG DEVICE

**REDUCES THE CHALLENGES OF
SMALL SPACECRAFT OPERATORS:**

- Orbital debris mitigation
- FCC '5-year orbital debris rule' compliance
- Avoid collisions and risk of generating new debris
- Space traffic management and satellite control
- Improve ground radar visibility
- Lower mission cost by reducing complexity
- Passive system, no explosive risk
- Fits up to 12U and 700km altitude

D3 is a solution of:



275 E Hillcrest Drive, Suite 160-139
Thousand Oaks, CA 91360

O: 805.941.1028 | F: 805.941.1029

ORBOTICSYSTEMS.COM



DEORBIT DRAG DEVICE





Focus on Your Mission And Leave the Deorbiting to Us

Orbotic Systems, Inc. Introduces the Deorbit Drag Device, the D3. Our device provides a safe, cost-effective method to speed up spacecraft disposal after its mission science is complete.

D3 modulates spacecraft drag force, while controlling orientation and orbital decay. It can be used to control a satellite constellation, deorbit a satellite and target the earth surface re-entry location. It does all of this passively, without any rocket propellant. Any operator of a small spacecraft can use D3.

SIMPLE | RELIABLE | LOW-COST | NON-PROPULSIVE

Our product will allow your satellite to be deorbited by modulating drag force to lower the satellite and allow a more controlled re-entry into the atmosphere without adding expensive propulsive devices, explosive propellant, or major modifications to the satellite.

D3 is designed to be compliant with the September 2022 FCC rule *"...requiring non-geostationary satellite operators to deorbit their satellite after the end of operations to minimize the risk of collisions that would create debris"*. By physically attaching D3 to a host spacecraft prior to flight, a satellite operator could operate in Low Earth Orbit regimes where they normally might not be compliant, due to the recently implemented five-year post-mission disposal rule.

This self-contained product will interface directly onto the CubeSat or small spacecraft with a mere increase in the overall size by 10cm x 10cm x 7.1cm (1U CubeSat form factor). D3 will be commanded to operate via an encrypted end-of-life command, at which time it will utilize the host spacecraft's power to deploy its drag surfaces.

Orbotic Systems is flexible and can work with customers to upgrade D3 to provide atmospheric entry targeting, telemetry, and alternative power sources to provide the spacecraft operator with mission flexibility and end-of-mission alternatives.

This product has been functionally tested in a ground environment and was successfully deployed in September 2022 from the International Space Station.

D3 is ready for your next satellite launch.

Link to the FCC Ruling: <https://www.fcc.gov/document/fcc-adopts-new-5-year-rule-deorbiting-satellites>

How it All Started

D3 was developed under the guidance of Larry Fineberg and his team from NASA, who combined efforts with Dr. Riccardo Bevilacqua, Professor of Aerospace Engineering at the University of Florida for further engineering and testing of the product. Orbotic Systems entered into an agreement with NASA and the University of Florida to acquire the exclusive license to manufacture and commercialize D3. As part of the NASA CubeSat Launch Initiative (CSLI) ELaN mission #45, D3 was launched on the SpaceX Falcon Mission CRS-25 in July 2022 and deployed by Nanoracks from the International Space Station in September 2022. That same month, the FCC came out with their 5 Year Orbital Debris Rule for Satellites in Low Earth Orbit.

Orbotic Systems announced in March of 2023 the production partners are in place to start shipping D3's within 90 days of an order.

Contact Orbotic Systems to place your order today and check the FCC requirement off your satellite launch to-do list.

