



1st Round Webinar Announcement of Opportunity EXOpod CubeSat Deployment

Date: July 31, 2024

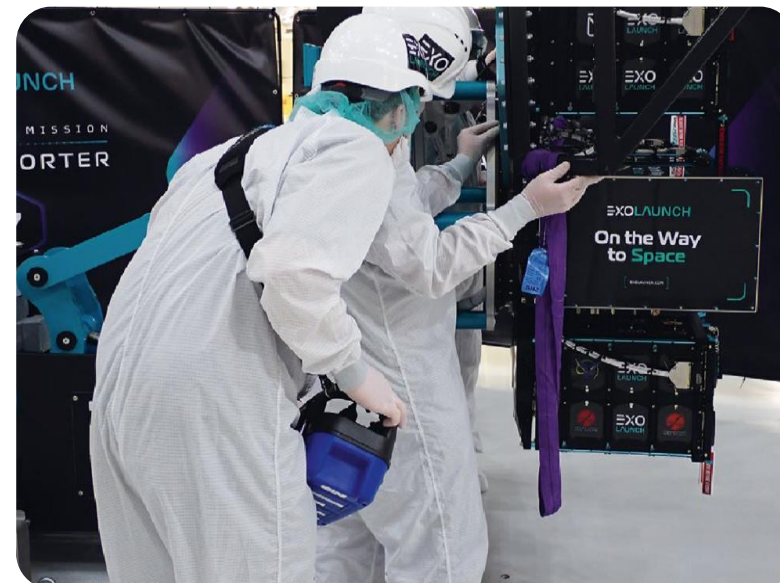
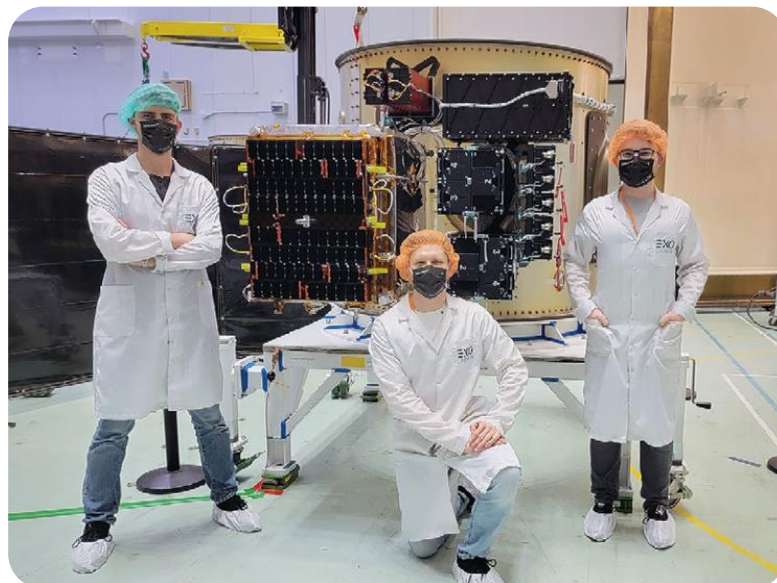


EXOLAUNCH

Market-leading provider of innovative satellite launch integration and deployment technologies with extensive mission management expertise, deep engineering capabilities, customer-centric approach, and a successful track record of delivering mission critical solutions to the commercial space industry

SPACE. LET US TAKE YOU THERE.

[EXOLAUNCH.COM](https://www.exolaunch.com)





**ROBERT W.
SPROLES, PH. D.**

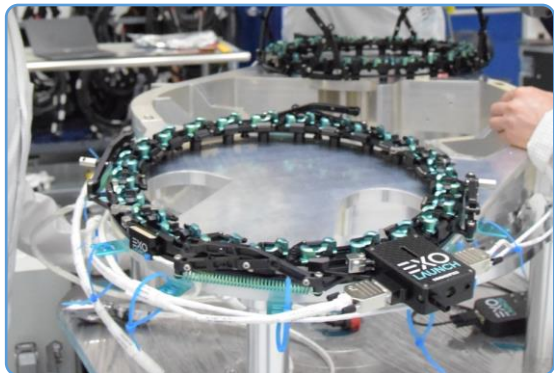
CTO



**CONNOR
POLLOCK**

Mission Director

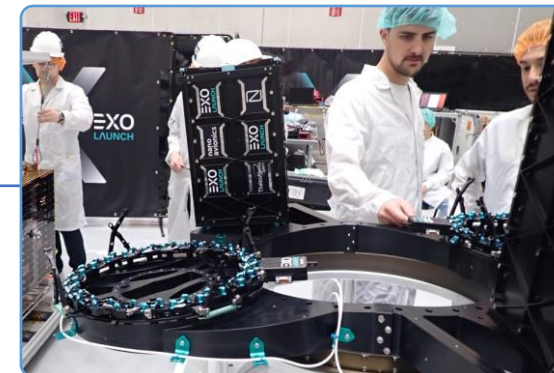
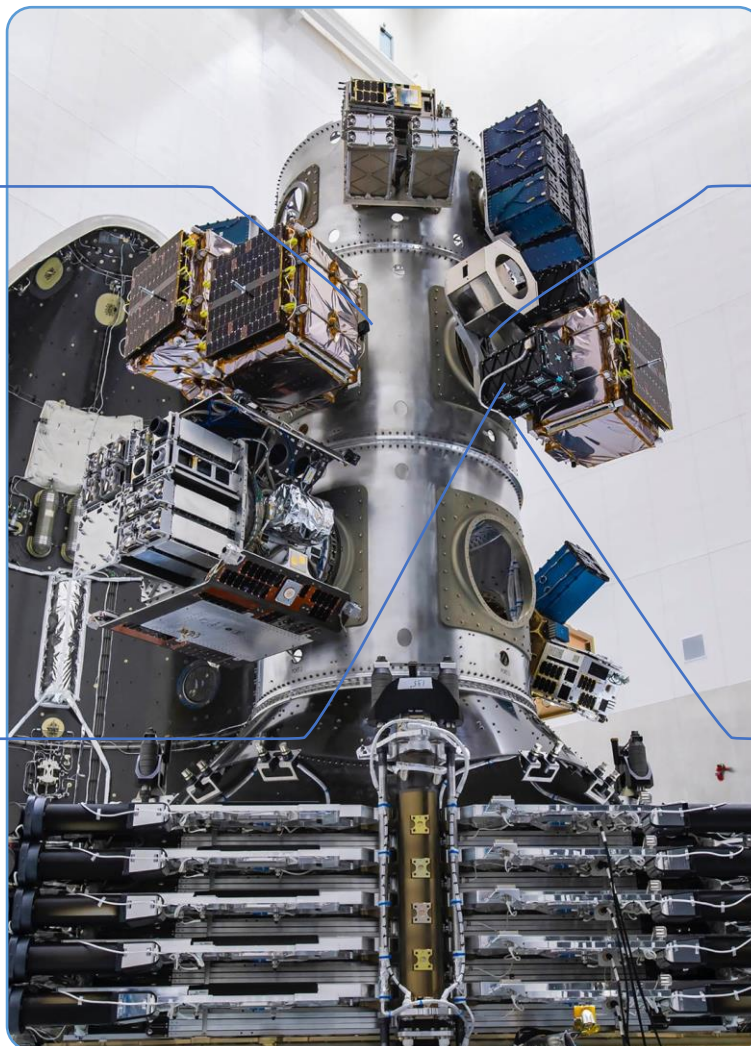
FLIGHT TESTED, PROPRIETARY MISSION CRITICAL HARDWARE



CARBONIX
Separation System



EXOPOD
Cubesat Deployer



EXOPORT
Multi-Satellite Adapter



EXOBOX
Deployment Sequencer

MARKET LEADER WITH EXTENSIVE EXPERIENCE ON MULTIPLE LAUNCH VEHICLES AND DEPLOYMENT SCENARIOS

TRACK RECORD OF DIVERSE GLOBAL LAUNCH PARTNERS

2017-2019

2020-2021

2022

2023

2024

(CONTRACTED/EXECUTED)

2025-2026

(CONTRACTED/FORECASTED)

- > **SOYUZ-2**
17 smallsats
Baikonur
- > **SOYUZ-2**
14 smallsats
Vostochny
- > **SOYUZ-2**
11 smallsats
Vostochny
- > **SOYUZ-2**
11 smallsats
Vostochny
- > **SOYUZ-2**
28 smallsats
Vostochny
- > **ELECTRON**
1 smallsat
RocketLab LC1
- > **SOYUZ-ST**
1 smallsat
Guiana Space
Centre

- > **FALCON 9**
Starlink **9**
3 smallsats
Cape Canaveral
- > **FALCON 9**
Starlink **11**
3 smallsats
Cape Canaveral
- > **SOYUZ-2**
15 smallsats
Plesetsk
- > **FALCON 9**
Transporter **1**
30 smallsats
Cape Canaveral
- > **FALCON 9**
Transporter **2**
29 smallsats
Cape Canaveral

- > **FALCON 9**
Transporter **3**
29 smallsats
Cape Canaveral
- > **FALCON 9**
Transporter **4**
12 smallsats
Cape Canaveral
- > **FALCON 9**
Transporter **5**
21 smallsats
Cape Canaveral
- > **ELECTRON**
1 satellite
RocketLab LC1

- > **FALCON 9**
Transporter **6**
37 smallsats
Cape Canaveral
- > **FALCON 9**
Transporter **7**
21 smallsats
Vandenberg
- > **FALCON Heavy** **GEO**
1 smallsat (First in GEO)
Cape Canaveral
- > **FALCON 9**
Transporter **8**
32 smallsats
Vandenberg
- > **ELECTRON**
1 smallsat
RocketLab LC1
- > **PSLV**
1 smallsat
SHAR
- > **FALCON 9**
Transporter **9**
34 smallsats
Vandenberg

- > **ELECTRON (Northstar)**
4 smallsats
RocketLab LC1
- > **FALCON 9**
Transporter **10**
28 smallsats
- > **FALCON 9**
Bandwagon **1**
4 smallsats
- > **ELECTRON (NASA)**
1 smallsat
- > **FALCON 9**
Transporter **11**
- > **FALCON 9**
Bandwagon **2**
- > **FALCON 9**
Transporter **12**
- > **ISAR Spectrum**
- > **ARIANE 6**
- > **PSLV**

- > **FALCON 9**
Transporter **13**
- > **Falcon 9** **Dawn-Dusk**
- > **FALCON 9**
Bandwagon **3**
- > **FALCON 9**
Transporter **14**
- > **FALCON 9**
Bandwagon **4**
- > **FALCON 9**
Transporter **15**
- > **FALCON 9**
Transporter **16**
- > **FALCON 9**
Transporter **17**
- > **FALCON 9**
Transporter **18**
- > **STARSHIP ...**



Exolaunch's SpaceX Heritage



STARLINK-9
JUN 2020



STARLINK-11
AUG 2020



TRANSPORTER-1
JAN 2021



TRANSPORTER-2
JUN 2021



TRANSPORTER-3
JAN 2022



TRANSPORTER-4
APR 2022



TRANSPORTER-5
MAY 2022



TRANSPORTER-6
JAN 2023



TRANSPORTER-7
APR 2023



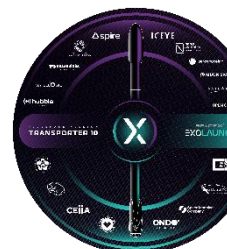
GEO MISSION 1
APR 2023



TRANSPORTER-8
JUN 2023



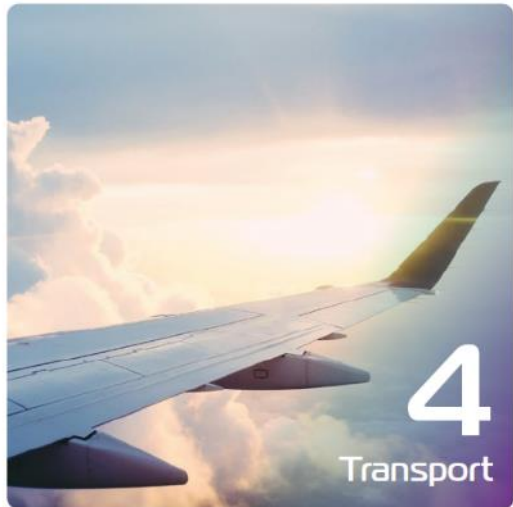
TRANSPORTER-9
NOV 2023



TRANSPORTER-10
MAR 2024

270+
customer satellites
flown with
SPACEX

Taking Your Ideas To Orbit



Exolaunch transforms complex global launch campaigns into a seamless and cost-effective customer experience

Customer Base

100+ LOYAL, A-LIST GLOBAL CLIENTS, WITH 95%+ REPEAT BUSINESS

GOVERNMENT



COMMERCIAL



ACADEMIA



EXOpod Deployer

EXOpod

Cubesat deployer

FLIGHT HERITAGE
SINCE 2017

22
Missions

93
Deployers
flown

24
Cubesats



EXOpod Nova 12U



EXOpod Nova 16U



EXOpod Nova 6U/8U



EXOpod 12U

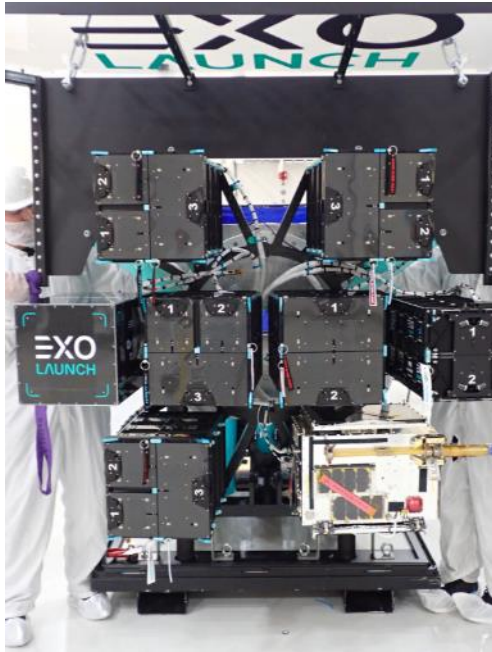
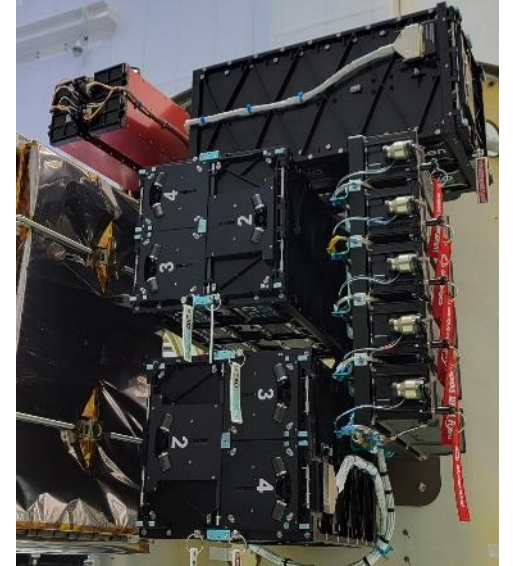
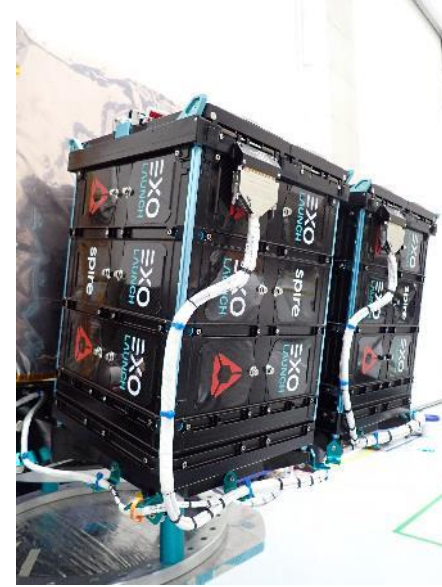
EXOpod NOVA is the most advanced cubesat deployment system on the market. It is available in 6U, 8U, 12U and 16U sizes, and can be broken down into smaller slots to accommodate cubesats of any size.

EXOpod NOVA redefines the envelope for CubeSats with as much as 400% additional volume for lateral protrusions, 30% extra mass, and full backwards compatibility with the CubeSat design standard to suit a wide range of use cases. EXOpod is the first commercially-available deployer to deploy a 16U satellite in LEO, and EXOpod NOVA is the only one to do so in GEO.

EXOpod Fact Sheet

	COMPATIBILITY	CLAMPING MECHANISM
	Flight-ready on multiple launch vehicles and quickly adaptable to most launchers on the market.	Cubesats are secured in their slots using our industry-leading clamping mechanism once the doors are locked.
FLEXIBILITY	FAST RESET TIME	INCREASED AVAILABLE MASS
Fast-growing flight record of cubesats ranging from 0.25U to 16U.	EXOpod can be integrated, triggered and reset in a matter of minutes.	Higher available mass than any other deployer catering to cubesats on the market.
ACCESS WINDOWS	FLIGHT HERITAGE	ITAR-FREE
Windows on three sides of the deployer provide access to the cubesat within, useful for inspection, testing and RBF pin removal after integration.	EXOpods have flown on 22 missions with 256 cubesats since 2017.	The system is not subject to export restrictions of any kind.
		MADE IN GERMANY

EXOpod History



Accessing Documentation

Documentation Links - Exolaunch EXOpod User Manual

Direct Link

https://exolaunch.com/documents/EXOpod_Nova_User_Manual_March_2024.pdf

- Browse to <https://exolaunch.com>
- In the header, select “PRODUCTS”
- In the selection box, select “EXOPOD”

The screenshot shows the Exolaunch website interface. The header includes the Exolaunch logo and navigation links: SERVICES >, PRODUCTS >, LAUNCH HERITAGE, NEWS, CAREERS, CONTACT, and LOG IN. The PRODUCTS > dropdown menu is open, displaying icons and names for CARBONIX, QUADRO, EXOPOD, EXOTUBE, EXOPORT, and EXOBOX. A red arrow points from the '1. https://exolaunch.com' instruction to the website header. Another red arrow points from the '2. Select "PRODUCTS"' instruction to the PRODUCTS > link. A third red arrow points from the '3. Select "EXOPOD"' instruction to the EXOPOD icon in the dropdown menu.

1. <https://exolaunch.com>
2. Select “PRODUCTS”
3. Select “EXOPOD”

On the right side of the screenshot, the 'Cubesat Deployer' section is visible. It lists the Nova 16U, Nova 12U, and Nova 6U/8U models. Below the list is a large image of the EXOpod Nova cubesat deployment system. To the right of the image is a description of the system. Below the description is a 'DOCUMENTS' dropdown menu. A red arrow points from the '4. Scroll to "Cubesat Deployer" section' instruction to the Nova 16U, 12U, and 6U/8U models. Another red arrow points from the '5. Select "DOCUMENTS"' instruction to the DOCUMENTS dropdown menu. A third red arrow points from the '6. Select "EXOPOD NOVA"' instruction to the EXOPOD NOVA option in the dropdown menu.

4. Scroll to “Cubesat Deployer” section
5. Select “DOCUMENTS”
6. Select “EXOPOD NOVA”

Cubesat Deployer

The EXOpod is the most advanced cubesat deployment system on the market. It is available in 6U/8U, 12U and 16U sizes which can be broken down into smaller slots to accommodate cubesats of any size.

EXOpod Nova, the latest generation of the EXOpod line, is rapidly expanding what the cubesat design standard (CDS) is capable of – cubesats launching with Nova can now increase the volume of their lateral protrusions by **400%** and their mass by **30%**, enabling a wider and more powerful array of satellite designs and use cases.

DOCUMENTS ▾

- EXOPOD
- EXOPOD NOVA
- TESTPOD

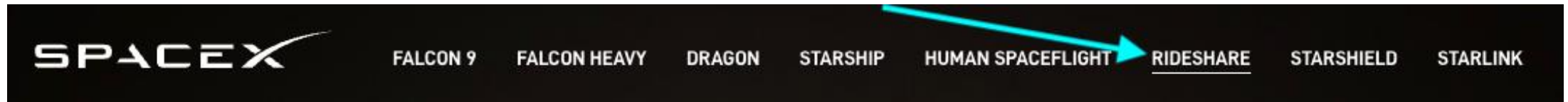
- On the deployer page, scroll to Cubesat Deployer
- Select “DOCUMENTS”
- Select “EXOPOD NOVA”

Documentation Links - SpaceX Transporter Rideshare Payload User Guide

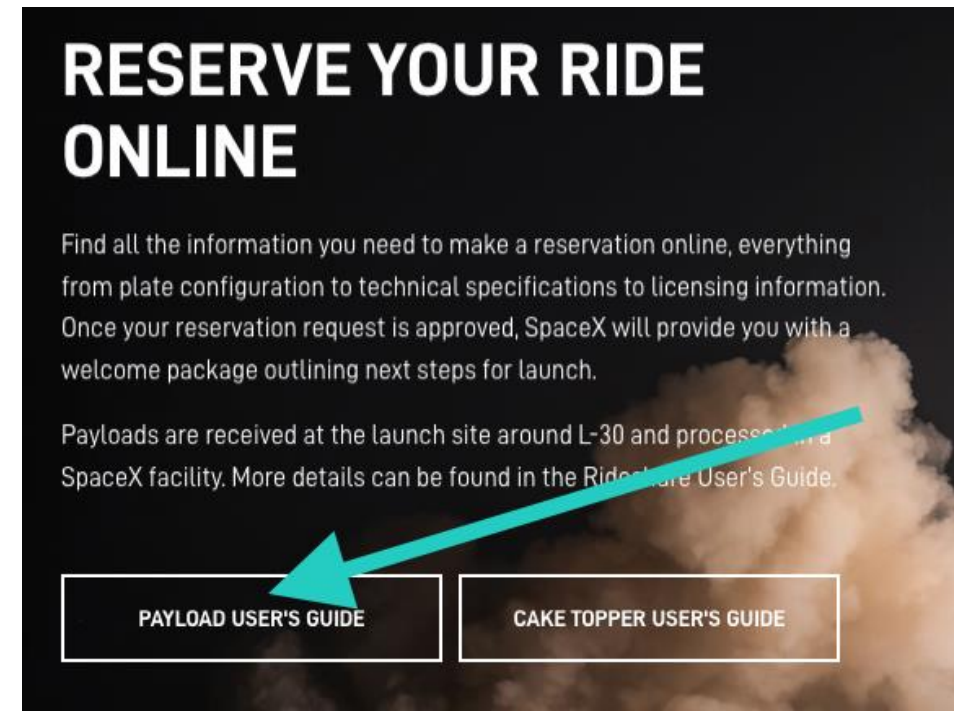
Direct Link

https://storage.googleapis.com/rideshare-static/Rideshare_Payload_Users_Guide.pdf

- Browse to <https://www.spacex.com>
- In the header, select “RIDESHARE”



- Scroll until you see “Payload User’s Guide”



Design and Testing Requirements

Design Requirements

- The Cubesat must be a 1U, 2U, or 3U cubesat and must adhere to the dimensions and mass in Table 1, page 15, of the Exolaunch EXOpod NOVA User Manual.

Table 1: Maximum Cubesat dimensions

Description		Units	Letter	1U, 2U, 3U, 4U
Cubesat Rail Length (Z)	[±0.5 mm]	mm	A	1U: 113.5 2U: 227.0 3U: 340.5 3U XL: 365.9* 4U: 454.0
Cubesat Rail Width (X)	[±0.1 mm]		B	100.0
Cubesat Rail Height (Y)	[±0.1 mm]		C	
Max Space Between Rails (X)			D	87.2
Max Space Between Rails (Y)			E	
Max Protrusion from Rail (X)			F	25.0
Max Protrusion from Rail (Y)			G	
Number of Tuna Cans		-	-	1
Distance Between Tuna Cans		mm	-	-
Maximum Mass***		kg	-	1U: 2.5 2U: 4.5 3U: 7.0 4U: 9.0

Environmental Test Requirements

- The Cubesat must be tested in accordance with the SpaceX RPUG requirements for fully containerized cubesats
 - See Section 6.6 of the SpaceX RPUG.
 - SpaceX allows a qualification / acceptance approach, or a protoflight qualification approach
 - All REQUIRED tests must be performed as specified.
 - Advised test are recommended, but not required.

Table 6-2: Containerized CubeSat Unit Test Levels and Durations

Test	Required/Advised	Unit/Fleet Qualification and Acceptance Approach		Flight Unit
		Qualification	Acceptance	Protoflight Qualification
		Unit Not Flown	Unit Flown	Unit Flown
Quasi Static Load	Not Required			
Sine Vibration				
Acoustic				
Shock	Advised	6 dB above MPE, 3 times in each of 3 orthogonal axes	Not Required	3 dB above MPE, 2 times in each of 3 orthogonal axes
Random Vibration ¹	REQUIRED	3 dB above acceptance for 2 minutes in each of 3 axes	MPE spectrum for 1 minute in each of 3 axes	MPE spectrum for 1 minute in each of 3 axes
Electromagnetic Compatibility ²	REQUIRED	6 dB EMISM by Test or 12 dB EMISM by Analysis	Not Required	6 dB EMISM by Test or 12 dB EMISM by Analysis
Combined Thermal Vacuum and Thermal Cycle ³	Advised	±10 °C beyond acceptance for 27 cycles total	Envelope of MPT and minimum range (–24 to 61 °C) for 14 cycles total	±5 °C beyond acceptance for 20 cycles total
Pressure Systems ^{4,5}	REQUIRED	Pressures as specified in Table 6.3.12-2 of SMC-S-016 following acceptance proof pressure test, duration sufficient to collect data. Minimum 2.0 times MEOP	1.5 times ground MEOP for pressure vessels and pressure components. Other metallic pressurized hardware items per References 4 and 5 from SMC-S-016	See Note 5
System-Level Pressure Leak Test ⁶	REQUIRED	Not Required	Full Pressure System MEOP Leak Test per Section 6.8.4	Full Pressure System MEOP Leak Test per Section 6.8.4
Pressure Vessel Leak Test ⁶	REQUIRED	Not Required	Pressure Vessel Level MEOP Leak Test per Section 6.8.4	Pressure Vessel Level MEOP Leak Test per Section 6.8.4

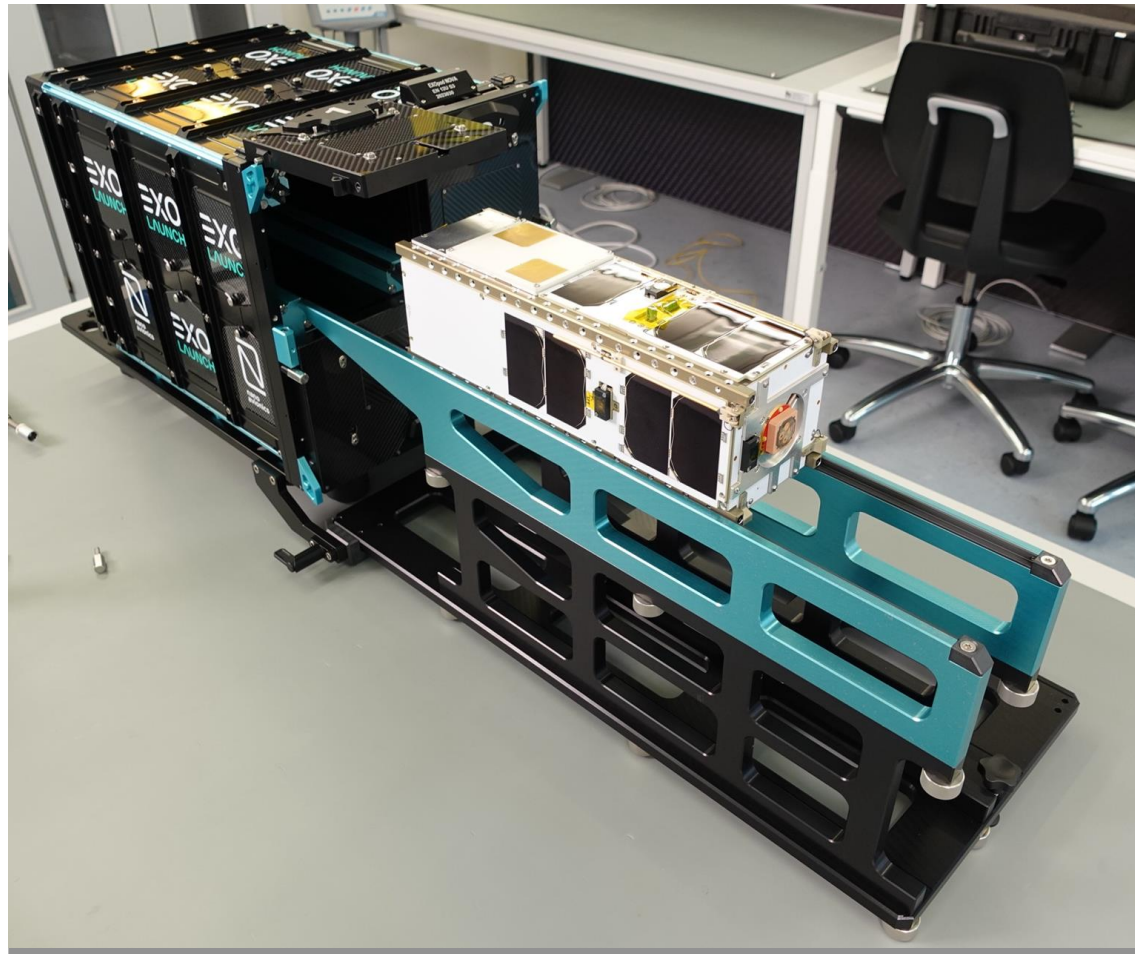
Documentation Recommendation

It is strongly recommended that you read the Exolaunch EXOpod User Manual and SpaceX Rideshare Payload User Guide in their entirety before submitting your application.

Integration and Shipment Process | CubeSats

Cubesat Shipping and Integration Process

Upon successful assembly and testing of your cubesat, you will ship your satellite to the Exolaunch HQ in Berlin, Germany, where Exolaunch will integrate the cubesat into the EXOpod NOVA deployer.



EXOLAUNCH



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SEPARATION SYSTEMS
IN-SPACE SERVICES