



Propulsion Test Engineer, Comet SmallSat Propulsion

We are looking for a Test Engineer to join our small design team to develop, test, qualify and manufacture the new generation of Bradford's Comet propulsion system for smallsat applications. Comet is a launch-safe and cost-effective water-based propulsion system with flight heritage since 2018.

The Comet product line, originally developed in 2016 by Deep Space Industries (DSI) in California, was acquired by Bradford Space in 2018. The new Bradford's facility in Luxembourg is taking over the responsibility to refine the existing Comet product line and conduct all future operations, including production, testing and commercialization.

In this endeavour, you will be an instrumental member of a small team building the new generation of Bradford's Comet water-based propulsion system. Our small team in Luxembourg focuses on the objective of building a reliable, performing, and mass-optimised water-based propulsion system for the nano-microsatellite market and future ISRU missions/applications. As a Test Engineer you will take the responsibility for development of a testing architecture and methodology, and the execution of both developmental and qualification testing campaigns.

The operation will aim to blend the responsible high-quality engineering practices of traditional aerospace engineering while implementing the rapid iterative development methods and dynamic workplace culture of a NewSpace style start-up.

Key responsibilities

- Conceive, design, and deploy a general testing architecture for the new Comet thruster
- Set up and run test campaigns, both in-house and at external facilities
- Develop test plans, procedures and analyse test results
- In conjunction with the design engineers, contribute to design and improve testability
- Execute test campaigns on components, prototypes and qualification models
- Setup manufacturing test processes and procedures
- Manage and maintain the data captured during tests run
- Conduct hardware troubleshooting together with engineering design
- Prepare testing reports, both internally and for external stakeholders
- Identify and plan upgrades in the equipment and facilities to meet volume production demand

Essential skills

- Bachelor's degree or higher education degree in Aerospace engineering, Mechanical or related engineering discipline
- 3+ years of working experience in space propulsion systems, testing, design, and/or development.
- Knowledge of typical spacecraft tests, including TVAC, vibration, shock, EMC, etc.
- Comfortable understanding complex mechanical schematics and/or manufacturing data

- Experience developing and testing hardware from concept to prototype
- Proficient English language skills

Strongly valued/desired skills

- Familiarity with relevant testing procedures & standards (e.g., ECSS, ASTM, IPC)
- Knowledge of build-for-test design and automated testing principles
- Experience designing or specifying and setting up test equipment, harnesses and software
- Previous experience operating environmental test apparatuses (thermal chambers, shakers etc)
- Programming experience (C++, Python, Labview, Matlab, Excel, etc.)
- Experience with CAD and FEA tools
- Thermal, mechanical design, electronic, or software experience
- Data management and analysis skills
- Knowledge about the space environment, hardware product assurance techniques and the motivations and purpose of the qualification test process
- Ability to create and maintain procedures for a manufacturing team
- Familiarity with commercial low-cost/SmallSat components and subsystems
- Exposure to full-lifecycle spacecraft subsystems development process

What we can offer in return

We offer you the chance to develop a completely new generation of launch-safe thrusters to enable additional capabilities to future smallsat missions, from station keeping and debris removal to prospecting and ISRU missions in our solar system. You would take on an influential role in a new, revenue-generating company, with a mandate to focus on technical design and implementation on an aggressive development schedule featuring rapid hardware iterations. The position is in Luxembourg, a beautiful, cosmopolitan and welcoming country at the heart of Europe.

Duty station: Luxembourg, with occasional travel needed

We would usually expect candidates to have 3+ years' experience in relevant fields. The role is open to candidates of any age, gender, orientation, that have or can get work authorization within the EU.

Is this you? If so, drop us an email:

edder.rabadan-santana@bradford-space.com

If you apply, in your email / cover letter, please briefly describe what you think a good testing architecture/plan should do, or properties it should have, to ready a product for use in space!