



# Job Profile

**Job Title: Cryogenic Hydrogen Gas Venting and Lightning Protection –Technical Internship**

**Location: Cambridge**

**Business Unit: Marshall Futureworx**

**Department: N/A**

**Reports to (Job Title): Head of Engineering**

**Job family, track and Level: Engineering and Technical, Specialist, L2**

**Date Created: 22/11/23**

**Created by: Steven Tweddell / Marta Barrabino**

## Purpose of the position

We are seeking a highly motivated and talented Technical Intern to join our dynamic engineering team. This internship provides a valuable opportunity to gain hands-on experience in and contribute to real-world engineering projects.

Embark on a transformative internship experience at Marshall Futureworx, collaborating with experts in the aerospace industry. This opportunity focuses on cryogenic hydrogen gas venting and material/component selection for lightning isolation. Contribute to the development of a fully integrated liquid hydrogen aircraft fuel system designed for ground demonstration. Dive into the forefront of aerospace technology, exploring materials that ensure both safety and performance in extreme conditions.

## Responsibilities:

- Collaborate with the technical team to support ongoing integrated liquid hydrogen aircraft fuel system project and initiative.
- Assist in research and development efforts focusing on cryogenic hydrogen gas venting and material/component selection for lightning isolation
- Conduct experiments, perform tests, and collect data under the guidance of more senior engineer.
- Assist in the design, material and component selection.
- Conduct analysis and calculations to support designs and evaluations.
- Document and communicate findings, progress, and results to the project team.
- Keep up-to-date with industry trends, technologies, and best practices relevant to the assigned project.
- Participate in team meetings and contribute ideas and suggestions to improve project outcomes.
- Follow established safety protocols and maintain a clean and organized work environment.



- Support continuous improvement activities as part a “perpetual beta” philosophy
- Support examination and root cause analysis and identify and implement improvements based on the output of that analysis
- Develop subject matter expertise through ongoing research, application of skills, mentoring of other team members and participation in relevant specialist groups

## Capability

### Behavioural Competencies:

- Curiosity, learning and open mindedness
- Entrepreneurship
- Strategic thinking
- Agile thinking
- Teamwork and collaboration
- Energy, enthusiasm and excellent work ethic
- Pro-activity and self-motivation
- A global mindset, comfortable in diverse cultures and environments
- Comfortable with uncertainty and able to embrace change
- Environmental and social responsibility
- Health and safety conscious

### Technical Competencies:

- Solid understanding of material science principles and concepts.
- Strong analytical and problem-solving skills.
- Ability to discuss and develop concepts using scientific and material skills
- Written and verbal communication skills including presentation skills
- Analytical skills in combination with evidence based decision making
- Proficient in technical software and tools related to the specific area of engineering (e.g., AutoCAD, MATLAB, SolidWorks, etc.).
- Manufacturing of mock ups and/or prototypes highly desirable
- Test and evaluation of technology and products highly desirable
- Commercial and financial acumen highly desirable

### Education:

- Current enrolment in Material Science degree program

### Experience:

Prior internship or relevant project experience is a plus.

### Additional local needs

- Comfortable with a hybrid working environment
- Able to travel for business both in the UK and abroad if required
- Able to hold UK Security Clearance
- Full UK driving license highly desirable