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