Mechanical Systems Engineer

We know that air pollution is cutting short people's lives and causing health problems, that greenhouse gas emissions are warming the planet and drastically changing our ecosystems, and we know that the emissions from the world's maritime fleet is a major contributing factor in all of this. We also know how to solve this problem. Our mission is to enable marine operators of all kinds to enjoy the benefits of zero emission hydrogen fuel cell technology. We are building the first commercial hydrogen fuel cell ferry in the world and that is just the beginning. Let's get this done together.

Role

The most advanced marine powertrain in the world comes close to running itself, with a little support. As our lead Mechanical Systems Engineer you are responsible for design of all the flow systems, packaging components into single saleable unit, and integration of systems to achieve the highest energy efficiencies possible. This is a design and implementation position and you should be comfortable whether behind a desk or in the shop building prototypes.

Responsibilities

- Design integrated systems with a variety of disparate components.
- Prepare piping and instrumentation diagrams (PIDs) and bill of materials (BOMs).
- Prepare detailed 2D and 3D drawings of packaged systems.
- Proper pipe, fitting, and valve sizing for a variety of fluids including air, water, and hydrogen.
- Specify sensors and instrumentation, lead or participate in designing operating logic considering startup, shutdown, transient, and steady-state operation of systems
- Write specifications, and select components and equipment after thorough evaluation.
- Hands-on build of prototype systems.
- Designing and perform component and system test programs.
- Perform risk analysis, failure mode analysis, and hazard identification studies.
- Work with our Marketing, Product, and Sales staff to develop market- and customer-specific solutions.
- Communicate easily with customers, strategic partners, and other stakeholders regarding the details of GGZEM's core hydrogen technologies.
- Some travel may be required.

Job Qualifications

Minimum qualifications:

- B.S. or M.S. degree in Mechanical Engineering, Chemical Engineering, or Marine Engineering with emphasis on mechanical engineering concepts.
- Systems engineering experience
- Hands-on experience assembling mechanical systems with piping and tubing, instrumentation, compressors, pumps, valves, etc.
- 2D and 3D software CAD skills, e.g. AutoCAD, Solidworks, etc.
- Experience specifying proper materials compatible with media and usage requirements

- Experience preparing clear written summaries and giving presentations
- Proactive, innovative, and flexible mindset
- Comfortable working as a key contributor in a small startup team
- Open minded to occasionally work outside your specified role to help the company do what it needs to do to meet deadlines and scale quickly
- Experience with and enthusiasm for with tinkering, making, hacking, hands-on hobbies and projects, etc.
- Legal authorization to work in the United States

Preferred qualifications:

- Professional Engineering (PE) License or Engineer-In-Training (EIT) Certificate
- Multidisciplinary abilities as evidenced by additional major/minor degrees, job training, and/or experience in one or more of the following:
    - Control system engineering: instrumentation and sensors, PLC programming and algorithmic software, digital and analog signal acquisition, data logging
    - Electrical engineering: high voltage (up to 1,000 V) AC and DC, power conversion and regulation, batteries and capacitors, motors, etc.
- Proficiency with system simulation software, e.g. Simulink, ASPEN, etc.
- Working familiarity with common engineering design codes and standards (e.g. ASME, ASTM, CGA, NFPA, etc.)

Perks

GGZEM provides:

- Full benefits package
- Equity ownership in a high-growth company
- Competitive salary with bonus structure
- Flexible work hours and environment
- Training and growth opportunities
- Minimal bureaucracy
- Empowerment to do your job
- Fun, challenging work with a purpose