

Job Opening

Senior Process Engineer



Overview

Electrochaea GmbH is seeking an experienced Senior Process Engineer to support technology commercialization for its biological methanation process. The Company's developing a disruptive new technology for conversion of carbon dioxide into methane, uses renewable power and a variety of CO₂ feed stocks. Electrochaea's power-to-gas technology represents a commercially viable solution for utility-scale energy storage, grid balancing, and carbon recycling. After a successful investment round and with a new industrial partner the Company is planning to expand its activities worldwide

The core of the technology is a proprietary biocatalyst – an adapted strain of methanogenic archaea, a single-celled anaerobic microorganism – which efficiently converts hydrogen and carbon dioxide into pipeline-grade methane for direct injection into the existing natural gas grid.

The Company is commercializing this power-to-gas technology in markets with high penetration of wind and solar energy (Denmark, Sweden, Germany, Benelux countries, UK, California, etc.), where the intermittent nature of renewable energy sources leads to prolonged periods of excess electricity production. Favorable markets are also defined in terms of electricity prices, incentive schemes and existing infrastructure.

Description of Position

The Senior Process Engineer will be part of a dynamic and international team, who are working with an innovative new technology with international appeal. The Senior Process Engineer will work in a small team to further develop our methanation process, prepare design documentation such as P&IDs, PFDs, Mass & Energy balance, equipment lists, specifications, datasheets etc. These documents together will provide the front-end engineering package which will be the basis for design of our methanation plants.

The Senior Process Engineer will also be part of the team interfacing between the Company and vendors, EPC contractors, partners, site owners, and suppliers for contract negotiations and for QA of documentation required for bids, qualification of suppliers and contractors. Other important duties will be to provide insight to the Project, Technology Development and Business Development teams on compliance with relevant standards and to work with project managers to organize HAZOP, safety, and environmental reviews and documentation.

Detailed Main Tasks and Activities

- Development, revision, and review of engineering documentation including:
 - Process drawings: PFD, P&ID, Process Schematics
 - Process calculation: M&E balance, equipment sizing, fluid and heat transfer calculations
 - Equipment specification
 - Process control and safety documentation including functional requirements specification, control narrative, C&E matrix, RATs
- Overview of parts/specifications database development
- Creation & development of engineering packages such as equipment supply RFQs including equipment, drawing, and control specifications for contractors.
- Contractor and vendor bid evaluation and selection based on technical and economical considerations.
- Proactive Engineering interface with partners and EPC contractors.
- Signing off on engineering decisions, documentation and delivery of engineering work within timeline and budgetary constraints
- Review of contractor engineering documentation including drawings, calculations, reports, equipment and sizing, etc.
- Operation and further development or project and plant cost estimation model.
- Interaction and response to technical questions from the business development team and potential customers.
- Development and overview of manuals, protocols, and internal standards
- Evaluation of risk and economic analysis of potential technologies and engineering design changes.
- Understand constructability issues and potential for cost optimization and ensure these are reflected in the design.
- Identify areas of concern with respect to the progress of assigned engineering tasks and recommend corrective actions whenever required.
- Organize and participate in Hazard and Operability (HazOp), Safety Integrity Level (SIL) and project health, safety

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and environment reviews.

Qualifications

The ideal candidate will have the following qualifications and capabilities:

- B.S. or higher degree in engineering (mechanical, chemical or a related discipline) with minimum 7 years professional experience in a gas processing related industry.
- Strong technical background in continuous process operations (refining, chemicals, gas, pipeline, or renewable fuels processing) including process plant support experience.
- Thorough understanding of the requirements and ability to produce all contractual engineering documents including, scope of work, specifications and standards, etc.
- Thorough knowledge of process engineering and ability to produce all process documents including, PFD, M&E balance, P&ID, specification and data sheets.
- Expertise and experience in development of process and safety control logic.
- Knowledge and experience of database development.
- Solid understanding of constructability and construction practices.
- Detailed knowledge of international engineering standards including ASME, ANSI, API, DIN, PED and ATEX codes.
- Demonstration of performance in safety, health, and environmental management.
- Participation in process hazard operations reviews.
- Strong written and verbal communication skills.
- Strong organizational and procedural skills.

Minimum requirements for the position will include:

- Fluency in written and spoken English and at least one other European language
- Ability to communicate effectively with multiple audiences and different levels of the organization
- Ability to develop and work within a budget
- Track record of interacting creatively, collaboratively, and productively with other disciplines
- Willingness to travel.

Additional details and requirements:

- Salary will be commensurate with experience and capability
- Letter of application/intent
- CV
- Names/contact information for three professional references
- Please send your application to jobs@electrochaea.com along with a brief statement of your interest in this position, career goals, availability, resume, and expected compensation.

All interested candidates irrespective of age, gender, disability, race, religion or ethnic background are encouraged to apply.