



JOB INFORMATION

Job Title:	Process Development Engineer / Plant Operation Manager
Location:	Sweden (Karlstad and Bäckhammar)
Start date:	December 2020
Duration:	Permanent
Working Hours:	40 hrs per week for full-time position (or 80% full time equivalent minimum)
To apply:	Send your CV and cover letter to hr@lixea.co

POSITION IN THE ORGANISATION

Reports to:	CEO
Responsible for:	Operators
Works in conjunction with:	<ul style="list-style-type: none">- Lead Process Engineer (experience in piloting of ionic-liquid based technologies)- R&D Chemists- Academic Team (experts in the ionic liquid-based biomass fractionation process)- Commercial Team

ABOUT US

Lixea is a UK and Estonia-based start-up company which originally spun-out from Imperial College in London in 2017. Our first product is the BioFlex process that uses waste wood and agricultural by-products as well as sustainably grown biomass to produce a greener alternative to today's petrochemical industry while providing unwanted waste materials with a new purpose. As our company is focused around sustainability and we are a diverse team that values diversity and inclusivity.

JOB DESCRIPTION

We are seeking a highly motivated and entrepreneurially minded **Chemical Engineer** to help us bring our ionic liquid-based biomass fractionation technology to the pilot-scale. This novel technology was originally developed at Imperial College London and we have now received funding to scale it up to the pilot-scale through a grant from the European Innovation Council (EIC). We have identified a site in Bäckhammar, Sweden to build our plant.

SCOPE OF THE ROLE

To be responsible to the CEO & support the business by way of contributing toward:

- Liaise with UK based engineering and scientific team about process design: Review existing R&D data and models - identify weaknesses and data gaps; Suggest and plan activities in order to improve existing data sets and models
- In collaboration with UK based engineer, carry out and/or review basic & detailed design engineering activities for pilot and commercial plant scale, preparation and/or review of PFDs and P&IDs
- Liaise with local staff and authorities in Sweden about environmental permits and legal requirements. Review of all required HAZOP studies & safety assessments
- Liaise with UK based engineer and local vendors and subcontractors to procure necessary equipment to deliver the pilot plant on time and on budget
- Coordinate and/or carry out techno-economic assessments
- Write reports for a variety of audiences (technical assessments, investor materials etc.)
- Budget development
- Support recruiting additional technical team members
- Supervise and manage a small team (1-2 people) of Operators

Specific tasks related to the EIC project:

- **Pilot plant design and construction:**
 - Liaise with UK based Engineer and contact vendors and subcontractors to coordinate and organise tests to identify suitable equipment for pilot plant
 - Produce pilot plant design and order pilot plant parts
 - Plan and coordinate the construction of the pilot plant: review need for any civil works, instrumentation, control system and/or electrical facilities to be installed. Management of suppliers, schedule of activities, costs, procurement of equipment, economic evaluation and also environmental impact before starting construction of the project.
 - Going on-line of the pilot plant: Immediate trouble shooting, liaise with vendors and local workshops for eventual process or equipment alterations.

- **Pilot-scale process validation:**
 - Trouble shoot and suggest improvements of plant design based on economic, product quality and environmental performance
 - Carry out techno-economic assessment
 - Training of operational personnel
 - Evaluate product quality and potential applications of the products
 - Upkeep of the Technical Library
- **Process safety assessment:** Carry out/coordinate a HAZOP study and ensure compliance with regulations
- **IP management:** Contribute to IP register; Suggest new patentable IP and support knowledge management
- **Risk management:** Contribute to risk register with technical risks; suggest and implement mitigations
- **Process design package:** Produce design package including Process Description, Bases of Design together with relevant process simulations, such as mass and energy balances, process and batch scheduling process control strategy
- **Industrial-scale plant design:** Coordinate the design of the industrial-scale plant
- **Commercialisation:** Support the commercial team with insights from and contacts with relevant industries

In addition to these functions, employees are required to carry out such other duties as may reasonably be required.

QUALIFICATIONS AND SKILLS

- Degree in Chemical, Biochemical, Process or related Engineering
- Proven and relevant professional experience in similar function and environment (desired minimum 3 years' experience)
- Project and sector experience in biorefining or paper & pulp
- The ability to speak and work with credibility, knowledge and authority is vital
- Excellent analytical and problem-solving skills, trouble-shooting, root cause analysis and risk assessments with a strong attention to detail
- Awareness of the relationship between process design scope and overall project commercial performance, including ability to undertake value-engineering exercises
- Self-motivating, self-organising, reliable with a professional approach
- Strong ethical approach to safety, quality, environmental protection and business
- Excellent English language verbal and written communication skills including extensive report writing and presentation experience
- Process design software tools experience is preferred
- Ability to engage with team members who work remotely using online meeting tools and file sharing systems
- Fluent in Swedish (written and spoken)