

Job Specification – Design Engineer

Reporting to	Head of Resource Recovery in London
Department	Loowatt SARL Design & Treatment Operations
Location	Antananarivo, Madagascar- starting in the London office and including frequent trips between the two
Job Type	Full time
Requirements	French Speaking, willingness to travel
Start Date	November 2019
Job Duration	Approx. 1 year
Salary	Competitive, depending upon candidate profile and experience.

Background

Loowatt has designed and patented a waterless “waste-to-value” sanitation system with current applications as a premium alternative to chemical flush toilets and porta loos at outdoor events in the United Kingdom and as critical infrastructure in cities globally where access to sanitation is lacking. Loowatt has offices in London, England and Antananarivo, Madagascar with operations in the UK, Madagascar, and The Philippines.

In the UK, Loowatt’s toilets serve events and process waste into utility-run anaerobic digestion systems to produce power. In emerging markets, Loowatt is piloting household toilets linked to energy-generating systems and planning to expand coverage in the low-income urban communities. In Madagascar Loowatt SARL, the local entity, has its own optimised treatment plant, which produces biogas, electricity and fertilizer from the waste. As more toilets are installed due to the local demand, Loowatt SARL have developed a partnership with the city sanitation service of Antananarivo to feed their low-tech anaerobic treatment plant built for pit latrine sludge.

In order to access these treatment facilities a waste processing system to separate the waste from its polymer film is required. Bespoke machines have been designed to perform this task, however, a new project to build on the previous designs will be started this year. A similar project is already ongoing in the London office and will be running parallel to the design project for the Loowatt SARL application. The final product will be replicated to be used on all sites in Madagascar, with no power supply so they need to be manually powered/activated.

Role

The selected candidate will start in our Loowatt Ltd office (based in London UK) for a couple of months to get used to the waste processing solution developed for the UK market before coming to the Loowatt SARL office (based in Antananarivo, Madagascar) for the longer part of the project. The candidate will join the Resource Recovery Team in London and report to the Head of this team based in London. The candidate will be also fully integrated with the Loowatt SARL treatment team in Madagascar during his time there and will be able to use local resources as support.

The main tasks in the role include:

- Capitalise on the company experiences and existing equipment and technology on the market
- Design and supervise manufacturing of a first version waste processing machine
- Test and commission the machine in the field in Madagascar
- Propose a manufacturing plan to replicate the machine (future versions).

Additional tasks might involve:

- Create a catalogue of options for polymer film treatment, disposal and valorisation in the local and international context.
- Assess the options and develop systems or partnership to test the chosen one(s).
- Suggest the strategy for film treatment and valorisation as Loowatt is scaling its activities in Madagascar and other countries.

Key Skills and Experience

- A Master's degree in Design, Mechanics, Processes, Industrial Systems, Waste Management or other relevant degree
- CAD experience with Solidworks or Inventor
- Experience using Arduino to develop automatization or data collection on systems would be an asset
- Experience in contacting suppliers and manufacturers would be preferred
- Experience with designing and building mechanical systems
- Willingness to be hands on and work in the field
- Appropriate organisation, planning and scheduling skills
- Must be a self-starter and ability to work independently as well as in a team
- Experience in working or living abroad, preferably in developing countries
- Good communication skills in English and French in an international context
- Strong spoken communication skills and ability to connect between international teams
- A strong willingness to travel in Madagascar and contribute to an innovative sanitation solution with environmental and social impact.

To apply, please send a CV and cover letter to Megan@loowatt.com before the 31th of October 2019.