

Project title: Hygienus demo: HYGIene energy innovation user savings demonstration

Main applicant: Ozo Innovations Limited

Technology developer: Ozo Innovations Limited

Industry partners: Large UK Food Manufacturer

Demonstration capital cost: £1,331,621

Funding awarded: £678,639

Project timeline: November 2018 – October 2020

Project description: This project aims to demonstrate the effectiveness of an innovative new cleaning system utilising cold electrolysed water in place of the hot water and chemical cleaning systems commonly used in food and drink manufacturing sites.

The system generates electrolysed water at a specific concentration which can be used as both a cleaner and disinfectant (previous electrolysed water generators produce a chemical for disinfection only). This cold-water technology allows for a reduction of water volume compared to standard cleaning systems that typically require large volumes of hot water. Though the chemistry of the technology is established, the application in cleaning systems and electrolyser cells are an innovation.

Small scale testing has been carried out to demonstrate that the approach is safe, effective and capable of being validated. The demonstrator project will scale a current prototype system, install it at the production site and carry out trials. The site has multiple production lines, allowing for a range of comparative trials and a variety of equipment types will be trialled to demonstrate the effectiveness of the technology.

Hygiene data will be collated alongside performance data to demonstrate that the system is energy efficient and meets the necessary standards.

Barriers to market: New cleaning systems must not only meet hygiene, cleaning and disinfectant standards, but prove efficiency gains on site and in supply chain. A cold-water solution must also compete with long established traditional hot water cleaning systems.

Size of the target market: Ozo Innovations, who have developed the technology, has identified approximately 300 UK food-to-go, ready meal and primary protein manufacturers as the immediate market, with possible future applications in other sectors of the food and drink industry.

Initial TRL: Components ranging from TRL 6-8

Targeted final TRL: TRL 9

Estimated carbon savings: The trial is expected to realise significant carbon savings of over 60 per cent, owing primarily to the elimination of hot water from the cleaning process, reducing energy requirements for heating water and the refrigeration of production areas after a cleaning cycle.

Why IEEA funding was important to this project:

“IEEA enabled Ozo Innovations and our partner to collaborate at a larger scale, to prove the full benefits of Ozo’s approach than would have been possible without IEEA’s support.”