

# Press release



**IMMEDIATE RELEASE**

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## **New model-based technology to improve spray dryer design and operation**

**PSE, Procter & Gamble, Novozymes and University of Leeds partners**

LONDON, 14 October 2014 --- Process Systems Enterprise (PSE), Procter & Gamble, Novozymes and the University of Leeds announced that they are working together to create tools for scaling up and optimising spray drying process design and operation.

The collaborative project is funded by the Innovate UK, as part of its High-Value Manufacturing (HVM) strategy. The aim is to develop and adopt a robust model-based design tool for the spray drying process which allows the process engineer to optimally step change the process for different energy and water usage. The innovative approach will enable "right-first-time" energy usage versus too-late or expensive heat recovery approaches, so significantly reducing energy usage and CO<sub>2</sub> emissions, without sacrificing product quality.

Spray dryers are widely used in the food and consumer products sectors for production of powdered foodstuffs such as milk powder. The process is complex and uses large amounts of energy for drying, hence the interest in optimisation. According to the project partners, the industrially-led collaborative project "will develop and commercialise a tool which will enable a step change to UK spray drying manufacturing processes, with a 10% increase in energy efficiency."

The team will use a novel systems modelling approach to redesign the process for innovative heat management on a single particle scale, which will provide a step change in capability compared with the current "data blind" black-box methodology. This will be done using a compartment modelling approach, with the resulting product implemented within PSE's gSOLIDS solids process modelling and optimisation environment. The approach and outputs of the project will be validated for specific industrial application areas by Procter & Gamble and Novozymes.

Sean Bermingham, VP of PSE's Life Sciences and consumer products divisions, says "high-fidelity modelling tools allow rapid and effective exploration of the process decision space. We are bringing techniques used effectively elsewhere in industry to make better, faster and safer design and operating decisions to spray drying operations."

The project fits within Innovate UK's HVM strategy, which specifically aims at "increasing the global competitiveness of UK manufacturing technologies by creating more efficient and effective manufacturing systems".

### **Further information:**

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