

NITECH WINS MAJOR >£1m INDUSTRY-LED PROJECT

NiTech is working with major speciality chemical manufacturer Croda Europe, the Centre for Process Innovation (CPI) and the University of Cambridge's Institute for Manufacturing on a collaborative R&D project to develop a novel method for the continuous production of a range of market-leading surfactants.

The two-year >£1m Innovate UK project will design, build and trial a modular unit based on NiTech's patented continuous oscillating baffle reactor (COBR) technology.

The aim of the project is to deliver a new process for the manufacturing of existing products that will significantly reduce operational and capital costs, and increase process sustainability, whilst maintaining product quality.



Continuous processes are usually well suited to integrate with equivalent existing batch manufacturing assets to provide increased capacity. Their compact design will often enable this to be achieved without the need for additional supporting infrastructure and extended footprint.

The collaboration will establish the technical and commercial viability of the NiTech process in Croda's proposed applications, thus de-risking future commercial investment in the technology by Croda.

The consortium believes the targeted reduction in operational costs, combined with reduced capital requirements, will position the UK as a global leader in the use of this technology in manufacturing. Cambridge University will provide expertise in analysing the commercial business model for the full-scale commercial adoption of flexible manufacturing techniques. CPI will provide specialist capability and knowledge in the area of continuous oscillatory baffle flow reactor technology.

The intrinsic advantages of the COBR, namely plug flow characteristics, minimum inventory processing, excellent heat and mass transfer & process control, will confer manufacturing flexibility through easily variable production volumes to match demand, and rapid product changeover and customisation with minimal waste.

The key aim is to develop these techniques to the market volumes and price points that facilitate mass market adoption. This UK collaboration will bridge the gap by bringing together the innovation value chain, and position the UK as a world leader in next-generation processes and business model innovations.

CRODA **Croda Europe** is a global speciality chemical manufacturer which, through the imaginative and practical use of science, creates ingredients and technologies that improve people's lives by enhancing everyday products. It is the name behind the high-performance ingredients in some of the biggest, most successful brands in the world, creating products that are relied on by industries and consumers worldwide.



NiTech Solutions is one of the world's leading authorities on the use of continuous baffled reactor and crystallisation technology. Its revolutionary clean technology is replacing inefficient stirred tank reactors and changing the way in which chemicals and pharmaceuticals are being developed and manufactured.



The Centre for Process Innovation (CPI) is a UK-based technology innovation centre and part of the High Value Manufacturing Catapult. It uses applied knowledge in science and engineering, combined with state-of-the-art development facilities, to enable clients to develop, prove, prototype and scale up the next generation of products and processes. CPI's open innovation model enables clients to develop products and prove processes with minimal risk. It provides assets and expertise so customers can demonstrate the process before investing substantial amounts of money in capital equipment and training.



The University of Cambridge's Institute for Manufacturing (IfM) develops manufacturing expertise from the perspectives of management, technology and policy, and sustainability is a core research theme. The IfM engages with manufacturing firms of varied sizes and sectors through the use of management tools in facilitated workshops. The IfM Business Modelling suite of tools has been used with firms in different industries around the world.

Dr. Will Barton, OBE



NiTech non-executive director, business development, Dr. Will Barton was awarded an OBE in the Queen's New Year 2016 Honours List for his services to innovation and manufacturing.

The honour is recognition of Dr. Barton's professional belief that companies and economies will win when they have a world-class manufacturing component and, in order to achieve that over the long term, they will need to be continually innovating.