

NiTech wins MOD proof-of-concept project



Ministry
of Defence

NiTech is proud to announce that it has been awarded funding by the Defence and Security Accelerator (DASA), part of the UK's Ministry of Defence, to execute a proof-of-concept demonstration for the production of propellants.

The project began in October 2021 in partnership with The Falcon Project. It will enable NiTech to demonstrate the technical feasibility, and benefits, of using its continuous oscillatory baffled crystallization (COBC) technology to produce propellant materials. Design work has finished and NiTech's equipment is now under construction - with the DN15 COBC due to start operating in May.



NiTech COBR process for photochemistry

NiTech has signed a worldwide exclusive licence with Heriot-Watt University to offer their continuous oscillatory baffle, photo-assisted, reactor (COBR) technology for photochemistry applications. It will further extend our COBC technology portfolio, which provides uniform and scalable mixing, and avoids the historical problem that mixing efficiency reduces as the scale increases.



By planting LEDs on the surfaces of baffles – essential for achieving uniform mixing – this new patent enables uniform mixing and uniform light distribution (wavelength and intensity) **at all scales**. It therefore overcomes the bottlenecks of scale-up and non-uniform light distribution in full-scale photo reactors.

The need for light or photo-sensitive materials/catalysts to initiate synthesis reactions at room, or mild, temperatures has grown significantly in recent years, in order to reduce energy consumption and the use of hazardous reagents.

EU SIMPLI-DEMO project uses NiTech technology

NiTech's crystallization technology is set to be used as part of the EU-funded SIMPLI-DEMO project. This will see a consortium of European industrial companies, research institutes and universities collaborate to advance energy- and materials-efficient chemical processes, to produce zeolites and pharmaceutical precursors, as well as polymers including polyurethanes and polyethers.

A pilot-scale COBC unit will be based at a site in Norway owned by GE – one of the project's participants. The project will formally begin in October 2022.



New appointment at NiTech Solutions



NiTech has appointed Ruairaidh Wells as a process development chemist. Ruairaidh, who started working with us in January 2022, is particularly involved with DASA project (*see page 1*).

He has a Master's degree in chemistry from the University of Glasgow, graduating in 2018, since when he worked for CCL Design as a development chemist in the printing and coatings industry.

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NiTech will again be attending AICHEMA this year, which is returning as an in-person event with the theme of 'Inspiring Sustainable Connections'. Watch out for more information from us in the coming months.