

NiTech: an innovation powerhouse

As [COP 28](#) starts, the [Paris Agreement](#) has reached a critical milestone:

“Greenhouse gas emissions must peak before 2025 at the latest, and fall 43% by 2030”, to keep within the 1.5°C limit for global warming.

NiTech’s pioneering work with Croda has confirmed that our innovative technology can deliver major reductions in both emissions *and* cost:

- ❖ **50%** in greenhouse gas emissions related to steam use
- ❖ **40%** in water use*
- ❖ **79%** in electricity use*
- ❖ **63%** in energy profile* ** per metric tonne of product*

In addition, associated improvements have enhanced process safety.

Our continuous oscillatory baffled reactor (COBR) technology provided Croda with the ability to double output of a key consumer care product within the existing factory set-up. And it also enhanced efficiency and safety.

Two case studies provide further details of how NiTech’s technology helped Croda:

[CPI’s case study](#) describes how they supported Croda and NiTech to integrate flexible manufacturing techniques into the production of everyday products.

[Our case study](#) describes how the COBR reduced the cycle time from 10 hours to just 2 minutes.



A section of Croda’s new plant at Rawcliffe Bridge

We have also launched our new Accelerator Tool.

This enables business and manufacturing managers to quickly assess whether they can transform their batch manufacturing process, and successfully invest in NiTech’s safer, faster, greener and cheaper option.

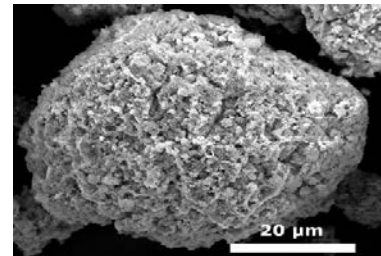
Please contact us at sales@nitechsolutions.co.uk to find out more.

Promising progress for battery materials

NiTech, in collaboration with CPI and the University of Sheffield, is well on the way to validating the benefits of using COBR technology to manufacture NMC-type Li-ion battery cathode materials – Cathode Active Materials (CAM).

The programme of work to manufacture NMC811, a high nickel, high-performance CAM material for electric vehicles is almost complete.

Results so far are very promising, with NMC811 produced successfully and benchmarked against industry standard batch-produced material. The benefits of continuous production using COBR versus the traditional batch approach include increased efficiency, reduced costs and lower energy use.



NMC particle

NiTech is now looking to work with potential partners and customers in implementing the process. Please [contact us](#) if you would like more details.

DASA investor showcase

Rising geopolitical tensions in Ukraine and Gaza have highlighted the importance of reinvesting in key areas of defence such as ammunition. There is an urgent need for advanced manufacturing solutions to modernise legacy batch systems, and build new capacity.



Defence and Security
Accelerator

NiTech's technology is set to become part of the solution. And we were delighted to be selected to present at the UK Ministry of Defence's 'Defence and Security Accelerator' Investor Showcase in London on 27 November.

NiTech's technology delivers proven benefits to the sector, including the option for flexible, modular and mobile configurations. We are therefore seeking new investment to enable us to scale up our activity. Please contact our executive chairman, [Paul Hodges](#), if you would like to know more.