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... enabling distributed manufacturing

## NITECH SUCCESS IN HYDROGENATION APPLICATION

Nitech's DN60 unit has outperformed in a project to evaluate bioconversion for energy production and storage, at the Centre of Excellence for Anaerobic Digestion at the University of South Wales (funded jointly by the Biotechnology and Biological Sciences Research Council, and Innovate UK). The project compared the unit's performance with liquid recirculation reactors (LRR) and continuously stirred tank reactors (CSTR). Project results show that the NiTech unit:

- ❖ Achieved a conversion efficiency of 75% - with optimisation of pressure, frequency and amplitude still to undertake. The CSTR only reached 66% efficiency: the LRR was not able to deal with high gas input rates
- ❖ Enriched hydrogenotrophic populations faster than in the other two reactors
- ❖ Enabled gas transfer rates of 1.5x the maximum achieved by the LRR
- ❖ Minimised foam (CSTR operations for this application are limited by foam generation)



Please click [here](#) to read the full case study.

## NITECH UNITS FOR DIAMOND PILOT PLANT

The Diamond Integrated Pilot Plant (DiPP) at the University of Sheffield will feature a world-leading continuous powder processing plant to manufacture pharmaceutical tablets.

This pioneering plant includes a NiTech DN reactor and crystalliser, and a filter/dryer from Alconbury Weston.

It will include key powder process steps for formulated product manufacture including crystallisation, blending, granularisation and tableting.



Please click [here](#) for more information. The DiPP will launch on 20 April 2018.

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## CRODA AND NITECH LINK AT ACHEMA 2018

Croda Europe's lead process engineer, **Dr James Birbeck**, will join **Professor Xiong-Wei Ni**, founder and director of NiTech Solutions, at ACHEMA in June.

*They will give a joint presentation in the session 'Mixing and separation technology – crystallisation' from 11.00-11.30 on 15 June 2018*

NiTech has partnered with major speciality chemical manufacturer Croda Europe, the Centre for Process Innovation (CPI) and the University of Cambridge's Institute for Manufacturing on a two-year project to develop a novel method for the continuous production of a range of market-leading surfactants. The project successfully concluded late last year.



Please also visit us at ACHEMA in Frankfurt am Main / Germany in Hall 9.2, Stand A38, within the Flow Chemistry Pavilion.

## LATEST PRESENTATIONS ON CONTINUOUS PROCESSING

### Success stories for scaling up industrial flow chemistries

Laurent Pichon, president of MEPI, one of NiTech's partner laboratories, has given a paper on successful flow chemistries at Flow Chemistry India, held in Mumbai, India in January 2018. See his presentation [here](#).

### An investigation in continuous catalytic hydrogenation

CMAC gave a paper earlier this month on continuous catalytic hydrogenation using batch and continuous oscillatory baffled reactor (OBR). See the presentation [here](#).