



# Supporting scale-up in an innovative start-up business

## Challenge

Conductive Organics, a spin-out from the University of Strathclyde, has developed a novel conductive organic coating formulation. The key component is an organic compound, only synthesised in sub-10g quantities to date. The company asked Britest to support a study carried out with the aims of supporting delivery of a kg scale process, and estimating the product cost for different process options.

## Approach

Britest facilitators helped Conductive Organics' team to map out their existing process, highlight knowledge gaps and identify opportunities for process improvement. A Process Information Summary Map (PrISM) captured the relative contributions of different steps to the overall process costs and timelines, whilst a Process Definition Diagram (PDD) was used to build an understanding of the key technical challenges and opportunities of the existing process.

The Britest facilitators were also able to use their technical backgrounds and experience to advise on key aspects of physical organic chemistry, process safety and chemical engineering that would need to be considered. as the process was scaled up from lab to pilot scale.

## Benefits Delivered

- A prioritised action plan, including key experimental data and infrastructure requirements, to help the team plan their route from lab to pilot scale manufacture.
- A process-costing estimation model, which could be used to predict the likely costs and timelines for kg scale production of the key product under a range of different scenarios.
- Underpinning information to support Conductive Organics' emerging business plan.

## Key Features:

### Customer

Conductive Organics

### Industry - Application Area

Conductive coatings - process design, scale-up.

### Challenge

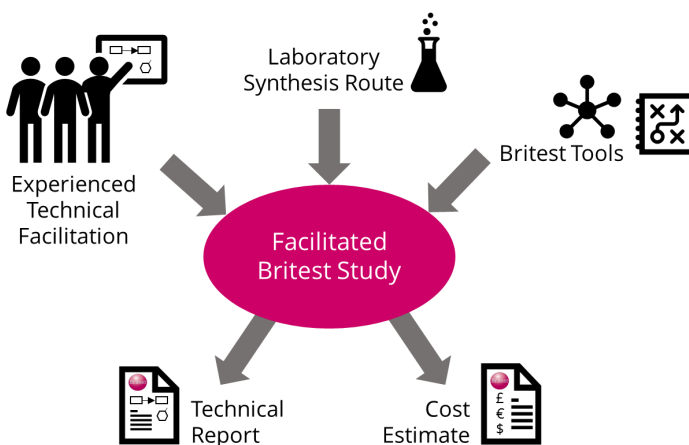
Rapid scale-up of a key chemical component from gram to kilogram scale to enable trials of a new formulation.

### Outcomes

Greater and more complete awareness of scale-up challenges.

Prioritised action plan to move from laboratory to pilot scale production.

Scale-up process cost and timeline model to aid business planning.



**“ Our team found the Britest experience to be invaluable. The outputs are helping us prioritise the most essential alterations to our synthesis to enable a successful scale-up. ”**

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Supporting organisations in gaining value from process understanding