



Funded by  
UK Government

LEVELLING  
UP



UNIVERSITY of  
BRADFORD



# PROJECT SIBLING

Scientific Instrumentation for Business Leadership in Innovation and Growth

PROJECT OVERVIEW

MAY 2024



West  
Yorkshire  
Combined  
Authority

Tracy  
Brabin  
Mayor of  
West Yorkshire



UNIVERSITY of  
**BRADFORD**

Faculty of Life Sciences

# WHAT IS PROJECT SIBLING?

A £1.9 million project co-funded by the **UKSPF** in partnership with **University of Bradford** and managed by **WYCA**.

Solving complex R&D challenges for **SMEs** in West Yorkshire using the University of Bradford's scientific instrumentation capabilities.



West  
Yorkshire  
Combined  
Authority

Tracy  
Brabin  
Mayor of  
West Yorkshire



Funded by  
UK Government

**LEVELLING  
UP**

# HOW DOES SIBLING WORK?



SIBLING will invest in advanced scientific instrumentation, housed at the University's City Campus



Use new & existing facilities/expertise to perform 45 fully-funded R&D projects for regional SMEs until March 2025



Enabling industry access to advanced scientific equipment and expertise at the University of Bradford.



Creating opportunities for SME innovation in developing new and existing products/processes for better economic results.



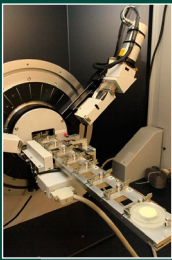
Providing state-of-the-art chemical, material and physical analysis support to manufacturing and medtech companies.



Supporting SMEs in investigation of materials related problems, product functionality and process troubleshooting.

# SIBLING INSTRUMENTATION

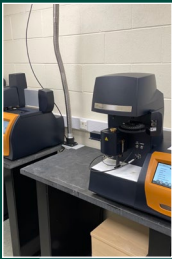
New cutting-edge scientific instruments will be established at the University City Campus



**X-ray Diffractometer**



**Field Emission Electron  
Microscope**



**Thermal analysis suite  
(DSC and TGA-MS)**



**Field Flow  
Fractionation  
instrument**



**Lab-scale 3D printers  
Metal & Composite**

# WHAT SIBLING OFFERS

## (CENTRE FOR CHEMICAL AND BIOLOGICAL ANALYSIS)



Investigations into  
batch to batch  
variations



Unknown/Impurity  
Identification



De-formulation  
studies on competitor  
products



Developing new QC  
testing  
methodology



Product & Raw  
material stability  
studies



Analysis for  
regulatory approval  
REACH package

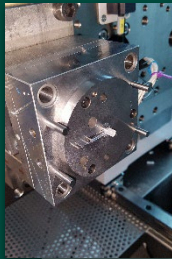
## WHAT SIBLING OFFERS (School of Engineering)



Advanced materials and process optimisation for sustainable products



Process and component functional verification and testing



Device manufacture and functional prototype development



Ultraprecision components and nanostructured surfaces



Bespoke characterisation of components and coatings



3D printing of products with plastics, metals and continuous fibre composites


## THE SIBLING TEAM



**Project  
SIBLING**

**CENTRE FOR CHEMICAL  
AND BIOLOGICAL ANALYSIS**


**SCHOOL OF  
ENGINEERING**



Prof Richard Telford  
(Professor of Analytical  
Chemistry)




Dr Kavian Cooke  
(Associate  
Professor of  
Material Science  
and Engineering)



Prof Ben Whiteside  
(Professor of  
Precision  
Manufacturing)



Dr. Laia Rafols  
Parellada  
(Research  
Technician)



Dr. Mohammed  
Bensharada  
(Project  
Analyst)

## BUSINESS DEVELOPMENT AND PROJECT MANAGEMENT TEAM



Dr Jason Jones  
(Commercial  
Manager)



Peter Ali  
(Business  
Development  
Manager)



Dr. Cristina  
Tuinea-Bobe  
(Business  
Development)



Sharon Mason  
(Financial  
Management)

# HOW PROJECT SIBLING WORKS

45

PROJECTS

Engagement & Eligibility Check (SME Application Form)

Project Design (Scientific Instrumentation Methodology)

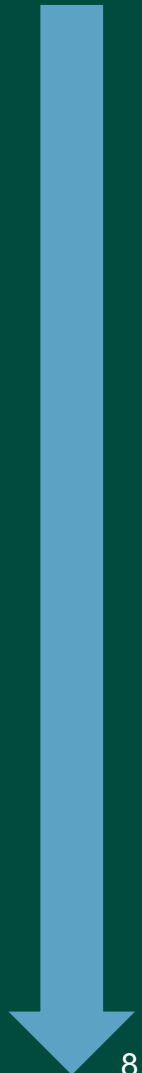
Letter of Approval includes proposal/MFA declaration

Project Execution and Reporting

Collection of outputs OP23, OC25, OC26 & OC30

Project Closure, final costing, MFA Letter subsidy value

Impact Case Study/ Client Feedback Form







UNIVERSITY of  
**BRADFORD**

Faculty of Life Sciences

# SIBLING EDI Focus

- **SIBLING** has an important EDI objective to work with under-represented individuals within companies; focusing on female, BAME, and disabled business leaders.
- University of Bradford has an excellent track record of working with regional SMEs and has several Case Studies from previous work.

<https://www.bradford.ac.uk/analytical-centre/sibling/cayman-case-studies/>



West  
Yorkshire  
Combined  
Authority

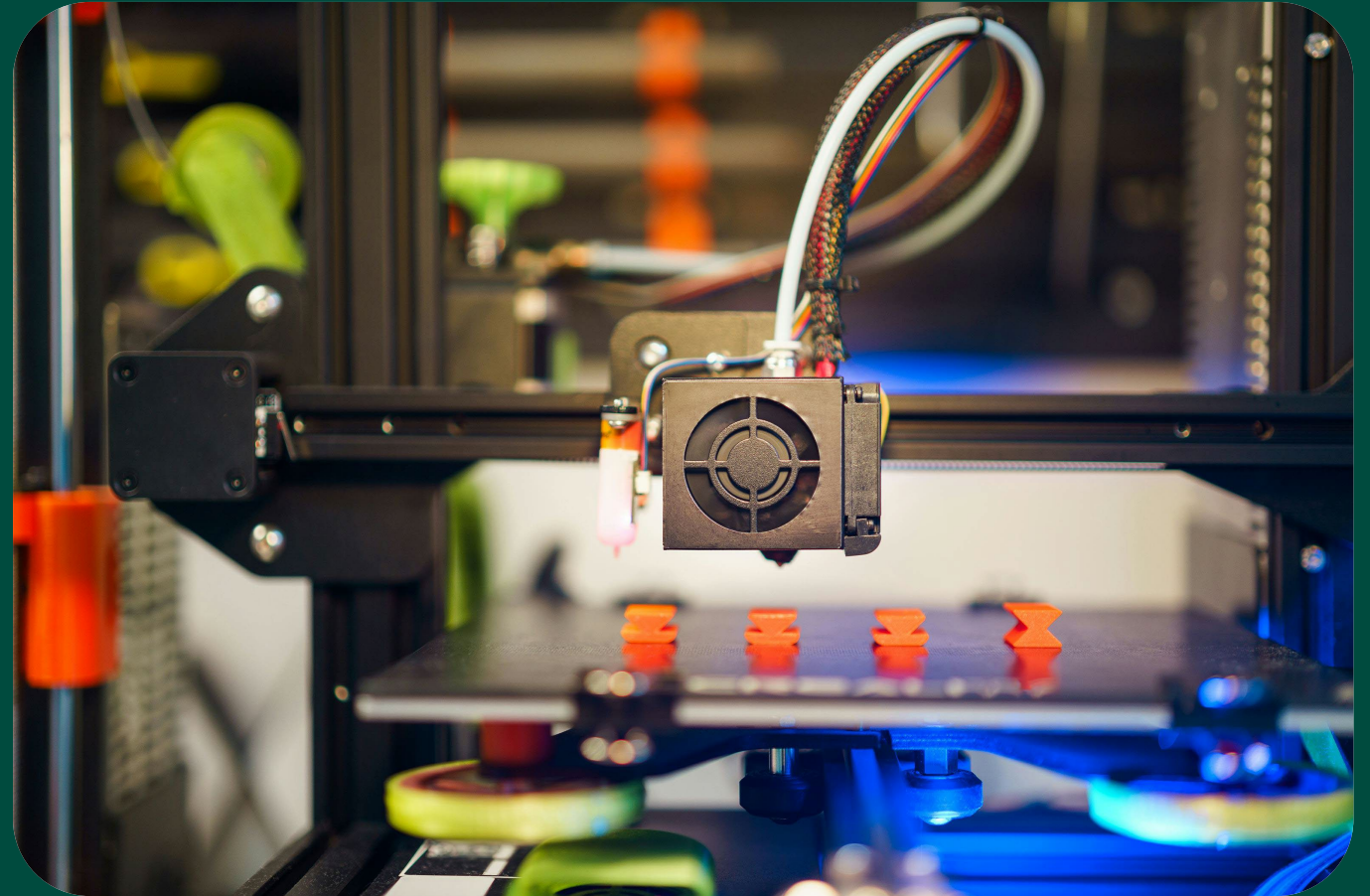
Tracy  
Brabin  
Mayor of  
West Yorkshire



Funded by  
UK Government

**LEVELLING  
UP**

# SIBLING CASE STUDIES



## Company Name: Arterius Ltd (Leeds)

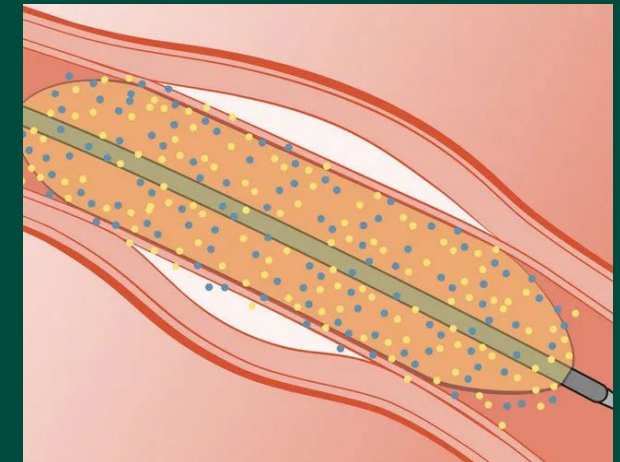
### Company needs and objectives:

- Arterius is developing advanced polymer platforms for use in devices to manage arterial disease while leaving no long-term implants in the body.
- The platforms allow for the release of drugs into the blood vessels.
- The company needed to measure levels of drugs in these systems over time so required a modern analytical technique to do that.

### Project Outcomes:

- The team developed a sophisticated and sensitive analytical method for measuring the content of drugs in biological samples.
- Analysed numerous samples and successfully determined the drug content in each providing data quickly allowing for continuous experimental design.
- The data will allow Arterius to progress this important healthcare technology to a clinical study.

## SIBLING CASE STUDY



## Company Name: Crystec Ltd (Bradford)

### Company need and objectives:

- Crystec use novel technology to prepare active particles for use in inhaled medicines.
- For particles to be used in inhaler devices they need the right physical characteristics such as size & shape as well as being stable.
- The company needed to prepare particles using conventional milling and then characterize them in order to compare to those made from their technology.

### Project Outcomes:

- The SIBLING team successfully milled the active materials to the desired particle size and measured their physical characteristics using a range of analytical techniques.
- The project allowed Crystec to compare particles from their own technology vs conventional milling to demonstrate its superiority.

## SIBLING CASE STUDY



## Company Name: Puffin Packaging Ltd (Leeds)

### Company need and objectives:

- Puffin packaging specialise in providing economical and eco-friendly packaging solutions.
- The company is developing new environmentally responsible freezer packs for transport of temperature sensitive goods.
- They needed to determine the contents and performance of current commercial freezer packs to ensure their new products had equivalent performance.

### Project Outcomes:

- Using a range of analytical techniques, the team have identified the components and relative amounts of each (% total) in commercial freezer packs.
- Determined the melt transition point of the commercial packs.
- The results will allow Puffin Packaging to develop their own environmentally friendly freezer packs.

## SIBLING CASE STUDY



## Company Name: James Robinson Fibres Ltd. (Bradford)

## SIBLING CASE STUDY

### The Problem and company objectives:

- James Robinson Fibres Ltd, a leading manufacturer and supplier of Polyester staple fibres, supplying to the furniture, furnishings, and bedding industries.
- The company was developing a new product made from recycled polyester fibre feedstocks that they wanted to sell to a large European based client.
- Although the product was perfectly safe, when the client tested it at very high temperatures outside the scope of its use, mimicking thermal recycling to test its suitability to be recycled, it failed which put the sale in doubt.
- The company wanted to know why the product was failing this test, as it was not obvious.



### Project Outcomes:

- The SIBLING team performed similar tests using GCMS headspace analysis and found similar poor results for the product. However, when testing was performed on the raw recycled feedstock the results were good, suggesting the problem was in the post-production processing.
- A literature search suggested that an anti-static treatment used on the final product after formation may be the problem. The process was changed using a different treatment.
- The modified process produced a product that passed all product testing resolving the companies' problem.



UNIVERSITY of  
**BRADFORD**

Faculty of Life Sciences

**Thanks for Listening.**

**QUESTIONS?**

Contact details:

Dr. Jason Jones



[j.r.jones@bradford.ac.uk](mailto:j.r.jones@bradford.ac.uk)

Prof. Richard Telford



[r.telford@bradford.ac.uk](mailto:r.telford@bradford.ac.uk)

Peter Ali



[p.a.ali@bradford.ac.uk](mailto:p.a.ali@bradford.ac.uk)



Scan this QR code  
for more  
information