

Leading with expertise

Ready to support you with our dedicated
Technology Centre of Excellence



With a rich and proud history for over 200 years in platinum group metals (PGMs), JM is a global leader in unlocking their unique properties to help solve some of the most complex challenges across many industries and markets that depend on them. We drive efficiency, simplicity and circularity through our advanced catalysts, metal management, PGM recycling and unique market insights.

JM's Technology Centre

Our dedicated technology centre based in Sonning Common, Oxfordshire, supports the development of cutting-edge products and processes in line with your needs. We deliver innovative, scalable and sustainable technologies through

- **Expert-led insight**
Highly experienced, world-class scientists, delivering deep insights from complex experimental results.
- **Seamless problem-solving**
Extensive integrated suite of techniques, working seamlessly to solve the toughest technical challenges
- **Vast collaborative network**
Access to external methods and expertise via partnerships and collaborations, maintaining cutting edge science





Core capabilities

Enabling innovative, scalable and sustainable technologies

1. **Physical and chemical modelling**
Predicting chemical and material behaviour across the length scales.
2. **Manufacturing and engineering science**
Scalable and sustainable solutions through process analytics, predictive models, kinetic studies, reactor modelling, solids engineering and process safety.
3. **Formulation Science**
Analysis and quantification of formulation components to optimise performance.
4. **Advanced materials preparation**
e.g. vapour deposition or mechanochemistry.
5. **Statistical analysis**
To support decision making, insight and efficiency.
6. **Electrochemical transformations and evaluation**
Developing expertise and collaborations around disruptive electrochemical technologies, including electrochemical testing.
7. **Alternative process activation**
Driving decarbonisation and materials improvement.

Advanced characterisation

Our extensive, integrated suite of complex techniques help solve the toughest technical challenges

Crystallographic and structural characterisation



Understanding atomic arrangement and defect's structure to unlock performance, stability, and functionality

Microscopy and imaging



Exploring material features down to the atomic level for critical insights e.g. structure, defects, and morphology

Porosity, surface area and thermal analysis



Measuring gas uptake, surface area, and thermal stability to assess, e.g. functional performance

Chemical state and surface analysis



Analysing features such as chemical bonding, surface chemistry, and elemental states to explore reactivity, compatibility, durability, and more

Quantitative compositional analysis



Precise, molecular-level insights into complex materials, including refining, catalysts and organic-rich materials

Harwell Institute collaboration and synchrotron access



World-class instrumentation and beamlines for specialised, high-resolution measurements



Case study:

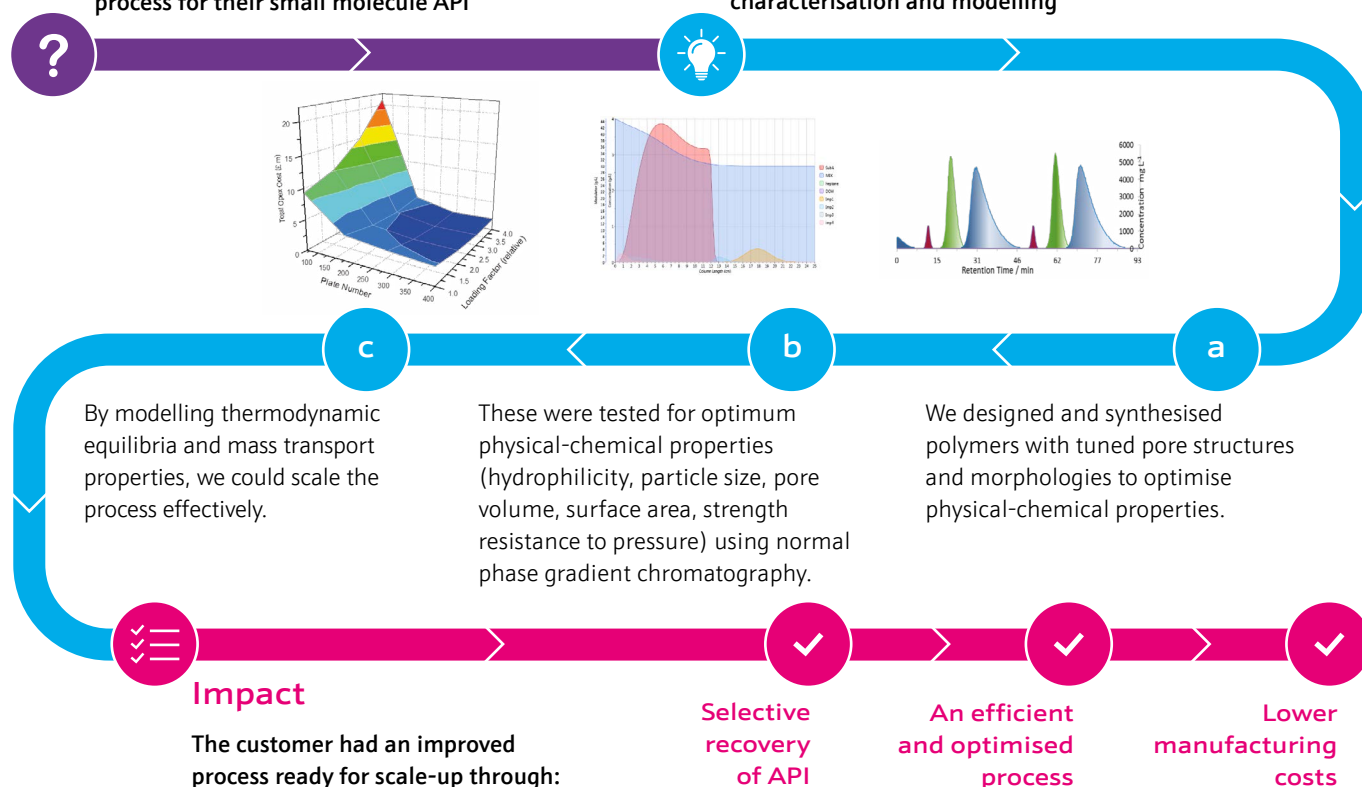
Optimising separation for small molecule API

Problem

A customer needed an optimised separations process for their small molecule API

Solution

Materials chemistry, advanced characterisation and modelling



We can also use...

reverse phase chromatography, ion-exchange or affinity capture chromatography to separate proteins, biomolecules, metal ions and small molecule APIs.