

Medicines Discovery Catapult



Gemma Holliday

Bioinformatics Data Scientist, MDC

The pharmaceutical industry is in **urgent need of increased productivity, greater precision and improved technology**

Over the last decade, the average cost of taking a drug from **R&D stage to market has doubled to US\$2 billion** (Statistica, 2020)

Return on R&D investment by 'big pharma' **has declined from 15% to 1.8%** (Deloitte, 2019)

The **R&D process** takes an average of 13.5 years to complete, **with a 90% risk of project failure**

Medicines discovery is changing. It is becoming more precise in its targeting and accompanied by more complex data, and advanced biomarkers and diagnostics



MDC is enabling the community to reshape medicines discovery

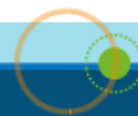
It is ambitious, and it is achievable.

We do this by championing innovative life science technology and new approaches, **supporting UK innovators to succeed.**

We are helping to industrialise and drive the adoption of **new techniques and technologies.**

We are driven by helping our community **make their mark on the industry and patients.**





MDC is part of a network of Catapults

We're a not-for-profit organisation funded by the government and our community. This financial independence makes us unique.

We're able to take risks and pursue objectives that are understandably challenging for commercial for-profit companies.

It's the reason we're able to focus so much of our effort on pioneering the next generation of medicine discovery techniques and technologies.

CATAPULT

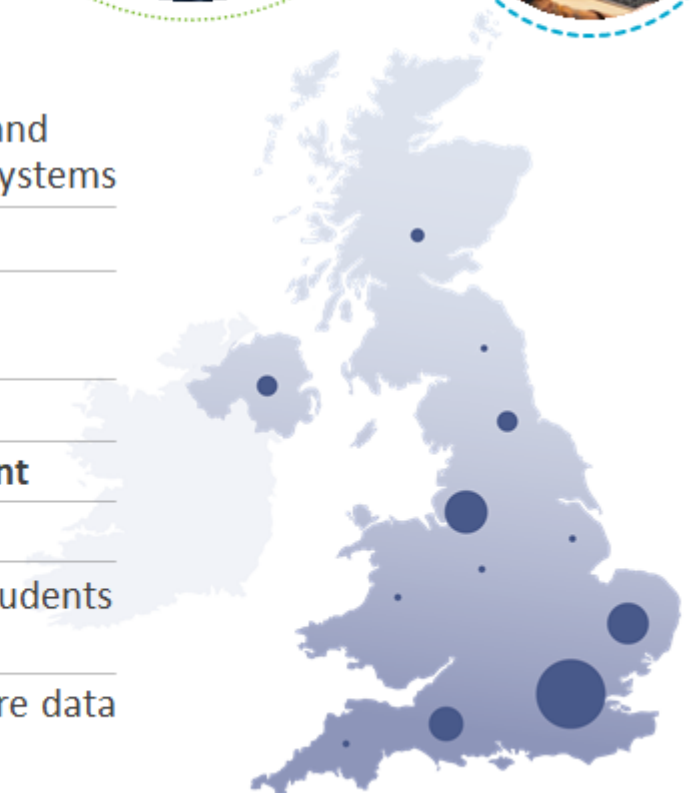


Our work is reshaping the medicines discovery industry



We have:

- Participated in **160 partnered projects with 86 organisations** across the UK, including the commercial application of imaging technologies, validated cell models, biomarkers and proof-of-concepts for new therapeutic approaches, and AI-driven, predictive software systems
- Contributed to the creation of **over 400 highly skilled jobs**
- Launched **three Drug Discovery Syndicates** (in the fields of psychiatry, cystic fibrosis and hearing disorders)
- **Launched the UK PET Network** to transform the UK imaging landscape
- Enabled partners working with MDC to raise **over £50 million in new venture investment**
- Delivered the **largest diagnostics laboratory** testing project in UK history
- Provided **industrial and technical training** and development for software developers, students and researchers
- Delivered **internationally recognised** recommendations on the industry use of healthcare data



Who We Help

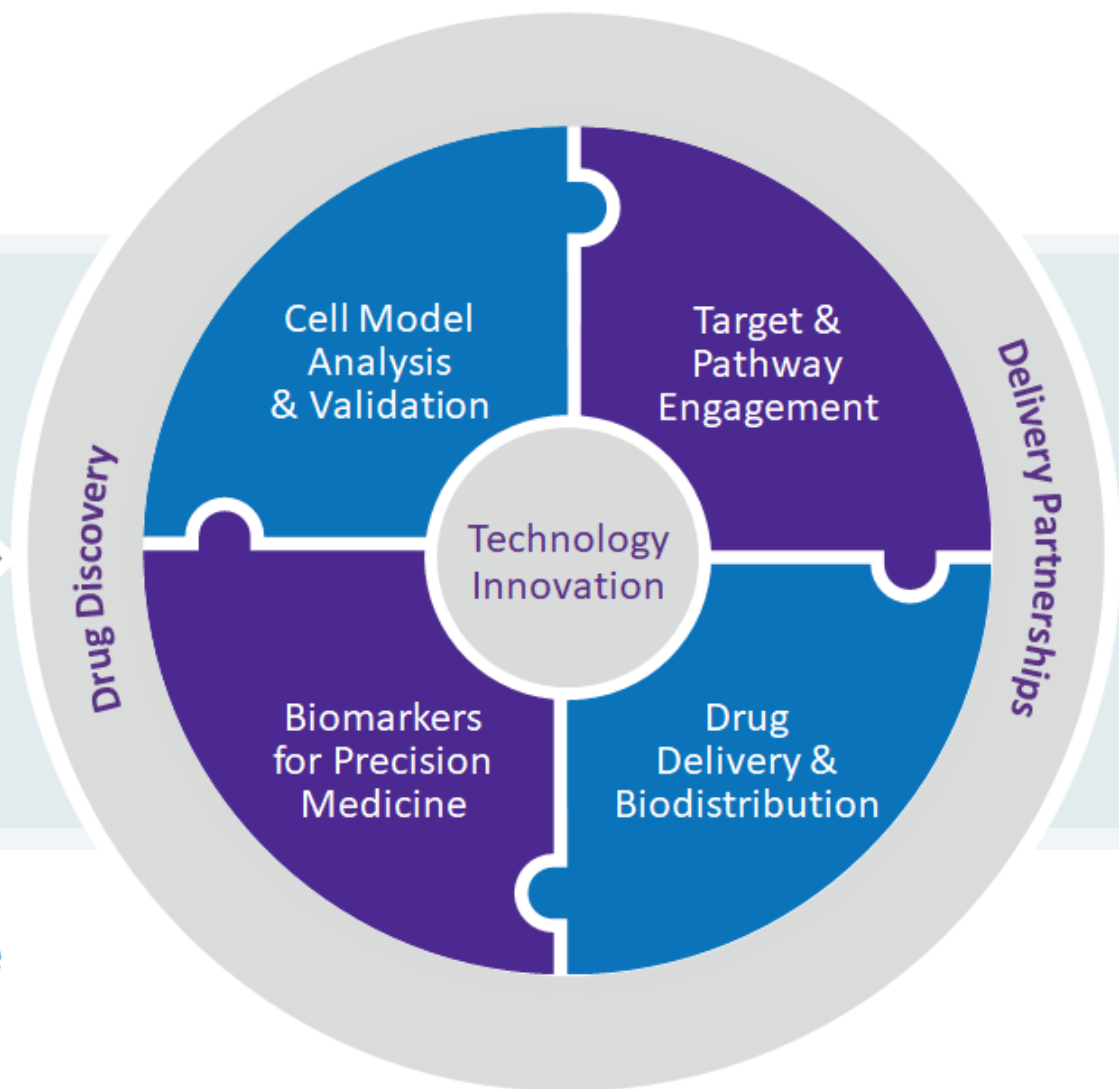
SMEs

We can help...

- **Advance your project or technology** through our industrial discovery expertise, innovative lab capability and technologies – generating pivotal data and valuable insights
- **Overcome the barriers and challenges** to progressing your project
- **Conduct or orchestrate the experiments** that will improve confidence in your approach
- **Generate data that unlocks new opportunities** for your technology or asset
- **Advise on the appropriate and most effective use** of available data and informatics approaches to propel the company forward



Discovery

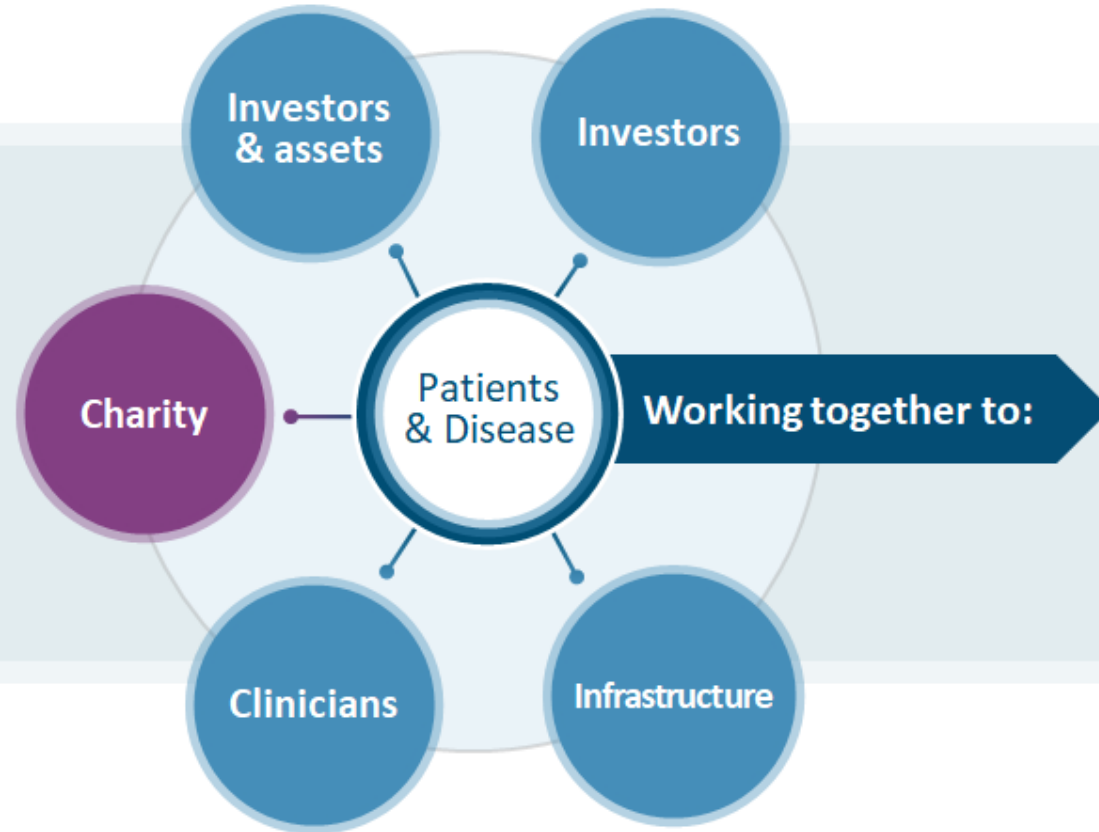


Our interconnected platforms are kept at the scientific leading-edge through constant, technology-driven innovation

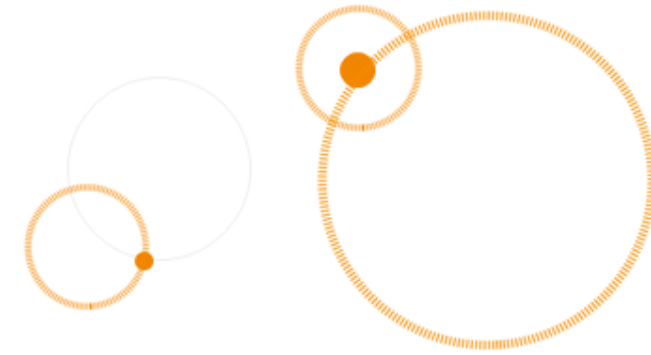


Syndicate Programme

The Syndicate Model



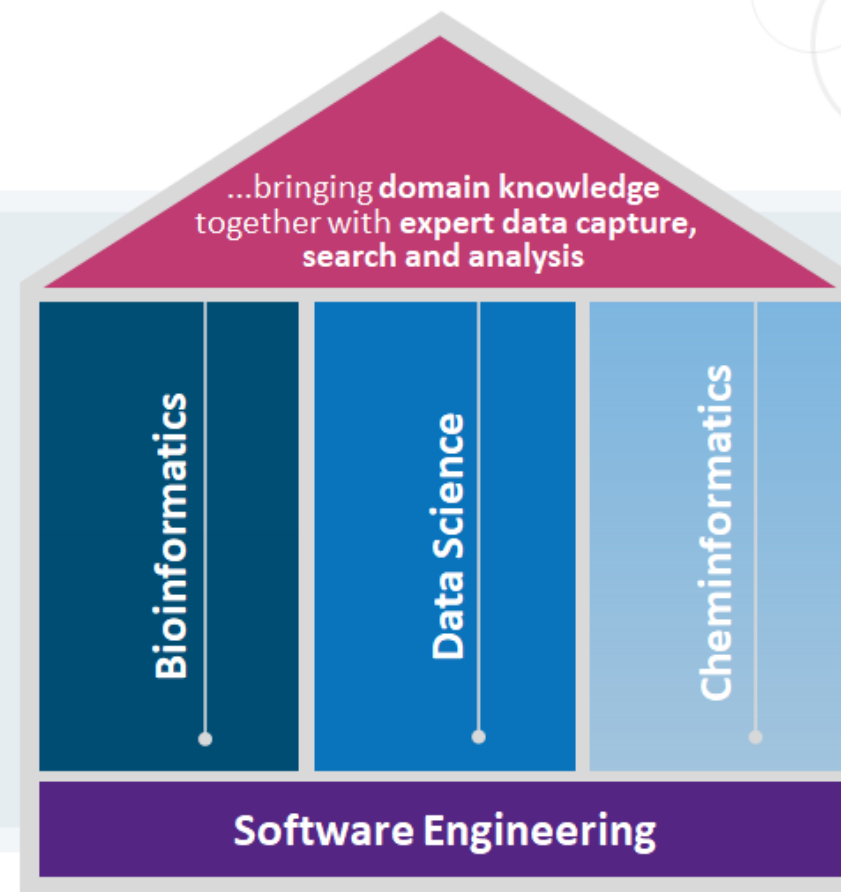
- Identify and address disease-specific barriers to drug discovery
- Enable and drive disease-led, patient-focused research portfolios
- De-risk new approaches and assets and drive their wider adoption or commercialisation
- Enable sustainable Funding and investment



Informatics

We can offer

- **Data interrogation** at scale and pace
- **Access to our extensive** integrated public and proprietary databases
- **Industry-leading** scientific and software engineering expertise
- **Cutting-edge** data science, machine learning and artificial intelligence



How We Help

Problem
Exploration

Solution
Creation

Experimental
Delivery

We offer solutions rather than services; projects rather than products. And if we're not the best partner for you, we'll find them. **Our impact is measured by your success.**

