



UNIVERSITY OF  
BIRMINGHAM

# ENTERPRISE

ANNUAL REVIEW 2019-20

# WELCOME TO THE ANNUAL REVIEW OF 2019–20



**2020 IS BOTH A YEAR TO REMEMBER AND ONE TO BE PROUD OF.**

The University of Birmingham Enterprise team had the privilege of working with researchers to address challenges posed by the Covid-19 pandemic, from new methods to protect against infection, diagnose and treat the disease, and with external organisations and collaborators to help businesses recover and attract investment.

The team rapidly patented and marketed technologies that will make a difference both today and in the long-term, created a record number of new spinout companies, and our existing spinouts and joint ventures have achieved headlines for both their expertise and their financial success.

Many case studies in this review highlight a moment of success, and it is true that, as demonstrated this year, both universities and the companies that work with them have the ability to leverage and translate research quickly in response to changing circumstances.

However, most successes are actually the culmination of many years' work, and I am confident that the seeds we have sown this year will be delivering impact in years to come.

Finally, I'm writing this introduction following the retirement of Dr James Wilkie, who built an organisation that is successful in helping academic researchers and regional entrepreneurs transform their ideas into products and services. Professor Tim Softley, Pro-Vice-Chancellor for Research and Knowledge Transfer has also announced his plans to retire from his position to concentrate on research. Tim catalysed a cultural change that resulted in academics embracing the impact agenda. Thank you both for all you have done!

## **David Coleman**

Interim Director of Enterprise and Innovation  
Interim CEO, University of Birmingham Enterprise



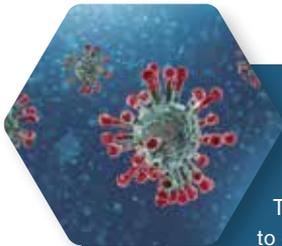
2019–20 forced universities to embrace change rapidly. More than ever, individual researchers require support to generate and demonstrate impact. Those who are looking to translate their research can gain much from working with University of Birmingham Enterprise. Their training and services help crystallise the direction of research, protect the ideas that arise from it, provide access to new funding, enable engagement with businesses or social enterprises, and ultimately, maximise impact.

## **Professor Tim Softley**

Pro-Vice-Chancellor for Research  
and Knowledge Transfer

# A RAPID RESPONSE

Meeting the challenges posed by the pandemic required rapid mobilisation and focussed research. The interface between medical research and industry had never been more important, and University of Birmingham Enterprise helped move these collaborations forwards quickly. The companies spun out of the University played their part too.



## SWIFT ANTIGEN PRODUCTION

The Native Antigen Company was created to capture some of the knowhow and expertise embedded in another University of Birmingham spinout, Hybrid Biosystems, which had successfully commercialised Intellectual Property (IP) developed at the University.

University of Birmingham Enterprise ensured the University was a founding shareholder and this early investment helped leverage further investment and support.

The company became a world-leading supplier of antigens, antibodies and immune assays, playing a key role in supplying products to combat outbreaks of Zika virus in 2016 and Dengue virus in 2018.

In early 2020, it was amongst the first companies in the world to make SARS-CoV-2 antigens commercially available for researchers developing diagnostics and vaccines to fight the Covid-19 pandemic. By July, it was sold to LGC, to become part of LGC's fast-growing clinical diagnostics business.



## IMPROVED PPE

In May 2020, researchers from the University's Healthcare Technologies Institute collaborated with King's College London to improve the seal and fit of facemasks. Inspired by media stories of bruising and discomfort for healthcare workers who wear masks all day, every day, the researchers looked at the feasibility of providing person-specific, reusable, medical-grade silicone seals to fit with the generic facemasks used in the NHS. The team rapidly designed and produced a promising prototype for a customised mask seal that reduces exposure risk and fitting time, and improves comfort.

University of Birmingham Enterprise filed patent applications on the mask seal technology, and licence negotiations are underway with a company that will make custom-fit facemasks for the NHS to FFP3 standard, which filters 99% of aerosols and is recommended in healthcare settings where there is a risk of Covid-19 transmission.



The work done by University of Birmingham Enterprise is pivotal to the rapid translation of our medical research.



**Professor David Adams**  
Pro-Vice-Chancellor

Head of College of Medical and Dental Sciences

## ANTIBODY DETECTION IN MILD DISEASE



The Binding Site was founded by researchers at the University in the 1980s and has maintained a close relationship with the University ever since.

In March 2020, researchers at the University's Clinical Immunology Service set up a rapid collaboration with the company to develop a test that could detect the antibody response to Covid-19 infection in people with mild disease. University of Birmingham Enterprise was on hand to ensure the Intellectual Property developed in the collaboration was identified and protected.

The Birmingham researchers focussed on identifying the earliest antibody response to the SARS-CoV-2 trimeric spike protein – an important protein for virus infectivity.

University of Birmingham Enterprise licensed the SARS-CoV-2 antibody test to The Binding Site for commercial development. By August 2020, The Binding Site had launched a new Covid-19 antibody test to increase detection of antibodies in people with mild or no symptoms, at early and later stages after exposure to the virus. The test has since been used in studies to monitor the prevalence of prior infection with Covid-19 in healthcare workers, how antibody levels correlate with known risk factors for infection, such as age, obesity in different ethnic groups and the degree of protection antibody levels give against re-infection.

# OUR HIGHLIGHTS

University of Birmingham Enterprise is proud to share a selection of highlights from a year that has shown how Birmingham-born technologies can achieve global recognition, and how we continue to contribute to initiatives that put the University at the forefront of entrepreneurial activity in the region.



## A \$100 MILLION COMPANY

In 2014, University of Birmingham Enterprise formed Revitope Oncology Ltd as a joint venture between Cancer Research UK and the University to develop a technology that originated from Birmingham research. The company rapidly decided to move its R&D and commercial operations to the US, and successfully developed its own novel technologies.

In 2020, Revitope announced a major research collaboration with a leading biopharmaceutical company to develop its antibody-based technology, which is expected to deliver precision therapies with fewer unwanted or harmful side effects than conventional cancer treatments. A subsequent investment valued Revitope at \$100 million.

University of Birmingham Enterprise still works with Cancer Research UK's Commercial Partnerships team, formerly known as Cancer Research Technology. The partnership continues its mission of discovering and protecting Intellectual Property (IP) that will ultimately yield cancer targets, diagnostics and therapeutics, with a jointly funded post that resulted from the close working relationships developed while working on this project.



## A TECHNOLOGY WITH GLOBAL RECOGNITION

When researchers Professor Liam Grover and Dr Richard Moakes from the Healthcare Technologies Institute set out to engineer a nasal spray to guard against person-to-person transmission of Coronavirus, they didn't anticipate it would become a global trending news item.

The team has significant expertise in developing novel technologies, and they focussed on evaluating compounds already approved by regulatory bodies in the UK, Europe and the US, which simplifies the procedures required to take a new product to market. Their laboratory work yielded a formulation that can be administered from a typical nasal spray application, and they demonstrated it can inhibit infection at a cellular level. University of Birmingham Enterprise rapidly patented this formulation and initiated a communications drive that triggered a cascade of media coverage and a large number of enquiries from healthcare companies around the world.

The University of Birmingham Enterprise team is now in licensing discussions with several organisations, and is pursuing terms that will allow rapid manufacturing and distribution of a consumer product to the widest possible audience.



## STANDING OUT FROM THE CROWD

Both Birmingham and the University seek to stand out from the crowd, and University of Birmingham Enterprise supports these ambitions with initiatives to bring investment to the region.

In 2019–20, University of Birmingham Enterprise collaborated with Aston University's Centre for Growth and the University of Warwick to set up Minerva Birmingham, a new chapter of the national Minerva network of angel investors.

Minerva Birmingham aims to build one of the best investor networks outside of London and the South East. Between March and June 2020, University of Birmingham Enterprise worked with Minerva to deliver 20 webinars with 282 attendees, which raised over £1 million for local companies. The collaboration also delivered new educational webinars, attended by 70 companies seeking investment and 369 aspiring angel investors.



University of Birmingham researchers, and the companies created here, have demonstrated their ability to pivot quickly and adapt to changing circumstances. The University of Birmingham Enterprise team has surpassed expectations in delivering investment, lab and office facilities, Intellectual Property, training and support for consultancy to the University's entrepreneurs and world-class researchers.

**John Powell**  
Chairman, University of Birmingham Enterprise Ltd



# BIRMINGHAM RESEARCH PARK

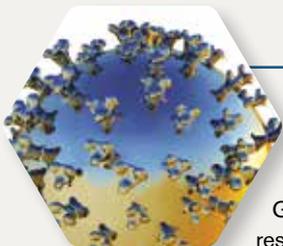
Twenty-three organisations are located at the Research Park, and many of these rapidly refocused their activity to meet the medical and research challenges posed by the pandemic.

The first priority for the Park team was to introduce rigorous infection control measures to ensure safe, covid-secure access to the Biohub and Research Park buildings. The team has since worked tirelessly to maintain business-critical functions that tenants rely on, such as technical support, reception services, IT and statutory inspections.

As 2020 drew to a close, over 60% of Park tenant employees are working onsite to deliver vital services and research, and I am delighted to showcase highlights of their work.



**Angie Reynolds**  
Head of Birmingham Research Park



## GIFFORD BIOSCIENCE LTD

Gifford Bioscience Ltd is a pre-clinical contract research organisation, with core specialisms of radiolabelling and receptor pharmacology.

In spring 2020, a research group from the US National Institute of Health commissioned Gifford Bioscience to help identify the mechanism by which the Covid-19 virus infects new tissues. The ongoing collaboration is evaluating the binding of the virus to cellular receptors in various human organs, using both a radiolabelled spike protein, and a label-free technique called Surface Plasmon Resonance (SPR), which uses instruments at the Robert Aitken Building at the University's College of Medical and Dental Sciences. The company presented its findings from SPR studies at an international drug discovery conference in October 2020.



## ORBSEN THERAPEUTICS LTD

Orbsen Therapeutics is a biotechnology company focussed on the development and commercialisation of best-in-class stromal cell immunotherapies. Orbsen's ORBCEL, a next-generation stromal cell immunotherapy, is an investigational therapy in clinical trials to test its ability to mitigate the devastating effects of acute respiratory distress syndrome (ARDS) by improving lung oxygenation, lessening inflammation, reducing oedema and decreasing bacterial infection. Nearly 90% of Covid-19 deaths are the result of ARDS.

Orbsen scientists manufactured cells for the REALIST Covid-19 clinical trial, which treated 60 patients in intensive care units at ten sites across the UK, including five patients in Birmingham. Planning for an additional large multi-centre clinical trial is underway.



## NONACUS LTD

Nonacus Ltd, founded in 2015, develops and manufactures innovative genetic testing products in the field of prenatal testing and oncology.

In early spring, Nonacus pivoted its business to assist with manufacture of Covid-19 antigen qRT-PCR testing products and secured an Innovate UK grant to develop a test that has now been approved by the UK government for both general Covid-19 testing and 'test to release' (which permits a reduction in the self-isolation period for people travelling from certain countries).

In addition to product supply, Nonacus is now providing a full testing service from its base at the BioHub and has the capacity to process 10,000 tests a day.



## CELENTYX LTD

Celentyx Ltd is a pharmaceutical R&D company with world-leading expertise to identify drug targets and develop therapeutics for disorders involving the immune system, including inflammation, fibrosis, neuroinflammation and oncology. The company was founded in 2007 by Professor Nicholas Barnes FBPhS (Principal Founder) and Professor John Gordon (co-Founder). With the onset of the pandemic, the company initiated several Covid-19 projects that included collaborations with industry and academia in the UK and USA.

# NEW SPINOUTS

Despite the difficult funding environment, University of Birmingham Enterprise created five new spinout companies in 2019–20. Four of these arose from the College of Engineering and Physical Sciences. We take a look at them here, together with the progress of another young spinout from the College, ChromaTwist.

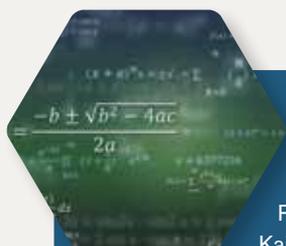


## PRINTED MEDICAL DEVICES

4D Medicine Ltd (trading as 4D Biomaterials) will take a new class of 3D printing resins to market. The novel resins can be 3D-printed into finely detailed scaffold structures with properties that can be tailored to a range of medical applications. With unique shape memory, degradation and tissue-healing advantages, medical devices made from the resins will be implanted using minimally invasive techniques, then break down gradually over time and are resorbed by the body.

The technology is the culmination of a 12-year programme of research by Professor Andrew Dove, at the Universities of Warwick and Birmingham. University of Birmingham Enterprise worked closely with Warwick to protect the intellectual property with a family of patent applications that were then licensed to 4D Biomaterials as part of the spinout process. With an experienced CEO on board, the company quickly raised pre-seed investments of £280,000 and £320,000 in grant funding from Innovate UK.

The company is now scaling up production capabilities and developing prototype medical devices in preparation for clinical trials.



## HELP WITH HOMEWORK

Postgraduate students Manjinder Kainth, Robert Stanyon and George Bartlett developed an online platform to mark, correct and provide feedback on physics homework.

When they came to University of Birmingham Enterprise, they had already set up a company, 6 Bit Education, and used the system to assess work done by first-year physics students – where they found it reduced marking time by up to 84%.

University of Birmingham Enterprise introduced 6 Bit to a seed investment fund, and helped prepare the case for investment. The resulting funding will enable the company to fast-track its ambitions and get the system adopted by universities and secondary schools, where it is expected to reduce the workload of time-pressured teachers.



## DRIVING RAILWAY INNOVATION

The ICURe (Innovation to Commercialisation of Research) programme provides an unparalleled opportunity for early career researchers to develop business skills, make contacts with industry and test their ideas in the market. In 2018, University of Birmingham Enterprise supported Dr Mani Entezami and Dr Ning Zhao from the Birmingham Centre for Railway Research and Education through the programme, and two candidates emerged as strong contenders for commercialisation.

University of Birmingham Enterprise worked intensively with the research teams to deliver further funding from Innovate UK and match-funding from industry, to recruit management teams to help run the new companies.

Fast-forward two years, and two spinouts were born. MoniRail is developing a train-mounted system that enables continuous monitoring of both track and train from in-service vehicles, while EneRail's driver advisory system identifies the best driving strategy to reduce energy use.



## FLUORESCENT SIGNALLING BEACONS

Professor Jon Preece and Dr Alex Robinson were already developing products for their existing spinout, when they and their PhD students discovered a new class of fluorescent compounds that can be used as 'signalling beacons' to show the outcomes of diagnostic tests. The molecules can be tweaked to produce dyes that shine over a wide range of colours.

University of Birmingham Enterprise filed patent applications, supported researchers through the ICURe programme and a successful application for Innovate UK funding, and licensed the patents to their new spinout ChromaTwist.

The company now has a long-term supply agreement in place for 18 products with a large multinational and is developing a range of dyes for biological testing, while eyeing long-term opportunities in other sectors.

In 2020, ChromaTwist was identified as 'one to watch' in The Spinoff Prize 2020 organised by Nature Research and technology company Merck KGaA.

# ENTERPRISE SERVICES



## PROTECT AN IDEA

University of Birmingham Enterprise works in partnerships with researchers to protect the University's Intellectual Property (IP). This is at no cost to inventors who will reap the benefits of licensing deals or spinout company formation.

A patent provides a period of 'competition-free' time to develop an idea, and can help researchers access additional funding. University of Birmingham Enterprise also commercialises innovations that rely on copyright, trademarks or software.



There are many ways to demonstrate impact. The University of Birmingham Enterprise team helps those academics who want to extend their reach to the worlds of business and social enterprise, or get funding or investment for translation.



**Professor Heather Widdows**  
Deputy Pro-Vice-Chancellor Research (Impact)



## FIND A MARKET

University of Birmingham Enterprise's team of experts and advisors can help assess whether there is a market for an invention, product or service. If a patent is to be filed, University of Birmingham Enterprise will search for companies that are interested in licensing patents, collaborating or funding further research.

## ENTREPRENEURSHIP TRAINING

University of Birmingham Enterprise runs a variety of training for researchers at all levels of commercial familiarity: from single seminars that provide core skills such as understanding of Intellectual Property (IP), consultancy, business strategy and planning, to focussed comprehensive programmes for researchers with emerging commercial ideas, or those who are potential founders of future spinout companies.



## ACADEMIC CONSULTANCY

Our academics engage in consultancy to use their expertise and insight to help solve challenging problems. The work involved is hugely satisfying, bringing financial benefits while also testing the academics' skills and enabling them to build new relationships that can lead to further opportunities for the University.

Contracts vary from the short-term, such as sitting on scientific advisory boards, reviewing film scripts, or evaluation of client technical or scientific specifications, to longer-term assignments such as design and analysis of systems for manufacturing processes.

The Academic Consultancy Service provides a full range of support from the beginning of a project through to its completion, from negotiating fee rates and contracts to final invoicing, ensuring academics can concentrate on working with the client in the knowledge that they can use the name of the University and are legally protected.

## HELP GROW BUSINESSES

If a spinout is the best option, University of Birmingham Enterprise will convene the expertise necessary to build a balanced team and grow the business.

University of Birmingham Enterprise also manages the space and facilities at the Birmingham Research Park, where new enterprises flourish in a community of like-minded organisations.



## FUNDING AND INVESTMENT

University of Birmingham Enterprise manages University funds that support translation, cultivates relationships with investors in the Midlands, the UK and beyond, and provides training on how to pitch for investment.



# SOCIAL IMPACT

Most of the patented opportunities supported by University of Birmingham Enterprise have social impact: they protect lives or the environment. There is an increasing interest in generating social impact, not just through patented intellectual property, but the transfer of skills or knowhow, as these emerging projects show.

University of Birmingham Enterprise is not just about commercialisation. It also supports researchers, spinouts and collaborations that aim to deliver social impact.



**Professor Richard Black**  
Pro-Vice-Chancellor  
Head of the College of Social Sciences



## WIDENING ECONOMIC PARTICIPATION

Professor Pervez Ghauri from Birmingham Business School is working with academics from the University of Oxford on a knowledge exchange project with a difference. The project will benefit young people and women in Bangladesh who are often excluded from economic participation due to unequal access to education, resources and information.

The research groups are developing a software platform so people can teach skills virtually via a smartphone rather than face-to-face, and will explore the impact it has on jobs, income creation and building capabilities in the most marginalised sectors of society.

University of Birmingham Enterprise is exploring a social enterprise with Oxford University Innovations so the researchers can apply for funding and develop partnerships that will make the project sustainable.

Ultimately, the project will enable knowledge exchange by shared video clips: a farmer could transfer skills on how to plant rice, a housewife could teach how to do handicrafts, a grandparent could share their life story, or a village youth could start a business based on feedback from the online community.



## IMPROVING ACCESS TO HEALTHCARE

Professor KK Cheng from the Institute of Applied Health Research is a lead member for health on the British government's China Task Force. He has been teaching on GP and public health training programmes for over a decade.

He approached University of Birmingham Enterprise for advice on a knowledge exchange project that would export the Birmingham method for training GPs to China. There is a definitive need: the country is currently reforming its health system to increase both capacity and skill levels in primary care, and only 10% of doctors in township health centres have completed five years at medical school.

University of Birmingham Enterprise has been advising on possible deal structures for the collaboration, which would involve the healthcare division of a property developer providing purpose-built primary care centres in newly constructed city apartment blocks, and GP training delivered in China.



## STRENGTHENING CHILD PROTECTION

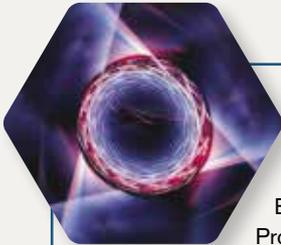
Dr Tarsem Singh Cooner from the Department of Social Work and Social Care was part of a team that worked on a field study of child protection work. Researchers shadowed 30 cases for up to a year, yielding a rich record of interactions between social workers and families.

Dr Cooner then recreated scenes in a video format tailored for viewing on Virtual Reality headsets. These 360-degree videos immerse viewers in real-life scenarios and take people straight to the heart of the experience so they feel the emotions, atmospheres and physical spaces that can either create barriers or enable effective relationships-based child protection practices. They are now being used to train social workers and their managers, who can rehearse for scenarios they will come across and hone their skills before they are exposed to tense situations in the real world.

University of Birmingham Enterprise is now negotiating with a social enterprise to evaluate their use and ensure dissemination to a wide audience of trainers and other users.

# UNDERPINNED BY IP

Revolutionary technologies can take years to come to fruition and are rarely adopted by industry without patent protection. University of Birmingham Enterprise supports these projects at their inception, to ensure researchers can fulfil their long-term ambitions.



## QUANTUM SENSORS

In 2017, University of Birmingham Enterprise seconded an Intellectual Property (IP) specialist to Birmingham's Quantum Technologies Hub. This secondment resulted in records of invention for revolutionary technologies.

University of Birmingham Enterprise successfully filed two patent applications and by 2020, these patents had attracted industrial collaborations and further funding. Led by the University of Birmingham and UK-based company Nemein Ltd, the Gravity Delve project has been funded by Innovate UK to investigate the benefits and challenges of using quantum gravity sensors in harsh underground borehole environments in the oil and gas sectors, and in geothermal reservoirs.

The Hub has also been awarded funding to develop its gravity gradiometer into an instrument that will improve the precision of maritime navigation by measuring local gravity fields, and matching them to gravity maps to show a vessel's precise location at sea.



## WATER DECONTAMINATION

In 2017, Dr Luisa Orsini from the School of Biosciences entered an innovation competition run by University of Birmingham Enterprise with a method for water decontamination using Daphnia – water fleas.

The method has many advantages over conventional treatment. It is self-sustaining, affordable, scalable and most importantly, the only outputs from the process are clean water and benign gases.

University of Birmingham Enterprise was impressed by the idea, and filed a patent application before helping with grant applications, a five-year business plan and coaching on how to pitch for investment.

By 2020, the project had received funding from NERC, BBSRC, the Royal Academy of Engineering and the Innovate UK Global Challenges Research Fund, which will enable proof of concept studies, test trials in Brazil and South Africa, and the development of a retrofitted solution so the process can be introduced to wastewater plants.



Identifying and protecting intellectual property can make a real difference in funding applications, and is often an essential first step before engaging industrial collaborators.



**Professor Kai Bongs**  
Director of Innovation, College of Engineering and Physical Sciences



## RECYCLING RARE EARTH METALS

Rare earth metals are used in magnets in hard disk drives, electric vehicles and wind turbine generators – and a continuous supply is essential for the transition to a green, low-carbon economy.

Professor Allan Walton and Emeritus Professor Rex Harris from the School of Metallurgy and Materials invented an innovative process that reduces these metals to a powder, making it easier to extract them from the magnets embedded in scrap.

University of Birmingham Enterprise patented the technology, and licensed it to a company set up by the researchers, Hypromag Ltd. The patented technology is at the core of the business, which aims to develop a full recycling supply chain for rare earth magnets.

Hypromag has won substantial investment, and together with the University of Birmingham and others, is a partner in the Innovate UK grant-funded project, Rare-Earth Recycling for E-Machines, which will incorporate recycled rare earth magnets into electric vehicles.

# OUR CONTRIBUTION TO THE REGION

University of Birmingham Enterprise is a significant contributor to the University's local growth and regeneration commitments. It creates new companies, provides advice, training, space and facilities to local businesses and entrepreneurs, and works with key stakeholders to attract much-needed investment to the region.



## MEDICI

Medici is a comprehensive course run by University of Birmingham Enterprise for researchers who want to explore the commercial potential of their research. It covers entrepreneurship, Intellectual Property (IP), commercial strategy, business models, sales skills, market research, an introduction to finance, business planning, and pitching for investment.

The 2020 programme trained 34 researchers, including 17 from other Midlands universities (Coventry, Loughborough, the Open University and Nottingham). Medici is open to people at all stages of their enterprise journey, and welcomes delegates at very early stages, with no clear commercial offerings as well as those already working on a viable project.

University of Birmingham Enterprise is now accepting enquiries for the 2022 cohort and further information is available at: [www.birmingham.ac.uk/partners/enterprise](http://www.birmingham.ac.uk/partners/enterprise).



## BUSINESS TRAINING AND SUPPORT

In 2019–20, University of Birmingham Enterprise delivered business support, workshops, and training programmes that helped 410 people from West Midlands-based companies. A particular highlight was a collaboration with Birmingham Business School, to provide support to businesses through the Chartered Association of Business Schools' sponsored Leading to Grow Programme.

Throughout the year, University of Birmingham Enterprise worked closely with Careers Network, assisting in programmes such as B Enterprising, which enriches the student experience, and helps Birmingham students develop practical business skills, and advised on the student incubator that is scheduled to open at the Exchange in 2021.



## MIDLANDS INNOVATION COMMERCIALISATION OF RESEARCH ACCELERATOR (MICRA)

Together with seven other Midlands universities, University of Birmingham Enterprise is creating an ecosystem that accelerates the commercialisation of research.

Kick-started with funding from Research England's Connecting Capability Fund, the MICRA\* consortium has been using its combined strength and expertise to provide greater access to investors and licensees, and training in areas not otherwise easily accessed by local teams. In addition, it has deployed £1.5 million of commercial development funding to 60 projects across the eight universities. University of Birmingham researchers have benefitted directly from over £300,000 of this funding towards 14 projects.

The collaboration is not only attracting third party funds to invest directly in its spinout companies, but it has helped to create the narrative required for a new regional 'patient capital' investment fund, and intends to recruit a fund advisor to scope the opportunity and best structure for a fund. The collaboration is also working closely with Minerva to build a Super Start Up Club, to focus the local business angel investor community on early stage companies spinning out in the region.

\*The Midlands Innovation Commercialisation Research Accelerator is a collaboration between the technology transfer offices of the eight universities within the Midlands Innovation partnership: Aston, Birmingham, Cranfield, Keele, Leicester, Loughborough, Nottingham and Warwick.

Find out more about MICRA at <https://micragateway.org>

# A YEAR IN NUMBERS

## BIRMINGHAM RANKED\*

**2ND** IN UK UNIVERSITIES  
FOR INVENTION  
DISCLOSURES

**5TH** IN UK FOR  
NEW PATENT  
APPLICATIONS

*\*Higher Education Statistics Agency, 2018-19.*

## 197 ACTIVE LICENCES OF THESE:

**60** GRANTED TO SMALL  
AND MEDIUM-SIZED  
ENTERPRISES

**80** GRANTED TO  
NON-COMMERCIAL  
ENTERPRISES

**57** GRANTED  
TO LARGER  
COMPANIES

**£280 MILLION**  
VALUE OF SPINOUT PORTFOLIO

**£24 MILLION**  
THIRD PARTY INVESTMENT IN SPINOUTS

**611** TOTAL NUMBER  
OF PATENTS HELD  
BY THE UNIVERSITY

**1,800** ACADEMIC  
TRAINING  
HOURS  
DELIVERED

**100%** BIRMINGHAM  
RESEARCH PARK  
REMAINED OPEN  
THROUGH 100%  
OF THE PANDEMIC

**470** NUMBER OF  
RESEARCHERS  
WE WORKED  
WITH AT THE  
UNIVERSITY

**254** RECORDS OF  
INVENTION

**83** NEW PATENT  
APPLICATIONS

**34** NEW  
LICENCES  
GRANTED

**>£1.5 MILLION**  
IN INCOME GENERATED  
HAVING WORKED WITH  
240 ACADEMIC CONSULTANTS

**£39 MILLION**  
VALUE OF RESEARCH  
CONTRACTS SUPPORTED

# UNIVERSITY OF BIRMINGHAM ENTERPRISE WORKS WITH RESEARCHERS, BUSINESSES, FUNDERS, INVESTORS AND SOCIAL ENTERPRISES TO DELIVER INNOVATION AND IMPACT.

## THE BOARD

### Chairman

John Powell

### CEO

Dr James Wilkie (retired January 2021)

David Coleman (interim CEO from February 2021)

### Directors

Andrew Sleigh, Professor Stephen Jarvis, Brenda Reynolds, Professor David Adams and Dr David Brown

### Company Secretary

Melanie Kaiser

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