University of Birmingham Enterprise has had another strong year supporting the ‘Birmingham 2026’ strategy and delivering benefits to the careers of more academic colleagues than ever.

Turning research ideas into real changes in the world needs long-term passion and commitment, and academics in the University face many demands for their time and attention. Despite this, we continue to attract about 10% more academics to work with us each year. Much of this increase is a result of recommendations from academics who have worked with us in the past, and I’m very proud of everyone in the Enterprise team, and the expert advice and range of benefits they provide.

The teams help academics from all disciplines enhance their reputation, gain new skills and win new types of ‘translational’ research funding. We now have a full-time media relations professional, and this has meant that in 2017/18, more than 133 million people had the opportunity to see stories about intellectual property. In addition, the entire team is supporting the development of 30 ‘impact’ cases for the upcoming Research Excellence Framework assessment in 2021.

Our financial performance and Intellectual Property (IP) pipeline are strong. The paper value of University shares in spin-out companies is currently valued at more than twice our investment costs and last year these spinouts attracted more than £12 million of third party investment. Nearly half our royalty income in 2017/18 was from deals less than five years old so we’re successfully replacing old IP as it expires. Both our Academic Consultancy Service and Birmingham Research Park have had a bumper year, with demand for support, space and incubation services at an all-time high.

Dr James Wilkie, CEO, University of Birmingham Enterprise

£12.5 MILLION
THIRD PARTY INVESTMENT IN SPIN-OUTS

£1.8 MILLION
INCOME FROM ACADEMIC CONSULTANCY

£46 MILLION
VALUE OF RESEARCH CONTRACTS SUPPORTED

19 RESEARCH GROUPS
SUPPORTED THROUGH
SPECIALIST INNOVATION FUNDS

156 LICENCES
GRANTED OF THESE...

20,000 VISITORS TO
BIRMINGHAM RESEARCH PARK

18 OTHER UNIVERSITIES
40 ACADEMICS
WENT THROUGH
MEDICI TRAINING

2,467 TRAINING HOURS
DELIVERED BY THE
ENTERPRISE TEAM

477 PATENTS
HELD BY THE
UNIVERSITY

106 NEW
PATENT APPLICATIONS

£184 MILLION
VALUE OF TOTAL SPIN-OUT PORTFOLIO

7th IN UK UNIVERSITIES
NEW PATENT
APPLICATIONS

6th MOST INNOVATIVE
UNIVERSITY IN THE UK

4th IN UK UNIVERSITIES
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MEET UNIVERSITY OF
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The Enterprise team has individuals with specialist skills and experience who are assigned to drug discovery projects. One of these projects is the partnership with the Guangzhou Institutes of Biomedicine and Health in China, which is working with Birmingham researchers finding new drugs to tackle global epidemics. The drugs are designed, optimized, and tested through an iterative process involving researchers in Birmingham and China. The collaboration has identified several molecules with therapeutic potential and the Enterprise team will create patents for these.

The Enterprise team, along with Evotec, a global drug discovery company, are looking to establish a £10 million fund, to develop new drugs from novel research arising from University research to a point where these can be commercialised. The fund will be operational by 2020.

Dr Jonathan Watkins, Head of IP Services, comments: Birmingham’s researchers will benefit from a combination of Evotec’s strategic investments and drug discovery expertise, providing scale and cost benefits.

Dr James Wilkie, CEO, University of Birmingham Enterprise
The challenge faced by researchers is crystallised in the University’s strapline of ‘research that matters’. But research only ‘matters’ if it changes something – whether that is an academic field, the lives of individuals in society, or by delivering economic benefits. University of Birmingham Enterprise helps researchers translate their ideas into products, services and technologies that meet real-world needs. The team has specialists who can assist at every stage in translation – from intellectual property and copyright, to funding, licensing and setting up spin-out companies. Many of the examples below are being considered as impact case studies for the forthcoming or a future REF.

**DEVELOPING DRUGS FOR RARE DISEASES**

Dr Alexandra Sinclair is repurposing an existing drug to treat raised brain pressure, a rare condition that is on the rise and causes permanent vision loss in up to a quarter of those affected. Her work involves progressing laboratory science to the point where the drug can be used to help these patients. The Enterprise team ensured the drug received an ‘Orphan Drug’ designation in both Europe and the US, which guarantees the drug can be used to help these patients. The Enterprise team is working intensively with Professor Ed Rainger, whose team discovered a process that controls how the body responds to disease, injury or infection. Enterprise has patented ideas for new drugs, set up a spin-out company, and orchestrated funding from Innovate UK, the West Midlands Academic Health Science Network and the University’s Enterprising Birmingham Fund. The spin-out company is now located in the BioHub Birmingham® and we are ensuring their work is directed towards discovering new treatments for diseases such as rheumatoid arthritis, which affects over 20 million people worldwide.

**MAKING SMALLER COMPUTERS**

Dr Alex Robinson and Professor Jon Preece developed a novel material for making computer micro-chips with features 4,000 times smaller than a human hair. The market for these materials is complex, fast-moving – and based in the US and Asia. The Enterprise team set up a spin-out company so the academics could continue their research in the UK while business teams in the UK and the US steer commercial development. In the last year alone, we helped raise grants and funding, and the company announced the final stages of testing for the technology.

**WEATHER-PROOFING UK TRANSPORT**

AltaSense is the brainchild of Professor Lee Chapman, who worked with the Enterprise team to define the best route to market for his technological know-how. The environmental monitoring system delivers real-time data to local authorities and train operators allowing for faster, smarter decisions on where to send road-gritting lorries and trains that clear leaves from the line. Trading as an operating division of University of Birmingham Enterprise proved the commercial potential of Lee’s idea, securing exponential sales growth over the first three years of trading.

**DISCOVERING NEW ARTHRITIS TREATMENTS**

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**KNOCKING CONCUSSION ON THE HEAD**

Professor Tony Bell’s research resulted in a test for concussion that measures biomarkers present in blood, saliva and urine. The Enterprise team patented the biomarkers, and helped establish a new company to develop the technology, which has attracted multi-million-pound investment from North America, Italy and the UK. Enterprise then worked with the University’s media experts to announce a collaborative study with the Rugby Football Union, which had a global reach and resulted in requests for further collaboration. One of these resulted in a Drake Foundation award to study traumatic brain injuries sustained by footballers playing in the Premier League.

**GREENING FREIGHT VEHICLES**

Professor Yulong Ding’s research group focuses on developing new technologies to convert, conserve and store energy. One of these is an ‘intelligently’ integrated hybrid vehicle energy system to extend the range of electric vehicles.

The Enterprise team worked with researchers in a six-month market testing exercise, which assessed the appetite from companies based in China, Europe and the USA. The project generated significant interest from commercial transport – buses, taxis and low emission vehicles and we are now working with researchers to ensure the technology is adopted by industry.
Birmingham Research Park is a thriving community highly connected with surrounding institutions, and is also the base for the University teams that drive collaboration with industry.

Birmingham Research Park is home to an £8 million biomedical incubator, the BioHub Birmingham®, which opened its doors in 2015 to provide a landing ground for early-stage companies and University researchers who want to commercialise their work. Since then the BioHub has become a destination of choice for biomedical innovators, and we have just developed a new floor to meet demand for laboratories and office suites.

Our Biomedical Innovation Hub

Birmingham Research Park is also highly attractive to organisations that work closely with the surrounding centres of excellence, and is now home to one of the UK’s leading NHS Genomic Laboratory Hubs, the West Midlands Regional Genetics Laboratory. Servicing 11 million people across Wessex and West Midlands, WMRGL provides genomic tests for rare diseases and cancers, performs a critical role in the 100,000 Genomes Project, supports clinical trials and genomics research in the University and collaborates with the diagnostics and pharmaceutical industries.

The Research Park provides high-quality accommodation and has an enviable location, highly accessible by public transport and close to world-leading clinical facilities.

Professor Mike Griffiths, Clinical Director, West Midlands Regional Genetics Laboratories and Scientific Director, Wessex and West Midlands Genomics Laboratory Hub
GROWING NEW BUSINESSES

The Enterprise team has substantial experience of turning business ideas into reality – and we don’t just do it sciences. We provide comprehensive support for innovators at all stages of their journey. Many of our services are delivered through the BizInn business incubator, which provides mentoring and one-to-one assistance in business planning to academic innovators, local entrepreneurs and ambitious, high-growth companies.

AR MOOCH KHAN, POLYMATHS CONSULTING

Faroq Khan is a research scientist with a wide range of consulting work in healthcare, engineering, public policy, consumer goods and retail. BizInn mentoring helped him identify the life sciences sector as the one he would focus on, and he is now building a prototype that will enable drug companies to make earlier and better predictions on which therapies will succeed or fail.

Mentoring showed me where my work will have the greatest impact, and the community at the Research Park spurred me on.

MAX SWINBOURNE, 4T2 SENSORS

When Max Swinbourne came to the BizInn to learn how to make his business idea attractive to investors, mentors also arranged a residency at the BioHub, which taught him how to build his own laboratory so he could test a prototype. His company has now validated a prototype, attracted international investment, and is licensing their technology to the brewing, food and pharmaceutical industries.

Our enterprise could have remained very local in the UK but the University networks gave us a global reach.

DR AMIT CHANDAN, ACELERON ENERGY

Birmingham graduate Amrit Chandan’s initial idea was to upcycle used electric car batteries for energy storage in the developing world. The Enterprise team helped him explore additional markets, provided mentoring and identified additional funding streams to support the business. Acecleron has now launched its first product and is running pilot projects in Central America (Barbados) and Africa (Kenya).

Our enterprise has had the greatest impact, and the community at the Research Park spurred me on.

IN THE LAST FIVE YEARS THE BIZZINN HAS HELPED INNOVATORS AND ENTREPRENEURS CREATE 130 NEW COMPANIES

DELIVERING OPPORTUNITIES FOR EARLY-CAREER RESEARCHERS

The Enterprise team delivers training, mentoring and advice for early career researchers who want to develop their ideas, win additional funding, or develop business and entrepreneurial skills.

These services enable researchers to form productive links with industry, or become the academic lead that will help steer a spin-out company or social enterprise to success.

DR AMIR HAJIYAVAND, ADVANCED MANUFACTURING TECHNOLOGY CENTRE

Doctoral researcher Amir Hajiayvand worked within the Medical Robotic Research Group, part of the Advanced Manufacturing Technology Centre, with Dr Mozafar Saadat. His new methods to increase the success rates for IVF were patented by the Enterprise team who also supported him through a structured commercialisation process. This helped him identify the fertility doctors and clinics whose opinion would be key to success, and funded a series of fact-finding meetings with them. Their opinion endorsed the technology, and the research group subsequently won further money from the University’s Impact Acceleration funds.

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The Bizlnn support and BioHub facilities made available by University of Birmingham Enterprise took us from idea to prototype to launch in a short space of time.

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University of Birmingham Enterprise helps researchers find a way to turn their research ideas into reality. We work with academics from all disciplines to protect ideas, find the best outlet for them in business or social enterprise, and ensure the smooth running of academic consultancy projects.

We also provide enterprise training, coach academics who apply for specialist funding, and manage innovation spaces where researchers, businesses and investors can spark off each other.

Please contact us if you want more information.