

**The Universities of the West
Midlands.**

**Rising to real world
challenges – from the lab to
changing lives.**



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Rising to real world challenges – from the lab to changing lives

How the Universities of the West Midlands are coming together to realise the grand challenges facing the UK and the world

Introduction

Universities are economic engines contributing £2.9 billion GVA to the West Midlands and creating 55,000 jobs (directly and indirectly) across all skills levels. While many are recognised for their impact in talent and innovation generated through teaching and research, it can be difficult to understand the link between the work happening in their institutions and how it will affect everyday lives.

The Universities of the West Midlands – Aston University, Birmingham City University, Coventry University, University of Birmingham, University of Warwick and the University of Wolverhampton – have come together to demonstrate how they are making their mark by rising to the grand challenges set out by the Government. Addressing these challenges will improve people's lives and influence productivity.

The Universities are providing life-changing solutions to make us healthier, wealthier and more productive. Their research and development reaches far beyond the laboratory and lecture theatre, creating real-world solutions to the grand challenges.

Each university makes a unique contribution to specialist sectors within the West Midlands' economy. It is their collective strength that makes the region distinctive in its ability to accelerate business growth and innovation.



The West Midlands Local Industrial Strategy

Building on the strengths and research specialisms of its universities, the West Midlands is set to unveil a trailblazing Local Industrial Strategy. This follows the launch of the Government's UK Industrial Strategy¹ in November 2017, which set out its plans to build a Britain for the Future.

The West Midlands is the first region to work with the Government to begin developing a Local Industrial Strategy. It is the result of partnership working between the West Midlands Combined Authority, the region's Local Authorities and its three Local Enterprise Partnerships. In recognition of their R&D and innovation capabilities, the Universities in the West Midlands have been closely involved in the development of the Strategy.

The Strategy aims to boost productivity by supporting businesses to create jobs and increase the earning power of people across the UK, by investing in skills, industries and infrastructure. The Government also set out four grand challenges that will define the UK's future economy:

- AI and Data
- Ageing Society
- Clean Growth
- Future Mobility

The grand challenges have been identified as placing the UK at the forefront of the industries of the future. This will ensure that the UK takes the lead in addressing major global changes – improving people's lives and the country's productivity.

Four key industries have been recognised in the West Midlands Local Industrial Strategy as offering the region a global competitive advantage, and will help to meet the UK's four grand challenges:

1. Smart **urban mobility**, leading the smart, low-carbon movement of people and goods. The region is the UK's home of electric vehicles, connected and autonomous vehicles and battery manufacture
2. **Life sciences**, using data to improve health and wellbeing. This includes healthcare diagnostics, devices and testing, driven by data and AI
3. A globally competitive **Business, Professional and Financial Services** (BPFS) cluster, driven by the largest full-service cluster outside London and supported by world-class business schools
4. A **creative cluster** with particular strengths in pioneering new content platforms, software, screen media and gaming

¹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf

To realise the potential of these clusters, the West Midlands will make its mark by relying on quality R&D, ideas, and skills. The strength of its world-class academic institutions will help the region to maximise these opportunities.

The Universities of the West Midlands

Higher education institutions in the West Midlands are responsible for generating £2.9 billion of GVA, or 3% of total GVA in the region². This impact was spread across a range of sectors but particularly in manufacturing, retail and business activities.

Through close collaboration with industry, the Universities of the West Midlands also directly help businesses to create the products and services that will make a real difference to people across the globe. Not only does the West Midlands produce around a third of all cars manufactured in the UK³, for example – the region is also a centre for future automotive research and design.

The Universities of the West Midlands are leaders in a range of research areas, including:

- Transport technologies – including rail, aerospace and automotive
- Materials and metals
- Energy – including battery technologies and clean energy
- Health & life sciences – including the manipulation of quantum data
- BPFS – supported by world-class business schools
- Creative, tech and digital – including AI, virtual reality, and gaming technologies and research
- Photonics

The combined strengths and expertise of each university are able to address the grand challenges set out by the UK Industrial Strategy. It is through this collective approach that the West Midlands is able to provide a comprehensive support network to established and emerging businesses, support new innovation and R&D within all key sectors, and ensure that the region's economic growth is supported with a highly skilled and ambitious workforce.

From the laboratory to the living room

By working with private sector R&D teams, universities are helping to create bold new ways of thinking and making. The UK's network of world-leading catapult centres, for example, are designed to transform its capability for innovations in key sectors and drive economic growth.

² <https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2014/economic-impact-west-midlands.pdf>

³ <https://www.smmmt.co.uk/wp-content/uploads/sites/2/SMMT-Motor-Industry-Facts-June-2018.pdf>



Universities across the UK are recognised as supporting business ingenuity and knowledge-intensive growth in several ways⁴:

- Knowledge providers: offering knowledge exchange activities such as long-term collaborative research programmes, consultancy and bespoke training for businesses
- Innovation facilitators/brokers: collaborating on the development of new products or services, and playing an important role in facilitating innovation indirectly
- Innovation investors: UK universities have helped generate nearly 15,000 new graduate start-ups and academic spin-offs in four years
- Promoters of entrepreneurial talent: engaging in initiatives to nurture entrepreneurial talent through education and entrepreneurship support services

The Universities of the West Midlands are already supporting businesses to solve modern-day challenges such as an ageing population, connectivity and clean energy. This can range from specialist spaces for product development, to the opportunity to work with academics who are international experts in their fields.

By offering business support and life-changing research, these universities are helping to develop existing markets and stimulate new ones for companies of all sizes. Major sites and initiatives developed by the six universities include:

- The flagship £12.4 million **Elite Centre for Manufacturing Skills** is based at the University of Wolverhampton. It is a new employer-led training facility, designed to enhance productivity in the region's high-value manufacturing centre. The Centre will drive economic growth by upskilling the current and future workforce, helping to close skills gaps identified by employers.
- **The Institute of Translational Medicine** (ITM) at the University of Birmingham has 200 industry partners, with 35 spin-out companies created from its research. It offers world-class laboratory and testing facilities, and, through Birmingham Health Partners (BHP), access to academic and clinical expertise. The ITM also houses device simulation facilities, such as the first robotics pharmacy dedicated to clinical trials and imaging facilities.
- The £150 million **National Automotive Innovation Centre** (NAIC) is a partnership between Jaguar Land Rover, Tata Motors UK, and Warwick Manufacturing Group at the University of Warwick. It aims to develop future vehicles and mobility solutions through collaborative research projects with manufacturers, suppliers and academia. The NAIC is the largest research centre of its kind in Europe.
- **STEAMhouse** at Birmingham City University encourages collaboration between science, technology, arts, engineering and maths (STEAM) sectors. Its STEAMlabs workshops focus on product development, collaborative making and societal challenges. STEAMhouse also offers fabrication facilities to support product development; networking events and learning activities; and grants for materials used in early stage prototyping.

⁴ <https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2015/the-economic-role-of-uk-universities.pdf>

- The **Institute for Advanced Manufacturing and Engineering (AME)** is a collaboration between Coventry University and Unipart Manufacturing Group to create a 'live' manufacturing environment. Its courses aim to address the industry's skills shortage, with students trained in Unipart's best practice manufacturing methodology and able to work with engineering professionals within the company.
- The **Aston Centre for Growth** offers growth programmes and other opportunities for SME owners looking to expand their business. Aston University has held the Small Business Charter since 2014, reflecting its expertise in SME engagement. The university has supported hundreds of innovative SMEs with pitching competitions; Aston Enterprise, its start-up support and incubation centre; and high-profile programmes such as Goldman Sachs 10,000 Small Businesses.

There are many products, services, research and expertise that are being developed by the Universities of the West Midlands that will help to address the UK Industrial Strategy's grand challenges. For specific examples of this pioneering work, please see the following case studies.

Conclusion

The Universities of the West Midlands are economic engines, working with industry to boost productivity and skills in the region. By providing the space, knowledge and the tools required to innovate, they are making a vital contribution to addressing the global challenges of AI and data; an ageing society; clean growth; and future mobility.

Collectively, the universities' specialisms support all of the key sectors that will provide practical solutions to the grand challenges. Their expertise means that the West Midlands is uniquely placed to address the economic, technological and societal change that we must all adapt to.

The Universities of the West Midlands are accelerating the economic success of the region – by helping to transform lives around the UK and the world.



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Case studies

How the Universities of the West Midlands are meeting the Industrial Strategy's four grand challenges

Aston University

The research undertaken by Aston University has a direct impact on society, with 78% of research rated 'world leading' or 'internationally excellent,' Research Excellence Framework 2014⁵. Aston also has a gold ranking in the Teaching Excellence Framework 2017, addressing the skills needed by the West Midlands and wider society in the UK.

The University has developed a strong reputation for working closely with industry and has an excellent track record in commercialising technologies including:

- Temozolamide, a brain cancer drug
- Colibra™, Protein Library screening technology
- Successfully spinning out Aston Molecules (acquired by OSI)
- Marconi Solstis, Indigo Photonics (acquired by Insensys)
- Aston Particle Technologies Ltd
- Grid Edge Ltd
- Aston Eyetech Ltd (now trading as Eyoto)

Addressing the grand challenges of AI & data, and an ageing society

Aston's experts are at the cutting edge of AI thinking. From the relatively simple to the highly complex, a wide range of business problems can be represented in computing terms. Their algorithms find solutions to meet a number of business challenges.

The Think Beyond Data £1.7 million project is part-funded by the European Regional Development Fund (ERDF) to bring Machine Learning and AI expertise at no cost to SMEs. From logistics, medical technologies, construction and manufacturing to marketing, research, education and design, using advanced Machine Learning algorithms and AI techniques and the latest academic thinking, the University's experts are helping companies turn their data into new products, new job opportunities and find better, more efficient ways of working. AI can make companies more efficient by automating and scaling business processes, providing better and more efficient solutions.

In the field of elderly care, Aston University is using robotherapy – machine learning to develop robots that can recognise a person's emotions based on their expressions and body language. Once the robot understands how they are feeling, it can adapt the way it interacts with them. Human-robot interaction can also play a valuable role in child cognitive development, such as working with children with autism.

Addressing the grand challenge of **clean growth**

The bioenergy sector can offer businesses a profitable alternative to waste disposal costs by using commercial and industrial waste as feedstock for bioenergy plants. For businesses that use large units of heat and electricity to power large buildings, bioenergy can provide cost-effective and greener solutions to powering buildings.

Aston University's **Europe Bioenergy Research Institute** (EBRI) is supporting businesses of all sizes with a range of expertise and services on bioenergy. The Institute provides a wide range of business solutions to alternative waste disposal including technology, business support, economic feasibility studies and a variety of tailor-made project, informative events for entrepreneurs and business leaders.

Addressing the grand challenge of **future mobility**

Aston Institute of Photonic Technologies develops sensors and communications systems that can be used for asset management e.g. road material deterioration as well as optimisation of communication networks such as 5G and maths for data visualisation and mapping of traffic flow. It also commissioned the first Vehicle to Grid charging system.



Birmingham City University

Birmingham City University (BCU) is committed to improving the breadth, diversity and quality of its research. The results of the 2014 Research Excellence Framework (REF) demonstrate the significant and wide reaching impact of its research: almost 90% was considered to have either 'outstanding' or 'very considerable' impact, and marked an improvement in overall quality.

BCU is also transforming STEM into STEAM (Science, Technology, Engineering, Arts and Maths) - an interdisciplinary and collaborative way of thinking aimed at finding the most innovative solutions to today's technological challenges. In May 2018 BCU formally launched STEAMhouse – a unique new space for innovation offering working spaces, tech support and access to grants for local businesses to help fuel long-term economic growth. By creating the facility with the values of open innovation, STEAMhouse has created new ways of working, new products, new communities of practice at BCU, and generated vibrant interest from policy makers, global businesses and international partners.

Addressing the grand challenge of AI and data

BCU is exploring the benefits of human-computer interaction in augmented reality (AR). The research focuses on natural free-hand interaction, where users interact with an augmented physical world, enhancing the environment with virtual information and tools. Free hand interaction opens a whole range of new applications in education, simulation and product promotion. These new approaches will enhance training in a variety of fields – from enabling medical students to use virtualised tools in a safe and realistic augmented environment, to helping manufacturers create and design new products in immersive environments.

Addressing the grand challenge of an ageing society

BCU is part of a pioneering consortia to improve the suitability of orthopaedic implants through developing, manufacturing and testing the combination of bio-active material and metal for orthopaedic implants. These implants are expected to bond naturally to the affected limb without the need for external screws and fixings. BCU's direct contribution is in the development of a numerical multiscale modelling platform to optimise the efficiency of implant development, providing a process of continuous testing and improvement.

Addressing the grand challenge of **future mobility**

BCU is working with partners on the Insight-CAV project, funded by Innovate UK, to develop and test driverless pods that are able to navigate through pedestrianised city areas. The University has produced detailed safety cases for the appropriate operation of the autonomous pods and is organising trials with increasing complexity to gather vital data, to enable an ultimate trial in the complex city environment. This is complemented by public and industry specific engagement events.

Also aligned to mobility, BCU has formed the 'Magnesium Innovation Group' – a strategic partnership between its leading academics and the world's largest producer of magnesium high pressure die cast components, Meridian Lightweight Technologies UK. The partnership explores the misconceptions and underuse of magnesium in the automotive and aerospace industries. Despite magnesium being nearly half the weight of aluminium, 100% recyclable, the eighth-most abundant element in the Earth's crust and a non-flammable metal, the University is exploring why it is seldom used. The Group aims to overcome technical challenges relating to high pressure die casting (HPDC) in particular, and potential applications in aircraft seat construction.



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Coventry University

Coventry University provides high-quality education to students, reinforced by its Gold rating in the Teaching Excellence Framework (2017). As an ambitious and innovative University, its research makes a tangible difference to the way we live. Coventry University is already known for delivering research that makes a significant contribution to a number of global challenges.

Research centres at the University focus on a range of real-world issues under five key themes:

- Intelligent products and processes: harnessing the latest science and technology to pioneer new and more intelligent ways of doing things
- Health and wellbeing: working to achieve a healthy and happy population, that benefits all facets of society – from early years education to social justice policy
- Creative cultures: world-leading expertise in vehicle innovation and styling has led to the creation of a unique national centre for transport design in Coventry
- Sustainability and resilience: helping communities and habitats to regenerate themselves by engaging with citizens, businesses and technology.
- Safety and security: tackling the challenge of protecting the security and freedoms of citizens, and of those most in need through research.

Coventry University also has a Knowledge Exchange Team and a Small Business and Social Enterprise Service.

Addressing the grand challenges of an ageing society, and AI & data

Coventry University's MATUROLIFE project aims to make urban living for older people easier and more independent.

Design is coupled with innovative advanced materials to produce aesthetically pleasing and functional products for Assistive Technology (AT). This ambitious 36-month initiative brings together SMEs operating in the creative industries with scientists working on cutting-edge advances in electrochemistry and nanotechnology.

The €6 million MATUROLIFE project involves 20 partners: SMEs from nine EU countries, research technology development companies, non-government organisations and academics. The new emerging AT products will address current and future societal challenges to urban living for older people whilst assuring competitive and sustainable development of SMEs.

Addressing the grand challenge of **future mobility**

Coventry University's Institute for Future Transport and Cities brings together world-class expertise in disciplines across art and design, human factors, engineering, manufacturing, computer systems and business studies to deliver its vision of safe and sustainable transport solutions fit for cities of the future.

The Faculty of Engineering, Environment & Computing has, to date, run more than 250 student projects to design and create the commercially viable Sparrowhawk – a two-seater sports car. Part funded by the University's Higher Education Innovation Fund (HEIF), students have been tasked with creating a roadworthy vehicle that meets performance and automotive legal requirements. Students studying automotive, mechanical or motorsport engineering and transport design have worked on this project – while business school students are currently developing a detailed business plan to ensure financial viability.



University of Birmingham

The University of Birmingham is ranked amongst the world's top 100 institutions. Its work brings people from across the world to Birmingham, including researchers, teachers and more than 6,500 international students from over 150 countries. UoB is a founding member of both the Russell Group of British research universities and the international network of research universities, Universitas 21.

For more than a century, the University has used innovative academic research to make a positive difference in the world – from developing the first pacemakers and plastic heart valves to the cavity magnetron, which led to applications such as radar and the microwave oven. It remains at the forefront of research in many of the emerging disciplines of the 21st century, such as nanotechnology, gene therapy, robotics and the use of virtual reality in the study of archaeology.

Primarily research is focused across five areas: arts and law; engineering and physical sciences; life and environmental sciences; medical and dental sciences; and social sciences. The University also offers a wide range of business support services, including:

- Contract research and development
- Consultancy
- Intellectual property licences
- Equipment and facilities
- Conferencing facilities
- Business accommodation

Addressing the grand challenge of an ageing society

From basic science to clinical trials, the Institute of Inflammation and Ageing has three core aims within its Ageing and Trauma research theme: to understand the impact of ageing on immunity; to determine the mechanisms underlying loss of musculoskeletal health with age; and to determine the immune response to trauma and how this is affected by age.

Through a highly collaborative approach with the neighbouring University Hospitals Birmingham NHS Foundation Trust, the Institute addresses the low-level inflammation which accompanies ageing and makes older adults more susceptible to conditions such as dementia, cardiovascular disease and osteoporosis.

Importantly, the Institute aims not just to document the effect of age on immunity, but to understand the mechanisms that underlie the loss of immune function with age. Its researchers are using this knowledge to develop interventions – both lifestyle and pharmacological – to improve immunity and health in older adults and trauma patients.



Addressing the grand challenge of **clean growth**

The Birmingham Energy Institute (BEI) is at the forefront of the technological innovation and original thinking required to solve the challenges facing the UK as it seeks to develop sustainable energy solutions in transport, electricity and heat supply whilst guiding policy which will shape the energy solutions of tomorrow. The University of Birmingham has more than 200 researchers engaged in energy and energy-related research and development. From the year 2013 to 2018, the BEI has been a part of energy related projects that have received external project funding in excess of £200 million.

To overcome the region's severe energy, business and social challenges, the University of Birmingham has invested in Tyseley Energy Park (TEP), the energy and waste nexus for the city of Birmingham. TEP exemplifies how novel energy technologies can form an innovative industrial ecology. This partnership will help shape the way the city and region develops infrastructure for renewable heat and power, energy storage and clean transport fuels in combination with advanced waste processing



University of Warwick

The University of Warwick is home to one of the UK's most successful science parks, which hosts 130 tenant companies and provides facilities for start-ups and established companies. It also manages business support programmes including the Minerva Business Angel Network, while Warwick Ventures commercialises innovations produced from world-leading research at the University.

Warwick was founded with the aim of delivering excellence in research and has become one of the UK's leading research universities. Its Global Research Priorities programme addresses some of the most challenging problems facing the world today, providing a platform for multidisciplinary research in 11 key areas of international significance – from food to sustainable cities, energy to innovative manufacturing.

In the Government's Research Excellence Framework (REF) 2014, Warwick strengthened its position amongst the UK's ten best research universities, with 87% of its research classed as 'world-leading' or 'internationally excellent.'

Warwick Manufacturing Group (WGM) is building the National Automotive Innovation Centre on Warwick's campus, with partners Jaguar Land Rover and Tata Motors European Technical Centre. Meanwhile Warwick Business School has opened a base at The Shard in London, making its world-renowned research and executive education more accessible in the UK.

Addressing the grand challenges of **clean growth**, and **AI & data**

The Clean Air in London project is a partnership between the University of Warwick, Greater London Authority and The Alan Turing Institute. The project is funded by the Lloyds Register Foundation programme on Data Centric Engineering.

The University is developing state-of-the-art machine learning algorithms, statistical methodology and data science platforms to better estimate and forecast hyper-localised air pollution levels across London. The project involves integrating evidence from multiple air quality sensor networks and additional data sources, describing live traffic and emissions in the city, in addition to environmental and mobility patterns.

The outcomes of the project could have huge benefits for citizens and policy makers, enabling them to quickly react to changing air pollution levels while better understanding the dynamic and spatial aspects of the process.

Addressing the grand challenge of **future mobility**

Warwick Manufacturing Group's (WMG) vehicle electrification project will lead to increasing opportunities for the UK supply chain. It aims to develop and enhance the UK's automotive manufacturing capabilities to enable the development of cleaner, safer and smarter vehicles.

WMG delivers this vision by helping UK businesses seize the significant opportunities presented by electrification – estimated to be worth more than £6 billion by 2025. This insight and expertise is helping to address the challenges of vehicle electrification, including vehicle performance, range, battery life, safety and rapid charging.

During the next five years, WMG will develop the manufacturing systems for cell and battery pack assembly and supply chain solutions via its UK Battery Industrialisation Centre.



University of Wolverhampton

From pioneering research into brain tumours to shopping habits in the 19th century, the University of Wolverhampton has a growing research community that fosters a spirit of enquiry and a thirst for discovery – speeding up the pace of innovation and development in the West Midlands.

All the University's academic schools have areas of research strength, overseen by its established Research Institutes and Centres, many of which work closely with industry on large-scale projects.

The University is continually growing its research capability, building on international and local findings and utilising its strengths in several research areas. This allows it to help businesses with their own research and development, leading to new products, services, processes and markets.

This commitment to research was recognised in the last Research Excellence Framework (REF) 2014, with a £2 million investment, a mark of the University of Wolverhampton's constant drive for discovery and innovation.

Addressing the grand challenge of **clean growth**

The University of Wolverhampton will help tackle the UK housing shortage through its new dedicated brownfield research centre.

The Brownfield Research and Innovation Centre (BRIC) will be located at the University's Springfield Campus and will play an integral role in the process of developing former industrial sites in the Black Country so that homes can be built on them.

The Centre is set to become a Black Country portal and centre of market intelligence for Brownfield regeneration, land remediation – providing expertise in building heritage, conservation and facade retention.

Addressing the grand challenge of AI & data

The Wolverhampton Cyber Research Institute (WCRI) is a team of over 20 academics based in the School of Mathematics and Computer Science.

The Institute aims to become a world leading research centre by fostering an environment that is; inclusive, interdisciplinary, encourages innovation and creativity – all of which will increase originality, significance and rigour in the field of cyber research.

WCRI builds on the established strength of its members in network and communication security, AI, big data and cyber physical systems. It works in collaboration with academics, industrial and governmental organisations in all aspects of security and privacy.

The Institute is based at the University of Wolverhampton's city campus and the Hereford Centre for Cyber Security at Skylon Park Enterprise Zone. WCRI aspires to be at the forefront of developing and leading an International Cyber Knowledge Hub to tackle threats in the cyberspace.



Appendix

About the Universities of the West Midlands

Aston University

Aston University is located in Birmingham and at the heart of a vibrant city. The campus houses all the university's academic, social and accommodation facilities for our students.

Aston has been a leading university for graduate employment success for over 25 years and students do extremely well in securing top jobs and careers. Its strong relationships with industry partners mean they understand the needs of employers, which is why they are also ranked in the top 20 for graduate employability.

Birmingham City University

With around 24,500 students from 80 countries, Birmingham City University is dedicated to transforming the prospects of its learners, inspiring them to become makers and doers.

The University is an integral part of the city in which it is based, with courses shaped by the needs of industry and partnerships with some of the country's leading employers. It has undertaken a £260 million investment programme in its estate, including a major expansion of its city centre campus at Eastside, providing students with an enviable range of facilities.

Its courses, state-of-the-art facilities, first-rate staff, and focus on practical skills and professional relevance is producing some of the country's most employable graduates, with 97% of students in employment or further study within six months of graduating (Destination of Leavers from HE survey 2016/17) – which places the University in the top ten multi-disciplinary institutions in the UK.



Coventry University

Coventry University is forward looking and modern, with a proud tradition as a provider of high quality education with a focus on applied research.

Students benefit from state-of-the-art equipment and facilities in all academic disciplines including health, design and engineering laboratories, performing arts studios and computing centres. The University has been chosen to host three national Centres of Excellence in Teaching and Learning that has enabled them to invest substantial sums of money in health, design and mathematics.

Its city centre campus is continually developing and evolving, and the University has plans for further investment over the coming years. It is a major presence in Coventry, which contributes to the city's friendly and vibrant atmosphere, and also enables it to foster successful business partnerships.

University of Birmingham

The University of Birmingham is ranked amongst the world's top 100 institutions. Its work brings people from across the world to Birmingham, including researchers, teachers and more than 6,500 international students from over 150 countries.

Birmingham has been challenging and developing great minds for more than a century. Characterised by a tradition of innovation, research at the University has broken new ground, pushed forward the boundaries of knowledge – making an impact on people's lives.

It continues this tradition today and has ambitions for a future that will embed its work and recognition of the Birmingham name on an international stage.

Universities are never complete. They develop as new challenges and opportunities occur. Birmingham innovates by pushing the frontiers of understanding – asking new research questions, it turns theory through experiment into practice.



University of Warwick

The University is world-leading with the highest academic and research standards. It is a place of possibility – always looking for new ways to make things happen.

Students, alumni and staff are consistently making an impact – the kind that changes lives, whether close to home or on a global scale. It's the achievements of its people that help explain why its levels of research excellence and scholarship are recognised internationally. It's a prime attraction for some of the biggest names in worldwide business and industry.

The commitment to research at Warwick is that it will be internationally leading, impactful, and provocative. It will change the world, making lives healthier, safer, more resilient, more just and more fulfilled. This research produces transformative and lasting solutions to the multidisciplinary global challenges of both today and the future.

The University is ranked highly in the lists of great UK and world universities. All of this contributes to a compelling story, one that's little more than 50 years old. Youth does not hold the university back from making change in the world.

University of Wolverhampton

The University have been providing students with the opportunities presented by a first class education for over 180 years.

With over 500 courses to choose from, delivered across our 18 schools and institutes, the University of Wolverhampton's attractive offering to students from around the world includes 96% graduate employability (Destination of Leavers of Higher Education survey 2017), teaching informed by world leading research, strong business links, and state-of-the-art facilities.



The Universities of the West Midlands



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