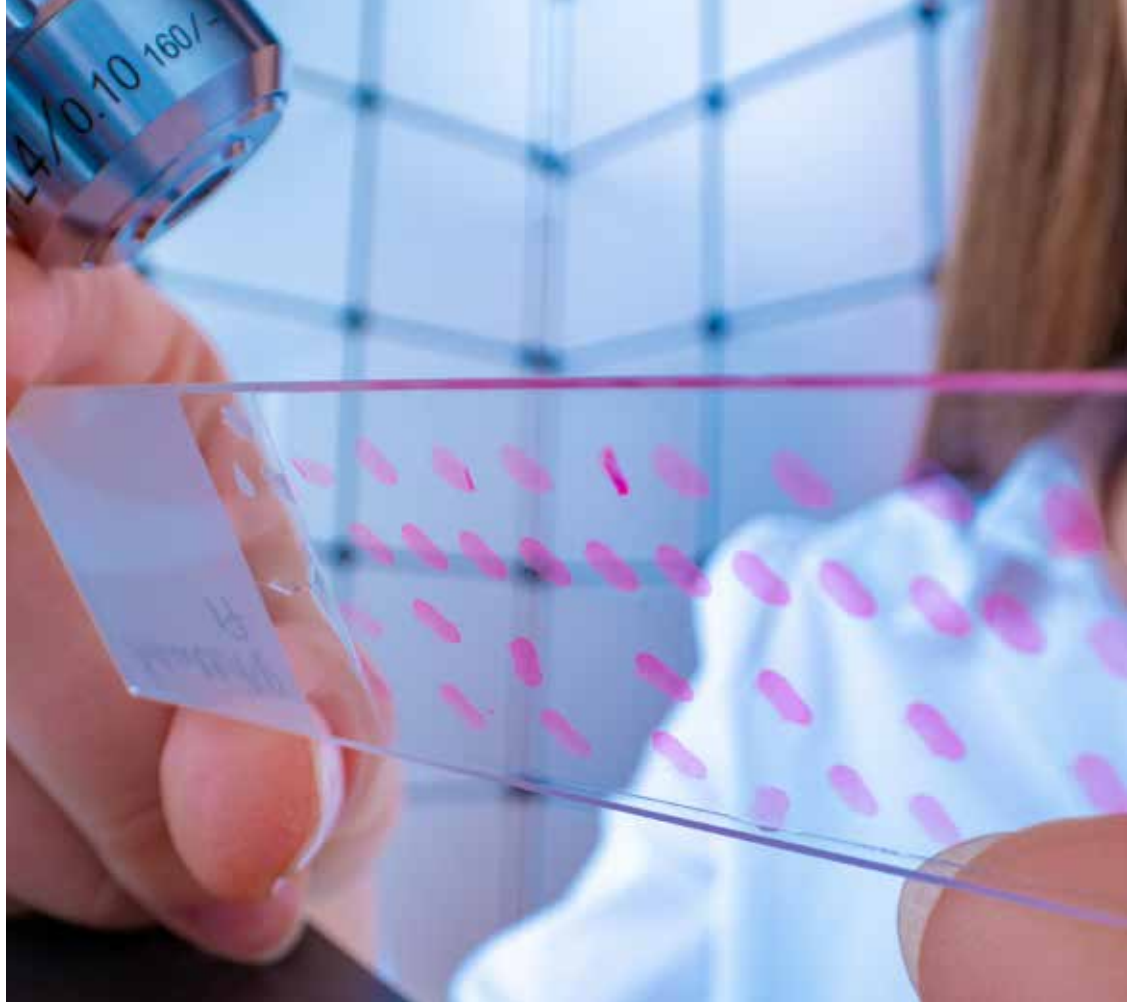




Our Five Year Strategy

2023-2027





Introduction

We are a strategic research and innovation partnership of eight Midlands-based universities; Aston University, University of Birmingham, Cranfield University, Keele University, University of Leicester, Loughborough University, University of Nottingham and University of Warwick.

Our partnership, Midlands Innovation, was established in 2015 with the core belief that through collaboration we are stronger.

The collective research undertaken at our eight research-intensive universities has made a positive impact at a regional, national and international level, and we continue to facilitate and stimulate economic growth.

Midlands Innovation universities support over 78,000 jobs in the Midlands and make an estimated £10bn contribution to the economy.

Through research and training the workforce of tomorrow, our universities improve the social, economic, environmental and cultural wellbeing of people in the Midlands, the UK and globally.

Together, we are committed to building a vibrant and sustainable research and innovation ecosystem in the region, further building on our collective research strengths.



Setting the scene

The Midlands is a highly diverse and dynamic region at the heart of the UK. It is home to nearly 11 million people, 435,000 businesses, with a £240bn economy.

Our region has a 20% share of England's exports and contributes £90bn annually through international activities.

It is within easy reach of 92% of the UK's population and globally connected via its international airports. 80% of UK freight passes through the region.

The Midlands has long-established strengths in advanced manufacturing and is home to more than 25% of England's manufacturing jobs. It is a leading centre of the UK's automotive, aerospace and rail industries.

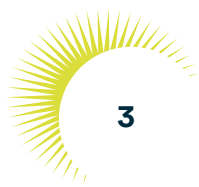
The region employs 1 in 4 of England's energy and low carbon jobs and has emerging green clusters in hydrogen, nuclear and wind. It also has the second largest clinical trials infrastructure in Europe.

Our region also boasts a rich heritage and cultural scene, with many historic sites and attractions drawing visitors from across the UK and beyond. It has a natural capital worth £11bn annually.

**Nearly
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**20%
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**Natural capital
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Barriers to growth

Despite our strengths, the Midlands faces significant challenges which we can address through collaboration.

Underinvestment

Historic under investment (£102bn over the last 17 years) means that just 14.5% of UKRI spending is in the Midlands. The region performs strongly in terms of funding from Innovate UK, where it secures 29% of the national investment, but under-performs in terms of income secured from Research Councils (9%).

There are variable levels of investment across the region, which leads to slower industry innovation.

Lower-level skills and employment

Employment rates are lower than the national average. 7.8% of the working age population in the Midlands Engine area have no qualifications against the UK average of 6.7% in 2021.

Infrastructure and connectivity challenges

Midlands transport expenditure per capita is significantly behind the UK average, despite being a major logistics hub for the UK. The transport sector accounts for 4.3% of total GVA, yet our region's transport infrastructure has experienced years of underinvestment.

The Midlands is experiencing a 'digital divide' where availability of high-quality internet access is varied depending on geography. Only 26.7% (1.23m) of premises in the Midlands Engine area overall had full fibre availability, below the UK proportion of 31.9%.

Health inequalities

The region is experiencing extensive health inequalities. It has the highest infant mortality rate in the UK, one in thirteen adults are diagnosed with diabetes, and there is a gap of up to nine years in life expectancy between the most and least deprived areas. These challenges, when combined with local socioeconomic factors, put the Midlands population at a severe disadvantage compared to the rest of the UK.



The role of Midlands Innovation in addressing these challenges

Uniquely placed

Midlands Innovation is uniquely placed as a pan-regional research and innovation partnership to deliver activities that strengthen the region's research and innovation ecosystem, by bringing together the collective strengths of eight research-intensive universities distributed across the region.

How we collaborate

We have existing research platforms where we focus our collective strengths to help address real-world challenges.

Midlands Innovation has proven research strengths in energy, health, social sciences, space and transport and a strong track record collaborating in enterprise, research culture and research infrastructure. As the research and innovation landscape evolves, we intend to respond by developing new research themes where we can combine our collective strengths.

Within each research platform we deliver collaboration through:

Championing

Emphasise our collective research and innovation capabilities and Midlands' cluster strengths. Collectively and coherently articulate Midlands R&D capabilities with an easy route to engage with the Midlands R&D community.

Partnering

Collaborate with organisations, such as national, regional and local government, NHS, public and private sector businesses, to help find solutions to local challenges.

Influencing

Provide insights and data to assist and enable collective conversations with stakeholders about the Midlands. Using those insights to support regional partners as they address structural challenges in the Midlands.

Facilitating

Build Midlands research communities, developing projects and platforms, convening conversations with our university members and stakeholders, and responding to opportunities and challenges.

Managing

Manage the consortium and project delivery both centrally and within member institutions through our governance processes and infrastructure.





Our collective strengths

7% of the UK's academic workforce and 10% of the UK's postgraduates

(16,125 academics and 11,310 research students)

3 Midlands Innovation partners ranked within the UK's top 20 for research power

(REF 2021)

4 Midlands Innovation partners in the UK's top 10 for Medicine, Health and Life Sciences

(REF 2021)

78,000 jobs in the region supported by MI universities

(Hatch Regeneris analysis for UCU)

£608m total research grants

(HESA 2020-21)

£10bn total contribution to the economy



We will create more opportunities for the Midlands between 2023 and 2027 by:

- Establishing more collaborative programmes that strengthen the research and development (R&D) workforce, employed by our partners and working in the Midlands.
- Growing our spinout portfolio by working in partnership with Midlands Mindforge, (a dedicated investment vehicle co-founded by our partners) to help accelerate spinouts and scale-up start-ups.
- Securing significant funding within one or more of our research platforms (an area of research focus/excellence within the partnership).
- Establishing and growing new research communities that address Midlands-based challenges and are in receipt of research funding.
- Generating new insights that enhances regional intelligence and informs decision making through collaborative policy work.
- Identifying new interventions and initiatives that enhance the region's R&D ecosystem, designing solutions in partnership with regional and national stakeholders.



**Our purpose, vision
and values are central
to our activities.**

Purpose

Midlands Innovation creates **opportunities for the region, its people and its members through ambitious programmes and research** which deliver positive impact.

We influence future prospects for the region by **working in partnership** to advocate for research and innovation.

Vision

The Midlands is home to a vibrant and sustainable research and innovation ecosystem which adds value to its people, the region and the UK. We are renowned for our excellence in R&D and facilitate global investment.

Values

Trust

We act in an honest and open manner, building trust within our projects and the partnership.

Impact

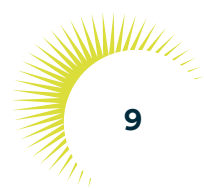
We deliver positive impact for our university members and our region by working in partnership.

Collaborative

We proactively build relationships with our stakeholders and member's communities to enable closer working.

Inclusive

We respect people, value diversity and are committed to equality, aiming for continuous improvement across the partnership.





Our Priorities

We will deliver bold and impactful initiatives, focusing on five overarching priorities that build on existing activities and strategic direction:

Place

By delivering ambitious place-based initiatives, we will help tackle the region's biggest challenges. Our collaboration will work to champion and strengthen the region's research and innovation ecosystem.

People

People are at the heart of research and innovation. Our people are delivering world-class research which, in turn, impacts people in our communities. Collectively we will develop the skills of our people whilst empowering and celebrating our diverse research and innovation community. Our activity will embrace the contributions of a wide range of researchers and research enabling staff.

Partnership

We will catalyse new collaborations across the Midlands Innovation membership, creating research communities for a purpose. They will generate new ideas in partnership with regional stakeholders.

Policy

Our collaborative approach will influence future prospects for the region. We will inform local and national policy related to the Midlands, in addition to research and innovation projects we deliver together.

Projects

We will deliver ambitious, large-scale collaborative projects and develop renowned research platforms that create opportunities for the region. Our flagship collaborative projects, for example our Energy Research Accelerator, will have effective governance arrangements to deliver positive impact.





Place

By delivering ambitious place-based initiatives, we will tackle the region's biggest challenges. Our collaborative research will champion the Midlands research and innovation ecosystem and:

- Provide insights and expertise to support external stakeholders and partners in decision making, enhancing their wider understanding of the Midlands.
- Strengthen the Midlands research and innovation ecosystem, helping regional partners to advocate for the Midlands research and innovation offer.
- Attract the best research infrastructure to the Midlands.
- Enhance the profile of the Midlands by acting as regional ambassadors to secure investment and create jobs.



Case Study

The Energy Research Accelerator

The Energy Research Accelerator (ERA) is an example of place-based initiatives that our partnership can deliver.

By combining our collective energy research capabilities, we unlocked **£60m government investment** and £120m from the private sector and universities to establish ERA.

The collaboration between Midlands Innovation members, the British Geological Survey and industry responded, not just to the strengths of our universities, but also to the strength and importance of the energy sector in the Midlands. We are home to 1 in 4 energy and low carbon jobs in England and many household names from the energy sector. The sector is worth **£26.6bn p.a. to the Midlands economy**.

The pioneering project works with UK government, industry and the higher education sector to help solve global energy challenges, develop the next generation of energy leaders and shape the future of the UK's energy landscape.

The investment enabled 23 new energy research and demonstration facilities across the Midlands which are now being used to address local and national energy challenges.

Our collective expertise has been used to support **local policy development**, including the Energy Innovation Zone concept in the West Midlands and the Midlands Engine Green Growth Action Plan.

**£60m
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Midlands**

**The sector
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**23 new energy
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Case Study

Shaping the Midlands hydrogen economy

The HyDEX programme delivered by ERA is working with SMEs and large businesses to create a new hydrogen economy in the Midlands. HyDEX aims to create a market for low carbon hydrogen solutions, as part of the transition to net-zero.



People



People are at the heart of research and innovation. We are delivering world-class research which, in turn, impacts people in our communities.

Collectively we will develop the skills of our MI people whilst empowering and celebrating our diverse research and innovation community. We will deliver initiatives that:

- Achieve a positive research culture for our researchers and research enablers.
- Benefit our region's population by better understanding the challenges they face and improving citizen engagement in our activity.
- Make the Midlands an attractive place for all involved in research delivery, building on our reputation for championing and developing the entire research workforce.
- Engage all who contribute to delivering research, regardless of role and career level, to attract the best talent to the Midlands research ecosystem.
- Tackle systemic challenges through collaboration (eg collaborate to improve research culture, support Early Career Researchers, develop research leaders) by securing new project investment and piloting novel approaches.
- Invest in collaborative training and networking for our research workforce.
- Cultivate a vibrant and inclusive research ecosystem and entrepreneurial culture.

Case Study

Developing a world-class postdoctoral development programme

The Centre for Postdoctoral Development in Infrastructure, Cities and Energy, (C-DICE) is UKRI's biggest investment in postdoctoral development. C-DICE involves all eight Midlands Innovation partners along with a number of other universities. The initiative is helping to deliver on net-zero by creating bespoke career opportunities in higher education and businesses. £425k has been awarded in fellowships and grants, more than 500 postdocs are engaged in the programme so far.



Case Study

Advancing status and opportunities for technical talent

Midlands Innovation nationally champions the critical role of technicians in R&D. In 2015 we established the UK Higher Education Technicians Summit and Papin Prizes; the only national conference for technicians and awards dedicated to celebrating technical excellence in academia. Our eight partners were founding signatories of the international Technician Commitment.

Together, we secured investment from Research England to establish MI TALENT, a £5m transformative programme which is advancing the status and opportunities for technical skills, roles and careers within higher education and research.

Through MI TALENT:

- Tailored learning and development opportunities and initiatives are being piloted with our technicians, developing the skills of our workforce.
- More than 500 technicians nationwide have benefited from the Herschel Programme for Women in Technical Leadership Programme.
- Valuable insights on the technical workforce and their vital contribution to research, innovation and teaching have been published in the landmark TALENT Commission report, featuring 16 sector-wide recommendations to enact positive change and strengthen the research and innovation ecosystem.
- Additional funding has been secured to establish a new UK Institute for Technical Skills and Strategy.

As a result, we have a regional technical community that is better equipped, better networked, more resilient and feels valued. The programme demonstrates how Midlands Innovation universities are working together to generate meaningful change within their institutions and the wider sector.



Partnership



We will catalyse new collaborations within Midlands Innovation, creating research communities for a purpose. They will generate new ideas in partnership with regional stakeholders that will:

- Share best practice to strengthen research delivery in the Midlands.
- Co-create solutions to strengthen the Midlands R&D ecosystem.
- Design research programmes which address our region’s challenges.
- Develop new partnerships with regional stakeholders, other regional university groupings and beyond to deliver projects of excellence.



Case Study

Using infrastructure to stimulate new research partnerships

Unlocking ground-breaking research

A £3.2m Tier 2 High Performance Computer has increased scope for ground-breaking research in the Midlands and beyond. Our members secured funding for this state-of-the-art facility from EPSRC following a joint bid. In its lifetime the machine will be used by thousands of researchers and will feature in hundreds of research papers.

Piloting remote microscopy

Thanks to a £1m grant from BBSRC we have established Midlands Open Bioimaging to explore the benefits of remote access to advanced optical microscopy techniques. We have upgraded infrastructure to enable researchers to take measurements remotely or get remote technical support. New equipment includes a bespoke, remote control microscope available to Midlands researchers. We are exploring how to strengthen the optical microscopy community through remote training and expanding remote access for users who cannot get to the laboratory.

Case Study

Solving community challenges together

A growing network of Early Career Researchers (ECRs) within the Midlands are collaborating with local authorities, voluntary organisations, charities and health trusts to create solutions to social challenges.

This interdisciplinary Inclusive Transformation research platform is generating new ideas that are addressing issues affecting many communities. Pilot projects have been:

- Exploring the lived experience of communities confronting energy poverty and precarity.
- Creating more green jobs locally and supporting ethnic minority group SMEs to recover from the pandemic.
- Identifying arts-led interventions to drive innovation in the care sector.
- Developing urban agri-training to educate around food security.
- Rewilding urban locations for biodiversity uplift and community engagement.

Collectively, researchers are encouraged to target significant additional funding to develop research ideas further to improve future prospects for our communities. This evolving research platform is helping to build capacity around interdisciplinary research.

Working with their project teams and stakeholders, the project leads will seek funding opportunities through national, international and charitable bodies.





Policy



Our collaborative approach will influence future prospects for the region. We will inform local and national policy related to the Midlands and the research and innovation projects we are delivering together.

We will take a collaborative approach to policy work that will:

- Provide our civic leaders with the evidence they need to inform local policy.
- Influence policy on research practice, for example as related to our work on technicians.
- Ensure that a policy component is considered for all our projects to ensure we maximise the impact regionally and nationally from those projects.
- Deliver specific, collaborative, policy commissions which provide new evidence on agendas critical to the Midlands, when appropriate.

Case Study

Health and Care Inequalities Policy Commission

Midlands Innovation Health, supported by the Midlands Engine, has conducted a Policy Commission to better understand issues surrounding health and care inequalities in the Midlands. The report will provide insights into new emerging health inequalities, case studies and actionable solutions for organisations who have a role in influencing and delivering health and social care services.

Case Study

Assessing the Case for Public Ownership in Energy

ERA has launched a Policy Commission to investigate the case for a publicly-owned energy company. The commission will explore the potential benefits and challenges, as well as examine examples of publicly-owned energy systems in other countries.

Case Study

Foreign Direct Investment into Research and Development

FDI into R&D declined by 6% between 2020 and 2021. This was the first decline in over two decades following year-on-year increases in investment since 1999.

Already FDI is a significant source of private sector funding into university R&D activities. Across 15 universities in the Midlands, it represented an average of 37% of all industry income in 2019-20 (9% from the EU, 28% from the rest of the world).

Midlands Innovation is collaborating with regional partners, including the Midlands Engine, West Midlands Growth Company and Midlands Enterprise Universities, as well as national policymakers and funders, to identify how to improve the flow of FDI into R&D in the Midlands.

Half a million pounds of funding was secured to support a trail-blazing project which aims to tackle underinvestment in the region, help to increase skills and employment, and is using FDI to support economic growth.

Midlands Innovation has played a vital convening role in putting this topic on the agenda of research funders. As the project develops, we intend to increase scope and involvement, leading to further investment into the region's world-class clusters.

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Projects



We will deliver ambitious, large-scale collaborative projects and develop renowned research platforms that create opportunities for the region.

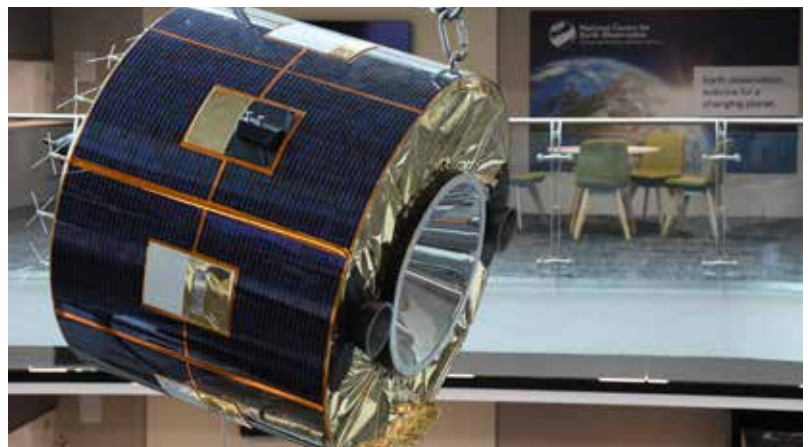
Our flagship collaborative projects will have effective governance arrangements to deliver positive impact. We will:

- Take a proactive approach to identifying bold, ambitious large-scale collaborative programmes.
- Provide a responsive resource to convene partners around funding opportunities.
- Be flexible to ensure the right partners are involved; not everything we do needs to involve all eight members.
- Ensure that projects have appropriate governance allowing the partnership to make effective decisions, such as withdrawing from initiatives that are not successful if necessary.

Case Study

Collaborating to create a Space Cluster

The Midlands Innovation Space Group combines 900 academic, research and technical staff within the Midlands. In 2023, a share of £6.5m was secured from the UK Space Agency to leverage collective research and innovation capabilities. Our partners are developing a Space Cluster in the region to help accelerate the development of a thriving space ecosystem the UK.



Case Study

Midlands Mindforge – An ambitious investment company

Commercialisation of IP via spinouts requires significant long-term financial funding and other specialist resources. Lack of access to finance in the region's research and innovation ecosystem might be hindering the ability of companies emerging from our universities to access capital in sufficient quantities.

Nationally, total investments made in university spinouts have risen significantly in the last decade, with greater levels of funding going to the Golden Triangle (London, Oxford and Cambridge).

What's more, **the average spinout in the Golden Triangle raises 4.6 times as much capital as one in the Midlands in the first seven years, and will have a 3.5 times bigger exit value.**

To tackle this, Midlands Innovation universities have established an independent investment vehicle, Midlands Mindforge Limited (MML) to accelerate the commercialisation of cutting-edge innovations in science and technology.

This new company is **a bold and ambitious project that will support research entrepreneurs through early access to investment** and encourage innovation in science and technology.

MML will build the foundations of a new technology eco-system in the region, helping to boost economic growth, creating highly-skilled jobs and building companies that deliver real-world impact.







The strategy's operational delivery plan and KPIs will be owned and monitored by Midlands Innovation Executive Management Group. The Pro Vice-Chancellors from the eight Midlands Innovation universities form the Executive Management Group and meet monthly to oversee the implementation of the research strategy and delivery of significant programmes.



Contact us: info@midlandsinnovation.org.uk

Find out more: www.midlandsinnovation.org.uk

