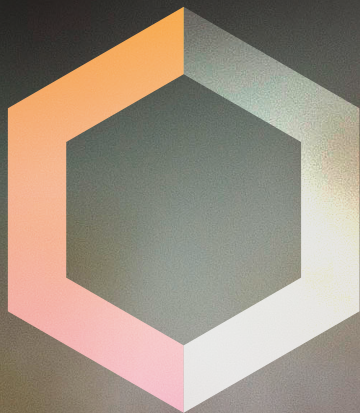




Ulster University RESEARCH STRATEGY 2023-2028

A Strategy for Research
Excellence, Inclusion and Impact





FOREWORD

People are at the centre of research and innovation, and the culture and community in which our researchers thrive is core to the Ulster University Research Strategy.

This Research Strategy builds upon the University's highest ever performance in the Research Excellence Framework 2021 to advance our vision for research excellence with transformative impact, provides focus and investment for the sustainable growth in our research intensity, infrastructure and income, and will provide incentives and support to bring Ulster's community of researchers together in an environment that nurtures and gets the best out of everyone.

**Professor Liam Maguire,
Pro Vice Chancellor for Research**

OUR VISION

We believe in equality in research, we celebrate diversity and we foster inclusion. We are advancing our national and international reputation for research excellence while simultaneously playing a leading role in the enrichment of the social, economic, and cultural life of Northern Ireland. We are a university of, and for, the world.



INTRODUCTION

The University Strategy: People, Place and Partnership seeks to unlock the University's collective potential to deliver *Sustainable Futures for All*. Research and innovation remain at the heart of the strategic direction of the University, founded on our core values: Collaboration, Enhancing Potential, Inclusion and Integrity.

The Ulster University Research Strategy 2023-2028 has brought together our people, ideas, principles and sectoral research to agree plans, priorities and purpose through an approach of co-design and shared commitments.

The Research Strategy was informed by four key components:

1. *The Ulster University Strategy: People Place and Partnership: Delivering Sustainable Futures for all*
2. *Analysis of performance in REF2021*
3. *A 12 month study of our research culture and community*
4. *Mutually-agreed themes for strategic research*

This Research Strategy has been co-developed with over 300 staff and PhD researchers at Ulster University, informed by the work of six Ulster teams established with membership drawn from across the University to examine aspects of research culture development.

The output of this cross institutional endeavour is the Ulster University Research Strategy. Recognising that **people** are at the heart of this University, the strategy is focused on the development of Ulster University's **research community and culture**, providing a supportive environment for all our researchers and investing in the infrastructure upon which research can thrive. The strategy promotes **excellence** in all aspects of research and sets out the areas of **strategic research themes** for the University.

Our focus is on research with **impact**, providing a sector leading environment for the development of research talent and ensuring our research is put to work on behalf of global society.

We will continue to undertake our research and innovation through open and mutually beneficial **partnerships**, targeting collaborative research opportunities and knowledge exchange that will develop our research community and promote diversity and inclusion.



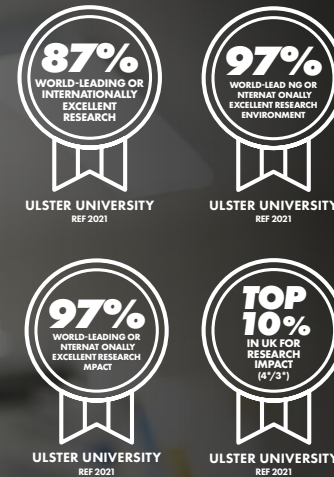
STRATEGIC RESEARCH GOALS

Our four strategic research goals are:

1. *To conduct world-class research that has a transformative impact on societies locally and globally, challenging inequality and division, building the sustainable world, accelerating data futures, transforming health, inspiring creativity and innovation;*
2. *To develop our researchers and our research community, increasing the excellence, intensity, scope and value of our research and impact;*
3. *To develop and promote an open, diverse, supportive and sustainable research culture, promoting cooperation and collaboration between researchers and our partners; and*
4. *To place research and innovation at the heart of Ulster's strategic direction, investing in partnerships and the infrastructure upon which research can thrive.*

ACHIEVEMENTS FROM PREVIOUS STRATEGY

Our Research & Impact Strategy 2017-22 delivered unprecedented growth in our research and innovation performance. This included: an increase of almost 85% in research grants awarded with an increase of over 100% in UKRI awards; a 20% increase in staff submitted to REF2021; a 27% increase in the value of our business partnerships; an increase of 183% in knowledge exchange income and an increase in postgraduate researcher satisfaction, with Ulster ranked 2nd out of 89 UK universities in the Postgraduate Research Experience Survey (PRES 2021).



This superb outcome in REF2021 confidently built upon our 2014 outcomes and demonstrated the depth and breadth of our research in diverse disciplines. The emphasis we place on research with impact is fundamental to the purpose of the University, our research community and our many partners in other universities and sectors. Through our rigorous enquiry, the sharing of findings, the formulation of recommendations and the development of solutions, our research is central to Northern Ireland's research and development ecosystem. It also informs our teaching at Ulster and transforms thinking while addressing challenges of our time, both locally and around the world.

The establishment of the Ulster University Doctoral College was a key commitment in our Research Strategy 2017-22 and a focal point for doctoral training and researcher development.

Today, the Doctoral College is a cornerstone of Ulster's research culture, working in partnership with Faculties, attracting the highest calibre of PhD researchers, ensuring they receive consistently excellent research training, graduate within appropriate timescales and gain postgraduate level employment which uses both their research skills and subject expertise.



**Ulster
University**

Doctoral College



RESEARCH CULTURE & COMMUNITY

People are at the heart of the University and our focus will continue to be on creating the conditions, frameworks and approaches to enable people to achieve and surpass their career aspirations. Through the consultations undertaken in preparation for the Ulster University Research Strategy 2023-2028 a consensus was reached to focus on our research community, with interventions and support for Early Career Research, Equality, Diversity and Inclusion and to foster a truly inclusive research and innovation system that values and nurtures a wide range of careers and career paths.

At the heart of the Ulster University Research Strategy is a commitment to develop our researchers, our research culture and community, increasing the intensity and value of our research and impact. We will maintain the highest standards of rigour and integrity in all aspects of research and will continue to promote a positive culture of research excellence for our research community.

Research Culture encompasses the behaviours, values, expectations, attitudes and customs of our research communities. At Ulster, we are committed to develop and promote an open, diverse, supportive and sustainable research culture, fostering cooperation and collaboration between researchers and our partners and nurturing interdisciplinarity between research groups.



The Research Culture teams

- Reviewed policy and practice at Ulster relating to research culture;
- Commissioned research, surveys and benchmarking to build an evidence base for action;
- Assessed progress against existing Ulster commitments and plans relating to the development of our research culture and environment;
- Reviewed best practice interventions and strategies across the HE sector and identify opportunities for Ulster interventions; and
- Provided enabling actions that are now embedded in Ulster's Research Strategy.





To enhance our Research Culture and Community our focus will be on a number of areas:

Early Career Research

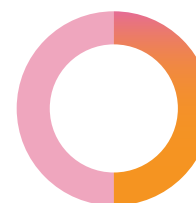
We will continue to nurture our Early Career Researchers (ECRs) and Postgraduate Researchers (PhDs) in the progression of their research careers by ensuring that all have access to excellent training and development opportunities. High importance is placed upon the development of the next generation of researchers, with a particular emphasis on the cultivation of innovative interdisciplinary research and the further internationalisation of our PhD researcher community.

Ulster University is proud to hold the HR Excellence in Research Award for its commitment to improving the working conditions and career development of its research staff. The HR Excellence in Research Award recognises the University's commitment to the Concordat for the Career Development of Researchers which is demonstrated through the implementation of key actions and initiatives aimed at the continuous improvement of our research culture and the career development of researchers.

Building on these commitments for our staff we will develop a roadmap for academic and research progression and enhance existing University and local training by creating a specific ECR Academy programme. For our PhD researchers, the Doctoral College will provide the opportunity to present their work in a supportive multi-disciplinary environment, and will seek opportunities to celebrating excellence in PhD research across the university, including through an annual Festival of PhD Research and the Three Minute Thesis (3MT®) Competition.

Equality, Diversity and Inclusion (EDI)

We are committed to cultivating an environment where all individuals or groups are welcomed, respected, supported and valued. EDI is embedded in all our research policies and processes and we will ensure robust equality screening and monitoring to allow us to assess and benchmark our progress on EDI against our own research and innovation programmes and our peers' performance across the wider Higher Education sector.



Research Leadership

Ulster will develop capacity, skills and incentives relating to research leadership by providing enhanced support for the development of research careers aligned to the University's leadership culture framework (BRAVE). We will ensure our colleagues understand what research leadership means and that the pathways for progression and succession from early career, through mid career research to senior positions both in academia and beyond are clear and available to all.



Open Research and Innovation

We are committed to ensuring our research is conducted and communicated 'as openly as possible as early as possible'. This will further the global reach of Ulster University's research and innovation outputs by enabling Ulster researchers to engage in international collaboration in efficient and effective ways, accelerating the pursuit of knowledge.

Our aim is to ensure that Open Research and Innovation approaches are valued and supported across the university, recognising that the types of approaches adopted may be discipline specific.

We also aim to strengthen openness in research engagement with public and community audiences.





Practice as Research (PaR)

We advocate a culture supportive of excellence in PaR. Our aim is to develop a track-record in, and reputation for, world-leading research which incorporates practice. We want to be at the forefront of current conversations on PaR and to champion and celebrate it in all its forms by increasing our support for research of differing definitions and knowledge of how it is documented, disseminated and assessed.

Sustainability

Our research is focused on achieving a better and more sustainable future for all by challenging poverty, inequality, climate change and environmental degradation, and strengthening conflict resolution, peace and justice. In 2023 Ulster University appointed a Dean of Sustainability and Corporate Social Responsibility, with whom we will develop and support sustainability initiatives with our staff, our PhD researchers and external partners across our research activities. We are committed to delivering on the [UN Sustainable Development Goals](#) by creating a healthier, fairer and greener world through our Research Strategy, research collaborations and research support programmes.

EXCELLENCE & INTEGRITY

Our focus on academic excellence in research remains undiminished. Ulster University is committing in this Research Strategy to fostering a world-class research and innovation system that gives everyone the opportunity to contribute and to benefit. To ensure our Strategy supports research excellence, equality, effectiveness and efficiency it will be critical to target our research investment wisely.

Deciding how to invest within and between these interconnected elements requires strengthened governance, increased reliance on peer review and a balanced portfolio of investments in our people, infrastructure, ideas and policies. Ensuring the longer term sustainable growth of research and innovation in the challenging funding climate is at the forefront of our mind.

Ulster's pursuit of research excellence, the continued growth of our research base and the fulfilment of our responsibilities to participants in research and the wider community require the maintenance of the highest standards of integrity and ethics. Over the past 5 years, Ulster's research income doubled and we will match the growth in the last research strategy period as a result of focused development within our REF Units of Assessment and through major initiatives such as the City and Growth Deal programme of investment and Ulster's own strategic investment programme.

We will ensure that each research and innovation investment will contribute to societal progress, will deliver the greatest possible value for our research community, respects research participants and promotes societal trust in our endeavours. To ensure accountability, we will advance research integrity across the whole research lifecycle, from preparation and submission of grant and project proposals to the publication and dissemination of findings.



STRATEGIC RESEARCH THEMES

Research and innovation are key to our sustainable futures. Through our research, talents, and facilities, and through the many ways in which we interact with the world around us, we aim to build on our increasing research power and impact to respond to the needs of societies now and in the future.

To focus our contribution to global challenges we have identified five strategic research themes to state 'what we are for' as a research community, encourage interdisciplinarity between research groups, ensure our research aligns to the needs of society, and communicate our collective research strengths and contribution.

The five Strategic Research Themes not only promote collaboration beyond Higher Education, but also aim to inspire cooperation between research, teaching and other facets of academia. Together the themes will be used as a roadmap for setting institutional-level objectives and supporting both disciplinary and interdisciplinary research. Collaboration will require insightful discipline-specific expertise, and interdisciplinary cooperation will lead to novel research directions, additional research themes and stimulate new research groupings.

Our Five Strategic Research Themes:



CHALLENGING INEQUALITY AND DIVISION

Our multi-disciplinary research will help shape our world for the better by informing social, economic and political thinking and decision-making to create an equal, cohesive, safe and sustainable society.



TRANSFORMING HEALTH

Our multidisciplinary researchers have a combined aim of improving lives on a global scale as well as informing major policy changes. They are making new discoveries and using new innovative materials, methods and technologies to provide cutting-edge solutions to make a real-world impact on health in the wider context of communities and society.



BUILDING THE SUSTAINABLE WORLD

Our research-led approach to understanding the environment will enable us to inform colleagues, communities, policy-makers and businesses on ways we can make the best use of our resources and tackle major societal challenges such as climate change, energy, food and water security; social inclusion and deprivation. We will research and develop new technologies and solutions to build the sustainable world.



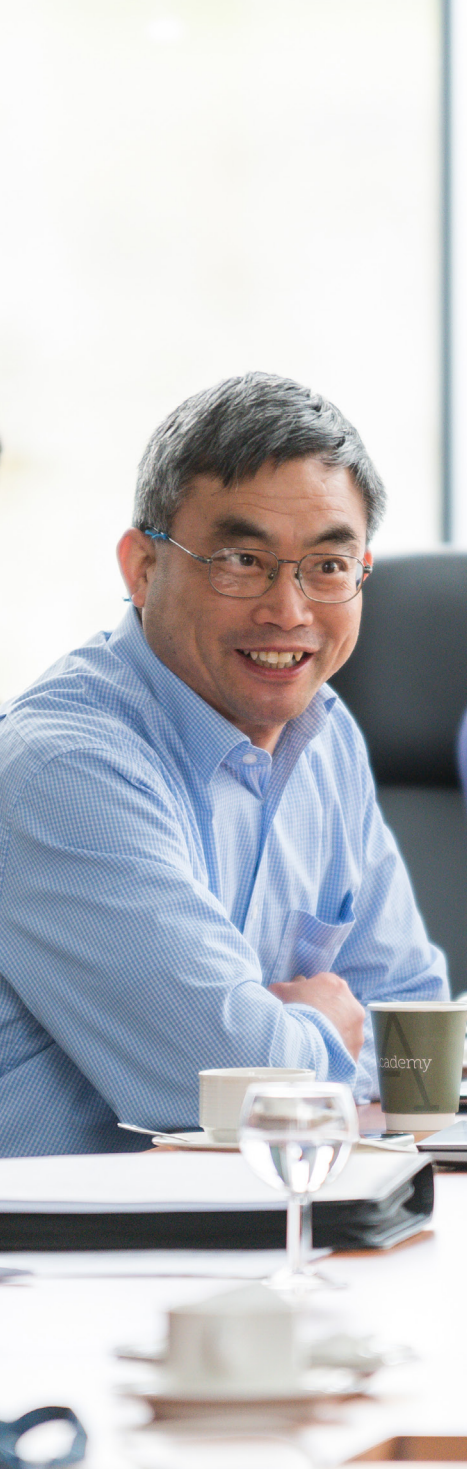
INSPIRING CREATIVITY AND INNOVATION

Our creative and artistic research spans a variety of disciplines and stretches beyond time-honoured research methods, incorporating practice-based research and the digital tools which enable us to better understand and adapt to our rapidly changing environment.



ACCELERATING DATA FUTURES

Technological innovation is revolutionising the ways in which societies function at all levels with digital prediction and data insights transforming decision-making in all sectors, for example, in food, health, art & heritage, industry, energy and finance.



We have consulted widely to ensure that our five Strategic Research Themes reflect the society we all want to live in and the areas in which our researchers and innovators wish to make a global contribution.

In developing our focus areas we have undertaken analysis of the Sustainable Development Goals and Grand Challenges that map against our research outputs and sought alignment between our research focus and the City and Growth Deal Investments that will bring an unprecedented investment in Ulster's research and innovation environments to characterise the future focus of our work.

In practice, the Strategic Research Themes will build on our Faculty plans and institutional strategy by coalescing areas of current excellence, areas of emerging intellectual focus in research and education, and areas of opportunity where we can build new research programmes and groupings. The focus we have identified is in areas where our expertise is particularly strong, and where there are clear unanswered questions or societal challenges that require attention, linking fundamental research to our social commitments.

GLOBAL GRAND CHALLENGES - including

- . Ageing Society
- . Artificial Intelligence & Data
- . Clean and Sustainable Growth
- . Social Inequality

CITY AND GROWTH DEAL INVESTMENTS

- . Advanced Manufacturing
- . Cognitive Analytics
- . Digital Healthcare
- . Food Futures & Drug Discovery
- . Industrial Automation
- . Personalised Medicine
- . Virtual Environments

STRATEGIC RESEARCH THEMES

- . Challenging Inequality and Division
- . Building a Sustainable World
- . Accelerating Data Futures
- . Transforming Health
- . Inspiring Creativity and Innovation

STRATEGIC RESEARCH THEMES



STRATEGIC RESEARCH THEMES

CITY AND GROWTH DEAL INVESTMENTS

GLOBAL GRAND CHALLENGES

SUSTAINABLE DEVELOPMENT GOALS

SUSTAINABLE DEVELOPMENT GOALS - including

- . Good health & well-being
- . Peace, Justice & Strong Institutions
- . Decent work and economic growth
- . Sustainable Cities and Communities
- . Climate Action
- . Responsible Consumption & Production
- . Gender Equality
- . Zero Hunger
- . Clean Water and Sanitation

IMPACT & ENGAGEMENT



Ulster University aspires to take a central role in developing a globally informed, imaginative and responsive society in Northern Ireland, making the impacts of research visible to citizens and fostering engagement through the partnerships to tackle challenges of modern-day world: reducing gender inequality, creating sustainable cities, safe environments and communities, facilitating cross-community dialogue, developing peace and justice, resolving conflict – creating a better, fairer and open world.

Northern Ireland can only achieve its research and innovation potential by leveraging public financial commitments to release additional competitively sought investment. Ulster's research ambitions will therefore benefit from increased multi-disciplinary approaches, will need to be supported through a growth in grant funded research and innovation income and be enabled by a connected research and innovation system.

Our desired research environment will be one in which people and ideas move freely, co-creating innovation and opportunity, shortening the distance between insight and value creation in society.

This approach will be essential to Ulster's programme of City and Growth Deals, in our response to the climate crisis and to global grand challenges. As a key example of this approach, Ulster University is contributing to the UN Sustainable Development Goals to create a healthier, fairer and greener world, through our research and partnerships.

As with the University's rapid interdisciplinary response to the COVID-19 pandemic, research will provide vital evidence to understand the challenge and to develop the best solutions. Innovation will make those solutions a reality from which all of us can benefit, changing how we live and work.



Innovation

Ulster University has a global reputation for entrepreneurship and peer recognition for conducting impactful research. Through the creation and dissemination of knowledge, we enhance outcomes for students, global societies, cultural life and the economy.

We are a key partner for industry because our research, skills and talent development give us and employers a competitive edge.

We will continue to drive and provide an invaluable skills pipeline for the creative and knowledge-based economies and through our open approaches to innovation we will deliver inclusive growth. A new open Intellectual Property Policy will be introduced to advance our inclusive approaches to innovation, increase our research collaboration and accelerate commercialisation.

Commercialisation

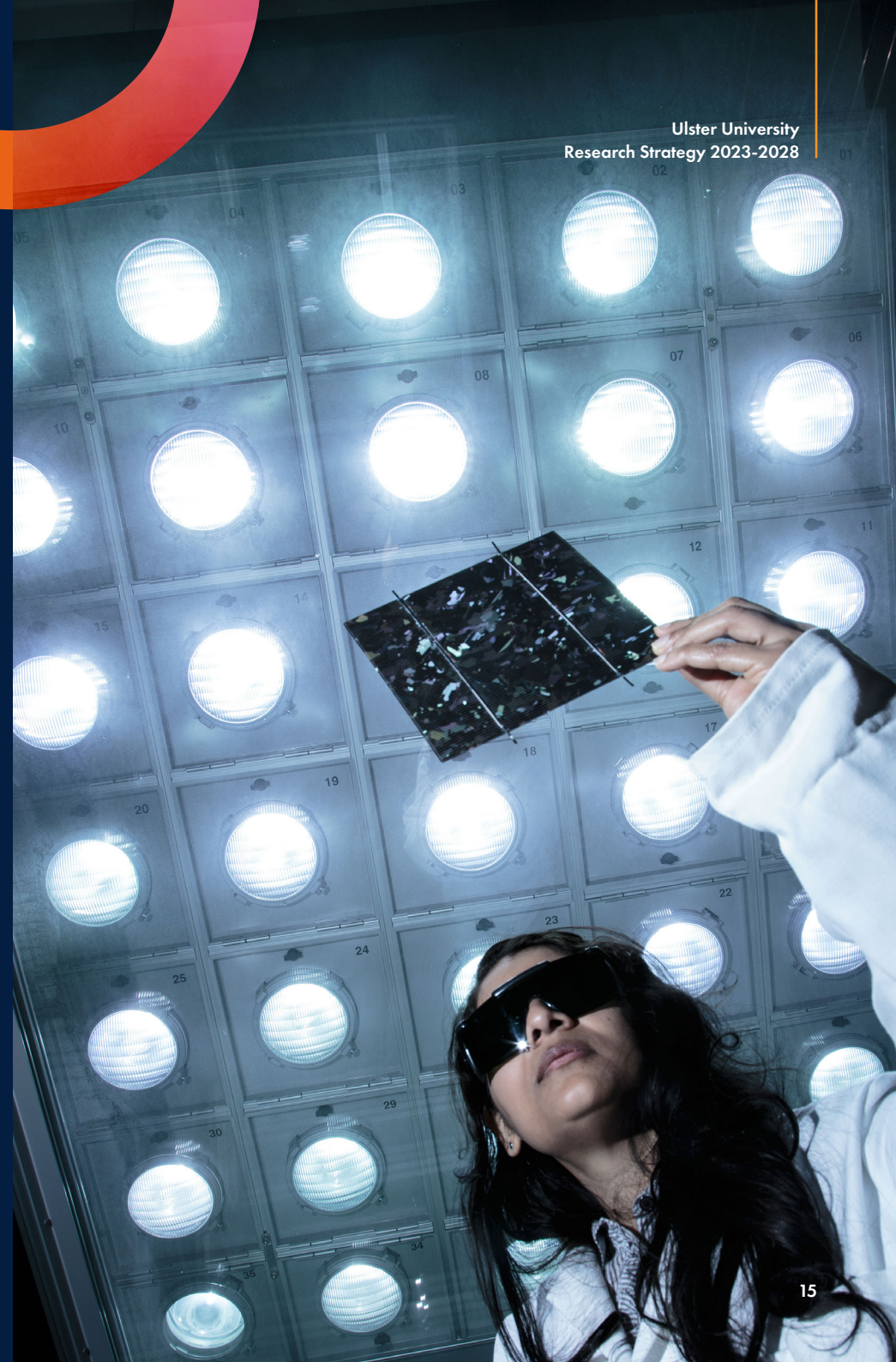
Innovation Ulster Limited is the University's award-winning commercialisation company, managing an evergreen investment fund, a portfolio of technology company investments and with responsibility for commercialisation of the University's intellectual property portfolio. Innovation Ulster Limited will provide the capital and expertise to ensure the full economic value of our investment in research can be

realised, the commercial ambitions of our graduates and academic colleagues can be fulfilled and will provide opportunities for businesses to partner and access Ulster inventions, research, technologies and facilities to develop commercial opportunities through a collaborative approach.

Major Initiatives

We will invest in major initiatives to maximise impact from our research and to develop partnerships to deliver growth, innovation and progress. Ulster University is a partner in the delivery of the regional programme of City and Growth Deals, the largest public investment in our economic infrastructure in Northern Ireland's history and the strategic research projects that are key to the economic development of Northern Ireland.

Ulster University's City, Growth and strategic projects will provide the environments in which international talent will come together to address global challenges, pioneer new technologies and develop future skills in the areas of Advanced Manufacturing, Cognitive Analytics, Digital Health, Food Futures & Drug Discovery, Industrial Automation, Personalised Medicine, Virtual Environments, Nanoscience and Sustainable Technologies and across the Arts, Humanities and Social Sciences.



CONCLUSION

Research culture involves everyone in our research community, by which we include anyone who contributes to our research endeavours, helps deliver a research-rich educational experience for our students and who puts our research to work in society.

So, whether you are an Ulster researcher, or enabler of research, or as a person who aspires to be one, we are building a research and innovation environment that is open and supportive of our researchers, our partnerships and our focus on transformative impact locally and globally. Our research addresses societal issues for public good, both now and into the future. Our Research Strategy has evolved through a process of inclusion, consultation and co-creation, which will remain at the heart of our actions.

The enhancement of Ulster University's research culture will take time: we will not be able to achieve everything at once, as we explore differing modes of engagement and new initiatives. It is also important that our work aligns well to wider University initiatives around culture and values, and further develops synergies between education and research and partners beyond Ulster University.

To achieve and support our ambitious research goals, we will need to introduce new ways of working, and for that we will need everyone's insights, ideas and solutions. Our Research Strategy will target our research investment to ensure we are supporting research excellence, equality, effectiveness and efficiency.

We very much look forward to working in partnership to build a research community supportive of our collective ambitions.

This Strategy provides a strategic focus for research for the next five years. Implementation of this strategy will take place at multiple levels. Operational Plans will align with the Research Strategy and University Strategy and define institutional and Faculty actions to deliver on our commitments and characterise how we will achieve our objectives.



We believe in equality in research, we celebrate diversity and we foster inclusion. We are advancing our national and international reputation for research excellence while simultaneously playing a leading role in the enrichment of the social, economic, and cultural life of Northern Ireland. We are a university of, and for, the world.

Conduct world-class research that has a transformative impact on societies locally and globally

Develop and promote an open, diverse, supportive and sustainable research culture, promoting cooperation and collaboration between researchers and our partners

THEMES

- Challenging Inequality and Division
- Building the Sustainable World
- Accelerating Data Futures
- Transforming Health
- Inspiring Creativity & Innovation

CULTURE

- Research & Sustainability
- Practice as Research
- Open Research & Innovation
- Equality, Diversity & Inclusion
- Early Career Research
- Research Leadership

Place research and innovation at the heart of Ulster's strategic direction, investing in partnerships and the infrastructure upon which research can thrive

Develop our researchers and our research community, increasing the excellence, intensity and value of our research and impact



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