



University of
Nottingham
UK | CHINA | MALAYSIA



Towards a fairer world

2021/22 report



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1st
 university to be
 awarded a Green
 Flag, and more
 consecutive Green
 Flags than any
 other university



Top 3
 of world's most
 sustainable
 universities, for
 three years running



8,000
 trees on University
 Park Campus



1st
 carbon neutral
 sustainable
 chemistry
 laboratory
 in the UK

Foreword

Innovate, inspire and work together to make a difference

This annual report underlines the University of Nottingham's commitment to helping achieve the United Nations Sustainable Development Goals (SDGs) and secure a fairer, more secure future for everyone.

We are tackling the 17 goals across four key areas:

- Our research
- Our learning and students
- Our engagement and impact
- Our policies and operations

I am delighted to highlight how the university is aligning its activity across these areas in support of each of the 17 goals.

By mapping our activity to the SDGs, we further focus our commitment to transform lives and strengthen partnerships to support resilient, fairer communities in the UK and across the world.

As a research-intensive, global university, placed 7th in the UK for our research power*, our pioneering, multidisciplinary programmes address complex challenges, from identifying and ending modern slavery and tackling food poverty, to developing zero-carbon technologies and improving healthcare.

Across our campuses in the UK, China and Malaysia we endeavour to act sustainably in all that we do and to inspire and empower positive change.

This commitment is at the heart of our vision:

To be a university without borders, where we embrace the opportunities presented by a changing world, and where ambitious people and a creative culture will enable us to change the world for the better.

The accelerating climate crisis is a stark reminder that the SDGs are a call to action, and that the time to act is now. Rising global temperatures are also a reminder that people and habitats in developing societies are most at risk if we do not achieve – in good time - the goals for sustainable development.

I hope this report stimulates wider transformative collaborations and inspires further change. At the heart of the stories it shares, from researchers, students, technicians and staff across our university, is a determination to innovate and inspire, and work together to make a difference - on our doorstep, in the UK and across the world.



Professor Robert Mokaya OBE
 Pro-Vice-Chancellor for Global Engagement

*2021 Research Excellence Framework 2021, according to analysis by Times Higher Education



End poverty in all its forms everywhere



3,922 nights' protection at homeless shelters



£600m savings for borrowers thanks to consumer credit research



£1,608,273 raised in Nottingham by Pack for Good

Research

Changing the lives of farmers in rural China

A pilot project has empowered the lives of potato farmers in rural China through the development of cooperatives. Our collaboration with Sichuan Agricultural University focused on small farmers in marginal areas of Sichuan. By working local authorities, international seed potato companies and local businesses, smallholders are being connected to external markets and accessing technology.



Cutting the cost of quick credit

Amidst tales of borrowers drowning in insurmountable debt from exorbitant payday loans, the Financial Conduct Authority (FCA) invited economists from the University of Nottingham to lead a survey of data from more than 15 million UK payday loan applications. We found such high-cost, short-term credit came at a terrible cost to millions of lives. Our evidence led to a **game changing FCA policy**, shielding 4.3 million loan seekers with a price cap. More than 760,000 consumers reclaimed a staggering £600m from interest and charges, while loan defaults plummeted from 14% to 4%. Meanwhile, Citizens Advice reported a remarkable 60% drop in payday loan-related cases.

Learning and students

Support for at-risk Ukrainian scholars

In a powerful act of solidarity, the university unveiled the **Ukrainian Scholars at Risk** programme, extending a lifeline to students displaced by the Russian invasion. The initiative includes accommodation on our UK campuses, financial aid, academic guidance, wellbeing services, and the chance to connect with the city's Ukrainian community.



Microwave magic: nourishing families in need

Dietetics student Sophie Conant, a volunteer at a local food bank, was inspired to use her skills to help families **create healthy, filling meals**. She found some families, with access to limited ingredients and cooking facilities, were struggling to cook well. Sophie and her fellow students crafted 12 wholesome recipes, using food bank staples and prepared solely with a microwave or kettle.



Engagement and impact



From trash to treasure

The Pack for Good campaign is a collaboration uniting the university, Nottingham Trent University and Nottingham City Council. Unwanted student belongings, often destined for landfill, were collected for sale at British Heart Foundation (BHF) charity shops. In 2022, the **initiative** collected more than 2,250 bags. It diverted more than 18 tonnes of waste from landfill and curbing 106,286kg of CO₂ emissions, while raising £1,608,273.



Reducing waste, nourishing communities

Enactus Nottingham, a not-for-profit organisation led by our students, works to transform lives through the power of business. It sets up social enterprises that provide jobs, benefit society and do environmental good. Its **Foodprint** initiative is Nottingham's first social supermarket, redistributing food that supermarkets would otherwise throw away, but which is still good to eat.

Policy and operations

Sheltering hope

In 2022, we joined forces with Emmanuel House, a local charity, to open a winter shelter on campus for the second year. This shelter provided a warm refuge for over 100 individuals battling homelessness. Throughout the 2022-2023 winter, the shelter offered solace to 107 people, with 58 finding permanent homes, and the impact extended far beyond just providing shelter.

It was a community effort, with 40 individual volunteers and 19 local organisations coming together to offer warmth, support, and three meals a day. One story of change involved a family of five from Iraq, victims of trafficking and fraud. Their journey led them to Emmanuel House, then the **Winter Shelter**, offering not only respite but also an opportunity to rebuild their lives.

Sowing hope: our mission to end hidden hunger

In sub-Saharan Africa and south Asia, millions suffer from hidden hunger. This is caused by micronutrient deficiencies due to over-farmed, depleted soils and restricted diets. We are part of an international partnership, funded by the Bill and Melinda Gates Foundation, tackling this global challenge.

We collected crop and soil samples from 2,000 farms in Malawi as part of the Gates-funded **GeoNutrition** project, to assess the potential effectiveness of biofortification, improving the micronutrient content of crops through conventional breeding and the adding of micronutrients to fertilisers. Our mission to end hidden hunger expanded with **MAPS**, which has extended our international reach in addressing a critical issue that affects two billion worldwide.



End hunger, achieve food security and improve nutrition and promote sustainable agriculture



2,000
Malawi farms and small holdings surveyed in hidden hunger project



2,078
free breakfasts served to students



1st
Midlands university to introduce carbon labels on food menus



96
'Magic Bags' of food redistributed on campus in first month of Too Good to Go



Sweeter futures

Cocoa is a significant global commodity yet cocoa producers may often lack access to knowledge to produce sustainable, consistent and high-quality outcomes from crops. We are working to improve the livelihoods of cocoa farmers in Columbia, sharing our research into **fermentation methods** to better understand how to produce fine cocoa, which has the complexity of flavour demanded by artisan chocolate makers, while helping producers find international markets.



Securing nourishment in Nottinghamshire

Food insecurity is a global issue but also a challenge close to home. With Nottinghamshire County Council, we launched a **study aiming to identify areas locally** where people and families may struggle to access adequate food and a nutritious diet. Volunteers are helping identify those in need and the findings will support the **Nottinghamshire Good Food** initiative.

Engagement and impact

Mapping food insecurity in the UK

In partnership with the food sharing app OLIO, our researchers developed a machine learning model with the potential to develop **a food insecurity map for the UK**. The partnership has seen OLIO engage with supermarkets such as Tesco to better redistribute 'surplus' food to areas of need. Researchers are also working with local authorities in London to help policymakers map and plan for pockets of deprivation.



Breakfast for brainpower

The Oasis Breakfast Club supports students facing rising living costs. Our Students' Union and Chaplaincy team offer free breakfasts, as well as a warm welcome and welfare guidance, while the Campus Life team makes free cereal bars and smoothies available in self-catered accommodation.



Policy and operations

Waste not, want not

A collaboration with Too Good to Go allows cafes on campus to throw away less unsold fresh food. An app allows students and staff to purchase surplus food at a discounted rate, reducing landfill and our carbon footprint. Within **one month** of the app going live, our partnership distributed 96 'Magic Bags' of food, equating to 240kg of CO₂, equivalent to charging a smartphone 42,480 times from 0% to 100%.



3 GOOD HEALTH AND WELL-BEING



Ensure healthy lives and promote well-being for all at all ages



Every 3 seconds an MRI scan takes place around the world



76 sports clubs at the university



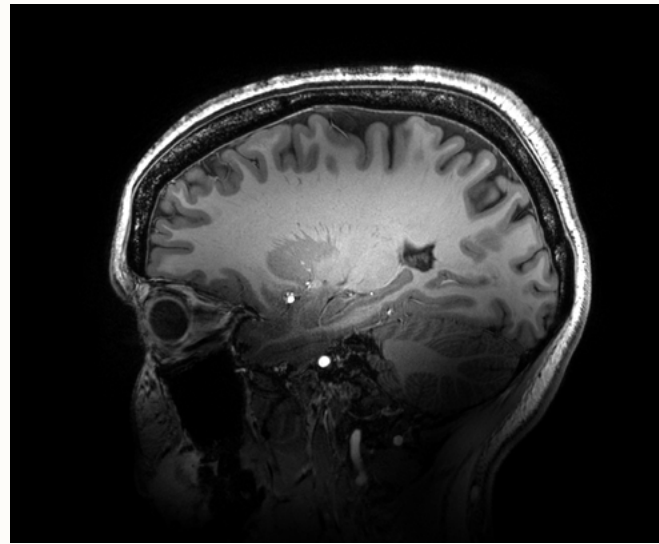
20 institutions collaborate at National Rehabilitation Centre

Learning and students



Award-winning programmes and sport for all

We consistently finish in the top ten of the British Universities and Colleges Sport leagues. We offer an **award-winning programme of sports**, health and fitness opportunities for our students and community. Inclusive and social sports sessions, campus leagues and more than 70 different sports clubs help students find the right fit to stay active.



Nottingham's landmark MRI facility

The University of Nottingham was awarded £29.1m to establish a national facility that will house the **UK's most powerful MRI scanner**. At the birthplace of MRI, the facility is set to further revolutionise understanding of brain function and human diseases and support the UK's aim to maintain global leadership in ultra-high field brain imaging.



Revolutionising rehabilitation

The University of Nottingham and Loughborough University are driving the **National Rehabilitation Centre (NRC)**, which will revolutionise outcomes for individuals facing life-altering injuries, trauma, or illness. The NRC, an innovative 70-bed NHS rehabilitation facility, is fostering collaboration between 20 institutions across the UK.



Advancing the fight on ovarian cancer

The Nottingham Ovarian Cancer Research Centre aims to revolutionise the diagnosis and treatment of the disease, which is the fifth leading cause of death among women. Despite advances in surgery and chemotherapy, more than 50 per cent of patients die from the condition each year in the UK.



Protecting mental health with animation

In collaboration with Aardman Animation Studio, **What's up with everyone**, a research-informed social media campaign, sought to boost awareness of the factors that can have a negative impact on young people's mental wellbeing, such as loneliness, perfectionism, competitiveness, independence, and social media.

Paving the way for healthier choices in children

Nottingham schools are at the forefront of a pioneering initiative to promote healthy behaviours in children with the introduction of the **Nutri Kit educational toolkit**. Developed by the Nutrition Advisory Team in collaboration with the University of Nottingham's Food Innovation Centre, the kit is undergoing trials in 30 regional schools, to raise awareness and inspire children to make healthy choices.



Policy and operations



Empowering student success

University life is an exhilarating adventure, filled with new experiences, independence, and diverse cultures. However, it can also be demanding and stressful. Recognising these challenges, we prioritise our students' well-being. Our **support** extends beyond academic life, encompassing mental health, physical fitness, and maintaining a balanced diet on a budget.

4 QUALITY EDUCATION



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



60,000+
primary and secondary students engaged in partnership with Nottingham Trent



366,000+
children worldwide using learning technologies developed by partners



4 out of 5
of our students land highly skilled jobs or go into graduate-level study within 15 months of graduating



83%
of pupils felt more motivated to learn following teaching of philosophy in primary school

Research

Changing children's lives worldwide

The University of Nottingham is transforming the way children learn, using tablet technology in Malawi, the UK, and beyond. Through scientific research, we're challenging conventional teaching methods and making learning fun and accessible. We collaborated with onebillion, an EdTech non-profit, to create an app that rapidly advances numeracy and literacy skills. In Malawi, over 150 schools adopted this interactive tool, with astounding educational progress. The app also prevents a gender attainment gap emerging in primary school children.



Unveiling the secrets of successful school leadership

The International Successful Principalship Project (ISSPP), founded by University of Nottingham researchers, gathered experts from over 20 countries, to foster shared understanding and practices in successful school leadership. Their findings emphasised moral and ethical purpose, high expectations, a love for learning, transparency, fairness, collaborative decision-making, and strong relationships as key traits of effective leaders. The ISSPP has improved educational leadership and policy worldwide.

Engagement and impact

Building brighter futures in South Africa

This compelling short film unveils the inspiring journey of University of Nottingham students who designed, built, and inaugurated a South African pre-school. Run by the Department of Architecture and Built Environment, this project has engaged over 450 students in international social impact work since its launch in 2009. Students worked collaboratively to draft, refine and construct their pre-school design during a six-week stint in South Africa.



Policy and operations

4 QUALITY EDUCATION



Reaching out to learners

Our widening participation and outreach teams offer in-school sessions and campus visits for state schools across the East Midlands. We **work towards raising aspirations** and attainment, particularly among learners from backgrounds under-represented in higher education.



Learning and students

Empowering education

We pioneer **the teaching of philosophy in primary schools**, transforming the way that children across the East Midlands are taught. Professor Andrew Fisher's outreach work in primary schools has led to changes in educational culture and gives pupils a voice.



Living Lab

Living Lab, a partnership with climate tech firm IES, has for over a decade given students and staff access to advanced digital twin technology – allowing virtual modelling of real-world environments. The technology is used for undergraduate projects focused on 'decarbonisation of the built environment,' embedding sustainability in the curriculum and offering practical training to the next generation of professionals.





Achieve gender equality and empower all women and girls



1st
Engineering department in the country to be awarded the Athena Swan Gold award



1st
large-scale study of women's experiences of working through menopause



Our researchers work closely with Notts Police, **1st** force in the world to classify misogyny as a hate crime



45,000
free pads and tampons distributed across our UK campuses

Athena Swan Golds

Our Faculty of Engineering - the first engineering department in the UK to be awarded this accolade – and our School of Health Sciences are each holders of the Athena SWAN Gold award for ‘excellence in advancing gender equality across higher education and research’.



Project Period – a mission for menstrual equality

In the UK, 1 in 10 girls can't afford menstrual products, with many missing classes in school or college as a result. Many millions across the world suffer risks to their health and inequality due to period poverty. To help address this, we make period products freely available to staff and students across our campuses, home and abroad. Project Period has so far distributed 45,000 pads and tampons across our UK campuses.



Fellowships for outstanding female researchers

Our Anne McLaren fellowships are dedicated to attracting female early-career researchers working in science, technology, engineering and mathematical (STEM) disciplines, and all our fellowships encourage diversity, support part-time work and offer support with childcare costs.

Shattering taboos about menopause

In the UK there are nearly 5.1 million working women aged 45-59, and most will experience menopause symptoms. Yet before a study led by the University of Nottingham, little was known about the impact of menopause of the working lives of women. **Our research** has led to evidence-based guidelines that have been used by employers and trades unions across the world, including the Royal College of Nursing, UNISON, the TUC, the Royal College of Midwives, Nottinghamshire Police and BP International, improving the lives of millions of women and helping them achieve their potential.



Learning and students



Removing barriers in STEM education

We support the **STEM Belle programme**, which mentors and empowers young women from schools in Nigeria, Ghana and Pakistan. It seeks to remove the barriers they face when going on to education and training in science, technology, engineering and mathematics.

Engagement and impact



Our **report** underscores the role of flexible work arrangements in cultivating a more diverse and inclusive workforce. The 'Transforming EDI Practices in UK Insurance' study, conducted in collaboration with Browne Jacobson LLP, marks the first independent exploration of Equality, Diversity & Inclusion (EDI) experiences within UK insurance companies.

Climate change and the threat to gender equality

Climate change exacerbates social and economic threats for women and girls, including those highlighted by sustainable development goals 5.3 and 8.7 - child marriage and forced labour. Our Rights Lab is making policymakers worldwide aware of **these challenges**, such the link between child, early and forced marriage and climate-driven economic shocks such as drought or flooding.

Shaping the debate on misogyny

Nottinghamshire Police is the first force in the world to categorise misogyny as a hate crime. **Our research** and collaboration with Notts Police has shaped the debate around misogyny and its impact on people's lives.

Campus lake a cool feature

Water management is a key strand of our sustainability strategy and the stewardship of our campuses. **For example**, at Jubilee Campus, biodiverse lakes and wetlands form part of an integrated drainage system and provide cooling for buildings.

6 CLEAN WATER AND SANITATION



Ensure availability and sustainable management of water and sanitation for all



53
water refill points
across campus



26,000
plastic bottles
saved using
just two water
fountains



23
international
partners in peatland
conservation project



World's
first
anti-biofilm
polymer for
water systems

Engagement and impact

Reshaping cities with blue-green infrastructure

Cities worldwide grapple with the challenges posed by climate change and increasing flood risk. We are pioneers of **blue-green cities**, where features like vegetated channels, wetlands, rain gardens and green roofs manage flood risk in sustainable ways. By engaging with communities, water companies and urban planners, we are making UK cities, from Nottingham to Newcastle, more resilient, greener and pleasanter places to live.



Learning and students

Find a fountain

The University of Nottingham has **53 water refill points** across our campuses to reduce the need for students to buy bottles of water. Between May and August 2022, 26,000 plastic bottles were saved using two water fountains at David Ross Sports Village alone.



Research

6 CLEAN WATER AND SANITATION



Saving Europe's peatlands

A £3.7m, **five-year research project** is uniting our scientists with UK and European partners to help preserve and restore peatlands, which may be pushed beyond the point of recovery by climate change. Using satellite monitoring techniques developed at Nottingham, an international consortium of 23 partners aims to help reinvigorate Europe's peatlands. Our insights will inform sustainable land management and explore the potential of peatlands to reduce CO₂ levels worldwide.

World's first anti-biofilm polymer

We teamed up with Angel Guard to introduce an **innovative life-saving polymer** known as Bactigon®/KELT-7, the world's first anti-biofilm polymer. This revolutionary material inhibits bacterial biofilm formation in water systems. The breakthrough has the potential to reduce infections and save thousands of lives. By protecting people without recourse to antibiotics, our solution also reduces the global threat of anti-bacterial resistance.

China's sponge cities

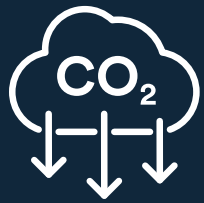
China suffers the most serious flood damage in the world and researchers at the University of Nottingham Ningbo Campus are pioneers of **sponge cities** and sustainable water management.



7 AFFORDABLE AND CLEAN ENERGY



Ensure access to affordable, reliable, sustainable and modern energy for all



63%
university's target for reduction in CO₂ emissions by 2030



40%
reduction in carbon emissions 2010-2020



£60m
Energy Institute's research portfolio

Smart energy grid is UK pilot

A revolutionary smart energy grid on our Jubilee Campus is demonstrating new energy storage technologies and reducing fuel bills, while providing sustainable power to nearby facilities that are researching and testing hydrogen and electrification technologies. The grid is funded as a net zero pilot by the UK government.



Clean energy hubs in Kenya

In Kenya's capital, Nairobi, we are exploring how schools could serve communities as **clean energy hubs**, generating, storing and distributing sustainable power and accelerating access to reliable light in the evenings and energy for cooking. The African SCENE project also seeks to promote education and awareness of sustainability in low-income communities. The project will provide a model for such community empowerment across sub-Saharan Africa.



Batteries power the way

Next-generation batteries are key to the clean energy of the future. We are **receiving a share of £19m** from the Faraday Institution's FutureCat project, which aims to revolutionise the UK's energy landscape by enhancing battery performance, lifespan and stability.



Hydrogen storage solutions

Hydrogen offers a route to sustainable energy, but efficient and cost-effective hydrogen storage solutions remain a challenge. One of the UK's largest groups of **hydrogen storage researchers** is focusing on reducing mass and cost to make hydrogen storage competitive, especially in transport applications, demonstrate real-world applications, such as CitiBus, where hydrogen stores feed fuel cells and electric machines.



Revolutionary storage trials

Our seven on-campus **Creative Energy Homes** are a test bed for firms including E.ON, David Wilson Homes, BASF, Roger Bullivant, the Mark Group, Tarmac and Saint Gobain to investigate the integration of energy efficient technologies into houses. We are hosting trials of revolutionary innovative **energy storage technologies**, which could be adapted into modular, cost-effective energy storage in homes across the UK.



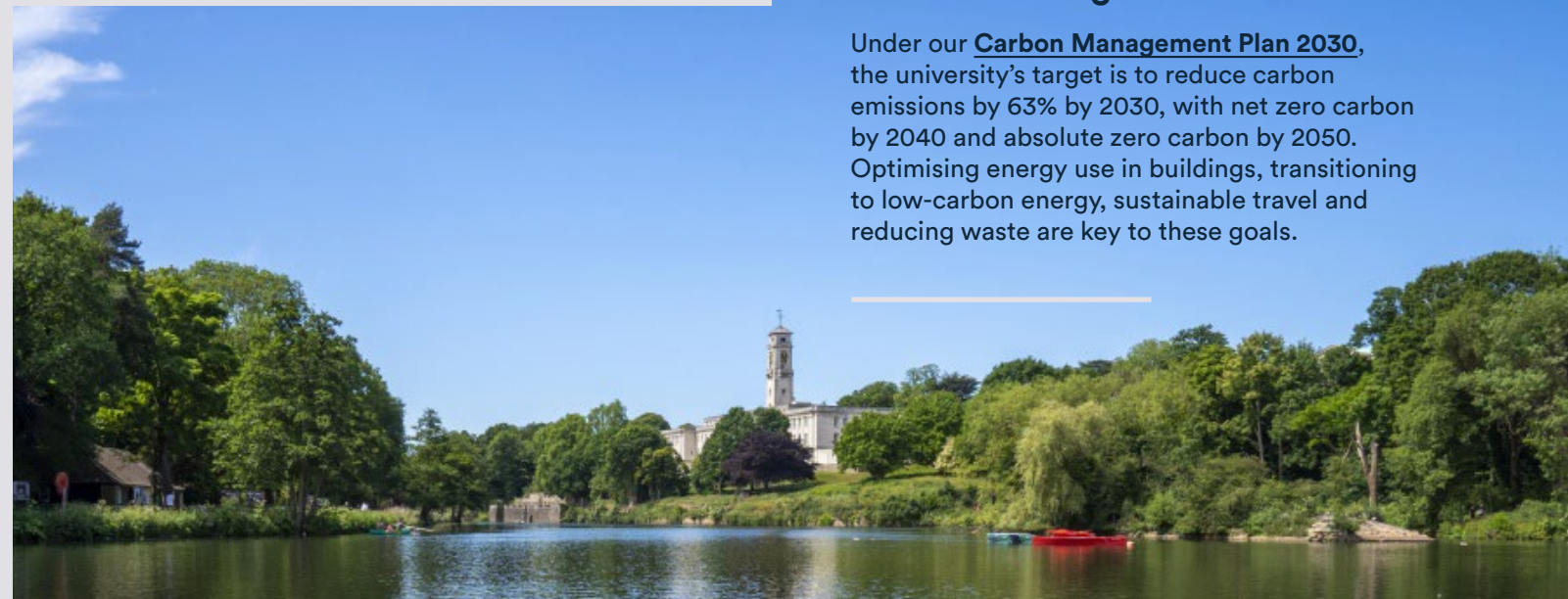
Switch off, students

We support **Switch Off**, an award-winning initiative that promotes sustainability in student accommodation. It encourages students to embrace recycling, become more energy-aware, reduce waste and act as ambassadors for change. Student Switch Off+ extends to the private rented sector.

Policy and operations

Our carbon targets

Under our **Carbon Management Plan 2030**, the university's target is to reduce carbon emissions by 63% by 2030, with net zero carbon by 2040 and absolute zero carbon by 2050. Optimising energy use in buildings, transitioning to low-carbon energy, sustainable travel and reducing waste are key to these goals.



Engagement and impact

Energy for business

Our **Energy for Business** project supported a wide range of businesses on low-carbon and energy innovation projects, from exploring the return of hydroelectric power to a UNESCO-listed historic cotton mill to a mobile app to help universities reduce their carbon footprint.



8 DECENT WORK AND ECONOMIC GROWTH



Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all



8,000
staff employed by the University of Nottingham



£1.1bn
university's annual economic impact in the UK



18,000
jobs supported by university activity



1,200
UK construction workers interviewed to help combat exploitation

Learning and students

Unleashing technical talent

We are a partner in Midlands Innovation's **TALENT programme**, which advances technical skills, roles and careers in UK higher education and research. As part of the project we invited 11 young adults from the Midlands to a week-long summer placement that offered **insights into technician roles**. The summer school initiative, which also promotes diversity and inclusivity in the workforce, may be extended nationwide.



Nottingham Internship Scheme

Workplace opportunities for students

We offer **programmes for students** to secure work placements and internships, gain valuable life skills and experience and share knowledge with businesses and organisations.



Using satellites to fight slavery

The Rights Lab is pioneering the use of satellite imagery and artificial intelligence to combat modern slavery. Our **Slavery from Space** programme is uncovering and mapping exploitation and slavery, from brickmaking in South Asia, fish-processing in Bangladesh, deforestation in Mozambique, cobalt-mining in the Congo and agriculture in Greece. Our data-based evidence is enabling governments, NGOs, and intergovernmental organisations to take action against slavery.



Ending exploitation

Modern slavery experts at Nottingham and partners including the Gangmasters and Labour Abuse Authority are working to promote ethical labour and end **exploitation in the UK construction industry**.

Engagement and impact



Harnessing data for growth

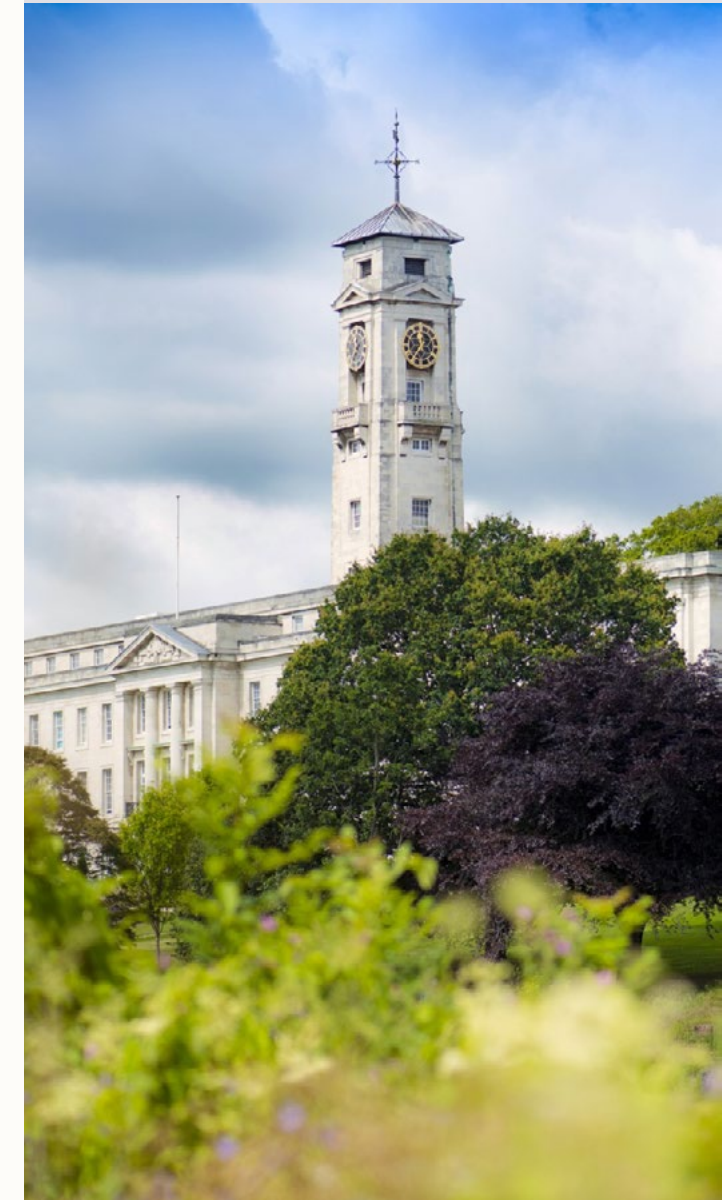
Digital Nottingham, a pioneering civic initiative in collaboration with local stakeholders, is harnessing cutting-edge digital and data expertise to address urban challenges and drive growth in the city and region. A collaborative hub at our new **Castle Meadow Campus** will serve as a dynamic, real-world space for Digital Nottingham, offering civic engagement, events and showcasing of innovative collaborations.



Working with businesses to make a difference

We **work with businesses**, from corporate partners to SMEs, to improve student experience, provide opportunities for graduates to help boost the local economy and deepen the impact of our discoveries.

Policy and operations



Modern slavery and human trafficking policy

The University of Nottingham is **committed to combatting modern slavery and human trafficking**. We pledge to ensure there is no modern slavery or human trafficking in our supply chains or any part of our business and to act ethically and with integrity.



Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation



31
spinout companies in university portfolio



Top 10%
of universities for working with business

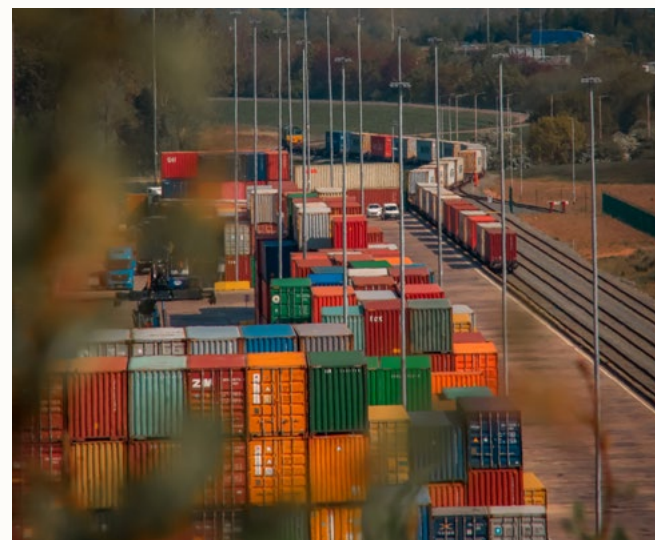


175
businesses supported in 2022 with postgraduate placements

Engagement and impact

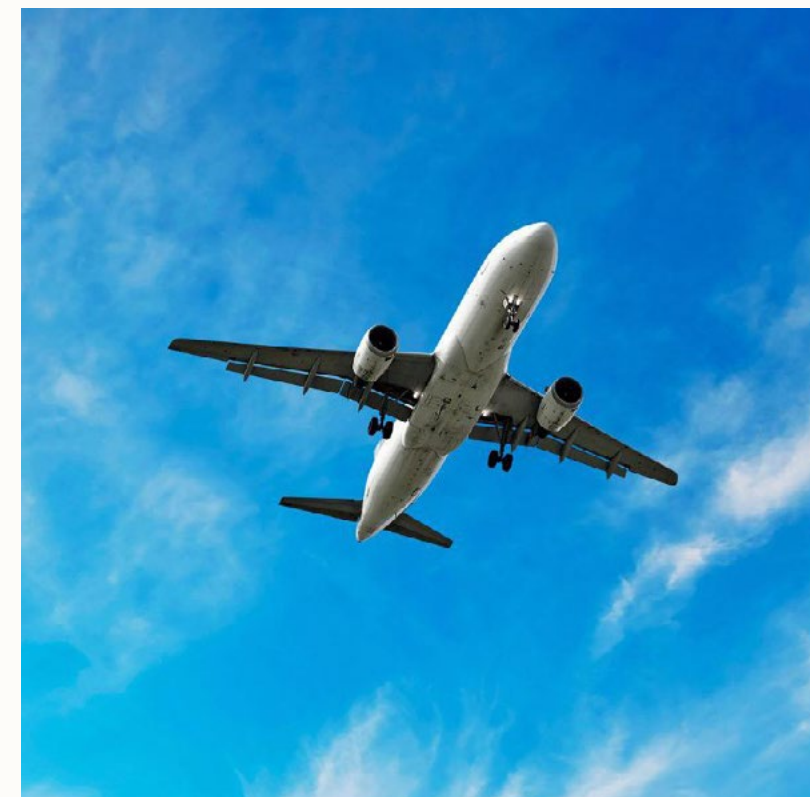
Spin-outs: increasing our real-world impact

We are a leading university for working collaboratively with industry and commercialising our discoveries. We have a current portfolio of 31 spinout companies, **which develop** commercial applications for our inventions in fields ranging from nanomaterials to neonatal monitoring.



Midlands Engine: driving green growth

The University of Nottingham is part of the **Midlands Engine**, the largest regional economy in the UK. We drive economic, social and environmental change and work with industry to realise the Midlands' potential as a hub of green growth and a centre for excellence in sustainable technologies.



Supporting aviation innovators

The University of Nottingham's Aerospace Unlocking Potential (UP) **programme** aided over 270 small and medium-sized enterprises (SMEs) in the Midlands over three years. With the goal of developing green aviation technologies, the £20m initiative provided funding and access to academic support, industry experts and advanced university facilities. Notable successes include Skyfarer Ltd, which uses Aerospace UP support to create a prototype drone system for delivering medical supplies beyond the pilot's line of sight.



Jump-starting community enterprise

The Ingenuity Lab, based at the Haydn Green Institute for Innovation and Entrepreneurship, is where University of Nottingham students and alumni can **partner** with the local community and start their own enterprises to help tackle social and environmental challenges.

Partnering with business

We are a top 10% university for **working with business** and lead the Midlands for a number of Knowledge Exchange Partnerships. Our Business Services team are dedicated to using innovation and sharing knowledge to help businesses thrive and benefit society.



Propelling the UK's 5G leadership

Our research, which applies chaos theory to the mathematical modelling of electromagnetic waves, is paving the way for the UK's leadership in **5G technology**. With mobile data expected to grow exponentially in the coming decade, ensuring high-capacity, resilient wireless signal coverage across the country is crucial.

Driving a revolution

The Power Electronics and Machines Centre is **spearheading advances in electrification technologies** that will drive a revolution sustainable transport. It is home to the 20MW UK Electrification of Aerospace Propulsion Facility, offering unprecedented industry testing capabilities. Our expertise, investment in facilities and commitment to partnerships, will position the East Midlands as a global hub for zero carbon innovation.





Learning and students

Reduce inequality within and among countries



The Eye as Witness exhibition marked **75th** anniversary of the liberation of camps such as Auschwitz and Bergen-Belsen



2nd year running: Professor Meryem Duygun in Innovate Finance FinTech Powerlist for helping to build a more diverse and inclusive culture in the industry



£200,000 invested in AccessAble app to ensure everyone can access the university facilities they need for work and study



Celebrating our LGBTQIA+ community
We told 'coming out' stories at the University of Nottingham, with a series of videos giving students and staff the opportunity to share their experiences and celebrate our LGBTQIA+ community.



Lifting the veil on forced marriage

Our research uncovered and documented the issue of **forced marriage** among those with a learning disability, directly informing government statutory guidelines that are used every day by social workers and care professionals. For the first time, practitioners such as health visitors and social workers had evidence-based insights into this complex issue. Among people with learning disabilities, for example, men are as vulnerable to forced marriage as women, and families may think that they are doing the right thing by finding a spouse who can act as carer for a relative or someone who can offer financial security.

The Eye as Witness

The Eye as Witness, an immersive multimedia experience examining Holocaust photography, was created by historians and computer scientists at the university, in collaboration with the National Holocaust Centre and Museum. The exhibition toured the UK to help mark the 75th anniversary of the liberation of camps such as Auschwitz and Bergen-Belsen. It used virtual reality headsets to allow visitors to 'step into' a picture taken by a Nazi photographer in the Warsaw Ghetto. By exploring the political and moral motives for witnessing and recording the Holocaust, our research and the exhibition it inspired is encouraging critical thinking and discussion by students and communities on topical themes of racism, hatred and 'fake news'.



Multidisciplinary research on EDI

The **Diversity and Inclusion Research Hub** is an interdisciplinary platform focusing on groundbreaking diversity and inclusion research. It unites researchers by focusing on bringing about sustainable, long-term sociocultural change to our societies. Current research projects include **Decolonisation of the curriculum** and **Pain at Work**.



Fairer access to financial services

Our **FinTech research hub works** with business, policymakers and the third sector to make the financial services industry more inclusive, by harnessing financial technologies to ensure all consumers are treated fairly. The hub, based at the Centre for Inclusive Financial Technology, aims to promote financial inclusivity and social good, embracing diverse talent and communities to create the future of financial services.

Policy and operations



Disability support services

The university's commitment to **supporting our disabled students** includes a guaranteed accessible room in university-arranged accommodation for the duration of their studies, monitoring and improving access to our buildings and teaching provision, with dedicated teams offering support and advice.



Equality, Diversity and Inclusion: our priorities

Each year the university works to a set of **EDI priorities** to create momentum and drive real change. For 2022/3 these are:

- Diversification of the workforce and career development
- Awareness raising and education
- Support

Sustainability at heart of campus

Jubilee Campus, built on the site of the former Raleigh bicycle factory, is an exemplar of urban regeneration. It has won a series of environmental awards and hosts the world's first carbon neutral laboratories for sustainable chemistry. Lakes on the campus are home to wildlife and provide water for cooling of buildings.

11 SUSTAINABLE CITIES AND COMMUNITIES



Make cities and human settlements inclusive, safe, resilient and sustainable



200,000

people engage annually with Lakeside's cultural programme



Europe's largest battery for community energy



5,000

cycle parking spaces across our campuses

Policy and operations

Encouraging staff and student cyclists

We provide **5,000 cycle parking spaces** across our campuses. The Cycle to Work Scheme, access to E-bike hire, investment in campus facilities such as showers and lockers, and a growing city-wide network of cycle paths, is further encouraging staff and students to get on their bikes.



Learning and students

Sustainability Challenge for students

The **Sustainability Challenge** gives our students the opportunity to learn to develop green ideas into sustainable solutions to the challenges we face on campus, while building employability skills. Students are introduced to sustainability at the university and encouraged to generate ideas for potential eco solutions with the support of graduate employers. Next, they work in groups to craft a persuasive pitch before presenting sustainability solutions to a panel including staff from the Sustainability Team, Careers and Employability, and the Students' Union.



Engagement and impact

11 SUSTAINABLE CITIES AND COMMUNITIES



Enriching lives through art and culture

Lakeside Arts is the university's public arts programme. Over 200,000 people of all ages and abilities engage annually with Lakeside's on-campus public arts centre and cultural programme, enriching the lives of communities, including our staff and students. Lakeside offers opportunities for creative and motivated people from a wide variety of backgrounds to fill employee, volunteer, internship or traineeship roles.



Science brings heritage to life

A multidisciplinary network is allowing researchers to discover more about artefacts and share understanding of cultural and natural heritage. **N-MESH Labs** (Nottingham Materials and Environment Science and Heritage Laboratories) will also support education and tourism by celebrating our surroundings and the stories it can tell. It is led by the School of Classics and Archaeology and brings together other facilities, including those in Life Sciences, and Medicine and Health Sciences.

Research

Power to the people: sustainable housing

Nottingham's Trent Basin housing development is recognised as a model for community energy schemes and greener cities. **Project SCENe (Sustainable Community Energy Networks)** is a partnership between University of Nottingham scientists with technologists, housing developers, industry and the energy supply chain, the city council and residents. It features hundreds of low-carbon homes and Europe's largest community battery, which allows renewable energy – generated by solar panels located on homes and throughout the neighbourhood – to be stored on site, while still connected to the national grid. A government report highlighted how projects like SCENe foster a sense of community ownership of energy systems.



Understanding green choices

The transition from fossil fuels to green energy may stumble on resistance or apathy from companies and consumers. Researchers at the University of Nottingham Malaysia are working to understand what influences sustainable choices and behaviour.



Towards a new industrial revolution

The university's world-first OMNIFACTORY is set to spark a new industrial revolution. This £3.8m national test facility for smart manufacturing technologies will enable our industrial partners to make production more agile, faster and greener. **OMNIFACTORY** is home to a bespoke test bed floor, developed in Nottingham, that provides a unique reconfigurable environment. The floor autonomously adapts itself to the next product's environment and specifications, reshaping itself through a combination of digital technologies, robotics, and artificial intelligence. It means a traditional production line can be created in a single area, transforming itself and capable of producing personalised products at a range of volumes.

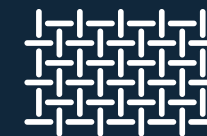
12 RESPONSIBLE CONSUMPTION AND PRODUCTION



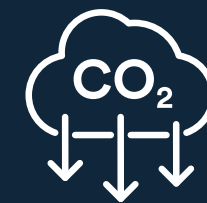
Ensure sustainable consumption and production patterns



3,000 people completed university's Plastics Challenge survey



100% of Boeing's excess carbon fibre recycled following research partnership



18,000kg of CO₂ saved by world's first micro prospectus



Recycling key to jet zero success

In the next 10 years 12,000 airliners are predicted to reach the end of their life and by 2035, unless recycling increases across the aviation industry, a mountain of discarded carbon fibre will grow by 23,360 tonnes per year. The industry must meanwhile meet demand for composite materials for a new generation of durable, lightweight aircraft. Researchers at the Institute for Aerospace Technology are **addressing these challenges** and have helped Boeing to become the first aircraft manufacturer to recycle 100% of its excess carbon fibre for use in new planes.



Recycling plastics for green industry

Plastics are widely used in the automotive industry to manufacture light, fuel-efficient cars - yet around only 9% of the world's plastic waste is recycled each year. Most of this is down-cycled - used to make lower value products. Researchers at the University of Nottingham Ningbo China have developed **novel technologies** to recycle plastics and a partnership with a manufacturer in Ningbo is allowing car parts to use more recycled plastics, pioneering a sustainable, circular economy.

Policy and operations



WasteNott: reducing single-use plastic

Our **WasteNott** campaign is reducing single-use plastic waste across our campuses, including the 1.5 million plastic drinks bottles and coffee cups thrown away every year. In our Plastics Challenge survey, we found 99% of the 3,219 respondents supported reducing single-use plastic, and three out of four already using a reusable water bottle. By raising awareness and providing easy-access alternatives, we can make a big difference.



Rewarding sustainable actions

We pioneered **Green Rewards**, a web platform and app that encourages staff and students to accumulate points and earn prizes for everyday, sustainable actions. In a UK first, we teamed up with Nottingham Trent University and councils to make the project available to all Nottinghamshire residents.

Learning and students

World's first micro prospectus

We created the **world's first micro prospectus** - the first edition alone saved 72 tonnes of paper, 18,000kg of CO₂ and 54,000 litres of water in processing the paper, enough to keep every student at our university hydrated for more than six weeks. Our micro prospectus invited our prospective students to join us on our journey to a more digital and sustainable future.



Our carbon management plan

The university's **carbon management plan** sets out the investment and changes we will need to make to achieve our carbon reduction targets. We have set science-based targets and to achieve these we are investing in making our buildings more energy efficient and in on-campus energy generation. We are setting higher standards in our refurbishment programme and exploring options for solar and wind projects. We actively engage with our staff and students on carbon reduction.



Take urgent action to combat climate change and its impacts



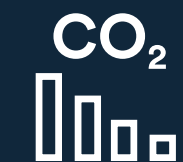
2028

We support Nottingham's target to become UK's first zero carbon city



3rd

most sustainable university in the world (UI Green Metric World University Ranking)



63%

cut in university emissions targeted by 2030

Technicians are green champions

The university's **technical workforce** is key to progress in making the day-to-day delivery of world-class research and teaching more sustainable. The Technical Sustainability Working Group works to see where best practices from labs, workshops and facilities can be rolled out across the university. The group replaced water condensers from chemistry labs with air condensers, saving over three million litres of water, and instigated recycling of waste acetone and polystyrene.





Retrofit road map for city's housing

University researchers are delivering a project that will inform the **retrofit of Nottingham's existing housing stock** to improve energy efficiency and bring the city closer to its 2028 target for net zero emissions. Supported by the UK Government's Community Renewal Fund, we are working with the Nottingham Energy Partnership, Focus Consultants and the Active Building Centre Research Programme to develop a retrofit roadmap for carbon-neutral housing.



Unlocking the potential of biochar's CO₂ trap

We are leading the **world's largest trial** to evaluate the viability of biochar in countering the impact of climate change. Biochar, a charcoal-like substance produced by heating organic biomass from agriculture and forestry waste, is carbon-rich and chemically stable. Produced at scale, it has the potential to lock carbon in the soil for millennia. Our trial, to assess the longevity and stability of biochar carbon in soils to ensure it has no detrimental impact, could underpin a possible decision by the UK to invest in large-scale biochar production plants.

Festival of Social Science

We're a partner of the national **Festival of Social Science**. Our researchers and students share insights into how the social sciences inform responses to challenges such as climate change and each year host free events to inspire local communities to make a difference. At 2022's festival, we supported events in Nottingham including a celebration of the city's green spaces and an exploration of giving young people a voice in achieving Net Zero Nottingham.



Talking lamp posts and climate change

We teamed up with Nottingham City Council to introduce interactive, **talking street furniture** such as lamp posts, benches and even bins, as part of a project gathering views on what climate change means to the city. Anyone interacting with the objects by scanning a QR code or texting a number is able to share their views and find out how to get involved.

Enterprise and sustainable communities

The Haydn Green Institute for Innovation and Entrepreneurship is focusing on how **responsible entrepreneurship** can address environmental challenges within communities most affected by climate change. Entrepreneurs it supports are working within communities across the UK to reduce food waste, shop locally and remove fast fashion purchasing. Internationally, it has helped provide remote communities in Kenya with sustainable water.




Friends of University Park


We promote enjoyment and access to our stunning, biodiverse campuses by the wider community. **The Friends of University Park** are long-standing partners of our Estates team and organise events, garden walks, open days and talks to help visitors enjoy the campus. We have also published pocket-sized and digital guides to the trees, geology, gardens and historic houses of the campus.



Conserve and sustainably use the oceans, seas and marine resources for sustainable development

 **500 million** people live in delta regions

 Up to **600 million** microplastic particles found in daily Trent basin surveys

 **140+** researchers in a multidisciplinary Water Works Group

 **750** ports assessed in global study of labour abuse in fishing industry

Research

Unravelling Antarctic secrets

Professor of Mitochondrial Biology Lisa Chakrabarti joined a 50-scientist team that travelled to Antarctica's Weddell Sea aboard the Polarstern PS129 research vessel. Led by the Alfred Wegener Institute, the eight-week expedition assessed seawater, sea ice and metabolic activity in organisms, to give a comprehensive snapshot of the health of the Antarctic ecosystem in the face of climate change.



Protecting Asia's river deltas

Our Global Challenges Research Fund project, Living Deltas, is assessing the aquatic health of delta systems in southeast Asia. By tracking pollution across the Ganges-Brahmaputra, Mekong and Red River deltas, we can help policymakers conserve these vital ecosystems.



Rescuing Loktak Lake

We teamed up with the Loktak Development Authority in India to safeguard Loktak Lake. Northeast India's largest freshwater lake and the indigenous fishing communities it supports are threatened by pollution and deterioration of water quality. Our research is informing the local Manipur government's conservation plan and policies to cut pollution, end environmental degradation and better protect the lake from human threats.

Focus on illegal fishing

The university's Rights Lab, as part of a **global research effort** led by the Stanford Centre for Ocean Solutions, identified regions and ports with a high risk of labour abuse and illegal fishing. The findings will help authorities and companies focus their efforts on ending labour abuse across the seafood supply chain, while making the industry more sustainable.



Learning and students



Scholarships for water researchers

We work closely with Papplewick Pumping Station, an award-winning museum, on education surrounding global water issues. Papplewick offers **annual scholarships** to our postgraduate research students who are focusing on water and its vital role as a precious resource for life and in securing a sustainable, circular economy.



Fighting marine plastic pollution

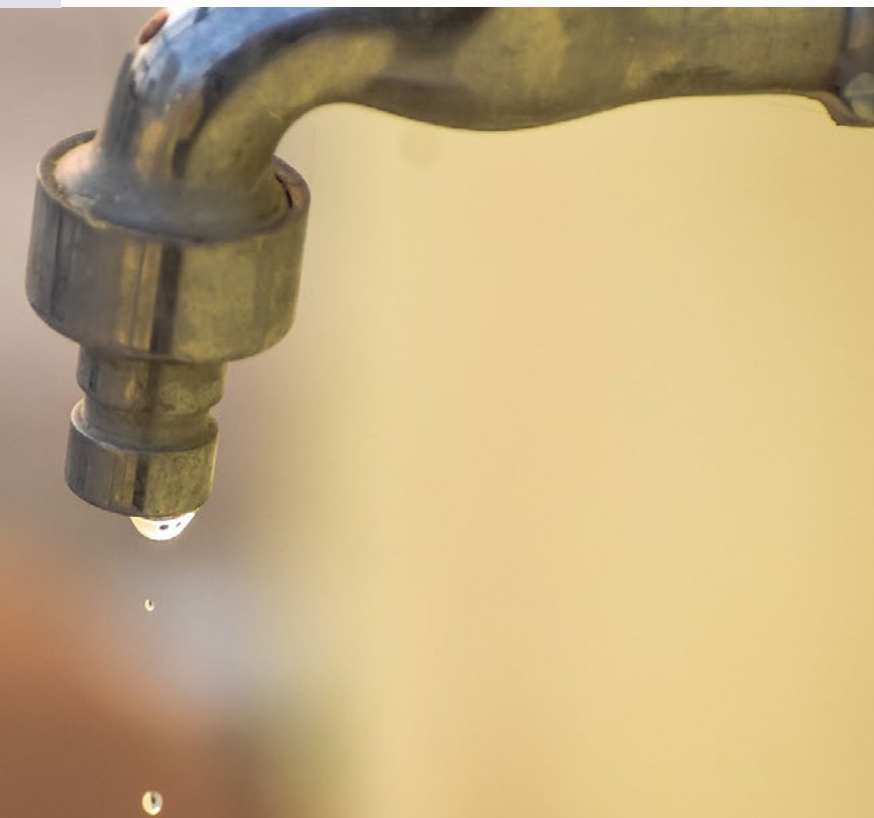
Rachel Gomes MBE, Professor of Water and Resource Processing, has shared evidence-based recommendations with the **UN Environment Assembly**. Her insights contributed to the assembly's report on marine plastic pollution, emphasising the need for immediate global action.



Policy and operations

Reducing water use in our labs

The university's Environmental and Sustainability Policy includes a **commitment to reduce water consumption** and increase the efficiency of our water systems. The university has signed up to the Laboratory Efficiency Assessment Framework (LEAF) and across our labs, we are looking at how to reduce water use and its environmental impact.





Policy and operations

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



22+
Green Flag awards for our campuses



50-85%
potential reduction in the use of nitrogen fertilisers thanks to our research



Member of
500+
worldwide network of Nature Positive universities



2,000
farms surveyed to shape UK agricultural and environmental policy

Green Flags and biodiversity

The grounds of our UK campuses are among the most beautiful in the country. Our University Park and Jubilee campuses are multiple **Green Flag Award winners** and are home to a variety of flora and fauna, with biodiversity further encouraged by leaving more areas to grow wild. University Park is also officially a **hedgehog-friendly campus**.



Safeguarding Malaysia's elephants

The University of Nottingham Malaysia is helping safeguard the country's elephants, which are threatened by human encroachment and loss of biodiversity. By working with government and communities, researchers are informing elephant-friendly approaches to ease conflict between farmers and our biggest land animal. Our **interdisciplinary approach** combines expertise in psychology, economics and zoology to better understand both animal and human behaviour and encourage elephant-friendly policies.



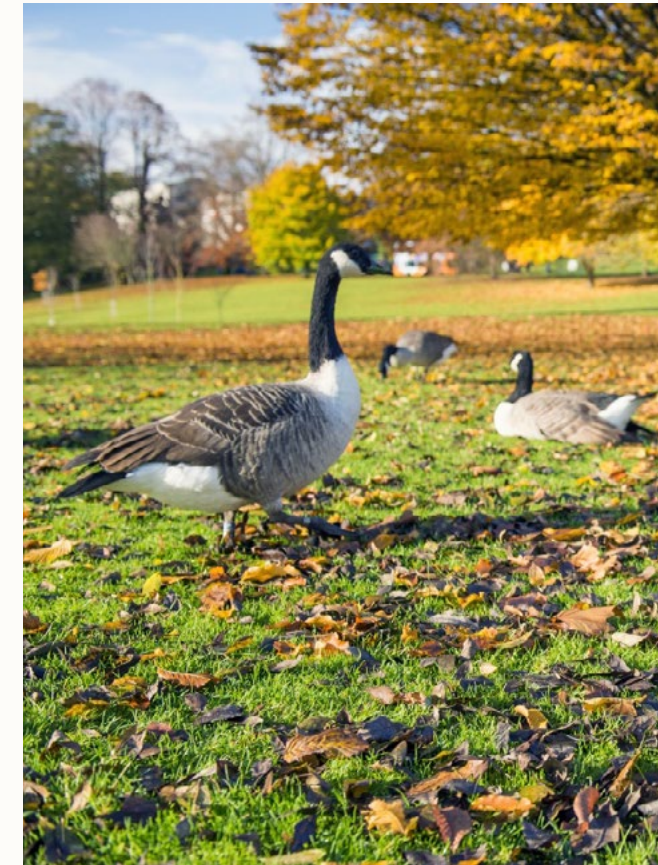
Fixing the climate impact of nitrogen

Nitrous oxide (N_2O), which is linked to synthetic nitrogen fertiliser used in farming worldwide, has a greater impact on global warming than CO_2 emissions from livestock – it can stay in the atmosphere for over a century. We are developing a **revolutionary approach** to accelerating biological nitrogen fixation (BNF), the process that uses bacteria to convert nitrogen from the air. This reduces the need for synthetic nitrogen fertilisers, making agriculture more sustainable and reducing greenhouse emissions.

Learning and students

Bridging academia and the outdoors

We are proud of our green campuses and explore their potential for learning and wellbeing. On Jubilee Campus we have developed a **space for outdoor education** that can be used by teachers, researchers, students, schools and the community. Working in partnership with our Estates team, local allotment-holders, schools and city councillors we explore sustainable approaches to urban agriculture, food systems and conservation.



Nature Positive at Nottingham

We are a **Nature Positive** university, a growing network of over 500 higher education institutions across the world working together to promote nature on our campuses, in our supply chains and within our cities and communities.



Shaping UK agricultural policy

We lead the annual Farm Business Survey. Data from almost 2,000 farms is used by the Department for the Environment, Food, and Rural Affairs to shape UK agricultural and environmental policies. This work by the Rural Business Research Unit, a partnership of institutions led by the University of Nottingham, **played a vital role** in shaping the UK's post-Brexit agricultural future and significantly contributed to the UK Agriculture Bill by providing insights into the effects of direct payment removal and other policy changes.



Moving towards greener dairy

Our research is transforming the UK animal feed industry and mitigating greenhouse gas emissions from dairy farming. By assessing the nutritional value of alternative, sustainable protein sources, we are reducing the reliance on imported soya, linked to deforestation in South America. The **study explored** the potential of co-product feeds in dairy cow diets, like dried distillers grains with solubles (DDGS) and rapeseed meal. Trials demonstrated that cows fed on rapeseed meal produced more milk, highlighting the viability of alternative protein sources and contributing to greener, cost-effective dairy feed industry practices.



Learning and students

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels



2,000+ policymakers and practitioners attended courses run by Human Rights Law Centre



World's largest group of modern slavery experts



Every **UK citizen** has been affected by our discoveries



216 jurisdictions worldwide surveyed in landmark study of life imprisonment

A voice for students

Our **Students' Union** provides support services and resources, campaigns for students and raises awareness on key issues such as sustainability and plays a key role in the stewardship of the university, including representation on faculty boards and on the University Council.





Reshaping democracy

In 2018, Salome Zourabichvili became Georgia’s first female president - and the country’s last president to be elected directly. As of 2024, Georgia shifts to indirect presidential elections, breaking from head-to-head contests. Political scientist Fernando Casal Bértoa **played a vital role**. His research, highlighting that direct presidential elections damage democracy by destabilising party systems, eroding quality, and increasing polarisation and populism, lead to this constitutional change in Georgia.



Landmark study of life imprisonment

A **landmark global study** led by the University of Nottingham into life imprisonment is being **revised and updated**, reflecting the continued upward surge of such sentences being imposed across the world. This work influences legal decisions, addresses human rights implications and guiding policymakers on how and when life imprisonment should be imposed.



Reforming civil service in the Western Balkans

An **unprecedented survey** of civil servants in the Western Balkans has helped the region’s young democracies address challenges such as political patronage, corruption and low-quality public services. Professor Jan-Hinrik Meyer-Sahling’s research helped reform and improve civil service management, enhance merit-based recruitment and combat nepotism and politicisation. His work contributes to the consolidation of democracy, economic growth and the prevention of corruption, aiding the EU accession process in these countries.



Combating corruption

Corruption is one of the biggest issues facing governments around the world today. **Our expertise and advocacy** has helped the World Bank and developing countries tackle the scourge of corruption on many millions of people’s lives.



Human Rights Law Centre

Our Human Rights Law Centre engages with policymakers, international organisations and society and **its research explores** challenges and influences legislation on such issues as forced migration and the rights of children.

Policy and operations

Free speech and academic freedom

The university’s **statement on free speech** and academic freedom underscores our commitment to promote freedom of speech and allow for robust and civil debate within the law, helping students learn through debate and exposure to new ideas.




17 PARTNERSHIPS FOR THE GOALS



Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development




We collaborate with **6,500** institutions around the world



1 million students worldwide nurtured by Universitas 21

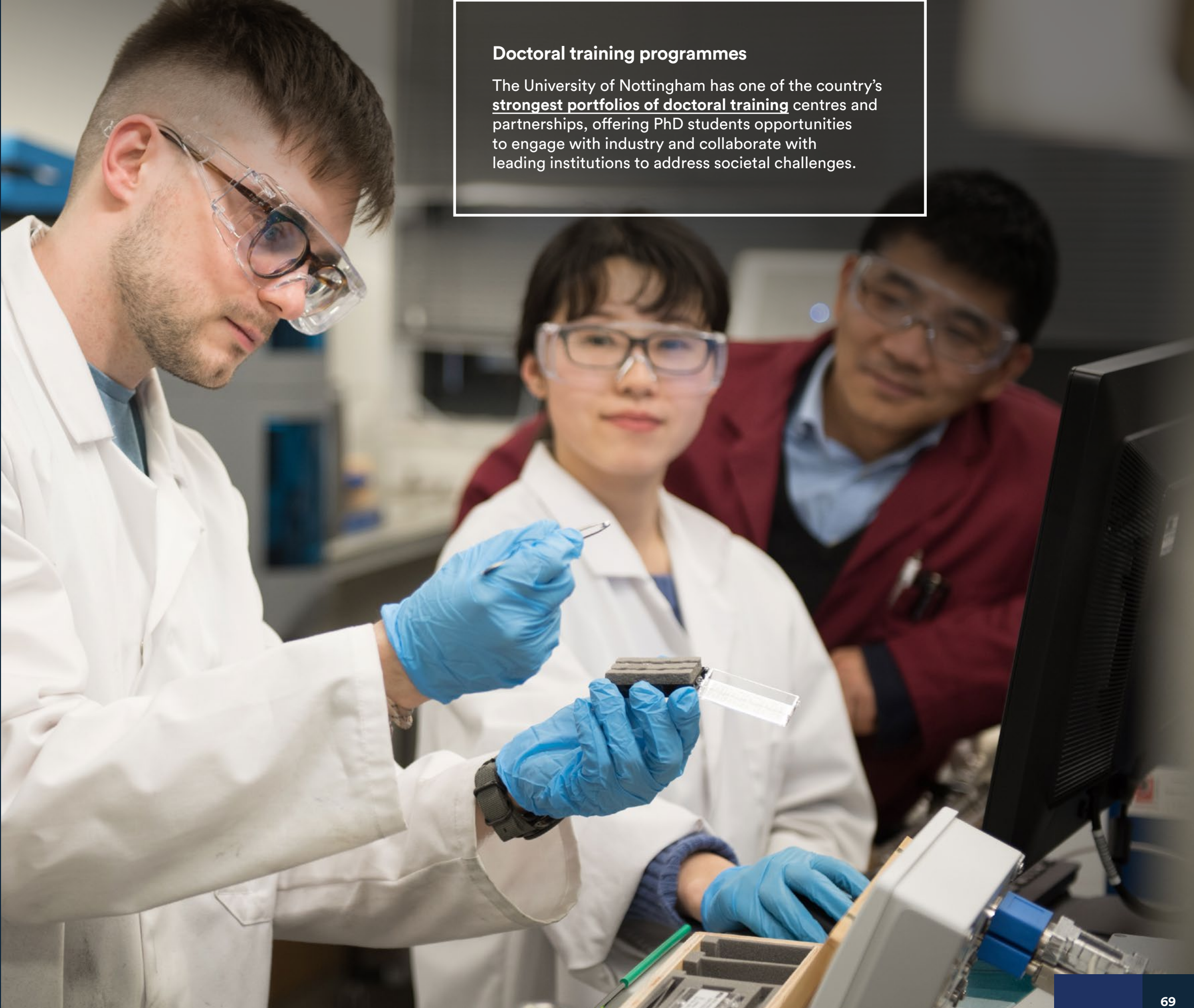


175 regional businesses supported by postgraduates in 2022



13,404 students studying for University of Nottingham degrees in Asia

Learning and students



Doctoral training programmes

The University of Nottingham has one of the country's **strongest portfolios of doctoral training** centres and partnerships, offering PhD students opportunities to engage with industry and collaborate with leading institutions to address societal challenges.



Community collaboration for change

The University of Nottingham and Nottingham Trent University launched Co(l)aboratory, which aims to address local challenges by involving the community in research projects. These projects, run by non-traditional PhD students, focus on issues like violence reduction, racial disparities in maternity care, and modern slavery in the workplace. Local citizens and community groups can submit ideas for research projects on the Notts Voice in Research website. The initiative is part of the Universities for Nottingham Civic Agreement.



Vice-Chancellor is chair of Universitas 21

The University of Nottingham's Vice-Chancellor, Professor Shearer West, is chair of Universitas 21, a global network that brings together 28 world-leading, research-intensive universities that share a common belief in the value of collaboration and internationalisation.

Engagement and impact



Academic alliances

The University of Nottingham and the Association of African Universities (AAU) completed a five-year agreement to promote international collaboration on research and education. We will host the AAU's first European office and serve as its representative institution in Europe. We will collaborate on faculty, researcher and student development, quality assurance, resource mobilisation, ICT and infrastructure.



Universities for Nottingham

Universities for Nottingham is a pioneering collaboration between Nottingham's two world-class universities for the benefit of our place, people and communities. Working with local partners we aim to improve prosperity, opportunity, sustainability, health and wellbeing.



University of
Nottingham
UK | CHINA | MALAYSIA

SUSTAINABLE
DEVELOPMENT
GOALS



Towards a fairer world

nottingham.ac.uk/sustainable-development-goals