

Powering the UK's future

How Alliance universities
are driving our economic,
social and cultural future



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Foreword

It is hard to remember a time of greater importance for higher education in this country. Universities are undeniably central to this country’s ambitions – and of the national renewal we all strive for as we recover from COVID-19 and beyond.

We believe that many of the answers to these challenges lie in the work of University Alliance members. Through the wide range of activities that we carry out, including our work in the NHS, in supporting businesses, large and small, in the broader public sector, in research, in job creation, in widening access to university study and in strengthening our communities, we are powering the country’s economic, social and cultural future.

In every corner of the UK you can find examples of our extraordinary teaching and research. Be it at a virtual radiography ward in Teesside, a HBO film set in South Wales, or Brighton’s Green Growth Platform, our students and graduates display the kind of passion and innovation – but just as importantly, the practical skills – that will once again see England, Scotland, Wales and Northern Ireland thrive.

This is because our universities are rooted in our communities and the industries that make them proud. We unlock potential, and we effect change. This role has never been more important.

In short, we believe that the day-to-day work of the University Alliance, and our member universities, will power the UK’s future.

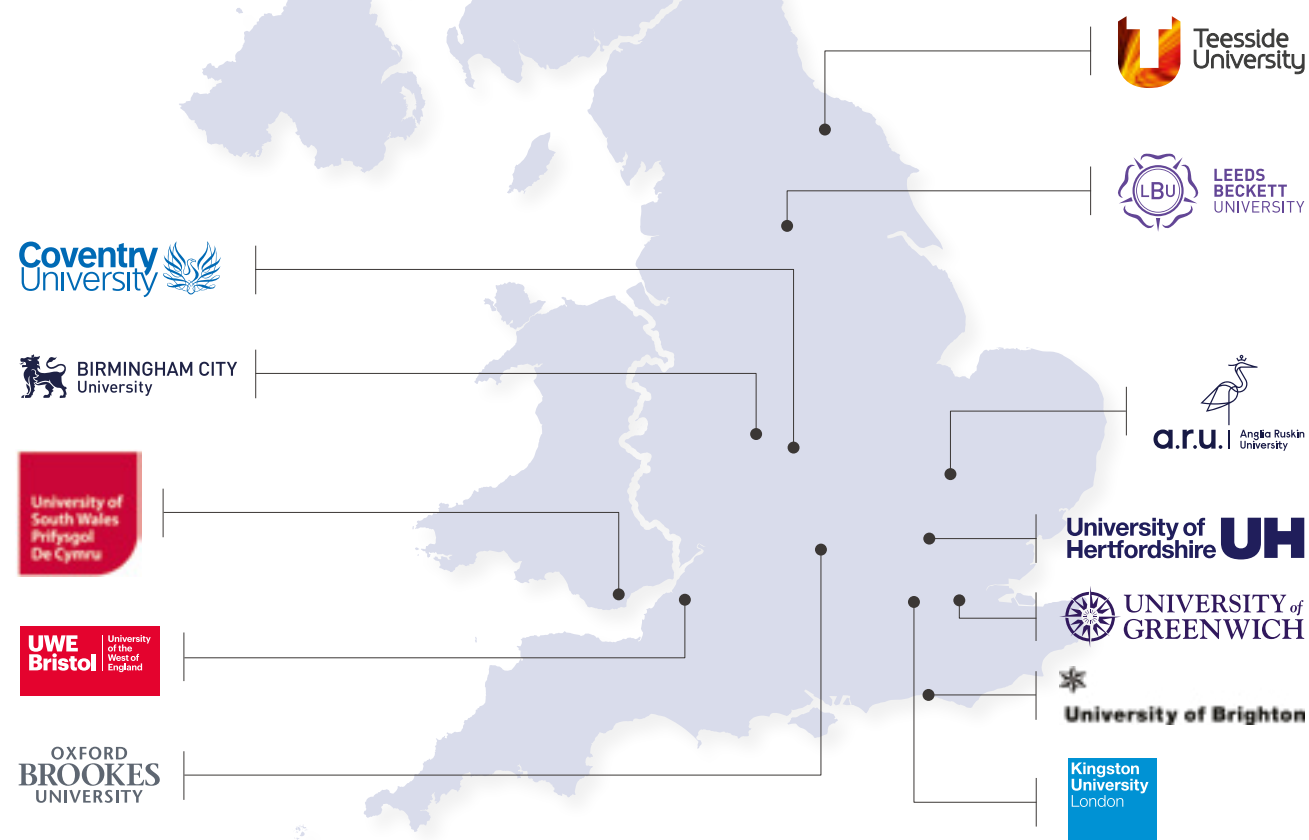
Alliance universities are committed to playing our part in supporting the social, economic and cultural recovery following the pandemic. This document sets out just a snapshot of the work we do every day. Over the coming years, we will focus on our role in powering our communities, the public sector, NHS, business, and the jobs and innovations of the future.

We will speak up for the policies, funding, and the opportunities which we think are needed. We will be collaborative partners with other universities, the government, and all other organisations who are striving towards these same goals. We invite all who share in our mission to work with us to power the UK.

University Alliance

University Alliance (UA) is the voice of professional and technical universities. We represent large to mid-sized universities working at the heart of their communities. Alliance universities partner with industry and the professions to deliver the workforce of today and tomorrow through practical, skills-based learning and applied research.

Alliance universities are deeply rooted in their surrounding regions, with a heritage stretching back hundreds of years and a mission to support local people and communities that continues today.



Working in partnership to support the growth of the economy and our towns and cities is central to our mission. Many of our member universities trace their origins to Britain's Industrial Revolution and have worked closely with commercial and professional partners for more than 150 years.

The work of our universities – the research we do, the graduates we produce, the jobs we support and the businesses we grow – brings value to our regions, including in such key areas as public services, and major industries old and new. We support the educational, economic and social development of our students and the communities in which we are so firmly rooted, and we widen access to higher education in areas of the country that need it most.

As the country prepares to recover from the damage caused by the pandemic, it has never been more important for all of us to step up and work to rebuild our economy and society.

Alliance universities stand ready to support our communities and the national recovery efforts, and we have the local roots, expertise, partnerships and public support needed to power the country's future.

In this document, we summarise our work in six key areas:

- **Powering the NHS**
- **Powering Communities**
- **Powering Business and Growth**
- **Powering the Public Sector**
- **Powering Jobs**
- **Powering Research and Innovation.**

We share case studies of the practical benefits Alliance universities deliver every day, and the many ways we can support a social, economic and cultural recovery.

University Alliance brings our member universities together as a force for greater good. With a shared set of values and common goals, and driven by a mission to unlock potential and effect change. We act as their national voice, advocating for the life-changing work they do.

About the Alliance

Alliance universities are helping to build the economy of the future with our leading research and close links with business. We are growing graduates who are amongst the most employable and enterprising in the country.

Across the 12 universities of the Alliance:



90% of Alliance graduates are employed or in further study fifteen months after graduation

In England and Wales
Alliance universities train...

25% of all nursing and midwifery students

18% of all social work students

15% of all teacher training students



In 2018/19
Alliance universities received

over £100m

worth of research grants and contracts from research councils, governments, charities, and commercial businesses



In 2018/19, our members were supporting over **2,000 active spin-offs, start-ups, and social enterprises**



which had a combined turnover of **£157m for the year**



of our courses are **professionally accredited**

In some Alliance universities, well over half of all courses are professionally accredited



In 2018/19, we supported **almost 24,000 commercial and non-commercial organisations**

with consultancy, research and the provision of facilities and equipment related services



Alliance universities trained **over 4500 apprentices** in 2018/19, including

54%

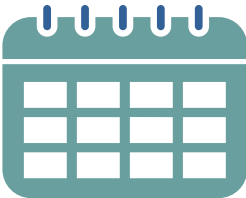
of all participating **Civil Engineer degree apprentices** in England

We educate almost **290,000 students**



20%

of our students are studying part time



33%

are aged 25 or over



£68m

Alliance universities were awarded to spend on **regenerating our local communities**, alongside our own significant investments-between 2016-2019



There are **more than 8000 full-time students studying for a Level 4 or Level 5 qualification** across Alliance universities in England

24% of all foundation degree qualifiers in England and Wales studied at an Alliance university



CHAPTER 1

POWERING the NHS

Alliance universities are integral to powering the NHS's future at a time in our nation's history when we have perhaps never needed it more.

Our members are educating the next generation of hospital staff and ensuring the continued pipeline of doctors, nurses and other health allied professions, all whilst our laboratories test new treatments and make research breakthroughs that save lives every day.

A workforce fit for the future

We are the training ground for the NHS staff who form the bedrock of our world-class health provision, a relationship that has continued and even grown through the COVID-19 pandemic.

Alliance universities train a quarter of all nursing and midwifery students in England and Wales.

Our universities work to align courses to the health and social care needs of the NHS to create a workforce fit for the future. In the past year alone, Alliance universities have introduced new degree-level courses for paramedics, flexible part-time courses for nursing as a degree, and health-based higher and degree apprenticeships for a more diverse and flexible workforce. These new flexible learning routes allow for a more responsive approach to training the nurses and health professionals we so desperately need. This is alongside the vast Continual Professional Development (CPD) provision delivered by Alliance universities, which ensures that the existing workforce remains highly skilled and adaptable.

Through our courses, Alliance universities offer cutting-edge technology and simulation facilities to ensure graduates receive practical, hands-on training in the latest equipment and treatments.

The University of South Wales (USW) has a Clinical Simulation Centre that replicates an acute care NHS environment, providing realistic clinical facilities for nursing and midwifery students and qualified health care professionals. The state-of-the-art facility can replicate a range of clinical settings, such as nursing bays, a midwifery unit, an ambulance and an emergency medicine department, together with 23 programmable patient simulators.

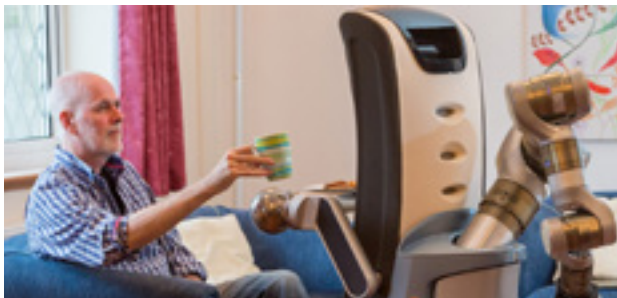
This simulated-based learning continued even during the pandemic, as Alliance universities drew on their extensive digital teaching and learning capabilities to deliver virtual learning remotely. Teesside University radiography students conducted remote experiments using a simulation tool that was built in their School of Health and Life Sciences.



Research and **innovation**

Beyond the all-important frontline, universities are centres for cutting-edge research that not only improves care, treatment and outcomes in UK hospitals, but for healthcare systems around the globe. Alliance members are at the heart of this, powering new skills and ideas in healthcare-related research, producing new treatments, constantly improving care, and saving lives.

Research undertaken by Oxford Brookes University has led to the production of new prenatal diagnostic and screening tests, now received in routine clinical practice by tens of millions of women worldwide. Alliance universities draw on our cutting-edge facilities to inform research in the latest innovations in healthcare practice. For example, the University of Hertfordshire’s ‘Robot house’ is a unique research facility for human-robot interaction; at the forefront of designing assisted living technologies and innovations to support healthy ageing and independent living.



Alliance universities work with partners across the NHS to design treatments and shape public policy. Working with Public Health England, Leeds Beckett University’s innovative research has reduced levels of obesity in the UK and internationally through its impact on international, national and subnational policy and practice of obesity prevention, treatment and public understanding.

The Cambridge Institute for Music Therapy Research (CIMTR) is a research institute based at Anglia Ruskin University dedicated to advancing the understanding of music therapy and its ability to affect positive change on health and wellbeing in both policy and practice. CIMTR contributes to national policy making, adding music therapy to the NICE guidelines for dementia.



Preparing paramedics

Teesside University’s paramedic degree, which welcomed its first students in 2014, was developed to reflect a growing desire for a more academic approach and a broader skills base in paramedic training. Therefore, this course looks at the many different arenas in which a 21st-century paramedic needs to work, including GP surgeries and emergency departments.

The degree is also unique in that it offers an entry-level qualification for students who do not necessarily have any experience in paramedic work. It has been developed as a professional qualification that provides for the future needs of the paramedic profession, allowing graduates to pursue a career as a paramedic in organisations across the NHS.

Breaking down barriers for BME nurses

Kingston University, in conjunction with South West London and St George’s Mental Health NHS Trusts, helps support professional development and improve nursing retention rates amongst Black and Minority Ethnic (BME) mental health nurses. The Burdett BME nurse development programme, offers six full-day sessions over six months, and helps participants develop the skills and confidence to access more senior roles.

All 18 participants in the first cohort went on to be shortlisted for an interview, with 14 successfully securing a promotion.

One of them was Simon Arday, 30, who said “For me one of the biggest parts has been about finding my voice. I know how much this programme enabled me to do that”.



On the frontline

Alliance Universities are at the forefront of the fight against the pandemic. Thousands of nursing students from all 12 member universities volunteered on the frontline during the first wave. Hundreds of thousands of items of PPE and specialist equipment have been donated or loaned, and facilities have been used to prepare frontline staff for the pandemic. UWE Bristol even turned their conference centre into a NHS Nightingale hospital.

Alliance universities have also led innovations in testing, treatments and vaccinations. Teesside University will support the manufacturing of a vaccine by building the skills capacity of the region’s life science industry, and an Oxford Brookes University spinout is developing a vaccine. Research is taking place at Kingston University into communicating with BAME communities about the vaccination, and the University of Greenwich has developed drug treatments targeting the fatal cytokine storm symptom of COVID-19.



CHAPTER 2

POWERING Communities

Alliance universities are deeply rooted in our surrounding regions, with a heritage stretching back hundreds of years and a mission to support local people and communities that continues today.

Established for our towns and cities – to provide a vehicle for the increasing numbers of people who wanted formal education and to enter commerce or science – these close links with industry continue today, and the futures of our communities are shaped by our work and research.

Universities for our communities

Alliance universities are powering communities small and large. Rooted deeply within them as anchor institutions, we are recognised as a positive influence on the local economic, cultural and social life of the neighbourhoods of which we are part. Through re-skilling and support for local businesses, to volunteering, outreach and community-led research, the pride for our local communities runs deeply within our institutions and is seen in everything we do.

Between 2016 and 2019, Alliance universities were awarded more than £68m to spend on regenerating their local communities, alongside our own significant investments.

Alliance universities support the economic life of our communities through targeted and sustained activity. Attracting major employers and industry partners to regions for research and innovation opportunities, and as significant employers in our own right, Alliance universities are generating jobs and strengthening supply chains as purchasers of goods and services. This is particularly true for places that are economically lagging behind, because the presence of a university brings a wider set of positive local economic spillover effects.

Such local engagement and community support have never been more important. As the economy emerges from the first wave of COVID-19, and, sadly, unemployment and business closures likely start to rise, the role of universities as major civic anchors will be in supporting an economic, social and cultural regeneration at the heart of their local communities. Universities will become involved in discussions around issues such as job creation, reskilling workers, the future of the high street, public health and crime.

Because we are embedded in local communities throughout the country, Alliance universities have the collective power, civic infrastructure and industry partnerships to drive change and level-up throughout our towns and cities.



POWERING COMMUNITIES

Propelling our students into the community

Community engagement is woven into every part of our universities – indeed it is part of who we are. Through industry placements, enterprise schemes, volunteering and practical study experience, students are propelled into active roles within their local community. These students are essential to community life and understand themselves as citizens who can positively influence the space around them. Oxford Brookes University's Accounting for Community: Engaging Students (ACES) project matches second and final year accounting student volunteers with charities and social enterprises to provide services, such as bookkeeping and end of year statements.

We work with local employers to ensure a broader pipeline of local talent. Drawing on our extensive flexible higher technical education, including modular level 4/5 and part-time provision, we provide second chances and flexible learning opportunities in courses that are relevant to these communities and to local industries. Designing our courses in partnership with local employers and community organisations means students gain practical experience, and we deliver local and regionally responsive provision that brings wider economic and social value.

We also have research and innovation strengths that are aligned to local-sector strengths and deliver collaborative projects that benefit the local community. Teesside University has secured funding to work with disadvantaged communities across the Tees Valley; harnessing research to improve economic and social wellbeing in their neighbourhoods. The University of Brighton's Community University Partnership Programme (CUPP) brings together local people, voluntary organisations, university staff and students to share different types of knowledge, work together to solve problems and develop working relationships that help local communities and the university in the long term.

Outside of learning we facilitate opportunities for all students and staff to volunteer in their local areas. These connections became even more important during the COVID-19 crisis when students and staff across the Alliance stepped up to support their communities. In Greenwich, the university allowed the local Greenwich Mutual Aid group to use its on-site kitchens, and university staff members and students supported vulnerable people from across the local area with prescription collection, and food parcels and deliveries.

Community legal clinic

Anglia Ruskin University's Law Clinic, set up in 2018, works with local law firms to provide free, independent and confidential legal advice to people who otherwise might struggle to obtain it. Since its inception they have helped over 1,800 clients across Cambridgeshire and Essex, and the Law Clinic has continued operating online since the start of COVID-19 restrictions.

The clinic also includes a website to help local residents negotiate the often-daunting court system when dealing with family law matters. The site is designed so that people in the county, who have either a hearing in the family court or questions about legal processes, can easily obtain the information they need.

Social enterprise spinouts

Coventry University Social Enterprise (CUSE) is a Community Interest Company that promotes entrepreneurship and innovation benefitting the local community.

In 2019, CUSE supported the establishment of 15 new social enterprises, the highest ever achieved amongst universities in the UK at the time. Projects include support given to the MiFriendly Cities initiative, by providing training and mentorship to refugee and migrant social enterprises within the West Midlands.



Regional and local strategic partnerships

Alliance universities are deeply connected across our civic and local infrastructure and can use these strategic partnerships to deliver innovation, skills and infrastructure; supporting the plan for growth and meeting our region's priorities. For example, Alliance universities are represented on Local Enterprise Partnerships (LEPs), actively supporting the development of local growth and regeneration Strategies, and addressing the needs and development potential of the local economy.

Working closely with local further education providers, Alliance universities identify pathways for learners in the region and address gaps in provision, and we also work on strategic partnerships to drive regional economic growth and productivity. The Teesside University College Partnership (TUCP) delivers a shared vision of driving regional economic growth through a networked approach to delivering higher-level skills, ensuring that the location and nature of provision directly responds to regional industry needs across the Tees Valley.

We are committed to using these partnerships to address productivity and growth through innovation and enterprise. For example, Birmingham City University partnered with Greater Birmingham and Solihull LEP and Greater Birmingham Chamber of Commerce to drive business growth amongst small and medium-sized enterprises (SMEs) across Greater Birmingham.

The University of Hertfordshire's Science Partnership is a unique collaboration between the university and the LEP with a focus towards supporting SMEs. It leverages the state-of-the-art facilities and academic expertise at the university to boost the dynamic agri-technology and life sciences sector in Hertfordshire while providing a strong pipeline of applied scientists for the region through a translational Doctoral Training Centre. Anglia Ruskin University recently opened a £5m innovation centre with a particular focus on supporting SME growth and development.

POWERING COMMUNITIES

Supporting vibrant communities

For our members, universities are not only educational centres for our local communities, but we are also place makers, working with others to make our towns and cities exciting and vibrant places in which to live. We draw on our civic partnerships to transform our communities by providing support through infrastructure, projects and investing in the regeneration of our towns and cities. As the challenges of the pandemic continue, this role will become even more important as Alliance universities stand ready to support a social, economic and cultural recovery.

Universities also play a vital role in the cultural offer of their localities, providing creative and cultural opportunities, particularly in the areas where access to the arts is limited.

Many sponsor arts organisations, and we all work with community arts groups and charities. Alliance universities have theatres, museums and other cultural attractions open to the local community- visited by nearly 13m public visitors between 2016-19. For example, the University of Hertfordshire played a role in the realisation of the St Alban's museum and gallery, making a significant difference to the local community by reinvigorating a significant but underused building in central St Albans.

Many of our universities also deliver school-focused outreach work to widen engagement in the arts and access to cultural activities. For example, Brighton University supports young people to access emerging creative technologies.

Our universities also support inclusive communities. USW is a 'University of Sanctuary', running the Undergraduate Refugee Sanctuary Scheme and providing free English language courses for refugees before they start an undergraduate course.

Reimagining Kingston Town Centre's Streets and Spaces strategy

Kingston University is using its design expertise and its partnerships with Kingston Council, Kingston First, and the Greater London Authority to drive wider community regeneration and help develop a more successful and inclusive town centre.

The long-term strategy will provide opportunities for the community to transform Kingston Town Centre and enable students to become actively involved in community projects.



Widening participation and levelling up opportunity

For Alliance universities, widening access to higher education is integral to our way of working and our commitment to social mobility runs deep. In 2019-20, 33% of students studying across Alliance universities were aged 25 or over, 12% were Black, 14% were Asian and 13% were known to have a disability. HESA UK Performance Indicators for widening participation benchmark data on the proportion of entrants from state schools and low-participation neighbourhoods and those in receipt of Disabled Students allowance (DSA). Nearly all Alliance universities perform in line with their benchmarks or above.

We provide life-changing opportunities for those who may not wish to move away to study or to study full time, as well as for those looking for alternative routes into higher education. Part-time students made up 20% of all students studying across Alliance universities in 2019-20 and in the same year, 2,490 students obtained a foundation degree qualification from an Alliance university (24% of all foundation degree qualifiers in England and Wales). Many Alliance universities have seen an increasing proportion of the students they recruit opting to study locally and one Alliance member estimates this group to be 70% of its student population.

In 2018, the Sutton Trust found that disadvantaged students are less likely to leave home and travel further to attend university¹. Alliance universities work in close partnership with their local FE colleges to widen access to Level 4 and 5 qualifications and to provide progression routes to Level 6 and 7 programmes. For example, the University of Hertfordshire has had a consortium with four FE colleges for over 20 years and estimates between 15,000- 20,000 of its graduates started their journeys in those colleges.

All Alliance universities deliver outreach activities and initiatives, some with a particular focus on levelling up opportunities and aspirations in strategic subject areas. Kingston University run an annual 'Primary Engineer competition' where local primary school children are invited to design solutions to engineering challenges, with selected entries later turned into prototypes by the university.

Some Alliance universities are opening campuses in previous higher education cold spots to widen access to provision. Coventry University has a Scarborough campus, and Anglia Ruskin University is opening a new university in Peterborough, ARU Peterborough, in 2022.

¹Donnelly, M and Gamsu, S. (2018), Home and Away, The Sutton Trust and the University of Bath



CHAPTER 3

POWERING Business and Growth

Alliance universities have a long and deep heritage of transforming our regions and accelerating business growth and employability within local economies through partnerships with key sectors and industries.

In the aftermath of COVID-19, many communities will need economic transformation, especially those already suffering the consequences of industrial decline – the very places under the spotlight as part of the levelling-up agenda. As anchor institutions, Alliance universities are proud to be rooted in local economies and to be playing an active role in solving these challenges and supporting businesses, big and small, throughout the country.

Growing new businesses

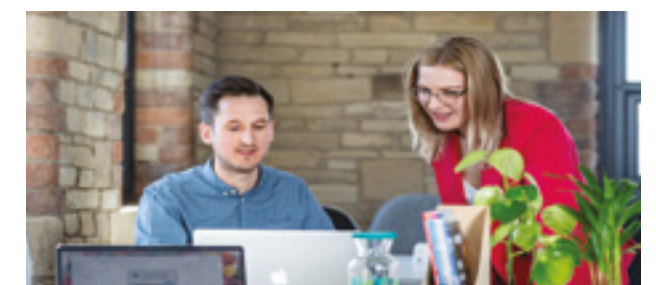
Commercialisation and entrepreneurialism are ingrained into the DNA of Alliance universities, and powering business and growth is core to our mission. We are passionate about supporting our graduates to set up new companies and all of our members have a longstanding tradition of embedding enterprise and entrepreneurship into the curriculum. We also apply our expertise to support existing local business in our communities to grow and develop, especially SMEs.

In 2018-19, Alliance universities provided facilities and equipment-related services to 6,227 commercial companies and non-commercial organisations, of which 88% were SMEs.

For businesses at an early stage of growth, our members incubate organisations within our universities and provide mentoring, training and networking opportunities. The Startup Stiwdio at University of South Wales (USW) is a dedicated incubation space designed to encourage and support entrepreneurship among USW's student population and to provide a safe haven for students to develop enterprising ideas and grow new businesses.

In 2018-19, our members were supporting over 2,000 active spin-offs, start-ups, and social enterprises, which had a combined turnover of £157m that year.

Much of our enterprise activity directly benefits the local community. The University of Greenwich's Powerhouse aims to foster collaboration between staff, students and the community and is home to a group of entrepreneurs who run social and commercial enterprises from the co-work space. STEAMhouse is Birmingham City University's innovation centre aimed at encouraging collaboration and knowledge exchange between the arts, science, technology, engineering and maths (STEAM) sectors as a platform for supporting long-term sustainable economic growth, productivity and job creation in the West Midlands region.



Support for businesses

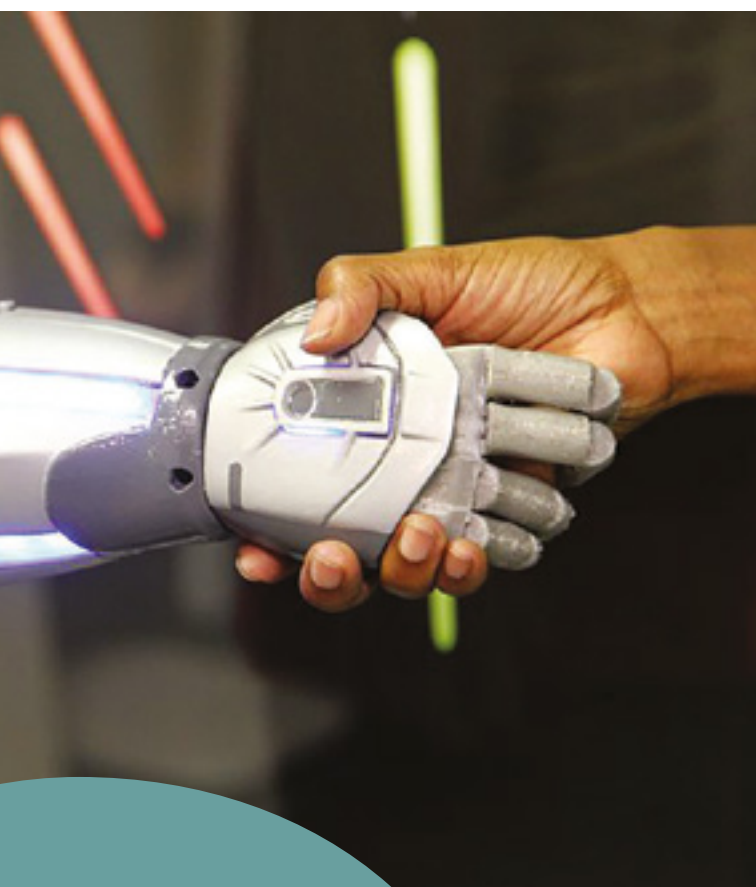
We provide a range of technical and other support options to existing businesses at various stages of development, fundraising and growth through leveraging the value of our infrastructure for the benefit of our local and national economies. This support includes helping them to access regional growth funds and other pots to support business growth.

In 2018-19, Alliance universities provided consultancy services to 16,706 commercial companies and non-commercial organisations, of which 85% were SMEs.

The University of Herfordshire's University Enterprise Zone (UEZ) directly addresses 'productivity of businesses' within the region, making researchers, resources and facilities accessible to enterprises.

Alliance universities also support and translate world-class research into new services, processes and ways of working for businesses. Much of this work involves supporting SMEs in cutting-edge industries and tech.

This service has continued throughout Covid, with many Alliance universities using their connections to support businesses in navigating the challenges posed by the pandemic. As part of a £5m ERDF funded programme called Brighton Research Innovation Technology Exchange (BRITE), the University of Brighton is working to help regional companies innovate, address challenges on growth and recovery and explore new opportunities, using innovation research carried out by the Centre for Change, Entrepreneurship and Innovation Management (CENTRIM).



Award-winning robots

Developed in the Robotics Laboratory at the University of the West of England (UWE Bristol), the start-up Open Bionics is the first company to create multi-grip bionic hands small enough to fit children as young as nine years old. This is just one of the many achievements by Open Bionics, which has won multiple awards for engineering and innovation, including the £1m prize for the AI and Robotics for Good award, the James Dyson award for engineering, and two British Engineering Excellence awards.

The company has also secured multiple licensing agreements from entertainment creators Eidos Montreal and The Walt Disney Company to create bionic limbs inspired by their most popular characters. Most recently they were also named in the prestigious list of the world's most innovative companies for 2019.

Support for SMEs

The skills, knowledge and facilities that Alliance universities provide are crucial to the day-to-day operations and growth of both Britain's major employers, and the Small and Medium Enterprises (SMEs) which are so vital to our regional economies. For example, the University of Hertfordshire has delivered the Hertfordshire Growth Hub (HGH) to support over 5500 local SMEs in accessing grant funding, leading-edge services and network connections that will drive their growth.

Birmingham City University runs a £3.3m Higher-Level Skills Match service to support SMEs in recruiting and upskilling- a partnership between BCU, two other HEIs, and three local authorities. Leeds Beckett University runs the £1.7m #WECAN (Women Empowered through Coaching and Networking) programme to enhance the resilience and growth of SMEs by building the leadership skills, capabilities and opportunities of women in the Leeds City Region.

Tech for SMEs

The Centre of Excellence in Mobile and Emerging Technologies (CEMET) is led by the University of South Wales (USW) and is part funded by the European Regional Development Fund (ERDF) through the Welsh Government. CEMET assists small businesses across Wales to develop cutting-edge technologies and boost productivity. Receiving over £8.9m of funding, the project supports SMEs in designing and testing new mobile and emerging technologies to create products and services for commercial success, such as virtual CPR training.



Green growth

The University of Brighton's Green Growth Platform is an award-winning green business-innovation network that supports businesses developing clean and green products, services and processes to scale-up. The platform provides access to university facilities and expertise, commercialisation advice, coaching, workshops and an investment readiness programme. It has over 1000 members that have created 300 green economy jobs and 70 new products and services.

The Platform is the South East Regional Hub of Clean Growth UK, a national business-innovation network, that has collectively supported thousands of businesses across the UK to innovate and grow.

Centre supporting AI start up locally and globally

The Institute for Ethical Artificial Intelligence (IEAI), based at Oxford Brookes University, has quickly established itself as a key player in responding to the opportunities and risks surrounding artificial intelligence in industry and society. The institute has received significant funding to develop the use of ethical AI in sectors such as Human Resources and legal, supporting start-ups, scale-ups and established companies to maximise productivity, margins, growths and turnover.

The IEAI's world-class team of AI researchers, data analysts, social scientists and business researchers is also utilising £1.2m of government funding for an AI and Data Analysis project to boost the economy.



CHAPTER 4

POWERING the public sector

Alliance universities are integral to powering all facets of the public sector. From researching innovations that improve provision to training the thousands of highly skilled staff who deliver vital services, serving the nation is central to everything we do.

As the country looks to build back from this crisis, we have the practical mindset, commitment to service and existing relationships within the public sector to strengthen our public services and train the next generation of frontline workers; to help keep this country running and our communities thriving.

Training staff

We train the people whom every community relies on, from the teachers educating future generations, to the police officers protecting our streets to the town planners designing them.

In 2019-20, Alliance universities trained 18% of all social work students; 15% of all teaching training students; and 24% of all students in architecture, building and planning courses in England and Wales.

Alliance universities are proud of this track record, but we don't do this in isolation. We design courses in close partnership with the public sector and use practical scenarios and simulation-based learning with cutting-edge technology and facilities, ensuring we are training a workforce that is dynamic, efficient and highly skilled. Combining academic learning with practical experience, Alliance universities offer industry placements and work experience across most of their courses, helping students put knowledge into practice.

Students have access to immersive facilities, such as simulated ambulances and midwifery suites, mock law classrooms and fully

interactive trading rooms, each equipped with the latest industry software and designed to give students real-world experience.

Alliance universities are also at the forefront of developing and delivering flexible learning and CPD to ensure the workforce remains highly-skilled and responsive to the changing needs of public services. Our members run a number of flexible part-time courses, CPD short and modular courses, and degree apprenticeships. Last year, Alliance universities introduced new degree level courses for paramedics and police officers. The University of South Wales has recently graduated the first cohort in England and Wales to complete a new graduate diploma in policing, combining real-life policing experiences on division with academic learning.



POWERING THE PUBLIC SECTOR

Police partnerships

With campuses in Cambridge, Chelmsford, Peterborough and London, Anglia Ruskin University is one of the leading universities for police education in the UK. A new partnership means the university will now deliver training for eight police forces across the South East as part of a major overhaul of police officer training. New police constables will enrol on a three-year Police Constable Degree Apprenticeship, which combines a degree programme with on-the-job training. A two-year Degree Holder Entry Programme will be available for new recruits who already have a degree. The Policing Institute for the Eastern Region (PIER) at ARU delivers innovative, high quality research, professional development and knowledge exchange for the improvement of policing practice and public safety.

Powering the innovations

Beyond training front-line public-sector workers, Alliance universities help facilitate new projects and innovations that improve the public services. The applied nature of Alliance research means we can work with partners in the public services to help deliver new innovations in delivery and practice.

Partnerships with Alliance universities have helped develop new approaches to dementia care and mental health support, whilst research projects that originated at our universities have resulted in breakthroughs that have revolutionised childrens services.

Our high-tech facilities and simulation centres are used by emergency services to develop new approaches to crisis response, and our research helps drive efficiencies in products and resources used accross the public sector.



Kaspar the social robot

Developed through more than a decade of research by the University of Hertfordshire, Kaspar is a humanoid robot that acts as a social companion to improve the lives of children with autism and other communication difficulties.

By interacting and behaving in a child-like way, Kaspar helps teachers and parents support children with autism to overcome the challenges they face in socialising and communicating with others.



Preventing train delays with smart technology

Researchers at UWE Bristol are collaborating with smart engineering solutions company Costain and engineering technology start-up Enable My Team to develop a system that predicts faults on train tracks and in stations. The technology, currently in development, uses thousands of sensors and 3D modelling to tap into big data. It will allow engineers to use Augmented Reality via a smartphone or Head Mounted Display, to locate failing components or structure faults, predict when they are likely to fail, and read on-screen instructions to help with repairs.

The system will enable companies to fix a problem before it even becomes one, and at a time when commuting is not disrupted, bringing reliability to the 1.7 billion annual passenger journeys on the UK railway, increasing productivity across the country.

The Simulation Centre for public sector training

The award winning Simulation Centre at Coventry University helps organisations from a wide range of public sector services to exercise, train and develop their staff using simulated experiences, proving extremely useful for those working in emergency response services.

The fully immersive virtual environment enables both individual agency teams and multi-agency emergency service groups to train together for 'major incident' scenarios. The Simulation Centre offers an innovative learning platform for staff to develop their skills and be better prepared.



CHAPTER 5

POWERING Jobs

Central to our mission is producing job-ready graduates who are equipped with the necessary skills and broader capabilities that allow them to start successful careers in their chosen fields and succeed in industries right from day one.

Alliance universities are leaders in using our close relationships with industry partners and employers to collaborate on developing curriculum and delivering practical, skills-led learning with real-world experience and on-the-job training.

A well-prepared workforce

Alliance universities work hand-in-glove with globally-renowned employers across the country to ensure our graduates leave with skills that allow them to step seamlessly into working life. For example, every course at Anglia Ruskin University is developed in partnership with Employer Advisory Groups looking at all aspects of the curriculum to ensure employability is fully integrated into course content and design.

A significant proportion of Alliance courses are accredited by professional bodies, the majority of which include an industry placement. These partnerships produce graduates that have the skills and knowledge to add value to industry and the professions. These graduates are equipped with the skills our economy will need for the future. Fifteen months after graduation, 90% of Alliance graduates are employed or in further study.

The industry-responsive nature of an Alliance education means that students are being equipped with transferable skills, preparing them not only for the existing world of work but for jobs that don't yet exist and the multiple careers they may have over their lifetime.

Given that we work in many cutting-edge fields, we are constantly updating our curriculums and working alongside industry partners and professional bodies to ensure that our materials and teaching methods are up-to-date, and that our students have practical workplace experience.

As part of this work, we are central to the innovative and ever-growing creative sector—from traditional disciplines such as music, to modern computer aided design, gaming and graphic design. Our partnerships with major employers from Adobe to Netflix mean that students are gaining industry-led instruction, and gaining creative skills that will drive the nation's future innovation and enterprise. For example, students at Birmingham City University get to train in motion capture technology using a MILO unit, now one of only two owned by universities in Europe.



Working in partnership

We are pioneers in working with employers to develop flexible and innovative higher technical provision in key growth areas. Our universities offer apprenticeships across a range of sectors, including teaching, biomedical science, health care, social work, computing, construction and the built environment – all areas where skills are needed to tackle the major challenges we face in the UK and across the globe.

There are over 4,500 apprentices in programmes across Alliance universities in England, including more than 50% of all civil engineering degree apprentices in the country.

We also draw on our strong engagement with employers to boost the skills of the current workforce, combining the very best of work and learning to meet needs through work-based high-level training and modular learning.

Supporting regional jobs

Alliance universities not only want to prepare graduates for the workplace but also use our education and research platforms to meet skills gaps and generate new jobs, particularly in areas of strategic importance such as engineering and the increasingly important digital economy. For example the Foundry at UWE Bristol was part-funded by the Institute of Coding and is delivering a range of new courses to tackle skills shortages in digital technology.

We attract major employers onto campus that not only deliver practical learning but also drive innovation and generate local employment opportunities. We also work closely with our local communities and industries to help generate the jobs that will power local economies and support services.

As institutions deeply rooted in our communities, we work with local employers to power jobs across our regions. Leeds Beckett University runs a Get Hired programme with 48 firms, and runs the regional job fairs, to match graduates to vacancies. We work in partnership with further education colleges – such partnerships have long histories for Alliance universities – to ensure a local seamless pathway of employer-responsive education and training, that learners can access throughout their lives. The University of South Wales is using its partnerships with further education to support a joined-up focus on future skills and innovation; combining resource, engaging with industry and sharing access to facilities and expertise.

As we look to recover from the pandemic, the partnerships underpinning the vocational and technical education at Alliance universities will play a vital role in supporting people to access lifelong learning, and reskilling and upskilling our current and future workforce.

Alliance universities have proven themselves to be central to the creation of new regional jobs in aviation, film production and other arts, engineering, and public services.

We not only prepare graduate talent but we are significant providers of Continuing Professional Development (CPD) to organisations in our regions, helping employees to build the skillsets and knowledge to support the growth of their organisations.

Between 2016-19, Alliance members ran 2.6 million days of CPD and executive education to businesses, charities, social enterprises and individuals.

Jobs in HBO and Netflix

A unique partnership between the University of South Wales's Film & TV School Wales and Screen Alliance Wales saw students and graduates working on leading television productions.

USW graduates and students have worked at Cardiff's bad Wolf Studios on a variety of leading television productions, including the BBC and HBO production of Philip Pullman's His Dark Materials trilogy, as well as the Lena Dunham-directed HBO drama 'Industry', and two series of Sky One's popular drama 'A Discovery of Witches'.

USW students and graduates have also worked on two seasons of the Netflix series, Sex Education. After a number of successful graduate placements on season one, production company Eleven Film arranged for 18 work placements during the filming of the second series for graduates across the whole production – including costume, art, camera, sound and other areas – with many lasting several weeks.

During the production, several trainees went on to longer term roles, and a number have since gone on to work on other Netflix series.

HuffPost Centre for Journalism

The HuffPost Centre for Journalism, within Birmingham City University's School of Media, gives the next generation of journalists first-hand experience of the media industry, working directly with HuffPost to do media differently. It provides a wealth of opportunities for students, placing them on a global stage and giving them real life experience in how news is produced and consumed in the current era, across a range of different platforms.

The scheme was set up in September 2019 but students have already made an eye-catching impact on journalism. One student's use of immersive reporting techniques saw him create a feature around music used in video games. Using video, audio, in-depth interviews and long form feature writing, the MA Multiplatform and Mobile Journalism graduate took advantage of new forms of storytelling to create an engaging and immersive experience for the reader. He was also named as a finalist in the international Shorthand Awards for his work.

Faculty on the Factory Floor

Coventry University's Institute for Advanced Manufacturing and Engineering founded the award winning 'faculty on the factory floor' collaboration alongside Unipart Manufacturing. Together they've addressed the engineering skills shortage by giving students direct access to real-life engineering projects and delivering industry-ready graduates.

Jet2 jobs at Leeds Beckett

The Jet2Suite increases the number of students who go on to work at the leading airline. International Tourism Management and Responsible Tourism Management students receive interactive training and seminars in the two brand-new classrooms located at Headingley campus.

The launch of the suite follows a long-running partnership between the university and Jet2.com which has already seen more than 90 LBU students go on to work at the airline.



CHAPTER 6

POWERING research and innovation

Globally connected and locally rooted, Alliance universities are central to the hope that this country's recovery will be driven by cutting-edge research and innovation (R&I).

Alliance Universities have over 14,000 research staff working on life-changing research. Through our focus on applied research, knowledge exchange and innovation, we are working towards ensuring a fairer, greener, healthier, and more prosperous and resilient UK.

Research with impact

In 2018-19, Alliance universities received over £100m worth of research grants and contracts from research funding councils, governments, charities, and commercial businesses.

Already, R&I generated by our members is found in new products, new services, and new discoveries, touching the many facets of people's lives, and it has brought improvements to the quality of life of citizens in the UK and around the world.

Kingston University's ESCAPE-pain rehabilitation programme helps people with chronic hip and knee pain and has been delivered in 20 sites across the UK including community centres, leisure centres and schools. It has treated more than 13,000 people to date, saving the NHS an estimated £22m by reducing the amount of healthcare needed by patients.

The ambition at Alliance universities is to power research and innovation that is both cutting edge and practical. Focussed on real-world issues, we seek to make a concrete change in communities and improve the quality of life in local areas. Recent research at Oxford Brookes University has demonstrated the benefits of cycling for the wellbeing of older generations. It will help shape policy on sustainable travel and exercise, both of which have become key considerations in the reshaping of society and urban areas post-lockdown.



Developing talent

As institutions with diverse student bodies, University Alliance universities have an important role to play in expanding the diversity of R&D talent pipelines, and we are committed to embedding equality, diversity and inclusion across our research programmes

University Alliance's Doctoral Training Alliance (DTA) is a structured PhD training programme run across 19 Alliance universities and partner institutions. It is one of the largest nationwide doctoral training initiatives in the UK. The DTA produces independent, highly-employable researchers with expertise and skills in strategically-important research areas. DTA currently supports three interdisciplinary research programmes in Applied Biosciences for Health, Energy and Social Policy, and receives co-funding through the European Commission. As well as financial support, DTA researchers benefit from an inclusive and collaborative support community, enhanced employer co-designed training programme and access to expertise and facilities from across the network; helping equip our students with key skills for future employment.

Research for our communities

As well as grounding research and innovation in solving everyday problems, Alliance members ensure that their work is intrinsically linked to local businesses, local people and local areas, such that it makes a real and practical difference in people's lives. We look at the real-world practical challenges and work with projects and partners where we can make a real impact.

As anchor institutions, Alliance universities can draw on our local roots and involvement with regional administrators to align research and innovation activity to local-sector strengths and growth areas. Teesside University, along with its industrial partners, is using the wealth of skills and expertise in the region's process industries to build a low carbon economy. The University's Net Zero Industry Innovation Centre will kick-start commercial industrial decarbonisation, hydrogen and circular economy activity in the Tees Valley, delivering economic, social and environmental benefits for the region.

Our Knowledge Transfer Partnerships help companies access the tangible, practical research capabilities and expertise within our universities – providing them with ideas, research and consultancy to make changes and to grow and make their businesses more productive.

In 2018-19, Alliance universities provided research contract services to 931 commercial companies and non-commercial organisations.

Alliance universities are also leaders in translating research into improved services and better policy outcomes to achieve societal impact, particularly at a local level. The Policing Institute for the Eastern Region (PIER) at Anglia Ruskin University is providing opportunities for academics and police practitioners to exchange knowledge and maximise the impact of research into policing and crime on policy and practice.

Partnering with industry for maximum impact

We believe in the power of collaboration to drive excellence, working with industry and local partners to shape our research to maximise impact and support local, regional and national priorities. Over the past decade we have worked with partners as varied as Tata Steel, the Gates Foundation and UNESCO.

Coventry University has partnered with Network 2 Supply a leader in IT lifecycle services to develop bioleaching, a technique that uses bacteria to safely extract and recycle precious metals from electronic waste (e-waste). With more than 50 million tonnes of e-waste generated globally each year and existing recycling methods causing a loss of precious metal and the release of dangerous toxins, the bioleaching solution to electronic waste is gaining international acclaim.

Alliance Universities are also international organisations, operating internationally and forming partnerships with global businesses, charities and Governments. The research carried out offers a significant contribution to solving global challenges and achieving the UN Sustainable Development Goals. We are proud that research commissioned and delivered by Alliance universities makes practical differences to international problems every single day.

Research at UWE Bristol has helped eliminate malaria by strengthening health programme management in South-East Asia and Southern Africa. Funded by the Bill and Melinda Gates Foundation and the US Navy Malaria Research Centre, the work has led to improved detection, testing and treatment of more than 3 million people with malaria in Zimbabwe alone.

Institute for International Development

The Natural Resources Institute (NRI) is a specialist research, development and education organisation of the University of Greenwich, with a focus on food, agriculture, environment and sustainable livelihoods.

Together with international partners such as the Gates Foundation, African Union, FAO and USAID, it tackles issues including poverty, food and nutrition security, sustainable agriculture, climate change, gender and social equality, responsible production and consumption, sustainable management of natural resources and the environment. It's work has been highly commended. NRI's recent awards include three Queen's Anniversary Prizes for Further and Higher Education, the Times Higher Award for International Collaboration and the Guardian University Award for Research Impact.

Informing global chemical weapon response

The University of Hertfordshire's toxicology research group was asked by the US Department of Health and Human Services to investigate chemical weapon decontamination processes. Hertfordshire invested in large-scale testing facilities to allow researchers to simulate human exposure to hazardous substances and to evaluate mass casualty decontamination outcomes.

The research resulted in the development of new policy guidance for emergency response teams dealing with the event of chemical or biological attacks being adopted by both the US and UK Governments. The guidance was followed as part of the UK emergency services response to the Salisbury attack in March 2018.



Working with Tata Steel

The University of South Wales is working with TATA Steel to make its processes greener and cheaper. Spanning sustainability, decarbonisation, carbon capture and data science, a host of research and industrial projects are putting processes in place that will help to limit emissions and improve efficiencies.

TATA Steel is working as an industrial partner on a range of multi-million-pound research projects involving USW's Sustainable Environment Resource Centre (SERC). They are also both part of the South Wales Industrial Cluster, developing a regional industrial decarbonisation roadmap with partners from the industrial, public and private sectors to create the world's first net-zero emissions industrial zone.

Dolphin N2 of University of Brighton

A Dolphin N2 engine developed at the University of Brighton highlights the state-of-the-art research being undertaken throughout our member universities. The invention is seen as one of the most significant advances in engine design in years and is being hailed as extremely efficient, making it more comparable to a fuel cell than to a traditional engine. It also produces near-zero emissions of harmful nitrogen oxide (NOx) – a world first that has been pioneered by the University.

This is the cleanest, high-efficiency engine that exists in the public domain and has enormous potential as a clean device using sustainable fuels made from everyday wastes. This will lead to far less pollution being emitted by heavy-duty vehicles and, perhaps, by other transport modes including diesel trains and ships.



University Alliance (UA) is the voice of professional and technical universities. We represent large to mid-sized universities working at the heart of their communities. Alliance Universities partner with industry and the professions to deliver the workforce of today and tomorrow through practical, skills-based learning and applied research.

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