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1. Foreword

UK Research and Innovation (UKRI) works in partnership with universities, research organisations, businesses, charities and government to create the best possible environment for research and innovation to flourish and thereby grow and be deployed for national and international benefit. Research England’s role within UKRI is to maximise the contribution of each of our university institutions to that environment. We do this by challenging and supporting universities to respond to national research and innovation challenges, and we advise our UKRI colleagues and government on how university research strengths can best be deployed for national and international benefit.

A very high proportion of UK research is carried out in higher education. Universities make major contributions to the economy and society at local, regional, national and global levels, and while the majority of this impact is supported by public funding, higher education institutions (HEIs) themselves provide a quarter of their overall funding for research from their own private income. Due to their scale and the diversity and breadth of their research and knowledge exchange (KE) activities, universities have innumerable relationships at scale with business and other partners, and UKRI gains wide-ranging benefits from the insight and vision of universities and their many collaborators.

For all these reasons, universities are vital partners for UKRI and so this delivery plan (DP) sets out how Research England will support that success by working with universities in the coming years.

With the funding bodies of the devolved nations, we provide a robust national appraisal of the excellence and impact of university research via the Research Excellence Framework (REF). This provides recognised performance data so businesses, charities and individual researchers worldwide can make informed choices about careers and funding partnerships in the UK.

Our strategic funding nurtures the research ecosystem in the UK, providing the foundations for a thriving environment in which research councils and other research funders fund projects and pursue major research challenges. It underpins stable careers for talented researchers as they balance research and knowledge exchange activities with responsibilities such as teaching. We also provide essential support for the earliest stages of discovery, where research is nurtured and developed and where the seeds of projects are developed that will go on to change lives, inform policy, enrich our culture and address the most important issues of our time. This enables universities to respond dynamically to emergent priorities and provides the strength to participate in major research institutes, such as the Francis Crick, Alan Turing and Henry Royce institutes, which often require financial contributions from partner universities.

Universities are complex organisations facing many pressures, and the responsiveness and sustainability of the research base depends critically on their ability to invest in research as well as on our funding. For these reasons, Research England will be a leader in understanding what underpins sustainable success in research and knowledge exchange at a sector level and monitoring the persistence of those conditions.
Our funding allows HEIs to work effectively and efficiently with business and charities. We help universities seize fast-moving opportunities to work with business partners independently, and enable them to collaborate with businesses, charities and other funding bodies that pay less than the full economic cost of research. The UK attracts an exceptionally high level of research and development (R&D) investment from businesses headquartered overseas. There is clear evidence that strong university research and talented researchers, underpinned by Research England support, are key factors driving the location of international business investment in UK R&D. This investment makes a major contribution to the Industrial Strategy commitment to raise total R&D investment to 2.4% of GDP by 2027, and underpins our decision to increase this strategic funding in recognition of the important role universities will play in delivery of this commitment. As a consequence of universities’ fruitful relationships with business and beyond, the UKRPIF scheme has achieved a total of £1.75 billion of co-investment from industry partners, charitable organisations and philanthropic donors.

Our support for universities dovetails with that provided by the research councils and Innovate UK in driving disciplinary strength and business-led innovation. This complementary system, developed over decades of experience, is admired worldwide. Creation of UKRI has renewed and revitalised this and we are excited about the potential to work even more closely with our UKRI colleagues to generate ever greater benefit from the UK’s superb research and innovation system.

Of course, we recognise that university staff and facilities are often shared between teaching and research uses, that businesses are both employers and knowledge users and that educational challenge drives the national need for high-level research skills. So we will continue working closely with the Office for Students (OfS) to help UKRI bridge the worlds of teaching, research and KE.

I am excited about what we are already achieving as part of UKRI and eager to see how much more we can do together to benefit the UK’s economy, society, culture and people. Whether boosting the digital economy and driving the ‘fourth industrial revolution’, finding routes to sustainable industry, meeting the changing needs of society, propelling the UK’s role in international research and innovation to new heights, or increasing understanding about what it means to be human in the 21st century, we look forward, as an integral part of UKRI, to helping universities make it happen.
2. Vision and objectives

Research England’s mission is to create and sustain the conditions for a healthy and dynamic research and KE system in universities, while driving the transformation in university capacity and capability that will deliver the government’s target of 2.4% of GDP invested in R&D by 2027.

Our vision is for universities to play a central and distinctive role in the economy and society, delivering world-class research with transformational real-world applications, developing the skilled and talented workforce drawn from across society that a modern R&D-intensive economy needs and operating as major international players to enhance the UK’s global reach and influence.

Universities provide the essential capability and infrastructure that underpin broad-based excellence and sustain deep, and lasting partnerships with industry, and are therefore ideally placed as key partners to deliver on national and global priorities. We incentivise universities to be ambitious investors in our shared national and global agendas and support them as diverse, autonomous institutions.

Working across UKRI, our role in understanding and supporting university success complements the research councils’ mainly disciplinary focus and Innovate UK’s focus on business-led innovation. We do all of this in three ways, all of which combine to drive the English university system to become healthier and more dynamic, and to deliver strong outcomes for the economy and society:

**System-level intelligence and analysis**

We will continue to collect and analyse robust evidence of university research and KE performance, and of the impact and effectiveness of national policy on the HE sector’s performance. In this way, we will build a complete picture of the university system and ensure our funding remains effective, to inform investment decisions by business and career decisions by talented researchers across the world and to help devise new schemes addressing sector opportunities, gaps or weaknesses. In particular, this will include gathering evidence of institutional research performance through the REF and presenting evidence for benchmarking through the Knowledge

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**System-level intelligence and analysis**

- Assessing the performance of university research and KE
- Analysing the sustainability of the university research base
- Drawing on data and information from other bodies
- Understanding HEIs’ strengths, weaknesses, opportunities and threats
- Understanding the broader landscape
Exchange Framework (KEF). It will also include working closely with other parts of UKRI and our partners in the devolved nations and the OfS to evaluate the sustainability of the research and KE system in UK HE.

We will continue to engage closely with universities to understand their specific strengths, weaknesses, opportunities and threats, and to understand their decisions in response to these. While our funding streams drive up the performance of individual institutions, we will encourage universities to collaborate both with each other and with wider stakeholders, supporting key sector leaders to take decisions that dovetail with national priorities for the greatest impact.

We will also continue to monitor broader issues affecting the higher education sector, including in undergraduate education and overseas development, in recognition of their effect on research and KE outcomes. We will work closely with representative bodies from all parts of the higher education sector to understand cross-cutting issues and approaches and to support activities at scale. This will continue to enable universities to identify opportunities to contribute to the national and international research and innovation ecosystem, as well as to the delivery of UKRI’s priorities. In addition, we engage internationally, ensuring universities contribute to the development of good practice globally and can access pivotal international scholarship and funding.

**Strategic university-level funding**

Our funding enables universities to deliver research excellence with impact and high-performance KE, unlocking potential, generating economic and social impact and meeting national priorities and global challenges. It strengthens the pipeline of talented and skilled people, including innovators, entrepreneurs and researchers, and encourages partnership-building with the wider economy to stimulate increased R&D investment from the UK and overseas, for mutual benefit. Recognising the role that our funding plays in incentivising good practice and enhancing performance, we will continue to develop and implement policy and funding approaches that drive increased effectiveness, efficiency and continuous improvement in the English higher education institution (HEI) sector.

Our funding, including our innovation and capital infrastructure funding, facilitates strategic links between universities, business and beyond. Our
policies and investments underpin and galvanise the capacity-building and culture change required for universities to contribute fully to support economic growth, productivity and societal prosperity locally, nationally and globally.

Backed by strong policies, our funding will continue to encourage universities to cultivate and implement an open research agenda and foster the development of early-career research talent, promoting equality, diversity and inclusion (EDI) and broadening the skillset of the next generation. In this way, the knowledge will reach beyond academia and help to engage communities, schools, businesses and policymakers both nationally and internationally.

**Working in partnership**

As the England-only component of a UK-wide funder, we will continue to work closely with the higher education funding bodies in Scotland, Wales and Northern Ireland, strengthening these links to develop robust and comparable evidence across the whole UK system and to deliver our shared priorities for research and innovation. On matters affecting the higher education sector in England, we will strengthen joint working with the OfS to deliver on key priorities that cut across the research and teaching agendas, such as KE, infrastructure, sustainability, efficiency, place and skills. Joint working helps UKRI build a UK-wide picture of the national research and innovation system and the many unique and complementary roles that universities play within it.
3. Research and knowledge exchange priorities

3.1 SYSTEM-LEVEL INTELLIGENCE AND ANALYSIS

We will realise our vision through our four strategic goals: world-class research, world-class multidisciplinary facilities, world-class innovation and world-class skills.

High-quality data and analysis is at the heart of what we do. Data, analysis and system intelligence drive all our policy and funding activities and underpin the critical monitoring and evaluation of all of our policy and funding interventions. We will continue to combine a focus on hard data with system-wide soft intelligence on issues affecting the sustainability and performance of English universities, in order to better understand the external challenges and risks facing the higher education sector. In turn this will help us focus our policy and funding activities on areas that represent the best value for public money, where a continuous cycle of evaluation and review inform our future priorities.

We will use intelligence and analysis to allow UKRI to develop an inclusive, sophisticated understanding of the higher education system that receives the majority of its funding, including the challenges and opportunities that the sector faces. This includes working closely with our partner higher education funding bodies in the devolved nations to gather evidence UK-wide. By having a sophisticated and robust understanding of the UK’s higher education system and its performance in research and KE, we enable UKRI to work more effectively in partnership with universities to deliver its objectives.
The Research Excellence Framework (REF) remains our primary method of assessing research performance. It is the UK’s system for assessing the excellence of research in universities and is undertaken by the four UK higher education funding bodies. Our shared aim is to secure continuation of a world-class, dynamic, responsive research base across the full academic spectrum within UK higher education. The REF achieves this by providing evidence of the benefits of and accountability for public investment in research across UKRI, and informing the selective allocation of funding by Research England and the other higher education funding bodies.

The REF provides critical assurance for public funding for university research (including around £2 billion/year from the higher education funding bodies), driving the strong accountability within HEIs that underpins the UK’s successful research system. It promotes positive changes in university research culture, increasing productivity, driving economic and social impact and modernising the research process through initiatives such as open-access publishing. The last exercise in 2014 assessed 154 UK universities across 36 disciplines such as clinical medicine, earth systems and environmental sciences, law, music and drama, dance and performing art, reflecting the breadth, depth and value of the exercise. Expert panels reviewed nearly 200,000 research outputs across and between disciplines, with 72% judged to be world-leading or internationally excellent. Universities submitted over 6,500 impact case studies, demonstrating the reach and significance of their research beyond academia.

For English universities, the REF informs allocation of the majority of our quality-related research (QR) funding. As a result, research excellence is linked to competitively awarded funding that permits longitudinal, sustainable, high-quality research and infrastructure and ultimately impacts UK productivity.

The impact of impact

For the first time, alongside quality of research outputs and vitality of the research environment, REF2014 introduced an assessment of the wider impact of research. Universities submitted over 6,500 impact case studies, occurring between 2008 and 2013, as well as a general description of their impact strategies.

The case studies demonstrate how multi-disciplinary research at UK universities over the past 20 years has benefited the economy, society, culture, public policy and services, health, the environment and quality of life beyond academia, in the UK and globally.

Moreover, recognising impact in this way has catalysed a cultural shift in universities, in terms of the ability to identify and understand impact, broader strategic thinking about impact, increased recognition within universities of staff undertaking impact activities, and the opportunity to review and reaffirm relationships with external stakeholders. Institutional strategies and processes have been or are being put in place to foster a culture of impact and maximise the impacts resulting from research beyond a periodic assessment exercise.

Broader recognition of impact beyond academia has also had an effect on resourcing, retention, promotion and recruitment within universities, including creation and retention of impact-related positions for research and research support staff. Furthermore, the value of this culture change and research excellence accountability has generated increasing international interest, with several organisations looking to the UK as an exemplar of best practice.
By informing research standards, disciplinary attitudes and expectations of the research environments within universities, the combination of periodic research assessment and underpinning research funding contributes significantly to the upward trend in the quality of universities’ research activity, helping the UK maintain its reputation for world-class research. The REF also provides benchmarking information and allows the establishment of reputational yardsticks and drivers of research quality for use within the higher education sector and for public information.

The introduction of impact as a key criterion in REF2014, to exemplify where excellent research has wider reach and significance, and the increase in the weighting of this criterion for REF2021, has informed a culture of engagement beyond the HEIs, enhancing the interactions between research and wider social and economic activities and achievements. The REF process not only highlights the quality of research but also the environment in which it is undertaken raising the profile of key issues such as equality, diversity and inclusion. REF results play an important role in informing an institution’s strategy, catalysing new and growing existing collaborative research and enhancing staff and student recruitment.

The next REF will be undertaken in 2021 by the four UK higher education funding bodies. Building on the recommendations of a 2016 review by Lord Stern and a subsequent consultative process, the next REF builds on the successes of the first REF and earlier Research Assessment Exercises, and introduces key changes in response to sector feedback and ongoing review. Transparency in the process by which decisions are made only reinforces the REF’s credibility.

Meanwhile, as part of our efforts to add and present evidence on good practice and performance of university KE, we are piloting a new Knowledge Exchange Framework (KEF). This aims to provide transparent information and robust benchmarks to further a culture of continuous improvement and use any funds for KE effectively and efficiently, to ensure KE at English universities remains world-class. Addressing the full range of KE activities and providing more information about university achievements in serving the economy and society for the public, businesses and communities, it has two strands: one supporting university senior management and Universities UK to develop and deliver a KE concordat, and one led by Research England to devise and publish KEF metrics. The first strand will explore good practice and principles in KE, with the concurrent development of the KE concordat. The second aims to provide timely data that describes and compares institutional-level KE performance and will focus on how well institutions use their assets to create economic and societal value.
3.1.2 Analysing the sustainability of the university research base

As performance-based institutional grants and UKRI’s largest single funding stream, over £1.5 billion of QR funding in England forms one side of the UK’s unique ‘dual-support’ system; the other is the £3 billion of UK-wide competitively allocated, discipline-specific grant funding administered annually through the research councils. This balance of research supported directly by institutions and through funding calls ensures a combination of strategic insight and institutional knowledge and shapes higher education research activity. The mixture of funding drivers and objectives is vital to UK research and innovation’s success and global reputation.

To ensure the dual-support system continues to deliver the best outcomes for universities, the economy and society, while recognising that this element is only part of the wider research funding landscape, Research England will continue to lead, on behalf of UKRI, the UKRI Balanced Funding Working Group. This group is tasked with critically assessing what constitutes reasonable balance in England’s dual-support system in order to provide advice and evidence to inform future funding decisions.

Allied to this, we will take a broad view of sustainability, working closely with our partners in the devolved funding bodies and with the OfS. We understand that the sustainability of university research is indivisible from the sustainability of individual institutions, and we will draw on all available evidence of the health of the wider university system to inform our policy and funding interventions and those of our partners. In its widest sense, sustainability depends on a broad range of research being undertaken by skilled people in sound capital infrastructure, with a sufficient flow of talent into and up through higher education, working in financially healthy institutions within a predictable broader policy landscape. We will work closely with our partners to examine all these factors as part of our efforts to understand and underpin system-wide sustainability.
A key part of Research England's mission is university engagement to develop an understanding of institutional strategy, capability and capacity. Building on our successful relationships with the higher education sector, we will continue to engage directly with universities in England on research and KE agendas and so be a conduit to inform policy and strategy from an HEI perspective within UKRI, the UK’s higher education funding bodies and beyond. Our role faces two ways: on the one hand, we present the challenge from government to universities to contribute to the national research and innovation programme; and on the other hand, we bring to government the opportunities and expertise that are available from universities to strengthen the national research and innovation network.

Institutional engagement will also continue to help us build greater understanding at an institutional and sector level of the impact of broader issues facing universities, such as those around talent mobility, international funding and domestic higher education policy. We also take the research and innovation policy conversation to universities, ensuring that they are aware of and understand the full environment in which they, UKRI and the government operate. As we increase our engagement activity over the coming years, we will build our understanding of the higher education sector at a macro level, helping us evaluate whether the research and KE system in English universities is truly healthy and dynamic. We will combine the insights gathered through this activity with a range of data and evidence to develop a sophisticated understanding of how the university system is evolving and reshaping itself in line with national and global priorities.

Institutional engagement also strengthens our role as an authoritative information source on the higher education sector, supporting effective engagement and decision-making by other parts of UKRI. Through our work, we will seek to understand universities’ wants and needs, the choices they are or are not making, the risks they
3.1.5 Understanding the broader landscape

Because universities have many roles and numerous partners, we recognise that multiple factors beyond university research and KE affect our objectives. We seek to understand and respond to these factors in our analysis and policy development. We do this by working closely with universities and other policymakers to understand the trajectory of policy and developments in the wider landscape, and we strive to provide analysis and evidence to support good decision-making by universities and others. This includes working closely with other agencies, including the OfS, to understand the impact of current policy and future policy options on universities and the consequential impact on research and KE.

Near-term actions

- On behalf of the four UK funding bodies – Research England, the Scottish Funding Council, the Higher Education Funding Council for Wales and the Department for the Economy (Northern Ireland) – support institutions to prepare REF submissions through provision of the final guidance and criteria, and development of the submission system software.

- Following conclusion of the pilot exercise and analysis of consultation responses, publish final decisions on operationalisation of a KEF in summer 2019.

- We will work closely with the Higher Education Statistics Agency (HESA) to review the Higher Education-Business & Community Interaction data set, leading to opportunities for new data to be collected from 2021 to further inform policy development, such as for the KEF.

- We will review our data-sharing agreement with the OfS to ensure we can continue to share information between our two organisations in support of our distinctive but complementary missions.

- We will implement a strategy for institutional engagement that delivers clear benefits to the higher education sector and valuable insights to UKRI partners.
3.2 STRATEGIC UNIVERSITY-LEVEL FUNDING

Informed by our system-wide analysis, our investment decisions support the foundations of research and KE at an institutional level. Research England’s funding underpins the key partnerships, maintains and establishes the world-leading infrastructure, supports the emerging talent and delivers the essential skills on which the sustainability of the whole research base depends.

Our funding streams span all disciplines, enabling universities to make targeted, strategic, often long-term investments that allow them to deliver on UKRI and government priorities. This enhances the overall capability and capacity in the higher education system, allowing universities to play a full partnership role with all parts of UKRI and, in turn, delivering economic and societal impact and value for money.

3.2.1 Supporting broad-based excellence, building capability and sustaining capacity

QR funding explicitly rewards excellence and is distributed on the basis of research excellence, as assessed by the REF. Underpinned by research excellence in this way, QR enables universities to drive research agendas, achieve and sustain research quality and leverage additional strategic funding. It also enables them to invest flexibly and strategically in bold new areas of research, increase capacity and support the careers pipeline, bridge disciplinary boundaries and forge the organisational partnerships that create new discovery opportunities for which there is no alternative source of financial or strategic support.

As a result of this strategic funding, the university system is a dynamic environment for research and innovation, pushing the frontiers of human knowledge and understanding in new ways.

QR funding plays a key role in supporting and empowering the research base and, once allocated, is deployed by universities depending on their individual research priorities. It is vitally important in providing underpinning funding for our world-leading universities to invest in the excellence and impact of their research, employ the people required to deliver on the government’s R&D target and ensure the research base’s overall financial sustainability.

As the REF takes place roughly every seven years, our method of calculating QR funding provides universities with a level of research stability and independence not provided by other funding sources. Balanced with dynamic funding elements that respond to the changing shape of the HE sector, QR funding enables institutions to plan for and deliver against their long-term strategies based on the quality and scale of their research. This means universities have the flexibility to: support new or risky areas of research; regenerate and reconfigure their infrastructure in support of institutional or funder priorities; invest in the next generation of talented people from all backgrounds who are essential to a world-leading research workforce; and attract, build and sustain key partnerships with local and national players in industry critical to delivering on the government’s target set through the Industrial Strategy to increase R&D investment to 2.4% of GDP by 2027.

Achieving the government’s 2.4% target, and the longer-term 3% target, for R&D investment requires UKRI to maximise the impact of its public investment in research and innovation and to support business and other partners to increase theirs. There is a strong link between the funding we provide and the subsequent research and innovation environment that universities create and maintain to deliver the skills, infrastructure and support systems required.

QR funding comprises a number of connected elements. The largest allocation, in terms of total funding awarded (£1.05 billion in academic year 2018-19) and the number of universities receiving funding in England (122 in 2018-19, spanning large multi-faculty to specialist institutions), is ‘mainstream QR funding’. The most stable element of QR funding, this is critical to delivering the aims outlined above, with funding decisions closely linked to outcomes measured by the REF.

Two further elements then recognise and incentivise English universities to pursue research in support of the third sector and industry. ‘QR charity support’ provides additional support for research
that universities carry out on behalf of charities, recognising that charities sponsor high-value research in universities which benefits scientific discovery and society but do not always meet the full cost of that research. ‘QR business research’ provides additional support for research that universities undertake with business and industry, encouraging them to collaborate with business on research agendas and develop relationships with industry. To qualify, institutions must attract investment from industry.

Formula-based capital funding, meanwhile, is provided to sustain and develop the facilities, infrastructure and environment that underpin research but are not available to universities from any other source. While contributing to the long-term financial sustainability of an HEI’s research and the supporting physical infrastructure, it also funds improved utilisation of space, sharing of research equipment, leverage for collaborative partnerships between universities, industry, charities, government and NHS Trusts, and the capacity to respond to developing national priorities such as those delivered through other parts of UKRI.

Innovative research, catalysing collaboration, leveraging funding

The University of Nottingham has used its QR funding to encourage and enable interdisciplinary research activity, pump-priming interdisciplinary connections in the UK and internationally and drawing on industrial links in priority areas. It harnesses the funding to drive research excellence in a number of ways, including supporting fellowship schemes and through a centrally managed Strategic Development Fund (SDF) to invest in research capacity. In particular, the university of has used £4.2 million, channelled through the SDF, to establish its Centre for Sustainable Chemistry; this major research facility underpins the university’s Green Chemical Beacon. QR has also been utilised to build research capacity, including funding two new Chair appointments in sustainable chemistry and physical chemistry.

QR funding was also key to intensification of the university’s partnership with GlaxoSmithKline (GSK). This catalysed the creation of the GSK Carbon Neutral Lab funded through Research England’s UKRPIF, (£10.35 million awarded by the former HEFCE in 2013) leveraging over £20 million of co-investment from private sources, of which £12 million is from GSK. The Lab serves as a hub to generate new collaborations with industry and is unique in the UK in its design and its focus on world-leading research in sustainable chemistry aiming for the highest ‘clean and green’ standards to minimise environmental impact and ensure that new chemistry is efficient and sustainable. The project has won several awards including Educational Estates 2016 Project of the Year and Structural Timber Awards Client of the Year.
The GW4 Alliance, a multiple-HEI regional consortium comprising the universities of Bath, Bristol, Cardiff and Exeter, is a vector for strategic institutional co-deployment of QR funding. To date, it has pooled a joint investment of £2.8 million to support collaborative research activities with key stakeholders across academia, industry, third-sector organisations, local authorities and government, generating £35.8 million in external research awards, realising a return on investment of £12 for every £1 spent. A key strategy is to drive regional economic growth and innovation and, to solve specific industrial and socioeconomic challenges, cross-disciplinary research communities have been created and sustained through the alliance’s Building Communities Programme. As part of this initiative, pump-priming initiator awards fund early-stage research ideas and larger accelerator awards target the scaling-up of research ideas, encouraging collaborations with external partners. Communities underpinned by this programme include Prototypical Iterations in the Built Environment, which seeks to aid understanding of human-factor experiences with a view to altering the way all structures are designed and operated within the built environment and achieving global sustainability in the face of a growing population and increasing urbanisation. The project has attracted interest from industrial project partners such as Arup and Atkins Global. This community led to the development of VSimulators, a world class national research facility currently under construction at the universities of Bath and Exeter.
3.2.2 Supporting the vital KE mission of universities

We provide funding for KE via HEIF, which supports and incentivises institutions to work with business, public and third-sector organisations, community bodies and the wider public, exchanging knowledge and increasing the economic and societal benefit from their work. HEIF provides a strong return on investment, with every £1 of funding generating £9.30 in benefits to the economy and society. HEIF allocations are performance-based, informed by the results of the annual HE-BCI survey and other data, and underpinned by HEIF plans which flow from institutional KE strategies.

Over the past two years, we have increased funding in support of the government’s Industrial Strategy, recognising the important role universities will play in its delivery. Through increases to HEIF, our focus on university capacity-building and culture change complements Innovate UK’s business focus and the research councils’ project focus and offers significant potential alignment and complementarity of opportunities across UKRI. Building on our investment of an extra £25 million through HEIF in 2018-19, specifically in support of the delivery of the Industrial Strategy, Research England is committed to reaching £250 million of HEIF a year by 2021.

The Connecting Capability Fund (CCF), meanwhile, supports university collaboration in research commercialisation, encouraging universities to share good practice and capacity across the HE sector, forge external technological, industrial and regional partnerships and deliver on the government’s and UKRI’s priorities for research commercialisation as a key enabler of the Industrial Strategy. This will be achieved by enhancing university effectiveness to deliver not only commercial and business applications but also for the wider economy and society, by stimulating strategic collaboration between universities, businesses and investors across England. The competitive element of the scheme supports projects to run for a three-year period starting in academic year 2018-19.

Research England’s Executive Chair will also continue to lead UKRI’s Commercialisation Programme, in partnership with the Executive Chairs of EPSRC and Innovate UK, to improve commercial outcomes derived from publicly funded research and facilitate relationships between business, investors and universities. The UKRI programme will take account of independent advice for Research England from Mike Rees, former deputy CEO of Standard Chartered, on university-investor links, and Research England support of NCUB and konfer to broker further and stronger university-business links. We will draw on our experience and support of capacity-building and culture change through HEIF and of collaboration through CCF, UKRPIF and other formula funding streams to contribute to a UKRI-wide vision.

Valuing partnership

Universities across the country have built strong working relationships and partnerships with large UK businesses, using funds from Research England to set up or strengthen this partnership working. Siemens’ relationship with a number of universities is an excellent example. The company’s successful relationship with the University of Sheffield, for instance, has developed since the 1990s through a collaborative, co-working KE-based mind set. HEIF support has leveraged the relationship, for instance by supporting a full-time dedicated Siemens account manager at the university since 2016, and recently helped secure a KE funding award of £4.9 million from the CCF. HEIF funding has also supported KE translational projects on energy storage instrumental in forging a new partnership between Siemens and the university in that field, and has supported specialist services required for set-up of the first global Siemens MindSphere Lounge in the university’s Diamond Building.

The UK Railway Research Innovation Network (UKRRIN) marks another ground-breaking partnership, involving Siemens, the rail industry and eight UK universities across the country (Universities of Birmingham, Huddersfield, Newcastle, Loughborough, Southampton, Nottingham, Sheffield, Heriot Watt). Siemens is proud to be one of the three founding supplier partners but this would not have been possible without £28.1 million of capital funding from the UKRPIF, as well as a consortium of 17 partners from across the rail industry, including Siemens, who pledged to provide an additional £64 million.
The Research England Development (RED) Fund aims to develop and enhance the effectiveness of university research and KE in line with government and UKRI priorities. It will achieve this by supporting collaborative, developmental projects for significant public benefit including new or improved practice, improved efficiency and effectiveness, new partnerships, additional leverage and enhanced impact. The focus is on benefits beyond those that could reasonably be achieved without our intervention or by an institution acting alone.

The fund enables Research England to respond to joint priorities with agility, working with other critical funding partners. It also enables universities to put forward new approaches to research and KE that can deliver on our and UKRI’s priorities to push the frontiers of human knowledge and understanding and that can deliver economic and societal impact.

RED is an open-ended fund, although occasionally we may announce calls for proposals in response to specific policy priorities. An example is our support via RED for University Enterprise Zones, providing focal points where universities and businesses work together in a business-friendly environment.

The Strength in Places Fund (SIPF) is a cross council UKRI programme supporting innovation led relative economic growth by supporting R&D strengths. SIPF takes a place-based approach to research and innovation funding. We lead operational delivery of the fund with Innovate UK, in partnership with the OfS and the UK’s HE funding bodies. Wave 1 expression of interest awards were made in March 2019, with full stage awards due to be announced in early 2020. Further details on the SIPF are outlined in the overarching UKRI document.

To deliver on the 2.4% agenda, a diverse and broad-based research system is required with strengths built across the country. In order to help achieve this diversity and breadth, Expanding Excellence in England (E3) is a new competitive scheme that aims to support the strategic expansion of small, excellent research units and departments in universities across England. It focuses only on units and departments where demonstrable research excellence already exists, in order to grow capacity in these areas. Awards will start in academic year 2019-20 for a three-year period.

In order to preserve the UK’s higher education sector at the forefront of research excellence we provide strategic infrastructure funding to deliver research that generates economic and social impact, meet national priorities and facilitate strategic links between universities, business and beyond.

Established in 2012, UKRPIF is a high-value competitive capital funding scheme designed to support the development of, and promote investment in, large-scale university research facilities. We administer the fund in collaboration with the UK’s higher education funding bodies. It is dedicated to supporting major infrastructure projects from universities with a significant track record of research excellence, provided they secure at least a 2:1 co-investment match from businesses, charities or endowments (individual philanthropy).

The latest research requires state-of-the-art facilities to keep up with domestic and international advances, so capital investment is a crucial input to the science and innovation ecosystem. The creation of dedicated physical spaces allows different sectors and disciplines to associate and work together. UKRPIF aims to enhance the facilities for world-leading research, encouraging strategic partnerships between universities and other research-active organisations and therefore strengthening the contribution of the research base to economic growth.
To date, 43 projects from 25 universities across Scotland, England, Northern Ireland and Wales funded through the scheme have collectively achieved a commitment of £1.75 billion of co-investment from industry partners, charitable organisations and philanthropic donors. This figure will rise through 2019 and 2020 as further commitments are secured by newly funded projects. This has stimulated large-value strategic research collaborations between universities, industry and charities, driving economic growth, building local and national collaboration and addressing grand challenges, reinforcing the important partnership role that our universities play in delivering on the 2.4% agenda.

As part of Research England’s contribution to underpinning the higher education sector’s overall health, capital funding is also provided to support Jisc, the IT infrastructure body for UK higher education that operates the high-capacity Janet network.

Drawing on our experience of funding high-value research infrastructure through UKRPIF, balanced with the underpinning support for excellent research through formula capital funding and national facilities, we will also continue to support development of the UKRI Infrastructure Roadmap to improve future infrastructure planning and investment.

In addition, we provide funding for nationally important university museums, galleries and collections to serve the wider research community, recognising that the benefits they bring to the whole higher education sector come at a cost significantly more than meeting the needs of their own researchers and students. Furthermore, the five designated national research libraries play a major part in the national research infrastructure and accommodate collections of international importance. We provide funding to help meet the additional costs they incur in providing a service to the UK higher education sector, ensuring that the academic research community has access to library collections of exceptional importance and that host institutions are compensated for the additional cost of developing, maintaining and opening these collections for the research sector.

### 3.2.5 Developing and supporting leading research talent

We are passionate about ensuring the health of the university postgraduate research community, supporting the UK’s skills base and developing the next generation of researchers. To support and develop a sustainable pipeline of research talent across all disciplines, we will continue to make significant investments via our QR Research Degree Programme (RDP) supervision fund. This greater than £250 million annual funding stream contributes to the costs universities face in supervising research degree programmes and developing the next generation of highly skilled professionals, researchers, innovators and entrepreneurs.

We will also work with the OfS, which is responsible for protecting the interests of all students and the quality of the provision they receive, to understand the pipeline of talent through this level of study. Allied to this, we will provide funding for the work of Vitae, enabling universities to develop researchers’ careers and secure the flow of talent through university research.
3.2.6 Supporting global cooperation and collaboration

We routinely gather intelligence, through analysis, engagement and evaluation, on English universities’ position in the international research and innovation system. Through system-level engagement with international bodies and by seeking out leading-edge practices in innovation, we support those universities to engage internationally at an institutional level. Funding we provide allows institutions the flexibility to fulfil their strategic ambitions in an international context. Launched in 2018, the International Investment Initiative (I3) fund further bolsters this by allowing universities to build on and scale-up existing international collaborations (see below).

In our policy agendas, we engage internationally to ensure the UK remains at the forefront of national research assessment systems and contributes to the development of good practice globally. We work with universities and external experts to support the sharing of good practice globally, such as supporting transatlantic links in technology transfer. Our international activities enable Research England to support UKRI’s ambition to build excellence and maintain the UK higher education sector’s leading position in global research and innovation. As part of support for national facilities and initiatives, we provide funding to Universities UK International (UUKi) whose priorities for this funding include: advocacy on behalf of the UK higher education sector in international forums, supporting staff and student opportunity and mobility and promoting international research collaboration; engaging with strategically important countries by forming and maintaining strategic partnerships; identifying international opportunities; and publishing key research for the development of the UK higher education sector and providing opportunities for funding and collaboration.

Through the Global Challenges Research Fund (GCRF) we support research that addresses the challenges faced by developing countries. Funding is allocated to universities in proportion to but separate from their mainstream QR funding, and is thereby linked it to research quality, scale and cost and underpinned by an institutional GCRF strategy.

International partnerships are a major feature of any successful research nation and the UK is among the leading nations in terms of its global research partnerships. I3 supports and nurtures these partnerships by scaling-up existing strategically significant internationally collaborative research relationships between English universities and research organisations outside the UK at the institutional or organisational unit level. The competitively awarded five-year awards aim to increase the scale and impact of existing international research collaborations of universities where there is demonstrable research excellence, strengthen the contribution of international collaborations involving English universities to our society and contribute to delivery of government strategy by supporting sustained improvements in institutional capacity and capability in England.

GCRF supports research that addresses challenges faced in developing countries, such as landslides in Nepal.
Coordination at scale is a critical feature of a higher education system that can tackle major national and global research challenges. Through our sector-wide investments we unlock the collective ability of universities to tackle UKRI ambitions. We support national facilities and initiatives that deliver benefits and that engender a healthy research culture for the whole higher education sector, and where our investment enables them to operate in a coordinated way and at scale.

To deliver increased benefit from partnerships and engagement between universities and their key national and international stakeholders, local communities and the public, we also support the National Centre for Universities and Business (NCUB), UUKi and the National Coordinating Centre for Public Engagement (NCCPE) (see below). To promote the dissemination of leading research to the public, we provide funding to The Conversation UK to showcase examples of interdisciplinary research in universities.

In addition, we will engage with the sector, the UK higher education funding bodies and our partners in UKRI to develop policy that creates and sustains a healthy university research and KE system. Through our policies, we encourage and challenge universities to create and sustain healthy research environments that foster openness, interdisciplinarity, EDI, collaboration and integrity. We are committed to maintaining the highest standards of rigour and integrity in all aspects of research and endorse the Concordat to Support Research Integrity. This includes ensuring research is conducted according to appropriate ethical, legal and professional standards, and that a culture of integrity, best practice and support for the development of researchers underpins university research environments. We require institutions eligible to receive our research funding to comply with the concordat principles and expect to be notified of any incidents relating to research misconduct.

In our role as a national funding body, we are committed to supporting successful approaches to open-access publishing and to increasing public access to research findings. Through the REF, we play a key role in driving adoption of open access in UK universities, where a survey published in 2018 and covering the first year of implementation of REF 2021’s open-access policy showed that 80% of outputs covered met policy requirements. In 2018 UKRI became part of the international Plan S coalition which aims to accelerate sustainable open access and act with other research funders.

Research England will continue to lead UKRI’s engagement in Plan S developments and to support the review of UKRI policy on open access with a view to implementing a new cross-UKRI policy. In parallel and aligned with the UKRI review, we will work with the other HE funding bodies to develop the open access policy for the REF after REF 2021. Through our membership of the UK Research Data Task Force we play a key role in the developing debates around open data and, through our funding of national facilities such as Jisc, we are supporting development of key infrastructures that drive innovation in open research.

Supporting the enhancement of EDI in research and KE is the right thing to do. Furthermore, evidence suggests that more diverse communities are more productive and can drive academic excellence in research and innovation. Our ambition is to develop and maintain our EDI approaches, reflecting changes that emerge with particular reference to...
Collaboration: catalysing a cultural shift in postgraduate mental health

In May 2018 Research England published a report from Vitae, the first specific piece of research into the wellbeing and mental health of postgraduate students in the UK. The report makes recommendations to funders and universities following the observations that these students face unique challenges such as difficulties with supervisory relationships, financial worries, harassment and feelings of isolation and inadequacy.

Already in process and addressing some of the report’s recommendations, and jointly with the OfS, we are overseeing 17 projects at English universities, with a total investment of £1.5 million, to improve support for the mental health and wellbeing of postgraduate researchers. We are working together not only to evaluate and analyse project outcomes but also to help universities share their learning, best practice and impact across a range of mechanisms, including new practices for pastoral support, training for postgraduate research supervisors and other associated staff, and support for the transition into postgraduate research.

We will disseminate the outcomes and evaluations of these projects as part of our role in supporting the health of the higher education sector, as well as championing this work within UKRI.

We will draw on this experience in continuing to support UKRI in championing EDI across the research and innovation sector, while continuing to review and adopt good practice wherever it is found.

We continue to support UKRI in advocating for and endorsing the Concordat for Engaging the Public with Research and intend to build on previous commitments to and existing good practice in public engagement with research, as well as working with UK research funders to understand the public engagement landscape. This will be enabled partly through our support of the NCCPE, along with that provided by the higher education funding bodies.
bodies, UKRI and the Wellcome Trust. Our provision of both HEIF and QR funding empowers universities with the capacity to dedicate funds in support of the translation of research beyond academia.

Research England supports NCUB with core funding focused on activities meeting our shared priorities. NCUB’s role is to convene and utilise its membership networks to feed into, provide feedback on and help shape future policy development. We also provide funding, on UKRI’s behalf, to support NCUB’s online tool konfer which helps businesses of all sizes connect with universities to find opportunities for collaboration, including research, researchers, facilities and equipment.

Near-term actions

- We will continue to deliver all of our major recurrent and non-recurrent funding streams, underpinned by robust policy engagement and development.
- We will fund a diverse programme of infrastructure projects that deliver on the challenges outlined in the Industrial Strategy, and encourage strategic partnerships with the private sector through round 6 of the UK Research Partnership Investment Fund (UKRPIF).
- We will fund a range of universities through I3 to collaborate internationally at an institutional level and through varying operating models, drawing on the expertise of UUKi.
- We will support the strategic expansion of excellent research units and departments in HEIs across England through E3. We will support a high quality portfolio of projects that advance the Government’s University Enterprise Zone programme via the RED Fund.
- We will develop or conduct programme-level evaluations starting with UKRPIF and adopting good practice across our other competitive funding schemes.
- We will call for the next round of long-term accountability statements as the basis for HEIF allocations.
- We will evaluate the progress of universities in embedding KE through efficient and effective use of HEIF and other KE funding.
- We will commission research on the impact of incentives in the system on researcher behaviour, to identify options and approaches for adjustments and counterbalances needed to support research integrity, in support of UKRI policy development.
Higher education is a devolved matter so we will continue to work alongside our equivalent funding bodies in the devolved administrations. This enables UKRI to work with the higher education sector to deliver national priorities and to be recognised as a source of expertise on the whole research and innovation system. Our work with the devolved administrations includes gathering evidence and advice on research and KE policy, as well as related implementation issues, to support current and future policies and investments in UK higher education.

Engagement between the UK government, devolved administrations, UKRI and higher education funding bodies takes place quarterly via the ‘UK Funders of Research and Innovation’ of which, as one of the four higher education funding bodies, Research England is a member. The group’s purpose is to increase coordination and coherence between members by providing an opportunity for exchange and updates on policies across the UK, sharing information and evidence to inform policy development and identifying opportunities for more in-depth engagement on specific topics.

Separate to this, Research England will work in partnership with the UK’s other higher education funding bodies on matters where UKRI has an England-only focus through the Research and Knowledge Exchange Funders’ Group, which meets quarterly. The four higher education funding bodies are equivalent contributors to the funding-body side of the UK’s dual-support system, so it is important to have a locus for ongoing collaboration with our counterparts on a range of concurrent sector issues and programmes.

For UK-wide matters affecting the higher education systems of all four UK nations, the UKRI Strategy Directorate will engage with the higher education funding bodies, including Research England, quarterly through the UK-wide Research and Innovation Strategy Forum. This reflects our continued collaboration with the research councils on issues of UK-wide importance. It will also ensure wider issues affecting the innovation systems of the four nations can be discussed, bringing together UKRI’s role via Innovate UK.

In addition, we will work with the other higher education funding bodies to consider KEF implementation across the higher education sector UK-wide.

### 3.3.2 Working with the OfS

Although our missions are distinctive and independent, we share important sector-wide objectives with the OfS. Joint working is vital to ensure a coordinated, efficient, strategic approach to the funding and regulation of the higher education system in England.

We share complementary interests in the higher education system’s health, including those relating to: skills, capability and progression; EDI; KE; infrastructure, including a combined investment in Jisc; analysis, especially financial sustainability, efficiency and provision of appropriate data via HESA; accountability and assurance; and our complementary activities on the REF, KEF and TEF (Teaching Excellence and Student Outcomes Framework). By combining our system-wide and data-driven evaluation approaches with OfS’ extensive information and analysis base, we enable a holistic and deep understanding of the research and innovation system.
Working across UKRI, our role in supporting university success complements the primarily disciplinary focus of the research councils and the business-led innovation focus of Innovate UK.

The dual-support system is internationally recognised as key to the ongoing quality and success of the UK research base. Research England’s complementary long-term funding, underpinned by the REF, enables universities to pursue and undertake UKRI, industry and charity research and innovation funding that would otherwise not be accessible. By looking across research communities, business and innovation communities and the higher education sectors of all four UK nations, we can take a comprehensive view of the UK’s research and innovation endeavours. By working with universities and through our partnerships with the UK’s higher education funding bodies and the OfS, we will play our part in delivering on UKRI’s priorities.

We will continue collective working with the other research councils within UKRI and with national academies to address issues such as the health of disciplines, public engagement, research integrity and research careers, and will work with stakeholders across the research system and beyond to encourage open research.

Across all our areas of focus, we recognise, promote and incentivise the wider impacts of research in terms of improving health and social wellbeing and quality of life, valuing the way the higher education sector influences and leads on these agendas.

By working in partnership with English universities and supporting key higher education national facilities and initiatives, we enable universities to contribute to economic growth and societal prosperity, locally, nationally and globally.

Research England will continue to provide insight from across our engagement agenda with particular focus on support and intelligence gathering on the health of the research sector, to support the UKRI Talent Programme in establishing the next generation of research and innovation leaders and increasing cross-sector mobility and KE.

**Near-term actions**

- We will work with the UK’s higher education funding bodies on implementing the KE concordat across the UK.
- We will work with the OfS on approaches to HEIF accountability, allocation and evaluation.
4. Delivering and being accountable as an outstanding organisation

Efficient and effective operations
Research England was established in a way that would contribute effectively to UKRI’s overall vision and mission by creating and sustaining the conditions for a healthy and dynamic research and KE system in English universities. To fulfil these responsibilities effectively, we have built on the strengths on which our organisation was established, particularly in analytics and data-driven policy and funding, in collecting and analysing information on the sustainability, efficiency and excellence of the research base in England, and in maintaining a deep understanding of English university activity and strategy.

Management authority flows through our Executive Chair and Executive Committee, the main decision-making body responsible for managing our day-to-day activities and delegated budget. The Research England Council provides guidance and oversight of our programmes, both supporting and challenging the Executive Chair to ensure effective delivery of our mission. Our Council and Executive Committee are jointly responsible for the development of our DP, which the Council formally endorses while the Executive Committee is responsible for the effective management and monitoring of the associated commitments.

Accountability for delivery of our priority areas, while reflecting and enabling UKRI’s vision and objectives, is the responsibility of the Executive Committee. In this capacity, the committee is responsible for overseeing development of future strategy and policy measured against our and UKRI’s objectives, and ensuring effective review, governance and continuous improvement of our overall performance. Progress against the priorities in our DP will be routinely presented to our Council for advice and guidance.

Measuring progress against the UKRI success framework and our plan
The UK’s dual-support system for publicly funded research, within which Research England has responsibility for the allocation of QR funding, includes inclusive and efficient investment appraisal and evaluation. We ensure quality evaluation through:

- the REF: as well as informing funding allocations to universities, this evaluates the excellence and impact (economic and societal benefit) of university research supported by all funders (including UKRI) and deepens overall understanding of and insight into the effectiveness, efficiency and sustainability of the research and innovation system;

The Research England Executive Committee in a meeting with Universities Minister Chris Skidmore.
• evaluation of KE funding streams, including HEIF;
• a combination of performance data, routine outcome reporting and strategic evaluations to ensure funding and policy instruments are deployed efficiently and monitored effectively.

Our funding for KE via HEIF is performance-based, informed by the results of the annual HE-BCI survey and other data and underpinned by institutional plans. Operationalisation of the new KEF complements this, capturing information on university achievements in serving the public, businesses and communities, thus increasing efficiency and effectiveness in the use of public funding for KE.

Projects supported through our competitive / non-recurrent funding schemes develop monitoring and evaluation plans as part of the application process and are conditional on independent panel assessment. In line with each scheme's conditions, progress and outcomes of funded projects are monitored and recorded periodically and subject to externally contracted audit as required. The schemes themselves have been conceived with built-in programme-level evaluations in order to evidence and evaluate their overall effectiveness and efficiency. For instance, in administering UKRPIF, we collate and track monitoring information quarterly to ensure projects are on schedule, co-investment is secure and remains at the required level of funding, and any other risks or deviations from original proposals are mitigated and managed. The programme-level framework developed to evaluate the scheme will inform future programme assessments.

In order to deliver against our priorities, aligned with UKRI’s, it is essential that we work in partnership with universities. Through the establishment of our new insight and engagement function we have convened that direct conduit into English universities in order to build our understanding of the myriad pushes and pulls on the higher education sector, and vice versa to help tell the Research England and UKRI narrative.

UK government, the devolved administrations and higher education funding bodies share a common goal to ensure the performance of the UK's research base continues to be world class. Achieving this requires effective coordination across a range of devolved and reserved policy areas, from research and KE funding to international partnerships. To support UKRI in its UK-wide engagement and its focus on England, Research England will represent UKRI when working in partnership with the other higher education funding bodies on a range of concurrent sector issues and programmes of UK-wide importance. We also represent UKRI as first point of contact and in joint activities with the OfS.
5. Financial allocation

<table>
<thead>
<tr>
<th>RE, £m</th>
<th>2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and Innovation Budgets</td>
<td>1,647.3</td>
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<tr>
<td>Science Infrastructure Capital</td>
<td>304.9</td>
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<tr>
<td>ODA</td>
<td>67.9</td>
</tr>
<tr>
<td>of which GCRF</td>
<td>67.9</td>
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<tr>
<td>of which Newton Fund</td>
<td>-</td>
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<tr>
<td>NPIF</td>
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<tr>
<td>of which Wave1 funding</td>
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<tr>
<td>of which Strength in Places Fund</td>
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<tr>
<td>of which HEIF</td>
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<tr>
<td>of which Quality Related</td>
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<tr>
<td>of which Strategic Priorities Fund</td>
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<tr>
<td>HE Teaching Grant contribution</td>
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<tr>
<td>RE Programme</td>
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</table>

Please note these figures are for financial year 2019-20. Allocated budgets for academic year 2019-20 will vary and will be announced separately.
UK Research and Innovation Delivery Plans

UKRI

AHRC

BBSRC

EPSRC

ESRC

Innovate UK

MRC

NERC

Research England

STFC