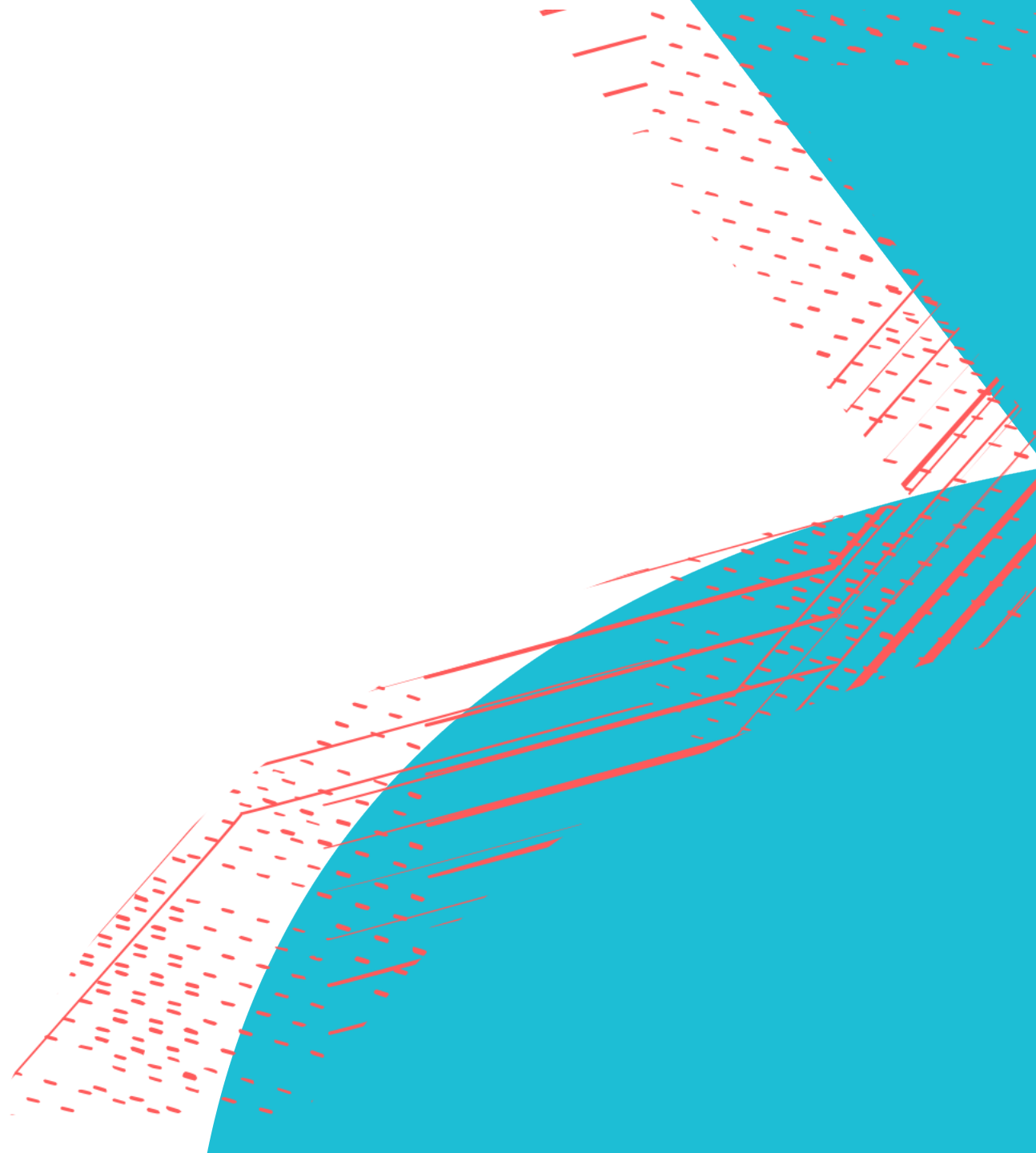




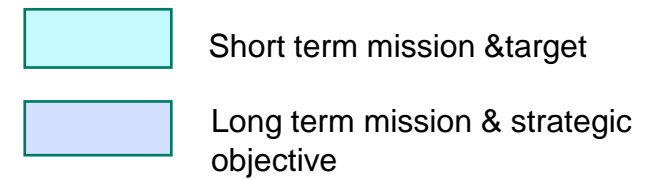
**UK Research
and Innovation**

UKRI and Place

November 2023



Government, DSIT and UKRI Ambitions For Place and Levelling Up



When?	What?	Who?	Why?
Over SR period [22/23-24/25]	Domestic public investment in R&D outside the Greater South East (GSE) will increase by at least one third.	UK Government	Mission
By 2024-25	DSIT will invest an additional £1.3bn outside the GSE within the SR period (equivalent to 20% increase in spend outside of GSE by 2024-25), of which we expect £1.2bn to be contributed by UKRI (supersedes 55% target)	DSIT	Target
By 2030	domestic public investment in R&D outside the GSE will increase by at least 40%	UK Government	Mission
Over The Long Term	This additional government funding will seek to leverage at least twice as much private sector investment to stimulate innovation and productivity growth	UK Government	Mission
2022-2027 Strategy	Deliver economic, social, and cultural benefits from R&I to all of our citizens, including by developing R&I strengths cross the UK in support of levelling up.	UKRI	Objective

Data and Evidence

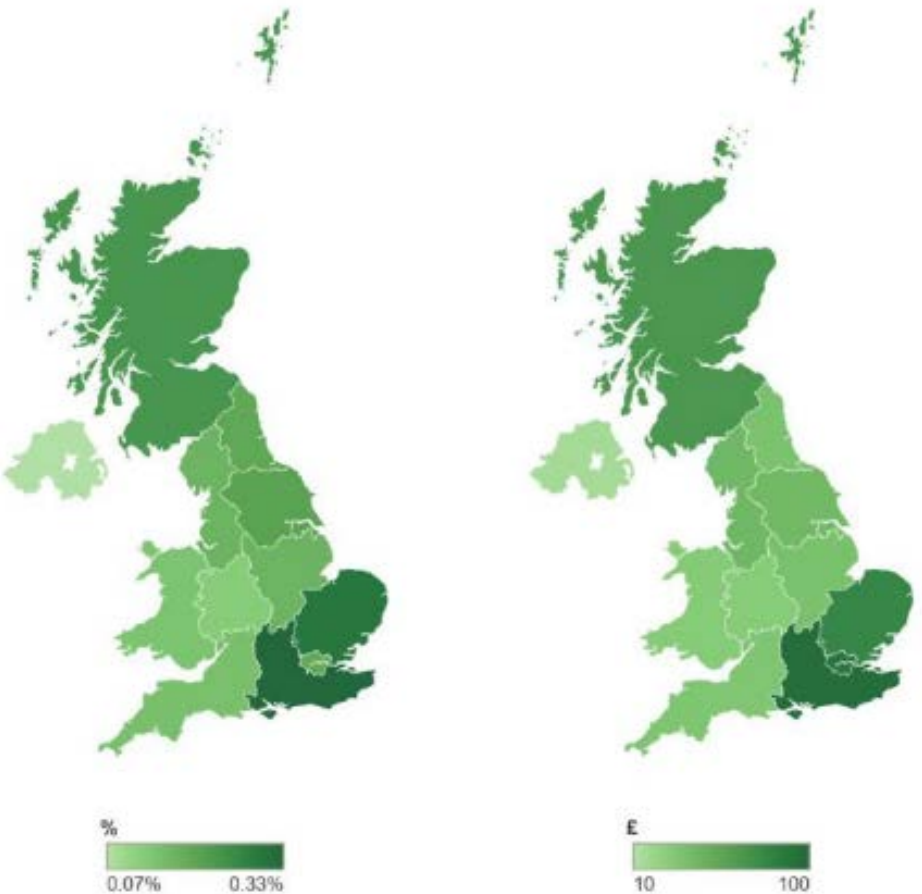


Figure 2: ITL1 (region and nation) Research councils' spend as a proportion of local GVA (left) and by local population (right) FY2020–21



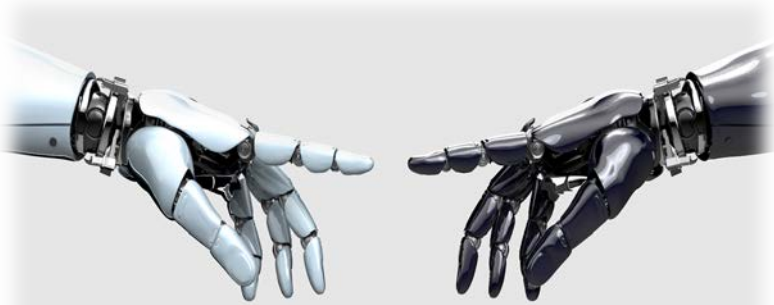
Figure 5: ITL1 (by region and nation) Innovate UK spend as a proportion of local GVA (left) and by local population (right) FY2020–21

Place Programmes

- Strength in Places Fund
 - Two waves shown
- Innovation Accelerators
 - Glasgow City Region
 - Greater Manchester
 - West Midlands
- Local Policy Innovation Partnerships
- Place-based Impact Acceleration Accounts



SIPF Programme so far



Co-investment

Every £1 invested by UKRI to date has yielded circa £2.50 committed co-investment

Jobs created: 816



Source: SIPF project KPI reporting May 2023

12 Projects

7 Wave 1 2020-2025	5 Wave 2 2021-2027
-----------------------	-----------------------

Total of **£312m**
£133m spent to date



New products/Services

To date: 51

SIPF target by 2027: 52



Generated income

To date: £20.2m

SIPF target by 2027: £30m

Innovation Accelerator pilot programme

The Innovation Accelerator programme is investing £100 million in 26 transformative research and development projects to accelerate the growth of three high-potential innovation clusters: Glasgow City Region, Greater Manchester and West Midlands.

It's led by Innovate UK on behalf of UK Research and Innovation for the Department for Science and Innovation (DSIT).

As a pilot for national-to-local co-creation, it also provides evidence for the success factors necessary to:

- grow innovation clusters across the UK
- inform future policy for research and development (R&D)
- cement the UK's position as a science and technology superpower

Locally-led Innovation Accelerators delivered in partnership with DSIT, Innovate UK and City Regions



Place based IAA

- Multi-institutional collaboration – progress the best of UK research outputs into *an industrial cluster*
- Accelerate a portfolio *that is relevant to a local economy* –
 - align impact and translational efforts with local strategic intent at scale
 - *Co-created with civic* actors to achieve alignment with civic ambitions.
 - Drive collaboration between academia, civic partners and other local stakeholders



STATS:	
Total investment	£41 M
No of investments	10 <ul style="list-style-type: none">• 7 in established industrial clusters,• 3 in emerging clusters

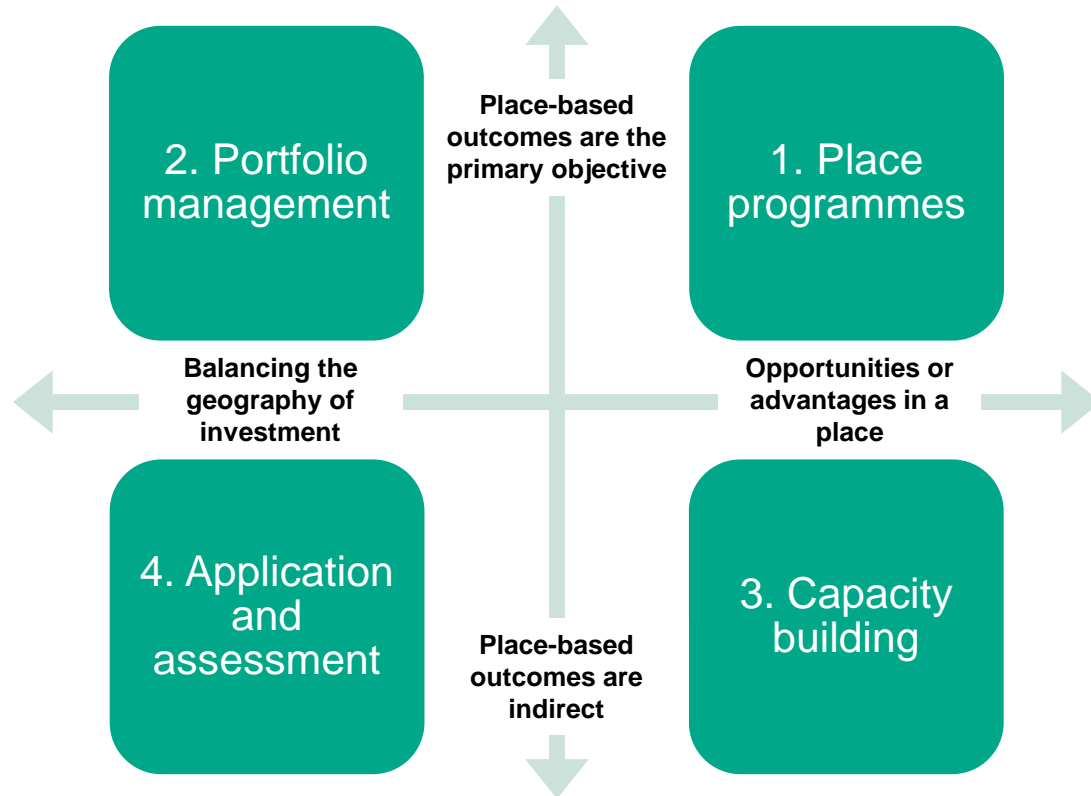
Local Policy Innovation

Partnerships

- A new £23m network of local partnerships bringing together universities, government, third sector and industry to drive sustainable and inclusive economic growth and reduce regional disparities across the UK.
- A Strategic Coordination Hub draws together understanding of place-based challenges & provides national policymakers with local insight
- Part of UKRI's 'Creating Opportunities and Improving Outcomes' theme.
- Two phases:
 - Phase one funding now announced
 - Phase 2 commissioning in progress: 4 awards due to start early 2024



Other ways to consider place

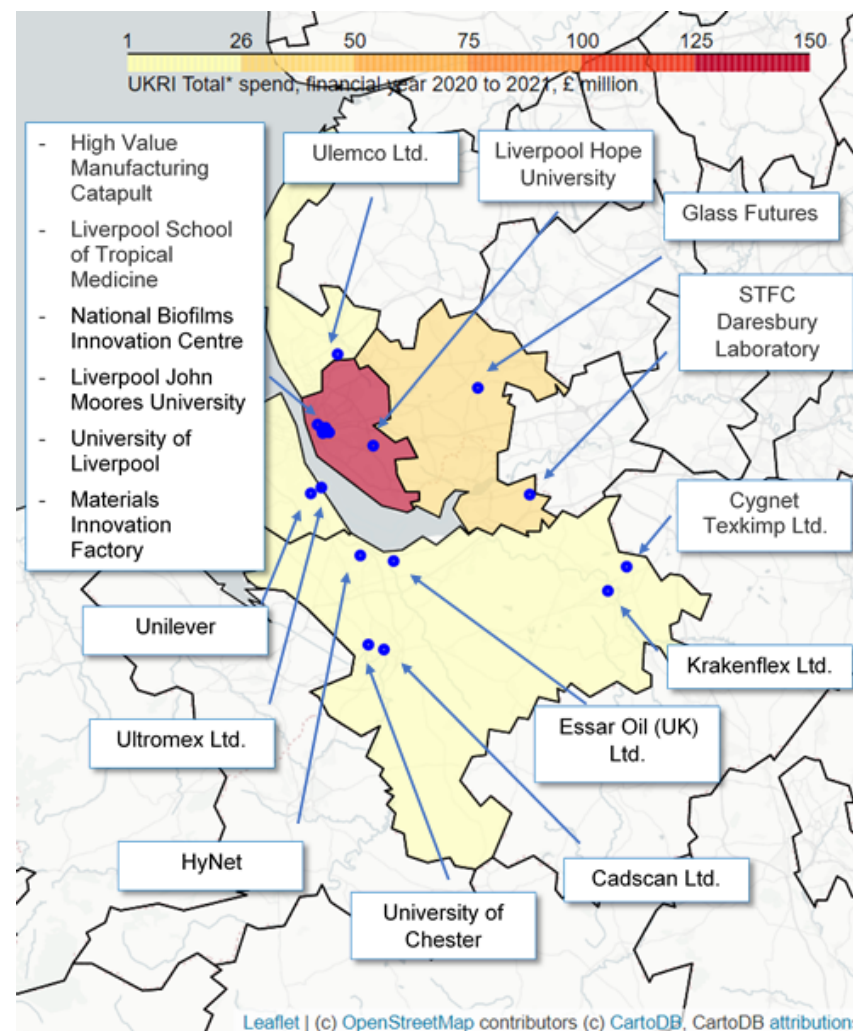


1. Place programmes are the most high-profile examples
2. Large calls often consider the geographical balance of the portfolio
3. Programmes can develop capacity in places, even if it is not the primary objective of the programme.
4. The process for application and/or assessment of proposals can affect places differently and should be considered

Liverpool City Region

Key research and innovation assets include:

- Liverpool School of Tropical Medicine
- Unilever
- Materials Innovation Factory
- Glass Futures
- STFC Daresbury Campus with Hartree National Centre for Digital Innovation



Liverpool City Region

The Liverpool City Region has a unique heritage as a world-leader in infection control

Professor Janet Hemingway,
Liverpool School of Tropical Medicine



We are innovators and pioneers, we find new answers and invent new models

Steve Rotheram,
Combined Authority Mayor

Liverpool R&D generating impact



- 176 high-skill jobs, £9.4m investment in local skills, 186 partnerships with SMEs
- Malaria prevention
- Covid testing



- Reducing drug testing time
- Reducing animal use in medical trials



- Widening participation in Astronomy qualifications to deprived and inner city areas



- Reducing environmental burden of acrylic manufacturing
- \$1.5bn in new business



- First Covid antiviral pill
- Reducing risks for vulnerable people



- Innovate UK and DSIT worked with the three city regions (Glasgow City Region, Greater Manchester and West Midlands) to co-create a programme that meets the needs of innovators in their region. As part of this each region has developed a local innovation strategy setting out the programme objectives within their region.
- A Full Business Case was developed in partnership with DSIT and received full HM Treasury approval in early 2023.
- Across the three regions twenty-six R&D projects have been selected and were announced in the Spring Budget (2023). These projects are now live and aim to:
 - attract private sector R&D co-investment
 - make improvements to productivity
 - create high-quality jobs that will enrich the lives of the local community
 - boost regional economic growth
 - develop the technologies of tomorrow
- Alongside the £100m investment is a package of bespoke support from the UK government over the lifetime of the programme to boost their regional innovation ecosystem. It brings together national policy and programme leads from government departments and delivery bodies with regional stakeholders to explore prioritised policy opportunities to help meet the programme's objectives.



UK Research
and Innovation

UKRI's Framework for Performance

Emma Lindsell


Executive Director

Strategy, Performance and Engagement

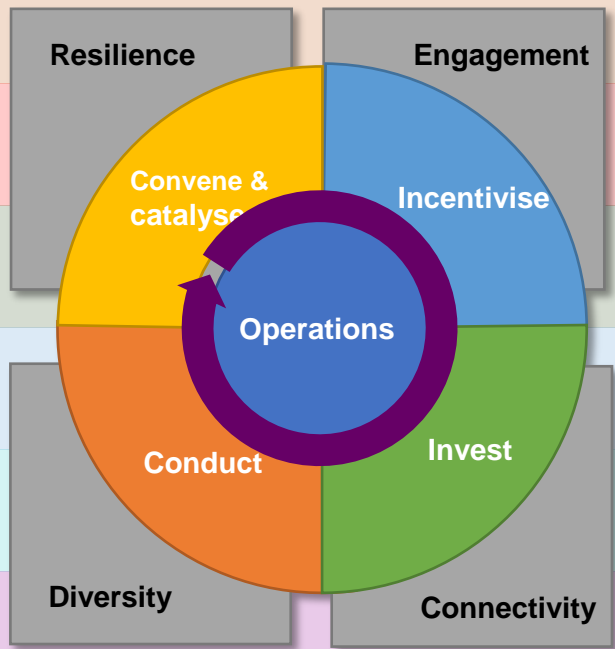
UKRI high-level logic model

Inputs

UKRI provides investment, staff knowledge and expertise, R&I infrastructure, efficient processes and systems




UKRI Strategy 2022-2027



Activities

Outputs



Outcomes



Impact

Benefits

Research and innovation enrich and improve lives and increase prosperity by creating, applying and delivering value from new knowledge and ideas. Through our strategic objective we will leverage the UK research and innovation system to deliver societal and economic benefits.

Enrich and improve lives through improving: health, wellbeing, culture, enrichment, inclusion, social capital, security, safety, culture and environmental outcomes.

Increase prosperity through increasing: economic growth, productivity, participation, economic potential, resilience, cost savings and regional growth



People
Places
Ideas
Innovation
Impact
Organisation

People
Programmes, interventions and processes designed to attract and develop talented people and teams across diverse career pathways, with the skills needed for the future R&D workforce, and to incentivise a positive culture, integrity and open R&I

Places
A diverse and balanced portfolio of project, institutional and infrastructure investments across the UK, supporting enhanced national and international collaborations and partnerships across clusters, places, sectors and disciplines

Ideas
A diversity of novel research and innovation outputs and strengthened support for cross- and multi-discipline and sector working

Innovation
Programmes, interventions and processes that foster the development of skills and expertise, access to finance, collaborative businesses and co-investment, and strengthened diffusion, translation and commercialisation of discoveries

Impact
Research agendas of researchers, policymakers, practitioners, funders and business align R&I resource and co-investment towards addressing our strategic priorities

Organisation
An organisation with the capability, data, systems and technology to deliver effectively and efficiently within an environment designed to promote collaboration, inclusivity, creativity and innovation

A diverse talent base is attracted to, and retained within the UK R&I system where, positive behaviours and ways of working are recognised and rewarded and participation is inspired

Collaborative and connected R&I institutions, infrastructure and capability across the UK and internationally which attract further investment across UK







Ground breaking and game changing discoveries, technologies and innovations in areas of established, emerging and new areas of human enquiry

A strong and integrated innovation, entrepreneurial and commercialisation capability is established across the UK leveraging inward investment

Across the UK R&I capability and capacity are harnessed towards addressing strategic priorities

An organisation equipped to incentivise, co-create and lead the development of a world class R&I system

An outstanding research and innovation system in the UK that gives everyone the opportunity to contribute and to benefit

-  **World-class people & careers**
The UK is the destination of choice for talented people and teams.
-  **World-class places**
The UK's outstanding institutions, infrastructures, sectors and clusters have positioned the UK as a global leader in R&I, with strengths across the UK.
-  **World-class ideas**
Advances in the frontiers of human knowledge & innovation are enabling the UK to seize opportunities from emerging research trends, multidisciplinary approaches, ground-breaking discoveries and new markets.
-  **World-class Innovation**
The innovation environment, capabilities and connections fostered throughout the UK are delivering the government's vision for the UK to be an innovation nation, driving economic growth, high-quality jobs and private sector investment.
-  **World-class Impact**
UK research and innovation strengths are harnessed, putting the UK at the forefront of solutions to global challenges, key technologies and sectors of the future
-  **World-class organisation**
UKRI is a more efficient, effective and agile organisation, and a responsible partner and employer.

Sphere of **direct** influence

Sphere of **indirect** influence

Sphere of **interest**

UKRI Framework for Performance

Delivery assurance of our Strategy across the full logic model - from the activities we set out in our SDPs and CP, to the outcomes and societal benefits these activities collectively realise.

Reporting timeline																
Preparation																
Reporting																
Year	2022				2023				2024				2025			
Quarter	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3			

UKRI logic	Reporting Products	Quarter	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Benefits	Annual Report and Accounts Demonstrates how we have met our legal requirements, what and how we have delivered against our Corporate Plan and how we have added value over the year in realising our strategic ambition. Primary audiences: ARAC, Government, public.														
	Annual Balanced Scorecard (Sphere of influence/Sphere of interest) Providing a holistic overview of our performance, focusing on the outcomes that arise from the activities UKRI delivers, in the context of the wider R&I system and longer-term trends. Primary audiences: Board, ExCo.														
	Implementation reviews/Deep dives (Sphere of control/Sphere of influence/Sphere of interest) Providing in depth exploration against strategic objectives/key areas to support delivery confidence/performance (freq. determined by need). Primary audiences: Board, ExCo, ARAC, StratCo, PFO.														
	Progress and Performance Report (Sphere of control/Sphere of influence) Providing assurance on our quarterly progress against delivering our strategic & key government priorities as set out in our Strategy / Corporate Plan. Primary audiences: ExCo, Board, ARAC, BEIS.														
	Local performance reporting and monitoring (Sphere of control) Managed at a local level and supports development of the above reporting products. Primary audiences: Programme Boards, Subcommittees of ExCo														

Light

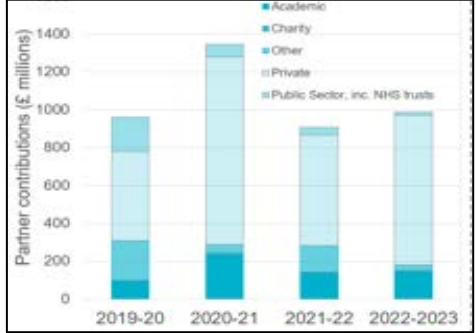
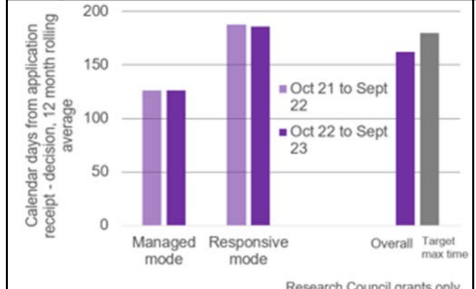
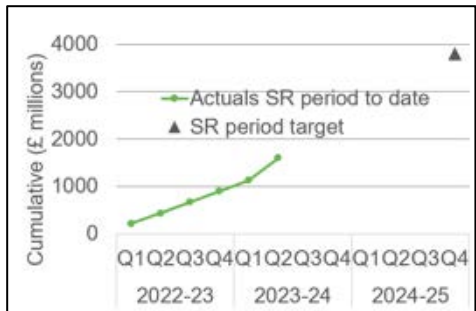
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Example Measures



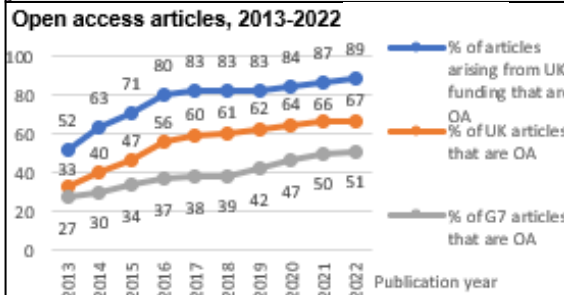
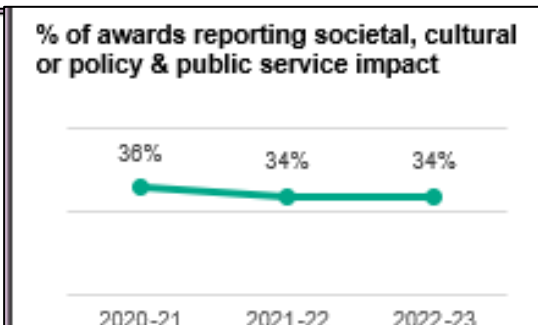
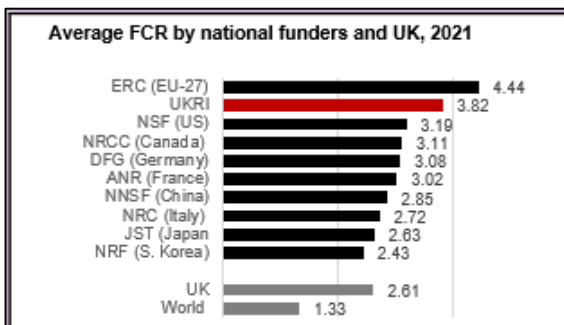
Quarterly Progress & Performance Report
 Measures focused on tracking our inputs and activities

- Investment through responsive mode funding streams
- Application processing times
- Co-investment on new awards by sector



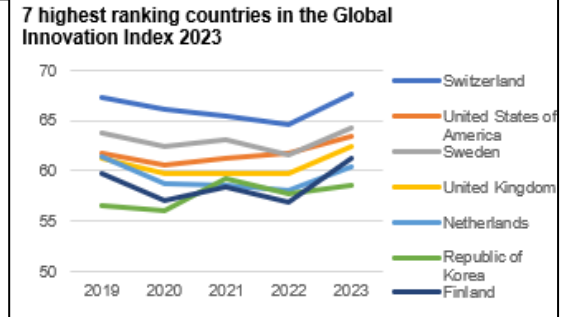
Annual Balanced Scorecard
 Measures focused on the outcomes of our activities and investments and tracking long-term trends

- Quality of publications
- Proportions of UKRI-enabled, UK and G7 publications published in open access journals
- Proportion of awards generating policy impact
- Number of active spin-outs enabled through UKRI awards
- UK's standing in the Global Innovation Index




910 (↑67)
 Active spin outs as of April 2023. (Active as of April 2022: 843).

54% of UKRI spinouts survive 5 years or more




Collectively inform the Annual Report and Accounts



UK Research and Innovation

Annual Report and Accounts 2022-23

Transforming tomorrow together



HC 1504

Performance Overview

Performance summary

In the 2022 to 2023 financial year our investments included:

- £1,514 million** in research & development grants, including fully open funding opportunities & targeted opportunities focused on specific priorities
- £2,204 million** institutional block funding to higher education providers in England for research and knowledge exchange
- £647 million** in skills and training for the next generation of researchers, innovators and technicians
- £1,120 million** in infrastructure, from laboratory equipment to major international research facilities
- £1,340 million** towards specialist institutes, centres, facilities and Catapults that provide national capabilities in specific R&I areas, including specialist equipment, expertise and knowledge
- £472 million** in collaborative challenge-led funding to address specific national and global priorities
- £523 million** in innovation project grants that support innovative small and medium-sized enterprises
- £580 million** in international partnerships to collaborate with researchers in their fields worldwide

In addition, we also invested in public engagement activities to involve wider society in R&I, ensure that its benefits are widely shared, and inspire and engage the next generation of researchers and innovators.

7% International partnerships
6% Researcher Innovation Visa
6% Challenge-led funding
16% Institutes, centres, facilities and Catapults
13% Infrastructure
1% Public engagement
18% Research grants
26% Research and Innovation funding to Higher Education Providers in England
1% Skills and training

In 2022-23 we:
 assessed over **22,300** applications for R&I funding and made 6,118 new awards supported a further **1,897** grants through the Horizon Europe Guarantee supported **3,661** organisations, including 142 universities, 2,750 small and medium-sized enterprises, and our 59 institutes, centres and Catapults supported over **57,889** individuals, including principal investigators, co-investigators, fellows, researcher co-investigators and students

Applications reviewed

Financial Year	UKRI applications	COVID-19
2018-19	19,128	
2019-20	17,492	
2020-21	21,855	17,256
2021-22	22,389	1,202
2022-23	22,312	

Our R&I investment award portfolio metrics for 2022-23 are published here: <https://www.ukri.org/what-we-offer/what-we-have-funded/>

UK Research and Innovation

Performance Analysis

People and careers

We invest across the full research & innovation (R&I) skills spectrum, to make the UK the destination of choice for talented individuals, teams and businesses.

To achieve this, in 2022-23 we committed to:

- create a UKRI-wide talent programme, including extending our Future Leaders Fellowships (FLF) programme and supporting the government to deliver a new deal for postgraduate research
- promote and grow the use of the Global Talent visa and UKRI's Temporary Worker Government Authorised Exchange (GAE) route
- deliver our equality, diversity and inclusion (EDI) strategy and action plans, and our action plans on the Concordat to Support the Career Development of Researchers and the Technician Commitment
- develop and influence responsible national and international R&I policy and culture, and drive the adoption of good practice
- publish and deliver a new public engagement strategy for UKRI
- In addition to our Corporate Plan commitments for 2022-23, we also:

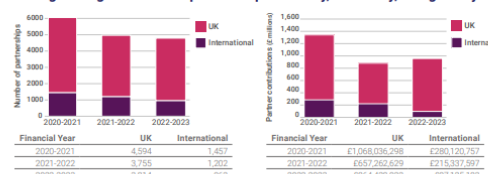
Which we have progressed by:

- setting out how we will transition to collective talent funding in the Collective Talent roadmap 2022 to 2025
- launching Rounds 7 and 8 of the FLF scheme and continuing to develop cohorts, including through Scaling the Edge business innovation training
- publishing the analysis of our sector-wide call for input to inform our thinking on the New Deal for Postgraduate Research
- expanding the range and number of endorsed funders and approved host organisations for the Global Talent visa and increasing the number of organisations using the UKRI Temporary Worker GAE scheme for short-term mobility
- driving policy and practice improvements through our global mobility evidence report, shaped by over 40 organisations across the UK government and R&I sector
- updating our terms and conditions to better support visa costs and the Immigration Health Surcharge through our grants
- publishing UKRI's EDI Strategy and suite of action plans addressing specific R&I communities' needs
- publishing UKRI's People and Teams action plan, taking forward and broadening our implementation of the Technician Commitment & the Researcher Development Concordat
- establishing the EDI Caucus in partnership with the British Academy to provide high-quality research evidence to inform EDI policy and practice
- establishing the UK Committee on Research Integrity, which published its 2022-25 strategic plan, outlining the Committee's mission, vision and approach
- launching UKRI's Open Access Policy for research articles, supporting access and reuse of publicly funded research, and establishing the UKRI Open Access Policy Stakeholder Forum, to help understand challenges and share and develop best practice
- piloting UKRI's Trusted Research and Innovation (TR&I) Risk Assessment Framework, rolling out training for UKRI staff on TR&I, and continuing to support the R&I community with up to date guidance and resources
- publishing our UKRI public engagement strategy, and the MRC public involvement landscape review, outlining our commitment to breaking down the barriers between research, innovation and society
- launching Community Research Networks to support people around the UK to develop meaningful, long-term collaborations with the R&I system, and funding 24 community-led R&I pilots through the Community Knowledge Fund
- worked closely with the UK government on developing talent alternatives to Horizon Europe
- increased the stipend for UKRI postgraduate research students by 13% for academic year 2022-23, ensuring that we maintain a competitive funding offer for doctoral students
- established a Workforce Skills Foresighting Hub to identify and address critical innovation emerging skills gaps in business, through Innovate UK working with partners within the Catapults, BEIS, the Department for Education and Universities UK.

UK Research and Innovation

Performance Analysis

Strengthening clusters and partnerships – locally, nationally, and globally

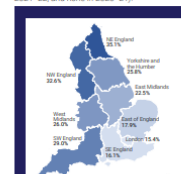


Financial Year	UK	International
2020-2021	4,594	1,457
2021-2022	3,755	1,202
2022-2023	3,814	967

Financial Year	UK	International
2020-2021	£1,068,036,298	£280,120,757
2021-2022	£657,262,629	£215,337,597
2022-2023	£864,426,922	£97,125,183

Supported over **3,600 new international collaborations** and over **12,100 across the UK** since 2020-21, with a total of over **£3 billion co-investment committed**

Based on project partners declared at the point of application. Partners may change in delivery of projects. In 2020-21 increased collaboration and co-investment coincided with our significant investment in COVID-19 R&I programmes. An additional 157 partners for whom geographical location was not classified contributed a further £26 million in 2022-23 (63 partners and £36 million in 2021-22, and none in 2020-21).



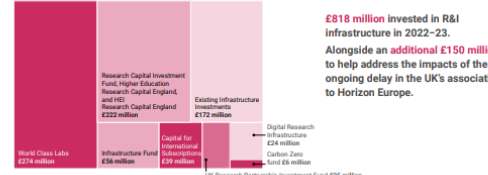
44% of Research England's quality-related (QR) funding went to universities outside the Greater South East (GSE) in 2022-23, increasing from 41% in 2020-21*

We publish in-depth analyses of the regional distribution of our funding.

* Based on academic year. The increase reflects the Research Excellence Framework (REF) results (England only). QR provides stable and flexible funding, enabling universities to identify and achieve their own strategic research ambitions and pursue new research priorities, often in partnership with business, charities, and other organisations.

Percentage change in QR funding between academic years 2022-23 vs 2021-22
 Total QR funding for all England increased 21% in 2022-23

Securing cutting-edge infrastructures for world-class research and innovation



£818 million invested in R&I infrastructure in 2022-23. Alongside an **additional £150 million** to help address the impacts of the ongoing delay in the UK's association to Horizon Europe.

UK Research and Innovation



UK Research
and Innovation

Expert Review

Steven Hill

Director of Research, Research England

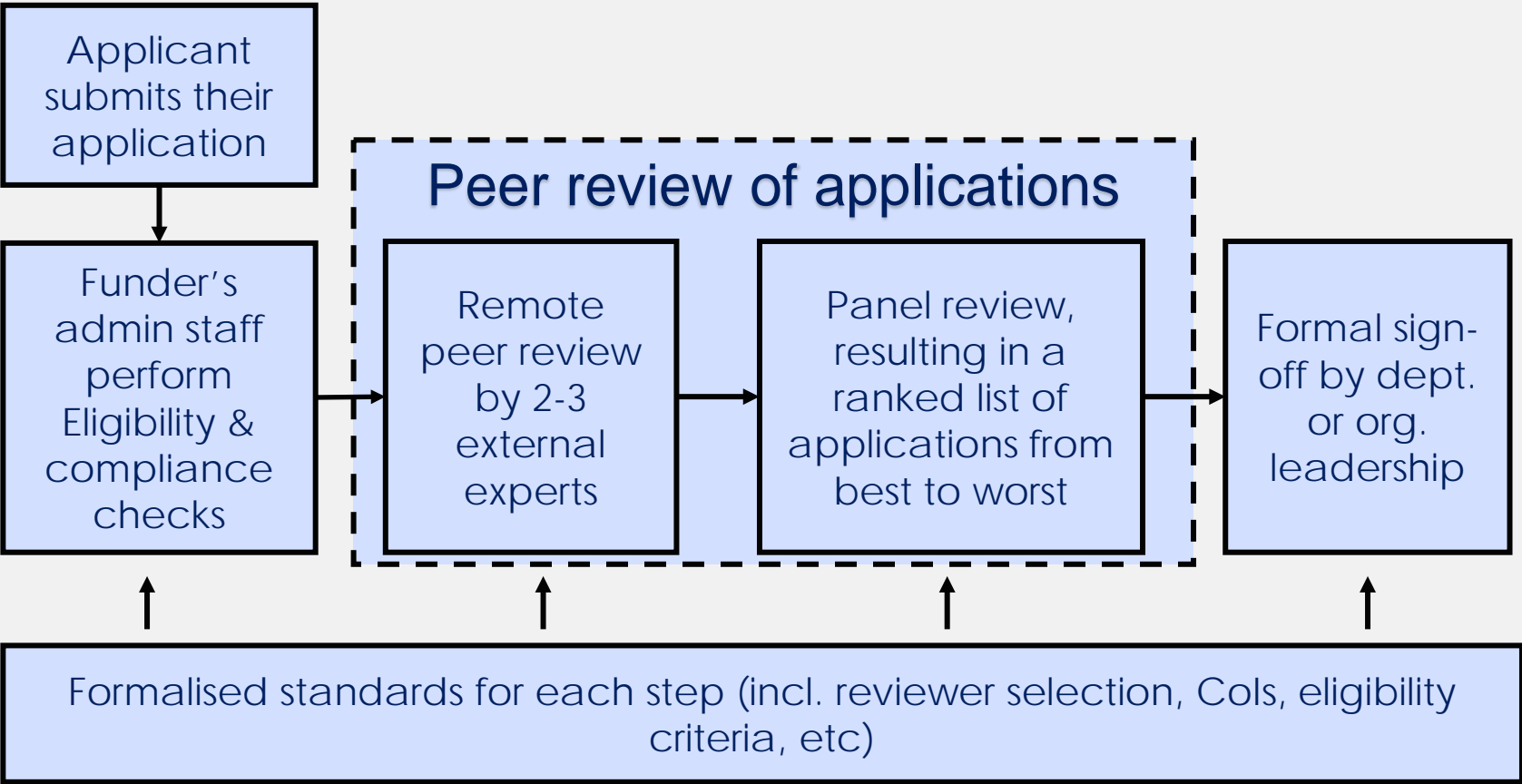


UK Research
and Innovation

Expert review to inform the allocation of funding is a core activity for UKRI

- How well does expert review work? How do we know?
- What are the modifications that might improve expert review?
- Are there effective alternatives to expert review?

Almost all funders use roughly this 'baseline' process most of the time:



**We recently commissioned
work to collate evidence on
expert review**

The 'Review of Peer Review'

- Independent work undertaken by Technopolis
- Based around 38 “interventions” or changes that could be made to a baseline peer review process (not specially UKRI processes)
- Evidence gathered through
 - A broad review of the published literature
 - Sourcing studies/reports/papers/analyses from UKRI
 - UKRI staff survey
 - Interviews with UKRI staff and other funders
- Outputs:
 - Comprehensive report presenting evidence
 - Supporting online tool for exploring data
 - Full reference material/bibliography



Condensed Analysis

Category

All



Evidence Strength

All



Description

Reviewers or panels members or both do not see the identity of the applicant/s.

Intervention

Applicant anonymisation



Category	Intervention	Aims	Hazards
Process design	Applicant anonymisation	Reduce bias, foster innovative/transformational ideas	Limited ability to judge feasibility of projects
Application-design & parameters	Applicant behaviours	Increase diversity and limit gatekeeping	None known
Process design	Automation-assisted reviewer allocation		Technology is not widely tested; some algorithms may have problems
Training and feedback	Bringing in reviewers from earlier careers & providing mentoring	Improve review quality, diversify reviewers	None known
Pre-call	Demand management: individuals (1)	Reduce application numbers and concentration of awards	Shifts burden to other funders, savings are minimal
Training and feedback	Embedding EDI in assessment	Reduce bias, increase diversity among awardees	Ineffective training may install a false sense of confidence
Training and feedback	Improving quality of reviews	Improve quality of reviews; simplify training; increase response rate for review requests	None known
Training and feedback	Open review/rebuttal	Increase accountability and review quality	Possibly increased burden for funder (and longer timelines depending how rebuttal works)
Decision-making	Partial randomisation	Remove bias, reduce panel burden	Reputational impact on applicants
Process design	Use of international assessors	Avoid conflicts of interest, ensure required	May require more guidance/training for panellists

*Right click on any row to **drill through** details on Aims, Evidence Strength, and References

Aims

Save time

Press to select

Increase relevance

Press to select

Manage application volume

Press to select

Reduce bias

Press to select

Reduce burden

Press to select

Fund high-risk

Press to select

Increase review quality

Press to select

Innovation in expert review across UKRI

■ Examples

- NERC experiments on partial randomisation
 - Aimed to reduce biases and streamline process
 - Proposals scored, but avoids ranking within scores
- Innovate UK optimisation of reviewer numbers
 - Pilot reducing number of assessor from 5 to 3
 - Currently reviewing impact of trial
- EPSRC New Horizons Programme
 - Trial of anonymous review (2 stage process), panel only review and 'wild card process'
 - Evidence of benefits on supporting high risk research, and improved diversity of grant holders



**We are scoping the
development of a centre of
excellence in expert review**

- Gather and synthesise evidence on expert review and alternatives
- Support and co-ordinate pilots and experiments on innovative practice in expert review and alternatives
- Facilitate sharing of the lessons from effective and less effective practice
- Better recognise and utilise staff expertise and experience in expert review