

Dame Chi Onwurah MP
Chair, House of Commons Science, Innovation and Technology Committee

Sent via email

27 June 2025

Dear Chair,

Follow up to Committee hearing 17 June 2025

It was a pleasure to meet with you and the Committee on 17th June to discuss my time as CEO of UK Research and Innovation. I would also like to congratulate you on your recently awarded Damehood as part of the King's Birthday Honours.

During the session, your Committee asked that I write to you with further information on a number of different topics. Please find this information below.

Reporting progress against DSIT's three categories of R&I funding

Underpinned by a clear logic model, UKRI has developed a framework for measuring and monitoring our performance. The framework, uses a basket of measures that enable UKRI to consider our performance at the input, output, and outcomes levels, recognising that individual measures often lack wider context and that our investments and their intended outcomes operate over a wide range of timescales. Our reporting products enable us to identify and flag where our performance is tracking counter to our, and HMG, ambitions.

UKRI's ongoing activities are well aligned with the three categories of R&I funding outlined by Minister Vallance. We are working closely with DSIT through the spending review allocations process to agree how our portfolio should be balanced to deliver these crucial outcomes most effectively and efficiently, as well as clearly demonstrate this delivery. Detailed below are some of the examples of how we measure impact across these categories within our current products.

- **Curiosity led research:**
 - We currently monitor our spend on responsive mode funding (our open funding).
 - Through our annual Balanced Scorecard report we capture measures that describe broader strategic framing around advancing knowledge. Examples include measures that capture how UKRI funding contributes to new discoveries and knowledge that generate new ideas, products, tools, processes, and services. We use proxies such as Field Weighted Citation Ratios, percentage of UKRI-enabled articles in the top 10% of most cited articles worldwide, annual growth rate in research article volume, the main beneficiaries of research from REF2021 impact case studies, and instances of other knowledge outputs reported through ResearchFish and Innovate UK Project completion forms by the end of a rolling five-year window.



- **Targeted research aligned to government ambitions:**
 - We currently monitor information related to the UKRI Challenge fund (formerly the Industrial Strategy Challenge Fund), such as jobs retained and created to date, and leveraged investment realised to date, alongside spend, number of projects and collaborations related to our UKRI Strategic Themes, spend on critical technologies, and the number of UK HMG departments UKRI partners with on funding opportunities. These are included in our quarterly reports and/or through our Annual Report and Accounts.
 - Additionally, through our annual Balanced Scorecard we monitor the outputs from the Challenge Fund (including white papers and presentations delivered and the number of people provided with training or new skills), and direct investment in the 5 critical technologies.
 - We also report on UKRI spend outside the Greater South-East, which relates to the Government's ambitions around creating opportunities across the UK.
- **Investment to support innovative businesses:**
 - We currently monitor three measures through our quarterly reporting, including jobs created and enabled by Innovate UK awards, Knowledge Transfer Partnerships funded each year, and project partner co-investments on new grants.
 - We also report on UKRI enabled spinouts, highlighting our role in catalysing new R&D-focussed businesses.
 - Our annual Balanced Scorecard captures measures on the number and % of SMEs supported as a proportion of total organisations, the number of new products, processes and services planned within a year of an Innovate UK supported project ending. The percentage of funding offered through Innovate UK grants by organisation size, Innovate UK evaluation evidence, which includes measures such as direct return to UK businesses per £1 of Innovate UK grants over 7 years and rate of headcount growth for firms receiving an Innovate UK Small Business Research Initiative (SBRI) contract against those that did not.

Building on our current performance reporting products, we are partnering with DSIT to launch a set of specific, measurable, and timebound objectives for UKRI, over the Summer 2025. Minister Vallance's three categories of R&I funding are central to this ambition. Alongside developing the new objectives, we will continue to refine how we measure our performance against them and continue to evolve our wider reporting measures as our data systems continue to improve as a result our UKRI change programmes, as well as the adoption of new approaches to data capture.

Community research initiatives

We want to empower people and places to define and articulate their research and innovation needs and priorities. This will include learning from the [Community Research Networks](#), which are designed to build capacity, capability and connectivity for community-led research in places

One of our five strategic themes is Creating Opportunities, Improving Outcomes, with the mission to improve outcomes for people and places across the UK by identifying solutions that promote economic and social prosperity, including economic growth and innovation; addressing health



inequalities; and promoting community connectedness. For example, the Trial Accelerator Fund supports innovative approaches to regional growth by rigorously evaluating the effectiveness of interventions aimed at spreading opportunities and reducing disparities in economic, health and social outcomes for people and places across the UK.

Local Policy Innovation Partnerships (LPIP): This £23m programme builds cross-sector partnerships to address local policy challenges. They work with stakeholders in their local area to identify and implement evidence-informed, actionable solutions. For instance, the Yorkshire and Humber Policy Innovation Partnership aims to provide evidence for vital decision-making in the [Yorkshire and Humber](#) region to deliver on climate change, inequalities and data gaps. It builds on existing partnerships in the region, and has a '*commitment to empowering communities, by researching 'with' rather than 'on' people. At its heart will be the YPIP community panel – comprised of 12 members with diverse experiences of disadvantage, marginalisation or isolation – who will become equal decision-makers with key policymakers and researchers in the region.*

Examples of bringing research from idea to scale-up

During the Committee session you asked me for examples of how UKRI funded programmes support research from idea to scale up. A selection of examples are included below:

Pragmatic Semiconductor Ltd.

[Pragmatic](#) is a world leader in semiconductor innovation with its flexible integrated circuit (FlexIC) technology. This electronic tag, thinner than a human hair, is the printed equivalent of a silicon chip but at a fraction of the cost. It's easily embedded in high-volume product packaging.

With [support from UKRI Innovate UK](#), the firm has grown from a dozen employees 10 years ago to 330 today, based in Cambridge and at a [low-carbon fabrication](#) plant near Durham. In December 2023 Pragmatic [secured £182m \(\\$231m\)](#) in a funding round to meet growing demand worldwide. This expansion includes plans for at least eight more fabrication lines, creating more than 500 highly skilled jobs in the UK. External investment to date totals £325m (\$409m).

UKRI has supported various stages of FlexIC's development and commercialisation since the company was founded in 2010..

Photocentric Ltd

Peterborough-based [Photocentric](#) is a pioneer in large-format 3D printing technology and is now setting out to revolutionise battery manufacture through UKRI's [Made Smarter](#) innovation programme.

After joining [Innovate UK's Scaleup programme](#) in 2020, Photocentric doubled its turnover, expanded its manufacturing facility and invested £3m in R&D space at a new Peterborough University campus. It increased its UK headcount from 115 to 160 and built a 66,000 sq ft digital manufacturing facility.

To serve the US market, the company has created Photocentric 3D Inc, operating from a 51,000 sq ft facility in Avondale, Arizona.

Zoo Digital Ltd

[ZOO Digital](#) has grown from modest beginnings in Yorkshire with [longstanding support](#) from UKRI Innovate UK to become a world-leading supplier of media services for major Hollywood studios wanting to tailor their content to local markets. The company has been a preferred partner of [Netflix](#) since 2018.

ZOO Digital now provides content creators with a full suite of end-to-end services needed to adapt original content for different languages, regions and cultures. It operates from production facilities in Los Angeles, London, Italy, Germany, Dubai, Mumbai, Chennai, Philippines, Seoul, Istanbul, supported by the ZOO Digital Labs technology centre in Sheffield.

Nebu-Flow Ltd

Award-winning Scottish company Nebuflow has developed a new nebuliser platform that delivers medicines in a breathable mist, improving their effectiveness. The technology has a lower carbon footprint than current nebulisers and could deliver fragile or difficult-to-deliver medicines which may prove critical for treatment of, for example, cystic fibrosis.

BBSRC frontier bioscience funding enabled researchers to develop an understanding of how acoustic waves behave within liquids and how this could be used for drug delivery.

A prototype was developed as part of an EPSRC fellowship, and the MRC provided Confidence in Concept funding to accelerate the transition of the technology from “discovery to translation” through the development of an integrated device.

Nebuflow received further funding from Innovate UK in 2022 and secured £4.7 million investment in its latest funding round in 2024, led by early-stage venture capital firm SCVC.

Beadamoss Ltd

Research at Manchester Metropolitan University identified the potential of cultivated Sphagnum moss both for restoring degraded peatland and as a replacement for peat compost. Peatlands cover 3% of the global land surface but store around 33% of soil carbon - twice as much as all the world's forests.

Demand for Beadamoss®, based near Loughborough, has grown rapidly. The moss has been used to restore over 3,000 hectares of degraded peatland in the Peak District, for example, which will secure an estimated 3 million tons of carbon from future loss, equivalent to a forest over twice the size of Wales. Annual sales at Beadamoss®, currently the only supplier of sustainable micropropagated Sphagnum, have grown to £1million and staff headcount has increased three-fold.

In 2023 Innovate UK funded Beadamoss® to work with industry partners to enable rapid commercialisation of Sphagnum as the UK's first ‘carbon crop’.

Over the past decade the work has been supported by NERC, BBSRC, and Innovate UK.



The Supplant Company

Building on BBSRC-supported research into the breakdown of plant material by enzymes, Dr Tom Simmons and Professor Paul Dupree created **The Supplant Company** to utilise plant material discarded during agricultural production. From corn cobs and similar by-products, the company created **Supplant™ Sugars from Fiber**. This cane sugar replacement is prebiotic, lower in calories, and has less impact on blood sugar levels (compared to glucose), yet functions well in many products, such as cakes. The team have also developed a flour alternative, **Supplant™ Grain and Stalk Flour**, which uses wheat grain and stalk to produce a high-fibre product with fewer calories compared to standard flour. Their approach not only creates healthier ingredients that may help tackle health issues, such as obesity and diabetes, but also draws on existing farming efforts and utilises up to 97% less land, resulting in reduced emissions.

The company has received venture capital and Innovate UK funding to further improve its products and expedite commercialisation. Early BBSRC funding through the Sustainable Bioenergy Centre: Cell wall sugars programme supported the background technology for the company's first business plan. After Supplant was founded, BBSRC supported the company through one of its Networks in Industrial Biotechnology and Bioenergy - the Lignocellulosic Biorefinery Network (LBNet).

Exscientia

[Exscientia](#) began as a small spinout in Dundee, [supported by early funding from BBSRC](#), including a 2009 pathfinder grant and a £150,000 follow-on fund to commercialise multitarget drug design. This backing enabled the development of AI-driven drug discovery methods that laid the foundation for Exscientia's Centaur AI platform.

The company has since scaled significantly, going public on Nasdaq in 2021 with a \$510 million IPO—the largest ever for a European biotech firm. Headquartered at Oxford Science Park, Exscientia now operates in over 20 countries with a team of 450, pioneering faster and more precise drug development using AI.

Myconeos Ltd

Myconeos Ltd was founded in 2018 as a spin-out from the University of Nottingham, following research led by Professor Paul Dyer. With support from two BBSRC Follow-on Fund awards, the team developed a novel sexual crossing technology to create fungal strains with improved traits for cheese production—enhancing flavour and colour while reducing salt and toxin content. Industry partners such as Highland Fine Cheese and Cropwell Bishop Creamery supported the screening and commercial trials of these strains, leading to the identification of several with strong market potential.

Launched with angel investment and based at BioCity Nottingham, Myconeos acquired the IP and has since secured two Innovate UK grants to expand into Brie/Camembert-style and vegan cheeses. The company has grown steadily, attracting international distributors, increasing sales, and raising £436,000 in a recent VC round. In 2024, Myconeos was named in the prestigious FoodTech 500 list, recognising its innovation at the intersection of food, technology, and sustainability.



Valkyrie Industries Ltd.

The AHRC Creative Industries Cluster is funding Valkyrie Industries, an SME developing haptic wearables as part of the 2021 StoryFutures Fellowship. They created a VR sculpting app simulating real-life sculpting, available on SteamVR and Oculus Quest. An experimental version featured hand and finger tracking, and a proof-of-concept integrated Valkyrie's fully functional haptic gloves, enabling haptic feedback in the fingers.

Following the fellowship, Valkyrie Industries completed pilots with BMW and the UK Space Agency, raised nearly £400,000 via CrowdCube and XR4ALL, and were shortlisted for the GoTech Awards. In 2021, they launched Argil, a VR sculpting tool inspired by real-world techniques, offering an intuitive environment for crafting 3D objects—available on Steam and Valkyrie's platform.

In June 2023, Valkyrie received investment from ASICS Ventures Corporation to develop software delivering muscle-based haptics in immersive sports experiences. In May 2025, Valkyrie Industries was awarded £500,000 through the Biomedical Catalyst 2024 competition by Innovate UK. The grant supports further development of v-health, Valkyrie's immersive and gamified neuromuscular recovery platform.

Renovos Biologics

Renovos Biologics was founded in 2017 as a spin-out from the University of Southampton, following two decades of multidisciplinary research. With over £8.4 million in project grants — primarily from BBSRC, MRC, and EPSRC—the team developed pioneering bone stem cell and biomaterial technologies, including the first custom-made hip replacement using stem cells in 2014. Between 2014 and 2020, 20 patients were treated using this method, marking a significant step in regenerative medicine.

Renovos is now advancing RENOVITE®, a novel nanoclay platform for medical applications such as orthopaedics, wound repair, and dental treatments. The company secured £870,000 in private and public sector funding between 2017 and 2020 and received an additional £1.1 million post-spinout from Innovate UK to further develop RENOVITE®. In 2023, Renovos entered a major partnership with Biocomposites, highlighting the commercial potential of its innovations.

Oxford Nanoimaging Ltd (ONI)

Oxford Nanoimaging Ltd (ONI) was spun out of University of Oxford in 2016 to bring to market an innovative desktop optical microscope. The Nanoimager was developed by EPSRC-funded Professor Achillefs Kapanidis and PhD student Bo Jing. Further funding was secured through the Joint Synthetic Biology Initiative, co-funded by EPSRC, BBSRC, MRC and DSTL. Versatile and user-friendly, the Nanoimager offers more sharper images of live cells than conventional optical microscopy and at 30 times smaller is significantly less expensive, taking molecule imaging out of physics labs and centralised facilities, and into the hands of chemists, biologists and biotechnologists.

ONI has acquired over £22m of venture capital investment, - employs in the region of 100 employees, has exports accounting for approx. 90% of its sales and an annual turnover of £5.12m.



Clean Food Group

Clean Food Group was co-founded following over a decade of research at the University of Bath into yeast-based alternatives to oils and fats, such as palm oil. With support from UKRI, the team developed a commercial strain of *Metschnikowia pulcherrima*, a yeast traditionally used in winemaking, tripling its growth rate and reaching commercial viability. The company uses food-safe waste as feedstock and renewable energy to grow the yeast in industrial fermenters, promoting a circular food system.

Clean Food Group now employs 22 people and is scaling up production to meet global demand for sustainable edible oils, helping to reduce reliance on agriculturally intensive oil crops and improve food security.

Erebagen

Erebagen was founded in 2020 as a spin-out from the University of Warwick building on long-term BBSRC-funded research into biosynthetic enzymes. The company is revolutionising natural product discovery for medicines and agrochemicals through a platform that integrates bioinformatics and synthetic biology. Early support included a BBSRC Impact Acceleration Account (IAA) project, Pathfinder and follow-on funding, a Royal Society of Edinburgh Enterprise Fellowship, and Innovate UK's ICURe and CR&D programmes.

Erebagen has since filed patents, raised significant venture capital, and secured £1.13 million from Innovate UK to develop biocatalysts for sustainable pharmaceutical manufacturing. Now collaborating with UK and international biotech firms, the company is leveraging synthetic biology tools developed in BBSRC-supported labs to accelerate the discovery and production of novel bioactive compounds.

Mirico

[Mirico](#) is a STFC RAL Space spin-out company that secured investment to accelerate roll out of its greenhouse gas emission monitoring solutions. Its gas emissions monitoring business quantifies greenhouse gasses (such as methane and carbon dioxide) across entire industrial sites with just a single instrument, through continuous, wide-area monitoring.

The company uses technology originally developed by the [spectroscopy team](#) at STFC RAL Space which, with the help of STFC's Innovations Ltd has been developed by Mirico to help industrial companies understand their greenhouse gas emissions.

Ceres Power

Ceres Power emerged from pioneering research at Imperial College London in the late 1990s and early 2000s, where scientists discovered that fuel cells using natural gas or hydrogen could generate electricity with low or zero carbon and particulate emissions.

With foundational support from UKRI's Engineering and Physical Sciences Research Council (EPSRC), Professor Nigel Brandon and his team commercialised this innovation, founding Ceres Power. The company has since grown into the UK's most valuable cleantech firm, developing fuel cells that provide heat and power to homes and businesses, potentially cutting energy bills by 25%. Continued support from UKRI Innovate has helped Ceres advance its product development.

Sovereign AI

Sovereign AI is usually used to refer to AI systems, capabilities, and infrastructure that are owned, controlled, and governed within the UK without significant dependency on foreign technologies, platforms, or supply chains. Sovereign AI is about establishing the correct capabilities and capacity for AI development and implementation to ensure the UK's security and prosperity in the digital age. This includes scaling national champion organisations at the frontier of AI, taking advantage of specific niches in the global supply chain and ensuring UK based talent to perform the research and innovation which will underpin technology development. Frontier AI capabilities will be in both the current foundation model paradigm and in emerging spaces such as AI for science and embodied AI.

The AI Opportunities Action Plan recommended the government establish a new Sovereign AI unit to stimulate the creation of UK AI frontier system organisations and support their growth. The unit sits within DSIT, with UKRI supporting this ambition in several ways:

- Innovate UK is collaborating with DSIT in shaping the Sovereign AI unit's activities to secure the future of homegrown AI via a range of interventions that seek to create the conditions for AI hyper-scalars to form and grow in the UK, subject to SR allocation.
- In FY25/26, £3m have been allocated across a range of relevant activities including Innovation-to-Commercialisation of University Research (ICURE) to help UK researchers test if ideas could become a spin-out company, and AI for science.
- Funding the UK based research and innovation on which the UK's competitive advantage in AI is based
- Funding talent programmes to ensure the UK has the AI expertise to develop new AI and holistically embedding AI training in our broader training offerings to drive its adoption through investments including the AI Centres for Doctoral Training and the Turing AI fellowships

Funding opportunities for developing countries

The Committee asked about the impact of Official Development Assistance (ODA) changes on research partnerships with Low- and Middle-Income Countries. We welcome that amidst overall ODA reductions the Government has continued to allocate funding for ODA research and innovation at Spending Review 2025. This enables the continuation of vital initiatives to address global challenges with our low- and middle-income country partners, such as our UKRI-South-east Asia collaboration on infectious diseases.

UKRI offers [many funding opportunities](#) for UK researchers and innovative businesses to establish, build and maintain collaborative relationships with their peers globally, including with low- and middle-income countries, and spanning ODA and non-ODA.

We offer a range of open routes to allow researchers and innovators to choose the location, type and subject of their partnership. As a result, around a third of research council grants include an overseas collaborator as a co-lead, project partner, visiting researcher, consultant or subcontractor. Whilst international partners primarily collaborate on a self-funded basis, we do enable [international project co-leads](#) to be recognised for their contribution to the work conducted, with their role and associated activities being funded by UKRI. Overseas partner costs are capped



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at 30% of the total value of the grant, but this cap may be removed where partners are based in low- and middle-income countries.

We set up more directed routes where we have identified opportunities or gaps to establish or enhance partnerships in strategic areas. Through the Department for Science, Innovation and Technology's (DSIT) [International Science Partnerships Fund](#) we are working with international partners to address global challenges, build knowledge and develop the technologies of tomorrow. For example, we have launched a £12m ODA-funded initiative to [enhance sustainable aquaculture in south-east Asia](#) in partnership with Vietnam, Malaysia, Thailand, the Philippines and Indonesia. In addition, UKRI's research councils run a number of funding opportunities designed to strengthen international partnerships in particular areas of mutual interest.

We also support UK participation in multilateral research and innovation programmes such as [Horizon Europe](#). We are providing advice and support through the National Contact Point network and the UK Research Office to help UK applicants access opportunities in this €95.5 billion research and innovation programme. This provides a further route for UK researchers and innovative businesses to collaborate globally with the majority of low- and middle-income countries eligible to receive funding from the Horizon Europe programme.

I want to take this opportunity to thank you for all your work in keeping research and innovation at the heart of the government agenda. I hope our paths cross again in the future.

Best wishes,

A handwritten signature in grey ink, appearing to read 'H. Leyser', written in a cursive style.

Professor Dame Ottoline Leyser
Chief Executive, UK Research and Innovation