Technologies are transforming our world

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The UK has the largest tech ecosystem in Europe, home to a unique combination of innovative and talented entrepreneurs, world-class research expertise and facilities, talent and skills, and pro-innovation regulations.

Thriving UK tech ecosystem

A vibrant UK tech sector is important for unleashing the huge benefits technology provides – ensuring technology is a force for good that improves lives and livelihoods for people across the country.

UK Research and Innovation (UKRI) has a strong history of investing in research and innovation to support the emergence, development and exploitation of tomorrow's technologies[1] that have the potential for radical positive impact on our society and economy.

> Economic growth is enabled by our world-leading tech sector

Economic growth is enabled by our world-leading tech sector. Technological breakthroughs are made possible through rapid advancements in scientific discoveries, to help us tackle global challenges across our net-zero economy, health, resilience and productivity, in a responsible and sustainable way. The impact is wide-ranging, across major sectors of the economy at a regional, national and international scale.

Mission-led approach to tackle global challenges

Through our UKRI Technology Missions Fund[2] we are investing £320 million in Technology Missions to support the critical technologies of tomorrow in artificial intelligence, engineering biology, future telecommunications and quantum technologies.

Our mission-led investments are driving collaborations between innovative businesses, academia and government departments to accelerate innovative technological advancements and new scientific discoveries. Technology developments to help improve lives and grow the UK economy – creating jobs, increasing productivity, and stimulating investment.

- AI is supporting healthcare and high-growth industries, boosting business profitability in a responsible and trustworthy way.
- Engineering biology is reducing plastic pollution and developing new, safer vaccines and therapeutics.
- Future telecommunications technologies are vastly improving the speed, security, reliability and energy consumption of our wireless networks.
- Quantum technologies in positioning, navigation and timing are making transport more resilient, while quantum hardware testbeds are exploring the potential for large-scale quantum computing.

Supporting hundreds of research organisations and businesses

I believe technology is powered and empowered by science and innovation, and technological breakthroughs are substantially enhanced through a multidisciplinary and interdisciplinary, integrated approach. That's why we are bringing together people from diverse industries and sectors to identify and develop technological solutions to shared barriers to innovation, often described as market failures.

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Over the past two years our Technology Missions Fund investments have supported over 600 projects, including 621 businesses and 92 higher education institutes to collaborate in strategically driven mission-led programmes.

Collaborative R&D projects across engineering biology and AI sectors are bringing together diverse expertise, resources, and perspectives to address complex challenges and drive innovation forward, whilst reducing expenses and risks. So far, we have invested £77m to support CR&D projects.

Regional, national and international scale

We are supporting people and projects right across the UK and globally to boost technology development and productivity at a local, national and international scale.

Engineering Biology Hubs and Missions Awards are supporting researchers and innovators up and down the country from Edinburgh to Portsmouth, to develop pioneering solutions to tackle environmental, clean growth, health and food system challenges.

The Responsible AI UK consortium is creating an international ecosystem for responsible AI research and innovation. By connecting UK research centres and institutions around the world we are supporting world-leading best practices for how to design, evaluate, regulate, and operate AI-systems, helping to maintain the UK's global influence in AI technology on an international scale.

Supporting the whole technology journey

We recognise that researchers and businesses need different forms of financial and advisory support to innovate and grow depending on the technology, the sector, and maturity of idea.

Our Technology Missions Fund is supporting technology across all levels of its journey from fundamental, curiosity-led research all the way through to development, commercialisation and adoption.

> Ensuring the right people have access to the right funding and support at the right time.

Our Mission-led investments are delivered across UKRI, led through EPSRC, BBSRC and Innovate UK working in partnership with the Department for Science, Innovation and Technology (DSIT), other government departments, the research base and industries.

They integrate research, innovation and policy requirements to accelerate technology development, enhance UK capabilities and skills. This ensures the right people have access to the right funding and support at the right time. From early-stage research ideas, through to proof-of-concept and feasibility studies, with later-stage development and seed corn funding to turn those ideas into commercial products, services or processes, quicker.

We embed responsible research and innovation throughout, ensuring the UK remains at the forefront of shaping the responsible use of technology development.

Power of partnerships

We are working in partnership with government departments to drive transformative technological advances that help to deliver against the UK government's national science, innovation and technology strategies and visions, and the government's five missions: growing the economy; an NHS fit for the future; safer streets; opportunity for all; and making Britain a clean energy superpower).

> We ensure researchers and businesses have access to unique facilities and expertise to develop and deploy technologies.

Through partnerships with national infrastructure and capabilities like the National Quantum Computing Centre (NQCC), we ensure researchers and businesses have access to unique facilities and expertise to develop and deploy technologies. NQCC hosts quantum computing testbeds in national lab facilities to drive development and adoption of quantum computers.

The Joint Open Infrastructure for Networks Research (JOINER) project is connecting some of the UK's leading universities, research labs and business partners, so that together they can push the boundaries of future telecommunications innovation.

By delivering AI projects through the Innovate UK BridgeAI programme we are connecting businesses with the developers, tools and training they need to co-create and adopt purposeful technologies that deliver business impact responsibly and ethically. The most powerful aspect of this approach is that it is connecting AI experts with problem owners in businesses in high potential, low (AI) maturity sectors.

Mobilising industry and investor support

UKRI plays a role in both investing public money into R&D, but also helping to leverage private sector investment across multiple disciplines and sectors. Our Technology Missions are helping to mobilise industry and investor support.

The Engineering Biology Science Creates Accelerate programme is partnering with globally recognised venture capitals (VCs) to build an internationally recognised accelerator programme. This provides entrepreneurs with access to training, mentorship and co-investment opportunities, ensuring the best fit between companies and investors. So far, eight new engineering biology companies have been founded through the programme.

Reflections and future opportunities

I am proud of what we have achieved over the past two years, working with agility, flexibility and speed to deliver against the UK's science and technology vision, building sovereign capability for the UK's future growth and prosperity, and enhancing national security and resilience.

I look forward to continuing that momentum to harness more opportunities for technology development, commercialisation and deployment, to maintain the UK's leadership in emerging and expanding national and international markets.

Find out more, read our brochure

Find out more about how our mission-led investments are accelerating technology development to help improve our lives and grow the UK economy: www.discover.ukri.org/ukri-technology-missions-fund-2025

References

[1] UKRI (website). Tomorrow's Technologies. Available at: www.ukri.org/who-we-are/our-vision-and-strategy/tomorrows-technologies

[2] UKRI (website). UKRI Technology Missions Fund. Available at www.ukri.org/what-we-do/browse-our-areas-of-investment-and-support/ukri-technology-missions-fund