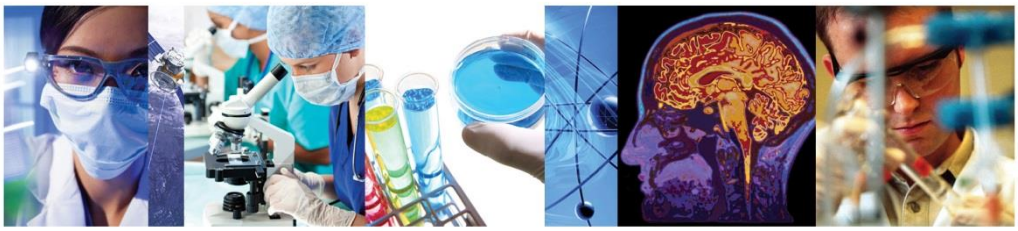
UK Science & Innovation Network



UK Science & Innovation Network Summary:

India

1. Science and Innovation Landscape

India's size, location and growing economic weight gives it regional prominence and global importance. Over the last decade, there has been a shift in how the Government of India has prioritised Science and Technology (S&T): Initially as a tool for development and self-reliance and, more recently, focusing on strategic technology as a means of achieving economic growth and geopolitical strength. The Indian Parliament has approved a new National Research Foundation (NRF), with the ambition of pumping $6 billion into the nation's R&D ecosystem over 5 years. The government has announced large support programmes and incentives to attract industry investment in critical technologies, including $10bn for semiconductor development and $1bn for quantum computing.

India has a growing voice in the international arena, taking a leadership role in the Global South as a member of the QUAD, BRICS and through its 2023 G20 Presidency. Its digital public infrastructure is a prominent global model. India is now providing the technology free of charge to LMICs such as Armenia, Sierra Leone, Suriname and Antigua and Barbuda. This year, India will take on the Presidency of the Global Partnership on AI and host a Global AI Summit in Hyderabad.

India added over 950 tech start-ups last year and continues to be the third largest tech start up ecosystem globally. This brings the tally to over 31,000 tech startups, 91 of which are active unicorns valued at over USD $1bn. It ranks 40th in the Global Innovation Index 2023 (up from 81st in 2015). The percentage of GDP that India commits to R&D stands at 0.65% (World Bank, 2020). Through NRF, India aims to increase this to 2%. The National Education Policy of India (NEP) 2020 has identified enhancing India's overall research capacity as a key area of development.

The Department of Science and Technology (DST), a part of the Ministry of Science and Technology, is the nodal agency which formulates policies related to S&T. DST collaborates closely with other bodies, such as the Ministry of Earth Sciences, the Ministry of Electronics and Information Technology, the Office of the Principal Scientific Adviser of India (providing advice to the Prime Minister and the Cabinet on S&T) and NITI Aayog (public policy think tank of the Government of India).

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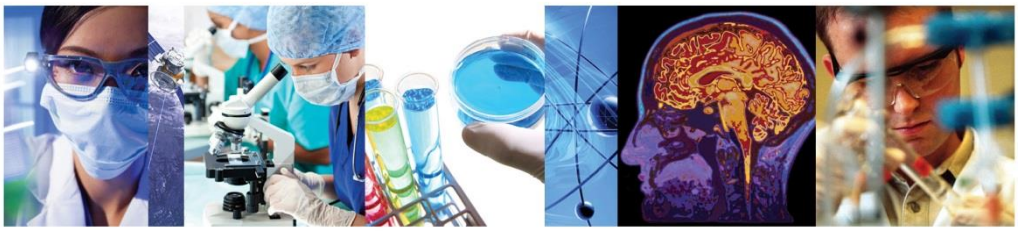


2. UK partnership with India on ST&I

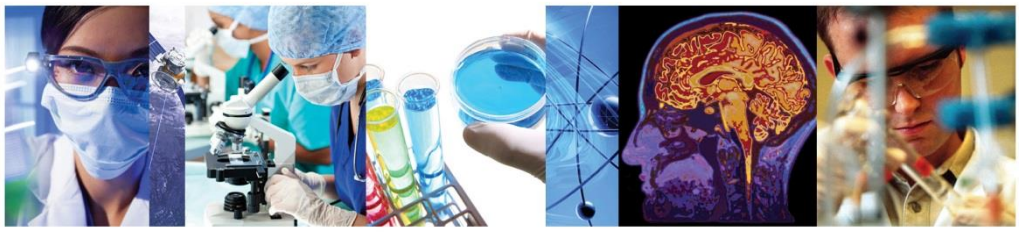
The UK and India have jointly invested over £400 million in research and innovation collaboration since 2008. Priorities are guided by the UK-India 2030 Roadmap and the biannual India-UK Ministerial Science and Innovation Council (SIC). During the 2023 SIC, the two countries signed a landmark agreement to cut red tape and enable quicker, deeper collaboration on science to drive economic growth, create skilled jobs and improve lives in the UK, India and worldwide.

During SIC 2023, the UK and India agreed to undertake the first joint deep-sea expedition in the Indian Ocean, following a trilateral deep-sea expedition with Maldives in 2022. They also announced the UK-India Net Zero Innovation Centre, a coalition of innovators, policymakers, researchers and Catapults to accelerate the path to Net Zero. The Centre includes three pillars: a partnership between the UK's Centre for Process Innovation and India's National Chemical Laboratory to decarbonise Indian pharmaceutical industries; Innovating for Transport and Energy Systems, led by Energy Systems Catapult; and the HyPartnership Sprint Series with India's Tata Steel funding the first sprint to develop green hydrogen solutions.

In 2023, India was named a partner for the UK's International Science Partnerships Fund (ISPF), carrying forward the partnership built through Newton-Bhabha. Under ISPF, the UK and India kicked off two joint research programmes on farmed animal diseases and health (£10m), and technology and skills development (£6.6m). The Royal Academy of Engineering (RAEng) awarded 10 grants to projects on clean energy and affordable healthcare under Transforming Systems through Partnership. RAEng's Leaders in Innovation Fellowships support entrepreneurs to turn their innovations into impactful, sustainable businesses. Since 2014, LIF India has resulted in 1,400 jobs, $29 million raised in further funding by the innovators, and over five partnerships between the innovators and UK organisations.

UK-India collaboration has higher impact than UK or India alone. Their combined 'Field Weighted Citation Impact' score (an indicator of how much impact a country's publications have) is 2.2, more than twice the global average, higher than the UK and Indian averages, as well as for UKRI-funded research projects. Data from Scival show UK-India collaboration increased by over 60% between 2019-22 - far more than with any other research producer (most range between 15-25%).

The UK-India Education and Research Initiative (UKIERI) is India's largest bilateral initiative in education. It has facilitated over 25,000 academic exchanges spanning 4,500 education institutions since 2006. In 2023, the UK government announced its commitment of £2 million to Phase 4 of UKIEIRI. Currently, 17 Russell Group



universities have partnerships with 12 Indian Institutes of Technology in climate, manufacturing, data, material science, agriculture and medical sciences. The Royal Society's Yusuf Hamied programme, delivered with the Indian National Science Academy, promotes knowledge exchanges between UK and Indian researchers.

The UK and India are deepening collaboration on critical technologies. The UK-India Emerging Technologies Accelerator Programme, delivered with India's T-Hub, provides mentorship and market access support for UK and Indian start-ups developing innovations in AI and semiconductors. The UK-India Critical Minerals Workshops bring together a community of academics, innovators, investors and companies to develop a sustainable and resilient supply of critical minerals. The UK-India Responsible and Trustworthy AI workshops bring together experts to reduce bias and promote equity in AI. This builds on a series of discussions flowing out of the AI Safety Summit. In November 2023, the UK-India Quantum Technologies Working Group connected UK and Indian industry and academia to create a shared knowledge base on quantum tech focus areas and policies.

The UK-India partnership on health saved millions of lives during COVID-19. The first UK-India clinical trials were set up in 2022 as an arm of the UK's RECOVERY trial to test efficacy of COVID-19 drugs in South Asian patients. Through collaboration with India's Serum Institute of India (SII), the two countries produced and distributed over 2 billion COVISHIELD doses covering around 80% of Indians' first and second doses, with 5 million doses provided to the UK in March 2021 to fill supply gaps. The partnership also resulted in a groundbreaking malaria vaccine (lowest cost in the world with same efficacy as existing products) authorised by WHO in October 2023. SII and Oxford University also developed an Ebola vaccine at pace in August 2023 for a WHO clinical trial in response to an outbreak in Uganda.

The UK-India £600,000 Fleming Fund Phase 1 partnership boosted lab surveillance capacity to combat Anti-Microbial Resistance. The UK-India Healthtech Bootcamp identifies solutions from Indian innovators to NHS challenges to improve health outcomes in the UK and globally. The six winners of the 2023 Bootcamp visited the UK to understand the market and health ecosystem, following which two companies established offices in the UK. 30 companies will participate in the 2024 Bootcamp.

3. SIN contacts

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