



UK Science & Innovation Network Country Snapshot:

India

India's position in Global Innovation Index:

76

Position of UK in India's international collaboration 2008-12:

3rd

Indian Science and Innovation Landscape

India is one of the biggest investors in the UK and invests more in the UK than it invests in the rest of Europe combined. From 2008 to 2013 bilateral trade grew by almost 50% from approximately £11bn to £16.5bn, despite a slowdown in both UK and Indian economies. In February's Union Budget, the science and technology allocation increased by roughly 7.5% but for space exploration and nuclear energy, the increase was marginal. However the Indian government did announce a dozen new research institutes in areas such as medicines, drug development, science and technology and education.

India aims to push total R&D spending beyond 2% of GDP, from around 1% currently. The research ecosystem in India presents a significant opportunity for multinational corporations across the globe on the back of its talented manpower at competitive costs, which has led to R&D bases being set up by an increasing number of MNCs. Due to the government's investment in research close to 800 leading companies from the world have set up their R&D centres in India. Indian research now accounts for 3.5% of the global total but this is growing at 9% a year – larger and growing faster than Russia and Brazil, but smaller than China. According to a report commissioned from Nesta, there are 21 institutions in India which published over 200 'world class' research papers in the last decade.

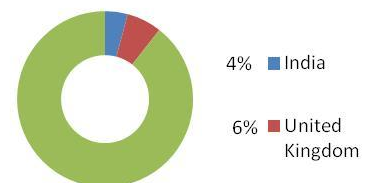
On technology, India is moving from a model in which foreign technologies are adapted and manufactured in India, to a scenario where technologies are developed in-country as part of the 'Make in India' initiative. The Nesta report does highlight a unique approach in India toward 'frugal', or high-tech-low-cost innovation.

Partnership

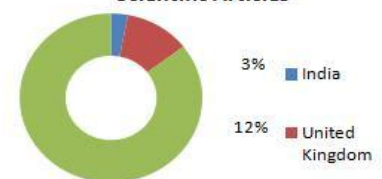
India has big plans for its large facilities, is a full member of ITER and has an ambitious space programme. It recently launched a successful Mars mission and its first heavy duty rocket. In short, it is an emerging scientific superpower. There's excellent work to partner with now, and there'll be much more in future. For example five UK satellites were recently launched on an India rocket.

India and the UK are established partners in science and innovation. This partnership has been strengthened by a number of high-profile bilateral initiatives including UKIERI, the establishment of a biannual India-UK Ministerial Science and Innovation Council (SIC) and the creation of the RCUK India office in 2008, which is co-located with the SIN team in Delhi. The priorities for UK engagement with India are set by the UK-India Ministerial Science and Innovation Council. Since then, joint research money agreed by both countries has risen from £1m to over £150m. On the latest data, the UK ranks third in co-authored publications with India over the last decade (with 6,411) but the only country in the top four with a growing proportion of the total. Much of this trend also predates RCUK India's funding initiative so the outlook is even better.

Share of Global Scientific Journal articles



Share of Global Citations in Scientific Articles



UK-India innovation collaboration has seen less activity historically, although some of the earliest RCUK Science Bridge programmes included SMEs. More recently there has been a dramatic uplift activity. Innovate UK launched a programme of industrial R&D support with their Indian counterpart – this will support collaborative R&D projects for which Innovate UK has committed up to £5m.

Value of exports to India:

£8,033m

Value of imports from India:

£9,361m

ONS Pink Book 2013

Newton-Bhabha

The UK and India agreed a set of grand societal challenges that formed the basis for negotiating the Indian elements of the Newton Fund, a new £375m fund to support the UK's research engagement with developing countries. Under this, the UK committed £10m a year for 5 years to working with India. The grand societal challenges identified jointly are: Sustainable Cities and

Urbanisation; Public Health and Well Being and Energy-Water-Food Nexus plus focusing on two cross-cutting capabilities: High Value Manufacturing and Big Data. In July 2014, it was decided that the Indian elements of the fund would be known as the Newton-Bhabha Fund and subsequently in November 2014, at the Science and Innovation Council, UK and Indian ministers signed a Memorandum of Understanding to formalise the programme. The identified grand societal challenges reflect our wider HMG objectives and means we work closely with partners such as DFID, UKTI and the British Council. We have made significant progress over the last year on a number of major new research and innovation partnerships through the three pillars of People, Programme and Translation. Some examples under these include:

'People' pillar- Significant partnerships have been developed with Indian departments on PhD exchanges, Post-doctoral training schemes and professional development. The entrepreneurship trainings under the Innovation Leadership Programme supported capacity building in technology based innovations addressing challenges at an individual level and within institutions. It created a cadre of entrepreneurial Indian researchers who are linked to the UK and international peers and mentorship networks.

'Programme' pillar – New major UK India initiatives under this pillar include joint collaborations on Antimicrobial resistance (AMR), care for the elderly, mental well-being, the effects of atmospheric pollutants on human health, maternal and child health and agricultural nitrogen. In addition, three major research centres on Cancer Biology & Therapeutics, Antimicrobial Resistant Tuberculosis and Advanced Technology have been announced. A Global Research Programme on Maternal and Child Health and Nutrition is addressing the health needs of the most disadvantaged populations globally. And an International Wheat Yield Partnership is working towards increasing wheat yield potential by 50% in 20 years. Other collaborations in the pipeline include the setting up a UK-India Joint Centre on Renewable Energy Research in the areas of Solar, Storage and Networks.

'Translation' pillar – Collaborations under this pillar are creating solutions to the identified development challenges and strengthening innovation systems in both the countries. Two successful joint industrial R&D calls have been announced with a focus on: Cleantech Energy; Affordable healthcare; Advanced Manufacturing; Use of Information & Communication Technologies. For the third call, state-level partnerships are also being explored. In addition, the newly announced Newton-Bhabha Higher Education Partnership programme aims to support Indian universities in improving their engineering education and research output through partnership with industry and UK stakeholders.

More information

For the most up to date news about our work, its impacts, upcoming events and funding opportunities, please visit our blog or subscribe to our newsletter. Many of our recent success stories are detailed in our publication: India-UK Research & Innovation Partnerships.

Links

<http://blogs.fco.gov.uk/science-innovation-network-india>

<https://www.gov.uk/government/priority/collaborating-with-india-on-science-and-innovation>

<http://www.newtonfund.ac.uk/about/about-partnering-countries/India/>

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