**UK Science & Innovation Network Country Snapshot:**

**Brazil**

Country position in Global Innovation Index (2018)

66th

Position of UK in country's international collaboration 2011-16:

2nd

Value of UK exports to Brazil:

£3,139m

Value of UK imports from Brazil:

£2,406m[[1]](#footnote-1)

**Brazil Science and Innovation Landscape**

Brazil is recovering from its economic crisis of 2015-2016, which temporarily slowed down the country’s rapid investment growth in science and innovation. In 2019, the Brazilian government has approved a budget for science and innovation of £ 2.4 billion[[2]](#footnote-2). There is strong pressure from the scientific community for more investment in the area.

It has a diverse and strong science and innovation community. In the last ten years, it has been more open for more international collaborations – which includes exchange of researchers and major international projects. It also has a vibrant start up’s ecosystem. In 2018, the fourth generation light source accelerator, SIRIUS, has started its operations in the National Centre for Energy and Materials Research, located in Campinas (Sao Paulo) and in 2019, it released its first images. The innovation environment has shown improvement in recent years as well. In the period 2017-2018, the number of granted patents has risen 77,4% - reaching 11.090[[3]](#footnote-3). We should expect a policy decentralization and a boost in public-private partnerships in the next years.

It has a broad list of well-ranked public universities – USP and UNICAMP featuring in most international rankings. Brazil is a science powerhouse. Between 2011 and 2016, the country had 250,680 scientific papers added to Web of Science, reaching the 13th position worldwide. Annually, the increasing number of Brazilian papers in the Web of Science indicates an expansion in productive research. Brazil’s publication impact has also grown from 0.73 in 2011 to 0.86 in 2016, a rise of 18%[[4]](#footnote-4). According to the Web of Science Magazine, Brazil is responsible for 56% of the scientific production in Latin America.

The impact and quality of Brazilian research is excellent in many areas, citations being three times greater than the world average in sectors such as **agricultural sciences**, **plant and animal science**, **environment and ecology**, and **biology and biochemistry**. At the same time, pockets of excellence are emerging in **avionics, engineering, oil and gas**.

The Government is also investing in Brazilian industrial development, funding new companies and developing a skilled labour force. The main agencies working with R&D investment in the private sector are FINEP (Brazilian Innovation Agency), EMBRAPII (Brazilian Agency for Industrial Innovation) and BNDES (National Bank for Social and Economic Development). These organizations have been responsible for more collaboration between universities/research centres and companies. Priority areas have been health, oil & gas, robotics, chemistry, automotive, genetics and biotechnology.

Recently, Brazil announced the inauguration of the new scientific outpost in Antarctica. A technological facility with 17 laboratories dedicated to the study of a range of fields, from environmental microbiology to human physiology, palaeontology, and climate change.

This landscape provides a significant field of opportunities to further UK-Brazil science and innovation co-operation as well as commercial opportunities for British institutions and companies. Brazil sees the UK as a world leader in science and areas of UK expertise complement many of the objectives of Brazil.

**UK Science and Innovation in Brazil**

Between 2011 and 2016, the UK had 11,668 joint publications with Brazil, being the second largest Brazilian research partner. These joint research papers achieved great impact, with 2.66[[5]](#footnote-5). The Brazilian percentage of internationally collaborative publications is increasing, which represents a good environment for additional scientific collaboration with the UK. From 2010 to 2016, the UK had the highest increase on co-authorship with researchers in the State of Sao Paulo (+173%). According to the latest annual report from FAPESP, the UK is the strongest European partner in international co-authorship. In 2016, researchers from the State of Sao Paulo and the UK published 1.441 papers in indexed journals.

The country has a long tradition of collaboration with the United Kingdom – with several leading scientists, policy makers, entrepreneurs and executives showing a UK experience in their bios. They have mostly been in the UK with the purpose of studying.

Brazil is a Newton Fund country since 2014. The UK and Brazil have been working in the following areas:

* Health, focus on neglected disease
* Sustainable Agriculture
* Renewable Energy
* Education
* Biodiversity and ecosystem
* Environmental Technologies
* Climate Change
* Food, Energy, Water, Environment, Nexus
* Urban Transformation

Public-private partnerships have been a significant part of UK science and innovation work in Brazil. British firms have been working with local funding agencies to invest in excellent science in areas such as green chemistry, drug discovery, life sciences, natural gas and new types of energy.

We have also seen an increased interest and investment of UK universities and research centres in Brazil. Several universities, catapults and entrepreneurs have been active in inward and outward missions from/to Brazil. This is resulting in more projects and collaborations funded through various funding schemes such as FAPESP-UKRI agreement and GCRF.

**SIN Brazil recent success stories / forward look**

SIN Brazil team’s priorities in 2018-2020 have been ***Global Health and Life Sciences, Resources and Resilience (including climate, energy, biodiversity)*** and ***Agritech and Food***. Itwill continue to centre on increasing engagement with Brazilian research funding agencies, building bilateral research funding mechanisms, whilst supporting local S&I policy makers and partnerships in innovation.

In partnership with DIT, SIN has worked with two main streams. The first is to increase dialogue with different levels of the Brazilian government, working on sharing best-practice and increasing the dialogue with key local partners to influence policy-making. This includes FINEP, the Brazilian Innovation Agency, the Brazilian Ministry of Development, Industry and Foreign Trade, and State and Municipal governments in Sao Paulo. The second is to increase the UK’s reputation in innovation in Brazil, improving the volume and value of collaborations between Brazilian firms and UK partners. This has increased the demand from Brazilian innovative companies looking at R&D and open innovation partnerships in the UK.

The governments of the UK and Brazil launched in March 2018 the UK-BR Year of Science and Innovation 2018-2019. The Year’s programme offers a variety of events in both countries, being an opportunity for scientists, entrepreneurs and British and Brazilian companies to celebrate existing and new joint research in light of the key global challenges we face. GREAT campaign has been used to boost and showcase UK capabilities.

In 2017, for instance, the Centre of Excellence in New Target Discovery under the GSK-FAPESP (Sao Paulo State Research Funding Agency) funding scheme was launched. The project had a financial contribution of R$ 24 (£4.9) million, with investments from FAPESP (State of São Paulo Research Funding Agency) and GSK. In addition, FAPESP collaborated with Shell for the inauguration of two research centres in São Paulo.

Scientists from the Universities of Nottingham and Birmingham are joining forces with experts at Brazil’s National Centre for Research in Energy and Materials (CNPEM) to develop the next generation of drugs to tackle cardiovascular disease and cancer. An agreement was signed at the Brazilian Embassy in London between the Brazilian centre in Campinas, and the Centre of Membrane Proteins and Receptors (COMPARE), a collaboration between Nottingham and Birmingham scientists. The agreement was part of the UK-Brazil Year of Science and Innovation and will provide a research laboratory and support at the Brazil facility to host visitors from COMPARE. The agreement will enable COMPARE to access very specialist equipment dedicated to the study of membrane proteins, as well as providing access to a library of natural products that is only available in Brazil.

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1. ONS 2018 [↑](#footnote-ref-1)
2. CAPES: <https://www.capes.gov.br/images/stories/download/diversos/17012018-CAPES-InCitesReport-Final.pdf> [↑](#footnote-ref-2)
3. Brazilian National Institute for Intellectual Property: <http://www.inpi.gov.br/sobre/arquivos/arquivos/RelatriodeAtividades2018vfinal.pdf> [↑](#footnote-ref-3)
4. CAPES: <https://www.capes.gov.br/images/stories/download/diversos/17012018-CAPES-InCitesReport-Final.pdf> [↑](#footnote-ref-4)
5. CAPES: <https://www.capes.gov.br/images/stories/download/diversos/17012018-CAPES-InCitesReport-Final.pdf> [↑](#footnote-ref-5)