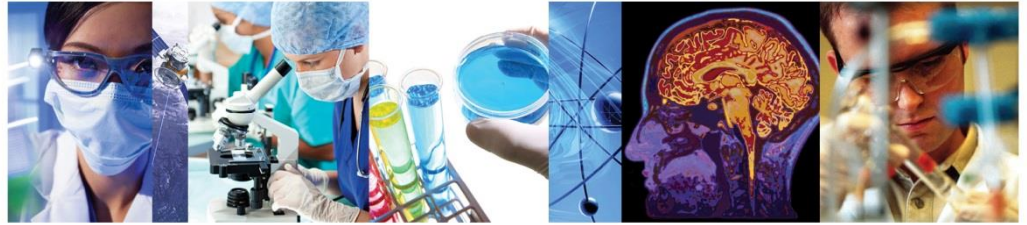




UK Science
& Innovation
Network



UK Science & Innovation Network Country Snapshot: South Korea

South Korea position in
Global Innovation Index:

11th

Position of UK in South
Korea's international
collaboration 2009-18:

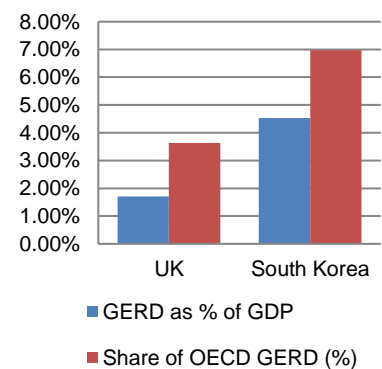
5th

South Korea Science and Innovation Landscape

According to OECD data, in 2018 South Korea spent \$95.46 billion (£74.08 billion) on R&D, maintaining its position as the 5th largest R&D investor in the world after the United States, China, Japan and Germany. South Korea also ranked 2nd following Israel in terms of R&D intensity with a gross expenditure on R&D (GERD) of 4.53%. The Korean Government is inexplicitly demonstrating their ambition to increase the R&D investment to reach 5%. The 2020 total government R&D budget will be KRW 24 trillion (£15.73 billion), which is more than 17% increase from the 2019 budget. From this, KRW 5.19 trillion (£3.36 billion) will be used to support science and ICT technology projects to build up country's capabilities in the

respective area. The majority of Korean R&D is performed by the industrial sector (76.23%, 2017) and performed within the 'chaebol' or large international conglomerates including Samsung, LG and Hyundai/Kia Motors. The remainder is funded by the government and with research performed by national research institutes and universities.

In November 2017, the President Moon Jae-in administration announced its R&D strategy, 'I-KOREA 4.0.' Overseen by the Presidential Committee on the 4th Industrial Revolution and the Ministry of Science & ICT, 'I-KOREA 4.0' focuses on improving people's quality of life, expanding research capacity and strengthening major industries in preparation for the 4th Industrial Revolution. Aligning strongly with the UK's Industrial Strategy and its identified Grand Challenges, Korean government support is to be concentrated upon the **ICT (Data, Network and AI), healthcare, energy/environment, and automotive** sectors and provides interesting opportunities for collaboration with UK researchers.



Source: OECD Science and Technology Indicators (2018)

Value of exports to South Korea:

£6,070m

Value of imports from South Korea:

£5,292m

ONS Pink Book 2017

South Korea's rapid industrial and economic rise has been a result of strategic investment in core and applied industrial technologies. While there is a high level of excellence in basic sciences, in 2012 the Korean government inaugurated the Institute for Basic Science (IBS) to address the recognised need for a stronger platform for sustainable technological development.

www.gov.uk/government/world/organisations/uk-science-and-innovation-network

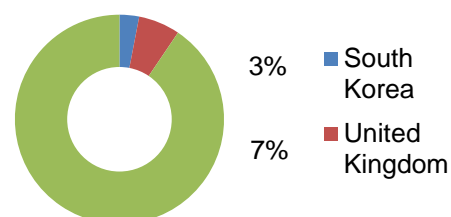


Modelled after the Max Planck Society (Germany) and RIKEN (Japan), the government committed to the investment of \$3 billion (£1.9 billion) between 2012 and 2015 in 25 autonomous institutes and the construction of a rare isotope accelerator. A core group of the institutes are located at the IBS headquarters in Korea's science city of Daejeon, with the remaining institutes located at research institutions and universities. To date, there are 30 research centers established, and IBS plans to increase the number to 50 in the future.

UK Science and Innovation in South Korea

The UK and South Korea first signed a Science and Technology Cooperation Agreement in 1985. As part of a biennial review of cooperation activities, the UK's Department of Business, Energy & Industrial Strategy (BEIS) and the Korean Ministries of Science & ICT (MSIT), Trade, Industry & Energy (MOTIE) and Health & Welfare (MOHW) meet to agree on new areas of collaboration. The most recent biennial meeting, the Joint Committee on Science and Technology Cooperation, was held in London on 17 March 2017.

Share of Global Scientific Journal articles



Data provided by Scopus (2018)

BEIS/MSIT Focal Point Programme. The research areas selected for prioritised collaboration include **artificial intelligence, healthcare (drug discovery), and clean energy technologies (hydrogen energy)**. Discussions focused on how to translate the networking and knowledge exchange activities supported by this programme to larger scale research initiatives.

BEIS/MOTIE Science, Technology and Innovation Partnership (STIP) Programme. The research areas selected for prioritised collaboration include **advanced materials, digital technologies (e.g. artificial intelligence, the Internet of things, and big data), clean and renewable energy technologies (e.g. smart grids and energy storage) and other near-term technologies (e.g. future manufacturing)**.

BEIS/MOHW Health Innovation Meeting. The parties agreed to continue their commitment to support the neuroscience field. Opportunities for wider collaboration include, but not limited to, **anti-microbial resistance, precision medicine, stem cell regenerative medicine, healthcare for an ageing society, and healthcare big data**.

SIN South Korea recent success stories

Medical Research Council (MRC) has supported two matched funded programmes worth £10.7 million with Korean partners: with the National Research Foundation (NRF) on precision medicine (£9 million); and the Korea Health Industry Development Institute on dementia (£1.7 million).

Engineering and Physical Sciences Research Council (EPSRC) and NRF agreed a second £3 million call for projects for nuclear decommissioning and radioactive waste management.

For 2019 The Department for Digital, Culture, Media and Sports (DCMS) has partnered with MSIT on a £2.4 million industry-led project call on 5G telecommunications on high speed transportation.

InnovateUK and the Korea Institute for Advancement of Technology (KIAT) launched a 2019 £2 million joint call for EUREKA Network projects targeting the Internet of Things and advanced materials for transport.

SIN South Korea: current priorities and contact information

Our current priorities include: ageing society & healthcare, energy, advanced materials, digital technologies and smart cities, and future automotive technologies.

To contact the SIN South Korea team please email us at sinkorea@fcdof.gov.uk.

