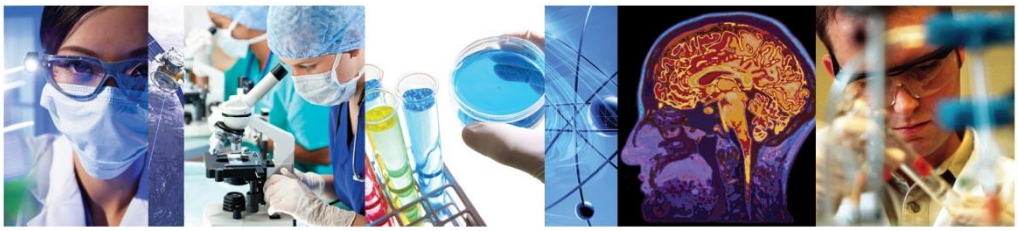
UK Science & Innovation Network



UK Science & Innovation Network Summary

South Korea

1. Science and Innovation Landscape

R&D Expenditure & Structures

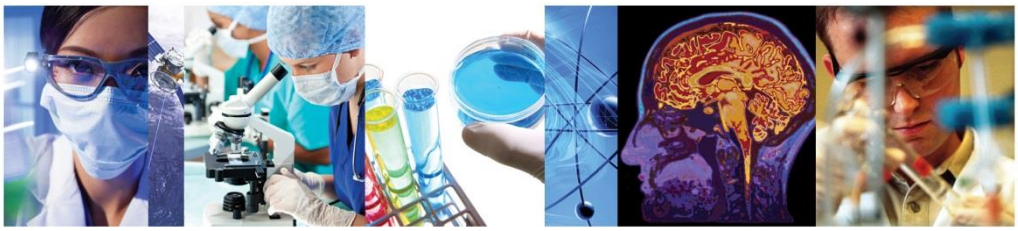
South Korea's rapid industrial and economic rise has been a result of strategic investment in core and applied industrial technologies. According to OECD data, in 2021 South Korea spent $110.15 billion (£86.68 billion) on total R&D spending, maintaining its position as the 5th largest R&D investor in the world after the United States, China, Japan and Germany. South Korea ranks 2nd following Israel in terms of R&D intensity, with a gross expenditure of 4.93% of GDP.

In 2022 around 65% of expenditure was on development research, with 20% on applied research and 15% on basic research. This reflects that the majority of South Korean R&D is performed by the industrial sector, accounting for 79.1% of the total in 2021, or 3.9% of GDP. Private sector R&D expenditure is particularly concentrated within the 'chaebol' or large international conglomerates including Samsung, LG and Hyundai/Kia Motors.

Government budget allocations account for 20% of R&D expenditure, placing South Korea fourth in the OECD for publicly funded R&D. Public funding particularly flows to the 25 government research institutes, which are overseen by the National Research Council of Science and Technology. Funding is also provided to universities and SMEs.

Government policies

The South Korean government has recently moved to reform the approach to the R&D budget, in a bid to improve efficiency of spending and focus in on the promotion of next generation R&D. The government R&D budget for 2025 is 24.8 trillion won ($17.9 billion), the largest public sector investment in the country's history. South Korea has also increased budget allocations to support international R&D cooperation.



The South Korean Ministry of Science and ICT is responsible for overall science and innovation policy, as well as coordinating R&D investment and evaluation. It has identified 12 “national strategic technologies” for priority R&D investment over the next decade: semiconductors, secondary batteries, future mobility, advanced nuclear, biotech & synthetic biology, space, hydrogen, cyber security, AI, next gen comms, advanced robotics & manufacturing and quantum.

2. UK partnership with South Korea on ST&I

The UK and South Korea are natural partners in science and innovation, with both countries ranking within the top ten of the Global Innovation Index (4th and 10th respectively in 2023).

The UK and South Korea first signed a Science and Technology Cooperation Agreement in 1985. This agreement was recently upgraded in ambition and scope as part of the Downing Street Accord, a Global Strategic Partnership signed between the UK and South Korea in 2023. The Accord also committed to enhanced science and technology cooperation mechanisms for other areas, including through a Digital Partnership, Framework for Semiconductor Cooperation, and MoU on Space Cooperation.

There is also growing cooperation between non-governmental organisations in science and technology, including universities, research institutes, funding agencies, scientific academies and innovative businesses. The United Kingdom is South Korea’s fourth biggest international research collaborator according to the Nature Index, after the United States, China and Japan.

Innovate UK are investing more than £8 million into innovation programmes with South Korea, including bilateral funding programmes covering sectors such as semiconductors, artificial intelligence, advanced manufacturing and energy.

The Royal Society has also agreed a new £4.5 million fund with South Korea’s National Research Foundation for International Collaboration Awards, which supports UK and South Korean research leaders to develop collaborative partnerships.

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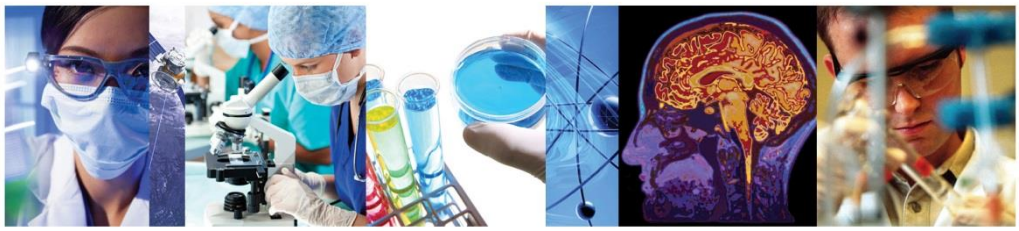

South Korea has also recently announced an agreement with the EU around its association to Horizon Europe, the first country in Asia to do so. This will present additional opportunities for UK and South Korean scientists and researchers to collaborate.

3. SIN contacts

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