

UK Science & Innovation Network Country Snapshot:

Malaysia

Malaysia Science and Innovation Landscape

Malaysia has a population of 32.9 million with a median age of 28 years old. In recent years, economic development has changed from reliance on primary commodities to a multisector economy focusing on manufacturing and services. There is an emphasis on innovation in all sectors, based on a number of national action plans and policies, intended to uplift social and economic advancement and to move towards an innovation driven economy.

Total Gross Expenditure on R&D (GERD) in 2015 was RM41.35 billion, giving an R&D intensity of 1.3% as percentage of GDP. GERD is expected to increase to 1.84 % by 2020. The World Economic Forum's Global Competitiveness Report 2017-2018 ranked Malaysia 24th out of 137 nations for the quality of scientific research institutions and 40th for patents per population ratio. Malaysia ranked 7th in Asia Pacific countries in the Management Development (IMD) survey on the competitiveness of 63 economies released in 2017, and ranked 30th out of 140 countries in the Global Competitiveness Report 2018.

Malaysia Science and Innovation Priority

Research and Innovation focus areas in Malaysia are diverse, and include telecommunication, cybersecurity, plantation crops and commodities and medical and healthcare as major national R&D priority areas. The Shared Prosperity Vision 2030 (launched in 2019) sets out the strategic thrusts of Key Economic Growth Activities (KEGA) highlighting sectors that are able to drive economic development. 15 KEGA areas were listed including sectors such as Islamic Finance Hub 2.0, Digital Economy, Industrial Revolution 4.0, Halal and FoodHubs, Renewable Energy (RE), Green Economy, and Smart and High-Value Farming.

The Malaysian Government has launched complimentary policies and initiatives to support the progress of these sectors. Research and Innovation are often listed as crucial enablers in almost all government action plans to drive progress in KEGA. Some of the policies and initiatives launched recently are:

- Industry4Ward (Industry 4.0) policy developed by the Ministry of International Trade and Industry. This sets the direction to improve the manufacturing industry with advanced digitisation, advanced manufacturing technologies and efficient resource utilisation.
- Development of Renewable Energy (RE) commitment to increase the share of RE (excluding large hydro) in the electricity generation mix in Malaysia from 2 % to 20 % by 2025.
- National legislation is in development in the form of an Antarctic Bill to implement Malaysia's obligations under the 1959 Treaty and the Madrid Protocol
- Malaysia Roadmap towards Zero Single Use Plastics 2018- 2030 to provide policy direction for structured and coordinated efforts to tackle single use plastics.
- Budget 2020 Malaysia included a proposal to establish a National Research Management Agency to centralise and coordinate the management of public research resources in R&D.

UK Science and Innovation in Malaysia

UK- Malaysia cooperation on science and innovation has developed through the UK-Malaysia Partners in Science programme, initiated in 2007 to mark the 50th anniversary of Malaysia's independence. In 2011, Sir John Beddington, then UK Government Chief Scientific Adviser, issued a joint statement with the Malaysian Prime Minister's then science advisor, Professor Tan Sri Zakri bin Abdul Hamid. The availability of world class infrastructures and the growing number of universities and research institutes continues to expand opportunities for research and innovation collaboration. British education is highly regarded and popular in Malaysia. Nottingham, Reading, Newcastle, Southampton and Herriot-Watt universities have campuses in Malaysia and most are expanding from teaching into research.

Malaysia has been identified by the UN Environment Programme as one of the world's top 12 'mega-biodiverse' countries and is home to the South East Asia Rainforest Research Partnership (SEARRP), a programme that was established by the Royal Society in 1985. SEARRP's research facility at Danum Valley is recognised as world class with research on climate change and environment sciences providing invaluable evidence for policy makers.

Net inflows of FDI worth for the period of 1998-2018 :

£ 93.15b

Export values of main Products in 2018:

£184.89b

Reported In Shared Prosperity 2030, Ministry of Economic Affairs

The Science & Innovation Network has assisted a range of collaboration across environmental sciences, vector borne diseases, future cities and agri-technology in the past and is continuing to facilitate and prompt strategic science partnership and collaboration with the UK and Malaysia. The following are among SIN Malaysia projects in the last year;

1. ASEAN Antimicrobial Stewardship (AMS) Seminar and Workshop to facilitate active discussion on AMS capacity development in the region and sharing of UK experience and support to contribute towards robust development of regional AMS framework
2. Capacity building to drive innovation in Plastic through People, Plastics and Our Planet venture workshop in collaboration with British Antarctic Survey (BAS)
3. Initiated the establishment of Malaysia AI Consortium to support strategic engagements, initiatives and international collaboration in the field of Artificial Intelligence.

NEWTON-UNGKU OMAR FUND

The Newton Fund forms the focus of UK engagement on science and innovation with Malaysia and is presenting major opportunities for joint work. A Memorandum of Understanding for the joint Newton-Ungku Omar Programme, identifying joint UK-Malaysia funding of up to £35 million, was signed in August 2014, and joint work has progressed since that date.

Key collaborations between the UK and Malaysia include:

Under the Newton-Ungku Omar Fund there is extensive collaborative research and innovation between Malaysia and the UK, in fields ranging from medical research to resilience to hydrometeorological hazards. Since its inception, the Newton-Ungku Omar Fund has:

- initiated collaborations on health research involving the UK Medical Research Council, Wellcome Trust, Ministry of Education Malaysia, and Academy of Sciences Malaysia;
- continued work on capacity building by UK Research & Innovation (UKRI) and the British Council;
- initiated fellowships and mobility grants by the UK Academies;
- launched a programme on weather and climate modelling activities by Met Office UK and Malaysian partners;
- held a £14 million 'Research and Innovation Bridges' programme on sustainable urbanisation, led by InnovateUK, and Malaysian Industry-Government Group for High Technology (MIGHT).

The Newton Prize in 2017 was awarded to a joint research team from the University of Malaya and the University of Cambridge for their work on generating sustainable energy from effluent waste. The Global Challenges Research Fund is also active in Malaysia.

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References

1. https://www.miti.gov.my/miti/resources/STA%20Folder/PDF%20file/Industry4WRD_-_National_Policy_on_Industry_4.0_.pdf by Ministry of International Trade and Industry
2. Malaysia's Roadmap Towards Zero Single-Use Plastics 2018-2030
<https://www.mestec.gov.my/web/wp-content/uploads/2019/03/Malaysia-Roadmap-Towards-Zero-Single-Use-Plastics-2018-20302.pdf>
3. <https://www.mestec.gov.my/web/penerbitan/penerbitan-kementerian-koleksi-terbitan-luar/#1971-2019-1572945114> Ministry of Energy, Science, Technology, Environment and Climate Change
4. http://www1.treasury.gov.my/tinjauan_ekonomi_en.html Ministry Of Finance
5. Thiruchelvan, K (2017). Mobilizing Science, Technology and Innovation (STI) for Socio-Economic Development; The Experience of Malaysia. Journal of STI Policy and Management, 2(2), 127-138