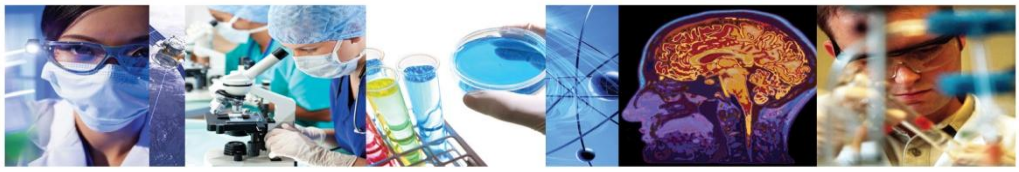
UK Science & Innovation Network



UK Science & Innovation Network Country Snapshot:

Nigeria

Nigeria Science and Innovation Landscape

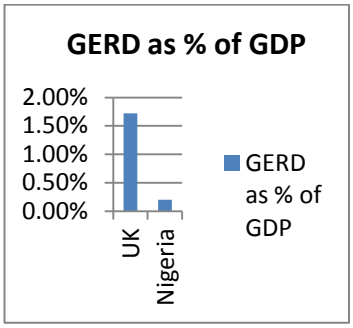
Country position in Global Innovation Index:

119

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

2nd

Nigeria has had a good track record on science and innovation: e.g. inventing the World Fastest Computer in 1989; designing the First Solid Fuel Rocket; and leading on groundbreaking research into the use of local herbs for cancer therapy. Nigeria is the 11th most successful African country in the 7th Framework programme (FP7) in terms of numbers of participations in projects and 12th in terms of total EU contribution. Despite this, at present, its productivity does not match its economic and population size; Nigeria ranks 52nd globally in terms of published documents (59,372) and citations (334,059); and 62nd with 131.00 value and a score of 9.53/100 compared to UK's 1,099.00value and 100/100score, in The H index of the economy's number of published articles (H) that have received at least H citations | 2016[1]; however many of Nigeria's innovations have been, and continue to be introduced abroad without their potential socio-economic benefit being translated in Nigeria.



But there is huge potential for development. Nigerian is the largest economy in Africa by size at $415.08Billion (£317bn), and has had a GDP growth rate per annum which has fluctuated between 7.4% in 2011 and 5.8% in 2016 and 1.4% in third quarter of 2017 after recession in 2016. Over the next 15 years it is expected that Nigeria's economy could continue to grow at a rate of around 5-7% a year and science and innovation is embedded in the heart of the Government's development strategy under Nigerian Vision 20:2020. In 2012 Nigeria reviewed its science policy and launched the new Science, Technology and Innovation (STI) policy. According to Nigeria's Minister of Science and Technology - Ogbonnaya Onu, his Department's immediate focus areas are agriculture, health, crime control, education, communication and space.

It is expected that the implementation of the 2012 STI policy will translate into socio-economic benefits for Nigerians and also have a positive impact on policies in other key sectors such as education, agriculture, health, energy and environment, information and communication technology (ICT), trade and investment, and SME development.

Gross expenditure on research and development (GERD) in Nigeria is hard to establish, but estimates are between 0.1 and 0.5 per cent of GDP. In 2017 the Federal Ministry of Science and Technology was allocated N 65,138,988,759Bilion (£137 Million)[2] of funding up from N48.73 billion (£116 Million) in 2011, but this remains less than 1% of the total national budget.

Value of exports to Nigeria:
£1.222bn
Value of imports from Nigeria:
£1,737bn
Statista 2016

[1] http://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2017.pdf
[2] http://yourbudgit.com/wp-content/uploads/2017/01/FEDERAL-MINISTRY-OF-SCIENCE-AND-TECHNOLOGY.pdf

Nigeria plans to change this and by 2020 establish a GERD/GDP ratio comparable to that of the 20 leading developed economies. To help achieve this, Nigeria established the National Research and Innovation Fund (NRIF) with the aim of providing a minimum funding level 1% of GDP which will be strategically sourced from Government Allocations, Public and Private Partnership, International R&D Funds and Venture Capital. When activated the NRIF will be run by an independent board and headed by Nigeria's president and it will complement the budgetary allocations given to government departments to reduce the problems of underfunding of research and development in the science, technology and innovation space. At present, without the NRIF, research funds come primarily from the budgets of individual agencies and of international agencies**.** The new system will encourage greater participation from Nigeria's private sector that currently undertakes only 0 to 0.1% of research and development (R&D).

Global Citations		
Nigeria	United Kingdom	World
1419	192043	1651907

Global Journal articles		
Nigeria	United Kingdom	World
4624	136476	2121740

Research Infrastructure

The Ministry for Science and Technology has primary responsibility for research, and through its parastatal bodies and agencies conducts various specialised Research and Development (R&D) projects and activities which enhance the pace of socio-economic development of the country. Parastatal bodies and research institutes under the supervision of the Ministry include; National Space Research & Development Agency (NARSDA); and the Federal Institute of Industrial Research, Oshodi (FIIRO) among others. The Nigerian Research Councils drive research and development in specialised areas of natural and applied science and technology with direct funding from the Treasury but under supervision and direction from the Ministry.

Nigeria has a number of high quality university faculties which conduct effective research among which are the Obafemi Awolowo University, the University of Ibadan and the University of Lagos, in the south of the country and the Ahmadu Bello University and the University of Nigeria in the north and east. The University of Ibadan (801 in 2017) is ranked among the top 1000 universities in the world. Universities are block-funded directly via the Ministry of Education, and federal research institutes are funded via the Ministries to which they report. The heads of these federal research institutes are politically appointed.

The research landscape in this large country provides a significant field of opportunities to further UK-Nigeria science and innovation co-operation as well as commercial opportunities for British institutions and companies. Nigeria sees the UK as a leader on Innovation, and areas of UK expertise complement many of Nigeria's objectives. In 2011, the UK and Nigeria agreed the following broad areas where the UK can support Nigeria, many of which involve opportunities for further science and innovation collaboration: combating email fraud and the threat of terrorism; collaboration and co-operation for Global Peace and Security; stamping out corruption; working together to tackle malaria and other diseases; reducing maternal and child mortality; and improving education for millions of Nigerians.

UK Science and Innovation-S&I in Nigeria

There are a few formal partnerships between UK and Nigeria research and academic institutions, and many universities have collaboration agreements with UK counterparts, relating to student/lecturer exchange programmes. Nigeria is one of the largest overseas customers for UK Higher Education, and a large amount of Nigerian researchers started their careers in overseas postgraduate positions in the UK. Nigeria has around 16,100 international postgraduate students for 2015/16, being one of the top 10 Non-EU sending country.

The UK Space Agency has a MoU with its Nigerian counterpart NARSDA on technology development. The Royal Society of Chemistry works extensively in Africa through the Pan African Chemistry Network and in Nigeria they have supported a partnership between Procter & Gamble and the University of Lagos (UniLag). The Royal Society has a £15m programme with

DFID, called the Africa Capacity Building Initiative, to fund 10 research consortia in the areas of renewable energy, water and sanitation, and soil science. Each consortium has one UK partner and 3 African partners. Two consortiums have a partner in Nigeria, at Federal University of Agriculture, Abeokuta (FUNAAB) and UniLag. The International Institute for Tropical Agriculture (IITA), a major intergovernmental agricultural research organisation which is supported by the UK, has a large campus in Nigeria.

SIN Nigeria recent success stories /forward look

Key science and innovation accomplishments of SIN Nigeria in 2016/17 and priorities for 2017/18 include:

- ✓ Increasing engagement with Nigerian research agencies and participation in local events, building bilateral innovation partnerships while supporting local S & I policy makers.
- ✓ SIN is supporting and working closely with Prosperity Fund Nigeria Team to deliver a Future Cities programme in Nigeria via researching, reporting and engaging on Nigerian urban environment information and with relevant UK and Nigeria stakeholders among which are ICF International, DAWN Commission, UN Habitat, Lagos Global (State level investment promotion agency), Ministries of Urban and regional Planning, and Science and Tech.
- ✓ SIN supported DIT Agric lead for a UK/Nigeria Agriculture Trade and Investment Road Show in October 2017. SIN connected DIT to relevant UK and Nigeria stakeholders such as BBSRC; Defra; Knowledge Transfer Network: Food-Agric; Nigeria Agribusiness Group (NABG); Nigeria African Women in Agricultural Research and Development (AWARD) and International Institute of Tropical Agriculture (IITA).
- ✓ SIN supported DIT and UK Crown Agents Innovative Technologies to deliver an Exhibition on *Smart Solar Technology* in July 2017 in Nigeria.
- ✓ SIN supported the Nigerian Mission for EU Climate Diplomacy week in 2017