

Africa: The Next Digital Frontier

Compelling Economic Imperatives



Prof. Yemi Osinbajo
Vice President of Nigeria



Dr Andrew S. Nevin
Partner & Chief Economist
PwC Nigeria



Dr. Ayotunde Coker
Managing Director/CEO, Rack Centre Limited



Femi Osinubi
Partner, West Africa Technology
Leader, PwC Nigeria



Maryam Lawal PhD
Technical Specialist, World Bank Group



Kabir Chal
Director, Real Estate
Actis

Rack Centre in Collaboration with PwC Presents

Africa: The Next Digital Frontier

Compelling Economic Imperatives



Keynote Speaker:

**Prof. Yemi
Osinbajo**

Vice President of Nigeria

Rack Centre in Collaboration with PwC Presents

Africa: The Next Digital Frontier Compelling Economic Imperatives



Economic Overview:

**Dr Andrew
S. Nevin**

Partner & Chief Economist,
PwC Nigeria.

Profile

Dr. Andrew S. Nevin, PhD is one of PwC's leading global thinkers, working at the complex intersection of economics, strategy, capital markets, and investment.

He has almost 34 years of professional experience as an entrepreneur, private equity investor, line manager, economist, and strategy consultant. His professional career spans across Asia, North America, Europe, and Africa. He has been based in Lagos, since early 2012.

In Nigeria, Andrew is a nation builder and public intellectual, playing a number of key roles to advance Nigeria's and West Africa's economy and society including: Financial Services Leader and Chief Economist at PwC Nigeria, Founding Governor Financial Centre for Sustainability Lagos, Founding Director of the Africa Institute for Leadership and Public Administration, Member of the Advisory Board at Lagos Business School (LBS) amongst others.

www.pwc.com

Macroeconomic Overview

Trends and investment landscape



April 2021

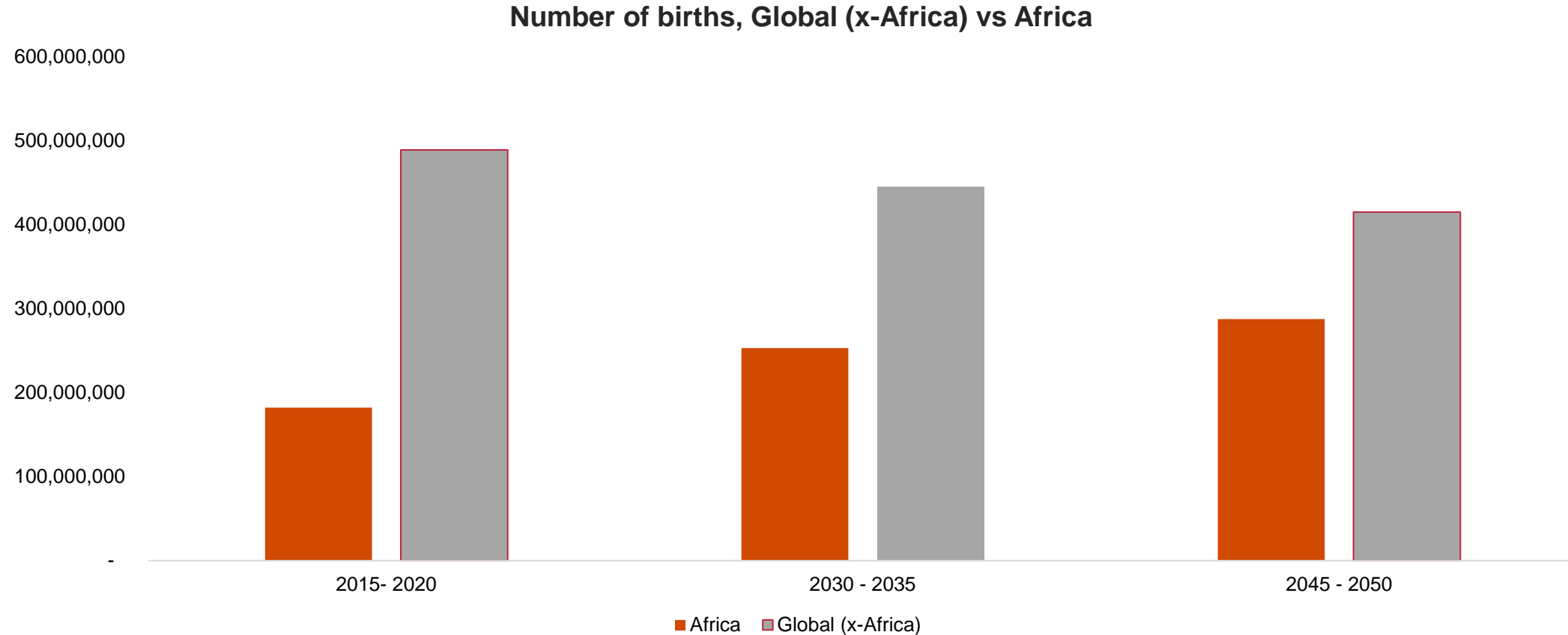
Countries that fit in the Africa map...

Africa is not just one country...all the continents fit into Africa...



Africa is projected to account for about 40% of the global population by 2050...

Of the 329 million births that were estimated to occur globally between 2015 and 2020, about 36% were projected to occur in Africa...By 2050, Africa is projected to account for about 41% of the total global population...

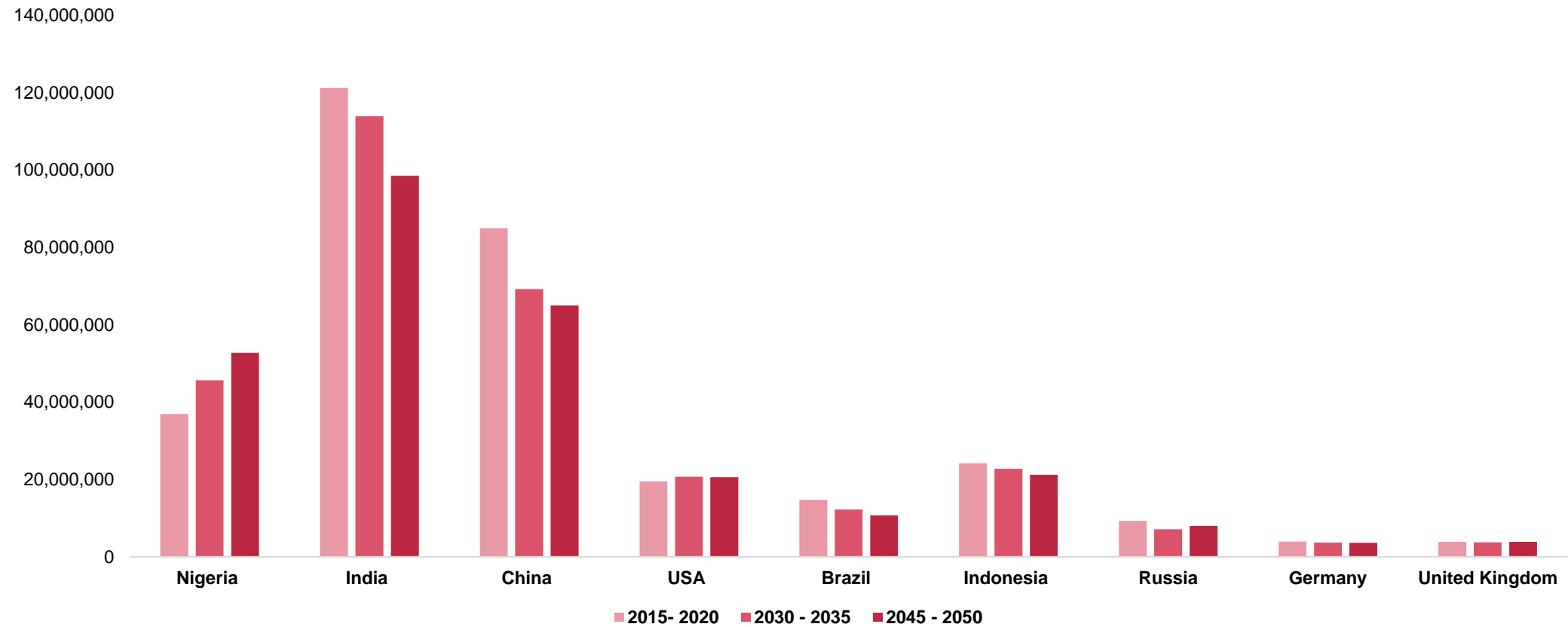


Source: UN DESA

Country by country comparison of births in selected countries...

Population of births in Nigeria were estimated to account for almost 40% of total births in West and Central Africa, and more than 23% of births in SSA in 2019...Globally, over half of the world's births are estimated to take place in just eight countries, including Nigeria (UNICEF)...

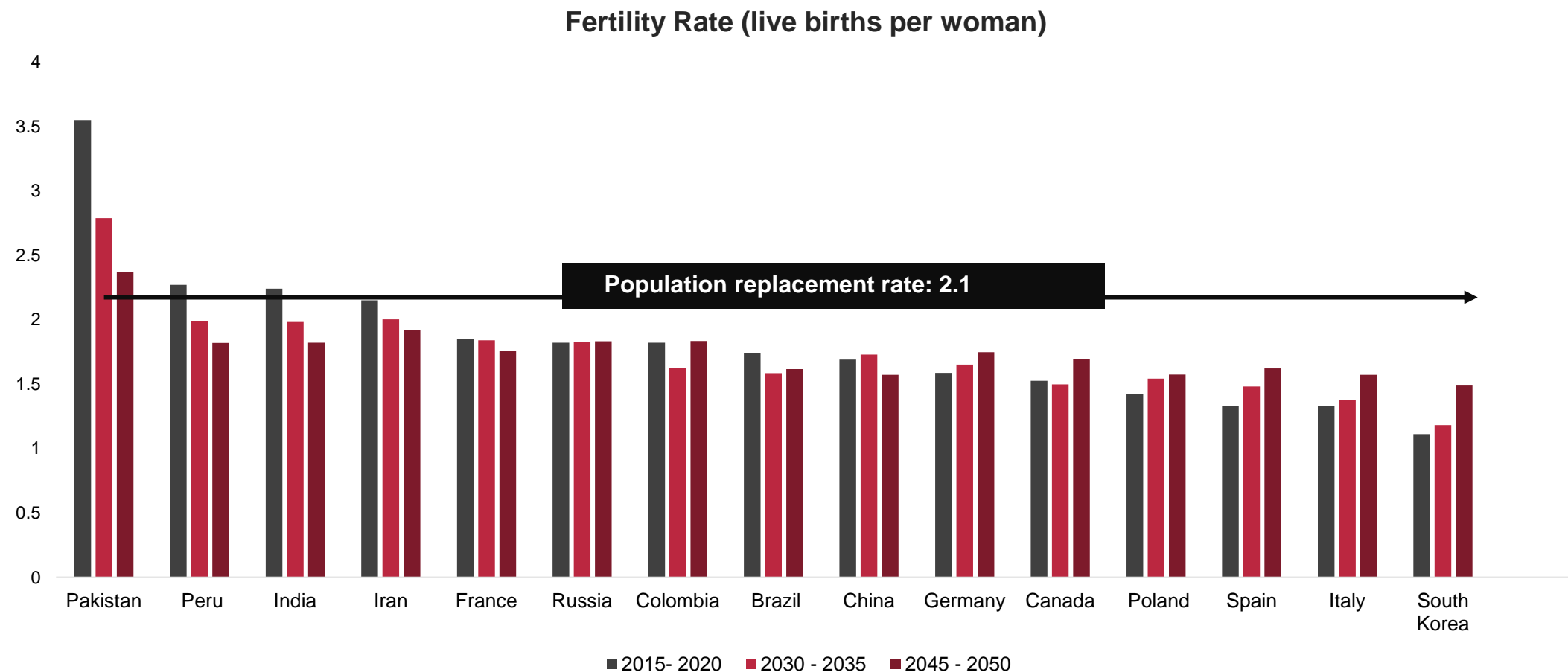
Number of births across selected countries, 2019



Source: UN DESA

Fertility rate by countries

In the last two decades, majority of the countries in the more developed regions of the world have fertility rate at an average of 1.6, while less developed regions have an average of about 2.7; with the least developed countries at average of 4.5.

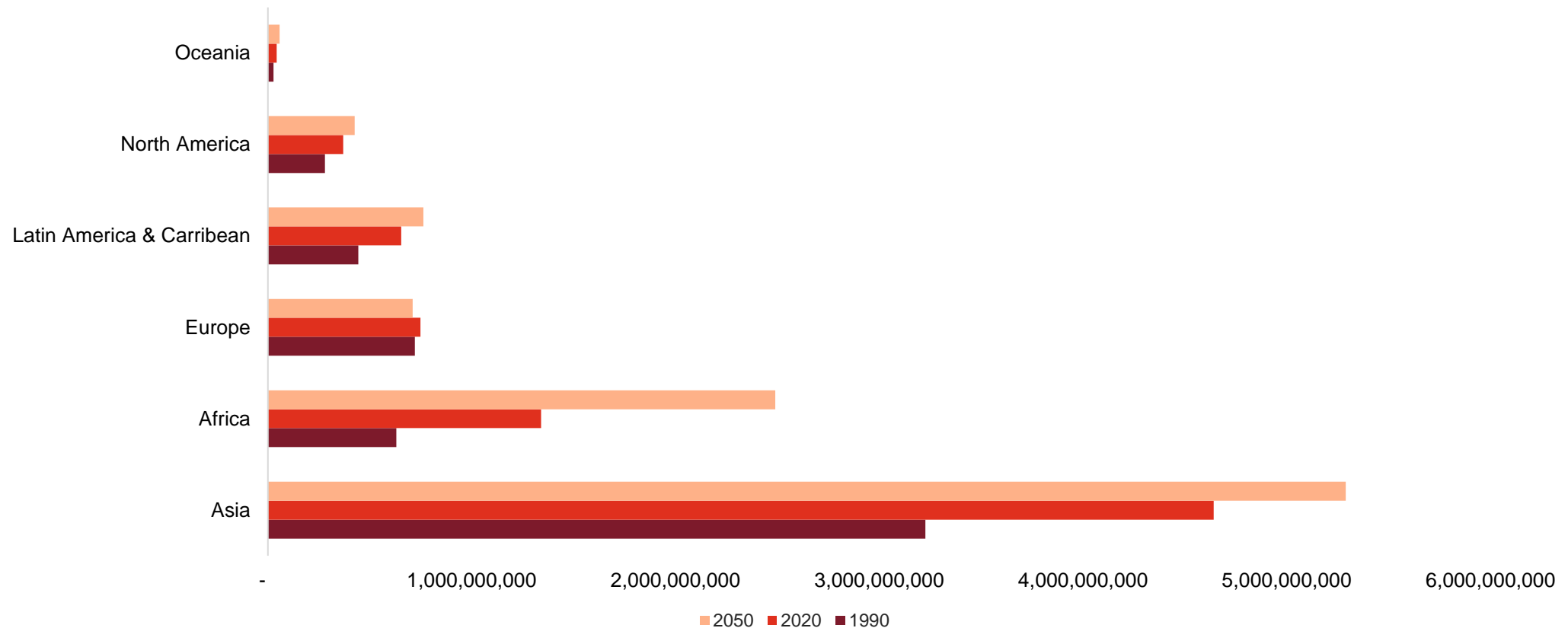


Source: UN DESA

Population projections by Continent...

The world population is increasing, with Asia and Africa contributing the largest growth respectively. Africa's population is expected to grow by 86% from 1.3 billion in 2020 to 2.5 billion by 2050. The Continent will remain the second most populous in the world behind Asia in the period under review...

Population by Continent



Source: UN DESA
www.worldometers.info

Technology and leapfrogging...

The Essential Eight technologies that matter most for business today



Artificial
intelligence



Augmented
reality



Blockchain



Drones



Internet
of things



Robotics

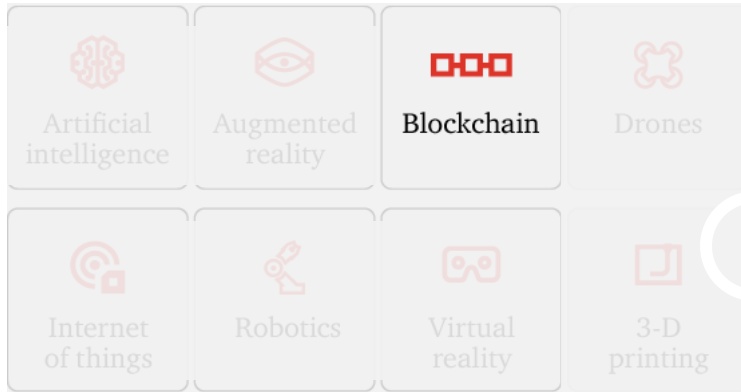


Virtual
reality



3-D
printing

Technology and leapfrogging contd...



Blockchain

A blockchain is a distributed digital database or, more broadly, a digital ledger that uses software algorithms to record and confirm transactions with reliability and anonymity. The record of events is shared between many parties and information once entered cannot be altered. Blockchain has the potential to usher in an era of autonomous digital commerce.

Applications



Technology and leapfrogging contd...



Drone

Drone is an unmanned vehicle. Depending on their design, drones vary greatly in their capacity. Some drones need wide spaces to take off, while quadcopters can squeeze into a column of space.

Some drones are water based; others can operate and navigate semi-autonomously (via remote control) or fully autonomously (via onboard computers). Companies are using drones for wide-ranging reasons, including surveillance, survey, sport, cinematography and delivery.

Applications



Shipping and delivery



Aerial Photograph



Geographic Mapping

Top 10 themes shaping Nigerian Economy in 2021



Unlocking dead assets



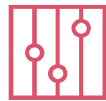
Harnessing the
Power of the
Diaspora



Drive export growth
through services



Need for growth
across the country



Low investment/ gross
capital formation



Move informal
to formal
sector



Improving the
business
environment



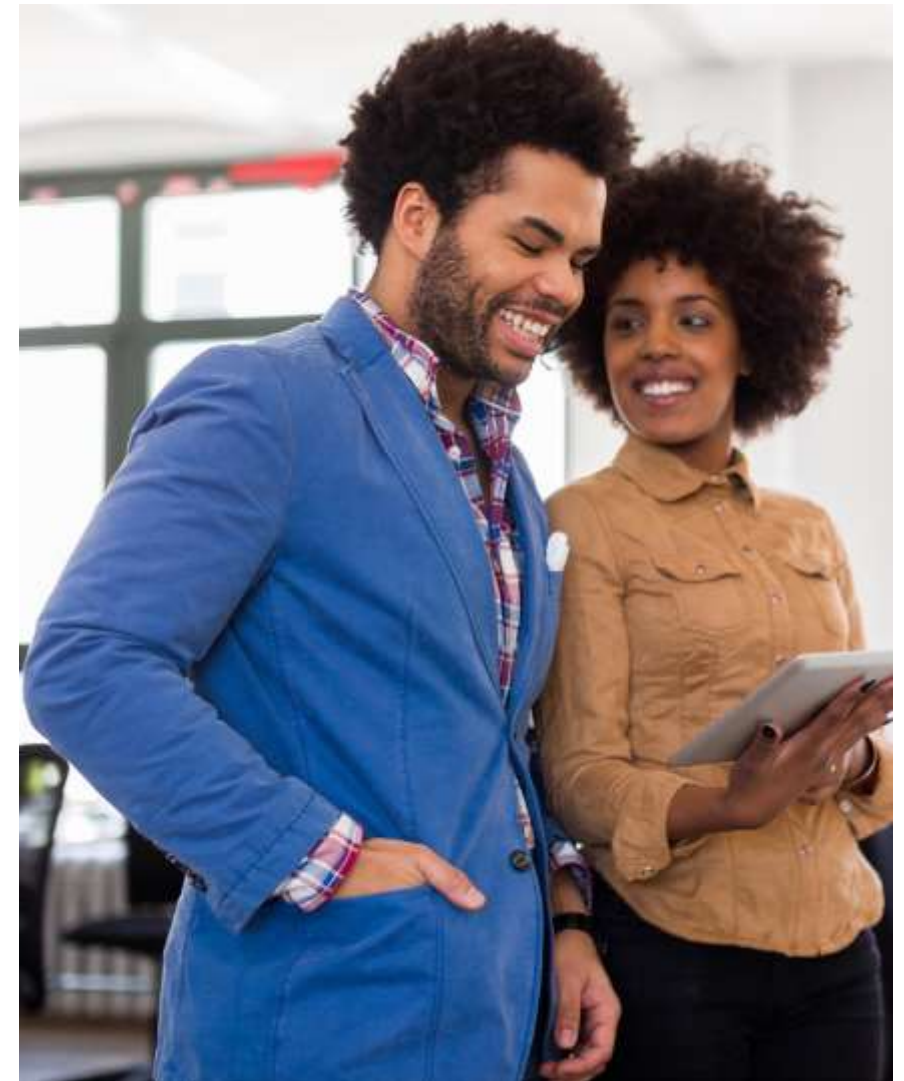
Nigeria's big 3
distortions



Shifting from GDP
lens to SDG lens

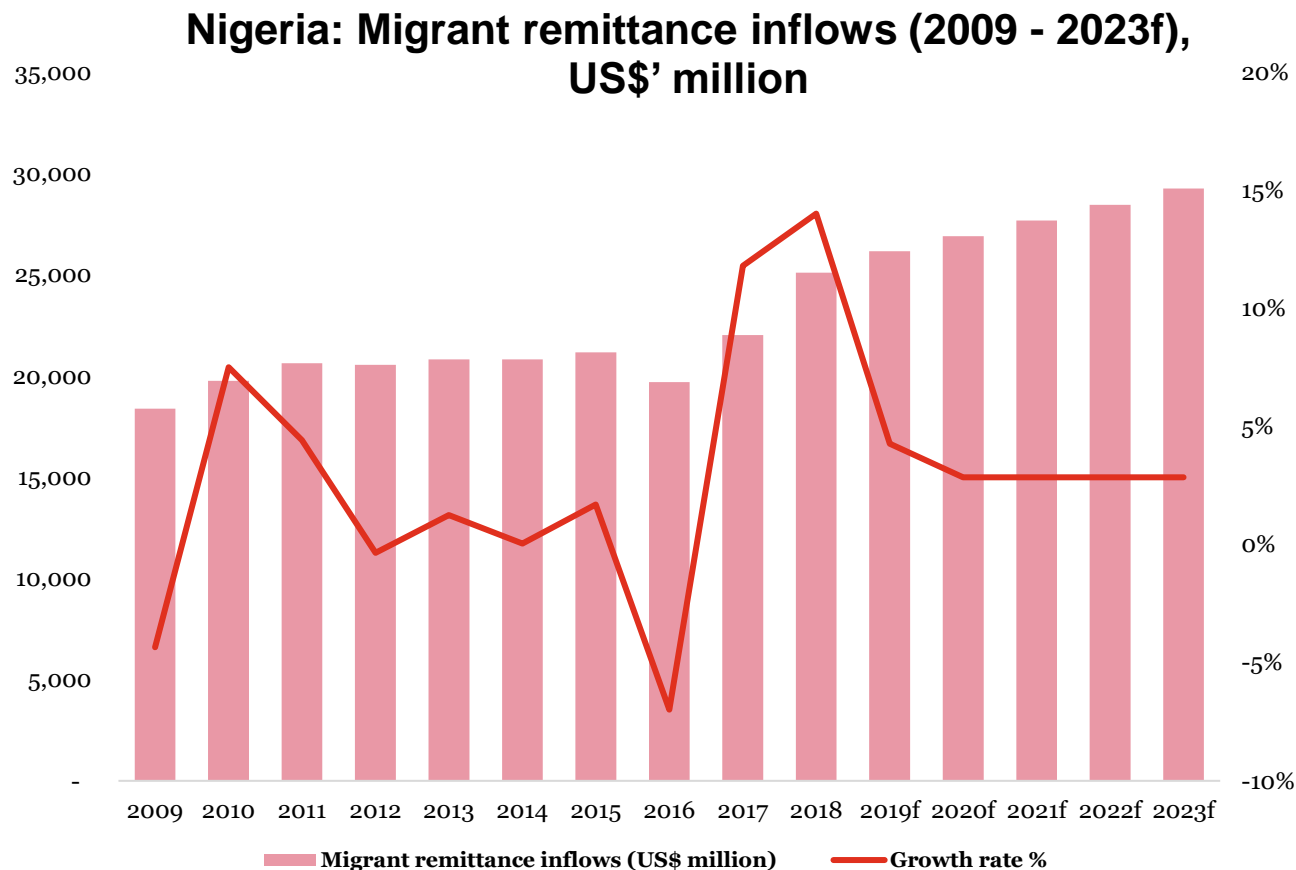


Climate change



Harnessing the power of the Diaspora

Nigeria is the largest recipient of remittance in SSA accounting for over a third of flows to the region. Country's biggest export is human capital...

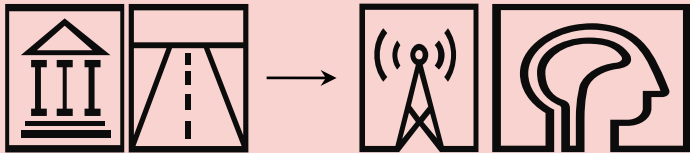


https://www.google.com/search?q=image+of+housing+in+Nigeria&rlz=1C1GCEA_enZA918ZA918&tbm=isch&source=iu&ictx=1&fir=se58F5AcadvqHM%252CR3Nm5sUJsFdVyM%252C_vet=1&usg=AI4_-kTLCsm79fX4hN4cd537iHneiZaaqw&sa=X&ved=2ahUKEwiW-vyr7fuAhUO1xoKHRlAbQQ9QF6BAgFEAE#imgrc=_GPDAPSzabwuM

Drive Export growth and diversification through services

Two-thirds of the global economy is made up of the services sector which are higher value-added than physical goods. Nigeria's creative and cultural industries (CCI) presently plays an important role and will probably generate \$1 billion export revenue in 2020. Nigeria's exportation of Nollywood, technology and financial services are good exports to invest in. Outsource Global, a leading ICT and BPO firm services the international market...

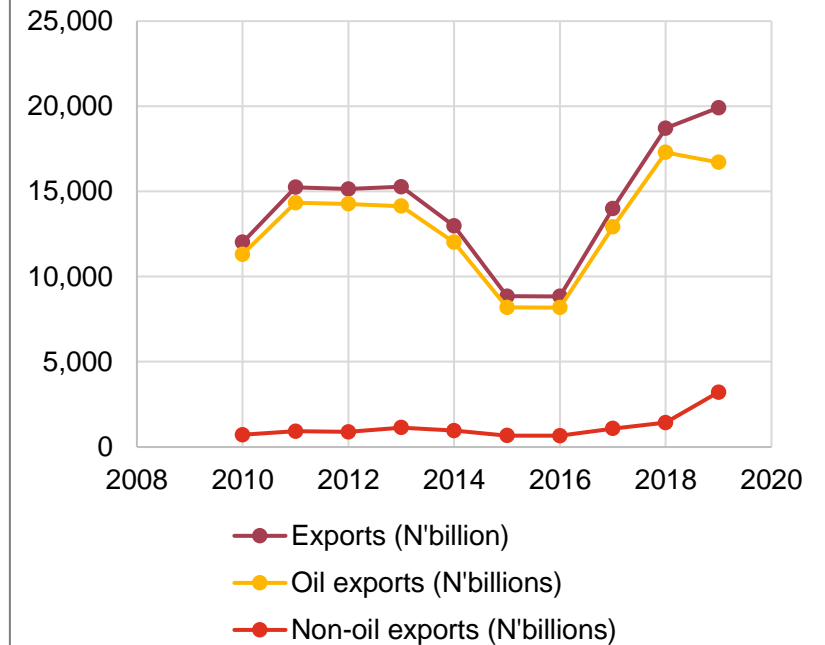
Shift from capital infrastructure to human capital



Nigeria's exportation of physical goods is constrained



Trend of export (N'billions)



Need for growth across the continent...

Catalysts for Growth



Innovation Hubs



Industrial clusters



Education

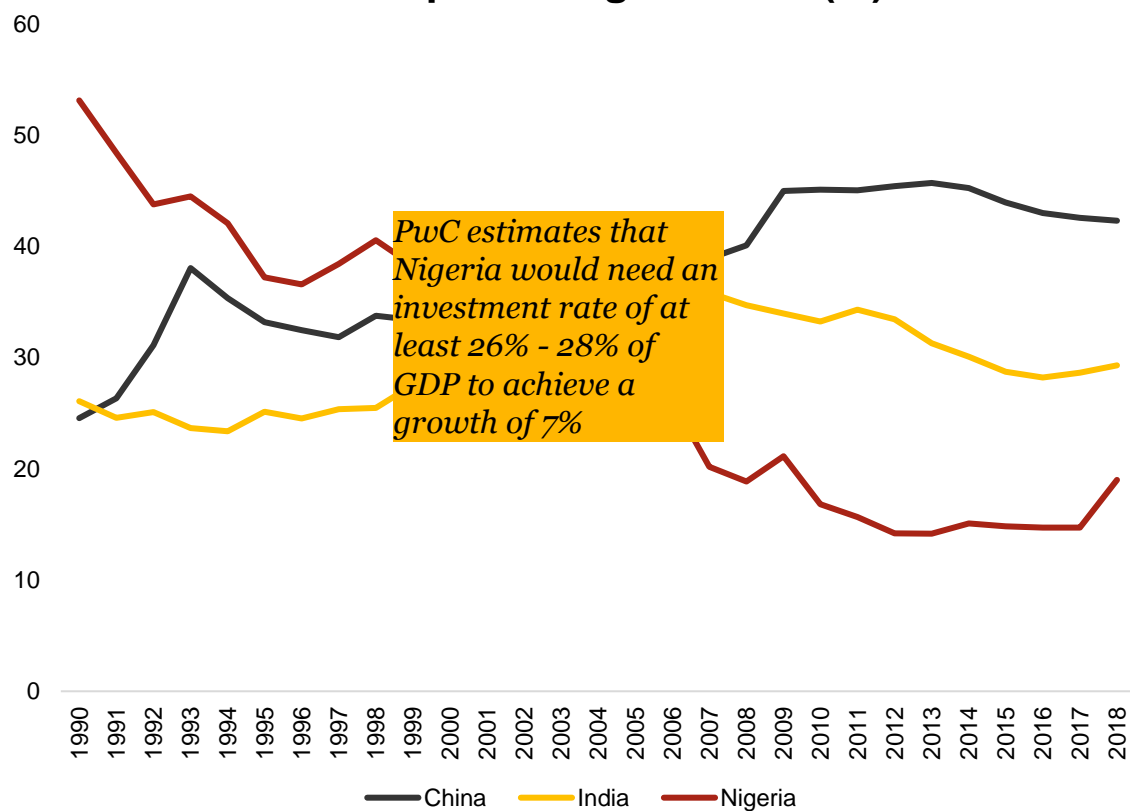


<https://www.proshareng.com/news/Tech%20Trends/Innovation-Hubs-in-Nigeria--Challenges-and-Opportunities-for-Growth/45595#:~:text=Today%20there%20are%20several%20innovation,and%20catalysts%20of%20technological%20advancement.>

Low investment/ gross capital formation

Nigeria's Gross Fixed Capital Formation stood at less than 20% of GDP in 2019...

Gross Fixed Capital Formation as a percentage of GDP (%)



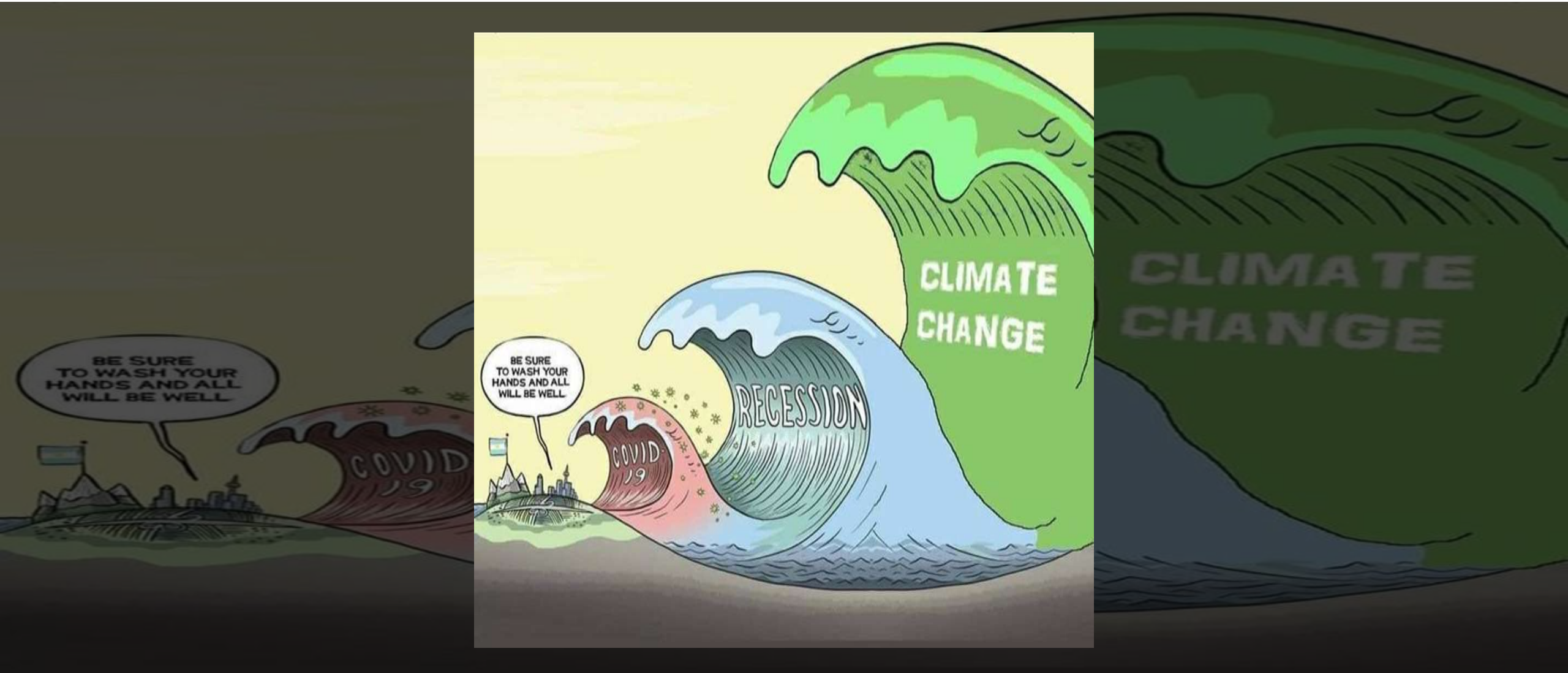
Moving the informal sector to the formal sector



Shifting from GDP Lens to SDG Lens



Climate change



'Highest temperature on Earth' as Death Valley, US hits 54.4C.

17 August 2020



the guardian

August 20th 2020

Greenland ice sheet lost a record 1m tonnes of ice per minute in 2019



Percentage of national populations who live in places that will be drowned by a rise in long-term sea levels – even if global warming is held at 2C

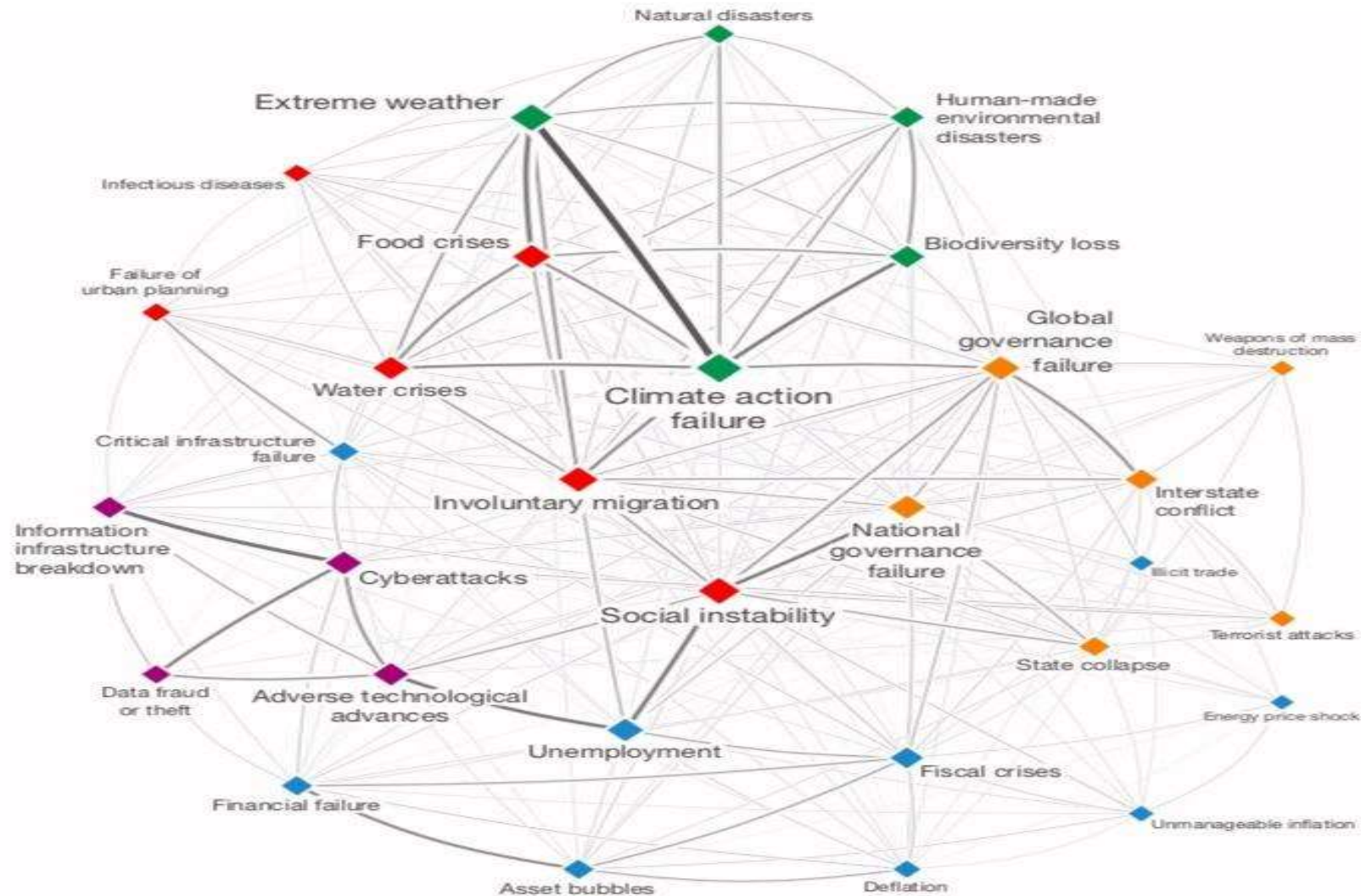
0% 0.1-5 5-10 10-25 25-50 50-75 75-100



Guardian graphic

Source: Nature Climate Change

Interconnectedness



“Having heard all of this you may choose to look the other way but you can never again say you did not know.”

William Wilberforce

The
Economist

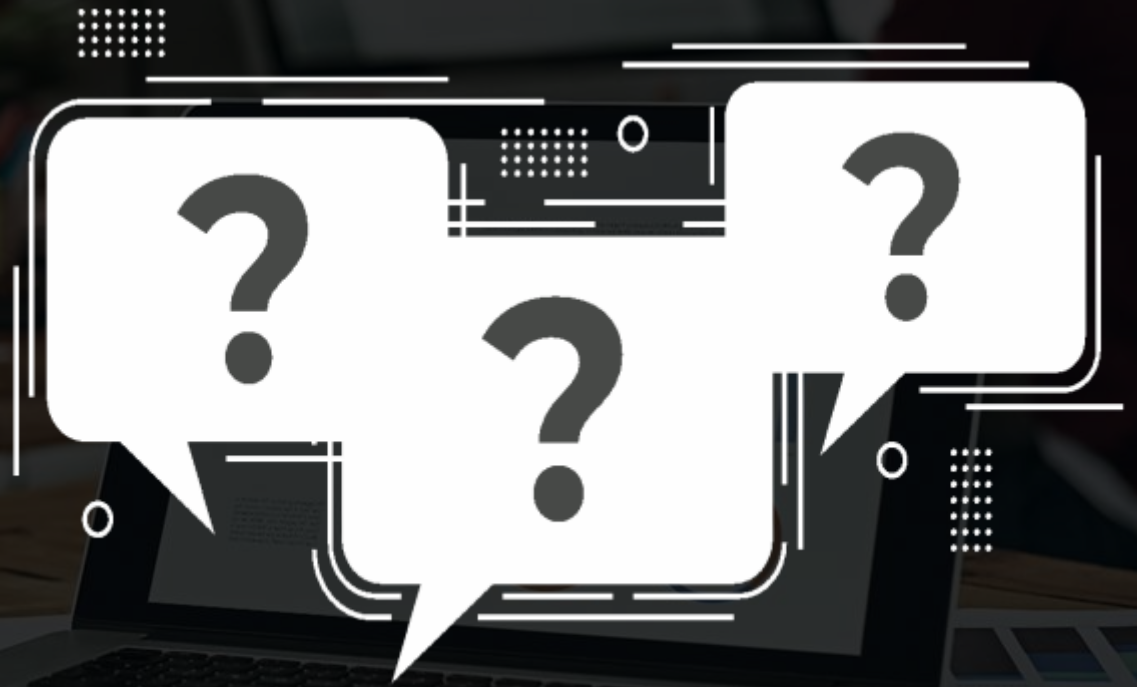
Espresso

Brain capital as a National strategy

Nigeria can become the first country to embrace Brain Capital as a core strategy ...



Poll



Rack Centre in Collaboration with PwC Presents

Africa: The Next Digital Frontier

Compelling Economic Imperatives



Spotlight:

Dr. Ayotunde Coker

Managing Director/CEO,
Rack Centre Limited

Profile

Dr Ayotunde Coker has over 30 years' international experience across Europe, USA, Asia and Africa. He was born in Nigeria, went to school in Lagos, with graduate and postgraduate university in the UK.

His distinguished career of 28 years in the UK, included roles at Ford of Europe, Senior Management Consultant Cap Gemini UK, CEO eMCSaatchi UK, Director Egg Bank UK, the first European Internet Bank, Global Applications Director BP, Chief Technology Officer UK Criminal Justice, and Group IT Director, UK Ministry of Justice. In 2007, he was Chair of the UK Government Enterprise Architecture Board.

He returned to Nigeria in 2009 as Group CIO of Access Bank, and then MD/CEO of Emerging Markets Payments, West Africa. As MD/CEO, he has built Rack Centre to be a household name and a leading data centre brand in Africa with global recognition and numerous international awards. He is Secretary General of the Africa Data Centre Association.

At Cranfield University in 1989, he won the Institute of Production Engineers Award. In 2015, he was ICT Man of the Year and in 2019 ICT Personality of the Year in Nigeria. He was presented with the Trailblazer Award by the Uptime Institute in 2018. He recently received Distinguished Manufacturing Alumnus Award for 2020 from Cranfield University, UK.

He has a BSc in Mechanical Engineering from the University of South Wales, is an award-winning post graduate alumnus of Cranfield University UK, Fellow Institute of Directors (UK), Fellow British Computer Society, Honorary Senior Member Chartered Institute of Bankers of Nigeria. He holds a PhD (Honoris Causa) by ESCAE University, Republic of Benin.

Panel: Current and future trends in Africa's Digital Infrastructure



RACKCENTRE

pwc

Rack Centre in Collaboration with PwC Presents

Africa: The Next Digital Frontier Compelling Economic Imperatives

Speaker:

Maryam Lawal, PhD

Technical Specialist, World bank Group

Profile

Maryam Lawal, PhD. an analytically minded young professional with experience and interest in the link between Information Communication Technologies (ICTs) and socioeconomic development, with a particular focus on digital economic transformation. Her professional experiences are broadly situated within global development practice. Within this area, she has experience at the World Bank Group in Washington D.C., the GSMA in London, the Federal Government of Nigeria (Federal Ministry of Environment and Federal Ministry of Health) and with international Non-Governmental Organisations.

Maryam's academic achievements include a PhD. in Development Planning from University College London (UCL), MSc in Management, Information Systems and Digital Innovation from the London School of Economics and Political Science (LSE) and BSc Information Systems from the University of Hertfordshire. Maryam is a native English speaker, and also speaks German and Hausa Languages.

Panel: Current and future trends in Africa's Digital Infrastructure



RACKCENTRE **pwc**

Rack Centre in Collaboration with PwC Presents

Africa: The Next Digital Frontier Compelling Economic Imperatives

Speaker:

Kabir Chal

Director, Real Estate
Actis


Profile

Kabir joined Actis' Africa Real Estate team in 2014 and is based in the Nairobi office. He has been involved in several deals across two fund vintages, most recently leading a US\$100m investment in a pan-African data centre platform.

Kabir successfully led the fund's exit from Mentor Management and is the investment manager for the Garden City Business Park.

He previously spent 5 years at CDC, making and managing direct private equity investments across Africa and South Asia.

Kabir holds a BSc Investment & Financial Risk Management and an MSc Investment Management, both from Cass Business School.



Rack Centre in Collaboration with PwC Presents

Africa: The Next Digital Frontier Compelling Economic Imperatives



MODERATOR

Femi Osinubi

Partner West Africa Technology
Leader PwC Nigeria

Profile

Femi Osinubi is a Partner in PwC Nigeria and currently leads our Technology & Digital business across PwC West Africa. He is also the Risk Assurance Service Leader and also serves as the Leader of Technology, Media and Telecoms Industry practices in PwC West Market Area. He has spent over 20 years of his career delivering consulting services and industry experience across various sectors like Telecoms, Financial Services and Oil and Gas in Europe, Middle-East, the Caribbean and Africa.

Femi's experience spans across different domain areas from Revenue Assurance, Data & Analytics, Internal Audit, Governance, Risk & Compliance, Robotics Process Automation and Intelligent Automation across several sectors. Femi, as the Technology and PwC Experience Center Leader, is at the forefront for pushing the Advanced Analytics, RPA/AI/ML, Virtual Reality, Augmented Reality, Digital Disruption and other emerging technology agenda to several clients across several sectors in Nigeria. Before joining PwC Nigeria in 2016, Femi worked with PwC London and Vodafone Group for over 12 years.

Femi is a Board member of the Institute of Internal Auditors, Nigeria and speaks at several conferences/workshops on emerging technology across Africa. Recently, Femi has been engaging clients in disrupting their business models and strategies. He recently hosted a couple of Africa CFOs and Heads of Finance on the Finance of the Future in London. Femi was also the Key Speaker at the Harvard Business Review conferences in Lagos and Nairobi on the Future of Finance. Femi is a Computer Science graduate, Fellow Chartered Accountant and holds an MBA from Warwick Business School United Kingdom.

www.pwc.com

Key research findings in Africa:

Future of Content/Digital Consumption



April 2021

The Journey From Industry 1.0 to 4.0

1st IR



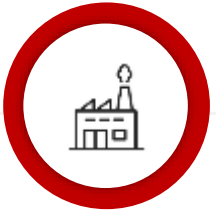
2nd IR



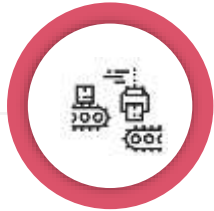
3rd IR



4th IR



The First Industrial Revolution began in the 18th century through the use of steam power and mechanization of production.



The Second Industrial Revolution began in the 19th century through the discovery of electricity and assembly line production.

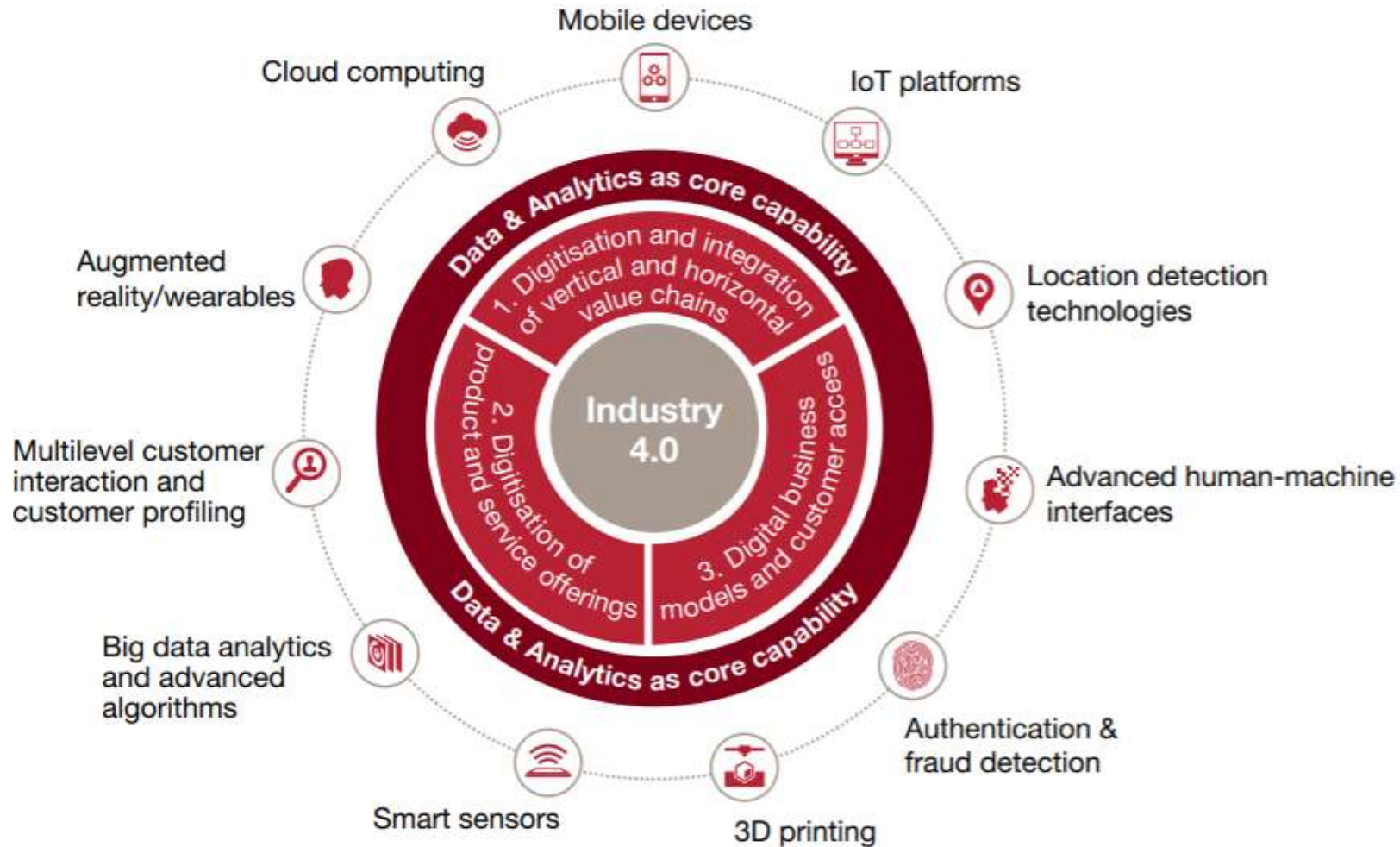


The Third Industrial Revolution began in the '70s in the 20th century through partial automation using memory-programmable controls and computers



We are currently implementing the Fourth Industrial Revolution. This is characterized by the application of information and communication technologies to industry

The 4th Industrial Revolution is already in full swing and it is being driven by emerging Technologies



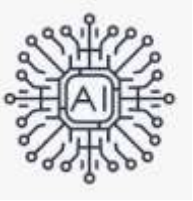
Industry 4.0 will lead to

- Digitization and integration of vertical and horizontal value chains
- Digitization of product and service offerings
- Digital business models and customer

Interesting Global Statistics



- In 2018, enterprise SaaS platforms only accounted for 15% of total software expenditure, but growth continued at 32% per year ([Synergy](#))
- 5% of businesses plan to move completely to the cloud within one year ([O'Reilly](#))



- By 2018, 47% of businesses had embedded at least one AI capability in their businesses, compared to 20% in 2017 who said they were using AI in a core part of their businesses or at scale ([McKinsey](#))
- That same survey found that robotic process automation (RPA), computer vision, and machine learning were the most commonly deployed AI functions ([McKinsey](#))
- As of March, 2020, 85% of businesses said they were evaluating AI or using it in production ([O'Reilly](#))



- Just Under 40% of Companies Are Deploying IoT Today
- Enterprises Anticipate “Financial Payback” for IoT Investments in 3 Years
- 58% of financial executives report having well-developed IoT initiatives ([Hashedout](#))



- V-learners were 4 times more focused during training than their e-learning peers and 1.5 times more focused than their classroom colleagues.
- 40% of the v-learners saw an improvement in confidence compared to classroom learners
- 35% improvement over e-learners to act on what they learned after training in VR. ([PwC](#))

Africa can foster economic growth by leveraging on digital infrastructure

Lower Barriers of entry

Digital reduces the barriers to entry for new business who can leverage on the internet and other technological innovations to drive value creation and competitive advantage

Improved collaboration

Business can collaborate more effectively using digital tools and technologies to improve service delivery

Increase FDIs and investments

Increase in foreign and local investments as a result of a more connected economy

Access to New Markets

Improve business reach and visibility by enabling access to new markets and underserved customers

Digital can also drive economic growth for the continent by creation of new business models

The Essential Eight



3-D Printing



Artificial Intelligence



Augmented Reality



Blockchain



Drones



Internet of things



Robotics



Virtual Reality

The Experience Model

NETFLIX

The Subscription Model



The Access over Ownership Model

Uber

The Eco-System Model

amazon

The On-Demand Model

DStv

The Freemium Model

in

Megatrends



Accelerating urbanisation



Demographic & Social Change



Resource scarcity & climate change



Shift in global economic power



Changing global politics

Digital development can change lifestyles and drives social inclusion

Improved Healthcare

Telemedicine offers the opportunity to bridge the gap between healthcare services in rural and urban areas

Better Education

E-learning and online video tutorials can be a powerful tool to improve educational services in rural areas

Employment Opportunities

Digital enables remote in rural areas and creates rural entrepreneurs

Access to Government Services

Enable residents and businesses in rural areas to have access to e-government services

Improved interactions

Digital improves social interactions and allows for easier communication across geographies

What is needed to increase the momentum of Africa's industry 4.0 journey

Participation from all stakeholders is required to build a favourable digital ecosystem.

Enabling environment

Favorable regulations
and security

Investments in infrastructure

Consistent investment
From private and public
sectors

Education

improving digital literacy
particularly in rural areas

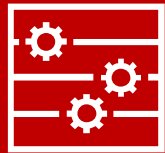
Culture of Innovation

Incentivization of
innovation and new value
creation

Africa's Industry 4.0 journey will require improved infrastructure in order to deliver significant gains for the continent

Without high-speed networks and highly secure, available, and reliable data centers, there can be no digitalization at-scale for African countries

Improved tech infrastructure will support increased internet connectivity



Fibre-to-the-home
(FTTP)



Undersea cable
networks

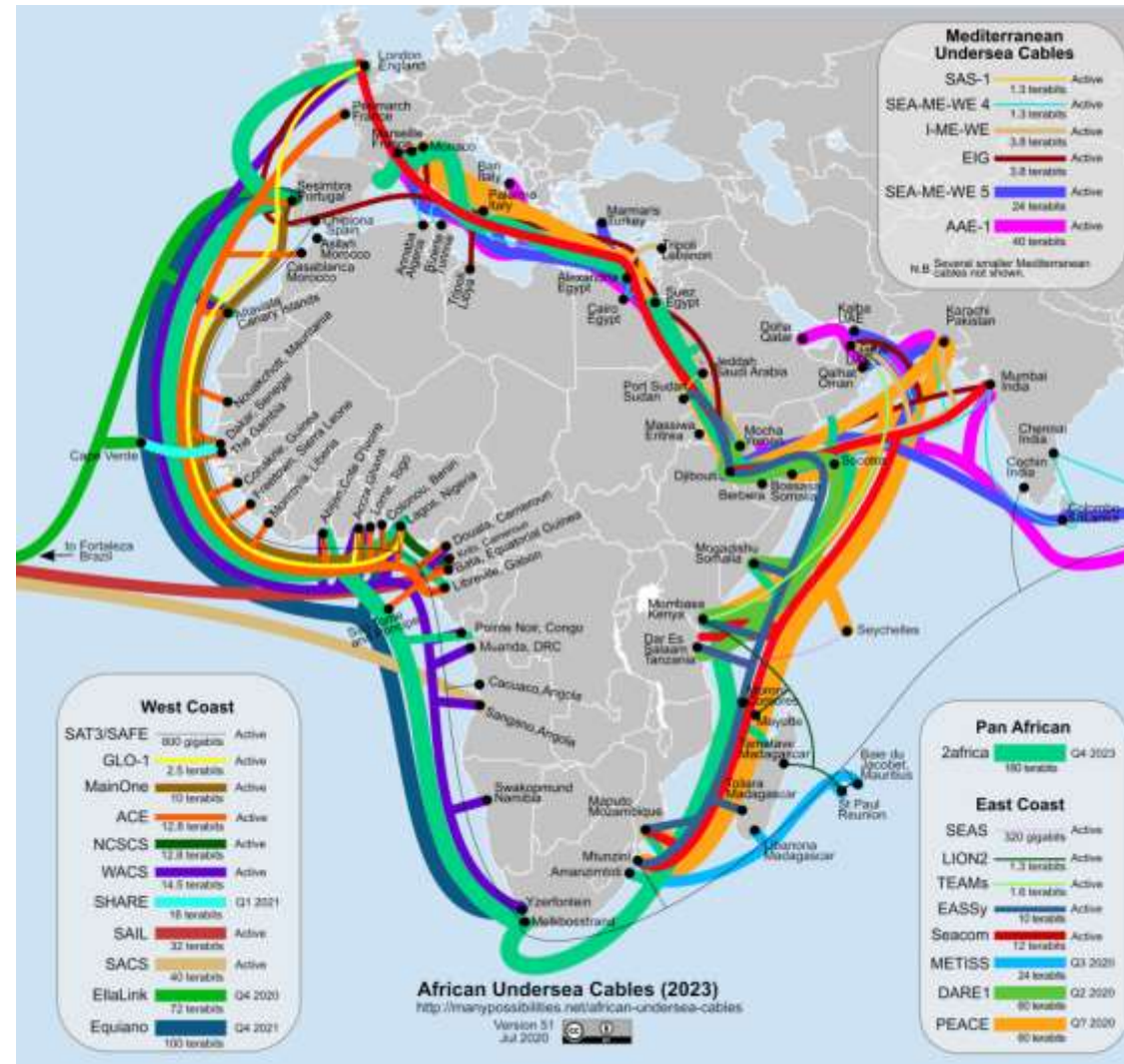


Data centres

Technology drivers: 5G, Internet of Things

Short and medium opportunities for investment will determine the key players of the future

Many global tech firms have developed robust plans for internet infrastructure investment in Africa



Panel: Current and future trends in Africa's Digital Infrastructure



Rack Centre in Collaboration with PwC Presents



Africa: The Next Digital Frontier Compelling Economic Imperatives

Moderator



Femi Osinubi

Partner, West Africa Technology
Leader, PwC Nigeria



Dr Andrew S. Nevin

Partner & Chief Economist PwC Nigeria



Dr. Ayotunde Coker

Managing Director/CEO, Rack Centre Limited



Maryam Lawal PhD

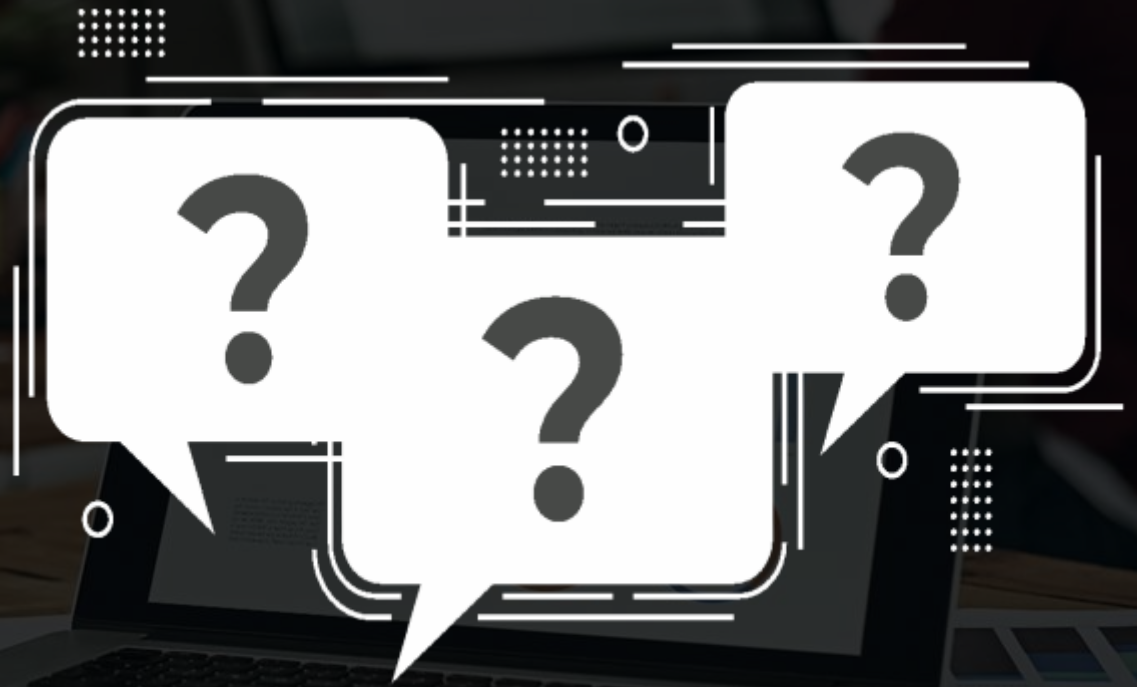
Technical Specialist, World Bank Group



Kabir Chal

Director, Real Estate
Actis

Poll





Rack Centre in Collaboration with PwC Presents



Africa: The Next Digital Frontier Compelling Economic Imperatives

Moderator



Femi Osinubi

Partner, West Africa Technology
Leader, PwC Nigeria



Dr Andrew S. Nevin

Partner & Chief Economist PwC Nigeria



Dr. Ayotunde Coker

Managing Director/CEO, Rack Centre Limited



Maryam Lawal PhD

Technical Specialist, World Bank Group



Kabir Chal

Director, Real Estate
Actis