



A Presentation on Digital Transformation & Emerging Trends in Artificial Intelligence: Implications for the Energy Sector & Future Outlook

Bayo Ojulari

Managing Director,
Shell Nigeria Exploration and Production Company (SNEPCo)

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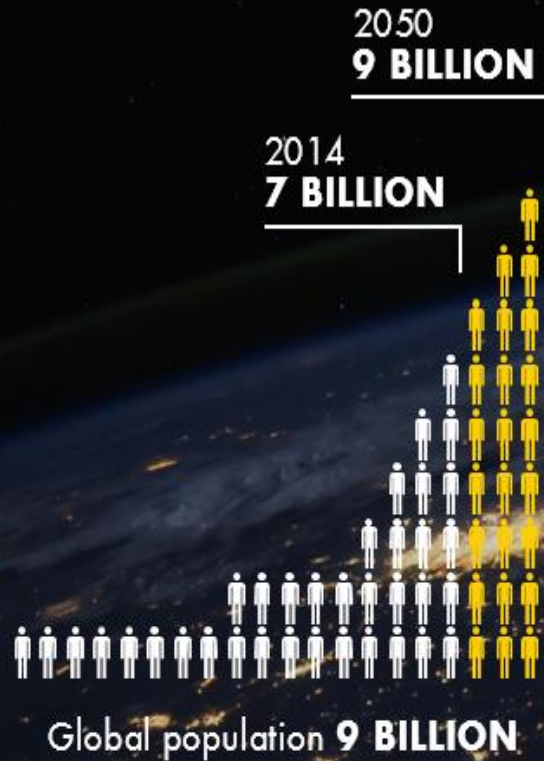
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ENERGY CHALLENGE 2050



"Driven by the major forces of the energy transition and digitalisation, we'll likely see the re-making, over time, of the energy system."

BEN VAN BEURDEN, CEO of Shell

Digitalisation – Transforming all industries

ENERGY

Digital technologies can enable the integration of renewables onto the grid, improve efficiency and heighten transparency.

FOOD

Digital technologies can help raise productivity and reduce food waste onto the grid, improve efficiency and heighten transparency.

HEALTH

Digital technologies will put “a doctor in your pocket,” allowing users to manage their own health via their smart device.

LEARNING

Digital technologies can make education accessible, engaging, flexible and affordable.

BUILDINGS

Digital technologies will increase comfort and reduce energy and water bills.

MOBILITY & LOGISTICS

Digital technologies can help everyone reach their destinations faster, cheaper and safer.

WORK & BUSINESS

Digital technologies enable telecommuting, virtual conferencing and save employees time and money.

MANUFACTURING

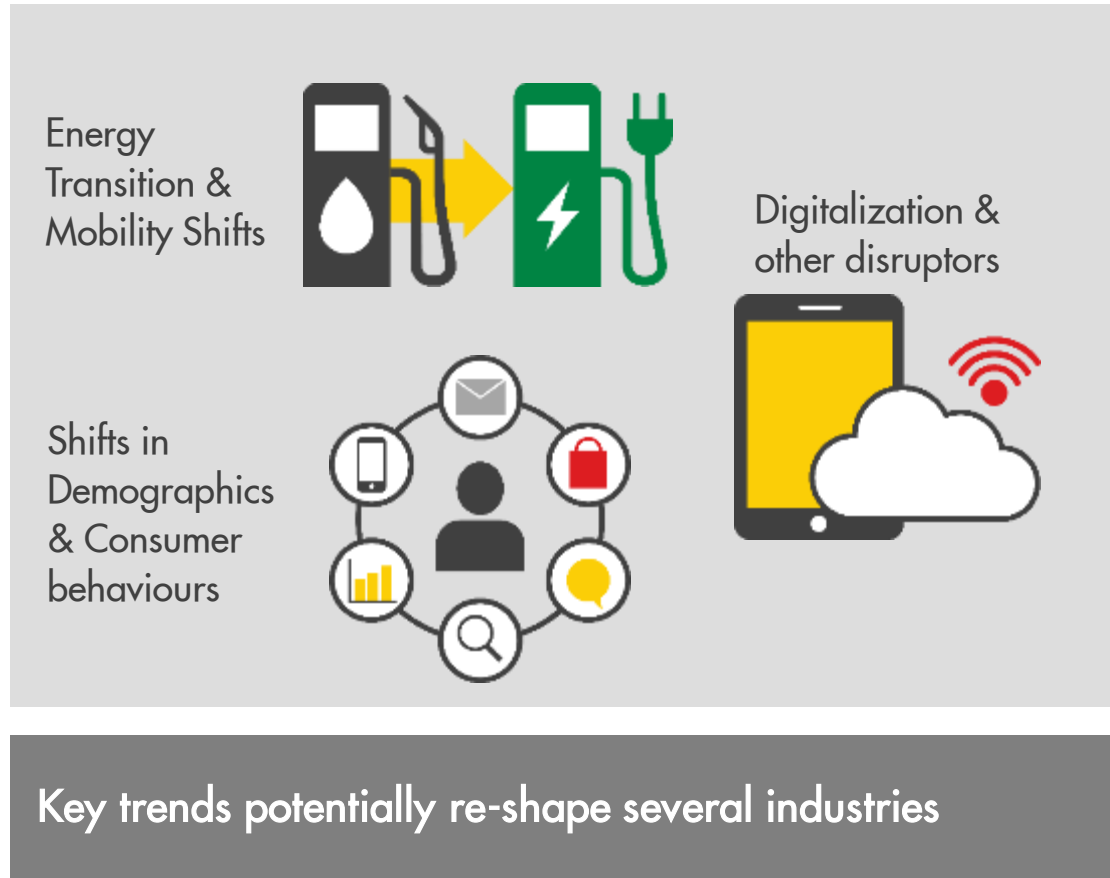
Digital technologies will place the customer at the center of a user focused service, cutting resource inputs at the same time.



Digital is one of the mega trends re-shaping the energy system

Exponential growth in technology, data and capability enabling unprecedented transformation

Changing landscape

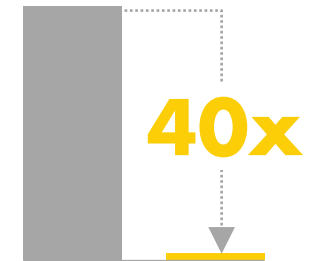


Technology: faster and cheaper over the past ten years

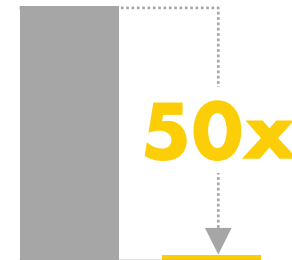
COST OF SENSORS



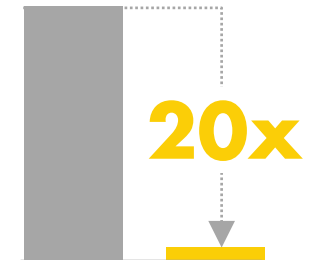
COST OF BANDWIDTH



COST OF PROCESSING POWER

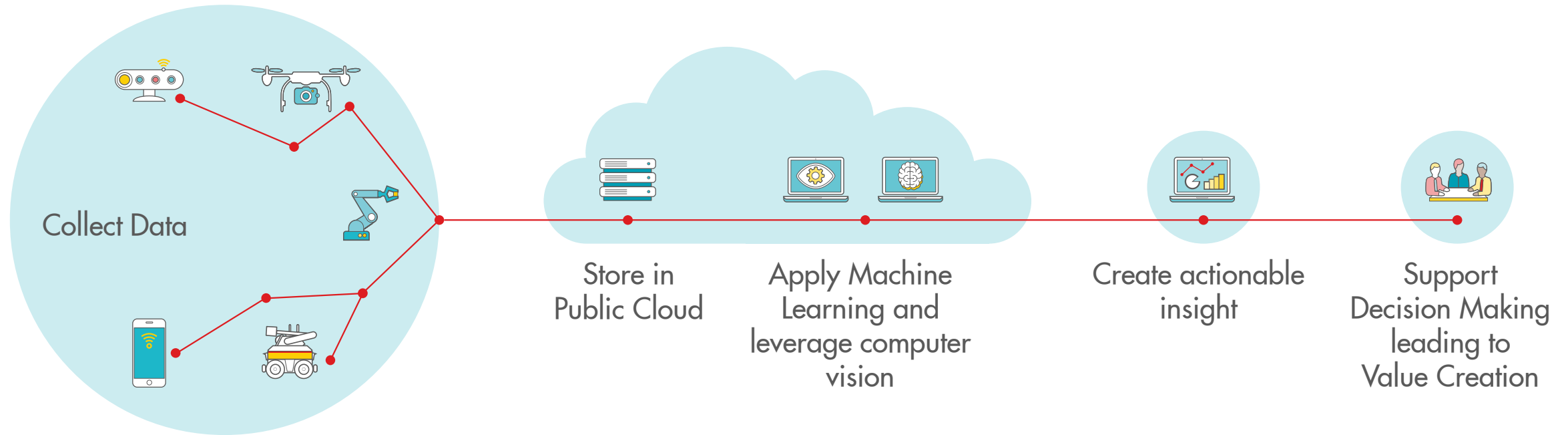


COST PER MB OF CLOUD INFRASTRUCTURE



Data -> Insight -> Action -> Value

Massive investment in oil and gas over the years have generated enormous data which we can leverage to transform operations and create new business models



Waves of Digital Innovation

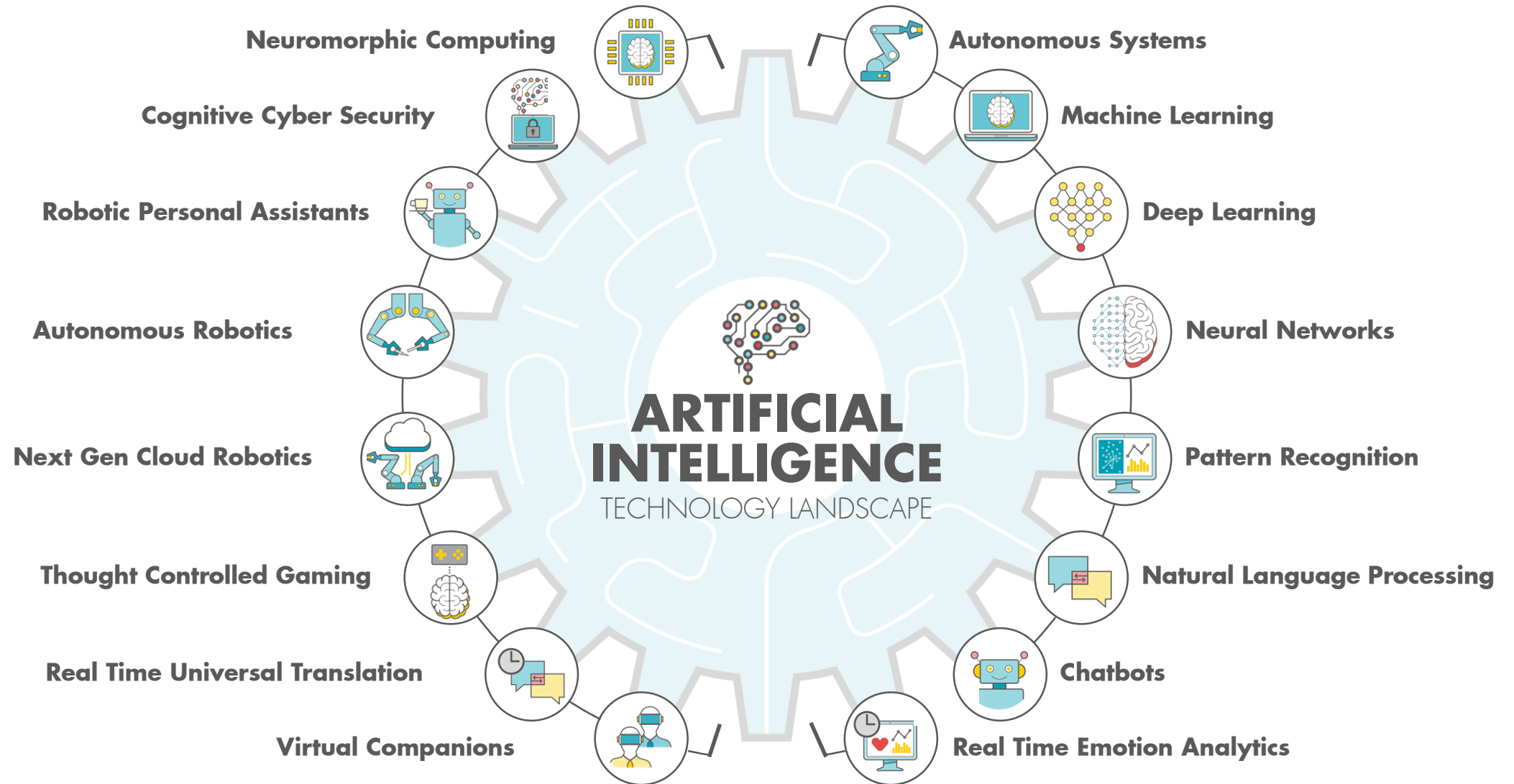
Mobile and Cloud Computing

Big Data and Advance Analytics

Internet of Things and Wearables

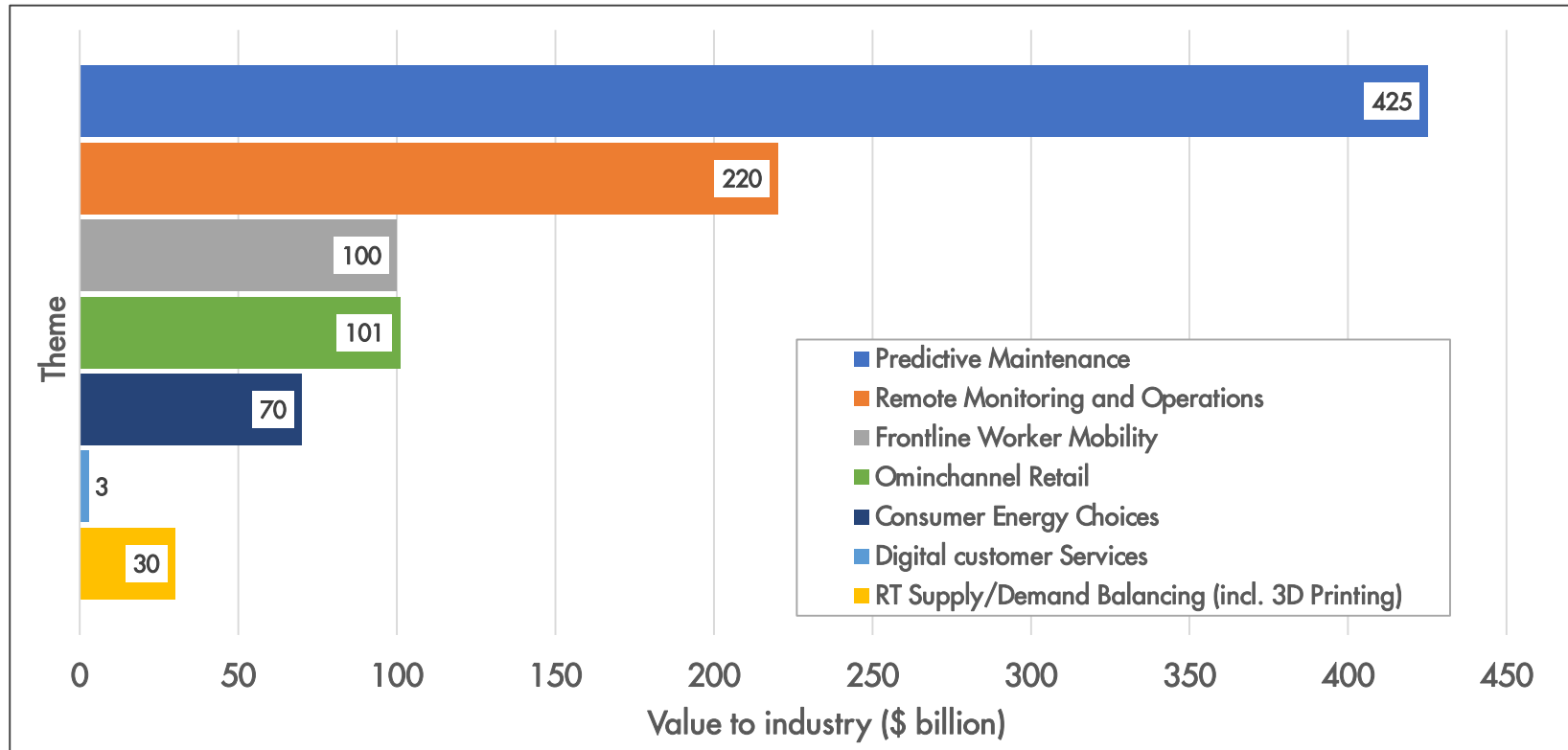
Augmented Reality and Artificial Intelligence

What is AI?

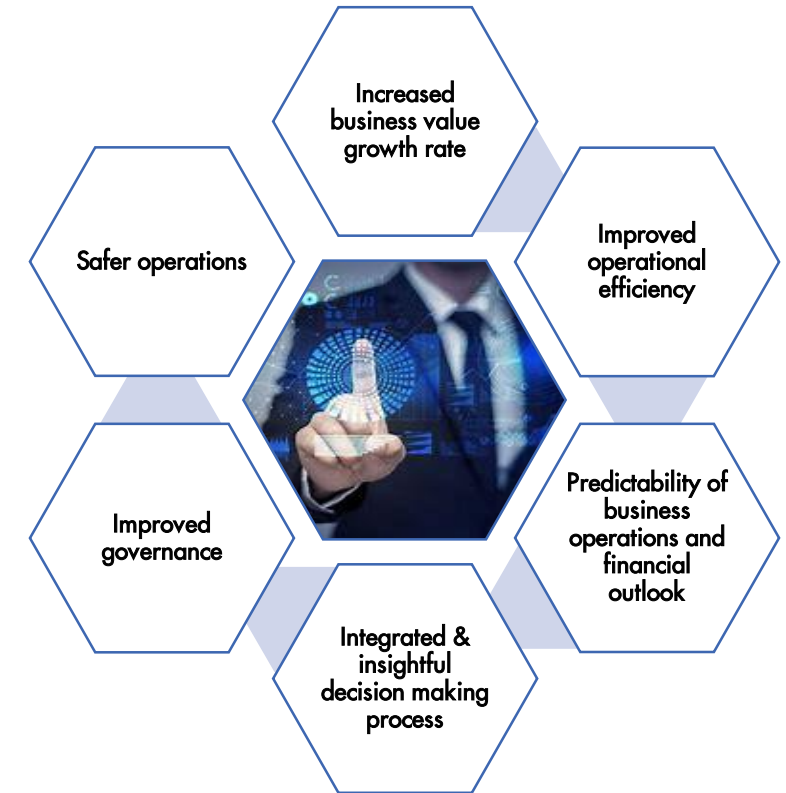


Digital Transformation – Value to Oil and Gas

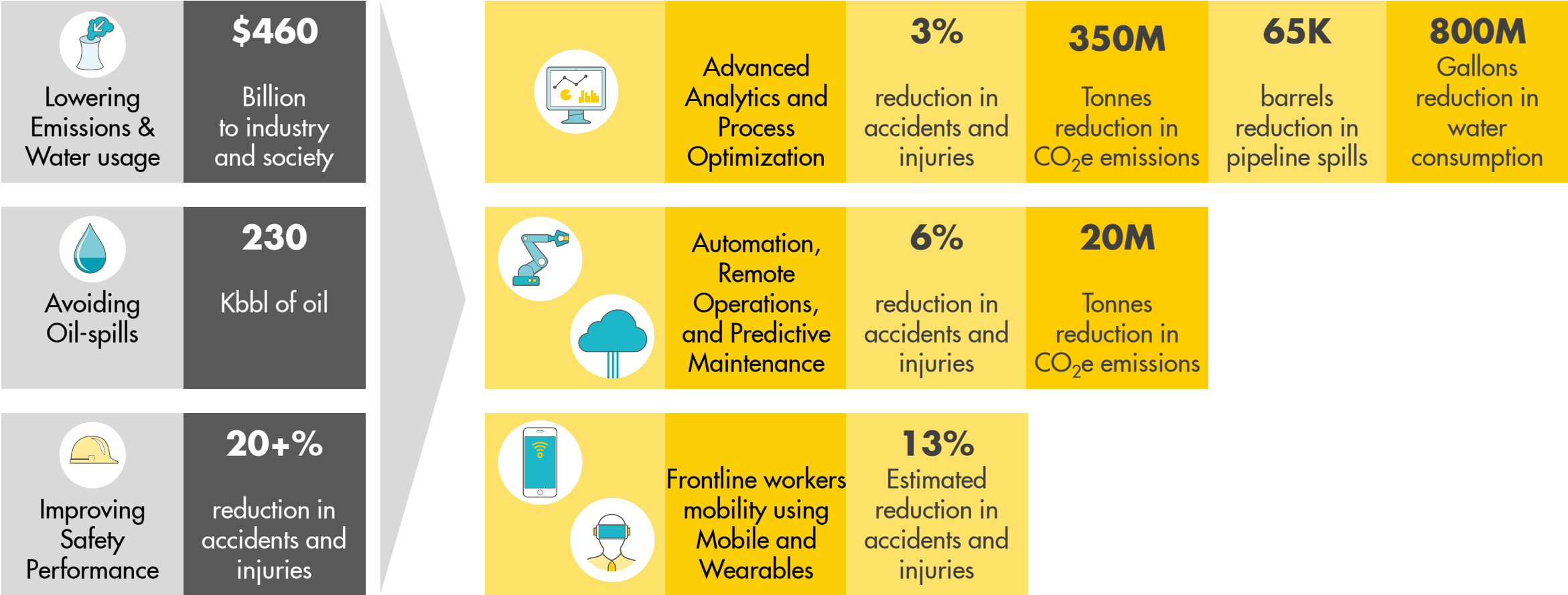
Oil and Gas industry share of global digitalization value is over \$1 Trillion by 2025



Data Source: World Economic Forum, 2018

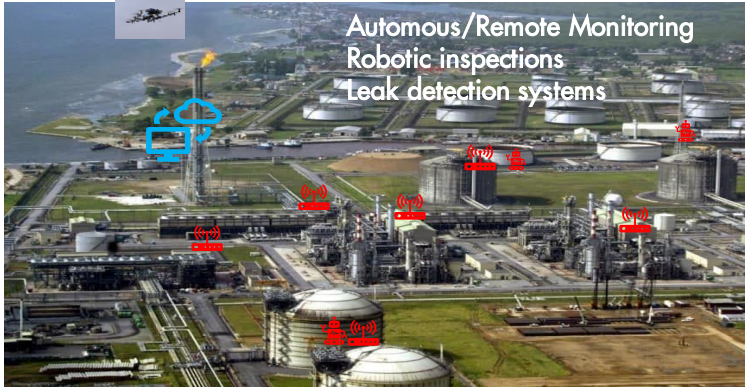
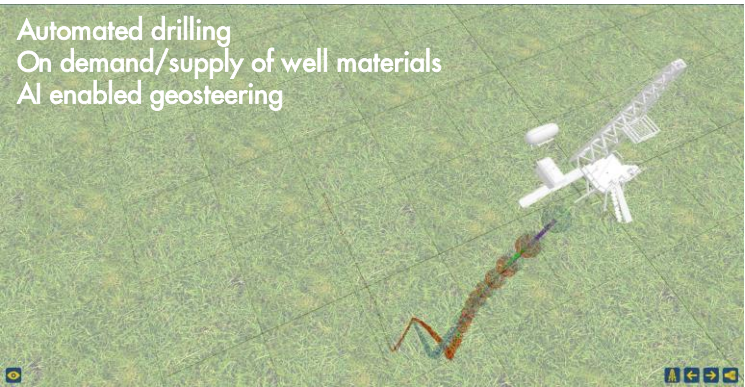
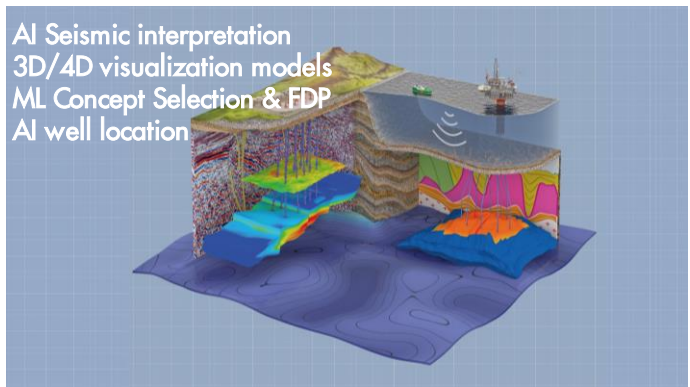
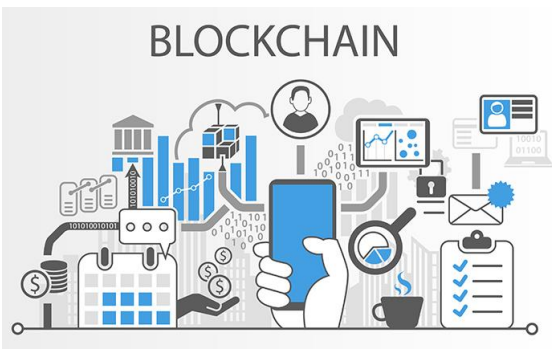


Market analysts have identified digital technologies as a significant Safety & Environment value contributor

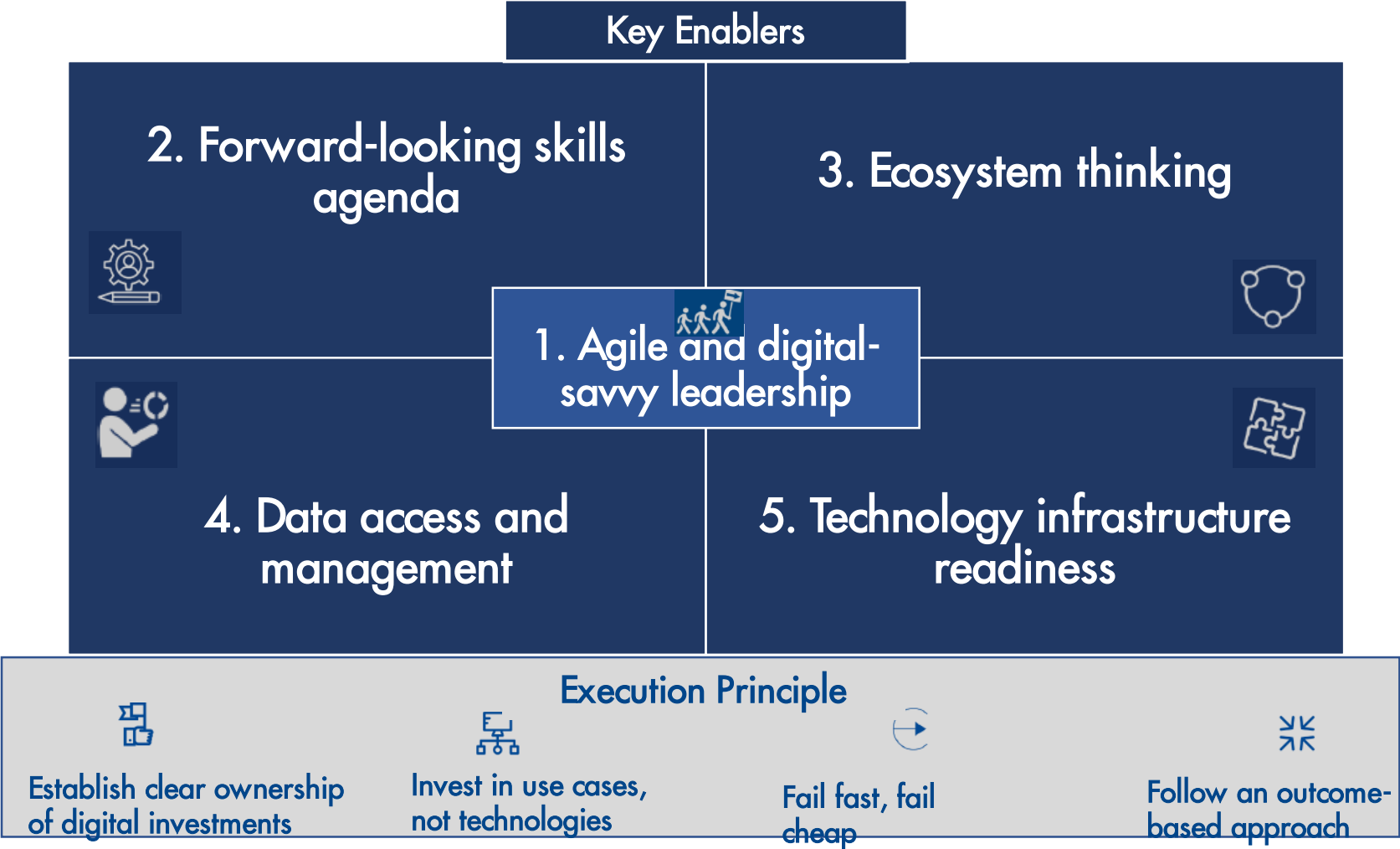


Source: [“Digital Transformation Initiative - Oil and Gas Industry”, World Economic Forum \(January 2017\)](#)

Use Cases in Oil and Gas Industry



How can we make it happen?



The human factor

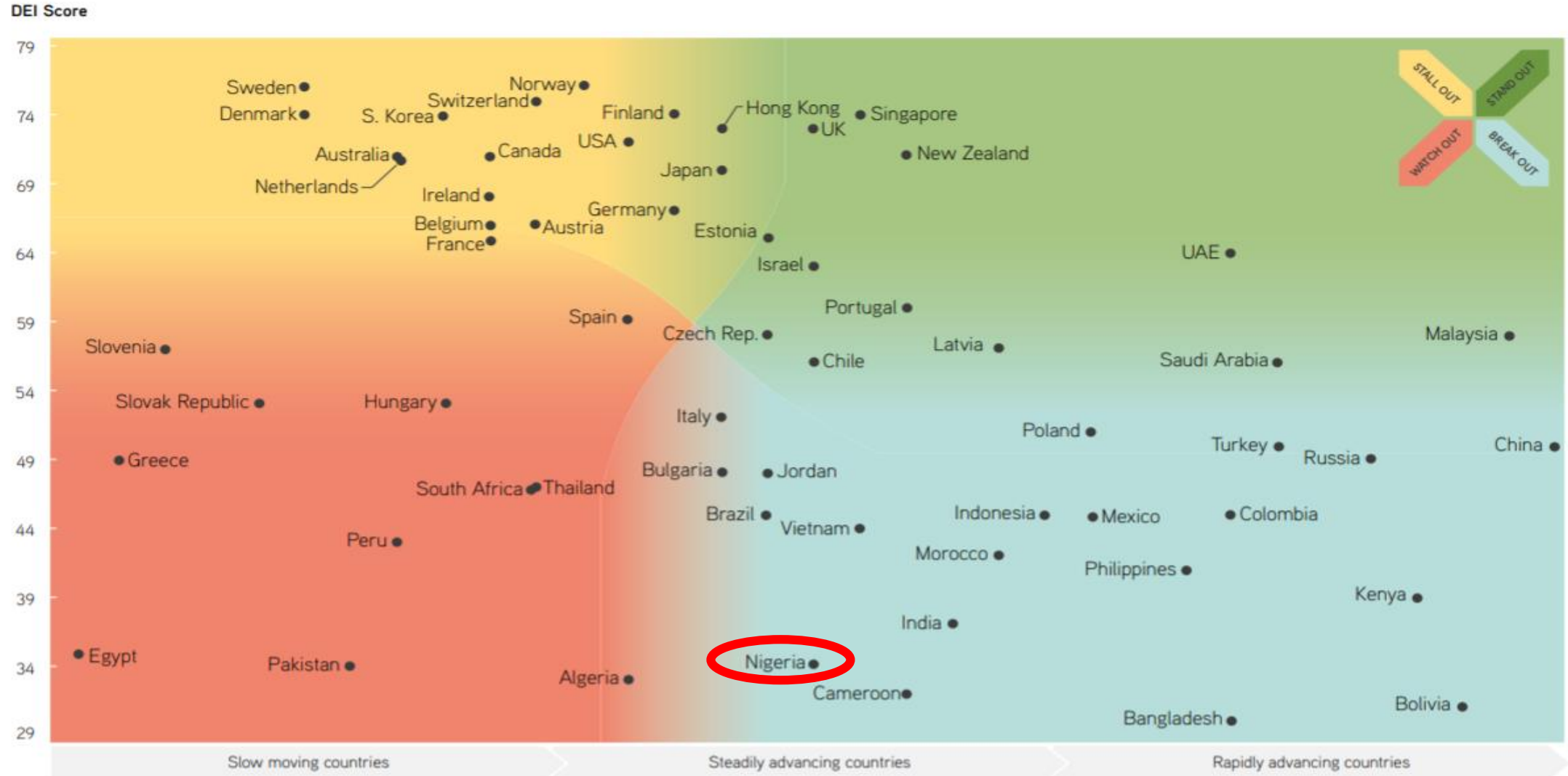


Nigeria and Digitalisation Momentum

The Big Picture

Digital Evolution Index 2017

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Nigeria – Way Forward



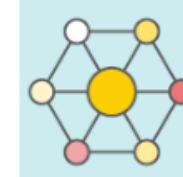
LEADERSHIP

- Government, Operators & Service providers should be early adopters of digital
- Consider new business models
- Cultivate a clear corporate digital strategy beyond proof of concepts
- Promote culture of innovation & change
- Engage and collaborate with others in the industry
- Keep an eye on data protection and privacy



POLICIES

- Assurance and certification of data quality
- Update legislation to support digital Nigeria
- Incentivize investment in digital technologies
- Promote collaboration in industry through policies



CAPABILITIES

- Invest in human capital development – digital and coding should be normal to people
- Make digital leadership and digital dexterity in people a high priority
- Reskilling or retraining workforce for the transformation journey

The future has arrived, how fast will we transform?

