

# Forum on “Smart Sustainable Africa”

## DIGITAL TRANSFORMATION IN AFRICA

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# THERE IS A NEED TO INVEST IN THE FOUNDATIONAL ELEMENTS OF THE DIGITAL ECONOMY

- **Emerging markets exhibit high levels of urbanisation and relatively high connectivity** that stand to facilitate a successful implementation of smart solutions as African cities rapidly expand.
  - Increasing urbanisation and growing population puts pressure on services such as transportation, water, electricity, etc. especially in urban regions of Africa (50% of the SSA population in urban areas, more than 75% in 2050).
- Many African countries capture only a fraction of their digital growth **and there is a need to strategically invest in the foundational elements of the digital economy** to keep pace with a Smart Cities agenda.
- There is an increasing recognition of the need to **implement smart city solutions that can deliver real, long-term benefits to African** businesses and citizens.
- Policy and programmatic **digital transformation priorities can deliver truly Smart and Sustainable African Cities by targeting investments towards connected solutions** cutting across the **Digital Economy** as a foundational base.

# Reaching the Moon

An astronaut in a white spacesuit stands on the lunar surface, which is covered in grey dust and small rocks. The background is the dark, starry void of space. The astronaut's helmet visor reflects the lunar environment. The image is split by a diagonal line: the left side shows the astronaut, and the right side is a blue background with a white network of glowing nodes and lines.

... the Africa Digital Moonshot initiative

Every African Individual, Business and Government to be Digitally Enabled by 2030

# WORLD BANK GROUP SUPPORT FOR AFRICA'S DIGITAL ECONOMY MOONSHOT: THE DIGITAL ECONOMY FOR AFRICA (DE4A) INITIATIVE



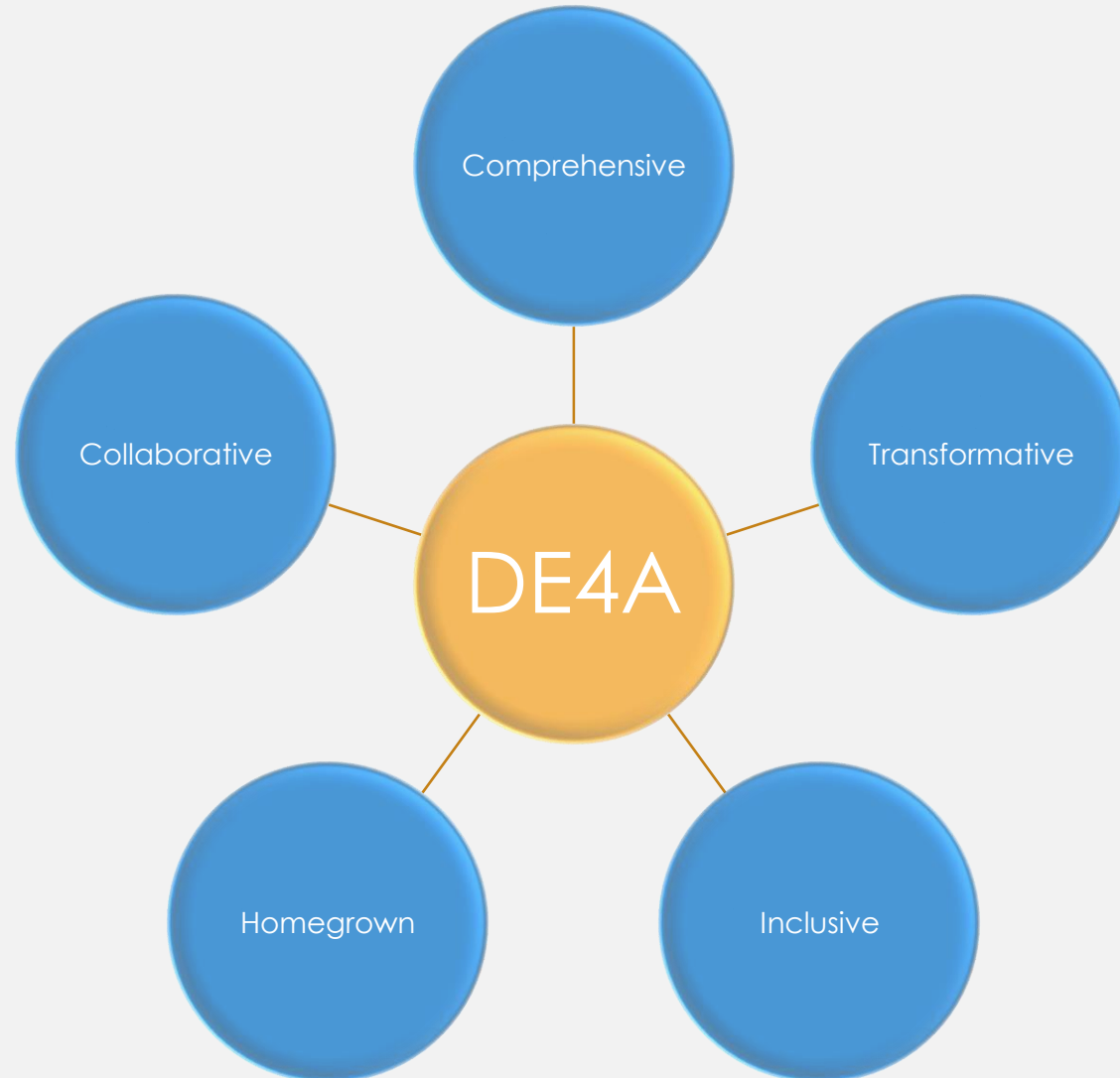
World Bank Group has announced a \$25 Billion Financing Commitment in Support of the Digital Moonshot. Financing available for Investments across the Five Digital Economy Foundations Pillars + Use Cases (digital agriculture, health, education, finance, etc.)

- **Step 1:** Digital Economy Diagnostic Assessment
- **Step 2:** Defining National Level WBG Support Program(s) of technical assistance, investment financing and policy reform support in line with DE Assessment Recommendations and Government Aspirations + Identification of Private Sector DE Investments
- **Step 3:** Support for Regional Digital Market Integration and Competitiveness

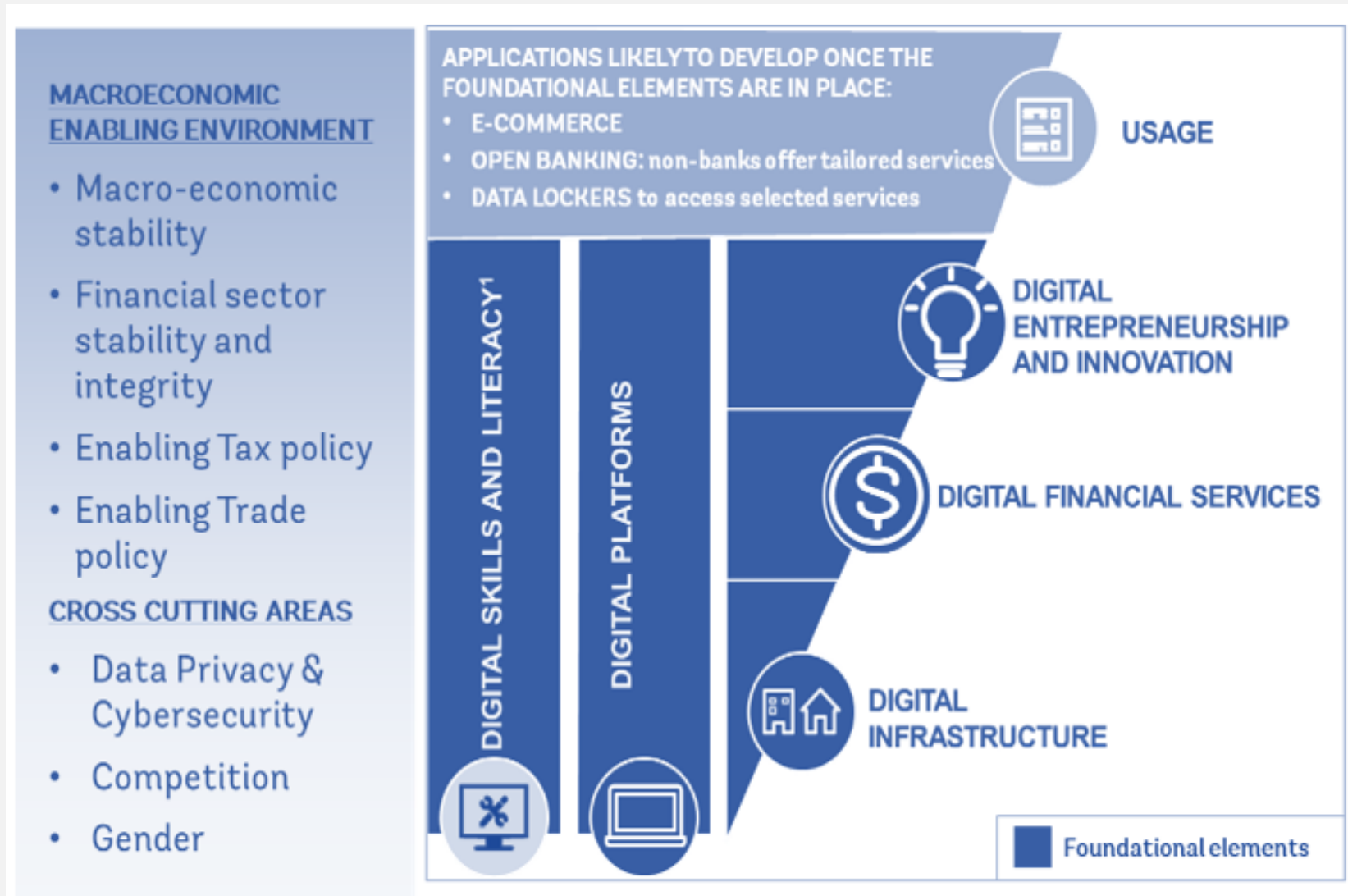
# DIGITAL ECONOMY FOR AFRICA MOONSHOT (DE4A)

The DE4A is forms part of the World Bank Group's support for the African Union's **Digital Moonshot for Africa**, which wants to see every African individual, business and government to be digitally enabled by 2030.

The DE4A is underpinned by five core principles.



# THE FIVE FOUNDATIONS OF THE DIGITAL ECONOMY





## DIGITAL INFRASTRUCTURE

Universal Internet network coverage

Affordable Internet for all at less than 2% of GNI per capita

Interim Milestone Doubling broadband connectivity by 2021



## DIGITAL SKILLS

All 15 year old students with basic 'digital skills' competencies

100,000 graduates in advanced digital skills programs annually



## DIGITAL PLATFORMS

Doubling of Online Services Index rating for all Governments

All individuals are able to prove their identity digitally

At least 50% of the population regularly uses the Internet to access Government or Commercial services



## DIGITAL FINANCIAL SERVICES

Universal Access to Digital Financial Services

Africa-wide payments infrastructure platforms in place



## DIGITAL ENTREPRENEURSHIP

Tripling the number of new digitally-enabled businesses created annually

Financing for Venture Capital to reach .25% of GDP

# MOONSHOT OBJECTIVES

# DIGITAL INFRASTRUCTURE TRANSFORMATION

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## Africa's Invisible Mile

- Policy and regulatory reform Cybersecurity and nonvisible areas all require development

### INVISIBLE MILE

HIDDEN ELEMENTS THAT ARE VITAL TO ENSURING THE INTEGRITY OF THE VALUE CHAIN

Nonvisible network components include the spectrum, network databases, cybersecurity, etc., but can also include potential bottlenecks, like international frontiers.



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## Africa's First Mile

- Most countries are now connected!
- Abundance of cable connectivity in North Africa
- WBG has been actively involved

### FIRST MILE

WHERE THE INTERNET ENTERS A COUNTRY

International internet access, including submarine cables, landing stations, satellite dishes, cross-border microwave, etc.



2

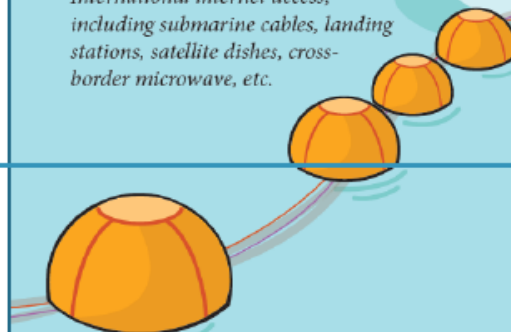
## Africa's Middle Mile

- Fiber backbone is an unfinished agenda for both SSA and Northern Africa

### MIDDLE MILE

WHERE THE INTERNET PASSES THROUGH THAT COUNTRY

National backbone and intercity network, including fiber backbone, microwave, internet exchange points (IXPs), local hosting of content, etc.



### LAST MILE

WHERE THE INTERNET REACHES THE END USER

Local access network, including local loop, central office exchanges, wireless masts



## Africa's Last Mile

- Mobile internet is available in urban areas
  - Dedicated / fixed internet for schools and offices is mostly NOT available
  - Internet in rural areas is NOT available
  - FTTH more advanced
- In Northern Africa and a long way to go for SSA

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# ENABLING DIGITAL POLICIES & REGULATION

- An extensive **Digital economy policy reform and investment underscores a successful implementation of Smart City solutions**, especially in larger African countries that are well positioned to reap the benefits of accelerated digital transformation.
- Utilising government and strategic **context-based plans to coordinate and extend funding** revolving around main verticals.
  - E.g. Most African countries typically focus on transport and utility verticals, while some parts of Middle East focus on public service provision.
- Adequate **coordination between public and private sector entities pushes for the right regulatory levers** to be deployed for accelerating digital transformation
  - E.g. Smart Rwanda Masterplan (a public-private partnership); Nairobi Intelligent Traffic System (World Bank and Nairobi Government)

# INVOLVEMENT OF LOCAL TELCOS'

Various involvement levels of Telcos' in the provision of Smart City projects

- Main role of Telcos' is the facilitation of connectivity between and across smart devices.
- Infrastructure investments in 5G technology will help connect a new ecosystem of a range of smart devices and Smart City solutions



Source: GlobalData

# COLLABORATION AMONG KEY STAKEHOLDERS

Government (both State and Federal) typically take the lead to develop and fund Smart City projects.

- Collaboration with the private holds strong potential for innovation and addressing bottlenecks of funding.
- Smart City solution providers play a critical role in responding to local needs through the creation of context-based smart solutions.

## PROMOTERS/MANAGERS

- Federal Governments
- Local Governments
- Local Public Services
- Urban Planning Councils
- Private Companies

## FINANCERS/ENABLERS

- National Governments
- Local Governments
- Development Banks/NGOs
- Solution Providers
- Private Developers

## SOLUTION PROVIDERS

- Equipment Vendors
- Software Vendors
- Smart Solution Vendors
- Telecom Service Providers
- Private Developers

## INNOVATORS

- Universities
- Innovation & Research Hubs
- Solution Providers
- Individuals

# SMART SOLUTIONS IN AFRICA & MIDDLE EAST

## Mobility

- **Challenges:** Urban traffic congestion, high usage of public vehicles, limited access to public transportation services, air and noise pollution
- **Smart City solution:** Bus rapid transit (BRT) system where passengers access travel information and bus fares. Data gathered are used to optimise operations. Deployed in Dar es Salaam, Morocco and Nigeria.

## Security

- **Challenges:** Lack of real time information to respond to urban violence/crime, civil conflict, terrorism and cybercrime.
- **Smart City solution:** Cyber and video surveillance, data management, automotive safety technologies, and security services. Deployed in Nairobi to link surveillance cameras with police bureaus and police officers.

## Public Services

- **Challenges:** Services are bureaucratic, inefficient and low quality in social sectors like education and health.
- **Smart City solution:** E-government services can bridge the gap between citizen demands and local services while also increasing transparency. Smart Classrooms partnership with Microsoft deployed in Rwanda.

# Thank you

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