

# DIGITAL ECONOMY FOR AFRICA

Newsletter  
Spring 2021



**WORLD BANK GROUP**

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**#DE4A**

Digital Economy  
for Africa Initiative





# About the DE4A Initiative

Africa should think big on digital development. At the current, incremental pace of economic and social advancement, too many of Africa's young people will be denied the opportunity to live up to their potential. Digital technologies offer a chance to disrupt this trajectory – unlocking new pathways for rapid economic growth, innovation, job creation and access to services – which would have been unimaginable only a decade ago. Yet there is also a growing 'digital divide', and increased cyber risks, which need urgent and coordinated action to mitigate.

The World Bank Group Digital Economy for Africa (DE4A) flagship initiative supports the digital transformation strategy for Africa prepared by the African Union (AU). The DE4A initiative recognizes that the digital economy can help accelerating the achievement of the UN Sustainable Development Goals (SDGs) and the Bank's twin goals.



## INTRODUCTION

# Digital Access for All Africans

Welcome to the first edition of the Digital Economy for Africa Initiative (#DE4A) Newsletter, a new hub for all things related to the digital transformation of the African continent. This first edition features an interview with Dr. Amani Abou-Zeid, the Commissioner for Infrastructure and Energy at the African Union Commission (AUC). Readers can learn about key World Bank digital projects in Tunisia, Ghana and Niger, among other countries, partnerships with Google and IFC, and the next generation of digital thinkers and entrepreneurs.

We are here because the ongoing digital revolution is shaping our societies and economies at an unprecedented pace. Yet

as digital technologies make their way into every facet of life, global challenges remain—especially the persistence of the digital divide. The global pandemic and ensuing socioeconomic crises of 2020 have only increased the risk of exclusion. COVID-19 has highlighted the vulnerability of the digitally excluded who have less chance to access vital information including health, education and e-commerce.

Nowhere is this truer than Africa, home to 21 of the 25 least connected countries in the world. A recent report from the UN Broadband Commission estimates that around \$100 billion will be needed to achieve universal access to broadband

connectivity in Africa by 2030. In the face of the pandemic, we have seen the impact of digital connectivity on people's lives.

A recent study from GSMA and the World Bank shows the positive impact of mobile broadband on welfare and poverty reduction in Africa, using data from Nigeria, the largest mobile market and economy on the continent. At least one year of mobile broadband coverage increases total consumption by about 6%, reaching 8% after two years of coverage. The proportion of households below the extreme poverty line drops by about 4% after one year of gaining mobile broadband, and by about 7% after 2 or more years of mobile broadband coverage.

The World Bank Group has developed a comprehensive framework to support developing countries foster innovation through digital transformation. Articulated around five pillars – connectivity, digital financial services, platforms, entrepreneurs and skills –this framework emphasizes digital inclusion and privacy with focus areas such as cybersecurity, data protection, and regulation. Through the Digital Economy for Africa, the Bank is also supporting the African Union with an ambitious strategy that aims to connect all African individuals, businesses and governments by 2030.



The purpose of this newsletter is to shine a light on what we, collectively, are able to accomplish.

We believe that Africa can think big on digital development. In fact Africa's internet economy could contribute up to \$180 billion to the continent's GDP by 2025 and \$712 billion by 2050 according to a recent joint report by Google and the International Finance Corporation (IFC).

At the current, incremental pace of economic and social advancement, however, too many of Africa's youth will be denied the opportunity to live up to their potential. Digital technologies offer a chance to disrupt this trajectory – unlocking new pathways for rapid economic growth, innovation, job creation and access to services which would have been unimaginable only a decade ago.

## The time for action is now

Connecting to the internet remains out of reach for most Africans, with only 22% reporting access in 2017. Too few citizens have digital IDs or transaction accounts – locking them out of critical services and e-commerce. Digital startups struggle to attract funding and 'traditional' businesses are only slowly adopting digital technologies and platforms to boost productivity and sales.

Few governments are investing systematically in developing digital infrastructure, services, skills and entrepreneurship. To become tomorrow's innovators, entrepreneurs and leaders, Africa's youth need to be empowered with the skills and access to technology and markets that are essential to thrive in an increasingly digitized global economy. Governments need to find more nimble



and effective means of delivering services and interacting with citizens. Businesses need to utilize digitally centered business models to connect with the hundreds of millions of customers previously out of reach due to geography or low income.

This is a pivotal moment. Africa has the opportunity to harness the digital economy as a driver of growth and innovation and we hope that this newsletter will give the readers a taste of what's to come.

## Working together: A joint initiative with the IFC



Recognizing the growth potential that a digitally enabled economy can foster across Africa, the IFC, the private sector arm of the World Bank Group, is excited to be an ongoing partner to the DE4A. Strong digital economy foundations have helped new technology companies accelerate productivity growth and efficiencies across all sectors. For instance, in Nigeria, [Kobo360](#) provides a digital platform connecting drivers to cargo that needs distribution. The company's streamlined process has cut cross-country transport times. This IFC investee could grow to support as many as 400,000 jobs over five years by strengthening the cargo supply

chain. [Twiga](#) Foods, another IFC investee, provides a digital platform in Kenya that connects farmers and consumer goods manufacturers to informal market vendors, creating efficiencies across the supply chain. Farmers and manufacturers who sell produce to Twiga now have access to a fair, transparent, and digital marketplace. Digital infrastructure and access are essential for entrepreneurs to succeed. We need to enable digital skills, digital financial services and access to growth capital for entrepreneurs. IFC is eager to help unlock these barriers through this joint initiative and mobilize considerable private sector capital toward this goal.



## VOICES FROM THE FIELD

### The Problem Solver: Meet Obi Ozor, Founder and CEO of Kobo360

When COVID-19 struck Africa and country wide lockdowns began, Obi Ozor, founder and CEO of Kobo360 — the African company digitizing cargo delivery and connecting truck drivers with cargo companies—knew he had to act fast. Kobo360's drivers, who carry goods to clients across 16 African countries, were facing delays at borders and ports. The volume of goods transported across the continent began to drop, threatening businesses and livelihoods. The company needed to adapt—or risk losing everything.

Ozor called his staff and told them they had no option but to face the crisis head-on. The only way the business would outlast the pandemic, he realized, was if Kobo360's operations went 100 percent digital. In May, the company fully digitized its operations and the company's business grew by 7 percent. The following month, it grew almost 10 times that, to 68 percent. Fall 2020 has been the highest grossing quarter yet in the history of the company.

COVID-19 might have been an especially unwelcome challenge, Ozor says, “but for me, entrepreneurship has always been about survival and solving problems.”

In the three years since Ozor and cofounder Ife Oyedele II established Kobo360, there’s been a lot of problem-solving. It all started when Ozor, as a college student in Michigan, tried to import diapers into Nigeria, and saw first-hand that the slow

movement of cargo added so much to the cost of basic items that they became unaffordable to many Africans.

“It used to take one week to transport goods 1,000 km (621 miles) from Lagos to Kano,” he told CNN Business.

It’s a familiar complaint about logistics in Africa. Nigeria loses an estimated \$19 billion annually because of red tape, delays,

and corruption at its ports, according to a 2018 report by the Lagos Chamber of Commerce. The relative cost of moving goods in Africa is among the highest in the world: up to 75 percent of a product’s costs in Africa go to logistics, compared to only 6 percent in the U.S.

But Kobo360—often referred to as the “Uber” of trucks—set out to change that. It has already helped ease delays at the borders of the countries it serves, and Ozor says he estimates that users of his e-logistics platform save an average of about 7 percent in logistics costs.

Kobo360 also allows cargo owners to choose drivers online, access data, and tap into real-time location of trucks. For 50,000 truck drivers in Burkina Faso, Côte d’Ivoire, Ghana, Kenya, Nigeria, Togo, and Uganda, the digital platform speeds up payment and offers other valuable benefits. They receive half of their fee immediately upon matching with a client, at which time they access the relevant information about weather and traffic conditions. Storing

money in the app helps drivers stay safe, too—because traveling with a lot of cash posed a security threat and left them vulnerable to theft and physical attack.

Investors, including IFC, have helped Kobo360 raise \$42.3 million in equity funding.

Ozor’s next mission for Kobo360 is just as ambitious as the company’s first goals seemed to him three years ago. It includes building a Global Logistics Operating System to ensure fast and low-cost movement of goods for businesses on the continent.

“The challenge now is to come together and deliver a company that is truly pan-African, successful, and has something to offer to the rest of the world,” Ozor says. “For me, it’s not just about building a half a billion-dollar company now, I want to build a \$2 billion company in the next few years. As the current generation of entrepreneurs, we owe it to the next generation to deliver a success.”

Obi Ozor. Photo by Dominic Chavez/IFC



## COVID-19 AND DE4A

# Digital Technologies became a lifeline during the pandemic

The COVID-19 pandemic presented Africa with unprecedented hurdles, spurring widespread shutdowns, school and business closures, as well as job losses in both the formal and informal sectors. Digital technology has been front and center to the crisis response, demonstrating the critical relevance of a robust digital economy.

Digital technologies for health have been key for disease containment. Digital services and applications are being used in conjunction with data analytics to facilitate decision making on public health policy and to assist health professionals through telemedicine. These technologies also support broader health systems through tracing, monitoring, procurement and deployment of staff.

Digital connectivity and digital services can mitigate the economic and social effects of physical distancing measures. Services and applications that facilitate remote work for the public and private sectors, along with education solutions, have helped to mitigate disruption to work and school. The availability of digital services and applications such as mobile payments, food delivery, online shopping, social media and instant messaging allowed people to remain connected and economically active. For business, digital tools to manage supply and logistics chains have proven critical in the face of initial disruptions of global value chains.

However, the relatively low level of internet penetration, especially in low income and rural areas and by small businesses, as



well as the lack of affordability and quality of service, perpetuate the digital divide. Even governments faced acute broadband connectivity problems since they did not have systems to enable remote work at scale, access to broadband from home by government officials is limited, and digital connectivity of public institutions is still lacking, especially in remote areas.

Consumer protection frameworks are not adequate to address issues related to online purchases of goods and services. Small suppliers to digital platforms have few instruments for legal recourse. Although more than 30 countries and regions in Africa have competition authorities in operation, few cases involving digital markets have been handled, and in many

cases legal frameworks need to be updated to allow for effective implementation in a digital economy. Finally, digital IDs could facilitate citizens' use of digital government services and access to digital products such as credit and insurance. But only 40% of African citizens have an ID, limiting the usage of integrated public platforms to provide social services and deliver social protection measures, such as cash transfers, especially during the COVID crisis.

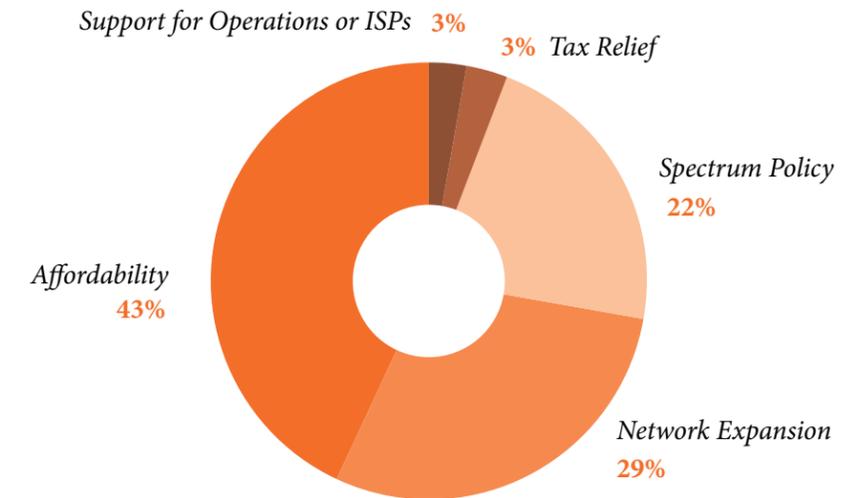
online such as public health information, e-learning and ease the use of digital payments. The figures below show the composition of 191 digital policy responses to COVID recorded for 31 countries in the period March-July 2020. Around half of the initiatives have been launched by the private sector and the rest have been led by governments or build on public-private partnerships. About two thirds of responses focus on digital services and the rest on digital infrastructure.

Governments have also partnered with the private sector to deliver services

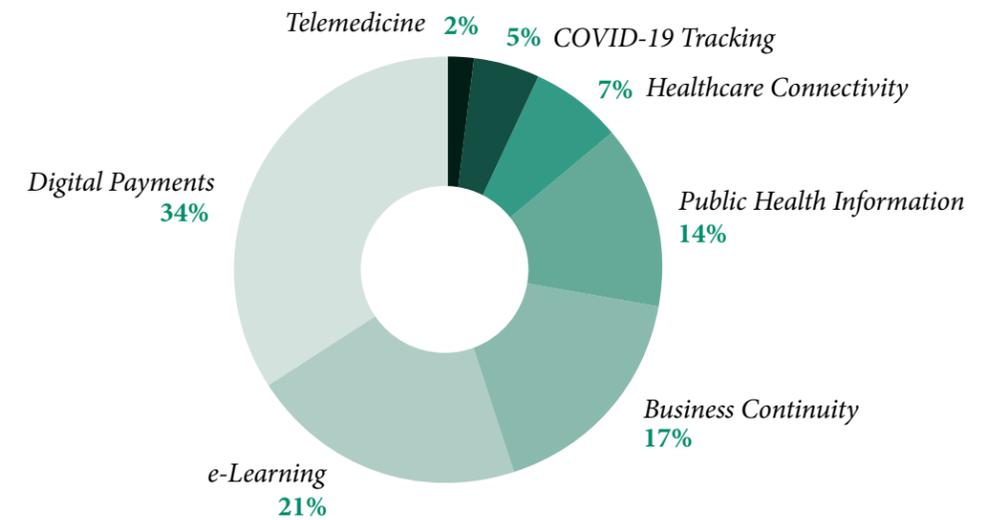
A young girl gets her temperature taken to reduce the spread of COVID 19 (Shutterstock)



Digital Infrastructure Responses to COVID in Sub-Saharan Africa



Digital Services Responses to COVID in Sub-Saharan Africa



Note: Includes information on public and private sector responses to COVID since March 2020 collected through online research and therefore is not an exhaustive list of responses for all countries, but instead a subset of response types observed and recorded during the emergency and recovery phases of the pandemic.

Source: World Bank Group, Digital Development Global Practice, Digital COVID-19 responses database. Information as of March 1, 2021.

## INTERVIEW

### Dr Amani Abou-Zeid, African Union Commissioner for Infrastructure and Energy

Dr. Amani Abou-Zeid is the Commissioner for Infrastructure and Energy at the African Union Commission (AUC) in charge of sectors covering Energy, Transport, Tourism and ICT. Prior to joining the AUC, Dr. Abou-Zeid served for more than 30 years in leadership roles at the African Development Bank (AfDB), UNDP and USAID, with a focus on infrastructure and energy programs. An Egyptian national, Dr. Abou-Zeid speaks French, English, Arabic and Spanish. She is a trained telecommunications engineer with an MBA in project management from the French University for African Development (Université Senghor), a Masters in Public Administration from Harvard University and a Ph.D. in Social and Economic Development from University of Manchester.

**What is the biggest challenge for a digital transformation in Africa? What can you do to ensure an inclusive digital economy for all?**

Challenges in implementing the digital transformation include strengthening the coordination framework, aligning policies and sector regulation and the need for a massive scaling-up of investment and dedication of resources. To address the challenges, the AU Commission in collaboration with other continental institutions and regional economic communities are working with member states to identify and address barriers to harmonize laws and regulations and drive leadership for necessary reforms that ensure future investment in digital transformation.



*Dr Amani Abou-Zeid,  
African Union Commissioner for Infrastructure and Energy*

An additional challenge is that nearly 300 million Africans live more than 50 kilometers from a fiber or cable broadband connection, hence the lack of widespread availability of high-speed internet remains a significant hurdle for Africa to fully harness the potential of digital transformation.

To reap the benefits of digital transformation, abundant, low-cost connectivity is essential as broadband drives productivity, innovation and growth. One of the specific objectives of Africa's Digital Transformation Strategy is to create a harmonized environment necessary to guarantee investment and financing in order to close the digital infrastructure gap and achieve an accessible, affordable and secure broadband, across demography, gender and geography. The strategy also has a target for an additional 300 million people in Africa to come online by 2025.

## Digital Economy for Africa

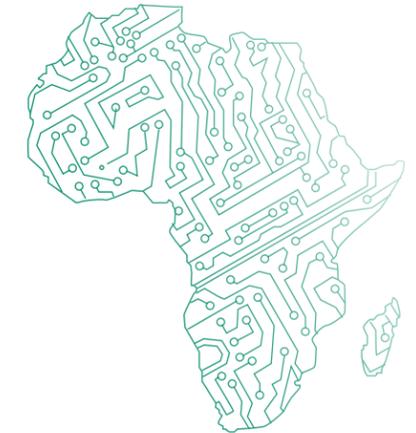
### How has COVID affected the digital transformation roadmap in Africa?

The COVID-19 pandemic crisis has undoubtedly had negative effects in all socioeconomic sectors. Africa, as the rest of the world, is experiencing the most unprecedented economic impacts since the Great Depression of the 1930s. The pandemic is reversing the continent's developmental progress made in recent years. In these unprecedented times, the African Union and African governments have taken measures to limit the spread of the COVID-19 outbreak and mitigate its impacts as well. Related measures include disease control, information, education, payments, provision of government's services and retail transactions that rely basically on digital platforms and tools. Digitalization has become a high priority. However, the huge use of the internet resulted in a five-fold increase in cyberattacks and cyber threats due to a lack of cybersecurity frameworks in most countries. In this respect, the African Union and its member states are speeding up the implementation of the digital transformation roadmaps and strategies at national, regional and continental levels.

### Looking forward, what role do you expect the private sector to play toward achieving the digital transformation vision in Africa, and how does the AU engage with private sector partners?

We recognize that direct linkages are necessary to realize the objectives of the digital transformation strategy. While the public sector must retain leadership, accountability and oversight capabilities, the role of the private sector in the implementation of the strategy is important. Previously, solving connectivity challenges could only be tackled by governments investing vast resources in state-owned networks. The mobile phone revolution opened the door to private sector investment in telecommunications and now new business models and services have extended sustainable communication services significantly further. Today, the digital infrastructure landscape is shifting again. The value chain of digital infrastructure networks has been unbundled and new private sector players are developing network infrastructure, such as independent broadband operators and tower companies.

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## KEY MEETINGS AND EVENTS

### D4D HUB - The Future is digital



*Creator: OLIVIER HOSLET / Credit: EPA/AFP via Getty Images*

The high-level online event, #D4Dhub, was held on December 8, 2020. It marked a turning point for supporting a human-centric digital transformation in partner countries. It featured interventions from European Commission President Ursula von der Leyen, Commissioner for International Partnerships Jutta Urpilainen, Commissioner for Internal

Market Thierry Breton and African Union Commissioner Abou Zeid. The evening marked the beginning of a new era of international digital partnerships. The EU is committed to building and strengthening international partnerships for a fair and inclusive digital future, particularly in the post-COVID-19 world.

## World Bank Group Annual Meetings 2020: Closing the Digital Divide

The flagship event on “Closing the Digital Divide” brought together global leaders including the CEO of Google and private sector innovators, including young African entrepreneurs, to discuss

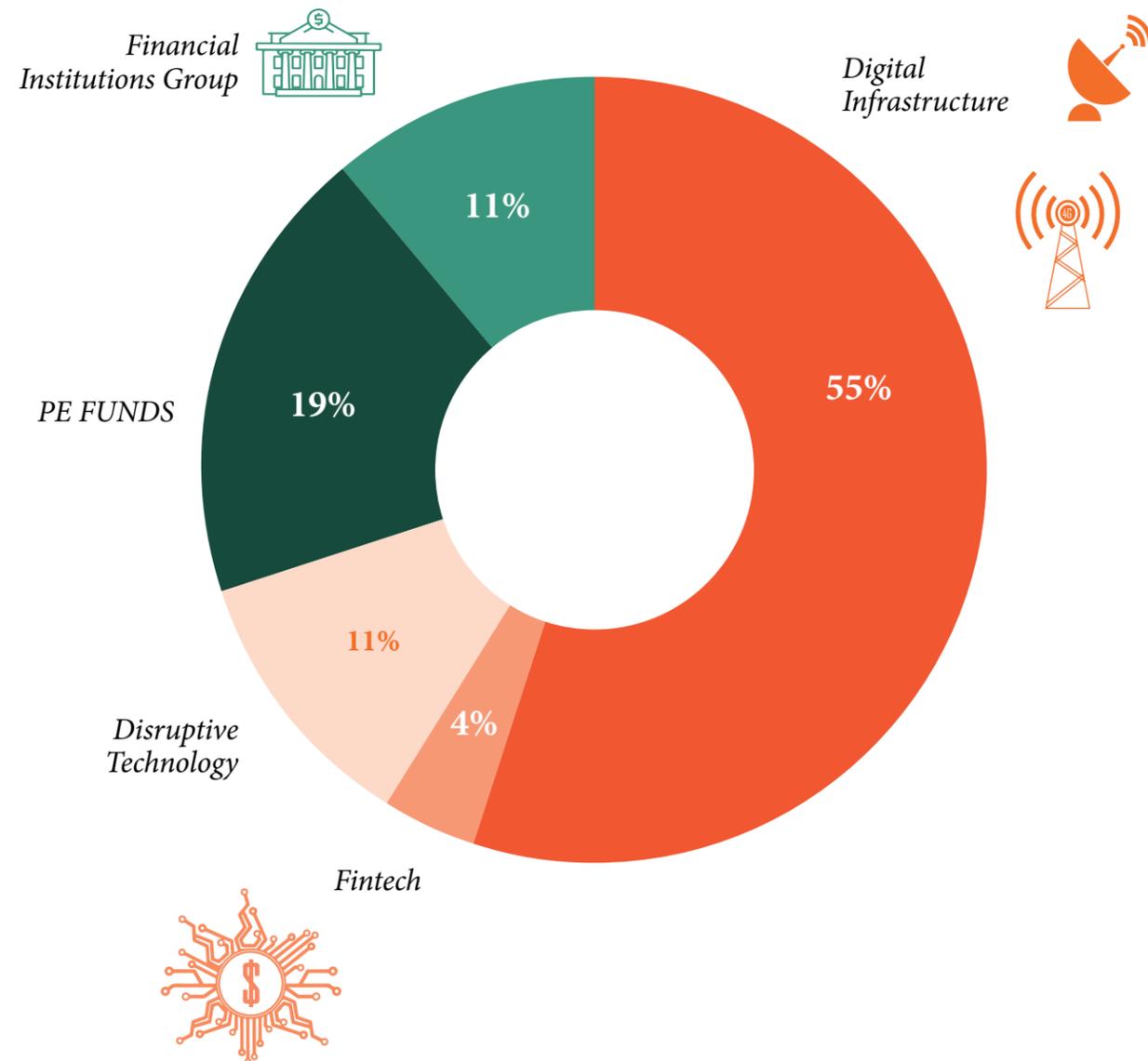
new ways to accelerate digital access and create ubiquitous, affordable and reliable connectivity for all. This is a must watch: <https://live.worldbank.org/closing-the-digital-divide>



# DE4A PORTFOLIO

## IFC DE4A INVESTMENT PROGRAM

As of December 2020



## #DE4A

	US\$ MILLION	NUMBER OF PROJECTS
ACTIVE PROJECTS	1,267	60
PIPELINE PROJECTS	1,861	66
COMPLETED	12	9
<b>TOTAL</b>	<b>3,129</b>	<b>126</b>

	US\$ MILLION	PERCENTAGE
DIGITAL INFRASTRUCTURE	1,738	55%
FINTECH	120	4%
DISRUPTIVE TECHNOLOGY	332	11%
PE FUNDS	609	19%
FINANCIAL INSTITUTIONS	343	11%
<b>TOTAL</b>	<b>3,140</b>	<b>100%</b>



## KEY PUBLICATIONS

### e-Conomy Africa 2020

[e-Conomy Africa 2020](#), a report released by Google and IFC, estimates that Africa's internet economy has the potential to reach 5.2% of the continent's gross domestic product (GDP) by 2025, contributing nearly \$180 billion to its economy. The projected potential contribution could reach \$712 billion by 2050. Africa's internet economy is transforming development on the continent by fostering economic opportunities, creating jobs, and providing innovative solutions to complex challenges, including access to health care, education and finance. Driving this growth is a combination of increased access to faster and better internet connectivity, a rapidly expanding urban population, a growing tech talent pool, a vibrant startup ecosystem, and Africa's commitment to creating the world's largest single market.



### The welfare effects of mobile broadband internet in Nigeria

The recent study, [“The Welfare Effects of Mobile Broadband Internet: Evidence from Nigeria,”](#) estimates the impacts of mobile broadband coverage on household consumption and poverty in Nigeria, the largest economy and mobile broadband market in Africa. The analysis utilizes a unique dataset that integrates representative household surveys on living standards with information from Nigerian mobile operators on the deployment of mobile broadband coverage between 2010 and 2016. The estimates show that mobile broadband coverage had large and positive impacts on household consumption levels which increased over time, although at a decreasing rate. Mobile broadband coverage also reduces the proportion of households below the poverty line, driven by higher food and non-food consumption in rural households. These effects are mainly due to an increase in labor force participation and employment, particularly among women.



## SPOTLIGHT ON KEY PROJECTS

### Tunisia GovTech: Citizen-centric digital transformation to support COVID-19 responses

Tunisia rapidly put in place an emergency cash transfer in March 2020 in response to the COVID-19 pandemic. The cash transfer targeted the poor, including people previously or still working in the informal sector whose livelihoods and families were affected by shutdowns and slowdowns. Tunisia utilized existing social systems to implement this emergency cash transfer. The government also committed to accelerating reforms strengthening the social protection system to respond to shocks more effectively and to improve households' resilience.

The \$100 million [Digital Transformation for User-Centric Public Service project](#)

aims to promote the application of digital technologies and improve public sector management (GovTech) of social protection and education services. The project was restructured in June 2020 to support a COVID-19 emergency cash transfer, focusing on four key areas: social assistance programs targeted to the poor and the vulnerable; social security to extend the coverage of pensions and health insurance; digitization of education management services in order to facilitate enrollment and the monitoring of pupils and schools; and improving digital resources to reinforce teaching and learning.

## Enabling digital financial and government services in Somalia

A lack of trusted, universally accessible digital technology is a major challenge in Somalia. More than three-quarters of Somalia's population are estimated to lack an official proof of identity, making it difficult for financial service providers to fulfill international customer due diligence (CDD) requirement. In addition, MSME access to finance is very low in Somalia, with current levels of lending by banks estimated to meet only 7 percent of the demand. These challenges have been exacerbated by the current COVID-19 crisis that is having a severe economic impact on the most vulnerable Somalis and businesses.

The US\$31 million [Somalia Capacity Advancement, Livelihoods and Entrepreneurship through Digital Uplift Project](#), (SCALED-UP) supports progress toward increased access to basic digital financial and government services targeting entrepreneurship and employment, particularly for women. It tackles key development challenges in Somalia, including lack of an

inclusive foundational ID system which limits access to economic opportunities and effective service delivery across the public and private sectors and extremely limited access to finance for Somalis in productive sectors such as livestock.

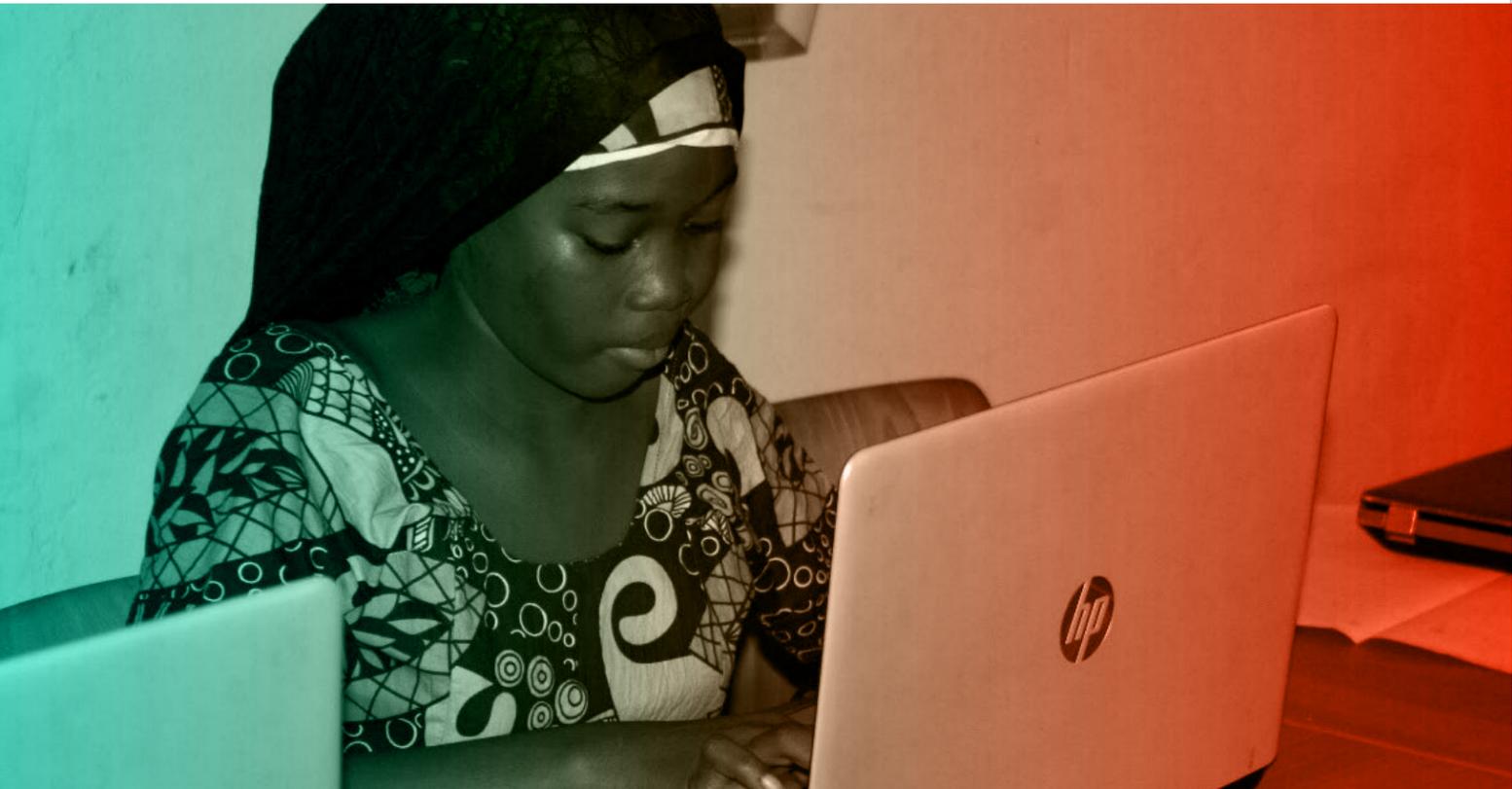
Specifically, the project is supporting the Government launch of a foundational ID system in Somalia, including the adoption of a comprehensive legal and regulatory framework to underpin the ID system; establishment and operationalization of a competent, independent ID Authority; and enabling the enrollment of the first 1 million residents.

The project helped to establish a new Micro, Small and Medium Enterprise (MSME) Financing Facility called "Gargaara" structured on private sector principles and designed to help attain far greater leverage of public funds than a typical line of credit. The project aims to strengthen core government institutions and support efforts to de-risk the financial sector by

strengthening know-your-client (KYC) and anti-money laundering and combating the financing of terrorism (AML/CFT) regulations. It is also expanding the use of digital platforms at core institutions to enable cashless payment systems using inter-bank mechanisms and to offer digital business registration services through an integrated online one stop shop.

## Bringing mobile phones and internet to rural Niger

This past summer, the World Bank funded the equivalent of \$US100 million to launch the [Niger: Smart Villages for Rural Growth](#) and [Digital Inclusion project](#). Financed 50/50 in the form of a credit and a grant, the project is a robust effort to increase



access to cell phone and broadband services in rural areas. Increasingly, the data demonstrates that digitalization helps to reduce poverty in rural communities.

The project is aligned with the African Union’s Digital Transformation Strategy, and the World Bank Digital Economy for Africa initiative, in particular the goal of achieving universal broadband coverage in Africa by 2030. Niger has many challenges in this area, beginning with the fact that 10 percent of citizens lack any kind of cellular coverage, while more than half the population lacks mobile broadband coverage. The project seeks to bring mobile broadband coverage for the first time to more than 2000 villages. The mechanism to be used is a “reverse auction” whereby private sector service providers and tower companies bid the minimum level of subsidy required, from project funds, to bring services to designated rural areas.

Improving access to digital financial services also support domestic remittance payments, in particular by establishing some 150 digital centers across the country. They will operate as facilities for delivery of e-financial or digital services to rural populations, providing one-stop-shops where remittances, cash-in cash-out and any other financial services can be conducted.

For the predominantly young people in those villages, the ability to make their first phone call, record their first social media, video, or to join online classes, will mark a huge step forward for future life opportunities. But for older people too, whose children may have moved to the city, the chance to talk to them live by video-chat, or to receive instant payments from them using mobile money, could be truly transformational.



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comprised of grants for Ph.D. students to be trained in competitively selected RSIF Africa host universities and renowned international partners. The second window is a grant mechanism for applied research to resolve development challenges in communities. The third window offers grants to support innovation projects and commercialization of research.

The key achievements to date include the growth of the RSIF fund from US\$14 million to US\$20 million, the increase in number of RSIF scholars from 15 to 70, and an increase in the number of international partners from one to nine, as well as an increase in the number of African universities from four to 11. Finally, 14 innovation teams have been awarded research grants.

## Meet Africa's Future through Africa's regional scholarship and Innovation Fund for Applied Sciences, Engineering and Technology (RSIF)

The [Africa Regional Scholarship and Innovation Fund for Applied Sciences, Engineering and Technology \(RSIF\)](https://www.worldbank.org/de4a) trains applied researchers and builds research capacity in Sub-Saharan Africa universities. It is also a hub to conduct research for Africa's development. Building on best practices to ensure sustainability in research training and capacity building, RSIF has three windows. The first is

## RSIF SNAPSHOT: Petronille Dusingizimana

Petronille Dusingizimana comes from Rwanda and is pursuing her PhD in climate change, biodiversity and sustainable agriculture at the University Felix Houphouët-Boigny in Cote D' Ivoire. She tells her own story about becoming an RSIF PhD: "I have master's degree in climate change adaptation, and a bachelor of science degree in molecular biology and biotechnology. Throughout my studies and other experiences, I have gathered knowledge and skills in biological science, agriculture and climate change research. I therefore chose my research topic in the same thematic area.

[www.worldbank.org/de4a](https://www.worldbank.org/de4a)

I decided to pursue a Ph.D. because I am interested in and have a passion for a research-based career, and I want to explore innovation in the field of agriculture. I think a PhD provides an opportunity to improve my research, management, and other related skills and to enable me to understand and solve problems, in relation to Africa's needs in agriculture and climate change, for sustainable development.

The Partnership for Skills in Applied Sciences, Engineering and Technology (PASET) – Regional Scholarship and Innovation Fund (RSIF) sparked my interest because it is an Africa-led solution to solving African challenges. As a young African, I felt that being part of this program would be a great honor as it would give me an opportunity to strengthen my knowledge and skills, and use them to contribute to building the Africa we want, a self-reliant Africa.

A big percentage of Africa's economy and livelihoods depend on a rain-fed agriculture system, which is particularly vulnerable to the effects of climate change. Failure to factor climate change into long term planning would leave countries across sub-Saharan Africa vulnerable to impacts of climate change.

My vision is that the results from my research will support decision making and planning towards climate resilient agricultural and socio-economic development in Rwanda. I hope that my research will be used as a prototype for other sub-Saharan African countries, in order to increase agriculture resilience and boost the African economy in general. I am convinced that the skills and knowledge I will get through my PhD training in climate change and Biodiversity will assist me to have the “standing” to be a critical thinker and innovator in finding solutions to agriculture, environment conservation, and climate change issues. I also hope to identify new partners that will support my future research and capacity building efforts.

When COVID-19 cases were first reported in Rwanda, I had already quit my job in anticipation of starting my PhD program; It was just a week to my travel day. From then, airports closed; and the whole country went under lockdown. I was not quite sure what to expect or what the next day would hold, which caused me some anxiety. I managed this period and anxiety by focusing on controlling what I could and released what I

could not. I used the extra time to learn new and different things (academic and social) online. Furthermore, I got to spend time with my family. All this helped me to cope with that stressful period.

I have a family which I belong to. I have prepared them for the commitment and asked for their support for the duration of my PhD program. Work planning and time management will help me to balance the two (my family and my studies).

During my PhD program, I expect some challenges. However, I believe I will overcome these and finish my PhD successfully.”

<https://www.rsif-paset.org/her-journey-to-the-phd-petronille-dusingizimana/>  
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## Support accelerating Ghana's digital transformation

The US\$105 million [Additional Financing for eTransform Ghana](#) approved in 2020 aims to improve the efficiency and coverage of government service delivery. Activities to be scaled up include the digitization of archives and public records and increasing the internet bandwidth of health centers and hospitals in more than 250 districts. The project will also provide computer labs and networking for enhanced remote learning in two universities and 200 high schools

[www.worldbank.org/de4a](http://www.worldbank.org/de4a)



Photo credit: Ghana Tech Lab (<https://www.ghanatechlab.com/>).

Automation of the judiciary and the development of an integrated information system for the Ministry of Justice will facilitate remote work. The project aims to improve the efficiency and coverage of government service delivery using Information Communication Technologies (ICT). The original eTransform Ghana project launched in 2014.

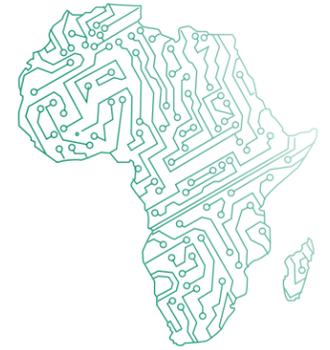
The government of Ghana views this project as a bridge for the digital transformation of the country, and of enhanced broadband internet connectivity. The additional

financing provides a great opportunity to leverage digital technologies to contribute to the COVID-19 response and to build resilience to future crises, by leveraging the use of digital technologies and providing support for policy and regulatory reform.

The Additional Financing is fully aligned with the national development strategy “Ghana Beyond Aid,” which emphasizes a need for rapid growth by improving human capital and technical capacity, as well as investment in public infrastructure.

## Digital Economy for Africa

# Connecting Africa and Europe under the sea



In Africa, distances between countries are vast—and so is the task of connecting people. The potential and possibility of a digitally enabled African economy is recognized across the world. Google is building Equiano, a sub-sea cable that will start in western Europe and run along the West Coast of Africa, between Portugal and South Africa, with branching units along the way that can be used to extend connectivity to additional African countries. Equiano will be the first sub-sea cable to incorporate optical switching at the fiber-pair level, greatly simplifying the allocation of cable capacity, and providing flexibility to add and reallocate it in different locations as needed.

Africa’s digital infrastructure requires innovation in product, delivery and financing. IFC invested in the Eastern Africa Submarine Cable System, known as EASSy, which was the first system to deliver

direct connectivity between east African nations and Europe and North America. This initiative, which has delivered voice and data services to at least 20 African countries, was coordinated by IFC with the World Bank. Working with development finance institutions and a large number of stakeholders across east and southern African states, IFC advocated for a model of private ownership. This was critical because many of the telecommunication operators did not have the capacity to fund their participation. IFC’s coordination, alongside the work of the World Bank Regional Connectivity and Infrastructure program, proved essential in improved access and lowered bandwidth costs for more than 250 million Africans.

As IFC, Google and others invest in Africa’s digital physical infrastructure, there is also a need to build social infrastructure in digital skills while encouraging

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entrepreneurship that can drive employment and new business growth. IFC's investments also seek to stimulate both access to critical digital economy education as well as opportunities for entrepreneurial dynamism. IFC supports pan-African startup Gebeya, Inc. to train software developers on the latest technologies and incubate digital entrepreneurs' businesses. IFC has also invested in Flat6Labs Tunis, an accelerator and early stage venture capital fund focused on catalyzing the entrepreneurial ecosystem within Tunisia. Flat6Labs Tunis will support 100 technology startups with capital, training, network connections, and mentorship, while helping to address the lack of early stage capital in Tunisia. As part of this investment, IFC is partnering with the Women Entrepreneurs Finance Initiative (We-Fi) program with the goal of supporting female entrepreneurs and creating a more inclusive VC ecosystem within Tunisia.

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## Madagascar launches digital transformation for human-centered service delivery

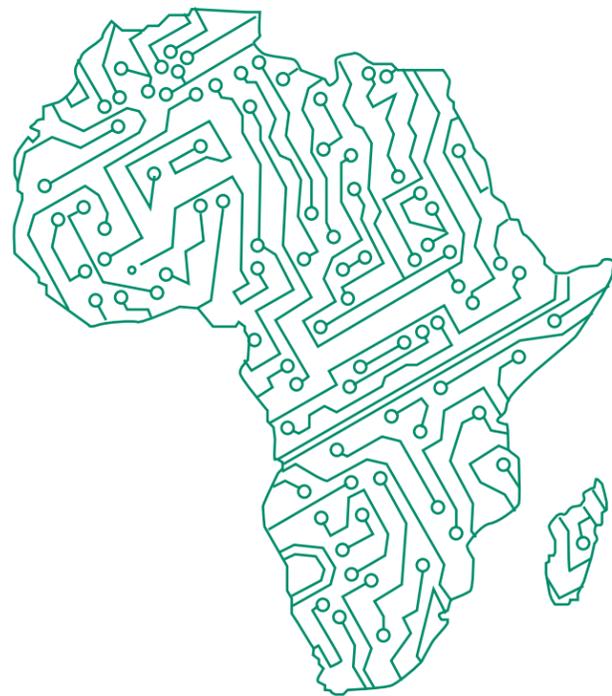
Madagascar has been accelerating its digital transformation by leveraging the pool of local digital talent and building institutional capacity within Government. The Digital Governance Unit, recently established within the President's Office, has begun coordinating Government-wide digitalization efforts. Staffed with a multidisciplinary team, largely recruited from the private sector and academia, the unit is helping to increase focus on human-centered service delivery, agile ways of working, and designing services that will improve connectedness and wellbeing during and after the pandemic. The unit supported the rapid delivery of a dashboard of Covid-19 cases to support

decision-making by the Ministry of Health, a government information portal, an online recruitment system, and an online business registration portal, as well as tele-declaration and tele-payment tax systems.

These initiatives are supported through the \$150-million World Bank-funded [Digital Governance and Identity Management System \(PRODIGY\)](#) project. The project aims to strengthen capacity to deliver services by establishing the human, technology, and legal foundations for digital governance, while building local capacity to streamline and digitalize services to decrease the digital divide.

The Digital Governance Unit is laying the foundations to transform the delivery of public services through interoperability, government platforms, user-centric design, and cloud-based services. The unit is working closely with the private sector to create an agile procurement strategy that will reduce the cost—and improve the quality of technology

while supporting the participation of local tech firms. The unit is establishing partnerships with local and international training centers, as well as academia, and will adapt international digital leadership and specialized digital skills curricula to local needs, while offering training in digital literacy.



## BLOG

# Africa's universities can jumpstart the end of the digital divide

*Sajitha Bashir*

On the African continent, top universities are struggling to connect in ways that many European and American secondary schools take for granted. Africa's higher education institutions often get bandwidth in the range of 100-1000 Mbps (megabits per second), while U.S. high schools have a recommended target of 3 Gbps (Gigabits per second) per 1000 students. I found this comparative data from recent years astonishing while working on the report *Connecting Africa's Universities to Affordable High-Speed Broadband Internet: What will it take?*

African countries have made progress in connecting universities over the last decade. South African and countries in North Africa have ensured universal coverage. Kenya, another leader in connectivity, has increased the number of connected campuses to 270, a sharp rise from 140 in 2013 and 55 in 2009. But many African universities have not succeeded in establishing even basic connectivity to small campuses.

In 2020, Africa's youth lost the access they needed to education, opportunity and livelihoods because technology moved to the very center of study and work – and too many were left behind. Most public university students in Sub-Saharan universities, about 7 million young people, could not access meaningful education for several months in 2020.



## #DE4A

## Digital Economy for Africa

The digital divide has never been so obvious to us as it is right now.

Connecting Africa's universities to affordable, high-speed broadband internet is a primary goal of the Digital Economy for Africa (#DE4A) initiative, which aims to assure that all African individuals, businesses and governments are digitally enabled by 2030. African universities need broadband in order to expand coverage, improve the quality of higher education, and encourage research and development.

High quality research, which is essential for finding solutions to Africa's most pressing development challenges, requires linking African researchers with their peers worldwide and encouraging cross continental collaboration. Connecting Africa's universities will have spillover effects on the broader education system. With broad political will, connecting these institutions could be a linchpin of the broader Digital Transformation Strategy.

Universities are among the most critical institutions for building bridges between academia and policy makers, providing opportunities for African researchers, educators and students to collaborate locally and compete internationally. National Research and Education Networks (NRENS) enable the university and research community to expand a dedicated network, and many countries have prioritized NRENS to boost the connectivity of universities.

See more of this blog at:

<https://blogs.worldbank.org/digital-development/africas-universities-can-jumpstart-end-digital-divide>

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