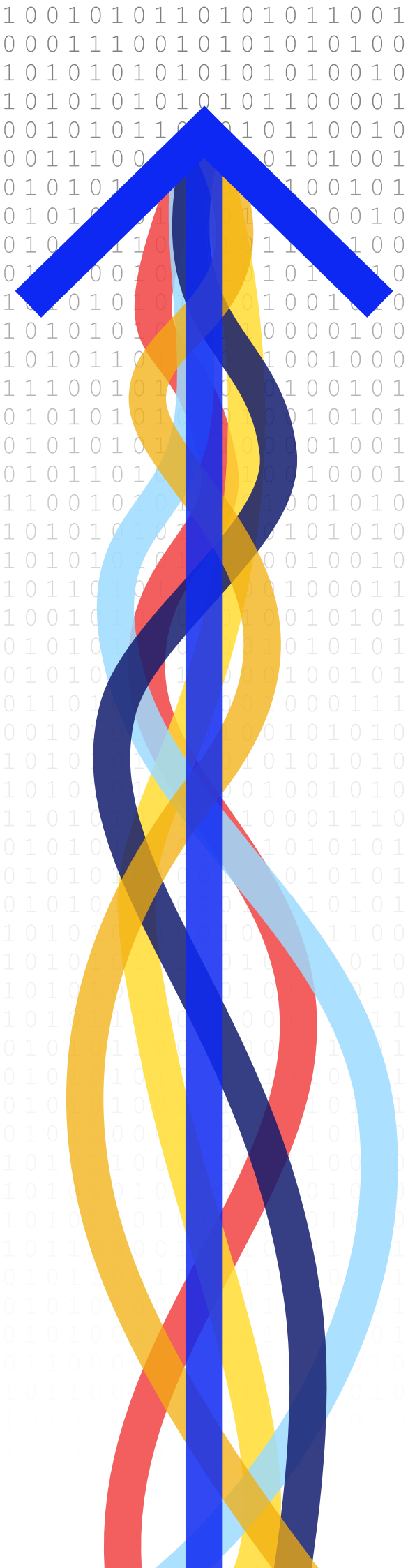

AFRICAN DEVELOPMENT BANK GROUP

DETAILED VERSION

Digital Transformation Action Plan 2024 – 2028

AFRICAN DEVELOPMENT BANK GROUP

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Abbreviations

4IR	Fourth Industrial Revolution
4SITE	4IR Solutions and Innovative Technologies Evidence Lab
4G	Fourth Generation Technology
5G	Fifth Generation Technology
ADB	African Development Bank Loan
ADER	Annual Development Effectiveness Review
ADF	African Development Fund (Concessional Financing instrument)
AEO	Africa Economic Outlook Report
AfCFTA	African Continental Free Trade Area
AfCFTA-DTP	African Continental Free Trade Area Digital Trade Protocol
AI	Artificial Intelligence
AU	African Union
AUC	African Union Commission
CSP	Country Strategy Papers
DBMS	Database Management Systems
DE4A	Digital Economy for Africa
EDI	Economic Diversification Index
EU	European Union
FAPA	Fund for African Private Sector Assistance

GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GII	Global Innovation Index
GSMA	Global System for Mobile Communications Association
ICA	Infrastructure Consortium for Africa
ICT	Information Communication and Technology
i-DICE	Digital and Creative Enterprises Program
IoT	Internet of Things
IsDB	Islamic Development Bank
ITU	International Telecommunication Union
JfYA	Jobs for Youth in Africa
NEPAD	New Partnership for Africa's Development
PADSFIF	Financial Sector Development and Financial Inclusion Support Project in the DRC
PADSFIFPADEC	Financial Sector Development and Financial Inclusion Support Project in the DRC Projet d'Appui à la Digitalisation de l'Economie Comorienne
PDCEJD	Skills Development Project for the Employability of Disadvantaged Youth in DRC
PEAPPJ	Projet d'Entreprenariat Agro-pPstoral et Perfectionnement Professionnelle des Jeunes et des Femmes
PoV	Proof of Value
PPP	Public-private sector partnership
RDTS	Transition States Coordination Office (RDTS)
RMC	Regional Member Country

SCADA	Supervisory Control and Data Acquisition
STEM	Science Technology Engineering and Mathematics
TfMS	Trust Fund Management System
YEIB	Youth Entrepreneurship Investment Bank

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Executive Summary

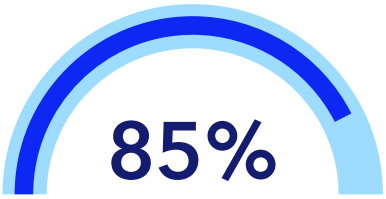
DTAP AT A GLANCE

The world we live in today is digital - impacting how we think, work, and communicate.

6 out of the world's 7 largest companies by market capitalisation are in the technology sector. Mirroring global trends, Africa's digital economy, with the mobile sector as a key part, is the fastest growing. In 2023, this sector contributed 8.1% to GDP, created 3.6 million jobs, and generated $20 billion in public sector taxes.

STRENGTHS

INTERNET COVERAGE

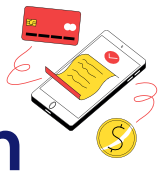


85%

Eighty-five percent of the region is covered by mobile internet, **up from 3% in 2004.**

MOBILE MONEY TRANSACTIONS

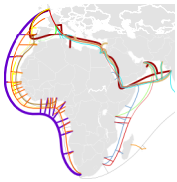
$2.3 Billion



SSA is the global epicentre of mobile money, with **$2.3 billion transacted per day.**

SUBMARINE CABLES

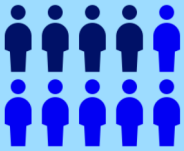
37 of 38



coastal countries in Africa have **direct access to at least one submarine cable** system.

OPPORTUNITIES

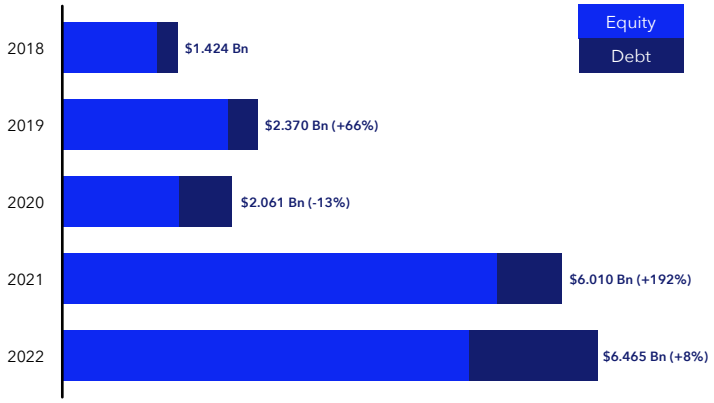
By 2030, Africa's workforce will be among the world's largest. If equipped with the needed infrastructure and skills, the 4IR represents a massive opportunity for new jobs and growth.



By 2030,

4 in 10

young persons between 15 and 24 will be African.



In 2022, African Startups raised US$ 6.5 billion, with **Fintech accounting for 31%.**

The continent has 11 unicorns.

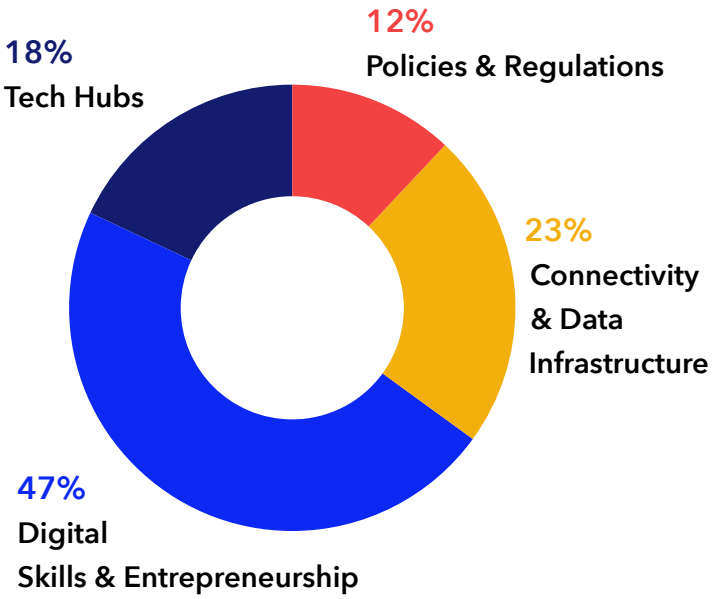
INVESTMENT TO DATE

BANK'S INVESTMENT

Between 2012 and 2023, the Bank invested and mobilised

$2.2 Billion

in 40 ICT projects



These investments significantly reduced internet costs, boosted digital skills, and catalysed investments for tech startups and enterprises.

WHAT WE WILL DO

1

Inclusive Digital Infrastructure

Invest in affordable, green digital and connectivity infrastructure to bridge the gap.

2

Digital Entrepreneurship and Skills

Catalyse investment in tech startups and upskill youth in digital skills, essential in the 4IR.

3

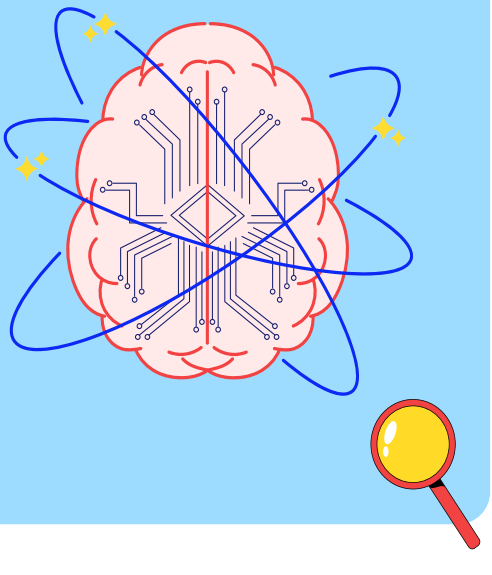
Sectoral Adoption of Digitalization

Systematically integrate digital and 4IR across sectors (i.e. agriculture, governance, trade, energy, and climate)

FLAGSHIP PROJECTS

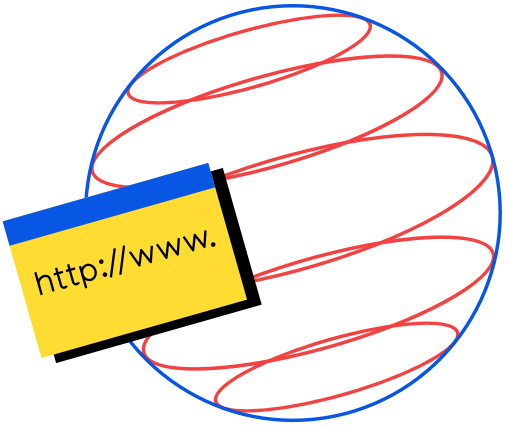
4SITE (4IR Solutions and InsighT Evidence Lab)

4SITE is a key flagship under DTAP which will serve as a hub for data/evidence of 4IR impacts and use cases on the contitent. The lab will track 4IR technology in Africa to guide policies, strategies and innovative project design in sectors like agriculture, health, and additive manufacturing.



The Global Context

Digital technologies are significantly impacting global economic growth, with six out of the top seven companies by market capitalization rooted in technology. This era, defined by the Fourth Industrial Revolution (4IR), presents Africa with an opportunity to diversify its economies, elevate income levels, and improve the quality of life for its people. At the heart of this potential are Africa's youth, projected to reach 830 million by 2050, who are using technology to solve socio-economic challenges and innovate within traditional markets. In 2022 alone, 640 startups across the continent secured $6.2 billion in funding, with a notable 31% directed towards fintech ventures.



Sub-Saharan Africa's own journey from minimal mobile broadband access in 2004 (3%) to widespread coverage (85%) by 2022 illustrates the evolution of technology adoption. The region now has 515 million unique mobile subscribers, 51% of whom use smartphones to access the internet.

Investments in submarine cable systems and regional data centres by the African development Bank, other DFIs and private sector have significantly improved connectivity. The mobile sector contributed 8.1% to the region's GDP in 2022, creating 3.6 million jobs and adding $170 billion in economic value.

And the activities described have been Bank-wide contributions. While the Digital sector is one of the five priority sectors of the Industrialize Africa Strategy of the Bank, it also touches on all other High Fives of the Bank and, in particular, Improve the Quality of Life for the People of Africa (Jobs for Youth in Africa Strategy). Consequently, this paper, which follows from Bank-wide discussions, pulls together the activities of the Bank in the Digital sector into one place and describes potential areas of further action.

The Bank has been playing a substantial role. From 2012 to 2023, the Bank's $2.2 billion investment in 40 digital economy projects across Regional Member Countries leveraged an equal amount from external sources.

These investments significantly reduced internet costs enhanced digital literacy for youth and women and created a favourable environment for technology-based startups and enterprises, leading to noteworthy development outcomes in these regions.

The Challenge and Opportunity for Africa

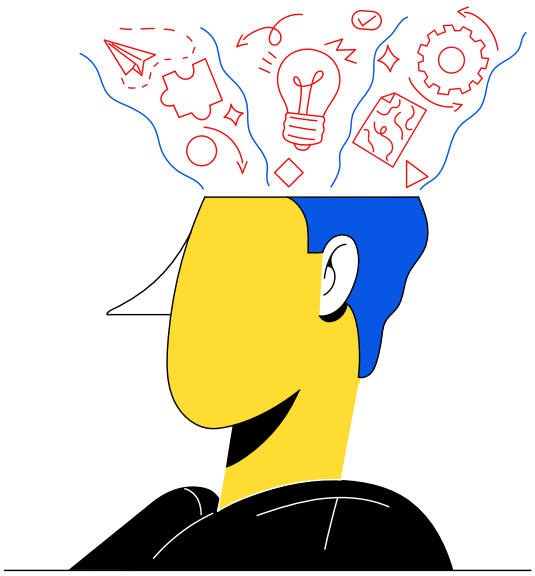
Despite the significant success of the digital sector in Africa since the start of the Millennium, there are still profound weaknesses. While network coverage is vast, actual usage lags at 25%, highlighting a pronounced digital divide. Urban areas show a 64% usage rate, while rural regions are far behind at 23%. Additionally, a gender disparity exists, with women 10% less likely to use the internet than men. Addressing these

disparities is crucial for fostering inclusive economic growth, necessitating targeted strategies to bridge the digital divide.

Africa's digital policy and regulatory framework lag behind, limiting the digital economy's growth. Only 28 countries have comprehensive data protection laws, and just 11 have meaningful cybercrime legislation. The absence of robust digital economy policies and the misalignment of existing laws with industry needs hinder private sector investment and policy enforcement. To leverage fully the advantages of the digital age, it is crucial for Africa that the Bank continues to support governments in strengthening regulation.

Gains in productivity from digital adoption still need to be fully realised. Government should take a leading role to enhance access to digital services and the private sector properly should recognise and grasp the productivity improvements, in both market reach and operational efficiency, that digital can bring. This will need investment which the Bank is ready to provide through its sectoral departments.

But if these are challenges, there is also a major opportunity for Africa: it is embodied in its youth. Africa's youth population has grown up with technology and is expected to reach 830 million by 2050. If Africa can improve workforce skills needed for the digital era, it can not only speed up its own digital transformation, but it can also become a major creator and supplier of digital solutions to the world, creating wealth and quality jobs for its entrepreneurs - who may be locally funded - and workers.



DTAP Plan Goal and Strategic Pillars

DTAP's main goal is to harness digital technologies, along with the burgeoning pool of talent and startups, to spur GDP growth and support the transformation of African economic structures. To achieve this, the strategy is built on three strategic pillars, as follows:

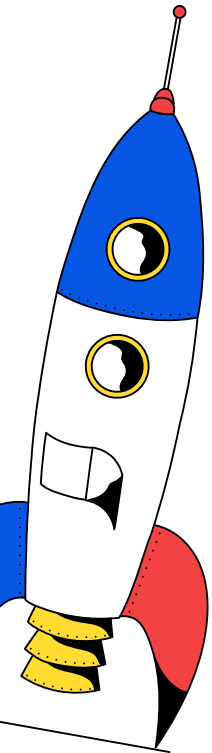
Pillar 1: Scaling inclusive digital infrastructure to bridge the digital divide

Enhancing access to affordable, climate-friendly digital infrastructure in underserved and rural areas is a necessity in a modern economy. The Bank can use its tools to mitigate investment risk to draw in private sector investment and scale public-private partnerships for the deployment of green ICT infrastructure.

Pillar 2: Investing in digital entrepreneurship and skills

Support to Regional Member Countries (RMCs) to develop enabling policies and incentives to create a tech ecosystem. This approach also involves scaling investments in homegrown digital enterprises, thus catalysing the digital entrepreneurship and innovation ecosystem. Furthermore, it extends to scaling digital skills beyond academia through innovative life-long learning programs.

Pillar 3: Sectoral adoption of digitalization



The pillar will focus on systematically integrating Digital and 4IR technologies into operations across various sectors to improve productivity and market reach. This will include governance through e-government projects, trade via digital platforms, agriculture with digital transformation projects, healthcare optimization, and sustainable energy sector transformations.

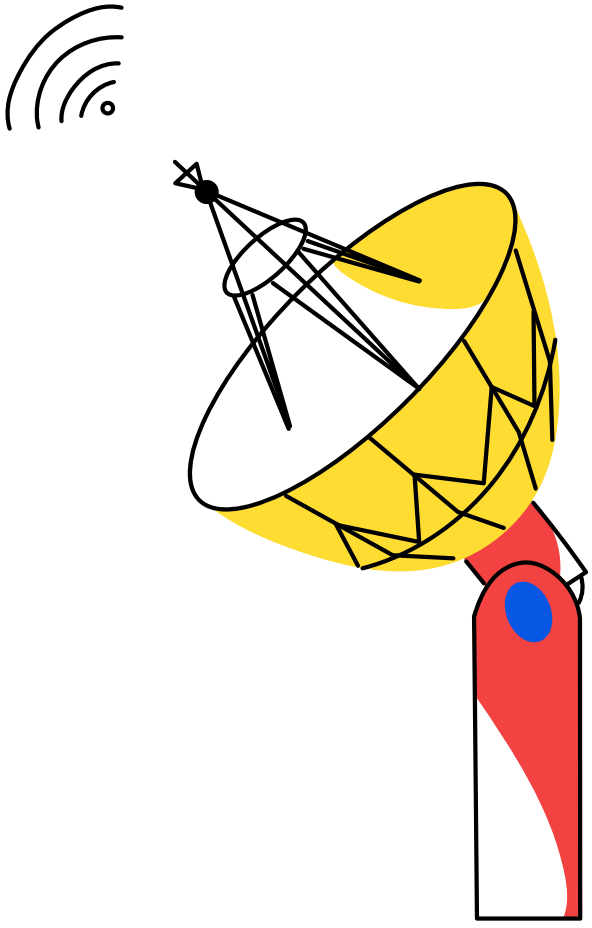
Integral to these efforts is the development and implementation of the 4iR Solutions and Insight Evidence Lab (4SITE). This initiative will compile evidence of the 4iR's impact and utilize these insights to inform evidence-driven policy dialogue. It will monitor the progression of 4iR technologies

across the continent, collaborating with the private sector to guide RMCs in formulating 4iR strategies and driving impactful project designs.

The Action Plan will also focus on advocating for the development of enabling and harmonized digital policies and regulations in Africa, with a particular focus on areas such as data protection, cybersecurity, start-ups acts, online trade, and digital identity.

When executing these pillars, the Bank will focus on mainstreaming cross-cutting themes of gender, climate change, fragility, and job creation. It will also adhere to principles of complementarity, private sector partnerships, inclusion, and build on the Bank's existing advantages.

In conclusion, the Bank is committed to transforming Africa into a socially integrated and economically vibrant continent through the strategic use of digital technologies and innovation. Our approach is focused on more than just building a solid infrastructure base; but it's also about empowering individuals and businesses to effectively leverage these technologies for job creation, problem-solving, and wealth generation.



1. The State of Digital in Africa

1.1 Status of Digital Transformation in Africa

1.1.1 Digital technologies drive global economic growth, changing how we work, learn, trade, play, think, communicate, and interact. In the past three decades, every $1 invested in digital technologies has produced a $20 rise in GDP[1], a yield 6.7 times higher than investments in non-digital. By 2025 the digital economy will likely contribute 24.3%, almost a quarter of the global GDP (amounting to $23 trillion, a 58% increase from the 2016 GDP)[2]. Currently, six of the top seven largest companies by market capitalization are digital technology organizations[3]. The outstanding performance of the digital economy has been built on the development of a consumer-driven internet and the nearly universal low-cost access to digital technologies and networks.

[1] 2017 Oxford and Huawei Report: Digital Spillover- Measuring the True Impact of the Digital Economy.

[2] 2019 World Economic Forum Article - How is the Fourth Industrial Revolution changing our economy?

[3] Market Capitalisation Report 2024:17 February 2022 These companies include: Microsoft ($3T), Apple ($2.9T) Alphabet ($1.9T), Amazon ($1.6T), Nvidia ($1.5T), and Meta ($1.0T).

1.1.2 Sub-Saharan Africa has seen remarkable progress in mobile broadband infrastructure over the past two decades. From a mere 3% in 2004[4], access to mobile internet coverage soared to 85% of the population by 2022[5]. As of the end of 2022, 3G was the most common mobile internet connection in the region, accounting for 55%, followed by 4G at 22%[6]. There were approximately 515 million unique mobile network operator subscribers in the region, representing 46% of the population. Of these, 51%, access the internet via smartphones. **Currently 37 out of 38 countries with a coastline have direct access to submarine cable systems.** Additionally, with the Central African Republic backbone project funded by the AfDB and the EU, almost all land-locked countries in Africa will have access to terrestrial by 2025. To achieve the universal access goal by 2030, an additional 230,000 kilometres of fibre will be required[7].

1.1.3 The growing private sector investment has played a significant role in bridging the digital infrastructure gap. For example, of the $7.1 billion committed to ICT investments in 2018, $4.8 billion came from the

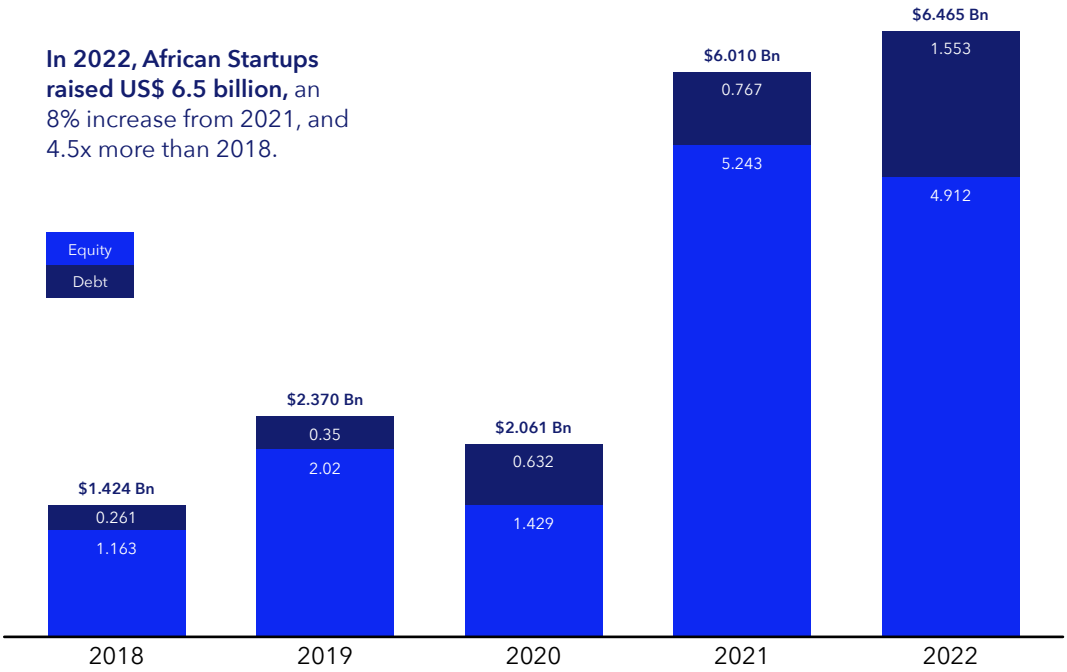


Figure 1: *Africa VC Funding 2018-2022. Source: Partech Africa 2022.*

[4] ITU Data Hub.

[5] GSMA 2023 Mobile Economy SSA report, infographics of The Mobile Economy Sub-Saharan Africa.

[6] These are non-unique subscriptions.

[7] Connecting Africa Through Broadband, Broadband Commission, ITU - 2019

private sector[8]. Since 2019, global service providers such as Amazon Web Service, Microsoft, and Huawei have all launched data centres in Africa.

1.1.4 **The impressive growth in Africa's ICT sector is already driving economic gains, employment opportunities and finance.** For instance, the mobile and telecommunications sector contributed 8.1% of the total 2023 GDP, generated 3.6 million formal and informal jobs, and added $170 billion of economic value and $20 billion to the public sector through taxation[9].

1.1.5 **Sub-Saharan Africa stands as the world's leader in mobile money, holding nearly half of all registered accounts and over half of these being active monthly.** With daily transactions of $2.3 billion, Africa accounts for two-thirds of the global mobile money transactions[10]. This growth corroborates research shows that expanding mobile broadband penetration to an additional 10% of Africans will yield an increase of 2.5% in GDP per capita and unlock access to millions of jobs[11].

1.2. Emerging opportunities

1.2.1 **The ongoing Fourth Industrial Revolution (4IR) has the potential to transform Africa's socio-economic landscape** through innovations in artificial intelligence (AI), the Internet of Things (IoT), robotics, 3D printing, nanotechnology, and biotechnologies. It presents an opportunity to diversify its economies, elevate income levels, and ultimately enhance the quality of life for its people. By 2030, it is estimated that AI could add $15.7 trillion to the world economy, and Africa could gain $1.2 trillion of

[8] ICA/AfDB Report: Infrastructure Financing Trends in Africa – 2018

[9] GSMA 2023 Mobile Economy SSA report.

[10] GSMA 2023 The 2023 SOTIR "Regional Cuts": Charting mobile money in Africa and Asia.

[11] GSMA 2023 Mobile Economy SSA report.

this if it effectively utilizes these technologies[12]. However, to reap these benefits, Africa needs to develop a critical mass of skilled workforce to tap into the economic gains of the 4IR.

1.2.2 The future of the Continent will be shaped by its young, digital-native population, projected to grow from 455 million in 2020[13] to over 830 million by 2050[14]. Harnessing this youthful energy and creative talents will be essential for future prosperity. One reason is that by 2030 approximately 230 million jobs on the continent will require digital skills[15]. Integrating these young individuals into the digital workforce, Africa could reap a significant demographic dividend, further propelling economic growth and stability.

Box 1: Africa, home of 11 unicorns with an average age of 5 years old

In 2024, there were eleven tech unicorns in Africa (an additional seven unicorns since 2020). All these startups, except Moniepoint, attained Unicorn* status within 30 months of existence.

The latest startup to become a unicorn was **Moniepoint** in 2024. The other startups on the continent include **Egyptian MNT-Halan, Flutterwave, Opay, Wave, Andela, Chipper Cash, Jumia, Esusu, Fawry** and **Interswitch**.

**A unicorn is a company that reaches a valuation of $1 billion without being listed on the stock market.*

1.2.3 African tech startups continue to attract investment despite global economic slowdowns. Young African entrepreneurs are leveraging new technologies to challenge established markets while addressing socio-economic issues. The ecosystem has experienced remarkable growth, with transactions and investment amounts increasing nearly tenfold over the last decade. Over the past ten years, there have been nearly 3,000 rounds of funding, totalling $20 billion, with 68% of this occurring in the last three years alone[16]. In 2020, the continent boasted 643 active tech hubs

[12] 2024 UNECA Report -Africa needs effective policies and infrastructure to prosper from artificial intelligence, experts say.

[13] 2020 Mo Ibrahim Foundation Report: Africa's Youth Action Needed Now to Support The Continents Greatest Assets

[14] Africa's Youth Bulge and Data – Where do we go From Here? - Future Africa Forum

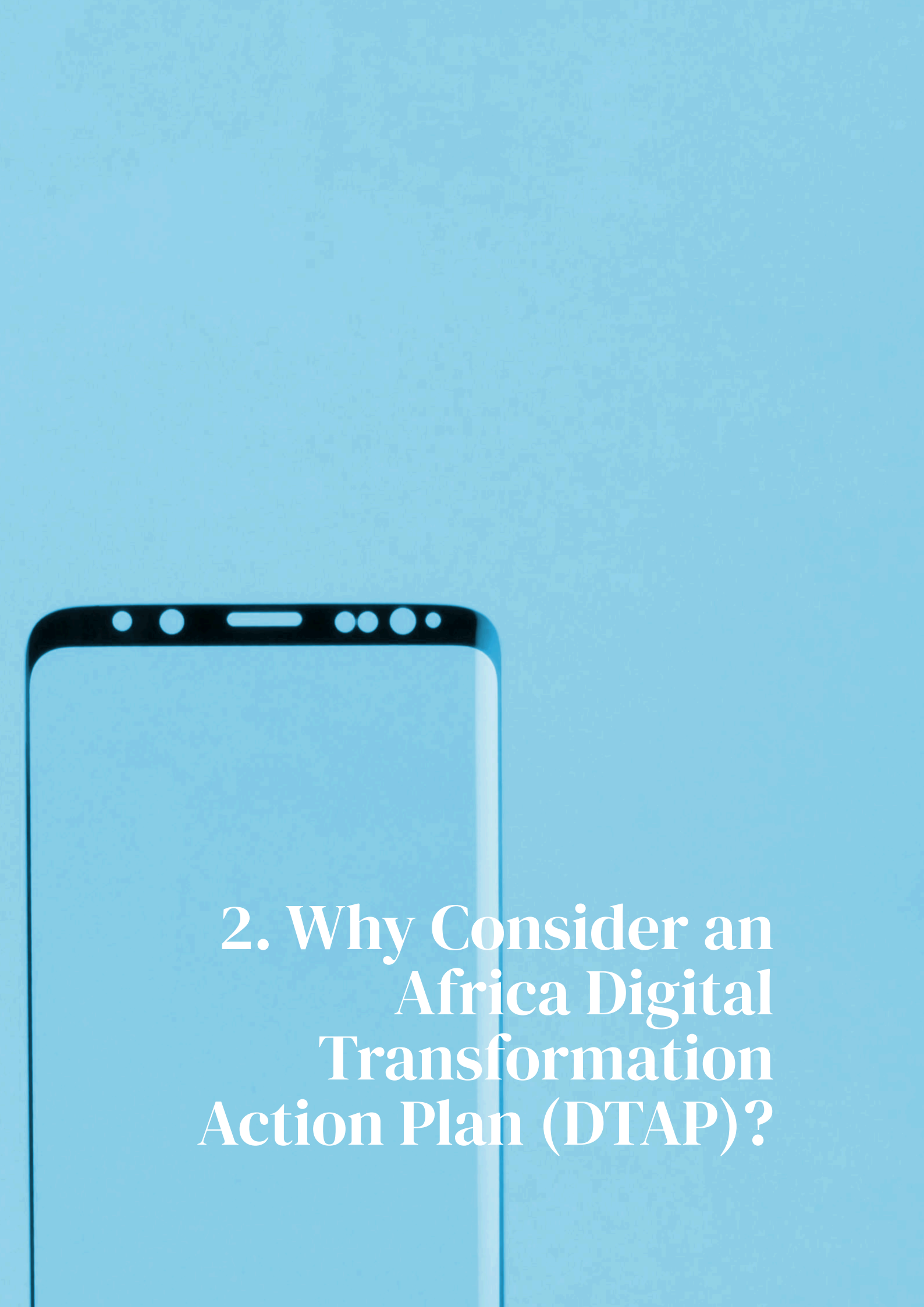
[15] 2020 WEF Blog: Africa needs digital skills across the economy - not just the tech sector

[16] Partech, Africa Tech Venture Capital 2023

catering to local startups[17]. By 2023, the startup ecosystem had secured $4.5 billion through 547 venture capital and debt deals. South Africa, Nigeria, Egypt, and Kenya remain the top four destinations for African venture capital (VC) investment. The primary sectors driving investment in the ecosystem include fintech, e/m/s/commerce, cleantech, which collectively raised $1.44 billion in 2023[18].

[17] The African Private Capital Association, 2024

[18] Partech, Africa Tech Venture Capital 2023



2. Why Consider an Africa Digital Transformation Action Plan (DTAP)?

The Digital Transformation Action Plan (DTAP) aims to close the digital gap and accelerate Africa's path towards digital transformation across the urban and rural continent, enabling the growth of innovation-driven enterprises leveraging 4iR technologies to overcome socio-economic challenges and increase productivity and resilience.

2.1 DTAP aligns with the Bank's global and regional strategies

The Digital Transformation Action Plan (DTAP) aligns with international and regional strategies, supporting the 2030 Sustainable Development Goals, specifically target 9c, to enhance ICT access and affordable internet in least developed countries by 2020. It mirrors the **African Union's "Digital Transformation Strategy for Africa 2020-2030"** across four pillars: policy, infrastructure, skills, and innovation.

DTAP also supports the African Continental Free Trade Area's Digital Trade Protocol (AfCFTA-DTP), adopted in February 2024, which aims to lower digital trade barriers and create a unified digital market in Africa. DTAP's initiatives like regional broadband and digital identity systems aim

to strengthen digital trade and e-commerce across borders, aligning with AfCFTA's objectives. DTAP aligns with the strategies of sister organizations such as the **World Bank's Digital Economy for Africa (DE4A) initiative**, focusing on infrastructure, enterprise, and skills to achieve universal access goals by 2030. **Recognizing that no single development institution acting alone can address the $9 billion yearly funding gap required to bridge the digital infrastructure divide on the Continent.**

2.2 Rapid and accelerated digitalization is essential for revitalization of African economies

2.2.1 A robust and accelerated digital transformation plan will be essential for economic recovery and the 'next normal' that will follow.

Africa's GDP contracted 2.1% in 2020 (the continent's first recession in half a century), and an estimated 39 million Africans could fall into extreme poverty. According to the Africa Economic Outlook (AEO), "Launching an all-out and accelerated effort to harness digital technologies to propel Africa into the 4IR and boost job creation" is critical for the continent to avoid another "lost decade" and to build resilient economies. A business-as-usual model will be insufficient to support the continent[19]. The Bank must

Box 2: Digital Technologies builds Resilience during COVID-19 pandemic across sectors.

In the fintech sector, for instance, mobile money solution M-Pesa ensured that most financial transactions in East Africa are processed even as other financial institutions curtailed services in their physical branches due to COVID-19 imposed lockdowns.

In the health sector, telemedicine platform Mobiehealth, provided 24-hour access to doctors across all specialties in several countries, it maintained medical services, thus reducing the burden on overstretched health centers.

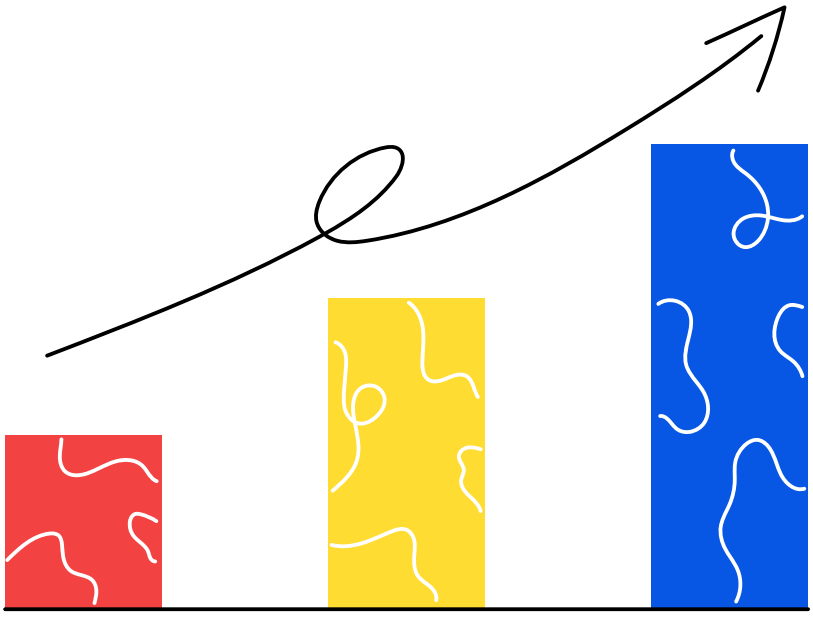
E-commerce platforms including Jumia, Kilimall, Konga and LIB Delivery provided channels for consumers to buy essentials by leveraging their existing technology-enabled logistics systems skills training.

Source AfDB Blog 2020.

[19] 2021 African Development Bank: African Economic Outlook

set a clear plan to place Africa on a path toward resilience in the future and take advantage of the 4IR.

2.2.2 **The COVID-19 pandemic enhanced ICT's role in economic productivity and growth.** In attempting to contain the virus, countries established mobility restrictions and, in some cases, lockdowns, disrupting social and economic functions. The pandemic has illustrated that digital technologies are a significant productivity driver across all sectors, with successful economies depending on digital technologies to maintain operations.



2.3 The proposed Action Plan is at the heart of the Industrialize Africa strategy, propelling the Bank towards achieving the other High 5s.

High 5s	Linkages with the Digital Transformation Action Plan
Industrialise Africa	African industrialization will depend heavily on technology infrastructure, automation, and other digital services, to boost productivity and innovation. Therefore, a vital pillar of the Action Plan will be scaling up the quality of the digital infrastructure and supporting the digital transformation of value chains and enterprises.
Feed Africa	A particular focus of the Action Plan will be to position ICT and digitalization as crosscutting enablers for cross-sector productivity and resilience. The Action Plan will support Feed Africa by enhancing traditional agriculture projects with digital innovations to improve the agriculture value chain. It will support the crucial role of Agri-tech in accelerating food security and agricultural productivity, processing, and marketing.
Integrate Africa	Africa still suffers from low regional trade. Intra-African trade is less than 20% which is far lower than in Asia (59%) and Europe (69%). The digital economy (i.e. ecommerce, digital payments) could help to integrate Africa's trade networks to ensure that Africa benefits from the intra-continental movement of trade in goods and services.
Light Up and Power Africa	The Action Plan will focus on tapping into smart energy potentials, which utilize 4IR technologies to scale efficient and climate-friendly energy solutions.
Improve the Quality of Life for Africans	By 2030, a considerable portion of African work will be automated, posing risks for an unprepared workforce. The digital transformation Action Plan aims to equip Africa's youth with essential skills and technology for digitally led entrepreneurship and demand-driven digital skills. Additionally, digital technologies support healthcare systems through telemedicine and leveraging big data and artificial intelligence. They also hold potential to transform Africa's water systems, enhancing resilience and efficiency.

Table 1: *ICT sector's projected contributions to the Bank's High 5 Agenda.*

It also aligns with the Bank's Ten Year Strategy (2024 to 2033) as the core of DTAP is to leverage digitalization for fostering a resilient and prosperous Africa.

2.4 Alignment with the Youth Entrepreneurship Investment Bank (YEIB)

The DTAP is aligned with YEIB, complementing its focus on technical and non-financial support to SMMEs. While YEIB addresses specific support for youth-led businesses, DTAP tackles broader economic issues, policy barriers, **infrastructure access, and usage gaps that stifle startup growth. This alignment ensures YEIB investments can thrive within an ecosystem conducive to growth.**

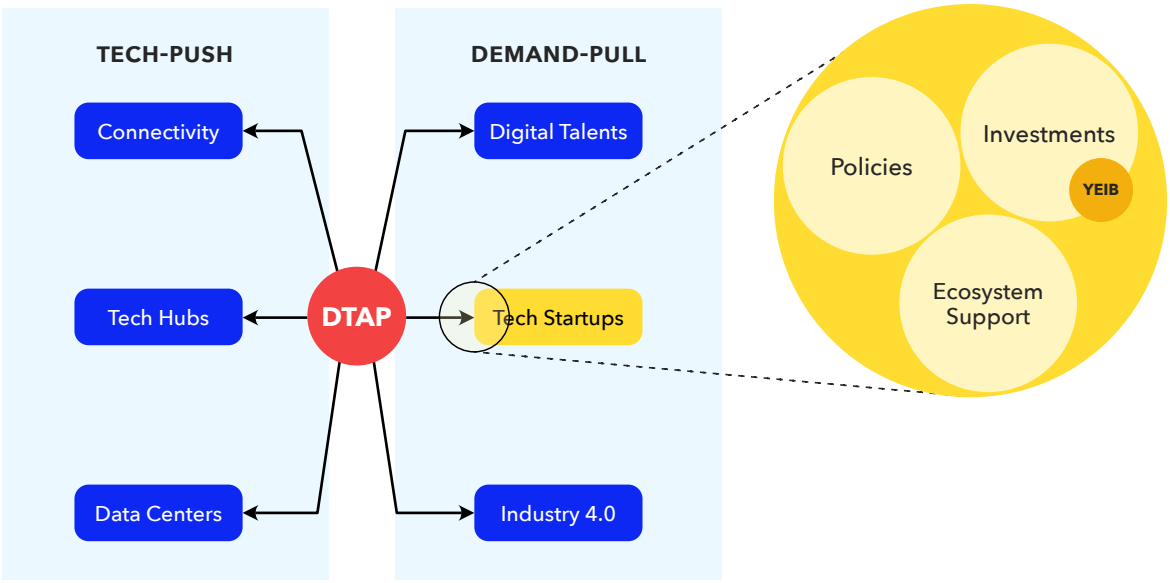


Figure 2: *Alignment with the YEIB*

3. Bank Investments in ICT

3.1 Some examples of the AfDB's projects and its outcomes

1. AfDB Project Revolutionizes Connectivity in Central Africa (2016)

AfDB's groundbreaking project, **Central Africa Backbone (CAB)**, brought the Central African Republic (CAR) its first-ever fiber optic cable network, achieving 100% first-mile coverage in Central Africa region.

The project which was co-financed by the EU established an alternative fiber route for international traffic, bypassing traditional submarine cables landing solely in Cameroon. The multinational project spanned Cameroon, the CAR, and the Republic of Congo, with a total investment of EUR 124 million. The investment of the Bank resulted in:

- The **construction of 8950 km of fiber optic cable** links in Central Africa Region.
- Improvement of the internet affordability and international connectivity: **Data Mbps costs reduced by 67%** in CAR.
- **Internet penetration grew from 2.2% to 20%** in CAR.

"We have seen a systematic shift **from infrastructure only** to integrating a broader **ecosystem approach.**"

2. AfDB backs Rwanda with Groundbreaking Sovereign-Backed Startup Investment Fund (2018)

In 2018, AfDB supported Rwanda with a $30 million loan to launch the Rwanda Innovation Fund project. This project aims to boost the growth of startups in Rwanda and Africa by providing equity financing and business assistance, including training in planning and management. Implemented through a partnership between the government and private sector, each contributing 50%, the venture fund was the first of its kind in Rwanda, with a total fund of $60 million. Additionally, the Rwandan government invested an extra $8.6 million for technical support to empower local businesses.

As of 2024, the investment of the Bank has resulted in:

- Creation of 1,066 direct tech jobs.
- Support of 686 companies.
- Investment in 10 growth stage startups.
- Capacity building for 16 incubators.
- Parliamentary Approval of a Partnership Act allowing VCs and PE to be recognized.

3. Cabo Verde to become the digital hub of Western Africa thanks to the AfDB support (2022)

This project aims to establish Cabo Verde as a hub for ICT and innovation in West Africa, leveraging its Lusophone heritage. Completed in March 2024 - with a total investment of EUR 49 million - it has already achieved full occupancy with over 16 international private sector tenants, including partners such as MIT, Microsoft, and Intel.

The project fosters a conducive innovation ecosystem, offering direct fiber access from undersea cables, a state-of-the-art Data Centre, and Business Continuity Plans. Additionally, it provides training centres, private sector offices, and co-working spaces. Furthermore, the project has established an innovation fund to invest in promising startups and a program to attract digital nomads.

The park is recognized as a special economic zone offering occupants tax incentives.

3.2 The Bank's previous investments in ICT

3.2.1 Between 2012 and 2023, the Bank approved 40 projects in the ICT sector, amounting to $2.2 billion in loans, grants, and equity investments. These projects are related to developing regional and national broadband infrastructure, enabling policy and regulatory environments to attract private sector investment, scale digital skills, and nurture innovative and digitally enabled enterprises. In particular, the breakdown of the Bank's investments was: 22.84% in standalone infrastructure and broadband projects; 18.22% in scaling digital skills (with components on technology infrastructure); 46.75% in digital innovation and entrepreneurship projects (including investment in private sector operated funds that invest in tech ecosystems); and 12.9% on projects focused on digital policy and related regulations.

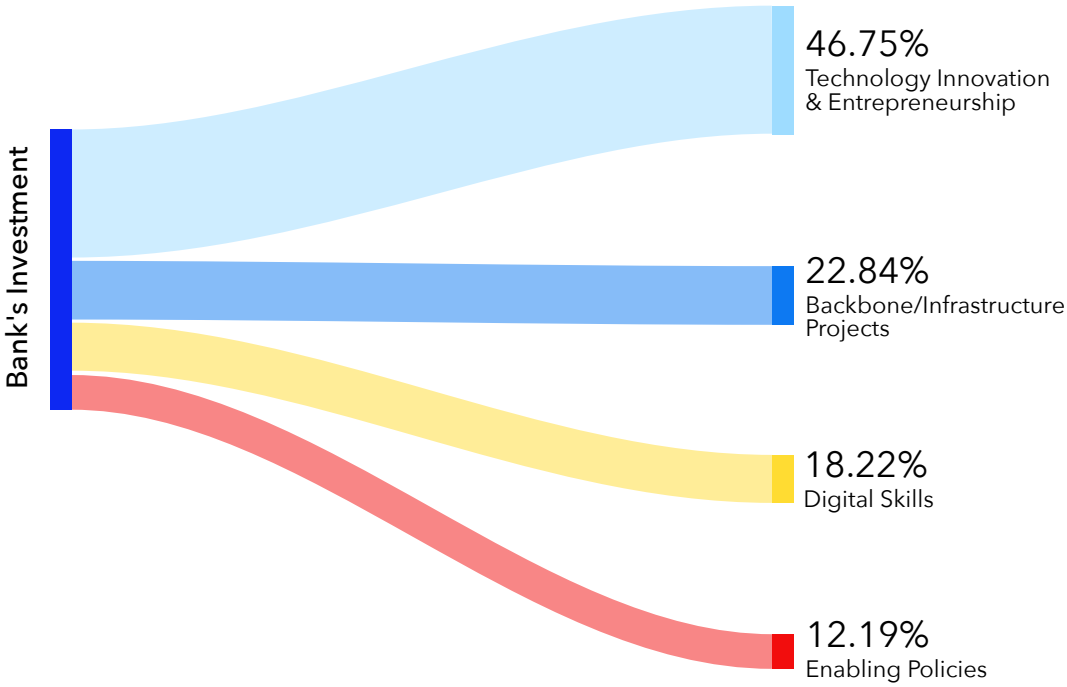


Figure 3: *Bank investment in the ICT sector*

3.2.2 During the same period, the Bank Group approved about $2 billion (91% of total investments) in ADB loans and ADF grants through the public sector financing window, and an additional $0.174 billion was invested through the private sector lending window (8% of total

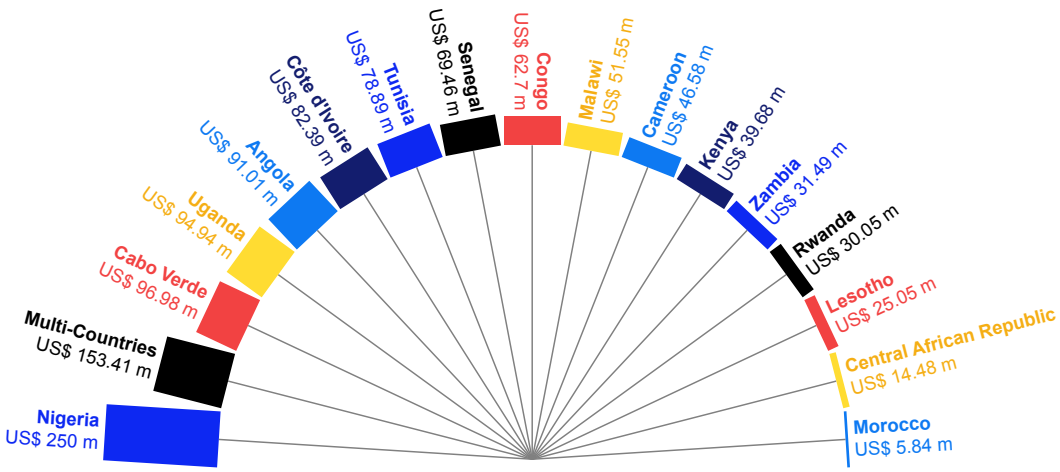


Figure 4: *Bank investment in the ICT sector by country*

investments), specifically on equity investments in technology-focused funds. Lastly, $0.03billion (2% of total investments) was sourced from trust funds to fund project preparation, proof of values, and thematic studies.

Key Lesson Learnt - Maximize Impact through an Ecosystem Approach to Digital

A key lesson learned from the Bank's past operations is the importance of viewing digital as an ecosystem. Mere access to infrastructure does not guarantee usage but often results in underutilized infrastructure; this is now the case in the continent where usage lags access. Simply providing access, also does not create a conducive ecosystem or drive adoption in crucial sectors. That is why under DTAP, the Bank will continue to address digital through an ecosystem approach to maximize impact and scale. This shift in focus has resulted in the emergence of larger and more impactful ICT projects, such as the $618 million mobilized for the IDICE program in 2021(out of which the Bank financed $170Million).

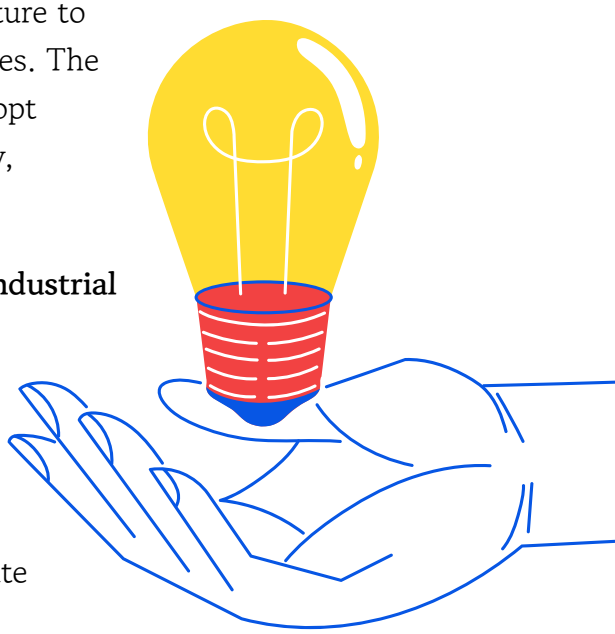
3.2.3 **The Banks' most significant investment was in Nigeria, through the Digital and Creative Enterprises Program (i-DICE), accounting $170 million.** For this project, the AfDB adopted an ecosystem approach integrating all the key elements in the digital ecosystem (for more details see section 4.2, box 3). Our second largest investment were through multinational operations which illustrates the borderless nature of ICT beyond national boundaries.

4. The Proposed Action Plan (2024 - 2028)

4. THE PROPOSED ACTION PLAN (2024 - 2028)

While Africa has made remarkable progress in digital and connectivity infrastructure, there is still significant work to be done. Just 20 years ago, telephony was a luxury available to only 3% of Africans. In 2022, almost half of the continent has a SIM card, and mobile phone-powered banking ('mobile money') is a growing industry with yearly transactions totalling $832 billion.

However, having access to infrastructure alone is not sufficient. People must also know how to utilize this infrastructure to secure jobs and expand economic opportunities. The next layer involves enabling businesses to adopt technologies that will boost their productivity, innovation, and ability to offer solutions.



Also, as the world advances in the Fourth Industrial Revolution, Africa's competitiveness will depend on our ability to evolve and embrace digital transformation rapidly. This transformation hinges on scaling enabling policies that foster innovation, cultivating strong partnerships with the private

The goal of DTAP is to create an environment where everyone has access to digital technologies and can use them to become productive, job-ready, and savvy enough to apply digital innovations in transforming sectors.

sector to keep pace with technological advancements, and to empower our predominantly youthful and digital-native workforce with the skills needed to launch and proffer technology solutions to traditional sectors and secure employment.

Ensuring that no one is left behind on this digital journey is critical. The digital divide can deepen social exclusion, starkly separating the connected from the unconnected. If left unchecked, this divide can exacerbate social vices such as unemployment, crime, and unrest, as disconnected communities fall further behind.

4.1 Vision and Goal

DTAP adopts a three-pillar approach to address the foundational issues in the African technology ecosystem, drive the adoption of digital technologies and position digitalization as a disrupter of target sectors, thus creating long-lasting economic growth.

- **Pillar I, scaling inclusive digital infrastructure** to bridge the digital divide providing foundational elements that ensure affordable and accessible digital and connectivity infrastructure.

- **Pillar II, investing in digital entrepreneurship and skills**, which moves beyond infrastructure to ensure the adoption and utilization of digital technologies by individuals (by scaling digital skills and lifelong learning opportunities) and enterprises (by investing in homegrown innovative,

driven enterprises that utilize technology to solve socio-economic problems).

- **Pillar III, sectoral adoption of digitalization**, focuses on expanding market opportunities through digital innovations and the 4IR. The pillar includes scaling digital innovation and 4IR technologies (through 4SITE Flagship) to disrupt traditional sectors, spur growth and increase productivity.

4.2 Strategic Pillars

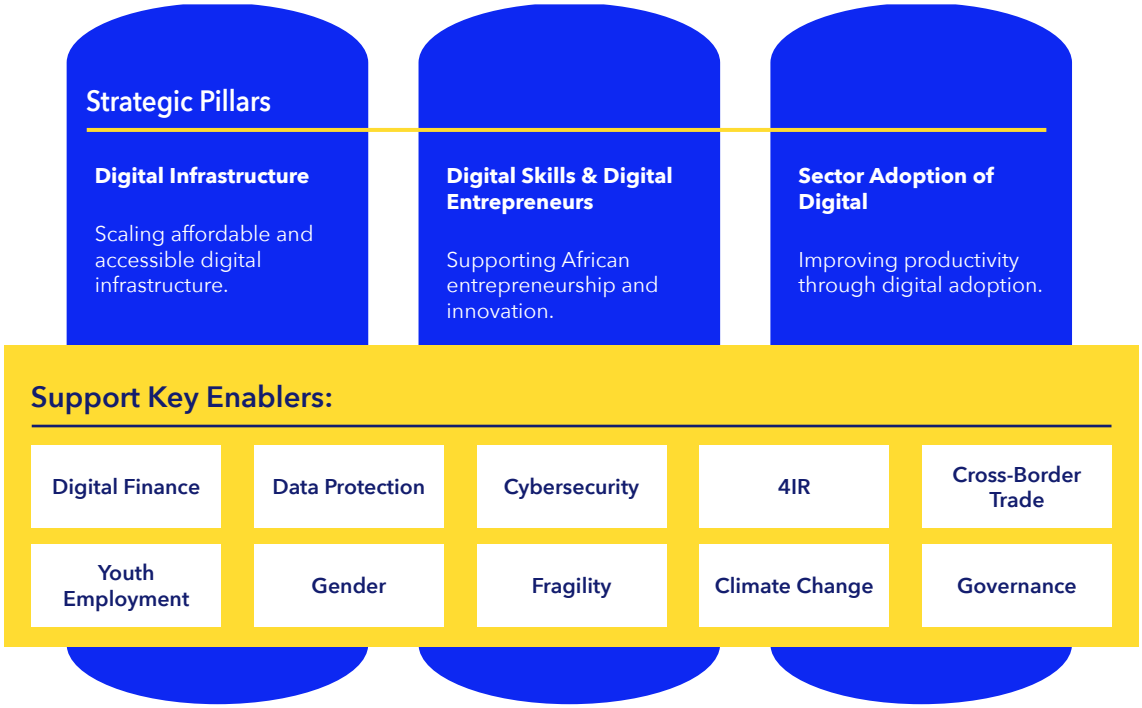


Figure 5: *Digital Transformation Action Plan Stack.*

Pillar 1: Scaling Inclusive Digital Infrastructure to Bridge the Digital Divide

Context *- The Bank will continue to invest in infrastructure to stimulate economic growth and lay the groundwork for digital transformation, prioritizing underserved communities and people. This includes enhancing connectivity, establishing data centres, developing technology parks/innovation hubs, and providing necessary technology hardware.*

Sub-Saharan Africa faces a unique challenge where mobile broadband coverage is high at 85%, yet usage is lower at only 25%, leaving approximately 860 million people disconnected from the internet[20]. This underutilization becomes more evident in urban and rural settings, where only 64% and 23% of the population use mobile internet, respectively, compared to global averages of 82% in urban and 46% in rural areas. Additionally, a notable gender gap exists, with women being 10% less likely to use the internet than men. Economic barriers further exacerbate this divide. The cost of 1GB of data is 4.4% of the monthly gross national income (GNI) per capita, over twice the UN recommended standard of affordability at 2% GNI. Only 10 African countries currently fall within this affordable bracket[21]. Coupled with the high cost of smartphones, these economic factors severely restrict access. Despite a significant reduction in the average selling price of smartphones, with an influx of devices under $100 from brands like Tecno, Itel, and Infinix[22].

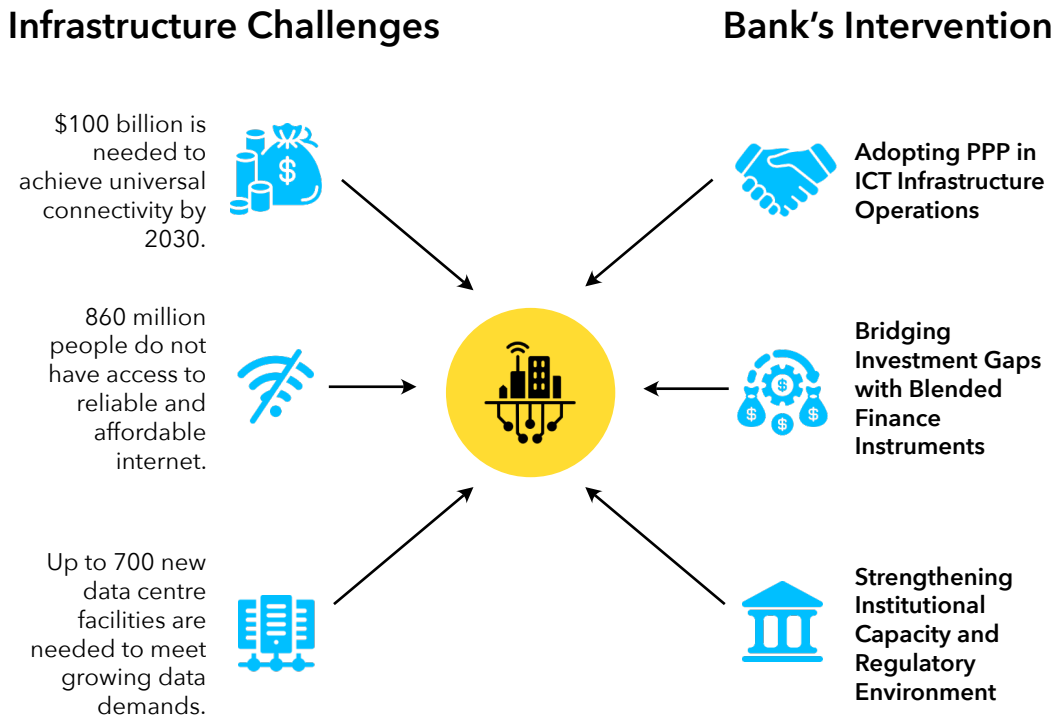


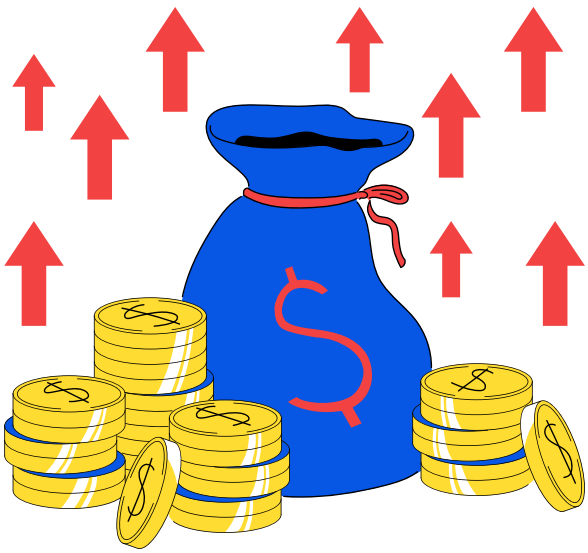
Figure 6: *Infrastructure Development Intervention.*

[20] GSMA 2023 Mobile Economy SSA report.

[21] 2022 Alliance for Affordable Internet Dashboard

[22] GSMA 2023 Mobile Economy SSA report.

To bridge these gaps, substantial investment is required. An estimated $100 billion, or $9 billion annually, is needed to achieve universal connectivity by 2030 and close the digital divide. Moreover, an additional $3 billion per year is necessary for the maintenance and expansion of this infrastructure[23]. Various models, including state-led investment, public-private partnerships (PPP), and private sector initiatives, are essential to address these needs.



Despite the significant role of the private sector in providing ICT infrastructure, the inefficiency of state-owned or publicly focused infrastructure, often resulting in inadequate maintenance and upgrades, highlights the need for robust PPP arrangements to ensure effective deployment and maintenance. Limited incentives for investment in rural areas call for innovative, possibly localized solutions to enhance digital access and usage. As the demand for a data-driven economy grows — underscored by the need for around 700 data centres — the support for partnerships between the public and private sectors becomes increasingly vital to meet these expansive goals[24].

How will DTAP support?

1. **Bridging Investment Gaps with Blended Finance to Crowd-In Private Sector:** The Bank will employ a combination of traditional lending instruments, such as grants, low-interest loans, and guarantee products, alongside private investments to stimulate investment in traditionally

[23] ITU Report: Connecting Africa Through Broadband. A strategy for doubling connectivity by 2021 and reaching universal access by 2030

[24] 2021 Africa Data Centre Report - Africa needs 1000MW & 700 data center facilities to meet demand

underserved regions. This approach may include mechanisms like first loss protections, partial to full risk guarantees, and guaranteeing offtake agreements. By reducing financial risks for private investors, this strategy makes investments more attractive, even in rural areas or regions previously considered unattractive. Furthermore, the Bank will seek partnerships with innovative private sectors and startups that utilize alternative connectivity solutions, such as low Earth orbit satellites, by providing them with grants and support to scale proven solutions for bridging connectivity gaps.

2. **Strengthening Institutional Capacity and Regulatory Environment:** The Action Plan will support the government through analytical work, capacity-building programs, policy-based operations, and targeted advocacy. This support will enhance areas such as capitalizing universal service funds, recycling state telecom assets, simplifying regulations, linking spectrum sales to coverage targets, and developing PPP structures that leverage concessional finance for governments, among other strategic initiatives.

3. **Scaling Up Public-Private Sector Partnerships (PPPs) in ICT Infrastructure Deployment:** The Bank will prioritize PPP models in its lending operations. These include build-transfer-operate and build-and-operate arrangements, to blend public oversight with private sector innovation. The overall aim of this approach is to ensure the sustainability and quality of ICT infrastructure. Additionally, the Bank will emphasize the integration of green technology practices to align with global environmental objectives. An example of this is the Cabo Verde Technology Park, which was constructed using sustainable materials like volcanic rocks and water-based cooling systems for the Data Centres.

Pillar 2: Investing in Digital Entrepreneurship and Skills for Jobs and Wealth Creation

Context: *This pillar aims to maximize the utilization of technology infrastructure for job and wealth creation. The Bank will support digital entrepreneurship by facilitating access to finance and addressing broader policy and technical challenges within the ecosystem, thereby enhancing opportunities for growth and profitability. Digital skills development will be demand-driven, tailored to the needs of the private sector. Training programs will be designed to be scalable and flexible, allowing for adaptation to rapidly evolving technology advancements and maximizing employment opportunities.*

Africa experienced a surge in tech startups between 2020 and 2021, with approximately 5,200 companies emerging, nearly half of which were in fintech. Fintech alone generated estimated revenues of $4 billion to $6 billion in 2020, driven by factors such as improved access to infrastructure, rising smartphone ownership, declining internet costs, and expanded network coverage[25].

In 2023, venture capital investment in startups declined by 46%, from $6.2 billion in 2022 to $3.5 billion. Despite this drop, South Africa, Nigeria, Egypt, and Kenya remained at the forefront of VC investment, accounting for 79% of the total volume[26]. Global factors such as geopolitical tensions, rising interest rates, major tech company layoffs, and the rising inflation rates of African currencies have contributed to heightened investor caution. Additionally, local challenges such as uneven infrastructure, fragmented markets, complex regulations, and a scarcity of digital talent may further impede growth prospects. **With the slowdown of international investors, there is a pressing need for local investment.** Only 27% of 2023 investments originated from African-based investors[27]. Encouraging local ownership and engaging institutional investors and governments are vital for Africa to realize the full potential of its startups and to develop sustainable local ecosystems that support startup growth.

[25] 2022 McKinsey Report – Fintech in Africa: The end of the beginning

[26] Partech, Africa Tech Venture Capital 2023

[27] 2023 Disrupt Africa Article – Why Local Capital is Crucial for a Thriving VC Ecosystem

However, investment encompasses more than just financial backing; it also involves creating a conducive business and policy environment for startups to thrive. For the continent, it is important to establish a policy environment that fosters innovation and enables scaling not only locally but also across borders. Also, addressing infrastructure hurdles such as electricity and internet access costs is crucial, as these obstacles often deter young African entrepreneurs from establishing businesses and contribute to high operating costs.

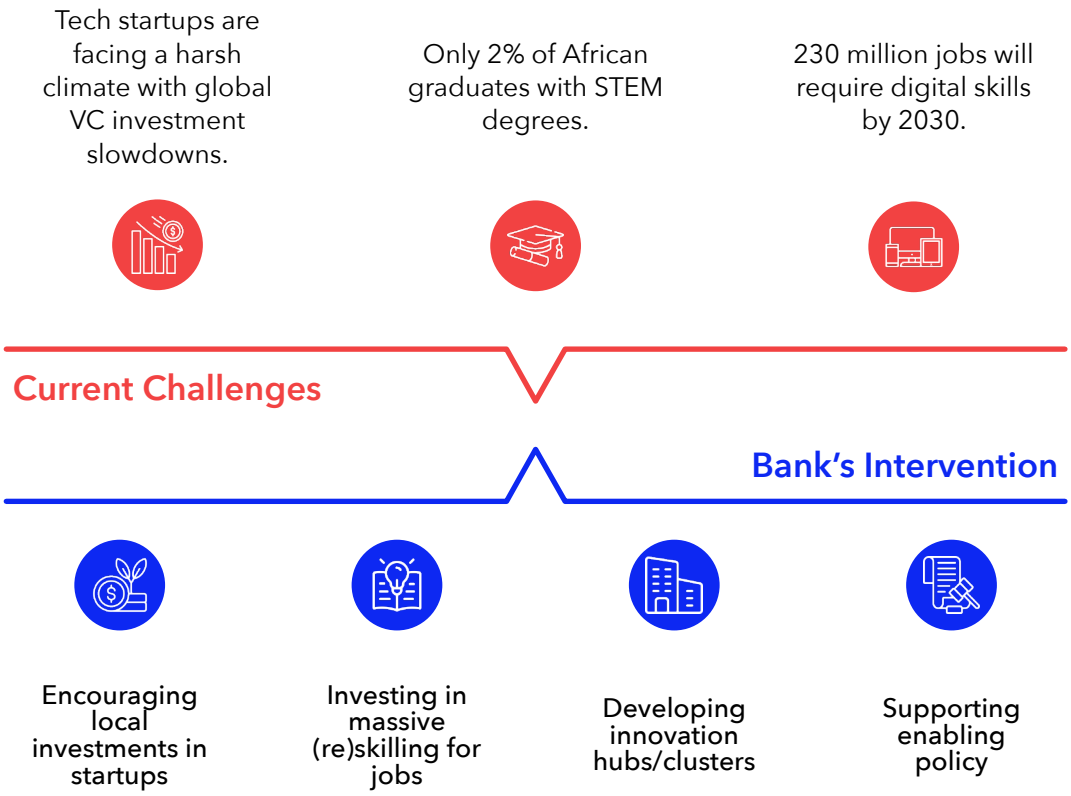


Figure 7: *AfDB intervention strategy on digital entrepreneurship and skills development.*

Digital Skills for Jobs

By 2030, about 230 million jobs across the continent will require digital skills. For example, 50-55% of employment in Kenya; 35-45% in Cote d'Ivoire, Nigeria, and Rwanda; and 20-25% in Mozambique. Overall, the Sub-Saharan African digital skills market is valued at $130 billion,

Box 3: Case Study of Investment in Tech-Startups and a Creative Ecosystem.

Investment in Digital and Creative Enterprises (I-DICE) Program (2021)

I-DICE aims to promote entrepreneurship and innovation in the digital technology and support the creation of jobs, especially for young people, in **Nigeria**. With a total funding of $618m i-DICE addresses innovation holistically, funding connectivity, access to skills and academia, ESO (enterprise service organization) development as well as access to finance through multiple funds including a fund-of-funds. It includes some level of infrastructure for universities and tech hubs.

Component 1 - Enterprise and Skills Development, aiming to 1) Incubate and train in-demand-driven digital and creative skills; and 2) Strengthen the capacity of ESOs and Start-ups.

Component 2 - Expanding Access to Finance, through the creation of the Digital and Creative Enterprise Funds (DICE) which seeks to promote access to finance for start-ups through debt, equity, and quasi equity capital injection.

Component 3 - Enabling Environment and Institutional Support: This component supports the introduction of enabling regulatory frameworks and the creation of a regional sandbox.

The program will:

Create 6. 1 million direct and indirect jobs.


Add a total value of $ 6.4 billion to the Nigerian economy.


Equip 175,000 youths with skills in digital technology and creative industries.

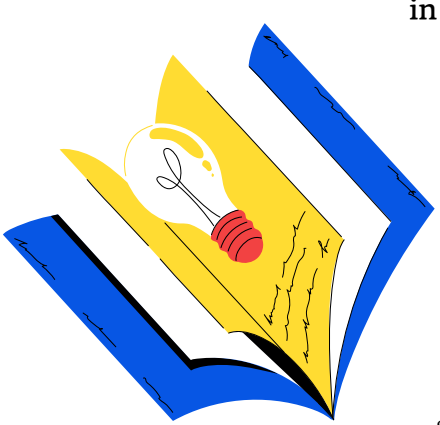

Benefit 451 digital technology startups, 226 creative enterprises and 75 enterprise support organizations.

potentially creating 650 million training opportunities[28]. Moreover, the COVID-19 pandemic has made the need for digital skills even more apparent, forcing many businesses and governments to go digital to survive.

African countries lack the highly skilled human capital required for the 4IR. More than half of African workers are employed in low-skilled jobs (57%), the highest proportion globally. A third are employed in medium-

[28] 2019 IFC Report: Digital Skills in Sub-Saharan Africa Spotlight on Ghana and 2020 WEF report: Africa Needs Digital Skills

skilled jobs (33%) and just 10% in high-skilled jobs, the lowest proportion globally[29]. The technological disruptions caused by the 4IR require a higher skilled labour market due to the shift from simple digitalization to innovation and complex manufacturing based on combinations of technologies. As a result, there is increasing demand for skilled labour, while unskilled jobs are becoming harder to find.



Despite the best efforts to increase the number of training programs in digital skills and ICT literacy, Africa remains poor compared to other continents. In Sub-Saharan Africa, the gross tertiary enrolment ratio is 9% against a world average of 37%. In addition, only 2% of African college graduates have a Science Technology Engineering and Mathematics degree[30].

While the sector holds potential for massive job creation, Africa will not yield the job dividends without a skilled workforce constantly learning, relearning, and unlearning to stay relevant and keep afloat with the rapid technological advances. A combination of foundational literacy is needed in numeracy, science, ICT, finance, and culture to succeed in the 4IR.

To harness Africa's vibrant, youthful, and digitally native population for the rapidly evolving tech landscape, a strategic shift towards scalable and flexible employment models is essential. This approach not only accommodates the swift changes in technology but also aligns with the growing need to position the youth at the forefront of digital opportunities.

How will DTAP support?

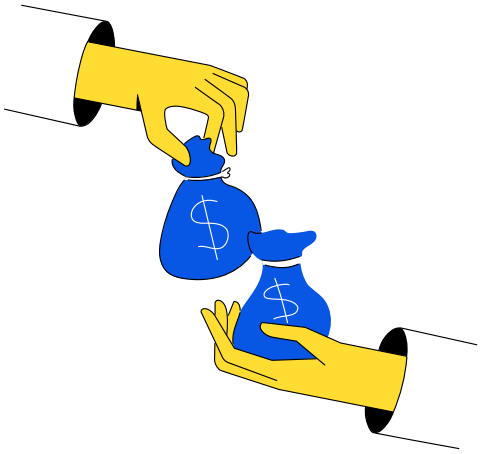
I. **Scaling access to finance:** In collaboration with existing programs such as BOOST Africa[31] and YEIB (see section 2.4 for details), the Action Plan

[29] 2021 African Development Bank: African Economic Outlook

[30] 2020 World Bank Report - The Future of Work in Africa : Harnessing the Potential of Digital Technologies for All

[31] Boost Africa provides venture capital funding for SME starts up leveraging technology. There is a noted need for instance, to provide funding beyond the program's 50m€ commitment which will be fully deployed by mid-2023. An example demonstrating the need for increased funding is the fintech company WAVE, which received support from the Program and has been able to reduce payment transfer costs within francophone Africa by a third but had to seek scaling finance of USD 80 million from IFC, funding which the Bank could have considered providing.

will support both sovereign and non-sovereign entities in establishing dedicated funding mechanisms, such as seed capital, grants, and low-interest loans, for early-stage tech startups and digital entrepreneurs. DTAP will also mobilize resources to support investment-readiness programs, forging partnerships with venture capital firms, angel investors, and other financial institutions to help startups secure funding and grow their businesses.



II. Investing in innovation clusters / technology hubs: Through the DTAP, we will collaborate with governments to establish streamlined policy measures and infrastructure that nurture the startup ecosystem, attract foreign direct investment, and boost economic growth, through the following actions:

1. **Promote the establishment of special economic zones and innovation clusters** that offer tax incentives, streamlined regulations, and other benefits to technology startups; and

2. **Invest in thematic innovation hubs and co-working spaces in Africa to attract local startups** and international tech firms for business development and scaling. Having reliable connectivity is key for the success of the hubs, therefore high-speed internet access would be prioritized. We will also support the establishment of FAB labs and Industry 4.0 equipped labs for shared use, enabling prototyping, manufacturing, and more. Pooling resources allows for peer-to-peer learning and economies of scale. Focus areas may include creative enterprise hubs, fintech, agritech, clean/green tech and deeptech.

3. **The Bank will collaborate with governments to develop lifelong learning strategies within designated centres and existing institutions.** These strategies aim to cultivate a workforce proficient not only in technology but also adaptable to the ongoing advancements in digital competencies across all sectors. Through initiatives like the Jobs for Youth in Africa strategy and the SEPA Action Plan 2021–2025, DTAP will scale digital skills from basic to advanced levels, including those

relevant to the Fourth Industrial Revolution (4IR). These efforts will extend beyond academia to encompass governments, technology parks, SMEs, and the out-of-school population. To achieve this, digital skills will be integrated as a critical component of DTAP's ICT operations.

III. **Supporting Enabling Policies for the Startup Ecosystem:** Through DTAP, we will collaborate with governments, private sectors, and CSOs to develop and advocate for policies that foster the growth of the startup ecosystem. This includes regulatory sandboxing systems, allowing disruptive startups to innovate within controlled environments while regulations catch up. Additionally, we will support Startup Acts, facilitating easier access to funding, streamlined regulatory processes, and tax incentives for startups. We will also advocate for policies such as Partnership Acts that recognize venture and private equity vehicles as legal entities, encouraging investment in local ecosystems. Furthermore, we will invest in training and capacity-building programs to enable governments to approach innovation, 4IR technologies, and citizen protection while fostering innovation.

Pillar 3: Sectoral Adoption of Digitalization

Context: *The sectorial adoption of digitalization entails to support policies and programs that enable the integration of digital innovations in specific industries. This pillar is crucial for a widespread technology adoption. The versatility of digital as a public good enables its positive impact across multiple sectors. DTAP will support key sectors such as governance, finance, agriculture, health, energy, and more.*

Digital transformation is no longer confined to tech-savvy industries; it is now a critical driver of growth across all sectors. Even industries traditionally seen as "least digital," such as mining, agriculture, construction, and energy, are increasingly embracing technology-based solutions to stay competitive. For example, nearly half of global mining

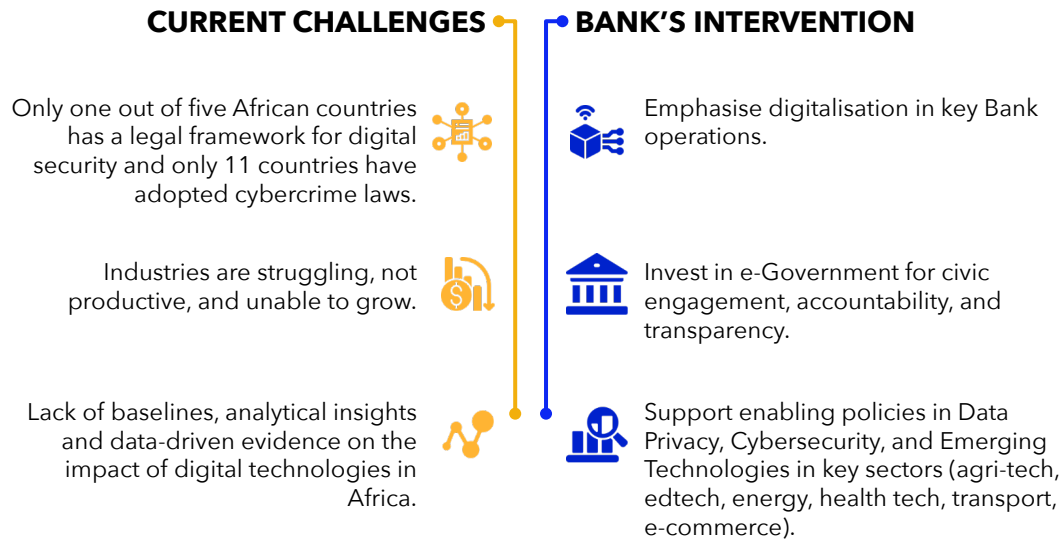


Figure 8: *AfDB intervention for a sectorial adoption of digitalization.*

companies have integrated digitalization into their long-term corporate strategies, recognizing the need to modernize and innovate[32].

According to McKinsey & Company, industries that embrace digital transformation achieve substantial improvements in productivity, efficiency, and profitability[33]. This shift is reflected in the projected worldwide spending on digital transformation, which is expected to approach $4 trillion by 2027. Moreover, a survey by PwC reveals that 84% of CEOs believe digital transformation is crucial to their company's survival over the next five years[34].

As a result, the nature of the digital economy is changing. It unlocks innovative solutions to complex development challenges and helps sectors skip traditional development stages, from digital banking to blockchain and telemedicine. **A truly digital economy is one where industries, from farming to pharmaceuticals, have embedded digital technologies deep into their production processes to enhance economic performance.**

[32] PwC 2023. How miners can deliver sustained outcomes, and the digital transformation path in the mining industry

[33] McKinsey & Company, 2024. Be selective, go fast: The new rules of business productivity

[34] PwC 2023. PwC's 27th Annual Global CEO Survey: Thriving in an age of continuous reinvention

Box 4: 4IR Technologies are increasingly being adopted to address socioeconomic challenges.

Life Bank has saved over 14,000 lives in Nigeria and Kenya using unmanned aerial vehicles/drones (UAV), AI, and data analytics to securely deliver more than 40,000 medical supplies, like oxygen, blood, COVID-19 tests, and medication.

Agrix Tech in Cameroon provides an AI-based smartphone app that automatically diagnoses plant diseases and provides recommendations to farmers in their local languages, hence improving yields for the farmers.

Kenyan **M-KOPA** is utilizing machine learning, mobile technology, and Internet of Things (IoT) devices to understand consumer behavior and trends and improve its range of solar panels. This has allowed the company to add more than one million customers between July 2021 and March 2022, and they project three million customers by the end of 2022.

Sources: Brookings, World Economic Forum, Disrupt Africa

How will DTAP support sectors adopt digitalisation?

For Africa to chart a solid path to economic recovery we need a **systematic integration of digital and 4IR technologies in the sector's operations.** DTAP will support the Bank in developing practical operations and 4IR proof of value technology solutions for the traditional high-growth sectors, like:

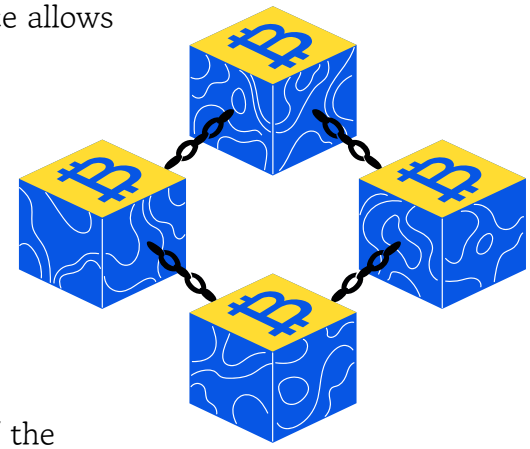
- **Governance:** E-government projects can increase the effectiveness of government operations, enhance service delivery to citizens, and combat fraud and corruption. DTAP would support RMCs to develop digital ID, open government leveraging digital tools for monitoring public services, and open data projects to provide increased access and interoperability across various datasets.

- **Agriculture:** Digital transformation in agriculture can reduce food waste and water consumption, increase yield, detect crop diseases, and help monitor livestock. For example, AI can optimize irrigation, reduce water wastage, monitor soil health, and protect crops. Agricultural technology also reduces the perceived risk in the sector for agricultural stakeholders and investors. IoT helps the farmers foresee results, minimize risks, and enables better planning and production.

- **Health:** Digital transformation and innovation can help optimize care, streamline operations, and reduce costs. In addition, innovation in the sector can address physicians' and caregivers' shortages, detect diseases, and reduce human errors.

- **Energy:** 4IR technologies such as automation, predictive analytics, and machine learning can increase electricity network efficiency and reduce operation and maintenance costs. Additionally, supporting the transition to smart power utilities that can integrate technologies and renewable energies, including battery storage systems, could leverage DTAP to access funds dedicated to capacity building and technical assistance.

- **Water and Wastewater:** Exploiting 4IR technologies, such as cloud, mobile, intelligent infrastructure, advanced sensors, communication networks, analytics, big data, blockchain integration, and artificial intelligence allows water utilities to extend water resources, reduce non-revenue water, expand infrastructure life cycles, and provide a basis for financial sustainability.



- **Financial Sector:** Sub-Saharan Africa is the leader region in mobile money accounts, with 53% (160 million accounts) of active global accounts and nearly two-thirds of the $70 billion worldwide transactions, as of December 2020[35]. With retail banking penetration levels at half of the global average for emerging markets, there is substantial potential for growth in Africa's fintech sector. In a recent survey, African banks indicated plans to invest an average of $5 million (equivalent to 1.26% of

[35] GSMA 2023 The 2023 SOTIR "Regional Cuts": Charting mobile money in Africa and Asia

reported assets) in digitization over the next 12 months to enhance customer experience, attract new customers, and reduce operating costs. The COVID-19 crisis has emphasized the importance of digital financial services in assisting vulnerable communities in managing shocks. Countries with advanced digital financial services have been better equipped to expand emergency cash transfer programs, leveraging mobile wallets or bank accounts, and promoting electronic payments among individuals, governments, and businesses. Improving interoperability and integration across services and markets is necessary to further reduce costs and enhance the depth of financial services.

4.3 DTAP and the Fourth Industrial Revolution in Africa – Industry 4.0

4.3.1 **The Bank's role in the 4IR through the DTAP – 4IR Solutions and Insight Evidence Lab (4SITE) Flagship.** Under the DTAP the Bank will launch the 4SITE flagship program mandate to aggregate evidence and provide insights on the impact of 4IR on the continent; support RMCs develop enabling policies for 4IR; and invest in proof of value projects that are scalable and have transformative impact on growth sectors. See the diagram below for an overview of the flagship.

Why is the Bank Launching the 4SITE Flagship?

4.3.2 **While 4IR technologies are increasingly being adopted to address socio-economic challenges on the continent, the pace remains slow, and evidence is dispersed across countries.** More evidence needs to be generated to strengthen adoption, promote entrepreneurship and crowd-in digital financing.

4.3.3 **Africa can adapt numerous use cases for 4IR technology to rapidly transform and revolutionize traditional industries, expedite economic change, and generate employment.** The World Economic Forum predicts that the 4IR will result in 12 million new job roles by 2025 as human labour shifts demand for advanced monitoring and control systems. These tools and systems collect energy usage including consumption, operational data,

real-time pricing, and weather through various data sources such as utility bills, building automation/SCADA systems, and smart meters.

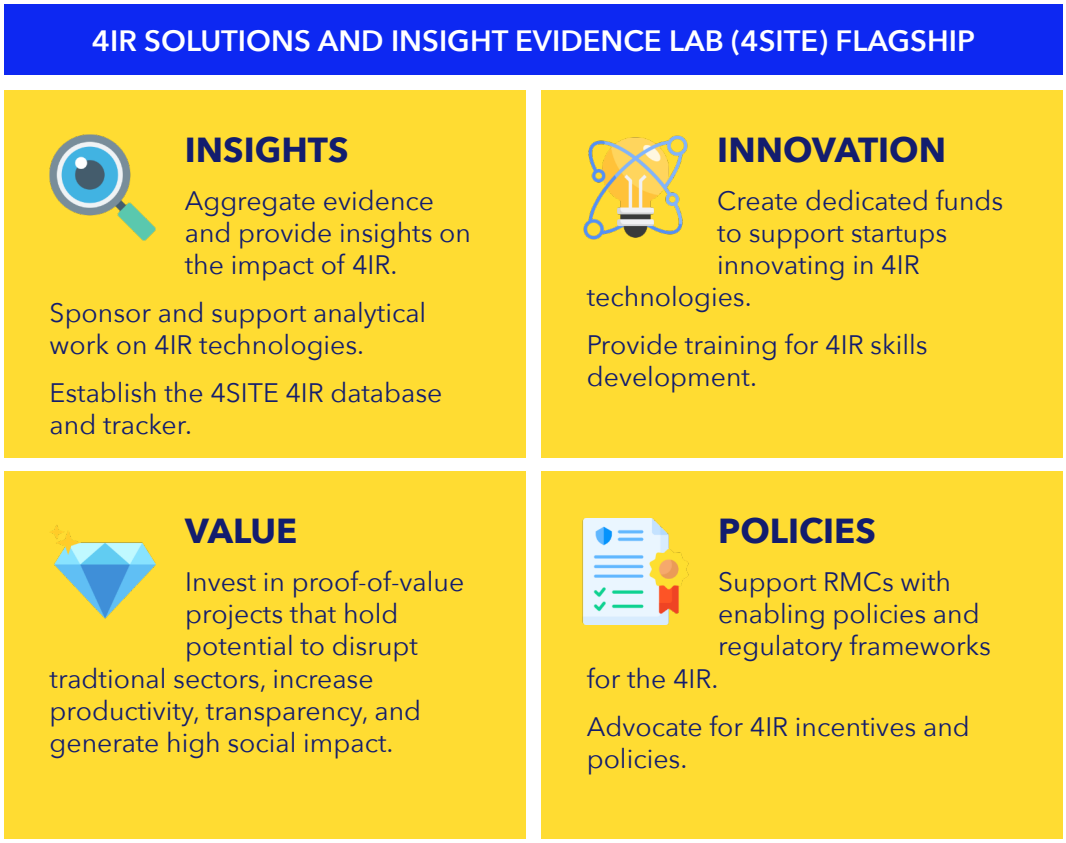
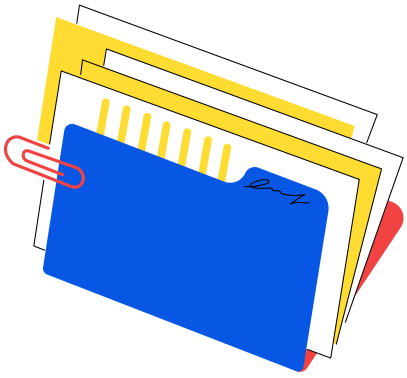


Figure 9: *The 4SITE Lab.*

4.4 Policies and Regulatory Framework



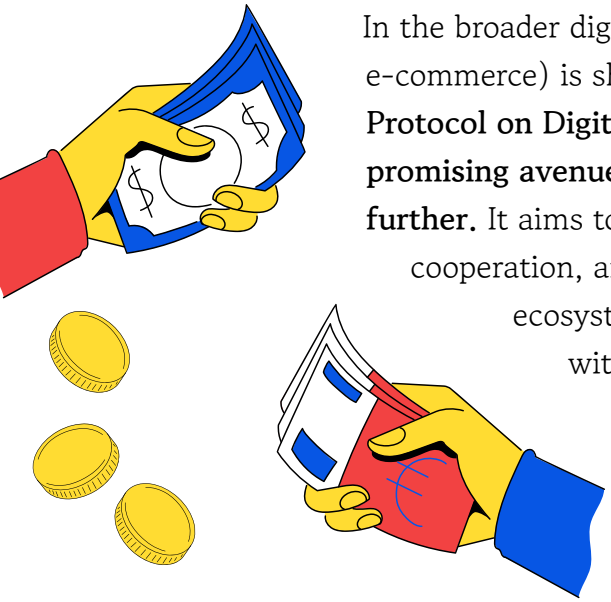
Africa's digital policy and regulatory framework, though making progress, may hinder the optimization of its digital economy. Currently, only 12 African countries are engaging with the Budapest Convention[36], and only 15 countries[37] have ratified the Malabo Convention to strengthen cybersecurity and personal data protection. In terms of emerging technologies, only 8 countries—such as Benin, South

[36] Cabo Verde, Ghana, Mauritius, Morocco, Nigeria, and Senegal are parties to the convention; South Africa signed the convention; while Benin, Burkina Faso, Côte d'Ivoire, Niger, and Tunisia

[37] Angola, Benin, Chad, Congo, Egypt, Gabon, Gambia, Guinea-Bissau, Lesotho, Mauritania, Namibia, Niger, Sao Tome and Principe, Senegal, and Zambia.

Africa, and Egypt—have drafted national AI strategies, with none having implemented formal AI regulations. To address this, the African Union is developing a continent-wide AI policy that aims to tailor AI development and regulation to Africa's unique needs and contexts.

Even in cases where policies exist, enforcement is weak due to legislative frameworks not aligning with digital industry needs. These policies often lack clarity and transparency, deterring private sector investment. Additionally, outdated or absent legal systems in many countries impede the prosecution and enforcement of policies.



In the broader digital trade arena, although intra-African trade (including e-commerce) is showing signs of growth, reaching 15.4%, **the AfCFTA Protocol on Digital Trade, adopted in February 2024, offers a promising avenue to boost digital commerce across the continent even further.** It aims to facilitate intra-African digital trade, enhance digital cooperation, and establish a secure and transparent digital trading ecosystem. To realize the full potential of the digital economy within the AfCFTA, Africa must not only improve communication infrastructures but also ensure that digital security measures and data regulation policies are up to global standards. These steps will reduce compliance costs and encourage innovation without compromising data privacy.

Across the three pillars of DTAP, the Bank will support RMCs build robust policies by:

I. **Harmonizing the digital policies and regulations** across Africa through increased collaboration with the regional economic communities, the AU, Smart Africa. Also, working with the members states of these organisations to implement and domestic regional frameworks.

II. **Analysing current digital regulations** on issues such as cybersecurity, data privacy and protection, and emerging technologies to better inform and engage RMCs and players in the ICT sector.

III. **Advocating for developing and enhancing national regulation and regional projects** that supports the growth of the digital economy and

fosters innovation and a start-up ecosystem. This includes providing RMCs with technical assistance in developing policies, regulations frameworks and institutional frameworks that support digital transformation, protect investment, and reduce risks while fostering innovation and start-up growth.

5. Crosscutting Themes

5.1 Gender Mainstreaming

The Bank's 2021-2025 vision for gender equality is to transform the continent's critical sectors into grounds of accessible opportunities where women, girls, men, and boys, regardless of their background, enjoy equal access and control over productive resources and benefit from supportive infrastructure and services to thrive[38]. To empower women through access to finance and market (pillar 1 of AfDB gender strategy) and ensure that women can access opportunities in the digital age, DTAP will support **women's market access through national and regional digital platforms for web and mobile solutions.** Interventions in this context will target gender disparities in the financial space by leveraging digital technology to accelerate formalization of women enterprises and increase financial inclusion for women in the informal sector. Bridging the digital divide will build resilience to potential future shocks for women enterprises by widening their opportunities and

[38] The African Development Bank Group Gender Strategy 2021 – 2025, Investing in Africa's women to accelerate inclusive growth, African Development Bank Group.

supporting their activities in the digital economy. Overall, providing access to market and finance to women will help them expand their businesses and venture into new areas of businesses.

In support of Pillar 2, "accelerating employability and job creation for women through skills enhancement", **DTAP will work on enhancing women's digital and 4IR skills to ensure that women can have equal access to opportunities created in the age of digital transformation and AI.** Both by guaranteeing equal participation of women in skills initiatives and gender-specific initiatives to increase women's participation in the ICT industry to create economic opportunities and position them competitively in the labour market. By strengthening women's skills across sectors, the DTAP will improve women's productivity and competitiveness in the digital economy.

As part of the DTAP effort to scale Africa's digital infrastructure, the Action Plan will work with private, public, and non-profit partners to increase women's access to the internet and social services (pillar 3 of AFDB gender strategy). For example, encouraging the private sector to invest in initiatives to provide free or affordable access to the internet or establishing public gender-responsive centres with internet access.

5.2 Climate Change

In line with the **Bank's Climate and Green Growth Strategic Framework 2021–2030, DTAP will support adopting advanced, cutting-edge digital technology and innovation to drive low-carbon economies.** Climate-resilient futures with ICT-enabled solutions offer the potential to reduce greenhouse gas emissions by 16.5%, create 29.5 million jobs and yield $1.9 trillion in savings (global figure). While ICT's footprint is projected to increase to 1.27 GtCO2e[39] by 2020, its reduction potential is seven times higher. The target of a 15% reduction in global carbon emissions can be achieved by leveraging digital and 4IR technology solutions in energy,

[39] GtCO2e means Gigatons of carbon dioxide equivalent.

Many people in Africa, especially in countries facing fragile situations, cannot take advantage of the opportunities offered by emerging technologies due to poor connectivity, high cost of access and low levels of digital skills.

manufacturing, agriculture and land use, buildings, services, transportation, and logistics[40]. As such, DTAP will mainstream climate and the circular economy at the heart of its digital transformation for the continent. For example, reducing the carbon footprint of ICT operations by investing in sustainable data centres (see pillar 1, section 4.2 above)[41].

5.3 Fragility

ICT can provide the most fragile population with access to quality education and healthcare to overcome the shortage of teachers and physicians, increase e-commerce and economic growth, and increase government efficiency and transparency. Therefore, as part of its vision to bridge the digital divide and eradicate poverty for the socio-economic development of the continent, the African Union Commission adopted its Digital Transformation Strategy for Africa (2020-2030) in 2020 in collaboration with the United Nations Economic Commission for Africa and the Bank, among others.

Despite this high-level political commitment, some African countries, especially transition states, continue to lag in ICT development due to various challenges in implementing policy reforms to reap the benefits of this digital-driven revolution. In these countries, there are several other barriers to using digital technology related to income inequalities, lack of

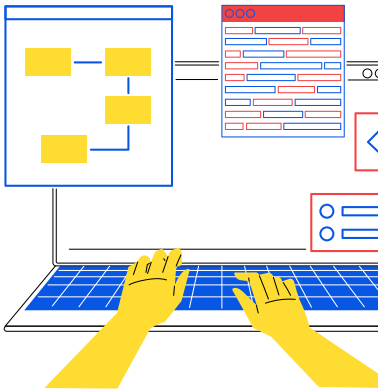
[40] Digital technology can cut global emissions by 15%. Here's how | World Economic Forum (weforum.org)

[41] How Digital Transformation is Spiking Action Against Climate Change (analyticsinsight.net)

adequate infrastructure, electricity deficit or challenges arising from the lack of or the protection of data.

The Bank aims **to bridge the digital divide in transition states, leverage digitalization to create jobs, improve livelihoods and lives, and foster effective investment from the diaspora in their countries of origin.** In close collaboration with the Transition States Coordination Office (RDTS), the Action Plan will prioritize access to digitalization for marginalized and vulnerable groups. Supporting connectivity, especially in rural, fragile, and remote areas, to help address the digital gap and ensure that all Africans have access to opportunities in the digital economy. Cooperation with RDTS will be executed through projects such as the Financial Sector Development and Financial Inclusion Support Project in the DRC (PADSFIF) to develop a holistic digital payments ecosystem in DRC and the Skills Development Project for the Employability of Disadvantaged Youth in the DRC (PDCEJD) to promote the employment of disadvantaged youth and leverage remittances for productive investments.

5.4 Jobs for Youth (JfYA)



The ICT industry offers numerous opportunities for young people, the mobile sector alone created over four million direct and indirect jobs in Sub-Saharan Africa alone[42]. Additional opportunities are in the rapidly growing start-up ecosystem, online outsourcing, and e-commerce. There are 420 million young people aged 15-35 in Africa. Of those who are not students, a third are unemployed and discouraged, another third is vulnerably employed, and only one in six is in paid employment[43]. For pillars 2 and 3, DTAP is in line with the innovation pillar of the Bank's JfYA strategy[44], which supports

[42] In 2014, the mobile ecosystem provided approximately 2 million direct jobs and 2.4 million indirect jobs in Sub-Saharan Africa according to GSMA, The Mobile Economy Report – Sub Saharan Africa, 2015.

[43] United Nations Population Division, "World Population Prospects: the 2015 Revision"; African Economic Outlook, "Promoting Youth Employment," 2012; Dalberg Global Development Advisors analysis. The final one-sixth of the youth population is inactive.

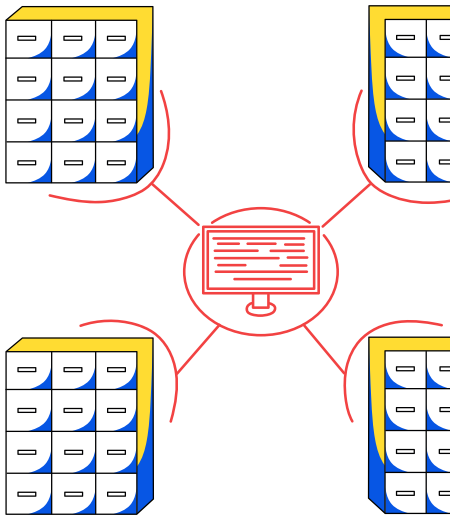
[44] The Bank's Jobs for Youth in Africa Strategy aims to create 25 million jobs and positively impact 50 million youth over the next decade.

digital skills and nurtures homegrown enterprises that will create stable jobs and prosperity on the continent. Specifically, the Action Plan will support and scale JfYA Coding for Employment program in ICT operations, providing opportunities for lifelong digital skills training outside academia.

6. Implementation Arrangements

6.1 Ways to Deliver the Action Plan

The successful implementation of the Action Plan is contingent upon strategic and comprehensive approaches that promote digital transformation and innovation within the Bank's operations. Recognizing the High Five agenda of the Bank and aligning with the insights derived from the African Economic Outlook 2021[45], which underscores the significance of digitalization in post-COVID-19 economic recovery, the Action Plan is designed to navigate these challenges and leverage opportunities.



6.1.1 Integration of Digital Technologies and Innovation

One primary aim of the Action Plan is to integrate digital technologies and innovation into the Bank's operations. This alignment with the High five agenda serves as a guiding principle, ensuring that the Bank stays at the forefront of technological advancements. Emphasis is placed on promoting

[45] African Economic Outlook Report 2021

effective coordination and complementarity to maximize impact and efficiency. Internal partnerships are actively encouraged to facilitate knowledge sharing and collaborative efforts among different departments.

To empower staff members with the necessary skills and insights, the DTAP employs various capacity-building measures. Brown bags, webinars, and similar activities are instrumental in equipping staff with the knowledge to identify and capitalize on opportunities where digitalization and 4IR technologies can be seamlessly integrated into projects. This strategic approach not only enhances staff competencies but also serves as a catalyst for improved project productivity, efficiency, quality, and overall impact.

6.1.2 Monitoring and Evaluation Framework

To ensure the effectiveness of the Action Plan, a robust Monitoring and Evaluation (M&E) framework has been meticulously crafted. This framework aligns with the Bank's Results Measurement Framework (RMF) and the Annual Development Effectiveness Review (ADER). By intertwining with these existing evaluation mechanisms, the M&E framework ensures a comprehensive and cohesive assessment of the Action Plan's implementation. It is noted that partner organizations, such as the World Bank and others employ digital economy scorecards, which will contribute to the further development of the M&E framework. Leveraging such M&E strategies may facilitate joint projects and strategies and further enhance the partnership with these organizations.

Moreover, the Action Plan recognizes the need for collaboration with private sector resources. By leveraging non-sovereign operations (NSOs), trust funds, and other private sector mechanisms, the implementation process gains additional momentum. This collaborative approach not only boosts the financial aspect of the plan but also taps into the agility and innovation inherent in the private sector.

Overall, the delivery strategy for the Action Plan is multifaceted, encompassing the infusion of digital technologies, promoting internal partnerships, capacitating staff through targeted training, and establishing a robust monitoring and evaluation framework. This holistic approach positions the Bank to navigate the complexities of the digital era while

ensuring the integration of the Action Plan into its overarching operational framework.

6.2 Resources to Implement DTAP

6.2.1 Human resources:

Government's Perspective

In Africa, as elsewhere, the rise of mobile telephony and the internet has given birth to ICT Ministries, a relatively new phenomenon reflecting their growing importance. Traditionally, these ministries haven't held significant sway in Cabinets, often staffed by engineers carrying over from their regulatory origins. Typically, only a few individuals, usually limited to the Permanent Secretary, possess any fundraising experience or understanding of the Bank's procedures.

Furthermore, the ever-changing technological landscape and substantial private investments in the sector have diminished the urgency for public financing. While other ministries may integrate digital initiatives into their plans, the reality remains that ICT Ministries lack the expertise to mobilize funds and navigate complex processes like the CSP.

To address these challenges, the Bank through DTAP commits to expanding efforts to strengthen ICT Ministries' capacities. This includes scaling up training programs, engaging in policy dialogues, and organizing business development missions. These initiatives aim to empower ICT Ministries to advocate effectively for development financing and grants.

Additionally, the Bank will assist in leveraging private sector partnerships[46] and conducting analytical assessments to identify gaps and

[46] For example, the AfDB US strategic Partnership on Digital Transformation. The AfDB Korea Expert Dispatch Program

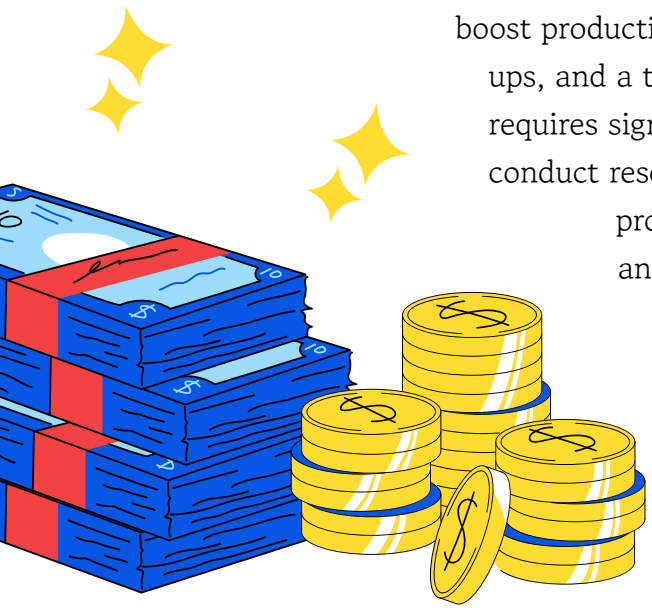
economic opportunities in the digital realm, including potential job creation and wealth generation. Through these measures, the Bank aims to boost demand for digital development and ensure that ICT Ministries are equipped to play a pivotal role in advancing the digital agenda.

Bank's Perspective

Currently, PITD2 is responsible for ICT Operations and has been primarily accountable for delivering $2 billion in lending over the past decade. However, our work does not occur in isolation. In a concerted effort to maximize scale, impact and in the spirit of 'one Bank', the team now collaborates with a working group of experts across sectors. We work alongside them as Task manager or in some cases co-task managers to integrate digital solutions into a broader ecosystem, championing Digital within their respective sectors. An example of this approach is the $618 million IDICE project in Nigeria, co-task managed by both PITD and AHHD. Similar collaborations are being forged with the agriculture team, supporting digital agriculture projects. Under DTAP PITD will continue to foster these kinds of strategic sector partnerships. This approach is pivotal in advancing the objectives in Pillar 3 of the Action Plan, which seeks to enhance sectoral productivity, resilience, and growth through adoption of digital technologies.

6.2.2 Financial Resources:

Developing an inclusive digitalization and communication infrastructure to enable policy/regulatory environments, scalable digital innovations to boost productivity in traditional sectors, competitive digital start-ups, and a talent pool to power the African knowledge economy requires significant resources. These resources are required to conduct research, support scalable, innovative projects prototypes, build capacity, advise on PPP frameworks, and intervene in policy, standards, and regulations.



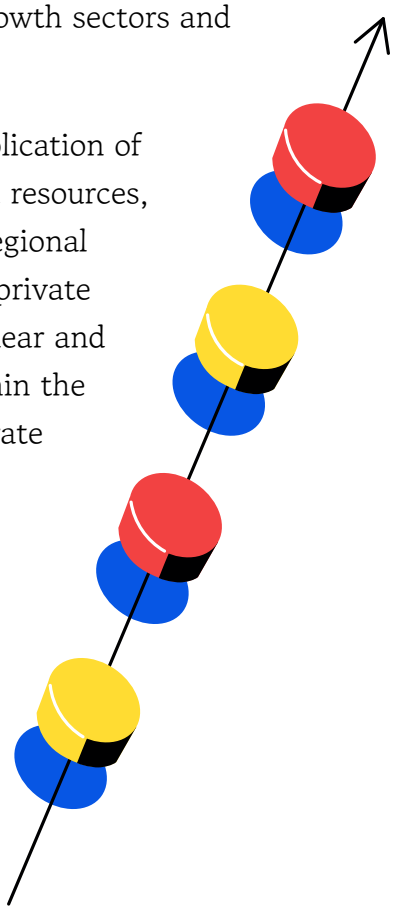
The Bank will continue to leverage all its existing financing instruments to scale up its ICT interventions, using both the ADB and ADF windows. The Bank will also use all its grants

facilities (NEPAD, ADFI[47], MIC Trust Fund, KOAFEC, FAPA, etc.) to stimulate Bank lending for pillars under DTAP. In addition, the Bank will continue to leverage private investment and PPPs in its ICT interventions (an example of these are our ongoing partnerships with Google, Intel, Mastercard, Microsoft). It will also continue to use senior and subordinated loans, equity participation and guarantees to promote ICT infrastructure and support digital innovation and entrepreneurship.

6.2.3 Resource Mobilization and Partnerships:

On average, 1.4% of the Bank's operations budget is currently invested in the ICT sector. This is insufficient to support the needs of its RMCs and will not create a digitally transformed, cost-intensive continent. In order to leverage scarce resources through DTAP will establish partnerships with like-minded public and private organisation. The Bank shall continue coordinating with traditional partners (AU, EU, ADF, IsDB, World Bank, ITU) and new partners, including the private sector, research institutions, and bilateral and multilateral donor agencies, for the implementation activities planned in DTAP. Partnerships aim to foster co-financing of investment-heavy projects, scale use cases of digital in growth sectors and overall increase impact and scale of investments.

A core principle of partnerships would be to minimize duplication of efforts, encourage sharing of information, experience, and resources, and stimulate the development of efficient national and regional markets for ICT products and services. Partnerships with private actors and international institutions should be based on clear and specific agreements to deliver well-articulated results within the Bank's priority focus areas of connectivity and fully integrate ICT into the economy. An example of this is ongoing partnership with Korean Government on an ICT expert dispatch program financed by KOAFEC, the US AfDB strategic Partnership on Digital Transformation for Africa, led by the Department of State and has so far mobilised key US private sector like Google, MasterCard, Intel, Meta and Microsoft to support RMC's in various areas of digitalisation.



[47] Africa Digital Financial Inclusion Facility (ADFI) | www.adfi.org

7. Risks and Mitigation

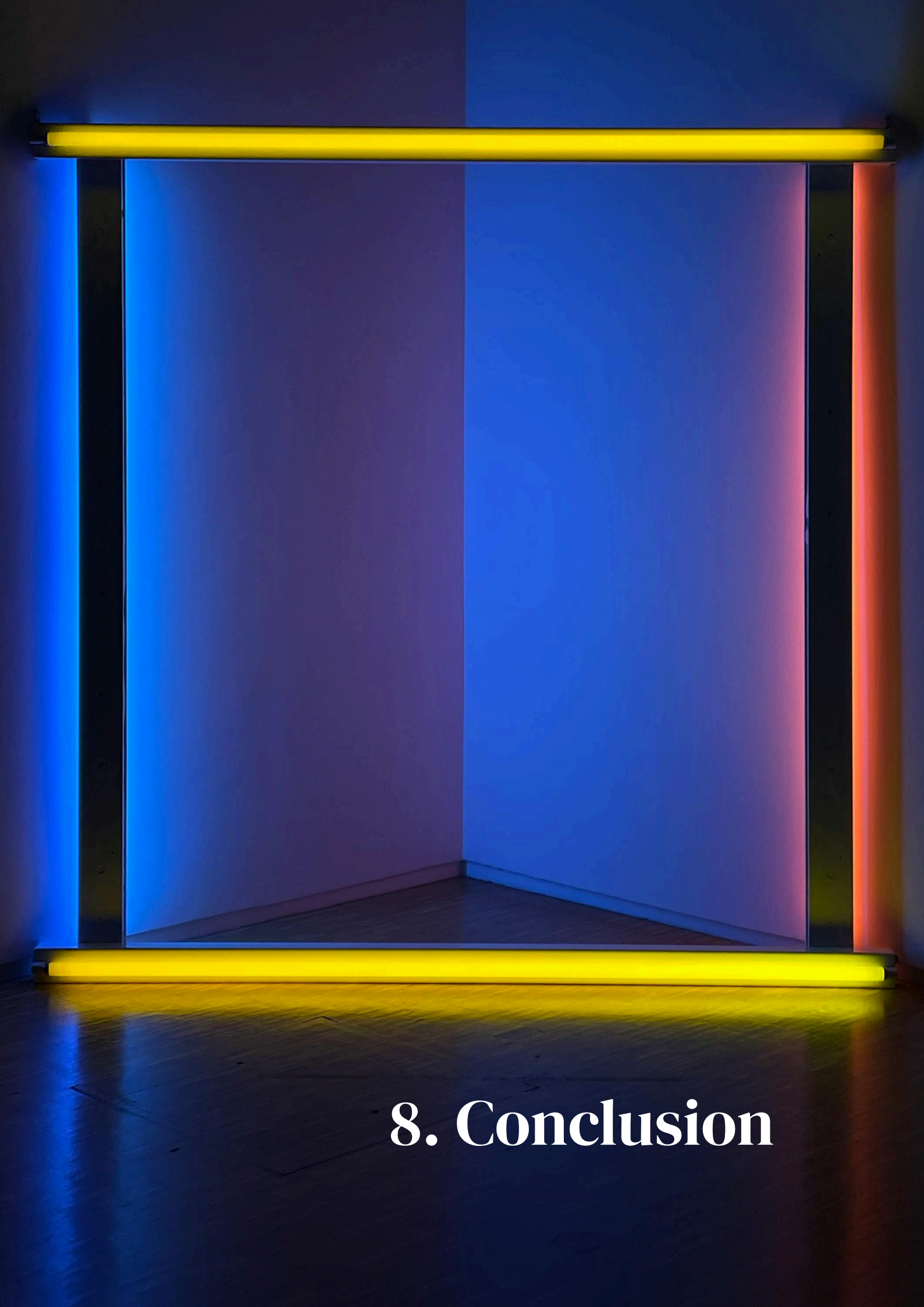
7.1 Risk and Mitigation Measures

The table below highlights some key risks that may impede the achievement of the Action Plan outputs and outcomes.

Risk Category	Risk Description	Rating	Mitigation Measure	Risk Owner
Institutional	Donors and RMCs may exhibit reluctance to prioritise investments in ICT initiatives due to historical underfunding in the region.	Moderate	DTAP will engage in robust advocacy efforts to emphasize the socio-economic benefits of ICT investments, showcasing successful case studies and demonstrating the potential for high returns. Additionally, targeted capacity-building programs will be conducted to enhance RMCs' ability to formulate compelling investment proposals.	Bank
Macroeconomic	There is a risk that many RMCs may not overcome foundation access barriers that limit their digital transformation. Such barriers include Economic shocks, insufficient education, unaffordable or inadequate access to electricity to secure the e-connection and hardware, rural and urban inequalities, fragility, violence, and climate change conflict.	Low	DTAP will design appropriate interventions that address fragile contexts and include marginalized groups (youth, women, rural communities, and digitally excluded) in designing and implementing the projects and programs. DTAP will work closely with the Bank's Energy and Infrastructure and Urban Development Departments to optimize the Bank's Investment in energy programs and extend existing electricity utilities leveraging technology innovation.	Banks and RMCs

Risk Category	Risk Description	Rating	Mitigation Measure	Risk Owner
Country's Political and Government Context	Delayed development of regulations, difficulties in implementation and rigidity of legislations can impact the adoption of 4IR technologies and impede investment and growth in tech-based start-ups.	Moderate	DTAP will encourage the development of 4IR guidelines and standards to help self-regulate the industry and help inform the policymakers. In addition, through the 4SITE Flagship program, the DTAP will work closely with RMCs to generate evidence on the potential of the 4IR and support policy dialogues that enhance the regulatory environment for 4IR technologies.	Banks and RMCs
	The slow pace of reforms to open up the markets and reduce the cost of doing business is a major threat to achieving some of the targets especially mobilizing the private sector.	Moderate	Provide targeted technical assistance and capacity building programs to governments and relevant stakeholders to streamline regulatory processes. Encourage policy-based operations with key reforms as outputs. Conduct assessments and indexes to highlight gaps in countries compared to other markets.	Banks and RMCs
Other ICT Infrastructure Maintenance	Given the rapidly evolving and intricate nature of ICT infrastructure, RMCs face a low risk of maintaining local competencies to stay updated with infrastructure changes, including soft infrastructure.	Low	Under DTAP the Bank will: Engage private sector partners through Public-Private Partnerships (PPP) to continuously enhance local competencies in RMCs regarding technological advancements. Support skill-building initiatives and providing assistance for maintenance where needed. Promote the adoption of products and technologies that offer diverse expert support.	Bank

Table 2: *Risk analysis and mitigation measures for DTAP.*



8. Conclusion

8. CONCLUSION

In conclusion, the Bank is committed to transform Africa into a socially integrated and economically vibrant continent through the strategic use of digital technologies and innovation. Our approach is focused on more than just building infrastructure; it's about empowering individuals and businesses to effectively leverage these technologies for job creation, problem-solving, and wealth generation. We recognize that establishing robust data and connectivity infrastructure is just a starting point, but infrastructure alone is not sufficient. This is why DTAP has set a clear roadmap to equip the African workforce with the skills needed to thrive in today's digital world and to support local startups/private sector to build services and solutions that will disrupt traditional growth-stunted sectors.

By tackling fundamental challenges within Africa's technology landscape and promoting the inclusive adoption of digital solutions and enabling policies, we aim to position digitalization as a catalyst for economic transformation. This Action Plan is not just about keeping pace, it's about setting the pace. Propelling Africa to the forefront of the global technology scene in the Fourth Industrial Revolution.

Annex I: DTAP Results Framework

Results Framework					
A	**Project Information**				
Digital Transformation Action Plan			**Region: Africa**		
PROJECT DEVELOPMENT OBJECTIVE: Harnessed digital technologies, talent pool and start-ups to spur GDP growth and support the transformation of economic structures across Africa (in line with the Industrialize Africa Strategy).					
ALIGNMENT INDICATOR (S): GDP growth, Economic diversification index (1-0), Global competitiveness index (1-7)					
B	**Results Matrix**				
RESULTS CHAIN AND INDICATOR DESCRIPTION	**RMF/ADOA INDICATOR**	**METRIC**	**BASELINE (date)**	**TARGET AT COMPLETION (date)**	**MEANS OF VERIFICATION**
Medium-Term OUTCOME STATEMENT 1: Increased contribution of the ICT to the economic growth					
OUTCOME INDICATOR 1.1: Contribution of Digital Economy as a percentage of GDP		%	8% of GDP (2021 GSMA Report)	10% of GDP (2030)	GSMA Mobile Economy report
OUTCOME INDICATOR 1.2: New direct jobs created in the digital economy (mobile ecosystem)		#	1.5 million formal jobs (3 million informal jobs) by 2028 (During the year 2020)	300,000 formal jobs (1.1 million informal jobs)	GSMA report, ITU
Medium-Term OUTCOME STATEMENT 2: Optimized and efficient value chains leveraging technology to boost trade					
OUTCOME INDICATOR 2.1: % increase in digital trade/e-commerce / mobile money payment / in Africa			16% (2020)	19 % (2028)	UNCTAD report, AfCTA Report | AU Digital Transformation M&E report
OUTCOME INDICATOR 2.2: Increase to access and Usage to Digital Financial Inclusion Services			Access: 41% (2020) Usage: 27% (2020)	Access: 60% (2030) Usage: 60% (2030)	World Bank DE4A

Pillar 1: Enhancing access to affordable Climate friendly digital infrastructure in underserved areas					
OUTPUT STATEMENT 1: Increased Access to (PPP) Connectivity and Broadband					
OUTPUT INDICATOR 1.1: Number of operations/Derisked investment focused on connectivity and broadband (disaggregated by rural and urban areas)		#	Nine operations (2015 to 2022)	20 Operations (30% focus on rural areas)	AfDB Project Dashboard
OUTPUT INDICATOR 1.2: No of Project Preparation TA to prepare Bankable connectivity and Broadband Projects		#	<= 15 projects	15 Countries (*preferably multi-country operation)	TfMS (trust fund management system activity report)
OUTPUT INDICATOR 1.3: Number of operations, policy dialogues or instruments focused on affordable data and devices		#	0 projects	3 Operations	AfDB Project Dashboard
OUTPUT STATEMENT 2: Climate Friendly Data Centres Developed/Optimized to Support Africa's Knowledge and Data Economy					
OUTPUT INDICATOR 2.1: No Climate friendly Data Centres supported		#	2 DCs (2012 to 2022)	10 Data Centres	PCR, Quarterly Report, MTR
OUTPUT INDICATOR 2.2: No PPP Frameworks Implemented for DCs		#	1	5	PCR, Quarterly Report, MTR
OUTPUT STATEMENT 3: Technology Parks/ Technopoles Operationalized to support ICT Industrialization					
OUTPUT INDICATOR B. 3.1: No tech parks / Technopoles / ICT centres of Excellence invested in/supported (virtual and Physical)		#	3 Tech Parks (2014 to 2022)	4 Additional Tech Parks	PCR, Quarterly Report, MTR, AfDB Project Dashboard

Medium-Term OUTCOME STATEMENT 3: Inclusive and Affordable Access to Connectivity and Digital Infrastructure					
OUTCOME INDICATOR 3.1: reduction of mobile internet access tariff (using 1GB as baseline) and cost of mobile devices.		%	Devices cost: $100 (Avg. SSA, GSMA 2023) Internet tariff: 7.77% of GNI, Africa Avg.	Cost of Devices < $100 Internet tariff: 2% Of GNI	World Bank DE4A ITU data portal/A4AI AU Digital Transformation M&E report | GSMA Report
OUTCOME INDICATOR 3.2: % Individuals using the internet		# (1st top performer – 132nd least performer)	109th (Avg. ranking of SSA countries out of 132 Countries) With only 6 Countries Ranking <=100th (GII,2021)	100th (Avg. ranking of SSA countries out of 132 Countries) With at least 15 Countries Ranking <=100th by 2028	Global Innovation Index (GII) Report
Medium-Term OUTCOME STATEMENT 4: Increased innovation in key growth sectors fostering industrialization					
OUTCOME INDICATOR 4.1: Increase in the country's ranking on the Global Innovation Index (GII)		# (1st top performer – 132nd least performer)	109th (Avg. ranking of SSA countries out of 132 Countries) With only 6 Countries Ranking <=100th (GII,2021)	100th (Avg. ranking of SSA countries out of 132 Countries) With at least 15 Countries Ranking <=100th by 2028	Global Innovation Index (GII) Report
Short-Term OUTCOME STATEMENT 5: Enabling and conducive Digital and Innovation ecosystem					
OUTCOME INDICATOR 5.1: Improvement in the country ratings Electronic Government Development Index		# 0-1 (0 low and one very high)	0.39 (middle EGDI) (2020 UN EGDI)	0.60 (high EGDI by 2028)	Governance Index – EGDI Index
Short-Term OUTCOME STATEMENT 6: Appropriate financing for tech-Start-up enabling them to scale					
OUTCOME INDICATOR 6.1: % Increase in Investment in Start-up Ecosystem in Africa		$	$5 Billion (2021)	$10 Billion (2028)	Partech Tech VC yearly report
Short-Term OUTCOME STATEMENT 7: Increase availability of digitally competent workforce					
OUTCOME INDICATOR 7.1: Proportion of youth and adults with advanced digital skills		%	2% (2021)	6% (2030)	World Bank DE4A

Short-Term OUTCOME STATEMENT 8: Increased talent Pool for Technology led Industrialization					
OUTCOME INDICATOR 8.1: Ranking in terms of knowledge and Technology outputs		(1st top performer 132nd least performer)	104th (Avg. SSA ranking 2021)	94th (Avg. SSA ranking by 2028)	Global Innovation Index (GII) Report
Pillar 2: Investing in Digital Entrepreneurship and Skills Development					
OUTPUT STATEMENT 4: Increased investment in Home Grown Early to Growth Stage Innovation Driven/technology /Tech-enabled Enterprises					
OUTPUT INDICATOR 4.1: Bank (enabled) Investment as a% of the total financing to the African Start-up Ecosystem		%	USD 250 Million (2015 to 2022)	20% increase in Investment	Ecosystem Report, Disrupt Africa, Tech crunch report, Partech Report
OUTPUT STATEMENT 5: RMCs Enabling Strategies, Platforms and Policy to develop/implement to Catalyse the Tech ecosystem / Digital Economy					
OUTPUT INDICATOR 5.1: Number of strategies, policies, and legislation to support the Tech Ecosystem/ Digital Economy (including e-Government, Digital Identity, start-up acts, and Digital payments)		#	2 eGovernment projects	8 projects	Ecosystem Report, Disrupt Africa, Tech crunch report, Partech Report
OUTPUT STATEMENT 6: Digital Skills Lifelong Learning Programs Launched (beyond Academia)					
OUTPUT INDICATOR 6.1: Number of projects that mainstream digital skills in operations		#	8 projects (2012 to 2020)	10 projects	PCR, Quarterly Report, MTR, AfDB Project Dashboard
OUTPUT STATEMENT 7: Fundamental Digital Skills Development					
OUTPUT INDICATOR 7.1: Number of People trained in basic digital skills		#	N/A	3 million people	Jobs for Youth Strategy of AfDB, AU Digital Transformation M&E report

Pillar 3: Sectoral adoption of Technology					
OUTPUT STATEMENT 8: Digital technologies and 4IR technologies					
OUTPUT INDICATOR 8.1: Number of Sector projects Integrating Digital and 4IR technologies in the project (see action table in Annex IV for details)		#	N/A	20 projects (30% standalone / 70% mainstreamed in sector)	PCR, Quarterly Report, MTR, AfDB Project Dashboard
Crosscutting Priority 1: 4IR and DTAP					
OUTPUT STATEMENT 9: 4IR Solutions and Insight Evidence Lab (4SITE Flagship) Operational					
OUTPUT INDICATOR 9.1: Number of 4IR Evidence, PoV, and ESW Supported		%	1 PoV (2021)	15 PoV	Impact Assessment Report, Yearly Progress Report
OUTPUT INDICATOR 9.2: 4SITE Data-Driven Platform operational		Y/N	N	Y	Project Report, Website URL
OUTPUT INDICATOR 9.3: Number of RMCs supported/strengthened to building enabling 4IR Policies		#	0 policies supported	15 policies supported	Impact Assessment Report, Yearly Progress Report
Crosscutting Priority 2: Innovative Partnerships and sustainable resource mobilization mechanisms developed					
OUTPUT STATEMENT 10: Digital Transformation Trust fund Operational					
OUTPUT INDICATOR 10.1: Number of Commitment letters from Donors		#	0 letters	Four letters	Commitment Letters from Donors, Technical Cooperation Agreement
OUTPUT INDICATOR 10.2: Total Investment in Trust fund		$	$0	$10 million (after five years)	Commitment Letters from Donors, Technical Cooperation Agreement

Annex II: DTAP Implementation Plan Matrix for Crosscutting Areas and Resource Mobilization

OBJECTIVE	ACTIVITIES	DURATION		EXPECTED RESULTS	INDICATORS	BANK'S INDICATIVE TARGET
		FROM	TO			
CROSSCUTTING THEMES						
Policies and Regulatory framework	Policy and regulatory reform on a national level	2023	2028	Resources provided in sector reform to advance national digital policies and regulations.	Countries that received technical assistance in policy and regulations.	Five countries per year (25 countries by 2028)
	Policy/ strategy development and institutional strengthening (for example, Sandboxes, e-commerce, data privacy, Startup Acts, and new/emerging digital technologies)	2024	2028	Policy dialogues were held, and new policies/strategies were created and enacted to support the ecosystem	Number of studies carried out; the number of forums organized; Numbers of policies developed; numbers ratified	Five policies areas per year (25 countries by 2028)
	Policy harmonization regarding digital payments, e-commerce, digital identity, data privacy, cyber security, and adoption of new technologies topical issues.	2024	2028	Policies and regulations principles in the region harmonized	Number and areas where policies are harmonized.	Two policies areas per year (targeting regional blocs)
Gender Mainstreaming	Empowering Women Entrepreneurs in ICT	2024	2028	Women's Participation in ICT Industry supported	Women's participation in DTAP start-ups and entrepreneur programs	40% of women-led start-ups benefit from DTAP interventions.
	Increase access to the internet and online services for women	2024	2028	Increased equitable access and opportunities for Women	% Of women accessing the Internet % of women trained in ICT training programs	10% increase in women accessing the internet and mobile service. 50% of women participated in ICT training.

OBJECTIVE	ACTIVITIES	DURATION		EXPECTED RESULTS	INDICATORS	BANK'S INDICATIVE TARGET
		FROM	TO			
Climate Change	Support the digital transformation and sustainability of critical industries	2024	2028	Supported RMCs reduced carbon emissions	Number of Technology solutions with sustainability at their core	Four solutions that either address environmental issues or contribute to sustainability
	Ensure environmental sustainability is at the core of Technology Investment	2024	2028	Reduced Technology carbon footprint	Sustainability of Digital Infrastructure investment	20 Sustainable Digital Infrastructure regional project.
Fragility	Prioritize access to digitalization for marginalized and vulnerable groups	2024	2028	Inclusive Access to opportunities in the digital economy	Increase access to connectivity and technology in rural and fragile areas.	Ten operations in Fragile states. (2 per year)
	Collaborate with PIFD and RDTS on the Financial Sector Development and Financial Inclusion Support Project in the DRC (PADSFIF)	2024	2028	Develop a holistic digital payments ecosystem in DRC	DRC's digital financial system has been created.	5 Program Solution (1 in DRC and four in other fragile states)
	Collaborate with RDTS and AHHD on the Skills Development Project for the Employability of Disadvantaged Youth in the DRC (PDCEJD).	2024	2028	Increase employment of disadvantaged youth in ICT Sector.	Number of Youth Skilled and Number of Job opportunities created	125,000 youth skilled, 40% job placement opportunities.
	Conduct a joint Economic and Sector Work (ESW) with RDTS on *"Leveraging digital transformation to support resilience and foster inclusive growth transition states"*.	2024	2028	Bank's stock of knowledge on digital transformation in transition states is increased. Potential ICT projects in transition countries are identified.	1 joint ESW study 4 knowledge events organized in RDGC, RDGE, RDGS and RDGW	1 joint ESW completed in collaboration with RDTS.
Jobs for Youth in Africa	Scale JfYA flagship programs, i.e., Coding for Employment, allow for opportunities for lifelong digital skills training outside academia.	2024	2028	Empower youth to access opportunities in the new digital economy.	The number of youths trained, obtained jobs, or started a venture.	1,000,000 youth were trained, and 300,000 jobs were created.

OBJECTIVE	ACTIVITIES	DURATION		EXPECTED RESULTS	INDICATORS	BANK'S INDICATIVE TARGET
		FROM	TO			
RESOURCE MOBILIZATION						
Setting up a 4IR Trust Fund to finance special interventions	Develop Trust Fund Strategic Plan	2023	2023	Trust fund approved with at least two commitment letters worth USD 5 million	Commitment letters secured (y/n) SCP approved (y/n)	The initial first close of USD 10 Million and approval by SCP
	Develop Trust fund operational manual	2023	2023	Operational manual for trust fund developed and approved by the Board	Operating manual developed (y/n)	Operational manual approved
	Design and implement Fund Raising Strategy	2023	2023	Fundraising plan developed and implemented	Donor Mapping & Fundraising strategy identified	Fundraising plan approved and implemented
	Engage with potential donors	2023	2028	Resource mobilization to support digital economy growth in Sub-Saharan Africa.	Number of donor engagements In cash and kind funding committed.	Engage with ten international and regional donors. $100M of cash and kind committed as of 2028
	Develop a yearly work program to achieve Trust fund/DTAP objectives.	2024	2028	Investment programs identified and implemented.	New investment opportunities were identified and implemented.	25 investment operations supported across RMCs
	Establish a steering committee of the Bank, donors, DPs, and RMCs.	2024	2028	Trust Fund operation strengthened	Number of Meetings and input from the steering committee	10 Annual Meeting and feedback inputted into the revised plan.
Institutionalize the Digital Transformation Advisory Council (DTAC)	Develop DTAC concept note with clear selection criteria	2024	2028	DTAC Concept defined and approved	Concept Note Approved (y/n)	DTAC Concept note
	Identify DTAC founding members and develop clear Terms of Reference for membership	2024	2028	Members are nominated and cleared	Members are nominated and cleared (y/n)	Signed TORs of founding members of DTAC
	Inaugurate DTAC council and host periodic council meetings	2024	2028	DTAC inaugurated, periodic meetings held	DTAC inaugurated (y/n) 2 per year	10 meetings

Annex III: Monitoring and Evaluation Plan

INDICATOR NAME	DEFINITION/DESCRIPTION	SOURCE	BASELINE AND TARGETS (WHERE POSSIBLE)
GDP Growth	Increase in gross domestic product (GDP) year on year. Therefore, the overall project impact will be indicated by the ICT sector's contribution to GDP for the duration of the plan implementation.	GSMA	Baseline (date): 8% 2020 (sub-Saharan Africa) Target (date): 15% of GDP by 2030
Increase in Economic Diversification Index	The Global Economic Diversification Index (EDI) aims to understand the nature of economic diversification and the factors that directly or indirectly impact a country's overall level of diversification.	Global Economic Diversification Index	Baseline (date): 78.192 (2020) - [(data available for 20 countries in Africa] Target (date): 90
Global Competitiveness Index	The Global Competitiveness Index (GCI), a comprehensive index, captures national competitiveness's microeconomic and macroeconomic foundations.	Global Competitiveness Index	Baseline (date): 46.3 2019 - sub-Saharan Africa Target (date): 60

OUTCOME AND OUTPUT INDICATORS *(PERFORMANCE INDICATORS)*									
INDICATOR NAME	**DEFINITION/ DESCRIPTION**	**COLLECTION METHODOLOGY**	**RESPONSIBILITY FOR COLLECTION**	**REPORTING FREQUENCY**	**RESULTS PLANNING**				
					YEAR 1	**YEAR 2**	**YEAR 3**	**YEAR 4**	**YEAR 5**
OUTCOME INDICATORS									
Outcome Indicator 1.1: Contribution of Digital Economy as a percentage of GDP	Measure the overall growth of the ICT industry and its contribution to GDP	GSMA Mobile Economy Report	PITD	Annual	8%	8.5%	9%	9.5%	10%
Outcome Indicator 1.2: New jobs created in the digital economy	Measures the direct and indirect net gain in employment in the ICT industry	ITU / GSMA report	PITD	Annual	100,000	200,000	300,000	400,000	500,000

OUTCOME AND OUTPUT INDICATORS *(PERFORMANCE INDICATORS)*									
INDICATOR NAME	**DEFINITION/ DESCRIPTION**	**COLLECTION METHODOLOGY**	**RESPONSIBILITY FOR COLLECTION**	**REPORTING FREQUENCY**	**RESULTS PLANNING**				
					YEAR 1	**YEAR 2**	**YEAR 3**	**YEAR 4**	**YEAR 5**
Outcome indicator 2.1: Increase in digital trade/ ecommerce / mobile payment in Africa	Measure increases in percentage of online trade and mobile money transfer and payment	UNCTAD report / AfCTA report / AU report	PITD	Annual	16.5%	17%	17.6%	18.3%	19%
OUTCOME INDICATOR 2.2: Increase to access and Usage to Digital Financial Inclusion Services	Measure the % of adults with access / usage of a transaction account	World Bank DE4A	PITD	Annual	Access: 50% Usage: 40%	Access: 52% Usage: 45%	Access: 54% Usage: 50%	Access: 57% Usage: 55%	Access: 60% Usage: 60%
OUTCOME INDICATOR 3.1: Reduction of mobile internet access tariff (using 1GB as baseline)	Measure the access tariff as a % of GNI	ITU / GNI Report	PITD	Annual	6% of GNI	5% of GNI	4 % of GNI	3% of GNI	2% of GNI
OUTCOME INDICATOR 3.2: % Individuals using the internet	Measure the percentage of the population using the internet	ITU report / World Bank DE4A	PITD	Annual	35%	38%	41%	45%	50%
OUTCOME INDICATOR 4.1: Increase in the country's Ranking on the Global Innovation Index (GII)	Measure the Ranking of countries in the global innovation index [1 top performer – 132 least perform. The Global Innovation Index is an annual ranking of countries by their capacity for, and success in, innovation.	Global Innovation Index (GII)	PITD	Annual	109th (Avg Ranking of SSA countries out of 132 Countries) With at least 7 Countries Ranking <=100th \ 84.5%	1087th (Avg Ranking of SSA countries out of 132 Countries) With at least 8 Countries Ranking <=100th 85.5%	106th (Avg Ranking of SSA countries out of 132 Countries) With at least 9 Countries Ranking <=100th 86.5%	103rd (Avg Ranking of SSA countries out of 132 Countries) With at least 10 Countries Ranking <=100th8 8%	100th (Avg Ranking of SSA countries out of 132 Countries) With at least 12 Countries Ranking <=100th 90%

OUTCOME AND OUTPUT INDICATORS *(PERFORMANCE INDICATORS)*									
INDICATOR NAME	**DEFINITION/ DESCRIPTION**	**COLLECTION METHODOLOGY**	**RESPONSIBILITY FOR COLLECTION**	**REPORTING FREQUENCY**	**RESULTS PLANNING**				
					YEAR 1	**YEAR 2**	**YEAR 3**	**YEAR 4**	**YEAR 5**
OUTCOME INDICATOR 5.1: Improvement in the country ratings Electronic Government Development Index	Measure the countries' ratings in EGDI [0-1 low, and one very high]. EGDI serves as a benchmarking and development tool for countries to learn from each other, identify areas of strength and challenges in e-government and shape their policies and strategies in this area. It is published by The United Nations Department of Economic and Social Affairs.	Governance Index – EGDI	PITD	Annual	0.39	0.45	0.50	0.55	0.60
OUTCOME INDICATOR 6.1: Measure the increase in investment in start-up ecosystem in Africa	Total equity and debt funding attracted by African Startups	Partech Tech VC yearly	PITD	Annual	$5 B (Equity) $1B (Debt)	$5B (Equity) $1.5B (Debt)	$6.5B (Equity) $1.8B (Debt)	$7B (Equity) $2B (Debt)	$8B (Equity) $2B (Debt)
OUTCOME INDICATOR 7.1: Proportion of youth and adults with advanced digital skills	Measure the percentage of people with advanced digital skills	World Bank DE4A	PITD	Annual	2%	3%	4%	5%	6%
OUTCOME INDICATOR 8.1: Ranking in terms of knowledge and Technology outputs	Measure ranking of countries in terms of knowledge and technical output.	Global Innovation Index (GII)	PITD	Annual	104th	100th	98th	96th	94th

OUTCOME AND OUTPUT INDICATORS *(PERFORMANCE INDICATORS)*									
INDICATOR NAME	**DEFINITION/ DESCRIPTION**	**COLLECTION METHODOLOGY**	**RESPONSIBILITY FOR COLLECTION**	**REPORTING FREQUENCY**	**RESULTS PLANNING**				
					YEAR 1	**YEAR 2**	**YEAR 3**	**YEAR 4**	**YEAR 5**
OUTPUT INDICATORS									
OUTPUT INDICATOR 1.1: Number of operations / Derisked Investment focused on connectivity and broadband (disaggregated by rural and urban areas)	Measure: number of operations/Derisked Investment focused on connectivity and broadband	AfDB Project Dashboard	PITD	Annual	4	4	4	4	4
OUTPUT INDICATOR 1.2: No of Project Preparation TA to prepare Bankable connectivity and Broadband Projects	Measure the number of projects prepared that correspond to DTAP pillars	TfMS (trust fund management system activity report)	PITD	Annual	3	3	3	3	3
OUTPUT INDICATOR 2.1: No Climate friendly Data Centres are supported	Number of environment-friendly datacentres updated/setup	PCR, Quarterly Report, MTR	PITD	Annual	2	2	2	2	2
OUTPUT INDICATOR 2.2: No PPP Frameworks Implemented for DCs	Measure the number of partnership agreement frameworks for datacentres Number of environment-friendly datacentres updated/ setup	PCR, Quarterly Report, MTR	PITD	Annual	1	1	1	1	1
OUTPUT INDICATOR B. 3.1: No tech parks / Technopoles / ICT centres of Excellence invested in/supported (virtual and Physical)	Measure the number of Techparks and Centres supported by both virtual and physical. Measure the number of partnership agreement frameworks for datacentres	PCR, Quarterly Report, MTR AfDB Project Dashboard, PCR, Quarterly Report, MTR	PITD	Annual	1	1	1	1	0

OUTCOME AND OUTPUT INDICATORS *(PERFORMANCE INDICATORS)*									
INDICATOR NAME	**DEFINITION/ DESCRIPTION**	**COLLECTION METHODOLOGY**	**RESPONSIBILITY FOR COLLECTION**	**REPORTING FREQUENCY**	**RESULTS PLANNING**				
					YEAR 1	**YEAR 2**	**YEAR 3**	**YEAR 4**	**YEAR 5**
OUTPUT INDICATOR 4.1: Bank (enabled) Investment as a% of the total financing to the African Start-up Ecosystem	Measure increases in the percentage of bank investment in the African startup ecosystem Measure the number of Techparks and Centres supported by both virtual and physical	Ecosystem Report, Disrupt Africa, Tech crunch report, Partech Report	PITD	Annual	2%	5%	10%	15%	20%
OUTPUT INDICATOR 5.1: Number of strategies, policies, and legislation to support the Tech Ecosystem/ Digital Economy (including e-Government, Digital Identity, start-up acts, and digital payments)	Measure the number of digital strategies and policies supported by the Bank through projects, trust funds, convenings etc.	Ecosystem Report, Disrupt Africa, Tech crunch report, Partech Report	PITD	Annual	1	2	2	2	1
OUTPUT INDICATOR 6.1: No. Projects that mainstream digital skills in operations	Measure the number of projects mainstreaming digital skills	PCR, Quarterly Report, MTR, AfDB Project Dashboard	PITD	Annual	2	2	2	2	2
OUTPUT INDICATOR 7.1: Number of people trained in basic digital skills	Measure the total number of people trained in fundamental digital skills through the Action Plan	Jobs for Youth Strategy of AfDB/AU report	PITD	Annual	1,000,000	1,500,000	2,000,000	2,500,000	3,000,000
OUTPUT INDICATOR 8.1: Number of sector projects integrating digital and 4IR technologies in the project (see action table in Annex III for details)	Measure the number of sector projects integrating digital technologies	PCR, Quarterly Report, MTR, AfDB Project Dashboard	PITD	Annual	4	4	4	4	4

OUTCOME AND OUTPUT INDICATORS *(PERFORMANCE INDICATORS)*									
INDICATOR NAME	**DEFINITION/ DESCRIPTION**	**COLLECTION METHODOLOGY**	**RESPONSIBILITY FOR COLLECTION**	**REPORTING FREQUENCY**	**RESULTS PLANNING**				
					YEAR 1	**YEAR 2**	**YEAR 3**	**YEAR 4**	**YEAR 5**
OUTPUT INDICATOR 9.1: Number of 4IR evidence, PoV, and ESW Supported	Measure the number of PoV projects and ESW supported	Impact Assessment Report	PITD	Annual	3	3	3	3	3
OUTPUT INDICATOR 9.2: 4SITE data-driven platform operational	Is the platform operational? (Y/N)	Project Report, Website URL	PITD	Annual	N	Partially	Y	Y	Y
OUTPUT INDICATOR 9.3: Number of RMCs supported/strengthened to building enabling 4IR policies	Number of RMCS	Impact Assessment Report, Yearly Progress Report	PITD	Annual	3	3	3	3	3
OUTPUT INDICATOR 10.1: Number of commitment letters from donors	Number of letters for cooperation agreements and/or resource committed	Commitment Letters from Donors, Technical Cooperation Agreement	PITD	Annual	1	1	1	1	0
OUTPUT INDICATOR 10.2: Total investment in Trust Fund	Number of letters of commitment of resources.	Commitment Letters from Donors	PITD	Annual	$5M	$1M	$3M	$2M	$0M

Annex IV: Potential Collaboration Programs for Sectorial Integration of Digital Transformation and 4IR technologies

INDUSTRY	PROJECT NAME	SHORT DESCRIPTION	LOCATION	TIMELINE	Estimated Project Amount
Health	Support tele-medicine and innovations that use technology to scale access to quality health	Telemedicine platforms/devices virtual outpatient platform.	To be decided based on market need assessment	2024 - 2028	$100 Million
	Digitally enabled medical insurance platforms	Digital platforms support scaling health insurance systems, especially for the vulnerable population.	To be decided based on market need assessment	2024 - 2028	
Transport	Single window" to foster trade facilitation	An electronic concept to streamline the actions of the many international trade stakeholders involved in port, maritime and international trade logistics.	To be decided based on market need assessment	2024 - 2028	$20 Million
Water	Brownfield: sustainable water and sanitation program.	Smart network optimization and reduced non-revenue. Digital water solutions include using cloud services, digitized billing, merged databases, developing customer service apps, and enhanced inter-office communication.	Rwanda (flagship) and Ten other markets to be supported based on diagnostics.	2017 -2026	$30 Million
	Greenfield: resilient water development and improved livelihoods program.	Implementing SCADA systems, automated processes, and deployment of technologies for remote monitoring.	Ethiopia (flagship) and Five other markets to be supported based on diagnostics.	2022 - 2028	$10 Million
	Greenfield: project to strengthen drinking water production and improve technical and commercial performance.	Use of smart meters to record customer water use, providing a clear picture of water consumption, alerting customers and authorities to leaks and conveying data to both consumers and utility, allowing for improved water management.	Morocco (flagship) and ten other markets to be supported based on diagnostics.	2021 - 2025	$10 Million

INDUSTRY	PROJECT NAME	SHORT DESCRIPTION	LOCATION	TIMELINE	Estimated Project Amount
Government	The digitalization of the performance evaluation of the State-Owned Enterprises (SOEs).	A centralized system for collecting data and monitoring public establishments and enterprises.	Tunisia's (flagship) expansion to Senegal, Capo Verde, Egypt, and Algeria is to be considered.	2024 - 2026	$20 Million
	Developing an integrated digital tax administration system.	An integrated digital solution for the administration of domestic and international taxes. The solution enables taxpayers to submit requests and file their returns online. In addition, the solution would provide up-to-date records, electronic communications, faster tax refunds and automated tax assessments.	Pilot one or two per region.	2024 - 2026	$40 Million
	Government digital platform	Provide citizens with easy access to government services, i.e., filing for tax returns.	To be decided based on market need assessment	2024 - 2028	TBD
Agriculture	Digital agriculture use-cases as proof of value	Integrated big data platforms for input/output advisory and marketplaces. • Blockchain for traceability and efficiency in the supply chain. • Automated systems for smart farm operations and precision agriculture.	To be selected based on market need assessment	2024 - 2028	TBD
Energy	Digitization of regulatory activities	Establishing and deploying centralized Database Management Systems (DBMS) for National and Regional Electricity Regulators.	Pan African	2024 - 2028	TBD

INDUSTRY	PROJECT NAME	SHORT DESCRIPTION	LOCATION	TIMELINE	Estimated Project Amount
Energy	Promoting decentralized renewable energy for businesses.	A digital platform to support businesses evaluating DRE investments and related financial solutions. This component is developing a web-based simulator application to help businesses evaluate their prospects for generating electricity in solar PV systems.	Tunisia and other markets to be supported based on diagnostics	2024 - 2028	TBD
	Digital payment for energy, especially for off-grid/mini-grid systems, allows commercially viable projects to collect consumer payment as part of the distribution model.	Big data is vital to learn more about consumer profiles, estimate consumption patterns, and design future energy production systems and transmission lines.	To be decided based on market assessment.	2024 - 2028	TBD

Annex V: Digital Transformation Action Plan Theory of Change

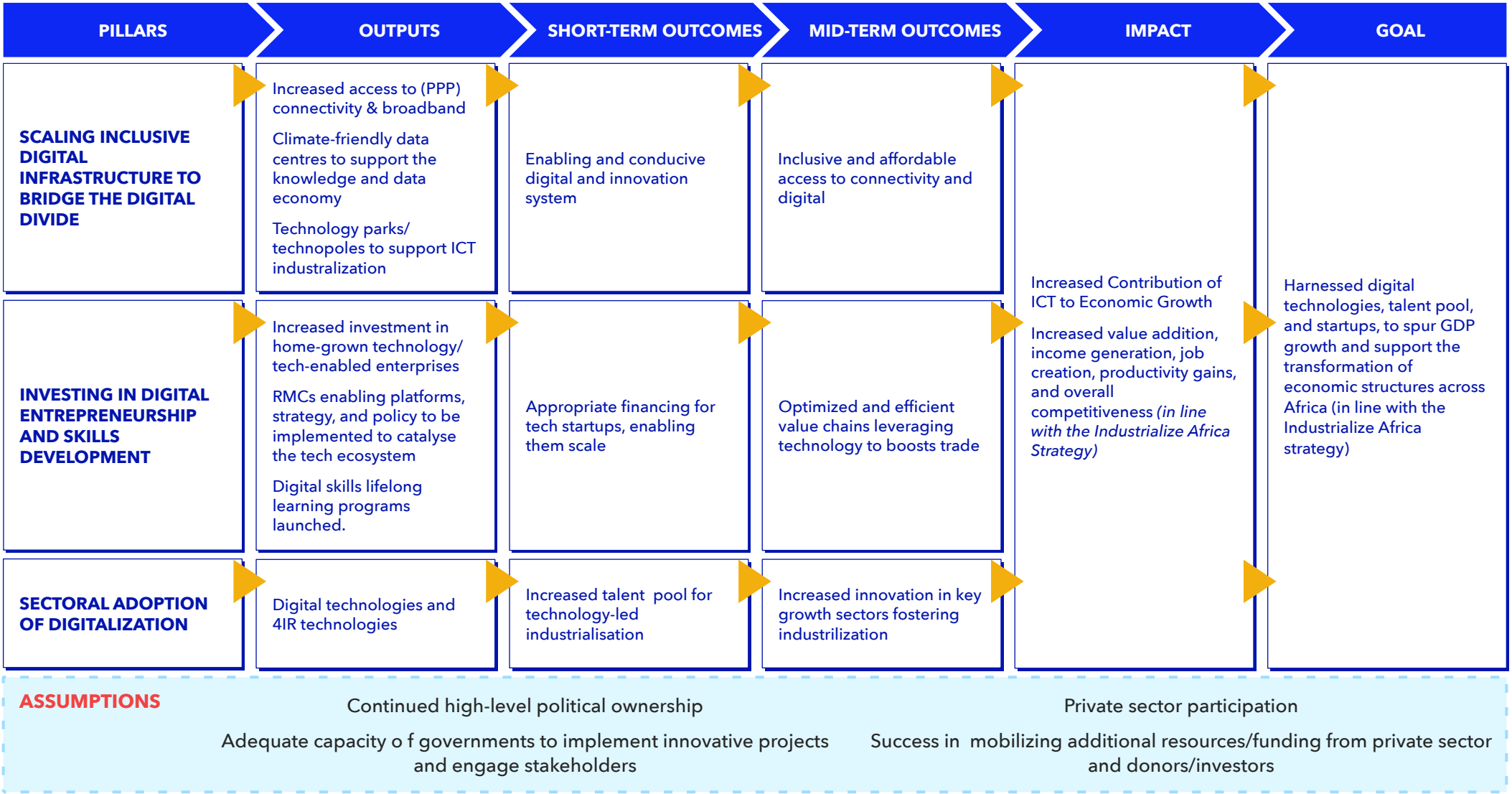


Figure 10: *Theory of Change.*