



Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 12-Aug-2019 | Report No: PIDC27264



BASIC INFORMATION

A. Basic Project Data

Country Uganda	Project ID P171305	Parent Project ID (if any)	Project Name Uganda Digital Acceleration Program (P171305)
Region AFRICA	Estimated Appraisal Date Feb 11, 2019	Estimated Board Date May 15, 2020	Practice Area (Lead) Digital Development
Financing Instrument Investment Project Financing	Borrower(s) Ministry of Finance	Implementing Agency National Information Technology Authority	

Proposed Development Objective(s)

The Project Development Objectives are to expand access to high-speed internet, improve efficiency of digital government services, and strengthen the enabling environment for digital technology adoption.

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	200.00
Total Financing	200.00
of which IBRD/IDA	200.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	200.00
IDA Credit	200.00

Environmental and Social Risk Classification

Concept Review Decision



Substantial

Track II-The review did authorize the preparation to continue

Other Decision (as needed)

B. Introduction and Context

Country Context

- 1. Uganda's population is fast-growing, predominantly young and rural, with prevailing social and economic inequalities.** Driven by a high fertility rate at 5.5 births per woman, Uganda's population has doubled to 42.86 million over the last three decades and continues to grow by more than 3% per annum.¹ The country's population is largely young with more than 47% under the age of 15² and nearly 80% under the age of 30.³ Such an age demographic is typically associated with a potential affinity for the use of digital technologies. The majority of Ugandans – 77% of the total population – live in rural areas and work in the agricultural sector which accounts for 71% of total employment and around a quarter of the country's GDP.⁴ This renders a significant portion of the workforce vulnerable to climate change and weather shocks. Overall, the level of poverty has increased from 6.6 million in 2013 to more than 8 million (21% of the population) in 2017.⁵ Furthermore, social and economic inequalities and regional gaps in living conditions persist with a higher prevalence of poverty in rural than in urban areas (22.4% in rural areas vs. 9.6% in urban areas in 2013).⁶
- 2. Uganda faces several challenges including a recent economic slowdown⁷, which could impede the country's progress toward middle-income status by 2020 – a goal outlined in its second National Development Plan (NDPII).** This slowdown is attributed to various factors including adverse weather conditions and meagre harvests, private sector credit constraints, conflict and unrest in neighboring countries, and underperformance in public sector project implementation.⁸ Uganda's relatively low productivity in the agricultural sector, which employs the bulk of its workforce, and in the private sector further impedes its growth potential: in the past years, growth in agricultural incomes has been largely driven by expanding cultivation areas and exogenous variables such as good weather and high commodity prices rather than a significant increase in the use of modern production technologies and other productivity-enhancing factors. In addition to agriculture, the manufacturing sector led by micro, small and medium-size enterprises (MSMEs) contributes a significant share of GDP at 20%. In parallel, the digital sector is growing at a fast pace (see Section B below), and newly found oil and gas reserves are driving recent investments in the energy sector.⁹

¹ World Bank World Development Indicators (2017).

² Ibid.

³ Diagnostic study n°5.1 to 5.3 to support the mid-term review of Uganda's 2nd National Development Plan (NDP-2) and evaluation of NDP-1 in Uganda, March 2019. State of Uganda Population Report 2018.

⁴ World Bank World Development Indicators (2017).

⁵ Uganda National Household Survey, Uganda Bureau of Statistics, 2017.

⁶ World Bank World Development Indicators (2013).

⁷ Uganda's economy slowed from an average of 7% annual GDP growth in the early 2000s to 4.5% in the 5 years leading up to 2017.

⁸ Uganda: Driving inclusive socio-economic progress through mobile-enabled digital transformation, GSMA, 2019.

⁹ Ibid.



- 3. Uganda hosts Africa's largest refugee population for whom digital connectivity could offer improved access to basic services and economic opportunity.** As a result of ongoing outbreaks of unrest, drought and socio-economic crises across the neighboring Horn of Africa sub-region¹⁰, Uganda currently hosts over 1.4 million refugees¹¹ – mostly in the Northern and Western regions of the country – making it the largest refugee-hosting country in Africa.¹² According to the United Nations Children's Fund (UNICEF), women and children constitute 86% of the refugee population in Uganda.^{13, 14} Despite the country's many challenges, Uganda has maintained an open-door policy and is expected to receive an additional influx of refugees from South Sudan and the Democratic Republic of Congo in 2019.¹⁵

Sectoral and Institutional Context

- 4. The digital sector represents one of the fastest growing sectors in Uganda, with positive spill-over effects on various other sectors of the economy.** The ICT sector's contribution to the country's GDP has considerably increased, from 6.6% in 2015 to 8.7% in 2016,¹⁶ recording average annual growth rates of up to 20%.¹⁷ This trend is driven by i) a series of conducive Government policies¹⁸, and ii) the significant uptake of mobile phone subscribers, which grew from 14.7 million in 2010 to 21.7 million in 2018, representing an increasing penetration rate that has reached 56% of the total population.¹⁹ Developing digital infrastructure fosters growth. Based on recent analysis²⁰ by the World Bank Africa Chief Economist's Office, closing the digital infrastructure gap²¹ in the East and Southern Africa region could result in 1.5 percentage point growth increase in economic growth per capita. If complemented by expansion in human capital development, the growth effect could increase to 3.87 percentage points. Indirectly, the digital sector contributes to enhancing productivity, facilitating information exchange, and improving service delivery across the economy.
- 5. The substantial increase in mobile phone ownership (71% of the population) is laying the foundation for Uganda's digital transformation and enabling the rapid take-up of various e-services.** According to the 2017/2018 survey by

¹⁰ The Horn of Africa sub-region is defined as Djibouti, Eritrea, Somalia, Sudan, Kenya, Uganda and South Sudan.

¹¹ United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) 2018. <https://www.unocha.org/southern-and-eastern-africa-rosea/uganda>

¹² UNHCR, 2018. <https://www.un.org/africarenewal/magazine/december-2018-march-2019/uganda-stands-out-refugees-hospitality>

¹³ UNICEF, 2017. https://www.newvision.co.ug/new_vision/news/1455993/86-refugees-uganda-women-children-unicef

¹⁴ The Uganda Refugee Report notes that 48% of the refugee population in Uganda live in poverty and this figure amounts to 60% the West Nile region.

¹⁵ UNHCR, 2019. <http://reporting.unhcr.org/sites/default/files/pdfsummaries/GA2019-EastandHornofAfrica-eng.pdf>

¹⁶ Uganda: Driving inclusive socio-economic progress through mobile-enabled digital transformation, GSMA, 2019. Statistical Abstract, NITA-U, 2016.

¹⁷ Uganda: Driving inclusive socio-economic progress through mobile-enabled digital transformation, GSMA, 2019. MoICT & NG.

¹⁸ These include the Digital Uganda Vision, the Communications Amendment Bill of 2016, the new National Broadband Policy of 2018 and the recent Data Protection Act assented to in February 2019.

¹⁹ Diagnostic study n°5.1 to 5.3 to support the mid-term review of Uganda's 2nd National Development Plan (NDP-2) and evaluation of NDP-1 in Uganda, March 2019.

²⁰ Africa's Pulse No. 19: An Analysis of Issues Shaping Africa's Economic Future, April 2019. <https://openknowledge.worldbank.org/handle/10986/31499>

²¹ Assuming a) rapid expansion of fixed broadband services, b) universal access to internet services and c) universal penetration of mobile cellular phones.



the National Information Technology Authority in Uganda (NITA-U), 70.9% of Ugandans own mobile phones²². The ownership rates are higher among urban residents compared to rural residents (78.5% and 65.7% respectively) and more males than females (81.6% and 63.2%).²³ The telecommunications market includes two major operators – MTN and Airtel – that control market shares (in terms of mobile subscriptions) at 37% and 45% respectively,²⁴ and two other mobile operators such as Uganda Telecom and Africell with market shares below 10% each.²⁵ The increased access to mobile phones and mobile services in Uganda enabled the take-up of related services such as mobile banking: in 2014, 18.5 million Ugandans used mobile money services in transactions valued at UGX 18 trillion – equivalent to US\$6.2 billion – whereas less than a third of this number hold bank accounts at traditional financial institutions.²⁶ The 2017 Global Findex database shows that 50% of adults have mobile money accounts in Uganda.²⁷

6. **Affordability remains a key barrier to the take-up of mobile broadband, despite widespread adoption of mobile phones.** Mobile devices provide the main platform for internet use (as opposed to fixed access), with about half of all mobile subscribers in Uganda using mobile internet services. The penetration rate of mobile broadband was 23% compared to 1% only for fixed-line internet access by June 2018.²⁸ High prices hamper efforts to increase the penetration rate of broadband access. According to ITU, the cost of a basic mobile broadband services (1GB of mobile data) was at 16.61% of GNI per capita in 2017²⁹, in contrast with the UN Broadband Commission’s target of 2%, making it prohibitively expensive for many Ugandans. In the second quarter of 2018, Uganda had the 17th cheapest 1GB mobile broadband product on the market in Africa³⁰, making data cheaper than in South Africa or Lesotho for example. Based on a survey by Research ICT Africa in 2018³¹, internet use among individuals earning more than USD 1,000 per month is very high but drops significantly in lower income brackets. Only 11% of people earning less than USD 100 per month and around two-third of people earning between USD 100-1,000 per month reported using the internet. Affordability of mobile devices also appears to be a key barrier to entry: 89% of respondents of the NITA-U survey who do not own a mobile phone, cite the cost of the mobile device as the main barrier³². Data also suggest³³ that the recent introduction of social media and mobile money taxes in Uganda has disincentivized internet use, with a drop of 30% in estimated internet users registered between March and September 2018 after their introduction (see risks section below). Furthermore, the lack of electricity and adequate digital infrastructure in rural areas where only 18% of households have an electricity connection has resulted in restricted access in comparison with urban areas.³⁴

²² Mobile phone penetration refers to the number of SIM cards or mobile phone subscribers in a certain country. It does not refer to the ownership number of mobile phone devices.

²³ National IT Survey 2017/2018 Report

<https://www.nita.go.ug/sites/default/files/publications/National%20IT%20Survey%20April%2010th.pdf>

²⁴ The State of ICT in Uganda, Research ICT Africa, 2019.

²⁵ Ibid.

²⁶ Telegeography, Feb 17, 2015.

²⁷ Global Findex Database, 2017. <https://globalfindex.worldbank.org/>

²⁸ Uganda: Driving inclusive socio-economic progress through mobile-enabled digital transformation, GSMA, 2019.

²⁹ <https://www.itu.int/en/ITU-D/Statistics/Pages/ICTprices/default.aspx>

³⁰ The State of ICT in Uganda, Research ICT Africa, 2019.

³¹ Ibid.

³² National IT Survey 2017/2018 Report

<https://www.nita.go.ug/sites/default/files/publications/National%20IT%20Survey%20April%2010th.pdf>

³³ <https://researchictsolutions.com/home/wp-content/uploads/2019/01/Unleash-not-squeeze-the-ICT-sector-in-Uganda.pdf>, 2018.

³⁴ The State of ICT in Uganda, Research ICT Africa, 2019.



7. **Access (i.e. network coverage) is another serious constraint to higher adoption of mobile broadband, with sharp regional disparities.** While more than 95% of the population is covered by mobile telephony networks (2G), mobile broadband (3G and 4G) coverage lags behind at around 50%, with sharp regional disparities, particularly between the Northern and Western regions and the Central region. For instance, only half of Uganda's 121 districts are covered by 3G (representing only half of the population³⁵). In addition, 53% of the population in the Central region is covered by 4G compared to 15% and only 8%-9% in the Northern and Western regions respectively as of 2018.³⁶ As a result of limited broadband access, the use of the internet by enterprises and the public sector in turn remains very low.³⁷ The quality of service also remains problematic: according to Ookla³⁸, mobile download speeds in Uganda ranked only 115th fastest in the world in June 2019.
8. **Persistent digital divides in terms of gender, geography, income levels, etc., undermine the transformative potential of digital services and exclude the most vulnerable from the associated benefits.** While access to mobile phones and the internet can potentially unlock a wealth of opportunities for all Ugandans, wide variations in mobile phone ownership exist across income groups, with only 28% mobile access and ownership rate among the poor in comparison with 92% among the rich.³⁹ Only 16% of the total number of mobile phone users have smartphones.⁴⁰ Uganda also grapples with disparities along geographic and human capital dimensions such as gender, literacy and digital literacy indicators connected to the use of digital services.⁴¹ For instance, 4 out of 5 Ugandans remain offline and out of those who are connected, more men (16%) than women (10%) access the internet.⁴² In the refugee settlement of Bidi Bidi, men are 47% more likely to own a mobile phone than women.⁴³ Per the 2017/2018 ICT survey conducted by NITA-U, 75% of Ugandans who did not use the internet reported that they lack the skills to do so.⁴⁴ Geographically, the wide gap between the 19.5% internet penetration rate in urban areas and the mere 7.1% in rural areas also raises concerns around the urban-rural divide.⁴⁵
9. **The World Bank has partnered with the Government of Uganda in its efforts to address these bottlenecks and leverage these opportunities through the Regional Communications Infrastructure Program Phase 5 (RCIP-5 - P130871) currently in implementation, working on i) policies and regulations, ii) infrastructure and iii) e-government services.** RCIP-5 has included a policy support component, providing support for developing or updating key national laws and regulations with the view to increase competition and lower prices for digital services. RCIP-5 also contributes to building better communications infrastructures through expanding the national fiber optic backbone infrastructure and connecting government facilities. Finally, RCIP-5 improves the Government's ability to

³⁵ Ibid.

³⁶ Uganda Communications Commission.

³⁷ Diagnostic study n°5.1 to 5.3 to support the mid-term review of Uganda's 2nd National Development Plan (NDP-2) and evaluation of NDP-1 in Uganda, March 2019.

³⁸ <https://www.speedtest.net/global-index/uganda> Accessed 15 June 2019.

³⁹ Uganda's Country Partnership Framework for FY16-21 and National Household Survey 2012/13.

⁴⁰ The State of ICT in Uganda, Research ICT Africa, 2019.

⁴¹ Diagnostic study n°5.1 to 5.3 to support the mid-term review of Uganda's 2nd National Development Plan (NDP-2) and evaluation of NDP-1 in Uganda, March 2019.

⁴² Uganda: Driving inclusive socio-economic progress through mobile-enabled digital transformation, GSMA, 2019. NITA-U survey.

⁴³ Digital Lives of Refugees. GSMA 2019.

⁴⁴ The 2017/2018 ICT survey by NITA-U referenced in the Diagnostic study n°5.1 to 5.3 to support the mid-term review of Uganda's 2nd National Development Plan (NDP-2) and evaluation of NDP-1 in Uganda, March 2019.

⁴⁵ NITA-U National ICT Survey Report, 2018.



deliver services to its citizens through shared e-Government infrastructures (data centers), platforms and services. The project's main implementing agency is the National Information Technology Authority-Uganda (NITA-U) – an autonomous statutory body with the authority to coordinate and regulate Information Technology services in Uganda. Some of the outcomes of these efforts are summarized below.

- Digital policy and Regulations.⁴⁶ The Communications Amendment Bill of 2016, the new National Broadband Policy of 2018 and the recent Data Protection Act assented to in February 2019 form a package of policies aiming at modernizing the enabling environment, building trust and providing a stronger policy direction for achieving universal internet access in the country. The National Broadband Policy focuses on improving access, affordability and digital inclusion and designates broadband as a public utility alongside other public utilities, such as water and electricity.⁴⁷ A Policy Gap Analysis⁴⁸ funded by RCIP-5 and finalized in 2019 shows that Uganda has a progressive institutional framework in place, where the policy-making and regulatory functions are separated, and that most of the necessary laws are in place. As further steps, it highlighted the need to improve the areas of electronic payments and transactions, data protection, cybersecurity and critical infrastructures.⁴⁹ Work is also currently ongoing for developing regulations for operationalizing the Communications Amendment Bill and guidelines for implementing the National Broadband Policy. Additionally, regulations are being developed to guide the implementation of the Data Protection Act.
- Digital infrastructure. The Government of Uganda has notably invested in development of the National Backbone Infrastructure (NBI) over the past several years, but disparities in coverage across the country require additional infrastructure investments to extend reach and improve network performance (See Annexes 1 and 2). The investments made under the RCIP-5 project enabled the pre-purchase of international bandwidth for Government and priority target groups which has led to a significant decrease in connectivity access prices for Government Ministries, Departments and Agencies (MDAs) and induced a broader decrease of market price for international connectivity. RCIP-5 has contributed to almost quadrupling of Uganda's international bandwidth to around 100Gbps from 2013 to 2019. The project is also focused on extension of the National Backbone Infrastructure and work is currently underway to connect additional MDAs to the Government's network (GovNet). The publicly-owned NBI also provides capacity for private sector operators, enabling them to provide services in more remote areas of the country. Its management is contracted to Soliton Telmec.
- E-government services. Uganda ranked 135 out of 193 countries on the 2018 UN e-Government Development Index.⁵⁰ While there is a long way to go, it represents a major improvement from five years ago, at the start of RCIP when Uganda was ranked 156th. The RCIP-5 project has contributed to the development of e-Government in Uganda by investing in shared IT facilities and service delivery platforms such as the government data centers, and the supply and installation of government cloud services. This was designed to simplify and improve the implementation of sector specific e-Services by a variety of MDAs. In the past few

⁴⁶ Activities partially supported by RCIP-5

⁴⁷ National Broadband Policy for Uganda, September 2018.

⁴⁸ Gap Analysis, Recommendations and Consultancy Report. Commonwealth Telecommunications Organization. January 2019.

⁴⁹ Critical infrastructures refer to physical, non-physical, and cyber resources or assets and systems that are essential for maintaining government operations and the minimum functioning of the economy and society, for example in security, transportation, energy and finance.

⁵⁰ The UN eGovernment Development Index (EGDI) ranges from 0 to 1. It is a composite measure of the following 3 dimensions of e-government: provision of online services, telecommunication connectivity, and human capacity.

<https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/179-Uganda/dataYear/2018>



years, over 80 e-services have been introduced, in collaboration with a variety of priority Ministries (e.g. Ministry of Agriculture, Animal Industry and Fisheries) and other initiatives (e.g. e-vouchers for farmers). Online services can result in improved productivity as well as time and cost savings for the public and private sectors. For example, Uganda's e-visa platform has received more than 212,000 applications by the end of 2017 and has reduced application time from 1 month to 5 working days.⁵¹ As for the private sector, Ugandan firms lag in the use of digital services compared with peers. According to the World Bank 2013 Enterprise Survey, only 40% of the firms were using email to communicate with clients and suppliers, compared to 73% in Kenya and 53% in Zambia. Website use is even less prevalent with 19% of firms having their own website compared to 47% in Kenya.⁵²

- 10. Going forward, the Government of Uganda is finalizing the Digital Uganda Vision⁵³ aligned with the country's Vision 2040, aiming to build a "digitally-enabled modern society that is secure, innovative, and transformative realized through technology-based empowerment".** The Digital Uganda Vision (DUV) sets an overarching framework for providing direction to national ICT policies and further, to show how digital services can be used to achieve inclusion, sustainable development, economic progress and poverty eradication. The five pillars of the Vision include: 1) Integrated Digital Infrastructure and Connectivity, 2) Digital Services, 3) Cyber-security, Privacy and Data Protection, 4) Digital Inclusion and Empowerment and 5) Content Development, Innovations and Product Development. These correspond closely to the foundational pillars of the Digital Transformation for Africa initiative of the African Union supported by the World Bank.

Relationship to CPF

- 11. The proposed project contributes to key objectives outlined in the Country Partnership Framework (CPF).** The project is closely aligned with the Uganda Country Partnership Framework (CPF FY16-21), which elucidates the potential of the Digital sector for Uganda's development. Specifically, the project supports the Strategic Objective 1 *Promoting Shared Growth and Sustainable Economic Growth* and the Goal 1.2 *Improved connectivity for regional integration* through improved digital infrastructure and competitiveness of the Digital sector. It also supports Strategic Objective 4 *Improve Good Governance and Value for Money* and the Goal 4.2: *Strengthened public sector management and accountability at national and local level* through digital government platforms and services. For example, the CPF mentions that the use of digital platforms can strengthen the capacity of ministries, departments, and agencies (MDAs) in statistical development for data collection, processing and quality control. The project can also contribute to Goal 1.3. *Increased productivity and commercialization of agriculture* through development and scaling-up of digital support services to boost agricultural productivity.
- 12. The Digital sector can play a key role in addressing the challenges that Uganda faces, as identified by the Systematic Country Diagnostic (SCD) and unlocking new opportunities.** Constraints such as poor infrastructure, weak public service delivery, low levels of human capital, and underdeveloped institutions elaborated in the country's SCD⁵⁴ can be mitigated by the Digital sector in several ways. The fast-growing Digital sector poses significant investment and job creation potential. Progress toward achieving greater digital connectivity within the country and across the region

⁵¹ Uganda UN eGovernment Survey 2018. <https://publicadministration.un.org/egovkb/en-us/Resources/E-Government-Survey-in-Media/ID/1945/Uganda-Improves-in-Government-Online-Service-Delivery-UN-Survey>

⁵² World Bank Enterprise Surveys 2013.

⁵³ Digital Uganda Vision. Draft 1.17. 2019. Ministry of ICT and National Guidance Uganda.

⁵⁴ Boosting Inclusive Growth and Accelerating Poverty Reduction, Uganda Systematic Country Diagnostic, World Bank, 2015.



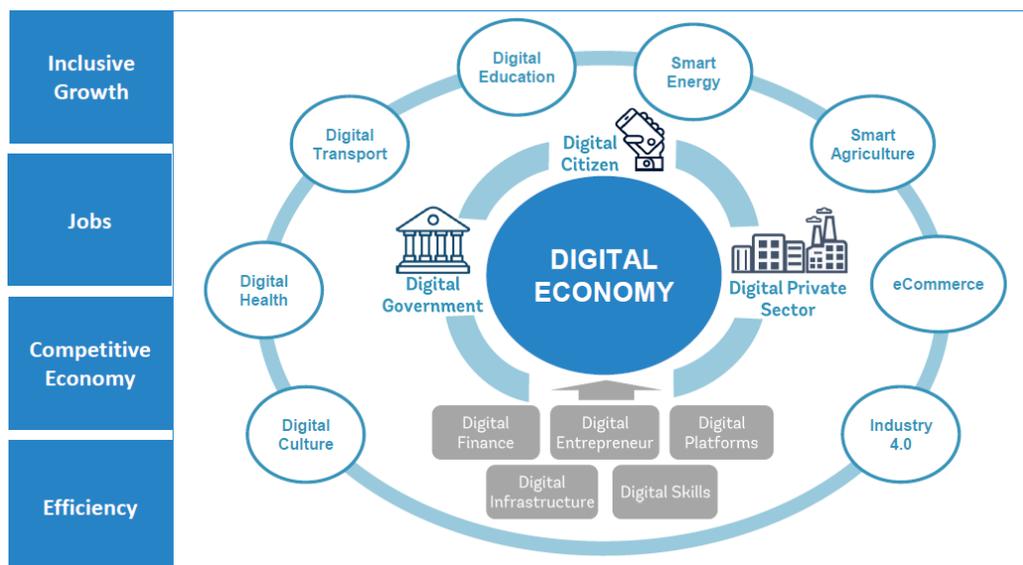
can boost productivity and efficiency gains in a range of sectors, including financial services, agriculture and natural resource management, health and education. Solutions such as mobile banking and payments, digital healthcare, agricultural information services and online learning platforms can greatly enhance public service delivery, particularly in lagging regions.

13. **The proposed project is aligned with Uganda’s current National Development Plan, which outlines objectives that can be promoted by the digital sector.** In its National Development Plan covering FY16-21, Uganda focused on four primary objectives: (i) increasing sustainable production, productivity and value addition in key growth opportunities; (ii) increasing the stock and quality of strategic infrastructure to accelerate the country’s competitiveness; (iii) enhancing human capital development; and (iv) strengthening mechanisms for quality, effective and efficient service delivery. Digital technology can play a key role in catalyzing each of those objectives, from raising agricultural productivity to improving broadband infrastructure, workforce competitiveness and service delivery.
14. **The proposed project is also aligned with preliminary findings of the Performance and Learning Review (PLR) for the Uganda Country Partnership Framework 2016-2021, which indicates the need to continue supporting digital development in Uganda.** The draft PLR notes that beyond the RCIP-5 project, several other World Bank-funded projects rely on digital technology and services such as e-vouchers in agriculture (P145037), digital land and business registration (P130471), and Identification for Development (ID4D) P161458. The ongoing implementation of the national e-Procurement system through RCIP-5 aims to contribute widely to public sector efficiency and transparency.
15. **The proposed project is directly aligned with the Digital Economy Transformation for Africa initiative of the African Union, which aims to have every African individual, business and government digitally enabled by 2030.** This initiative recognizes that digital technologies are impacting all sectors, creating new opportunities and risks (Figure 1). The scale and speed of disruption are affecting traditional sectors by i) changing how we collect, store, access, analyze and present data; ii) improving production techniques to increase efficiency, affordability, and speed; iii) transforming how we interact with the world and deliver/ receive services. Ultimately, this initiative recognizes that the Digital economy can help achieve the UN Sustainable Development Goals (SDGs)⁵⁵ and the World Bank Group’s twin goals.

⁵⁵ Other studies also show a strong link between the digital economy and the SDGs: Accelerating SDGs through ICT 2018 Huawei ICT Sustainable Development Goals Benchmark https://www.huawei.com/minisite/gci/assets/files/Huawei_2018_SDG_report_en.pdf



Figure 1. The Digital Economy Transformation for Africa: A Cross-Sectoral Model for Unlocking New Growth



C. Proposed Development Objective(s)

16. The Project Development Objectives are to expand access to high-speed internet, improve efficiency of digital government services, and strengthen the enabling environment for digital technology adoption.

Key Results (From PCN)

17. The following indicators will be considered for measuring achievement of the PDO

Outcome	Indicator (PDO-level)
Expanding access to high-speed internet	<ul style="list-style-type: none"> Broadband penetration (fixed + mobile) (gender disaggregated) Retail price of internet
Improving efficiency of digital public services	<ul style="list-style-type: none"> % of individuals regularly accessing public services digitally (gender disaggregated) Number of government services available digitally (including monthly average transactions) % of individuals who are able to prove their identity digitally
Strengthening the enabling environment for digital technology adoption	<ul style="list-style-type: none"> Number of individuals trained through digital skills programs (gender disaggregated) Share of government entities using shared service platforms for service delivery Share of businesses interacting with public authorities digitally

Note: the number of project beneficiaries (gender disaggregated) will be incorporated

18. A detailed results framework (including indicator definitions) will be developed during project preparation. A Theory of Change linking the indicators to the proposed project activities will be also developed. Where possible, the



project will ensure continuity with the RCIP-5 results framework indicators for enabling long-term data series on key indicators. Appropriate citizen engagement indicators will be also identified and included.

19. **The project is expected to be fully gender informed.** The Government of Uganda is strongly committed to gender equality, which is rooted in the National Gender Policy of 2010. During the project preparation, a gender analysis will be conducted to assess the gender disparities in internet access and use of digital technology by men and women in Uganda, drawing mostly on existing information sources. The analysis will inform the project design and the results framework. Wherever possible, the results indicators will be gender-disaggregated to enable monitoring and tracking of progress. Specific activities and related indicators will be designed for example to enhance and monitor internet access, access to skills development and use of digital government services by women. The analysis will make use of the World Bank's Digital Gender Toolkit.⁵⁶

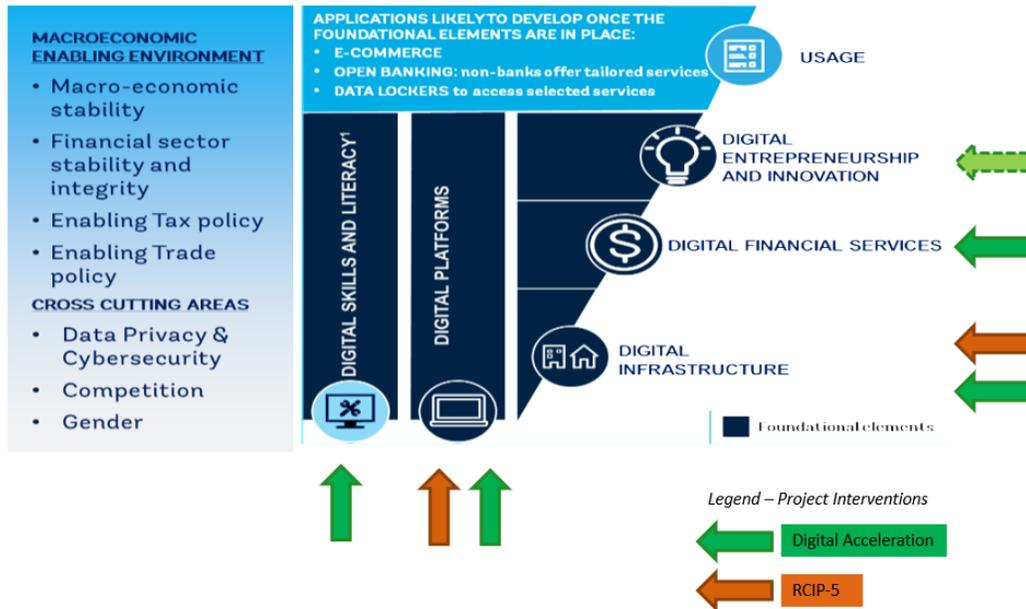
D. Concept Description

20. **The proposed project builds on the foundations being laid down by RCIP-5 and is designed to accelerate digital transformation of Uganda to achieve the aspirations of the Digital Transformation for Africa initiative.** The project will expand access to affordable high-speed internet through a combination of regulatory reforms and investments. It will strengthen public sector data infrastructure and digital platforms for improved service delivery, enabling coordinated roll-out of digital services at scale across key ministries and agencies. It aims to ensure a digitally capable and inclusive Uganda, by enhancing ICT research and innovation, improving digital skills and promoting digital inclusion. The project will finance a coordinated effort to build up the core foundations of the digital economy including digital infrastructure and platforms, digital skills, digital financial services and an enabling environment for digital business and entrepreneurship (Figure 2). A simultaneous effort will be needed to mitigate the growing risks of the digital era including cybersecurity, data privacy and protection and market concentration. The project will be closely aligned with the Digital Uganda Vision, and will involve a larger number of public and private stakeholders than RCIP-5, to encourage the adoption and use of digital technology across the Government and the economy more broadly. It will also aim to work closely with the private sector to build partnerships for developing the digital economy and maximize finance for development. Special attention will be placed on connecting refugee host communities and settlements to the opportunities created by the digital economy.

⁵⁶ <https://digitalgendertoolkit.worldbank.org/>



Figure 2. Expanding project focus from RCIP-5's ICT approach to a comprehensive Digital Transformation approach



21. **The project will fully embed the overall push for improved Regional integration and support the Single Digital Market initiative⁵⁷ in East Africa of the World Bank.** This initiative supports increased cooperation in digital investment, innovation and trade⁵⁸, for example by promoting harmonization of regulations between the Northern Corridor countries of Kenya, Uganda and Rwanda. During project preparation, coordination will take place between similar World Bank projects being prepared in Kenya (P170941) and possibly Rwanda. Advancements in the digital sector of each of the East African Countries including Uganda is expected to create a virtuous cycle that reinforces the development, expansion and integration of the Single Digital Market (Figure 3). An integrated regional market could help to reduce the transmission cost of international connectivity. Increased market competition, as well as cost-savings associated with creating economies of scale would also help facilitate the expansion of digital infrastructure and lower the cost of connectivity services, which can help bridge the ‘digital divide’ across East Africa. The SDM is expected to significantly boost GDP growth and create millions of new jobs across the region that would particularly benefit those at the bottom of the pyramid.⁵⁹ A regional Development Policy Operation (DPO) is being planned by the World Bank to support the implementation of the SDM.

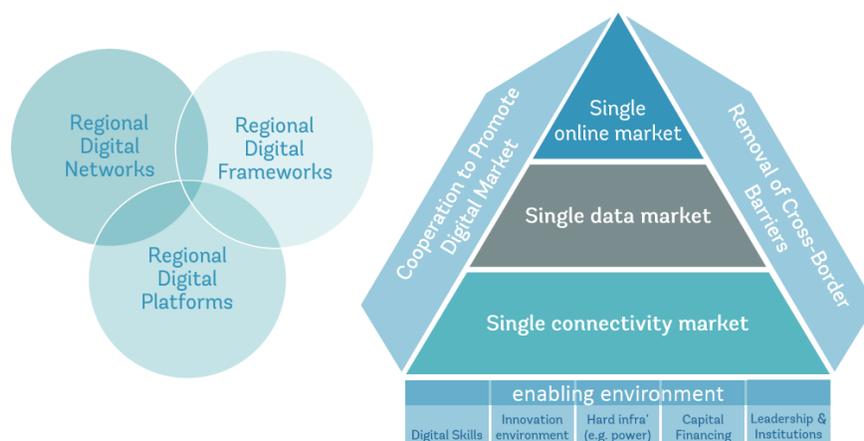
⁵⁷ The East Africa Single Digital Market (SDM) Initiative aims to support the East African Region to become a more deeply integrated and dynamic digital investment, innovation and trade hub - unlocking the growth potential of the East African Digital Economy. The initiative is coordinated by the World Bank with key regional stakeholders.

⁵⁸ World Bank. 2019. *A Single Digital Market for East Africa: Presenting Vision, Strategic Framework, Implementation Roadmap, and Impact Assessment*. <https://hubs.worldbank.org/docs/imagebank/Pages/docProfile.aspx?nodeid=31054656>

⁵⁹ Ibid.



Figure 3. The case for digital integration and cooperation towards a Single Digital Market



1. Description

22. **The project design includes five components, covering policies and regulations, digital connectivity, digital government, digital capabilities, and finally project management.** The project components are:

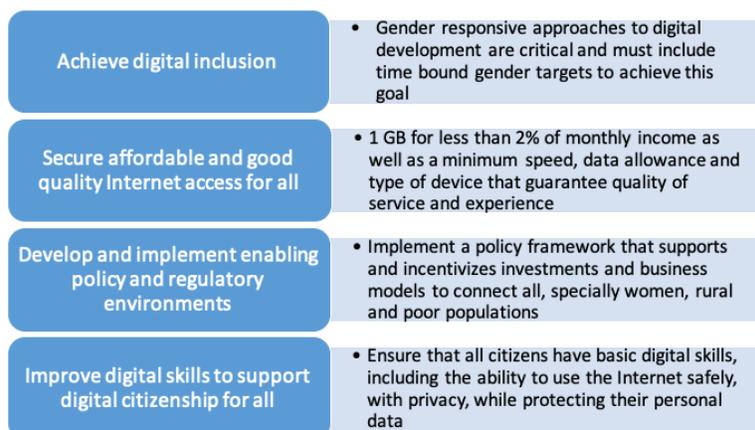
- **Component 1:** Digital Connectivity Outreach (Indicative amount US\$105 million)
- **Component 2:** Digital Government Transformation (Indicative amount US\$60 million)
- **Component 3:** Human capital - Digital Capabilities and Inclusion (Indicative amount US\$30 million)
- **Component 4:** Project Management (Indicative amount US\$5 million)

23. **Components 1 and 3 are directly aligned with the vision for the Digital Infrastructure and the Digital Skills pillars of the Digital Economy for Africa (DE4A) Initiative.** The DE4A initiative aims to make broadband Internet access universal, affordable, of good quality, and safe across Africa. More specifically, it is based on four main elements (Figure 4):

- Achieving digital inclusion, with a focus on gender-responsive digital development aiming to eliminate the digital gender divide;
- Making affordable and good quality Internet access available for all;
- Creating and implementing enabling policy and regulatory environments (including for ensuring safe internet);
- Improving digital skills and digital citizenship for all.



Figure 4. Four Elements for boosting broadband networks infrastructure in Africa



24. **Component 2 will focus on supporting seamless, user-friendly, cost-effective, secure and high-impact transformative e-services, leveraging and building upon the achievements of the RCIP-5 project.** It is aligned to the Digital Platforms pillar of the Digital Transformation Initiative on improving the way governments use platforms to improve service delivery. This component will build on the results achieved under the RCIP-5 project and the Ugandan five-year ICT sector Strategic and Investment Plan (ICT SIP) 2015/16-2019/20, with the intention to i) leverage the e-governments foundations (e.g. datacenters, shared platforms, etc.) established through RCIP-5 to introduce seamless, user-friendly, cost-effective, and secure e-services; ii) scale-up and complement high-impact and successful activities of RCIP-5; and iii) create the on-line trust environment needed to fuel the digital economy.

25. **Gender-specific activities will be defined, using the World Bank’s Digital Gender Toolkit⁶⁰ and the resources of the Gender Lab.** Possible activities include for instance the implementation of training and capacity development programs specifically targeted at women and girls; Digital ID enrollment programs designed to specifically target women; the creation of employment or economic opportunities with a focus on women (in the areas such as e-commerce, digitalization of government records and archives, etc.); the facilitation of virtual job opportunities for girls and mothers who stay at home with their children, etc.

Component 1: Digital Connectivity Outreach (Indicative amount US\$105 million)

26. **This component will contribute to promoting universal access to high-speed, affordable internet in Uganda under a ‘Maximizing Finance for Development’ (MFD) approach.** Building on the work carried out in RCIP-5, this component will continue to focus on improving government connectivity, procuring bulk of internet bandwidth, expanding the National Backbone Infrastructure and connecting government facilities (MDAs, municipal councils, schools, health centers, hospitals) across the country, especially in underserved areas. The investments made in the publicly-owned backbone infrastructure will be designed with the intention to promote further private sector investments in digital communications infrastructure and services. They will also target areas where commercial viability of equivalent private investments is low. It

⁶⁰ <https://digitalgendertoolkit.worldbank.org/>



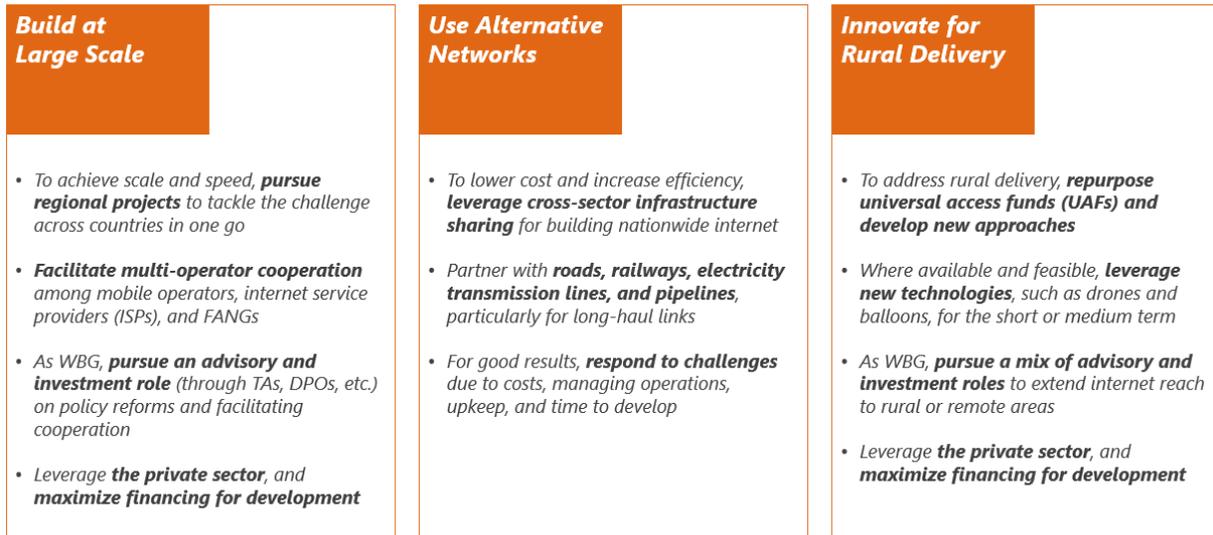
will lay the ground for closing the digital divide in Uganda along lines of geography, income, age and gender, to support Uganda to reach the goals of the *Digital Transformation for Africa* in doubling broadband connectivity in the short-term and enabling universal, affordable and good quality broadband access by 2030, and facilitate the exploitation of the development priorities as provided in section 12.4.2 of the NDPII. It will also create a larger market of online consumers and digital producers needed to attract investment and to promote development of digital infrastructure, and regionally relevant content and services.

27. **Currently, the National Backbone Infrastructure (NBI) extends to 39 districts (out of 127 in total), and with RCIP-5 support, 10 more districts are expected to be reached.** RCIP-5 will also connect 1,100 more government sites to the NBI, adding on the existing 429 connected entities. The Government of Uganda has developed a comprehensive investment plan for the digital sector called “IT Shared Platform (GOVNET)” requiring around US\$300 million over 5 years. This plan includes building 3,711 additional kilometers of fiber-optic cable to expand the NBI and connecting 5,082 additional sites to the NBI (See Annex 2). Overall, it has identified 20,902 sites that should be connected over the next ten years. During project preparation, these plans will be evaluated for making a well-grounded decision on what parts will qualify to be included in the project.
28. **Careful consideration will be placed on assessing the need for public infrastructure investments against options of incentivizing more private infrastructure investment in Uganda, for both fiber optic backbone and last mile access. Cross-sectoral infrastructure sharing will be promoted.** Ongoing work for mapping Uganda’s broadband infrastructure carried out under RCIP-5 alongside other assessments conducted as part of recent or ongoing World Bank-financed projects in the Digital sector in Uganda will be used to inform approaches and priorities. The project will follow the strategic framework designed for similar projects in Africa (as illustrated in Figure 5 below), and take stock of recommendations developed in the 2018 World Bank study “Innovative Business Models for Expanding Fiber-Optic Networks and Closing the Access Gaps.”⁶¹

⁶¹ Innovative Business Models for Expanding Fiber-Optic Networks and Closing the Access Gaps, World Bank Group, 2018. <http://documents.worldbank.org/curated/en/674601544534500678/Innovative-Business-Models-for-Expanding-Fiber-Optic-Networks-and-Closing-the-Access-Gaps>



Figure 5. Holistic approach to bringing internet to all people, optimized for speedy delivery



29. This component will also provide support to the Government of Uganda for developing adapted policies, regulations and guidelines to improve competition, encourage investment and foster innovation. As outlined in Section B. above, the Government of Uganda has in recent years embarked on several legislative and regulatory reforms in the telecommunications sector (see Annex 4) that will also require specific support to produce positive market outcomes. This effort will be led by the Ministry of ICT and National Guidance and the sectoral regulator (Uganda Communications Commission – UCC). Consultations with the private sector and civil society will be held in order to identify priorities for reform and to maximize crowding in private sector support alongside the Government’s efforts to improve the regulatory environment. This sub-component will rely on the conclusions and recommendations of the comprehensive *Gap analysis of the Policy, Legal and Regulatory Framework for Uganda’s Information and Communications Technology Sector*, finalized in January 2019.

30. Specific subcomponents and activities considered under this component include the following:

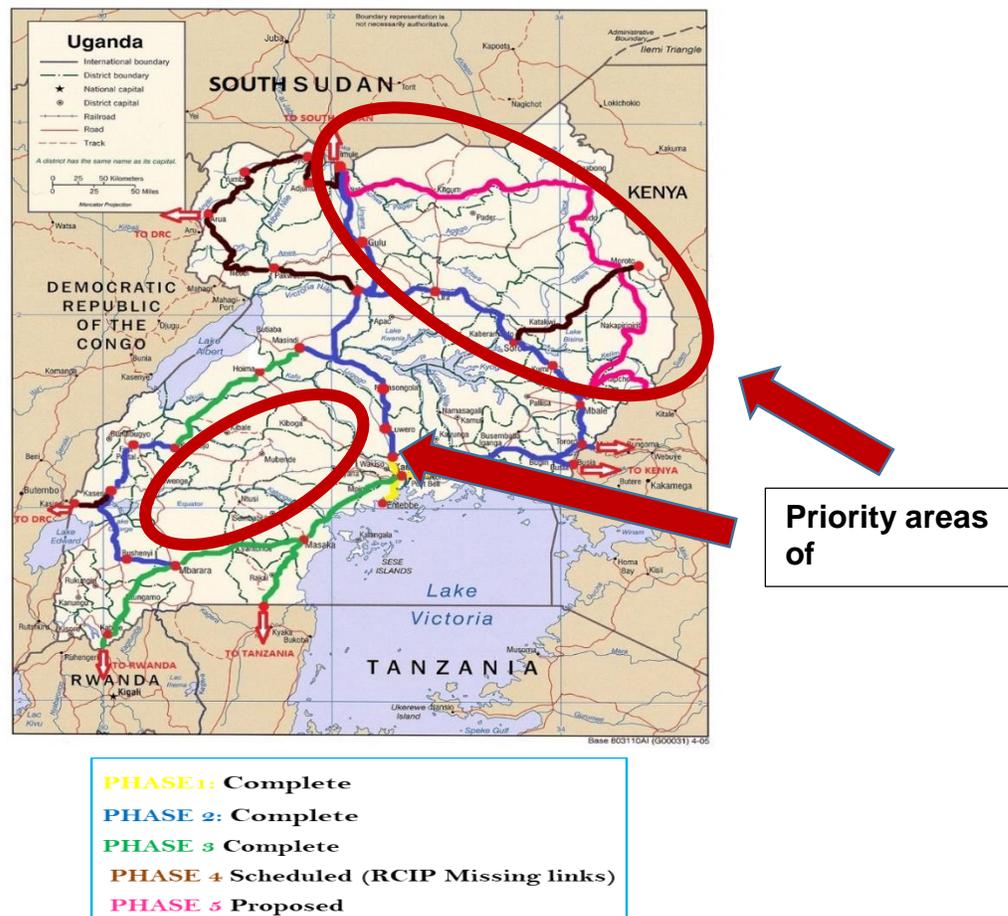
Subcomponent 1.1: Expanding public investments in the National Backbone Infrastructure

- Expanding the National Backbone Infrastructure with additional fiber optic network links (between cities) and “last mile” access (i.e. connecting key premises/sites to the network, such as Government Administrative units and service centers, Industrial zones and Parks, National parks, cultural tourism sites), including transmission sites and infrastructure. The plan would be based on evaluating the plans developed by NITA-U for selective support. Priority additional links are highlighted in Figure 6, and the comprehensive planned network is shown in Annex 2. Public-private partnership arrangements will also be explored, though it is expected that the main vehicle for attracting private investment will be the pre-purchase of internet bandwidth by government, designed such that it provides multiple cross-border connectivity alternatives, fills the gaps in domestic backbone development and last mile connectivity, and capitalizes on economies of scale to significantly lower the unit connectivity costs to meet the aggregate demand of public and private institutions.



- Continuing and/or expanding bulk purchase of internet bandwidth by the Government of Uganda for public institutions to meet the growing needs of the institutions. Due to the Government’s sizeable role on the market and the large volume of data purchased, the method of bulk procurement can drive down data costs in Uganda overall (the experience of RCIP-5 strongly supports this causality). Increasing the overall volume of bandwidth consumed in Uganda creates incentives for further private sector investment, upgrades and unit cost reductions in the consumer market.
- Purchasing or subsidizing equipment costs for government facilities for local area networks, terminal devices, computers etc. to facilitate utilization of e-services in Government Administrative units and service centers.
- Undertaking an e-waste assessment, and if relevant, contributing to the set-up/strengthening of regional e-waste collection centers in the country, in partnership with the private sector

Figure 6. Existing and Planned National Backbone Infrastructure in Uganda



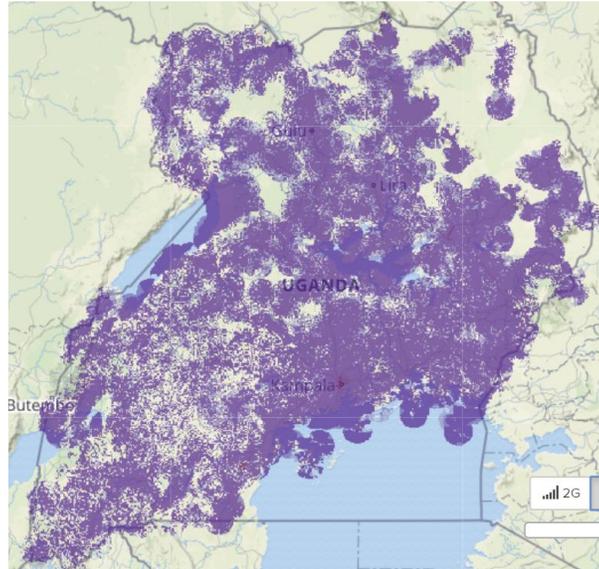
Subcomponent 1.2: Applying new approaches for rural connectivity

- To address connectivity in very remote and financially unviable areas (e.g. poorest and less dense regions) not within vicinity of the NBI or other networks (Figure 7), new business models (e.g. wholesale passive and/or active infrastructure, etc.) and new technologies (wifi, satellite, balloons, TV White space, dynamic spectrum allocation, etc. per Figure 8) will be explored, in partnership with the private sector



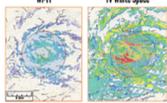
(see Annex 3). Universal access funds available through the Rural Communications Development Fund (RCDF) could possibly be repurposed for this. The mobilization of private sector investment could be made on the basis of competitive tenders to increase the accessibility, quality and affordability of Internet services.

Figure 7: Mobile telecommunications coverage maps (3G)



Source: GSMA

Figure 8. New players, technologies, and business models to crack the internet challenge

FANGs bare	Drones & Balloons	Satellites	TV White Space	New Business Models
 <ul style="list-style-type: none"> Industry structure of internet / telecom is evolving Mobile operators are suffering due to declining revenue & market share FANGs (Facebook, Amazon, Netflix, and Google) contend as users and operators 	 <ul style="list-style-type: none"> Facebook & Google are piloting high-tech drones and balloons The solutions are lower-speed for short / medium term They help peri-urban and rural areas A commercial model at scale is yet to develop 	 <ul style="list-style-type: none"> New satellite solutions (LEO/HTS) are emerging (e.g. OneWeb) The solutions offer potential for higher quality and lower cost A commercial model at scale is yet to develop 	 <ul style="list-style-type: none"> TV white space uses unlicensed wireless spectrum for internet Microsoft is piloting in Peru The solutions offer a lower-speed solution for short term A commercial model at scale is yet to develop 	 <ul style="list-style-type: none"> New public / private business models are being explored Government may play an active or passive role Private firms may serve as partners, co-financiers, or operators

Subcomponent 1.3: Digital inclusion, especially for host communities and refugees

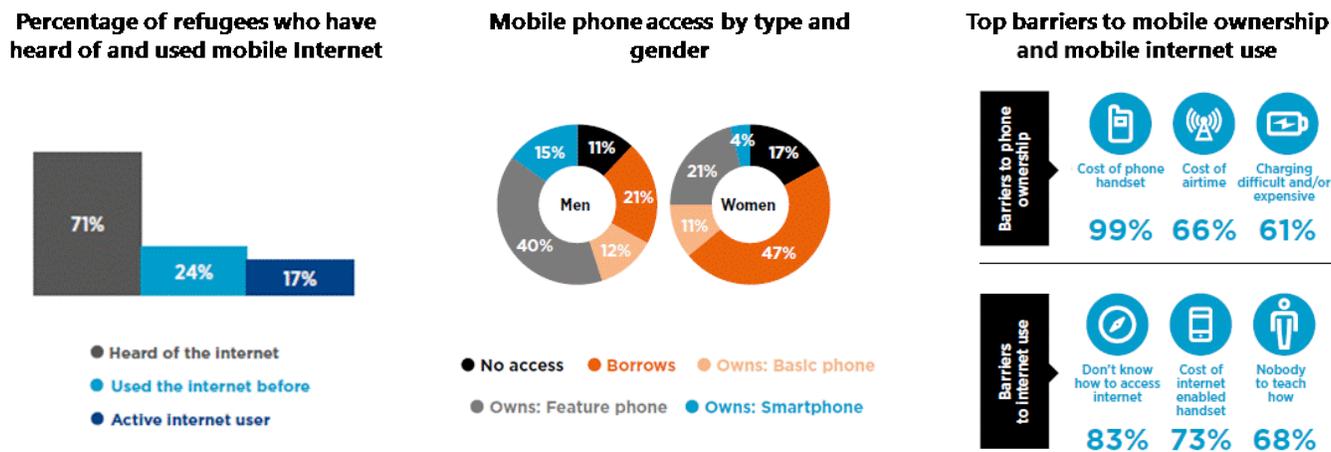
- Development and deployment of digital solutions to facilitate hosting communities in their interactions and integration efforts of refugees including for instance the establishment of local networks with hotspots and integrated digital datacenters, pre-purchasing internet bandwidth, providing subsidies for user’s equipment and installing community power charging stations. These solutions will cater for the



current hurdles faced by host communities and refugees in Uganda. Figure 9 summarizes key results of a survey conducted in the Bidi Bidi refugee settlement between October 2018 and January 2019.

- Deployment of “containerized” schoolroom/community access centers, that can be transported into an area for quick set up. These centers typically have their own power source, satellite internet connection, ruggedized computer terminals/tablets, etc.
- Specific assistance to promote the adoption/take-up of digital services highly-valued by host communities and refugees. Studies will be undertaken to i) understand the role of mobile money in promoting resilience and the gaps for wide adoption and ii) understand the shortcomings in SIM card registration procedures.⁶² Adequate solutions to the identified problems will be sought to contribute to a greater inclusion of refugees within host communities.
- Development and deployment of innovative digital solutions to ease communication, interaction, and access to and sharing of information for persons with disabilities.

Figure 9. Survey of digital use of refugees of the Bidi Bidi camp



Source: GSMA, *The digital lives of refugees: How displaced populations use mobile phones and what gets in the way, 2019*

Subcomponent 1.4: Enabling environment for the digital connectivity

- Supporting the set-up and resourcing of the Digital Uganda Vehicle – a specialized technical team tasked with overseeing the implementation of the Digital Uganda Vision. The Vehicle will provide strategic support for MDAs to develop sectoral digital strategies, promote best practices within government institutions and build partnerships with the private sector.
- Supporting implementation of telecommunications regulations related to the Communications Amendment Act of 2016, to ensure a conducive enabling environment for growing private sector investment and optimal market outcomes for consumers in terms of improved access and affordable data prices. Regulations should reduce costs and burdens of digital infrastructure deployment and improve affordability of digital services for consumers.

⁶² As documentation requirements for SIM card registration increase, these have a negative impact on those who are undocumented, sometimes depriving them of (legal) access to mobile communications, and mobile money.



- Supporting the Ministry of ICT and National Guidance, the Uganda Communications Commission and NITA-U in implementing the National Broadband Policy of 2018, to ensure Uganda is on the path to reaching universal internet access by 2030.
- Supporting the national implementation of the Single Digital Market Initiative in East Africa, to promote harmonization for increased digital cooperation and market access across the domains of a) single connectivity market, b) single data market, c) single on-line market and d) enabling regional environment.

Component 2: Digital Government Transformation (Indicative amount US\$60 million)

31. This component aims at leveraging improved connectivity and digital platforms towards a "digital first" government in Uganda by continuing, scaling up and improving work currently carried out through RCIP-5. To support seamless, user-friendly, cost-effective, and secure interactions, digital public platforms require digitalized systems and processes, shared and interoperable resources including data, interfaces for internal and external users, and online trust. The Component will support further development of government data infrastructure and interoperability to enable secure and seamless data sharing and encourage innovation in service delivery. The component will support the Government's efforts to strengthen the efficiency in delivery of public services, specifically objective No.2 of the NDP II, which aims to enhance the usage and application of digital services in business and service delivery across Government (see Annex 5). The goal is to transform the way people, governments, businesses, and civil society interact with each other, by supporting transactions and marketplaces that are on-demand, paperless, and cashless, and available through the internet from anywhere in the world.

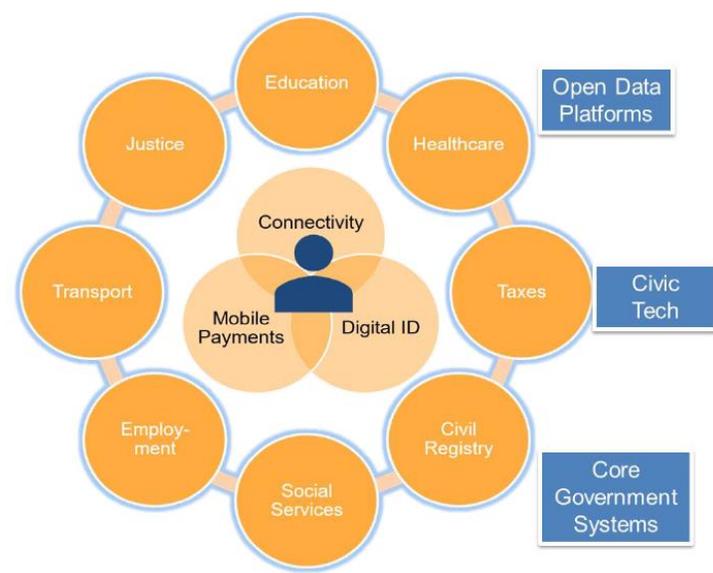
32. The component will have a significant focus on online trust, cyber-security and digital ID systems. The Digital Vision sets out an ambitious framework for accelerating Uganda's digital transformation but requires new capabilities and mechanisms to be realized. For example, the new Data Protection Act of 2019 will require attention as a key legislative measure for building trust among the government, businesses and citizens in the digital economy. New initiatives around leveraging the "*fourth industrial revolution*", which consists of new emerging technologies such as artificial intelligence, big data and internet of things, while managing its associated risks in Uganda also require support. This component will also fully integrate policies, regulations and mechanisms related to cybersecurity and digital privacy.⁶³ Finally, with the emergence of the digital economy, traditional paper-based civil registration and national ID systems are increasingly giving way to interoperable digital identity management systems with electronic signature and other trust service capabilities. Given the fundamental need for secure and accurate online identification and authentication, digital ID and other trust services—such as e-signatures—form part of the core foundation or a "stack" needed for successful digital economies. When enabled by digital infrastructure

⁶³ According to the 2017/2018 NITA-U Survey, only 19% of Internet users consider themselves to be at any risk and only 18.5% of Internet users are aware of any Ugandan laws governing electronic communications and transactions while many individuals have been victims of cybercrimes over the previous 12 months. Among Internet users, only 20.1% are aware that they can report cybercrimes to law enforcement and other agencies under the Computer Misuse Act 2011 while only 3% have ever reported such cybercrimes committed against them to anyone, making their recurrence more likely.
<https://www.nita.go.ug/sites/default/files/publications/National%20IT%20Survey%20April%2010th.pdf>



that brings people and organizations online, digital ID and trust services can be leveraged by government and commercial platforms to facilitate a variety of digital transactions, including digital payments (Figure 10). Combined with digital certificate services (e.g. public-key infrastructure or PKI), they are also the basis for e-signatures, which enable knowledge, approval, acceptance, or obligation to be indicated without physical presence.

Figure 10. Citizen-centric, accessible and transparent digital government services



Source: World Bank

33. **Uganda has made significant progress in putting in place selected shared digital government platforms and services.** Currently, 71% of Ugandan MDAs use automated systems⁶⁴, but coordination, interoperability and capacity remain problematic. There are also large disparities between different government sectors. The Government, through NITA-U, has adopted a more integrated approach to developing digital government in Uganda. By the end of RCIP Uganda, the following would be in place: (1) Interoperability platform designed to enhance information sharing among Government Agencies, (2) e-payment gateway to provide seamless modes of payment/transactions in order to promote e-commerce and financial inclusion, (3) the ability to provide digital authentication and e-signature capability for making sure transactions are reliable and traceable, (4) Unified Messaging and Communications System (UMCS) to standardize email and collaboration across the government and (5) Consolidation and provision of software licenses for Government for ease of acquisition monitoring and update management among others, (6) enhanced cybersecurity through the implementation of intelligence monitoring solution to maintain responsive situational awareness for cyber threats. Existing core government information systems in Uganda also include the Integrated Financial Management System (IFMS), Human Capital Management System (HCM), Electronic Procurement (e-GP), and Online Performance Information Monitoring system (OPIMS), and specific systems for prosecution and court case information management. Most of these have

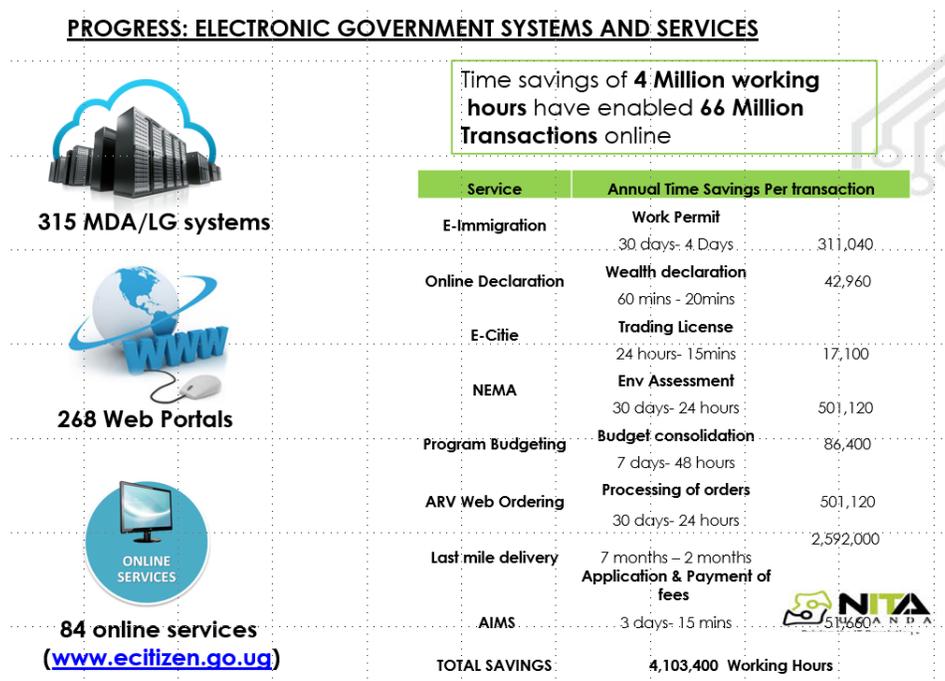
⁶⁴ Digital Uganda Vision Document 2019.



been rolled out on a limited scale and therefore scaling their use to all government entities requires additional efforts.

34. **Altogether the government introduced over 80 citizen-facing digital services, many of them are not fully transactional and require in-person interactions to complete a transaction.** These have been partially supported by RCIP-5, with progress to date summarized in Figure 11. The component will continue to fund the development and roll-out of innovative, accessible and secure e-services at scale in priority sectors such as education, health, agriculture and trade (ensuring that necessary government facilities are connected by Component 1). Partnerships will be developed with the private sector, technology hubs or other development partners such as UN agencies to promote innovation in digital service delivery. Similar initiatives can be launched in other identified sectors with NITA-U in a key coordinating role.

Figure 11. NITA-U progress on e-Government services



Source: NITA-U

35. **Uganda currently has a central government data center in Kampala and a disaster recovery site in Jinja.** The government has developed initial plans for establishing a third data center that would provide redundancy to the current primary Data Centre. These plans will be assessed as part of the project preparation for possible support while also considering other options such as leasing capacity from the private sector.

36. **Specific subcomponents and activities under this component might include the following:**

Subcomponent 2.1: Strengthening shared government platforms for scaled-up e-services



- Continuing to build and strengthen the shared back-end digital government infrastructure, integration, interoperability and shared service delivery platforms, including rolling out of their use across the government in a coordinated manner to avoid stand-alone systems. These activities will largely be based on existing Government plans developed by NITA-U.
- Rolling-out the national e-Payment gateway to enable digital payments made to the Government, and for paying suppliers to promote e-commerce and financial inclusion.
- Possible support for building up the Government's data center capacity, through expanding the Government's own facilities⁶⁵ or leasing capacity from private sector operators in a secure manner to promote cost-efficiency and the development of commercial data centers as part of the overall digital services ecosystem in Uganda.
- Continued support for migration of critical government registries, applications and services from dedicated servers to the cloud with regional and global cooperation for data backup and business continuity.

Sub-component 2.2. Creation of on-line trust and security for the digital economy

- Financing the scale up of digital authentication mechanisms and e-signature capability (including via mobile) at the national level and development of technical architecture to promote the widespread adoption and use of digital identity credentials.
- Development of interoperability of information systems and trust frameworks needed for mutual recognition of national identification systems and authentication services across the region to enable seamless movement of people, services and goods across the region.
- Possible development of national Public Key Infrastructure (PKI)⁶⁶ in Uganda to enable a long-term technical solution for secure and trusted transactions across different government services.
- Supporting the implementation of the Data Protection Act of 2019 and related national regulations and guidelines to ensure that Uganda can leverage the potential of data-driven development, while putting in place necessary means for protecting personal data and privacy. Establishment of the national Data Protection Office could also be supported.
- Supporting the implementation of the National Information Security Framework to improve cybersecurity, including updating strategy, developing guidelines, increasing awareness and training, upgrading technology, improving certification, and strengthening CERTs.
- Ensuring that Uganda can put in place the right policies, regulations, incentives and partnerships to leverage the fourth industrial revolution and promote the adoption of data-driven technologies such as artificial intelligence within the government and in key sectors of the economy, while managing associated risks.
- Improving technical means for data sharing across the government and between government and the private sector, to enable data-driven service development.

Subcomponent 2.3: Promoting innovation in service delivery

⁶⁵ An assessment will be performed during appraisal to identify the relevance of setting-up a third National Data Centre to provide redundancy to the existing Primary National Data Centre and the Disaster Recovery site

⁶⁶ Public key infrastructure (PKI) is a set of roles, policies, and procedures needed to create, manage, distribute, use, store and revoke digital certificates and manage public-key encryption.



- Leveraging the shared service delivery platforms to support the development and roll-out of citizen- and business-facing services in identified priority sectors. Early progress has been made under RCIP-5, but significant efforts are needed to work across key MDAs to develop high-quality, accessible and citizen-centric services based on shared delivery platforms and standards, based on the Government Enterprise Architecture/Interoperability Framework developed under RCIP5. Results from RCIP-5 will be considered to identify large scale, high-impact e-Government services that can attract a large number of users and yield concrete and transformative impacts, such as boosting productivity and significantly improving service delivery. Provisional priority sectors for this subcomponent include health, education, agriculture and trade.
- Developing innovative partnerships with the private sector, development partners, technology hubs and universities to promote innovation in digital government services, for example by utilizing open data and data analytics, possibly strengthening the national open data program. Uganda currently hosts at least 10 technology hubs⁶⁷ and strengthening local innovation expertise can be leveraged for public service development.
- Developing guidelines, technical and design standards for citizen-centric digital government services, including related capacity-building, training and dissemination.
- Organizing capacity-building, training and awareness campaigns for government agencies and end-users, to promote digitalization and service take-up

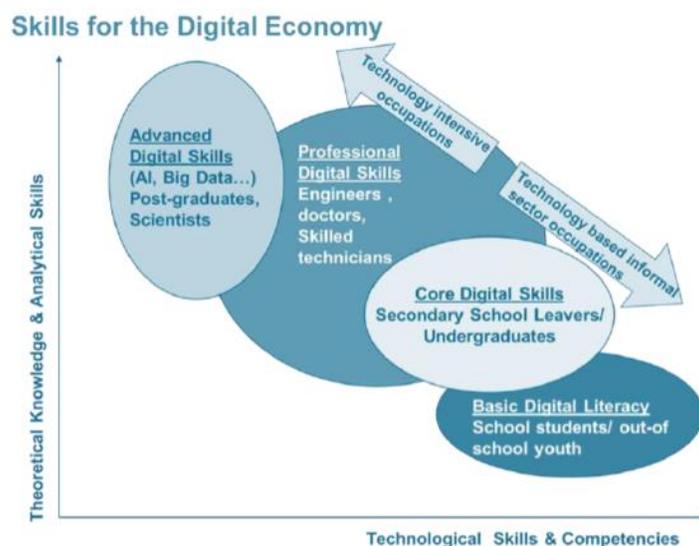
Component 3: Human Capital - Digital capabilities and Inclusion (indicative amount US\$30 million)

37. **The aim of this component is to ensure a digitally capable and inclusive Uganda, by investing in digital skills development and programs for digital inclusion.** This component will support the objectives of the Digital Uganda Vision by developing demand for connectivity and services, i.e. making sure that the population of Uganda can become active users of digital government services and creators of local content and solutions. Specifically, it will deliver targeted support for the pillars 4. *Digital Inclusion and Empowerment* and 5. *Content Development, Innovations and Product Development* of the Vision. Special attention will be paid to women/girls as well as marginalized groups such as the elderly, disabled and refugees to avoid perpetuating existing inequalities by the increased adoption and use of digital technology, and to provide more equal access to digital opportunities. Questions such as illiteracy will be considered and targeted. The approach will be focused on building targeted interventions and services that can be scaled up. These can include specific measures for building digital skills (Figure 12), ensuring accessibility of government services, improving financial inclusion, improving capacity of key institutions and building partnerships for capacity development.

⁶⁷ GSMA, 2019. <https://www.gsma.com/mobilefordevelopment/blog/618-active-tech-hubs-the-backbone-of-africas-tech-ecosystem/>



Figure 12. Building digital skills for the digital economy



38. The component will include a sub-component focusing on high-end skills development (building on the ICT Functions and Skills gap study conducted under RCIP-5), through promoting advanced digital and technical skills in Uganda’s higher education institutions. This sub-component targets building competence in emerging technology fields related to the fourth industrial revolution such as artificial intelligence and data science. It will also put in place programs to ensure the development of appropriate leadership skills in the public sector, to lead Uganda’s digital transformation. This sub-component will follow a regional approach whenever possible, in close collaboration with comparable initiatives in Rwanda and Kenya, with the northern corridor countries focusing on unique specialties and facilitating access to centers of excellence for students around the region.

39. Specific subcomponents and activities under this component may include the following:

Subcomponent 3.1: Promoting inclusion, citizen engagement and participation in the digital economy

- Improving the understanding and knowledge of digital inclusion in Uganda, through studies or analytical work focusing on defining dimensions, improving data, understanding barriers and bottlenecks to internet access as well as obstacles to providing services digitally.
- Improving accessibility of digital government services by putting in place the necessary design and technical guidelines and promoting new solutions for delivering services and financial inclusion for all. Facilitating delivery of digital services at the local level through expanding physical support and training at shared service centers or similar models could be supported.
- Establishing partnerships with the private sector to encourage the development of new rapid digital skills programs, new curricula, resource-sharing etc. as well as mechanisms for matching talent and digital job opportunities.
- Delivering skills and training programs targeting the general population, with a special focus on women/girls as well as marginalized groups or areas such as refugee host communities. These programs should build entry-level user skills and promote the use of digital government services, cybersecurity awareness, and financial inclusion.



- Supporting public awareness on digital transformation (strategic communications) and citizen engagement mechanisms, with the organization of knowledge-sharing seminars, workshops, conferences, and a variety of citizen outreach activities. Feedback from actual and potential users of digital services will be regularly collected, in particular on perceived barriers towards using e-services including the ease of access to e-services, clarity of instructions, and the speed, quality and reliability of e-service delivery.

Subcomponent 3.2: Improving high-end digital skills

- Improving leadership capabilities in the public sector to deepen the understanding of emerging technologies, enable the development of the digital ecosystem in Uganda and promote inclusive digital transformation.
- Conducting studies on the current level of development of the digital entrepreneurship ecosystem and the effectiveness of policy instruments and institutions in addressing gaps and weaknesses.
- Building programs and partnerships for high-end skills development in selected technical fields such as data science or artificial intelligence, to improve research and innovation capabilities and match industry needs. Such programs may include academia-industry partnerships, improving research funding mechanisms, and introducing new (national or regional) Master programs and international PhD scholarships.
- Developing and operationalizing new Centers of Excellence (for example on a regional basis with Kenya and Rwanda) to promote digital research and innovation, adoption of emerging technologies and development of digital solutions for the region.
- Incentivizing innovation and job creation by supporting the organization of innovation contests and hackathons. The participation of women in these activities will be particularly encouraged and outcomes monitored will include the improved digital skills of beneficiaries. These activities can be connected with Component 2 with respect to supporting innovation in public service delivery.

Component 4: Project Management (Indicative amount US\$5 million)

40. **This component will finance project management and coordination, including procurement, financial management, monitoring & evaluation and environmental and social safeguards management.** This will include funding consultancy support for the implementation of the project, institutional strengthening of the implementing agencies Ministry of ICT and National Guidance and NITA-U. If necessary, this component will also fund technical assistance (TA) to support monitoring and evaluation (M&E) and accounting. Finally, the Government will fund the implementation of the Resettlement Action Plans under this component.

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts



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