



MINISTRY OF ICT AND
NATIONAL GUIDANCE

REPUBLIC OF UGANDA

E-Application Development Workshop- Addis Ababa

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Presentation Outline

- ✿ Governance and Institutional Framework
- ✿ Enabling Environment
 - ✿ ICT utilization in Uganda
 - ✿ ICT Innovation support (e-Application)
 - ✿ Challenges
 - ✿ Current State
 - ✿ 4IR presence (e-Application)
 - ✿ Government Interventions



Ministry of ICT and National Guidance

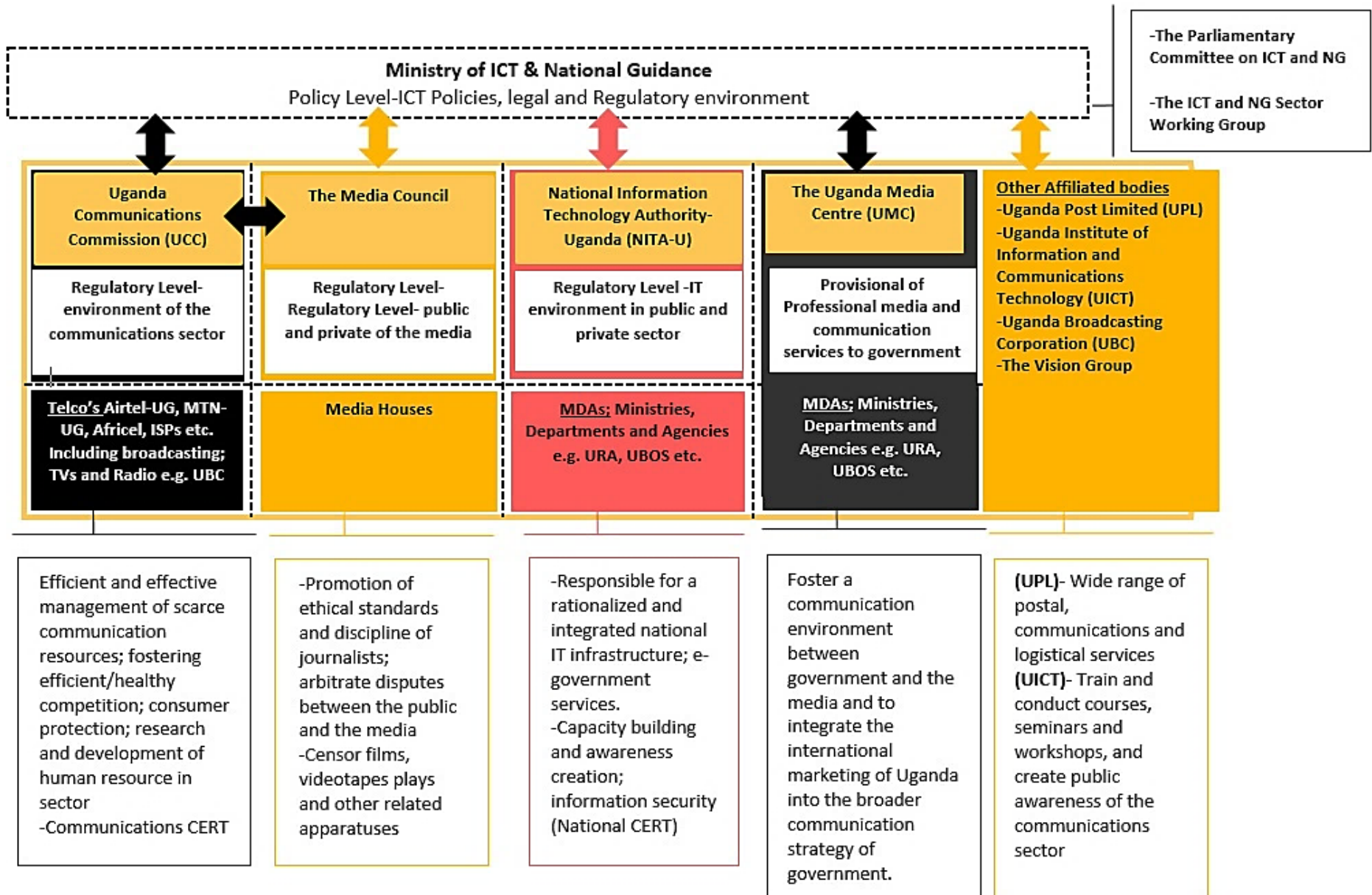
Mandate

To provide strategic leadership and supervision in ICT, Information and National Guidance for sustainable development.

Mission

To increase access and usage of ICT Infrastructure and services throughout the country, ensure effective communication of government policies and programs and promotion of a national ideology for socio-economic transformation.

Governance and Institutional Framework



Enabling Environment

Infrastructure

- ❖ National Backbone Fiber
- ❖ Wireless Coverage
- ❖ Data Centre & Disaster Recovery Site
- ❖ Transmission Sites

Enabling Environment

- ❖ Laws & Regulations
- ❖ Guidelines & Standards
- ❖ Policies
- ❖ Compliance & Certification



Capacity Building

- ❖ Information Access Centre
- ❖ Project management
- ❖ Training and awareness
- ❖ IT Advisory Services
- ❖ Business Process Outsourcing

Automation

- ❖ Business/Systems Analysis
- ❖ Gov't Applications / Systems
- ❖ Online E-Services
- ❖ Web Portals developed
- ❖ www.ecitizen.go.ug
- ❖ Research & Development/Innovations Support (NIISP)

Information Security

- ❖ Information security framework
- ❖ Audits and Compliance
- ❖ Monitoring and Incident Management
- ❖ National security coordination (CERT)
- ❖ Digital Forensics

ICT utilization in Uganda



24.9 Mobile Users (Mil),
18.8 Internet Users (Mil)



18 ICT Policies,



2.430 (Km)
Optical Fibre,



284 free public hot spots,



315 Gov't App and Systems ,



427 connected MDA



97 Online Gov't Services



288 Web portals



\$70 Cost of
Internet Per MBps

ICT Innovation support (e-Application)

NIISP-National ICT Initiatives Support Program

Supports ICT initiatives including the establishment and equipping of ICT parks, incubation hubs and Local innovators.

Overall goal

- To facilitate the creation of an ICT Innovation ecosystem
- Marketplace for Ugandan innovative digital products. (productive and competitive)

NIISP primarily aims at facilitating growth and development of the software applications and innovations industry.

Specific goals of NIISP

- Promote innovation ...Use of Government data to ICT Innovate and creation of applications for Service Delivery;
- Create highly skilled jobs and wealth for the small companies that develop applications using either Government data or other information in the emerging ecosystem.

Target of NIISP

To spur innovation for purposes of creating employment and contributing to the reduction of net importation of ICT Products and services into the country.

NIISP web portal: <https://niisp.ict.go.ug>

PROMOTING LOCAL ELECTRONIC MANUFACTURING AND ASSEMBLY

Promotion of assembly and manufacturing of locally developed consumer electronics.

Overall goal of the ICT/electronics manufacturing intervention is to promote the development of local electronics industry in Uganda, with linkages to the ICT innovation eco-system.

Support of the BUBU (**Buy Uganda Build Uganda**) Policy in the ICT Sector. Sectors targeted health, security, education, agriculture, tourism, finance, public service, energy and other sectors



Establishment of Innovation Committees

- Project implementation committee
- Selection committee
- Construction and Supervision committee –ICT Park



NIISP-Innovation Fund support

- 2017 -Three hundred and fifty (350) proposals were received. **10 innovations funded and supported,**
- 2019 – 391 successful proposals -**60 winning innovators** awarded grants up to a total of 100 million UGX (Approx 27,000 USD) per innovator to mature their products, build enterprises and penetrate the market.
- ICT innovation hub in final stages and plan to have regional innovation hubs in the country

Eligibility



Individual

Individuals are encouraged to apply if they are Ugandan. Applicants can submit innovations from any public sector in Uganda including health, agriculture, education etc



Group

You can apply collectively as a group and be considered as one entity. When applying as a group make sure at least one of the members is a Ugandan citizen



Company

Any Ugandan company can apply, but before beginning the application process, you should make sure your company is fully licenced to operate in Uganda

Where are we now? - Existing Laws & Policies

National Information Technology Authority, Uganda Act, 2009
Computer Misuse Act, 2011
Electronic Transactions Act, 2011
Electronics Signatures Act, 2013
Uganda Communications Act, 2013
Data Protection and Privacy Act, 2019

Policies

- ❖ E-Government Framework Policy, 2010
- ❖ National ICT policy, 2014
- ❖ National Broadband Policy, 2014
- ❖ National Broadcasting Policy, 2014
- ❖ Information Technology Policy, 2012
- ❖ E-Waste Management Policy, 2011
- ❖ Telecom Policy, 2011
- ❖ National intellectual property policy, 2011



Promote innovation in economic and social systems;



Expand ICT infrastructure and its integration; and



Improve ICT governance and environment in Uganda.

Draft Open Data Policy

Draft ICT with Disability Policy

Where are we now?

Strategies

- ❖ BPO Strategy and Model for Uganda
- ❖ National Information Security Strategy
- ❖ Digital Broadcasting Migration Strategy
- ❖ Broadband Infrastructure strategy

Regulations and Frameworks

- E-Transactions Regulations,2013
- E-Signatures Regulations, 2013
- E-Government Regulations, 2015
- National IT Policy Framework 2003
- National IT Standards
- MDA IT related Standards
- National Information Security Framework

Challenges

- No Policy direction for the innovation
- Heterogeneous implementing organizations and funders
- Low utilization and consumption of the locally developed e-applications / products and goods/services
- Silo Operations, Data protectionism (vendors & Dep'ts units)
- Limited international partnerships with government- (MoU Microsoft signed) etc
- Limited Funding and often driven by Private Sector & tech innovators
- Limited data exchange & sharing policies/local content (digital content)
- Limited resources to help young innovators develop their ideas- (Need to have ICT Park(Hubs) ICT infrastructure, reduce high cost of internet (Accessible and Affordable)- Information Access Center creation)
- Limited commercial orientation for exploitation of the various ICT innovations.

Current State

CURRENT STATE: Analysing data for Decision Making.

① Identify Data Source Manually



⑤ Insights Creation



⑥ Retype insight into Doc



CNN International

1 hr • 🌐

The top European court has ruled Facebook and other internet companies can be forced to remove certain content worldwide.

If a European court orders a company to take down content, that company must remove it everywhere it appears. The decision poses huge potential problems for internet companies, and cannot be appealed.



CNN.COM

A court ordered Facebook to take down a post. The decision could affect social media aroun...



Data Manually



Decisions



THE FOURTH INDUSTRIAL REVOLUTION

THE FOURTH INDUSTRIAL REVOLUTION

A Multi-Sector Taskforce has been instituted, reports to the Office of the Prime Minister- Head of Government Business and Ministry of ICT & National Guidance to serve as Secretariat.

Fourth Industrial Revolution, covering wide-ranging fields;

Industrial revolution

Transforming industries and innovation



1784

INDUSTRY 1.0

Mechanization, steam power,
weaving loom



1870

INDUSTRY 2.0

Mass production, assembly line,
electrical energy



1969

INDUSTRY 3.0

Automation, computers and
electronics



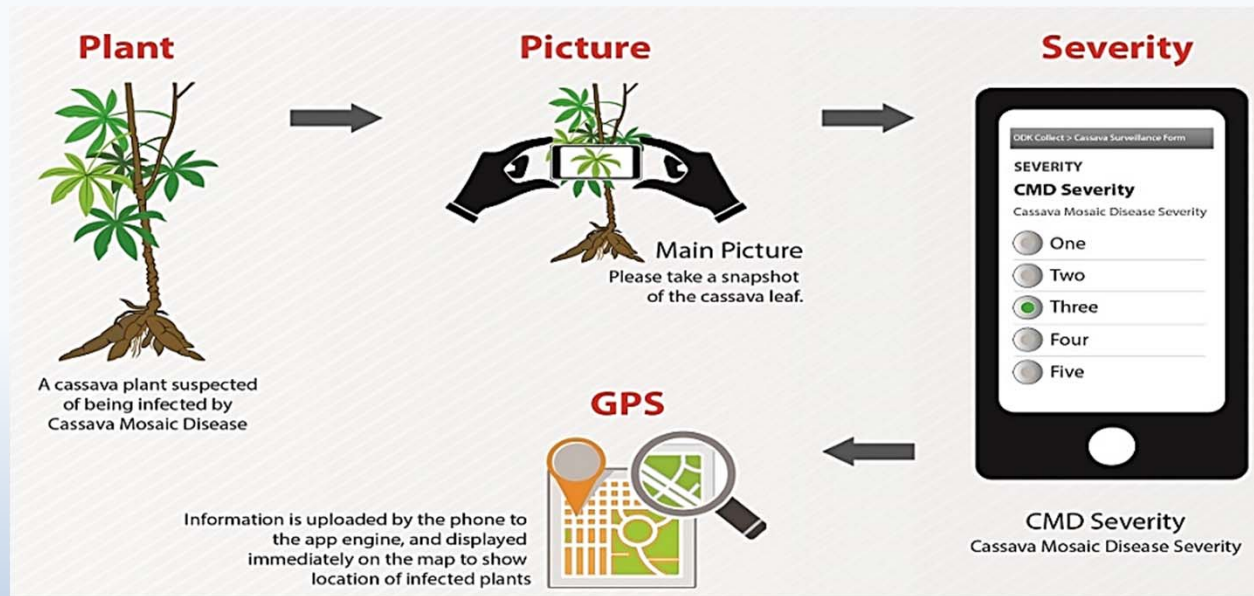
TODAY

INDUSTRY 4.0

Cyber Physical Systems, internet
of things, networks

- ❖ Artificial Intelligence (AI)
- ❖ Big Data (Draft OPEN Data Policy)
- ❖ Block chain Technologies
- ❖ Robotics
- ❖ Internet of Things (IoT)
- ❖ Cloud Computing
- ❖ Nanotechnology
- ❖ Biotechnology
- ❖ Genetic Engineering
- ❖ Quantum Computing
- ❖ Autonomous Vehicles
- ❖ 3D/4D Printing.

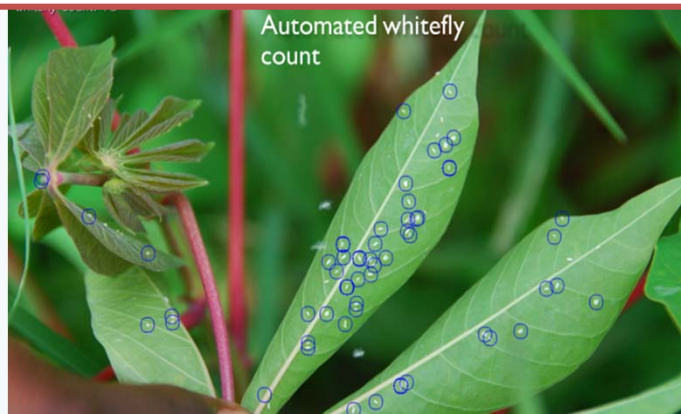
Artificial Intelligence



AI Mobile Crop Disease Monitoring Application that aims to develop diagnostic tools for diagnosing viral crop diseases in cassava crops. Mcrops Approaches include;

- real-time disease surveillance using mobile phones, Automating pest and symptom measurements;
- Enabling rapid diagnosis of crop disease in fields based on crop images;
- Exploring the use of innovative low-cost spectrometry; and
- Assessing the effectiveness of coupling mobile survey technology with the use of spatio-temporal modeling techniques to monitor and predict the spread of disease.

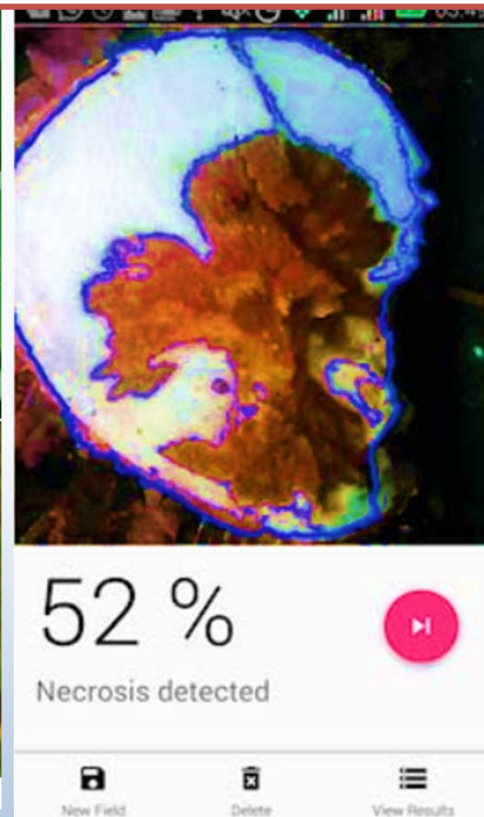
Automated mobile survey technology (Pest) and diagnosing viral crop diseases in cassava crops



(a) Clean root



(b) Necrotic root



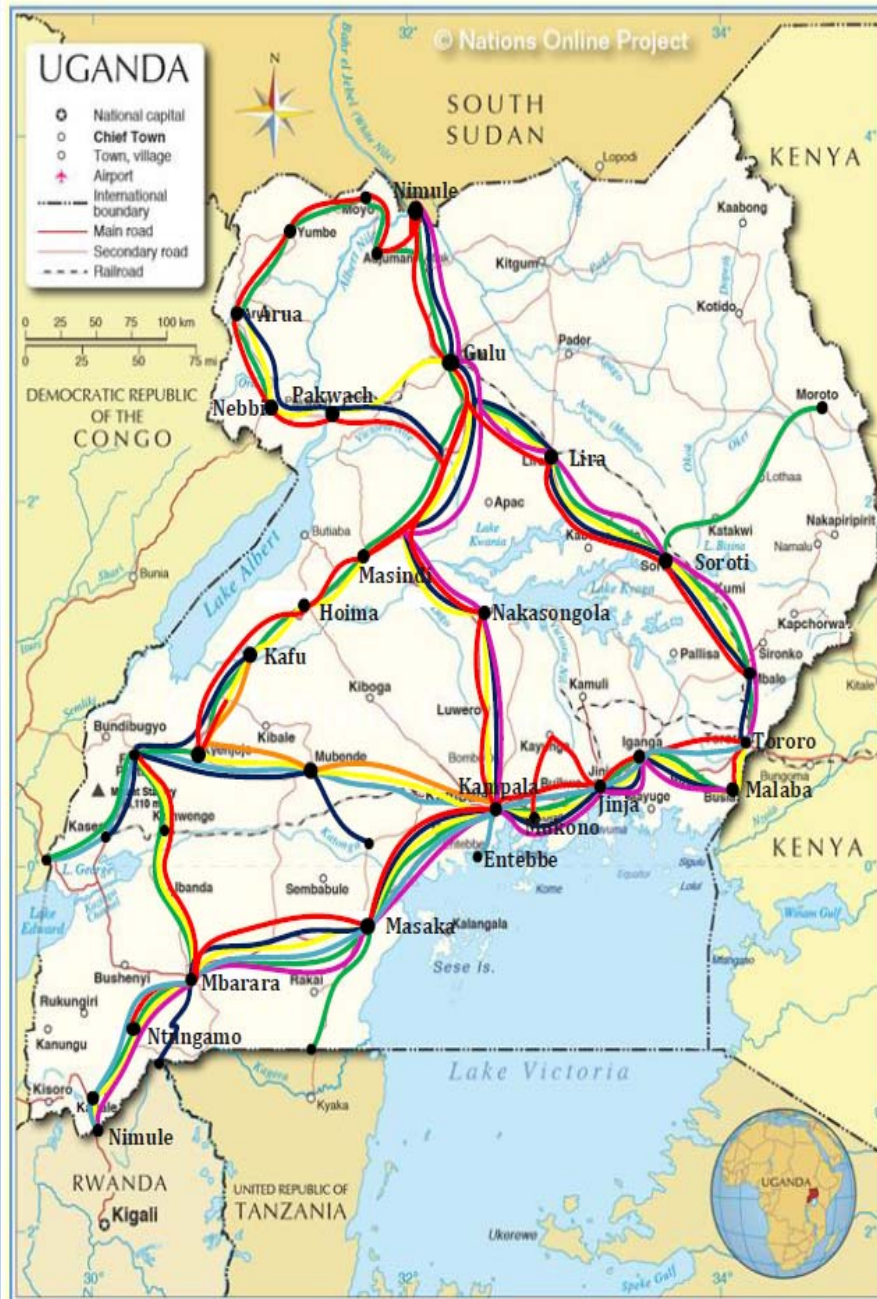
Government Interventions- NDPII

NDP II Pillar	NDP II Priority	ICT Priority
Competitiveness	<ul style="list-style-type: none"> Reduce cost of doing business by investing in Infrastructure (Transport, ICT, Energy) 	<ul style="list-style-type: none"> Increasing Investment in ICT Infrastructure
Improve public sector management; deliver basic services effectively	<ul style="list-style-type: none"> Enhance the usage and application of ICT services in Government, business and service delivery to improve operational efficiency and customer satisfaction 	<ul style="list-style-type: none"> Enhance the usage and application of ICT services in Government, business and service delivery to improve operational efficiency and customer satisfaction
Improve skills and innovation	<ul style="list-style-type: none"> Increase the stock of ICT skilled and industry ready workforce Support the development and utilization of ICTs in other sectors; Skills development and innovation Encourage and facilitate the introduction of innovative ICT-based products, and solutions to support other sectors 	<ul style="list-style-type: none"> Increase the stock of ICT skilled and industry ready workforce Support the development and utilization of ICTs in other sectors; Skills development and innovation Encourage and facilitate the introduction of innovative ICT-based products, and solutions to support other sectors

NDP II Pillar	NDP II Priority	ICT Priority
<p>Enhance technology transfer and diffusion to support value addition in priority development areas; Agriculture; Tourism; Minerals, Oil and Gas Development; Infrastructure Development; Human Capital Development</p>	<ul style="list-style-type: none"> Put in place a Governance and Regulatory environment to facilitate effective utilization of Fourth Industrial Revolution (4IR) Technologies in the priority development areas of the NDP II Increase the security, protection, monitoring and cost-effective management of Critical National Infrastructure (CNI) 	<ul style="list-style-type: none"> Put in place a Governance and Regulatory environment to facilitate effective utilization of Fourth Industrial Revolution (4IR) Technologies in the priority development areas of the NDP II Increase the security, protection, monitoring and cost-effective management of Critical National Infrastructure (CNI)
<p>Wealth creation and Employment</p>	<ul style="list-style-type: none"> Job creation Improved business management and increased wealth 	<ul style="list-style-type: none"> Increase job creation through ICT research, development and innovation Improve productivity as a result of the introduction of more efficient and secure business process support by ICTs, and marketing of excess inventories and supply chain optimization and revenue growth resulting from extended market coverage

NDP II Pillar	NDP II Priority	ICT Priority
<p>Inclusive Growth</p>	<ul style="list-style-type: none"> • Improvement in access to information • Create a network of interconnected, inter-dependent government, civil society, development partners, the private sector and other players 	<ul style="list-style-type: none"> • Support inclusive growth by providing low-income people with access to basic information for basic goods, services, and choices through secure and affordable ICTs • Empowered and transformative digital communities fostered through improved access to information and services using ICT

OPTICAL FIBRE CABLE ROUTES ACROSS THE COUNTRY



No	Network Owner	Key Sections
1.	Uganda Telecom	Kampala – Katuna, Kampala – Tororo, Kampala – Entebbe and Kampala – Mpondwe Earth Station
2.	MTN Uganda	Kampala – Katuna, Kampala – Malaba, Kampala – Arua, Masindi – Mbarara via Kamwege, Masindi – Tororo
3.	National Backbone (GoU – NITA)	Kampala – Katuna, Kampala – Busia/Malaba, Masaka – Mutukula, Kampala – Nimule, Mbarara – Masindi, Masindi – Tororo, Karuma – Nebbi-Arua-Moyo-Yumbe-Adjumani-Elegu. Soroti-Katakwi-Moroto, Kasese-Mpondwe
4.	UETCL OPGW	Kampala – Malaba, Kampala – Mbarara, Mbarara – Kagitumba, Kabulasoke – Nkenda, Kasese, Nkenda – Kafu (Scoped), Kampala – Nimule (scoped), Karuma – Arua/Ayago, Tororo – Lira, Lira – Gulu/Karuma
5.	Liquid Telecom	Kampala – Malaba, Kampala – Katuna, Kampala – Nimule and Masindi – Tororo
6.	BCS Uganda/Airtel	Masindi - Mbale, Fort portal – Mbarara, Mbarara – Ntungamo – Kampala – Jinja-Tororo-Malaba, Kyenjojo –Kagadi –Bunya, Kampala-Luwero-Nakasongola-Karuma-Pakwach-Nebbi-Arua-Moyo-Yumbe-Adjumani-Elegu, Karuma-Gulu-Elegu, Karuma-Masindi-Hoima-Kyenjojo, Jinja-Kayunga – Mukono.
7.	Africell	Kampala – Kafu, Kampala – Masaka, Jinja - Malaba

No	Provider	OFC Distance (Km)
1.	NBI	2,400.0
2.	MTN	2,751.2
3.	UETCL	2,300.0
4.	BCS	1,483.30
5.	Airtel Uganda	1,662.30
6.	Liquid Telecom	720.00
7.	Uganda Telecom	720.00
8.	Africell Uganda	699.80

Thank You

