Internal Memo

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Subject: **CONSULTANCY STUDY ON NEXT GENERATION NETWORKS AND INTERNET OF THINGS**

Date:

EXECUTIVE SUMMARY

The Internet of Things (IoT) has started to significantly affect many aspects of the economy and is considered to possess the potential to unleash immense economic growth if properly harnessed. Increased IoT penetration will reshape the economy in ways stakeholders, particularly regulators and policymakers may be ill-equipped to keep pace with. Its impact will be pervasive in almost all sectors of the economy especially communication, education, health, agriculture, housing, transportation, Government and society at large. This research is a study on ways to stimulate the development, deployment and use of IoT services in Nigeria carried out by the Emerging Technologies Research Unit of the Research and Development Department for the Nigerian Communications Commission.

The Study covers the entire thirty-six (36) States of the Federation and the Federal Capital Territory (FCT) and is conducted through the lens of the following four headings:

- IoT Devices
- Improving Nigeria's Tech Ecosystem
- Security and Privacy of IoT Devices
- Financing Tech Start-ups

The main objective of the study is to provide Nigerian Communications Commission with a comprehensive report on ways to accommodate and accelerate the development of IoT in Nigeria.

The study seeks to provide answers to the following overarching questions:

- What are the effective ways to encourage the use of IoT at all levels especially Government agencies, corporate bodies and individuals taking into cognizance existing resources such as frequency and infrastructure availability to increase broadband penetration levels in the country?
- What cost-efficient frameworks and models can be deployed for the setting up of technology incubation centres in Nigeria which will ultimately help promote the development of IoT and drive its development and deployment?
- What are the new revenue streams that can be used to stimulate the growth of Nigeria's tech ecosystem?
- What policy guidelines can be suggested to improve security and assuage privacy concerns in using IoT?
- Are there regulatory incentives for deployment of IoT by corporate bodies such as utility companies, logistics amongst others? What regulatory incentives can be introduced for IoT friendly service providers?
- How can IoT improve the economic status of Nigeria?
- What are the current and future uses of IoT across the globe?
- Are there recommendations on suggested amendments to existing licences and/or regulations of the Commission to support the growth and implementation of IoT?
- What are the ethical issues regarding IoT?
- What infrastructure needs and gaps exist slowing down the implementation of IoT?
- What are Nigeria customer needs and expectations from IoT?
- What and where are the competitive market forces requiring IoT?
- Is there a need and market for IoT in Nigeria?
- What are the best models, products and segments of IoT that will likely thrive in Nigeria?

The research design chosen for this study was an in-depth, hybrid quantitative-qualitative method to fully understand the broad trends and underlying nuances of consumers' access to, use of and experiences with the IoT.

From the transformations of the Internet economy to the effects of regulations and policies, several unique trends and concerns that may impact the future of IoT in Nigeria are identified.

Some of the research findings include:

1. That local production of ICT components and subsystems is being hindered by paucity of incentives for local manufacturers;
2. That brokering partnerships with fab and fabless companies will boost knowledge-transfer in the shortest time possible;
3. That universities and polytechnics are not actively involved in establishing and operating incubation hubs within their institutions;
4. That the final year projects of science, technical and engineering students in universities can be turned into marketable products;
5. That multinational companies, especially foreign-registered ones, ought to establish incubation centres at their host communities as part of their Corporate Social Responsibility (CSR) programmes;
6. That tax benefits and improved infrastructure will help to create an enabling environment that encourages investment, innovation, and exploitation of IoT-enabled service;
7. That uncertainty about where liability lies over the security of a product or service is a major hindrance for individuals and businesses to implement IoT;
8. That consumers require security as a key component of all stages of the IoT product lifecycle, including design, production and deployment; and
9. That a culture of security that extends beyond their own interests, to the Internet and its users does not exist among key stakeholders, including ISPs.

Please find attached the full Final Report of the '**CONSULTANCY STUDY ON NEXT GENERATION NETWORKS AND INTERNET OF THINGS.'**

Submitted for your kind consideration and approval, please.

Thank you.