



## KICTANet Site Visit to Konza Technopolis



*KICTANet members with the CEO of Konza Technopolis Engineer John Tanui.*

On Friday, 25th June 2021, a section of KICTANet members made a maiden visit to the Konza Technopolis Development Authority located in Makueni County. This was after The Konza Secretariat, whose Chief Executive Officer is an active member of the KICTANet list extended an invitation to the KICTANET community to visit the Konza Technopolis site to assess the progress made and contribute ideas that would fastrack realization of the Techno City.

The team arrived at Konza Technopolis at around 9 AM and was received by the Konza team headed by the CEO Eng. John Tonui. Upon arrival the KICTANet team was briefed about the progress made in developing the Technopolis in a 4-hour board room meeting followed by a two 2-hour field tour.

## **The KOTDA team present comprised:**

1. Eng John Tonui, CEO, Konza Technopolis Development Authority
2. Ms. June Chepkemei, Manager of Marketing and Corporate Communication
3. Mr. Lucas Omollo - HSC, Manager, ICT & Smart City Solution
4. Mr. Jackson Karieri, Senior ICT Officer (Smart City Solutions)
5. Mr. Boyd Ogonda, ICT Officer (Cloud Computing Infrastructure)
6. Mr. Joseph Malingu, Senior Assistant ICT (Customer Accounts)
7. Mr. Samuel Nganga, Sales/Investor Facilitation Officer

## **Other Members Present**

A delegation of 9 KICTANet Members, led by the KICATNet board comprising Mr. Mwendwa Kivuva and Mr. Barrack Otieno.

## **Summary of the Engagement**

Konza Technopolis is a key flagship project under Kenya's Vision 2030 economic development pillar. Konza will be a world-class city powered by a thriving information communications and technology (ICT) sector, superior, reliable infrastructure, and business-friendly governance systems.

In 2008, the Government of Kenya approved the creation of Konza Technology City as a flagship project under the Kenya Vision 2030 strategy.

In 2009, The Konza Technology City project was initiated through procurement of a 5,000-acre parcel of land at Malili Ranch, 60km southeast of Nairobi along Mombasa-Nairobi Highway.

In 2013, President Mwai Kibaki broke ground at Konza Technopolis, signaling the start of the development of Konza Technopolis. The first step entailed the creation of a legal entity that would provide leadership to the technopolis.

In 2014, the development of the Konza smart city infrastructure commenced. The focus was on Horizontal Infrastructure to avail key resources such as electricity, water, roads, infrastructure conduits, and sewer lines.

In 2016, the first building was completed. Since then, there has been significant investment in horizontal infrastructure at Konza such as streetscape and subsurface utilities, wastewater reclamation facility, water treatment, pumping and storage, electrical power supply, public parks, and public facilities.

As of 2021, the achievements of Konza Technopolis include smart City infrastructure and other civil works. There are 2000 workers on-site and over 20 different contractors.

## Introduction

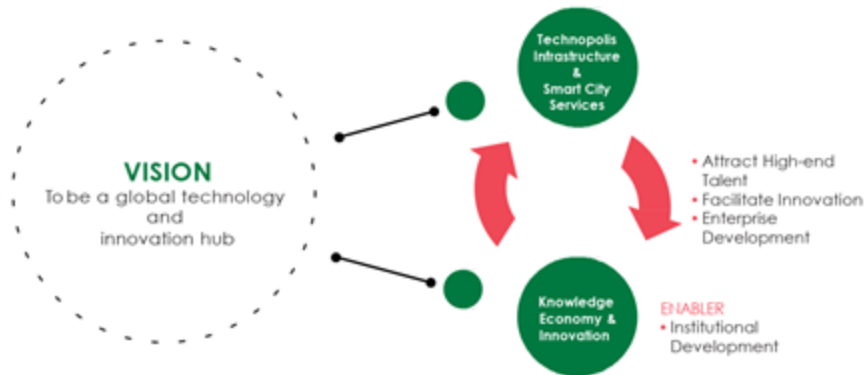
Ms. June Chepkemei gave an overview of the techno city. She acknowledged the contribution of KICTANet towards the success of Konza City in its mailing list discussions. She shared the mission and vision of Konza Technopolis.



Konza Technopolis was identified as an economic pillar in Kenya's Vision 2030 and was established as an innovation and technology hub. Its vision is to be a global technology and innovation hub. The key pillars of the project are:

- Technopolis Infrastructure & Smart City Services
- Knowledge-Economy and Innovation

# Key Pillars



## 2015 - 2021 MILESTONES AT KONZA CITY

Mr. Jackson Karieri the Senior ICT Officer (Smart City Solutions) took the delegation through the Konza technopolis 2015-2021 milestones which are;

### **Horizontal Infrastructure for Phase 1**

Phase 1 of Konza Technopolis utilizes 60 acres where horizontal Infrastructure is ongoing. What is notable when you visit Konza is the ongoing development of the Streetscape and subsurface utilities like roadways. Once the first phase is completed the following infrastructure will be in place:

- Roadways
- Parking areas
- Bicycle paths
- Dedicated bus lanes
- Pedestrian sidewalks
- Street lighting
- Traffic signalization and signage
- Landscaping

During the site visit, the team was also appraised on the ongoing construction of a water treatment plant, a solid waste management system where solid is separated at the source and a wastewater reclamation facility that is 95% complete.



*Wastewater reclamation facility*

Construction of an electrical substation is also ongoing with 3 transformers already installed at the station.



*Electrical substation*

The KICTANet team was taken on a field inspection tour where the team got to inspect underground utility tunnels that will carry any kind of piping within the smart city including communication cables, power cables, sewers. Most of the utility tunnel is complete. There will be no overhead cables in the smart city.



*The Tunnels that will house all piping and cabling*



*Top view of the tunnels*

Plans are underway to build the Kenya Advanced Institute of Science and Technology (KAIST) modeled after the prestigious Korean Advanced Institute of Science & Technology. KAIST will be a graduate school for Masters and Ph.D. students only. The groundbreaking will be done in September 2021. The project is expected to take 24 months. In the future, it might also include undergraduate programs.





*Kenya Advanced Institute of Science and Technology (KAIST)*

Konza and Huawei technology has partnered with Machakos University to build an IoT lab dubbed 'Konza Innovation hub.'

## **Connectivity Infrastructure**

The National Optic Fiber Backbone Infrastructure (NOFBI) has terminated at the Konza Technopolis. NOFBI is linked to the Ministry of ICT through the Information and Communication Authority. The Ministry of ICT is providing oversight while the ICT Authority is the implementing agency for the NOFBI project. The NOFBI project is aimed at ensuring internet connectivity in all the 47 counties of Kenya. The goal of this project is to provide internet connectivity, improve communication across the 47 counties, and provide internet connectivity for service delivery to government services to citizens like birth and death certificates, national identity cards, and passports documents. The NOFBI Phase 2 is ongoing and to date, this is the status:

- 1,200km out of the 1,600km civil works are completed.
- 900km of fiber has been laid in the backbone section.
- The backbone section is complete and fiber installed in all the 47 counties.
- Metropolitan fiber civil works have been completed in 35 of 47 counties.

There is also an added component to the project, which will see the Kenya and South Sudan governments undertake to implement the optic fiber cable system as part of the Eastern Africa regional transport, trade, and development facilitation project.

## National Data Center and Smart City Facilities

The Konza Data Center is funded by the Government of China. The data center is already providing services to the Konza City Project, Phase 1. Currently, the Data Center provides disaster recovery services, cloud Services, and Wi-Fi connectivity to Konza City buildings.



### Konza National Data Center

#### Konza National Data Center



- Funding from the Government of China
- Financial agreement signed on **26<sup>th</sup> April 2019**
- Design ongoing
- To be completed by December 2021



#### Konza Smart City Facilities



- Funding for Phase 1 smart City facilities secured
- Design for Smart City facilities ongoing
- To be completed by December 2021



The Data Center will provide support for the implementation of Smart City Services in the near future where Wi-Fi access points will be positioned on streetlights. Currently, the Data Center provides services to customers. The main customers of the data center facility are government ministries, agencies, and departments (MDAs). **89%** of MDAs' have their own server rooms in the Konza City Data Center. The concerns from MDAs' are reliability, capacity, power, redundancy, and scalability and some of the challenges are security, technical support, connectivity, and power backup. The purpose of the Data Center is to provide:

- Intelligent Operation Center.
- Public Safety.
- Intelligent Traffic Systems.

- Public Wi-Fi connectivity at Konza City.
- e-government Cloud Services
- Video Conference Systems.
- Virtual Desktop Infrastructure.



# KONZA NATIONAL DATA CENTER AND SMART CITY PROJECT

Konza Data Center and Smart City Facilities Project is one of sub-projects in Konza establishment, Its objectives are to build ICT Infrastructure, including National Data Center, e-Government Services, and Smart City Facilities



**Phase1 Data Center / DR**  
Construction time: March, 2019 – May, 2020

Government Cloud

Enterprise Cloud



**Phase2 Primary Data Center**  
Construction time: November, 2019 - October, 2020



Intelligent Operation Center    Public safety    Intelligent Traffic Sys.    Public Wi-Fi

**Konza Smart City Facilities**  
Construction time: June, 2020 - June, 2021



e-Government Cloud Service    Video Conference System    Virtual Desktop Infrastructure

**Government Cloud Service**  
Construction time: June, 2020 - Dec 2021

Activity	% Planned	%Actual
Smart City ICT guidelines & Standards	100%	100%
Scope Definition	100%	100%
Design and Approval	100%	0%
Equipment Manufacture	0%	0%
Shipment, Installation & Testing	0%	0%
Acceptance & Handover	0%	0%

*The completion status of the Smart City*

## Enterprise Resource Planning Software

An Enterprise Resource Planning system has been installed and configured at KOTDA to manage the business and operational related activities. Some of the Enterprise Resource Planning management activities include:

- MDP2 (Master Delivery Partner Agreement).
- Parcel Leasing.
- Construction Management.
- Procurement Management.
- Design Submission Management.
- Financial Management.
- Electronic Document Management.
- Customer Relationship Management.
- Business intelligence.

## Recommendations

The KICTANet team had an opportunity to provide feedback to the presentation made by the KOTDA team. Among the issues raised was the need for the KOTDA team to rethink its Communications Strategy. As Konza pursues international and local investors to set up their presence at the technopolis, it should ensure the strategy also gives local investors an opportunity to participate in the process

The other suggestion was for KOTDA to enhance its efforts and approach towards engaging local stakeholders. The Kenya ICT Action Network offered to host a community engagement christened 'Talk to Konza' to raise awareness on the progress that had been made in the local ICT Community. KICTANet invited KONZA to participate in the Kenya Internet Governance Forum to showcase the progress it has made. In addition, the KOTDA team was invited to engage Kenya ICT Action Network members in the process of validating its new strategic plan.

The KOTDA team welcomed positive criticism and the interest demonstrated by the KICTANet team in its activities.

## Conclusion

The visit to Konza was enlightening. The Kenya ICT Action Network team had an opportunity to be appraised on the progress made. From the visit the Vision for Africa's Silicon Savanna is on course.

In his own words CEO Eng. John Tonui said ***“Kenya has never built a smart city, let us support it”***

## References

[www.icta.go.ke](http://www.icta.go.ke)

[www.konza.go.ke](http://www.konza.go.ke)

*Report Prepared by Eglina Samoei and Geoffrey Manoti with support from Mwendwa Kivuva and Barrack Otieno.*