

Loss Reduction and the Role of Smart Metering- AMI

The Kenya Power & Lighting (KPLC) Experience

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• TUNZA CUSTOMER



Who is KPLC??

- ❖ Kenya Power and Lighting Company (KPLC) is a public liability which Transmits, Distributes and Retail electricity to Customers/Users of Electricity Energy in Kenya.
- ❖ We are committed to improving the quality of peoples' lives, a role that we have played for 100 years and are determined to continue fulfilling in the next 100 years and beyond.

Customer Category	Sales (Gwh)	% Sales	Sales (ksh million)	No. Of Customers
Domestic Postpaid	1,221.3	13.6	25,631.7	1,752,174
Domestic Prepaid	1,674.9	18.7	33,988.4	6,645,906
SMEs Postpaid	1,152.2	12.9	26,214.3	324,583
SMEs Prepaid	86.4	1.0	1,919.1	109,309
Street light	85.2	1.0	1,224.3	19,546
Large Power	4,729.3	52.8	95,122.2	8,691
Total	8,949.3	100.0	184,100.1	8,860,209



Kenya Power

Electricity Access
over 70%

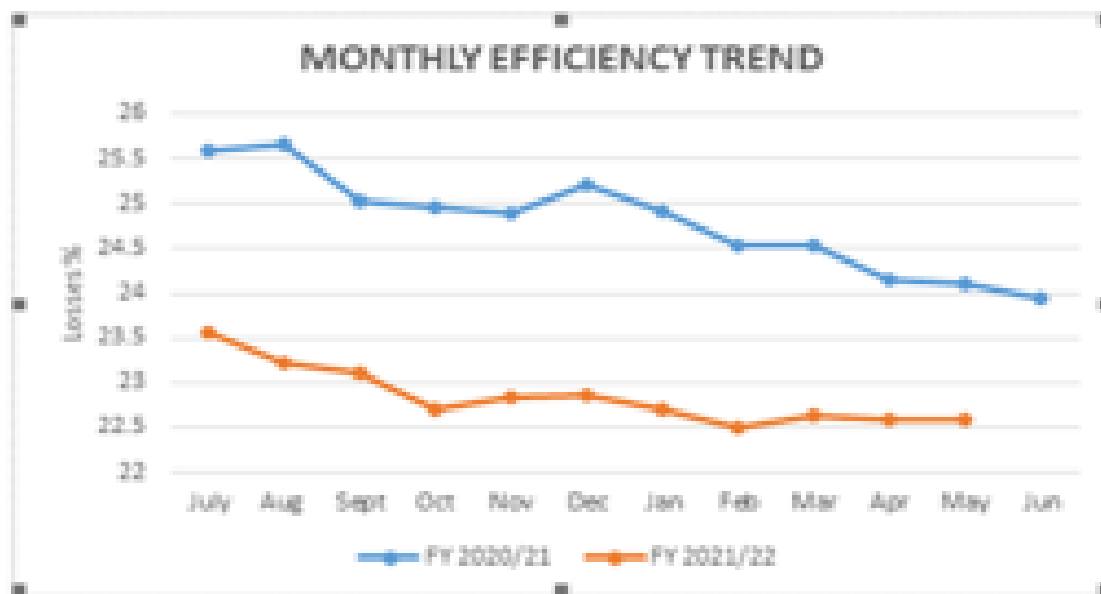
Over 8 Million
Customers



THE WORLD BANK

KPLC Monthly System Efficiency Trend Analysis

	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY 2020/21	25.6	25.66	25.02	24.95	24.9	25.21	24.91	24.54	24.54	24.15	24.11	23.95
FY 2021/22	23.57	23.21	23.11	22.71	22.84	22.87	22.7	22.49	22.64	22.59	22.58	

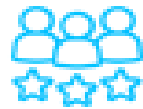


NB: The Authority (EPRA) current/effective allowable loss factor is 19.9%. Current efficiency is below the allowable level.

Why AMI in KPLC-Key Objectives



Enhancing
Revenue
Collection



Enhancing
Customer
Experience



Reducing Costs



Improving
System
Efficiency

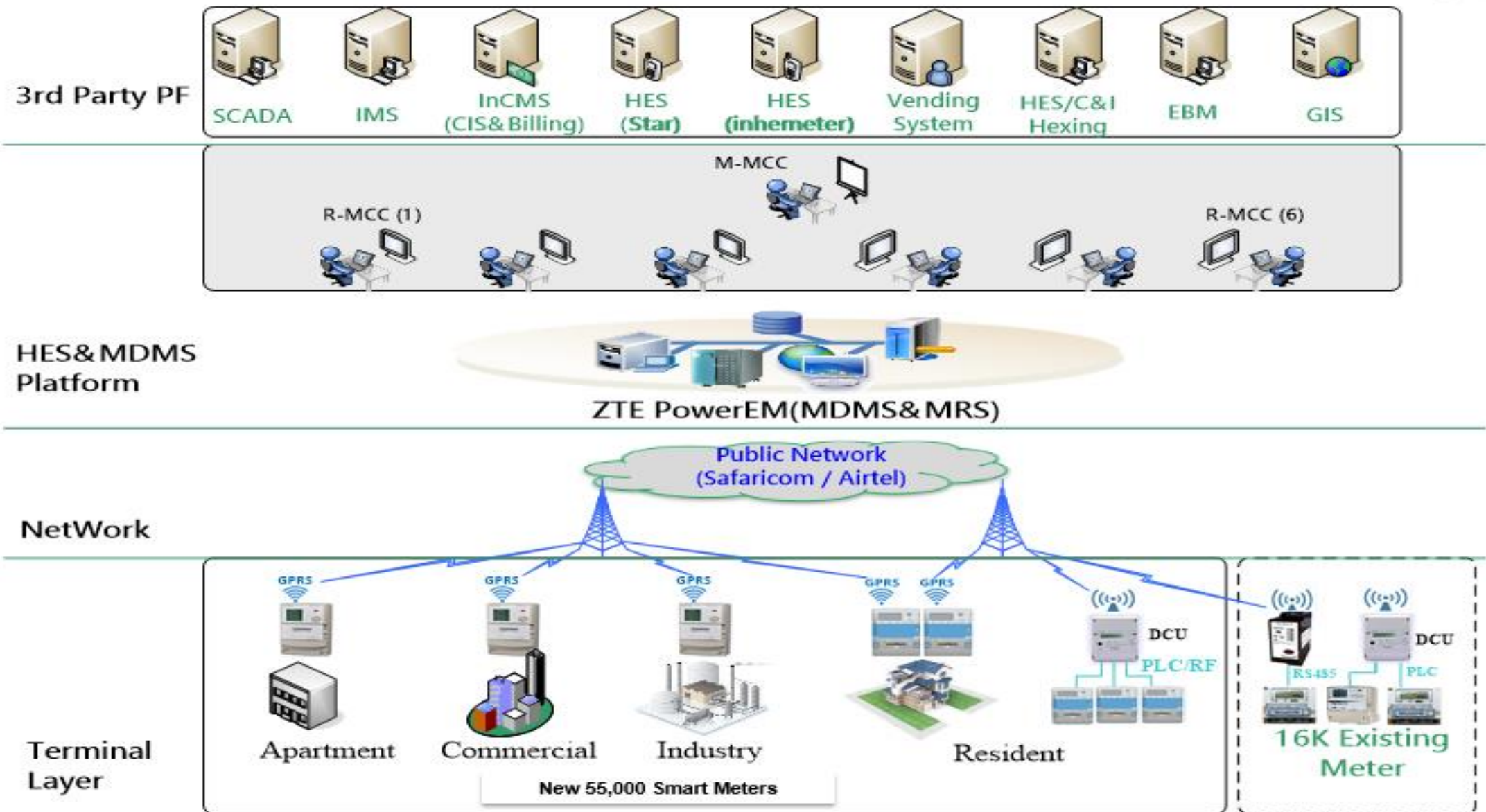


Growth in
Electricity Sales



Leveraging on Technology to Reduce Losses, Reduce Operational Cost and
Enhance Ease of doing Business

The KPLC AMI_System- ICT Infrastructure & Scope



IMPACT ON SALES- BILLING INTERGRITY AND REVENUE PROTECTION



Strategic Objective	Targeted Business Processes	What was done using the System-AMI	Results	Impact and or Gain from AMI
❖ Sales Analysis	<input type="checkbox"/> Improved Billing Efficiency <input type="checkbox"/> Revenue Assurance (Billing Adjustments)	<p>(i) Accurate/Prompt Meter Reading and uploading the same directly into the billing System via AMI/INCMS interface.</p> <p>(ii) Alarm/Tamper Events and Data analytics.</p>	<p>(i) A total of 53,806 remotely read and directly billed via AMI/INCMS billing interface.</p> <p>(ii) A total of 4,633 Installations had their bills adjusted (Debits and Credits).</p>	<p>(ii) Improved Billing Efficiency/Integrity and resultant Sales rise by 8% from 224.52 GWh to 241.99 GWh, which translated to about KShs.331.93 million (about USD 3 Million) rise in revenue.</p> <p>(ii) The net effect being recovery of 3.47Gwhrs, equivalent to Kshs. 85.04 Million</p>

IMPACT ON EFFICIENT BUSINESS PROCESS-REMOTE REVENUE COLLECTION AND METER READING

OPERATIONAL COST REDUCTION/EASE OF DOING BUSINESS



Strategic Objective	Targeted Business Processes	What was done using the System-AMI	Results	Impact and or Gain from AMI
❖ Reducing Operational Cost	<input type="checkbox"/> Revenue Collections <input type="checkbox"/> Remote Meter Reading	<p>(i) Actual Remote Disconnection/Reconnection of a total 276,148 Meters done to enforce pending bills payments.</p> <p>(ii) Remote Meter Reading for billing Purposes.</p> <p>(iii) Prompt and Accurate Billing of Smart meters via AMI/INCMS Billing interface.</p>	<p>(i) A total Payment of Kshs. 9.51 Billion realized from customers on Smart Meters. Out of which 47%, Kshs.4.47 Billion, has been realized through remote disconnections of customers.</p> <p>(ii) A total of 53,806 remotely read and directly billed via AMI/INCMS billing interface.</p>	<p>(i) Overall debt age has improved from 34.58 days to 27.87 days comparing debt age before and after smart metering.</p> <p>(ii) Estimated Reduction Operational cost on Manual Meter Reading/Revenue Collections activities-of Kshs 23,943,670 and Kshs. 6,607,360.00 respectively</p>

IMPACT ON EFFICIENT BUSINESS PROCESS- IMPROVED ANALYSIS, MONITORING AND ENHANCED CUSTOMER SATISFACTION

B. Customer Web-Portal-Enhanced Customer Service

The AMI system has a web-based customer web-portal functionality that allows for customer's interaction and access into the Smart metering system to; ascertain billing accuracy, purchase and load pre-paid tokens directly into the meter without using CIU and to register power supply complaints.



- TUNZA CUSTOMER

Proposed Administration of the AMI project for Sustainability-

1. Appropriate Business Scenario



- ❑ *Smart Metering-AMI* applications have many potential benefits to utilities viz; energy loss reduction, operational cost reduction, improved reliability, Energy efficiency-reduction in Green House Gas emissions (GHGs) besides enhanced customer's satisfaction.



- ❑ For effective utilization of AMI the following are required;



- Extensive Meter Data Analysis.
- Prompt Response to Flagged Alerts on priority basis.
- Prompt detection and Response to outages.
- Prompt Authorized disconnection/reconnection.



There is therefore, need to build capacity and change management as KPLC operate in Smart Metering Environment.

===END===

Thanks

