Case Study

The Kenya Power & Lighting (KPLC) AMI experience

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Who is KPLC??

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- Kenya Power and Lighting Company (KPLC) is a public liability which Transmits, Distributes and Retails electricity to Customers/Users of Electricity Energy in Kenya.

Kenya Power

Electricity Access over 75%

MAIN TYPE OF CUSTOMERS COVERED BY THIS TARIFF	TARIFF	2018/19	2019/20	2020/21	2021/22	2022/23
KPLC		69	75	86	91	95
Large Commercial and Industrial	CI4					
KPLC		50	52	45	51	51
Large Commercial and Industrial	CI5					
KPLC		37	45	51	57	49
Large Commercial and Industrial	CI6					
KPLC		0	0	0	5	20
Street lighting	SL					
KPLC		12,345	15,771	17,221	19,277	20,501
REP		388	527	441	435	459
TOTAL (KPLC)		5,658,605	6,073,202	6,365,756	6,818,706	6,998,044
TOTAL (R.E.P.)		1,409,256	1,502,943	1,912,447	2,100,734	2,214,710
GROSS TOTAL		7,067,861	7,576,145	8,278,203	8,919,440	9,212,754
% INCREASE P.A.		4.5%	7.2%	9.3%	7.7%	3.3%

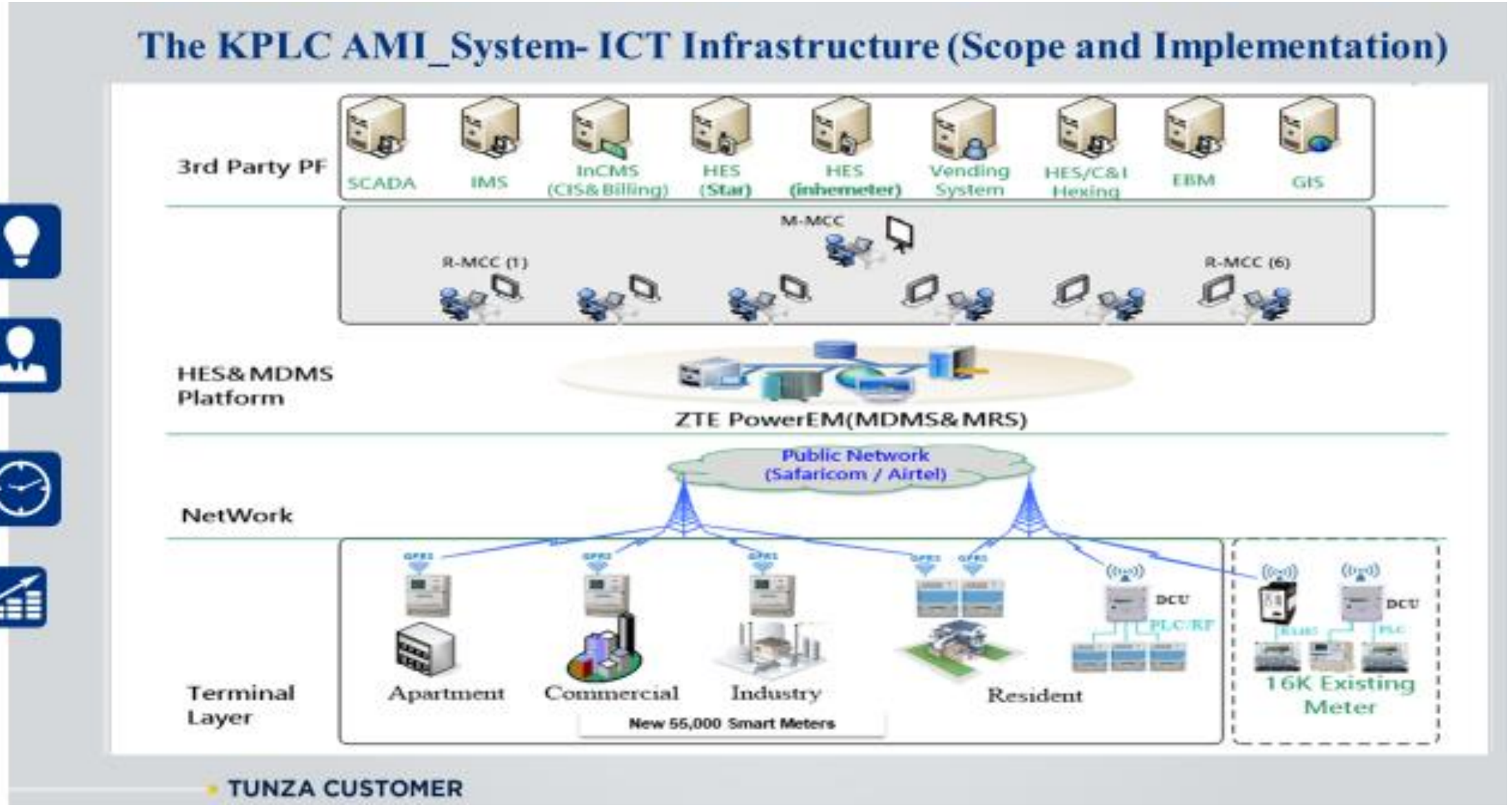
Over 9 Million Customers

TABLE 18: REVENUE (Shs 'Million) BY CUSTOMER CATEGORY

MAIN TYPE OF CUSTOMERS COVERED BY TARIFF	TARIFF	2018/19	2019/20	2020/21	2021/22	2022/23
Domestic	DC	38,706	43,916	43,290	46,305	57,057
Small Commercial	SC	29,314	25,553	25,953	29,799	34,811
Commercial Industrial	CI	63,870	62,898	73,867	80,261	97,596
Off-peak (Interruptible)	IT*****	47	0	0	0	0
Street Lighting	SL	658	766	821	923	948
TOTAL		132,595	133,053	143,871	157,087	190,412
Export		546	206	249	266	562
TOTAL KPLC		133,141	133,259	144,120	157,353	190,974
R.E.P.		10,772	10,071	10,369	10,551	12,473
TOTAL REVENUE		143,913	143,330	154,489	167,904	203,447
%INCREASE P.A.		4.5%	-0.4%	7.8%	8.7%	21.2%

***** IT Tariff category no longer exists under new tariff structure.

The KPLC AMI system



Impacts

IMPACT ON SALES- BILLING INTERGRITY AND REVENUE PROTECTION

Strategic Objective	Targeted Business Processes	What was done using the System-AMI	Impact and or Gain from AMI
❖ Sales Analysis	❑ Improved Billing Efficiency ❑ Revenue Assurance (Billing Adjustments)	(i) Accurate/Prompt Meter Reading and uploading the same directly into the billing System via AMI/INCMS interface. (ii) Alarm/Tamper Events and Data analytics.	(ii) Improved Billing Efficiency/Integrity and resultant Sales rise by 8%. from 224.52 GWh to 241.99 GWh, which is about KShs.331.93 million (about USD 3 Million) rise in revenue. (ii) The net effect being Commercial loss reduction of 3.3% for Targeted Installations/Customers

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

Strategic Objective	Targeted Business Processes	What was done using the System-AMI	Impact and or Gain from AMI
❖ Reducing Operational Cost	❑ Revenue Collections ❑ Remote Meter Reading	(i) Actual Remote Disconnection/Reconnection of a total 276,148 Meters done to enforce pending bills payments. (ii) Remote Meter Reading for billing Purposes. (iii) Prompt and Accurate Billing of Smart meters via AMI/INCMS Billing interface.	(i) Overall debt age has improved from 34.58 days to 27.87 days comparing debt age before and after smart metering. (ii) Estimated Reduction Operational cost on Manual Meter Reading/Revenue Collections activities of Kshs 23,943,670 and Kshs. 6,607,360.00 respectively

- TUNZA CUSTOMER

AMI Sustainability and Management

AMI-Sustainability and Management for Sustained gains

- ***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 outrages.
  - Prompt Authorized disconnection/reconnection.

There is therefore, need to build capacity, do Process Re-Engineering and change management as KPLC operate in Smart Metering Environment.

Thank you

Any questions?

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