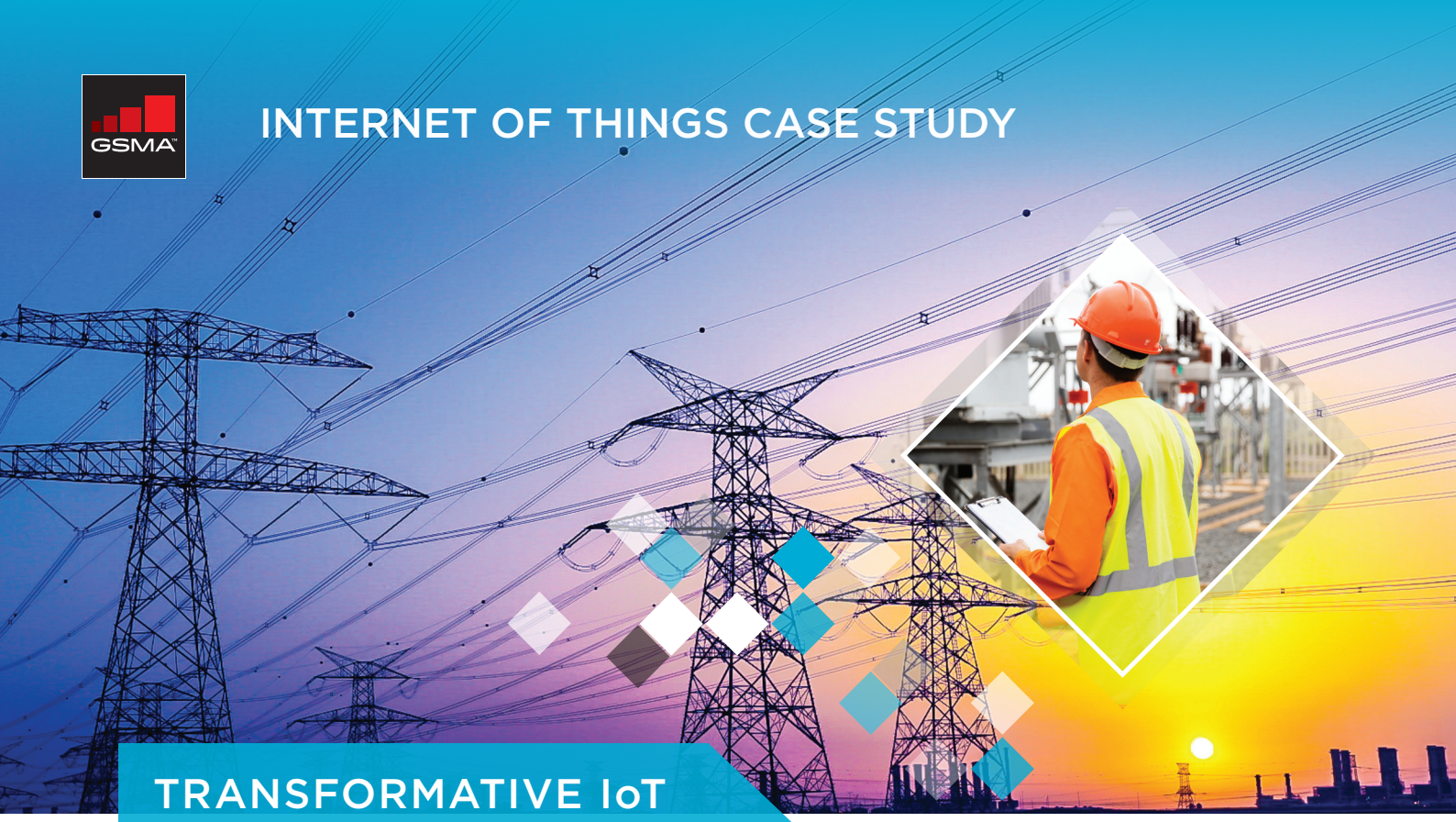

INTERNET OF THINGS CASE STUDY

TRANSFORMATIVE IoT
BEYOND CONNECTIVITY

Sri Lanka Takes First Step Towards Smart Grid

INTRODUCTION

Dialog Axiata, LECO and University of Moratuwa to deliver end-to-end control over electricity supply

Energy users in Sri Lanka are beginning to benefit from a smart grid solution developed by a partnership between Lanka Electricity Company (LECO), the Dialog-University of Moratuwa Mobile Communications Research Laboratory and mobile operator Dialog Axiata. Currently collecting data from 3,200 smart meters and 150 network monitoring devices, the solution is enabling LECO to analyse electricity usage and isolate any faults in its grid.

To allow LECO to quickly respond to power interruptions, the network monitoring devices track the low voltage power distribution network in real-time, while providing detailed power quality measurements, such as voltage sags, swells and interrupt information. This enables the utility to have a good insight into the behaviour of its distribution network.

'The next step will be to scale up the number of smart meters and network monitoring. This initiative helped to launch full integrated, prepaid, electricity metering - a long-time goal for Sri Lankan utilities, to provide a pay-as-you-go option for the electricity customers. The smart modem of smart meters can support a prepaid wallet, which will enable customers to pay up front for their energy and help the utility to reduce long credit periods.

The project, which was initially funded by a seed grant from GSMA Mobile for Development in 2015, has won praise from the Sri Lankan government. "This project is the first step towards converting the Sri Lankan power sector into smart gird," says Dr. B.M.S Batagoda, Secretary Ministry of Power, Energy and Business Development. "Therefore, the ministry is fully supportive of this initiative since it brings technological advancements to the Sri Lankan power sector and enables Sri Lanka to move forward with the latest technologies".

MOVING TO A SINGLE MONITORING PLATFORM

In the utility sector, metering and network monitoring solutions are usually heavily tied to vendors, requiring an energy or water supplier to maintain multiple proprietary systems that are not integrated with each other. As a result, these systems can be cumbersome to manage and costly to maintain.

To address these issues, Dialog Axiata developed a device-agnostic utility IoT and analytics platform that coudl be tightly integrated into LECO's existing systems. Also encompassing a new meter data management system, the solution enables smart meters and network monitoring devices to be seamlessly integrated into a single platform providing flexibility, scalability and operational efficiency and convenience for the utility.

This has also helped LECO to digitise its operations by making use of APIs within the smart grid solution, and enabling it to use web-based applications. "It is envisaged that this will provide Sri Lankan electricity consumers transparent and cost-effective energy solutions," says General Manager of LECO, Mr. H. N. Gunasekera. "LECO is at the forefront in this mission with the objective of developing a home-grown solution for utility smart grid within their franchised areas. LECO is quite proud of the unique solution that it has developed with its local partners, Dialog and University of Moratuwa."

A BREAKTHROUGH PROJECT FOR THE PARTNERS

The smart grid project is helping to improve the competitiveness of the partners, paving the way for further knowledge sharing and collaboration in future R&D projects. The biggest challenge in IoT in emerging markets, such as Sri Lanka, is to find a solution that satisfies the requirements of the enterprise, while still providing a return on investment to all players in the value chain, according to the mobile operator.

"This is a landmark achievement for Sri Lanka, being the first IoT-based large scale deployment in the country," adds Prof. Nalin Wickramarachchi, the Dean, Faculty of Engineering, University of Moratuwa. "It has given us first-hand experience of the complete cycle of developing and deploying a solution of this nature in partnership with the industry. The Faculty is proud to be a part of this effort, and we see this as an example of fulfilling our obligation to take new technology to society".

This collaboration helped Dialog to offer an end-to-end solution to the utility sector encompassing hardware and software for smart metering and power distribution network monitoring, as well as the back-end IoT and analytics platform, swaying away from just being a connectivity provider. Rather than simply selling connectivity to utilities, Dialog can now offer an end-to-end solution encompassing hardware and software for smart metering and power distribution network monitoring, as well as the back-end IoT and analytics platform.

About the GSMA

The GSMA represents the interests of mobile operators worldwide, uniting more than 750 operators with over 350 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces the industry-leading MWC events held annually in Barcelona, Los Angeles and Shanghai, as well as the Mobile 360 Series of regional conferences.

For more information, please visit the GSMA corporate website at www.gsma.com,

Follow the GSMA on Twitter: @GSMA.

About Beyond Connectivity

Delivering seamless IoT connectivity has been a crucial element in helping operators to launch new services such as low power wide area (LPWA) networks, using NB-IoT and LTE-M technologies and create added value and sustainable growth. Now leading IoT operators are building on this and their reputation as trusted industry partners by delivering value added services beyond connectivity.

These transformative solutions include services across big data, machine learning, analytics, edge computing and enablement platforms. They are delivering substantial benefits to customers such as increased productivity, reduced costs and automated business processes as well as driving innovative new products and services, new lines of business and new business models. Services beyond connectivity are transforming businesses and industries.

www.gsma.com/BeyondConnectivity

About Dialog Axiata PLC

Dialog Axiata Group, a subsidiary of Axiata Group Berhad (Axiata), operates Sri Lanka's Leading Quad-Play Connectivity Provider. Dialog Axiata PLC, listed on the Colombo Stock Exchange, supplements its market leading position in the Mobile Telecommunications sector with a robust footprint and market presence in Sri Lanka's Fixed Telecommunications and Digital Television markets through its fully owned subsidiaries Dialog Broadband Networks (Private) Ltd (DBN) and Dialog Television (Private) Ltd., (DTV). Dialog Axiata Group is Sri Lanka's largest Foreign Direct Investor (FDI) with investments totaling USD 2.3 Billion.

https://www.dialog.lk/group-overview

About LECO

Lanka Electricity Company Private Limited is a Company incorporated in 1983 for the purpose of electricity distribution in Sri Lanka. The formation of the company is by acquiring assets of local authorities to create a modern and efficient distribution network. This objective is achieved even above the expectations when evaluated after 29 years of operations. The company has throughout attracted foreign funding from the Asian Development Bank and is highly benefited by the consultancies of utility consultants such as Becca Worely International in setting up their efficient network. LECO as a utility is benchmarked very high in the South East Asian region.

http://leco.lk/

Dialog - UoM Mobile Communications Research Laboratory

The Dialog - UoM Mobile Communications Research Laboratory is specialized in applied research in mobile telecommunication technologies & internet applications. The activities of the Research Laboratory focus on stretching the frontiers of applied mobile technologies through research and development pertaining to initiatives of national and regional significance.

The Laboratory is funded by Dialog Axiata and harnesses the leading edge technical capabilities inherent to the company and the University of Moratuwa. This is the first fully industry-sponsored research laboratory to be established in a University in Sri Lanka. Also it is the country's first laboratory for research and development in mobile communications.

http://www.ent.mrt.ac.lk/dialog/