TECH mahindra

CASE STUDY

Enabling a Leading Middle Eastern Utility Company Achieve More than 98% Collection Efficiency with Advanced Metering Infrastructure

Overview

A large middle eastern utility company wanted to build advanced metering infrastructure (AMI) by replacing conventional meters with smart meters. With this, they wanted to generate accurate and on-time bills, improve customer service, and reduce operational costs. TechM enabled this right from advisory to program management services for the complete AMI rollout. TechM provided the support and services for the right selection of internet of things (IoT), and data logger devices based on expertise in the energy and utility domain.

Client Background and Challenge

The client is a large utility company in the middle east providing electricity and water supply services. The client wanted to build advanced metering infrastructure (AMI) by replacing conventional meters with smart meters. With this, they wanted to set a high standard of performance while reducing overconsumption and wastage of energy and stop power theft and under-recovery of bills. The client wanted to achieve the following results from the project:

- Improve customer service and reduce operational costs.
- Eliminate costly meter operations and automate bill generation.
- Remote meter connection and disconnection, tamper detection, outage monitoring, and voltage monitoring
- Ability to generate automated, timely, and accurate bills, regardless of weather conditions or property access limitations.
- Enable remote connections and disconnections and on-demand, out-of-cycle meter readings.
- Enable utilities to proactively address customer billing issues.
- Improve revenue collection and cost recovery by implementing pre-pay billing programs that help customers avoid defaulting on their bills.

Our Approach and Solution

TechM was involved in the advisory and program management of the complete AMI implementation for electricity and water smart meters. We were strategically engaged with the client for a complete business transition and had been engaging with several vendors for the AMI program. The high-level solution consists of various product integration to enable smart metering services. Tech M advisory services for the client's AMI program are in the rollout, security, and smart meter operation center (SMOC).

We helped the client in the complete rollout of 1 million smart meters. This includes the electricity meter rollout as well as the watermeter AMI rollout and the execution of both these rollouts happened in parallel.

We provided complete security solutions for both meter-related security and network security, which helps the client to ensure the safety of meters and no network-related threat.

We set up the smart meter operation center (SMOC) and the communications infrastructure. SMOC is used for monitoring and overseeing the health and operations of all the smart meters deployed and installed. It provides an overview of the entire AMI operation while the communication infrastructure helps to communicate with the client's other operational teams and departments to ensure services provided to their end customers are of the highest quality.

Business and Community Impact

Tech Mahindra has helped the client successfully roll out 250,000 electric smart meters and is now working on water meters. With the implementation of the latest AMI technology, the client can convert unmetered connections to metered ones and perform device control transactions like Connect-disconnect, on-demand read on smart meters, etc. The successful rollout of the electricity meter increased operational efficiency and provided enhanced visualization of the distribution network.

- Increased revenue collection, with accurate on-time billing.
- Achieved > 98 % of collection efficiency and consumption data for billing purposes.
- Better monitoring of electricity usage, load profiles, and power quality for network management.
- Reduction/detection of electricity pilferage, as smart meters reported on critical events.
- Individual consumer demand and remote/auto disconnection in case of any load violations or payment defaults.
- Reduction of distribution network overloading, thereby increasing the life of critical assets (i.e., transformer, cables, etc.).
- Established the baseline data and infrastructure for future grid modernization to incorporate new inmates like electric vehicle (EV) charges, DG generation, and adaptive grid solutions

We are currently creating a database for short-term and long-term network planning and expansion to optimize demand and supply growth.

To know more, reach us at DigitALL@techmahindra.com

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