

RAKStars Success Stories



miota

live smart

RAKSTAR
Success Stories



www.RAKwireless.com

Project Summary

The goal is straightforward. Solving inefficiencies in Indonesia's outdated electrical grid infrastructure by implementing an end-to-end IoT ecosystem while equipping consumers and power providers with an integrated monitoring and payment system, providing complete transparency and accessibility.

The company implemented the Miota Power Grid - a platform from the Miota Grid ecosystem - a LoRa-based online electricity payment solution in partnership with Muba Electric Power (MEP), a Regional Owned Enterprise located in Musi Banyuasin Regency, South Sumatra.



miota

live smart

Company Profile

Miota pioneered the implementation of IoT in Indonesia, a part of the world that is not necessarily associated with technology but has many potentials. With their innovative approach, they became the first company to provide an end-to-end solution through their smart ecosystem.

The company's mission to accelerate societies' transformation to smart living is one around which almost every developer in the IoT sphere can circle. After all, isn't exactly that the whole point? To better the quality of life using technology, discovering and implementing innovations, and moving forward. Together!

The Challenge

The main problems for MEP that they needed Miota's services and the implementation of a smart grid solution were bad debt & collection, electricity loss, and management control over employees and customers who may commit fraud.

Bad debt & collection has been the number one problem since the very beginning (2004), and this issue has never been solved. Since MEP used a postpaid payment collection method and did not have a system to secure payments from consumers, more than 50% did not pay in time. In some extreme cases, consumers did not pay their bills for years. Furthermore, whenever the company tried to collect payments, consumers, in various ways, including violence, would come up with excuses to not pay while still unwilling to have their electricity cut off. As a result, MEP struggled, and their success rate was only around 50%.

Electricity loss occurs in various forms, and the most common one would be illegal connections where unregistered customers would consume electricity. In addition, many consumers would make direct electrical connections through the kWh meter. This causes MEP to lose electricity without generating income.

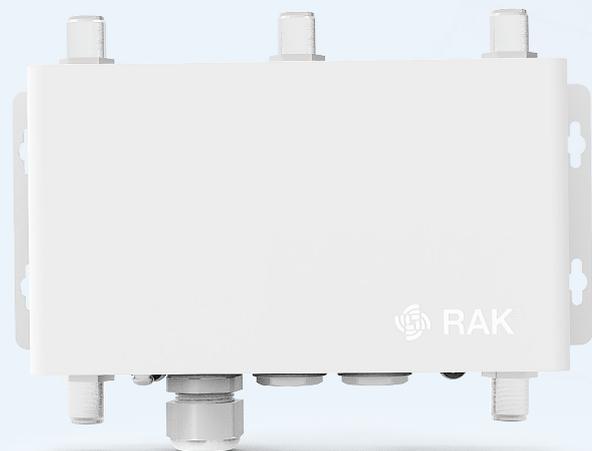
Also, geographically, the tough topographical of rural areas, spreading houses, and poor infrastructure made it worse for MEP to keep up maintenance and collection activities.

On the other hand, doing everything manually creates opportunities for employees to commit fraud due to a lack of a coherent management information system. Opportunities for fraud include employees billing the consumers, consumers paying, but the money does not get delivered to the company.

A solution was desperately needed!

RAK Product used:

- RAK7240 WisGate Edge Prime



The Solution

Starting with one region of the Sumatra Island, Indonesia, currently, Miota is on its way to integrating 50.000 households and offices electric meters communicating directly to the power provider. This initial project is being held in a remote area, in a plantation and mining-focused region, where it is apparent that the LoRaWAN technology would be the best option to facilitate the integration ecosystem.

The ecosystem provides benefits for the two sides, i.e., the power provider and the consumers. For providers: secured cash flow, automatic payment collection, increase in revenue, and ability to track electricity consumption. While for consumers: accurate billing information, easy to pay system, and the possibility to track electricity usage.

For their project, Miota chose to use RAK7240 WisGate Edge Prime. Since their solution needed a reliable and flexible outdoor gateway network, this is a sensible decision. With its 8/16 channels, LTE module, and PoE, not to mention the IP65 industrial-grade enclosure and all the software perks, the device proved itself perfect for the intended purpose.

It is hard to do it all for your clients. But end-to-end solutions are becoming more and more popular and demanded. They are convenient, and the process is done by the same group of professionals who know what they are doing, which gives a sense of ease and reassurance.

Data management, analytics, and visualization system is a must to every solution. Miota's platform for this solution gives the client the ability to manage, support, and drive real-time data insights. The generated data from the devices brings data analytics value into the picture. They use Machine Learning to classify the data and to ensure the right information is sent out back to the device for decision making.

The Outcome

The solution in its complete form is the building of the Miota Power Grid, an online electricity payment management system by:

- Changing the system from postpaid to prepaid;
- Changing the manual kWh meters to smart digital meters that are connected to the data center;
- Install transformer monitoring;
- Setting up the data center and operational dashboard;
- Preparing a customer mobile app that is connected to the bank through mobile payments;
- Call center application.

Smart meters are connected using LoRa to the Gateway, and the data center allows 2-way communication from the smart meters to the data center and vice versa. Thus, in addition to knowing the electricity consumption (both by the consumers and the power providers), the system can send notifications to consumers when their electricity is about to run out (after a certain threshold), and power providers can turn off the electricity flow to those consumers if they do not top-up. Therefore, there will be no more consumers who do not pay for their electricity.

Customer mobile app is connected to mobile payments allowing consumers to purchase electricity wherever they are and get daily information related to their electricity consumption. Thus, they can manage their electricity consumption with their respective budget. A call center system prepared by Miota can receive customers' complaints 24/7. This system is also connected to the data center to trace the data of every customer who contacts the call center. The whole system uses LoRa-based connectivity, reducing connectivity costs.





RAKSTAR Achieving Goals
Success Stories **TOGETHER**



✉ partnership@rakwireless.com

📍 Shenzhen RAKwireless Technology Co., Ltd.
Room 506, Bldg B, New Compark,
Pingshan First Road, Taoyuan Street,
Nanshan District, Shenzhen, China

About RAKwireless:

Shenzhen RAKwireless Technology is a pioneer in providing innovative modular IoT solutions for the three critical elements of IoT edge devices - computing, connectivity, and node sensing. Our patented, modularized, and simplified design that combines one, two, or all three elements help address diverse IoT applications and accelerate businesses' time-to-market.

RAK® is a registered trademark of RAKwireless. All rights reserved.

Terms and condition for downloading story PDF

RAKwireless holds ownership of all images and content shown on the website. Using images and information from the RAKwireless website must quote RAKwireless as their reference. Any photograph, video, thumbnail, graph, infographic, table, content or logo cannot be used, altered or transformed without the authorization of RAKwireless.

If you wish to use the content from the website for personal use, contact RAKwireless to request for these files and ensure that you will use the RAKwireless logo and link it to the RAKwireless website.

Also, if the content from the website will be used for academic or research purposes, include all references used and RAKwireless as the main reference of the information.



www.RAKwireless.com

Copyright© Shenzhen Rakwireless Technology Co., Ltd.

