

RAKStars Success Stories



Smart Farming solutions



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Project Summary

The project and one part of the company's services are bringing farming to the next level by installing gateways on farms to provide the LoRaWAN coverage that enables the deployment of remote sensors.



Company Profile

Farmo is an Australian ag-tech startup that helps farmers make better decisions using data collected from remotely deployed sensors. Their portfolio consists of all kinds of sensors that can prove useful in agricultural establishments and activities. They have water, weather, and soil sensors that measure different parameters, as well as people counters and asset-related ones, all that you may need!



The Challenge

Farmo is basing their solutions on real inquiry from real people, farmers that are searching for ways to optimize their farms. Some of the frequently searched solutions include:

- 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.

RAK Product used:

- RAK7240 WisGate Edge Max



The Solution

Farmo is on the ground helping farmers adopt and implement digital technologies. They are continuing to roll out more gateways and more coverage in small-scale deployments that suit the user's case.

The LoRaWAN gateways must be secure, reliable, and resilient in the toughest conditions. That is why they have chosen the RAK7249 because it has proven to be the best gateway for such use cases in rural Australia.

• The sensors

If the sensor exists off-the-shelf, Farmo will resell it, but if there is a use case where the right sensor does not exist, they will invent it. Farmo has two patents filed for inventions including a floating water level sensor (Water Rat) and a Farm Gate Sensor (the only one that works for farm gates). Therefore, at their core, they are a hardware design company. However, you cannot sell the hardware to a customer without coverage so they started to provide coverage as well.

• The LoRaWAN coverage

Even though some local councils have invested in LoRaWAN coverage in the region, most farms still require their LoRaWAN gateways and networks. You can see from the photos we choose locations like machinery sheds with high roofs and 240v power inside are usually chosen for deployment of a gateway. With a pole on top for the antenna, these are perfect to place the RAK7249. Australia is fairly large and diverse geographically, so there is not a single coverage technology that is good for all situations. So, a switch between LoraWAN, NB-IoT, and satellite (and sometimes a mix of all three) is needed depending on the size/location/topography of the client's location.

• The dashboard and alerts

Farmo has customized and white-labeled a GUI so that each customer has a dashboard displaying data from their organization's sensors. The most important part is the alert function that enables customers to control email and SMS alerts based on trigger values and specific times. Aside from the LoRaWAN ones, they also have NB-IoT sensors going through a different server, but it all gets pushed to the single customer dashboard.

This may sound a little different from the business model focusing on "big data". That model has not succeeded in Australia and instead, Farmo decided to focus on small data that solves real problems. This leads to increased uptake and trust in digital technology. Over time, longitudinal data sets are building and customers will have access to their own big data, and the learnings that come from that.

The Outcome

The company started out developing technology to address problems on farms and now provides solutions for smart cities and urban businesses as well.

Personalized smart solutions are sure to achieve the goals of particular clients and to meet their needs. Farmo is developing sensors and deploying whole networks of them to ensure stable business growth not only for them but for their clients too, with a thought for the environment.

Providing end-to-end solutions for smart farming is not only a promising business model with a feature, but it is the right way to go regarding agriculture – lessening waste, optimizing the workflow, and increasing revenue.





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Success Stories **TOGETHER**



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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.

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