



SMART FARMING USING SUPER WIFI



KHK
• PLANTATION •


DURIAN FOREST
陳王森林
智慧林 • Smart Forest


DURIAN GARDEN
陳蓮苑

A use case of high-speed wireless backhaul, multi-SIM card aggregation and long range Super WiFi technology for smart farming and Internet access applications for durian farm.

OVERVIEW



Agriculture these days is facing increasingly challenging due to factors such as unpredictable climate change and shortage of manpower. Adoption of Smart Farming with use of digital information is essential to guide decisions along the agricultural value chain. New technologies such as drone applications, cloud technology and Industrial 4.0 applications have been proven to address some of the challenges. Applying these technologies will contribute to the improve of agricultural productivity.

With emerging Internet of Things (IOT) technologies, IOT devices can automate the collection of weather, soil, fertilization and irrigation data; automatically correlate such data to improve crop performance, mitigate crop diseases and compute crop forecasts efficiently.

To implement this Aglotel has successfully built-in an extensive high-speed broadband Internet infrastructure as the enabler for the smart farming applications for one of the largest durian farm estate in Raub and Karak with an estimate of more than 4000 acres of durian plantation.

OBJECTIVES:

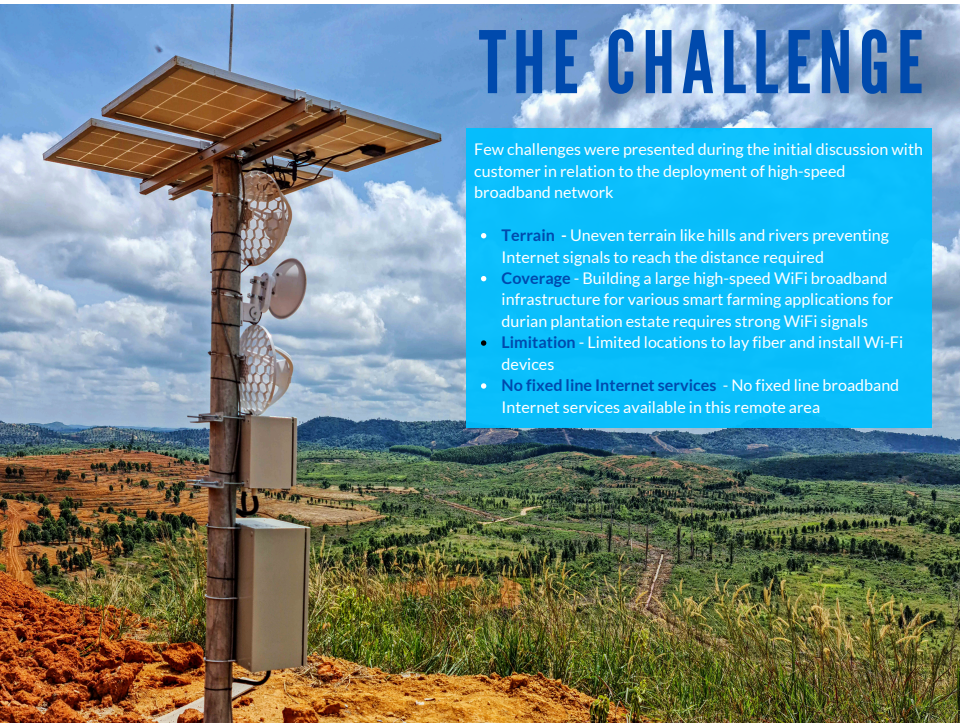
Fulfilling the Smart Farming initiatives, the high-speed broadband infrastructure solution for KHK plantation is designed based on the following objectives:

- To build a large high-speed WiFi broadband infrastructure for various smart farming applications in the durian plantation estate
- Allowing employees to have broadband Internet access for multiple, system-owned or personal mobile devices
- Strong Internet coverage for convergence of various digital applications such as IOT sensors, CCTV, cloud internet access and IR 4.0 smart farming applications.
- Use of smartphones, drones and other portable devices for smart farming application within plantation area.

THE CHALLENGE

Few challenges were presented during the initial discussion with customer in relation to the deployment of high-speed broadband network

- **Terrain** - Uneven terrain like hills and rivers preventing Internet signals to reach the distance required
- **Coverage** - Building a large high-speed WiFi broadband infrastructure for various smart farming applications for durian plantation estate requires strong WiFi signals
- **Limitation** - Limited locations to lay fiber and install Wi-Fi devices
- **No fixed line Internet services** - No fixed line broadband Internet services available in this remote area



THE SOLUTION

Adopting the Mimosa high-capacity wireless backhaul solution eliminates the need to lay physical fibre optic cables. Mimosa's technology provides up to 1Gbps Point to Multipoint wireless network on the 5GHz unlicensed band spectrum.

Multiple 4G SIM cards coupled with SIM aggregation and load balancing router were installed at high ground with strong mobile signal. Bringing 4G signals through large uneven terrain of hills and rivers can be achieved using Mimosa wireless without the need of laying fiber.

With SIM card bonding, hostel quarters is now equipped with high speed broadband facility for workers. This solution delivers up to 150Mbps Internet access for workers' hostels, CCTV surveillance applications etc.

The Altai Super WiFi solution enables long distance coverage with lesser number of access points required. Staff hostels, canteen and public areas are now equipped with high-speed WiFi Internet services.



THE RESULT

With Mimosa Point-to-point backhauling and Altai Super WiFi solution deployed at KHK durian farm, the smart farming digital initiatives and objectives are achieved with much lesser investment cost. Besides cost, the entire project deployment time took only less than two months to complete. Areas that seems impossible to have Internet services can now enjoy high-speed broadband which is an important enabler for their smart farming initiatives.

This project has exceeded customers expectation in which Aglotel has successfully designed and deployed for various applications fulfilling both its current and future digitisation initiatives.



Customer: KHK Plantation Group
Location: Raub & Karak farms, Pahang, Malaysia
Applications: High-speed Internet access, smart-farming solutions & public surveillance
Products Deployed: Altai C1n Super WiFi & Mimosa C5x
Point-to-point backhaul

ALTAI
Super WiFi

mimosa
by Airspan

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