



Microwave backhaul and telco services in remote rural Australia

Connecting remote Renewable Energy Site requiring stable, reliable & speedy installation for Acciona Group's Macintyre Wind Farm Construction.

The Customer

Acciona is a Spanish Multinational Conglomerate leading in Renewable Energy Plantations. Rooted in a merger of MZOV (1862) and Entrecanales y Tavora (1931), Acciona operates through four core groups: Infrastructure, Energy, Water, and Other Businesses. Acciona Energy achieved a milestone, producing 21 Terawatt-hours of renewable electricity in October 2020. Listed on IBEX 35, Acciona employs 30,000 professionals across 30 countries, driving global sustainable progress, including Australia.

The Challenge

In the remote expanse of Queensland, Australia, Acciona Construction grappled with monitoring power output and providing internet access for their Macintyre Wind Farm. With a team in Spain overseeing operations, remote monitoring was a challenge. The case showcases how innovative technologies and strategies can conquer geographical barriers, to ensure optimal wind farm performance in a remote location.

The Solution

Acciona Construction faced a significant communication challenge at the remote Macintyre Wind Farm site. To tackle this issue, they enlisted the help of Wave1 Pty Ltd, a trusted collaborator from previous projects. Given their successful track record, Acciona believed Wave1 could devise a solution for this complex problem.

Through a collaborative effort between Acciona Construction and Wave1 Pty Ltd, a reseller of Intracom Telecom in the continent, a highly functional communication network was established at the Macintyre Wind Farm construction site.

Case Summary

Customer

- Acciona Construction

Industry

- Renewable Energy

Region

- Australia

Challenge

- To offer 5G communications directly to site
- Closest Node over 50 km away
- No electricity onsite during construction stage.

Solution

- UltraLink™-FX80
- OmniBAS™
- OmniBAS™-BX
- StreetNode™ V60-PTP
- Solar Shelter, Monopoles and Electricity Connection at Tower Connection Site and NBN Internet Connection Services. Remote Monitoring Services and Onsite Disaster Recovery Insurance

“This achievement exemplifies how innovative solutions and technological expertise can conquer even the most challenging environments, ensuring effective communication and operational success. Powered by the collaborative synergy between Acciona Construction, Wave1 Pty Ltd and the technology vendor Intracom Telecom, a remarkable communication solution was forged at the Macintyre Wind Farm construction site. This case underscores the remarkable potential of partnership, innovation, and advanced technology in surmounting intricate operational hurdles.”

Wayne Anderson
CEO, Wave1 Pty Ltd



Upon conducting a thorough site survey and path calculations, Wave1 set out to design a stable and effective communication network. Their solution involved creating a Fixed Private Wireless Network that exceeded Acciona's initial expectations. The network was intended to facilitate seamless communication across the expansive site, with the added capability of remote monitoring via the internet.

The implementation process was intricate yet impressive. The network relied on site hops, connecting various demountable sheds and structures. A pivotal component was the Solar Container Shed, purpose-built and equipped with cameras and communication gear. This solar-powered container served as the central hub for the network. Using Intracom Telecom's OmniBAS™-4Wcx MW system at this central point, connections were established to multiple locations.

For instance, the Rabbit Hill Tower acted as a crucial link to the NBN Connection, utilizing Intracom Telecom's E-Band system, the UltraLink™-FX80, to provide high-speed internet across the network. At the Solar Container, an OmniBAS™-2Wcx radio was employed to create connections to the Camp Site. From there, the network split into two branches, one utilizing the reliable StreetNode™ V60-PTP system to connect the main office and the other employing a smaller radio system for the Temporary Construction Office.

Overcoming challenging weather conditions and rugged terrain, the network consistently achieved remarkable results. Operating in the extreme temperatures of Queensland, Australia, the network maintained an impressive average speed of 1237 Mbps Full Duplex across the vast 51 km span, with a combination of products from Intracom Telecom's wireless portfolio.

About Intracom Telecom

Intracom Telecom is a global telecommunication systems and solutions vendor operating for over 40 years in the market. The company has become the benchmark in fixed wireless access and it successfully innovates in the 5G/4G wireless RAN transport and small-cell SON backhaul international arena. Intracom Telecom offers a comprehensive revenue-generating software solutions portfolio and a complete range of ICT services, focusing on IoT, SDN/NFV, Big Data analytics & data-driven intelligence, and Smart City solutions. Moreover, it addresses the Energy & Utilities industry, emphasizing on smart metering and end-to-end IT solutions. Intracom Telecom is also active in the defense systems sector providing security integrated systems for critical infrastructure protection and border surveillance. The company has extensive know-how and a proven track record in the market, serving fixed and mobile telecom operators, public authorities and large public and private enterprises. Intracom Telecom maintains its own R&D and production facilities, and operates subsidiaries worldwide.

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