



M2M CONTROL CASE STUDY

Saudi Electricity Company

FreeWave and Baud Telecom Company Solve Outdoor IoT Networking Challenge for Saudi Electricity Company and National Grid Saudi Arabia

RIYADH, Kingdom of Saudi Arabia – Saudi Electricity Company (SEC) / National Grid Saudi Arabia (SEC/NG SA), is the leading electricity utility company in the Kingdom of Saudi Arabia and the surrounding region. It provides services to various governmental, industrial, agricultural, commercial and residential sectors. SEC demands extremely robust and secure technology solutions that perform well under harsh conditions, and it relies on companies like Baud Telecom Company, (one of the largest integrated ICT solution providers in the Middle East), to provide the critical services necessary for its success.

FreeWave Usage and Applications with SEC/NG SA

The focus of the first collaborative project tackled by Baud Telecom Company (BTC) and FreeWave was to deliver a reliable and secure industrial IoT network to a remote power plant site in the desert operated by the premier power provider. SEC needed to deploy outdoor rugged field systems capable of withstanding the extreme conditions such as sand blasts, high temperatures (rising to 65 degrees Centigrade / 149 degrees Fahrenheit), wind, sun, salt, and humidity (site is located near the Persian Gulf) that are found in the surrounding environment. Additionally, the presence of considerable amounts of metal and reflective material at the power plant made it even more difficult for a radio frequency (RF)-based communications to work effectively.

With these challenges in mind, FreeWave and BTC leveraged their technology expertise to address the following applications, all required for efficient and safe operations at the remote site:

- A self-discovery, self-healing point-to-multi-point WiFi mesh network spanning the entire power plant to provide IP connectivity to field crews, as well as other machinery and smart devices.
- Reliable voice over IP (VoIP) communications for onsite personnel to communicate with each other in real-time.
- Conveying security camera control and video data transport back to a central monitoring center for observation of mission-critical systems and personnel onsite.
- SCADA networking to allow monitoring of the inbound water quality used for cooling applications.
- AMI backhaul networking to help manage energy consumption within the smart grid.
- Providing a WiFi hotspot to the residents of the neighboring village, enabling internet access for local services and information.

Outcomes with FreeWave, BTC and SEC/NG SA

Despite the challenges and with all of the application requirements mentioned above, FreeWave and Baud Telecom Company successfully designed and implemented an outdoor, self-healing industrial IoT network that enabled the secure collection, control and transport of Voice, Video, Data and Sensor data (VVDS™). In fact, SEC became the first customer to deploy FreeWave’s WavePro™ (WP201™) shorthaul Point- to-Point and WiFi hotspot platform.

By incorporating dual-band, concurrently operational radios (2.4GHz and 5GHz) into an IP67 enclosure, WavePro was able to bring industrial-grade communications to the remote power plant site reliably without failures.

Plans for additional installations are in progress as WavePro presents an ideal field area network solution for the numerous outdoor applications that SEC requires.

HIGHLIGHTS

- The outdoor, self-healing WavePro network has been installed since October 2015, performing with outstanding **100 percent uptime**, despite the challenging environment.
- Abdul Aziz Al Sultan, telecom engineering and substation automation department manager at SEC/NG SA, said:
“With FreeWave’s WavePro, we are confident that we have found a reliable and flexible platform that can be deployed quickly and can be cost- effectively integrated into our network.”
- Omar Al Charif, Telecom Business Unit Manager for BTC, explained that “our customers demand that we deliver the best ICT solutions and services available, and therefore we must be highly selective in the partnerships we create. After a rigorous review of many alternatives, we are excited to partner with a reputable industrial IoT communication technology partner such as FreeWave and are confident that we will deliver the value, high performance, security and reliability that our customers expect.”
- FreeWave made a significant breakthrough into the Middle Eastern marketplace by forming a strategic partnership with the premier systems integrator in the region, causing industry observers to anticipate more great advances from this new partnership in the future.



CONTACT US

5395 Pearl Parkway, Boulder, CO 80301
 TF: 866-923-6168 T: (303) 381-9200
 For more information, visit www.freewave.com