



Case Details

The client, a major sugar cane grower in Queensland Australia, uses a wireless radio link to communicate with a sugar train. Over time the client had experienced break-downs in the communications links which led to inefficiencies in the collection and transportation of the sugar cane. After experiencing these issues they had decided to review their radio system. The review included carrying out a radio survey of the rail system from a sugar train to determine the optimal placement of signal repeater towers for reliable radio communications. A logging solution compatible with GPS was required so that they may identify and combat radio 'black-spots'.

Key Requirements

Long term monitoring solution
Capacity for high number of sensors

dataTaker Data Logging Products

- 1 Cost effective data logging solutions
- 2 Capable of measuring and logging DC voltage, current and resistance sources in addition to digital signals
- 3 Suitable for small to large scale applications
- 4 Rugged design and construction provides reliable operation under extreme conditions
- 5 Designed and manufactured in Australia to the highest quality standards



Cane Train: These trains run on extensive rail networks around sugarcane plants

dataTaker Solution

Equipment

dataTaker DT800 data logger

Sensors

Garmin eTREX Summit Global Positioning System (GPS)
Signal Strength Meter

Implementation Notes

The client installed UHF and mid-band transmitters and rigged the train with aerials and radios.

The dataTaker DT800 monitored and recorded the signal strength from the radios recording RF dead spots. The Garmin GPS was connected to the DT800 serial sensor port, which captured the current position of the train and stored this data in parallel with the radio signal strength measurements. During the project period, adverse weather conditions were experienced, which would further highlight the areas where radio communications were poor.

The data was later unloaded from the DT800 and overlaid on a map of the area, which quickly revealed the locations of poor communication. From this data optimal placement of signal repeater towers could be determined to provide more reliable radio data communications.

Following the project, the new signal repeater tower positions significantly improved the communications link to the trains, which came to be more reliable than before and increased productivity and hence profitability.