

Long Range (LoRa) Wireless Telemetry Networks For On Farm Monitoring

Bringing the Internet of Things (IoT) Revolution to Agriculture

Over the last few years, TekBox have cemented a reputation for themselves as the leader in SDI-12 sensors for the agriculture market. They have now take things one step further with the release of the LoRa Long Range Telemetry platform.

The LoRa Revolution

For years, mobile phone and Radio systems have dominated the monitoring market. These two platforms have served well, but there has long been a cry for something different: a product which can provide longer transmission distances than the radio systems but without the cost and network dependence of the cellular systems. A platform which delivers data straight to the Internet.

After years spent scanning the market for something to meet this need, TekBox were introduced to the new LoRa (Long Range) telemetry and LoRaWAN (long range wide area network) systems. This interest has led to the development of a suite of compact LoRa based sensors and sensor interfaces.

Why LoRa?

LoRa is an open system - that is, the rights are not owned by a single company and developers are free to build their own LoRa based products.

The LoRa radio modules utilise a unique encoding system to allow them to work on much lower signal strengths than possible with other modulation techniques: that means longer transmission lengths from a given power level.

On it's own, LoRa may be used for point to point and point to multi-point radio systems - replicating what any other radio network can do. But when LoraWAN is added, you get a complete "IP" based networking system - one capable of sending data to any internet connected device or node anywhere in the world.

Many people have experimented with using commercial WiFi devices in on farm applications without real success: these devices are designed for high speed, short distance comms and just can't cut it in the low power, low data, long distance realm of on-farm telemetry. LoRaWAN has been designed specifically to meet the needs of this segment.

TekBox LoRa

As leaders in SDI-12 TekBox offers a unique flexible LoRa system:

- SDI-12 based for maximum compatibility plus a host of interfaces for analogue, pulse, resistance and other types of sensors
- flexible backbone: use our Base Stations, subscribe to a Telco's service or buy your own
- 10km radio range
- flexible power options: Solar, DC, Dry Cell/Single Use Lithium
- Web based data presentation



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Telemetry Over Internet Protocol