MODERNIZING COW FEEDING WITH A WIRELESS MANAGEMENT SYSTEM

SUMMARY

Feeding cows is surprisingly more complicated than simply giving them a bunch of grass and calling it a day. Optimal ratios of specific mixed ingredients and amounts to each herd must be calculated with precision for each herd to ensure peak nutrition for them all.

Approximately one billion cows live on our planet. Specifically, they live in the 38.5% of total habitable land Earth has to offer, dedicated to livestock grazing and animal feed production. That's a lot of mouths to feed over quite a large area, which means each calculation error has a negative compounding effect on the entire output of a farm.

CHALLENGE

In older times, when a family had only a cow or two, feeding them didn't call for maximum time and feed efficiency. But when a farm has thousands of cows or more, a more intelligent system is needed. Such a system needs to calculate ingredient ratios, track the amount of food being given to each herd, and provide farmers with this data to ensure that all is operating smoothly.

Achieving this requires weight sensors to communicate with a server that makes these calculations and analyses. The problem is, the way cows are fed is that a mixer wagon attached to a tractor mooves from herd to herd and automatically dispenses their food. The mobile nature of the process means wired communication between sensor and server is difficult to establish effectively. A wireless solution is a must.

SOLUTION

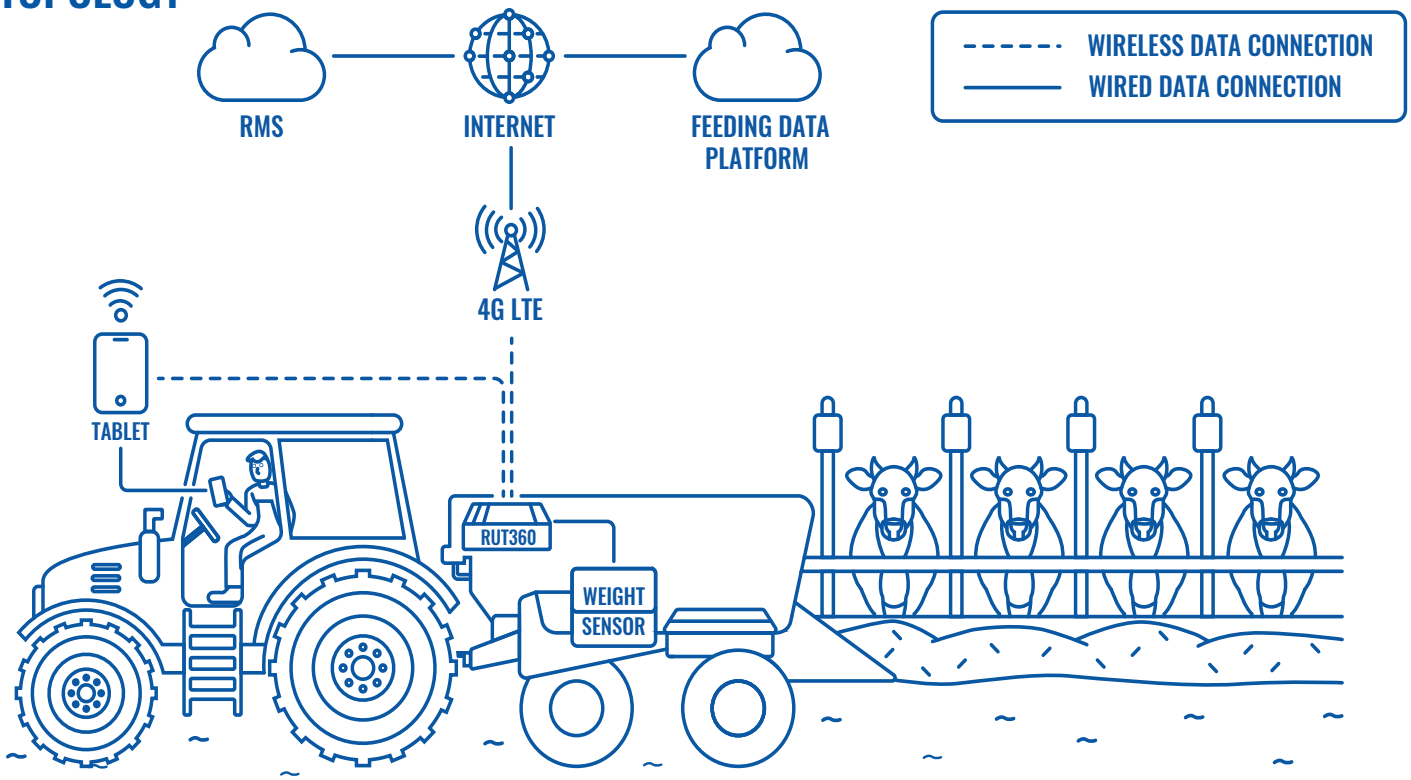
The solution is simple but highly effective. A weight sensor is installed on the mixer wagon attached to the moving tractor, measuring the amount of feed in the mix at any given time.

The sensor is connected via an Ethernet interface to our bestseller, the RUT360 cellular router. The router is placed in a gateway cabinet installed on the mixer wagon and sends the sensor's data to a dedicated cloud server for analysis.

In addition, the RUT360 also provides a stable Wi-Fi connection to the mobile devices used by the farmers to oversee and manage this sophisticated system with a dedicated app.

The flexibility of RUT360 makes it the perfect choice for this IoT solution for two main reasons. First, it's compatible with a wide range of antennas needed to cover the large area of a farm. Secondly, it can be powered by the tractor itself, as its voltage fits the router's power supply range of 9-30 VDC.

TOPOLOGY



BENEFITS

- Cat 6 LTE and carrier aggregation functionality allow the RUT360 to provide high speed, stable wireless data transfer and act as a Wi-Fi hotspot, even where cellular data speeds are limited.
- Compatibility with a wide range of antennas and the voltage range offered by a tractor makes the RUT360 the perfect choice for farms, even ones that cover an extensive area.
- Being small in size but highly durable, RUT360 can easily find a spot on your wagon while also withstanding your tractor's vibrations.
- RUT360 is equipped with the WAN failover feature, which automatically makes it switch to an alternative operator in case of any connectivity issues. This guarantees zero hiccups in the feed management system process.

WHY TELTONIKA NETWORKS?

RUT360 is great due to its reliability and ease of use – two pillars of our product design philosophy. When we envision our products, we focus on how they can benefit you and how your interaction with them can be maximized. The result is connectivity devices that are udderly joyous to work with.