

Keeping secure with LoRaWAN sensors

Rural crime is a growing issue across the UK, costing the farming sector millions each year and creating anxiety in the countryside. Cost effective sensor technology deployed over LoRaWAN networks opens new and innovative ways to keep farms secure and alert to suspicious activities.

In its 2020 Rural Crime Report, insurer NFU Mutual revealed that rural crime in the UK had jumped 9% between 2018 and 2019 and cost the industry some £54m. Scotland has been particularly hard hit, seeing a rise of 44% between 2018 and 2019. Unsurprisingly, the main target for rural crime is farm machinery, including quad bikes, tractors, and other high value items. Livestock theft also increased substantially, showing a 15% year-on-year rise. Unfortunately, much of this rise in rural crime is linked to organised criminal gangs and is causing anxiety and even fear in rural communities across the UK.



Many farmers and communities are turning to technology in the fight against this rural crime wave, deploying a range of solutions that span a wide spectrum of cost, complexity, and usefulness. Sensors working over LoRaWAN networks can help in the fight against rural crime using cost-effective GPS asset tracking devices and other sensors. LoRaWAN overcomes many of the connectivity challenges associated with deploying traditional security systems by providing a reliable network over which real time alerts can be sent to a farmer in the event of a piece of machinery being moved, a gate being opened, or movement being detected out with regular working hours.

With most thefts occurring out with daylight hours it is often the case that the farmer only notices an asset is missing the following day, at which point the ability of the police to catch the perpetrators is reduced. By providing timely alerts via smartphone, the farmer can be notified of suspicious activity immediately increasing the chance of arrest and asset retrieval.

In addition to GPS trackers, other security focused devices such as movement sensors, noise triggered sensors and gate sensors can be deployed as part of a LoRaWAN based security system, allowing alerts to be triggered in the event of e.g., a gate being opened, or movement detected. This can help in situations where livestock theft is an issue as long-life, battery powered LoRaWAN sensors can be deployed in remote parts of the farm beyond the reach of traditional security systems.

Similarly, smoke detectors can be deployed for early detection of fire from accidental ignition or arson.

Using LoRaWAN as part of your security system, to supplement CCTV and conventional systems, also has the advantage that the connectivity can come from more than one location. Hence, "knocking the power out" at the target property, does not automatically remove the protection.