



Development of a new portable UHF RFID reading device: use case for tracking small ruminants at points of interest in sheds or pastures

The **Ultra-High Radio Frequency Identification (UHF RFID)**, already used in various sectors, is being standardized by ISO for animal identification. Offering long-range reading (up to 6 m) without the need for animal restraint, it enables the simultaneous identification of multiple animals at a low cost, thanks to its passive, battery-free design. As part of the TechCare project, the company Page Up has developed a portable UHF RFID reader that connects via Ethernet or 4G and transmits real-time data to a remote database. Tested on pilot farms, it tracks the use of points of interest (e.g., water troughs, feeders, entrances).

This innovation consists of **two key components**:

- A **connected hardware system** integrating a UHF RFID reader up to 4 antennas, optimized for environments without a constant power supply (presence detector, portable battery, solar panels). It communicates via the cloud for monitoring and configuration and transmits real-time data through Ethernet, 4G/5G, or Bluetooth.
- A **cloud-based database** and user interface to store, process, and analyse collected data. Users can configure alerts (e.g., missing readings, hardware failures) and adapt the data output to their needs, from simple notifications for flock monitoring to advanced data collection for research.

This technology paves the way for enhanced livestock traceability and intelligent flock management.



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