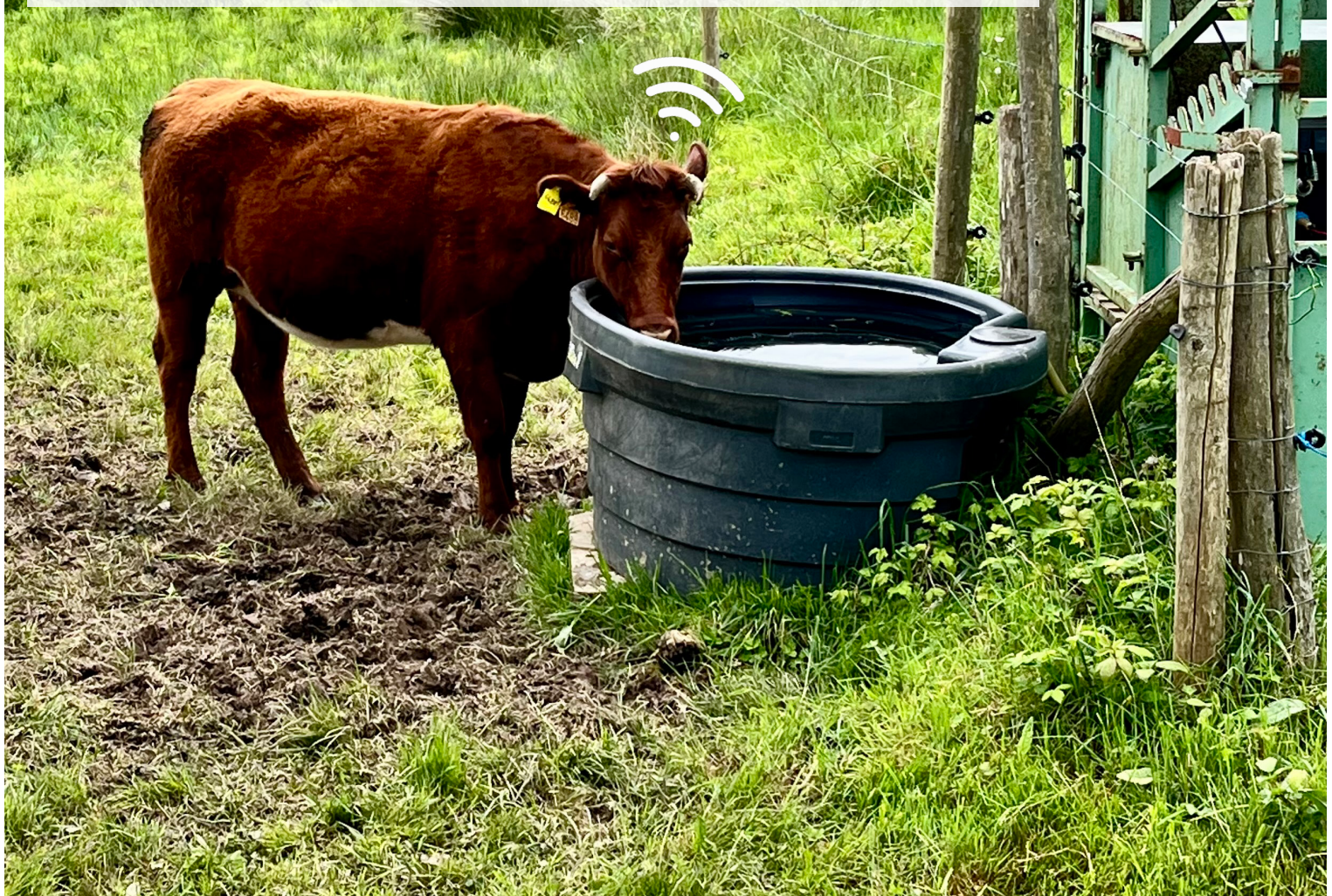




Democratising digital agriculture through tailored open source solutions

Sustainable innovative pilot n°2
Monitoring cattle drinking area usage with UHF
electronic identification



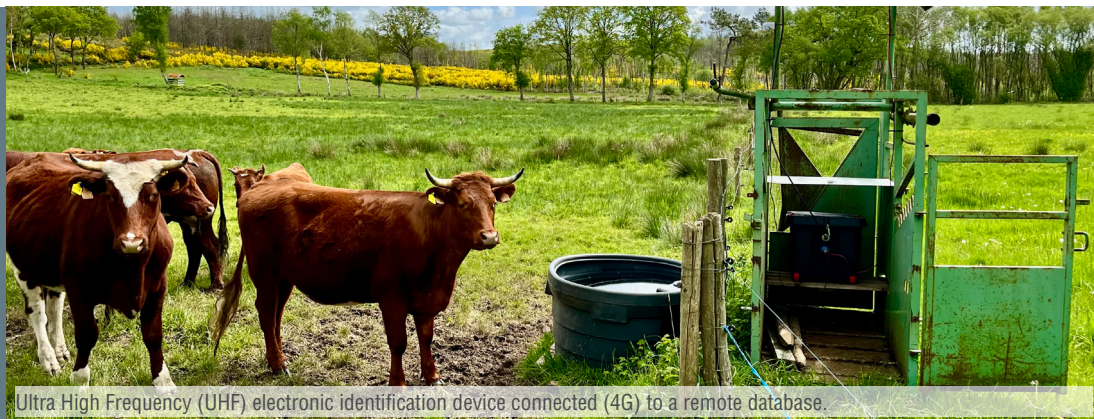
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CONTEXT

The OpenAgri project aims to democratise digital agriculture by developing open-source digital agricultural solutions, both software and hardware, that are accessible, high-performance and adapted to poorly connected rural areas.

By involving farmers and agricultural advisors in a co-creation process, OpenAgri seeks to respond to concrete problems in the field.

The project also plans to provide reusable software services for cloud, edge or hybrid solutions, adapted to biogeographical and socio-economic contexts. Through use cases in more than ten European countries, OpenAgri will compare the performance of these different technologies according to socio-economic and environmental criteria. Finally, a decision-making tool will enable decision-makers and agricultural stakeholders to choose the solutions best suited to their needs.



OBJECTIVES

Connected electronic identification devices (UHF RFID) offer new opportunities for livestock farmers.

By detecting the presence of animals near drinking areas, these devices can be used to remotely monitor individual visits to water trough and alert users to abnormal behaviour, which may be a sign of a health problem. This remote monitoring improves responsiveness to potential animal health issues, while optimising working conditions and animal welfare.

2 OPERATIONAL OBJECTIVES

The solution is based on the use of electronic ear tags detected by a UHF RFID reader, continuously covering the drinking trough area. This device tracks animal visits and establishes individual and collective attendance profiles. Two approaches are being tested in the project:

1 - Cloud: a remote connected mode. This mode involves downloading all data to the cloud and analysing it via a web portal. For example, individual alerts can be generated when an animal has not visited the trough for a certain period of time (chosen by the farmer). Weather data can be linked to this mode to refine the alerts.

2 - Edge: a local, non-connected mode. This mode offers a solution without mobile internet. The device records animal attendance data locally. By pairing his smartphone to the device (Bluetooth) when he goes out to pasture, the farmer obtains a full report of visits to the trough.

3 ACTIONS STRUCTURE THE PROJECT

ACTION 1:

Co-creation of the solution based on Cloud and Edge modes.

ACTION 2:

Two-year pilot phase: evaluation of the solution during two grazing seasons. Implementation of Open Source services from the OpenAgri project (simplified herd management software with a heat stress prediction system, etc.).

ACTION 3:

Dissemination and demonstration of the solution.



TIMETABLE

Project start date:
January 2024

Project end date:
December 2026

SIP2 PARTNERS



PARTNERS

This project is led by Maastricht University.

The partners are the University of Athens, Ilvo, FoodscaleHub, P2PLab, AgStack, SCIO, GreenSupplychain, GSC, EMBIO, EDEN, WODR, ISP, L-PIT, VIZLORE, LinuxFoundation, PSNC, IDELE, CIRBEEF

EXPECTED DELIVERABLES

Creation of a technical solution to measure animal traffic at a point of interest.

Development of an open-source mobile application dedicated to monitoring ruminants drinking area usage.

CONTACTS

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