CELTIC-NEXT Proposers Brokerage Day

11th September 2025, Aveiro

Pitch of the Project Proposal

Animal-Driven Plant Phenotype Mapping

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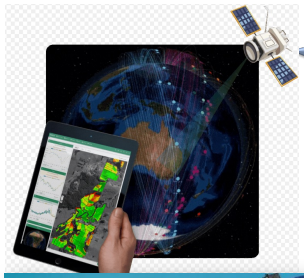
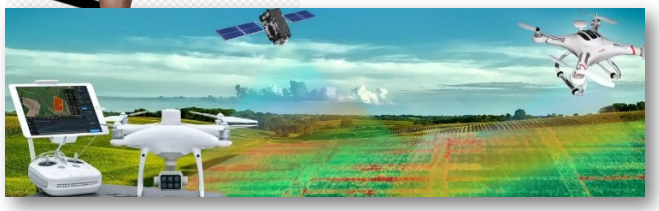
Teaser




Grassland management requires plant monitoring, irrigation, and fertilization

Satellite and drone monitoring is expensive and limited

Using animals for monitoring is cheaper and more effective

Participation will allow the development of an innovative and environmentally friendly integrated pasture management solution for grazing ruminants in Mediterranean (PT), humid subtropical (BR), and subarctic / continental (NO) climates.


Proposal Introduction

- *Grazing animals are perfect vehicles for sampling grassland conditions:*
  - *Using satellite images does not allow plant identification, and drones are expensive and have difficulty in covering large areas.*
  - *Grazing animals exhibit roaming behaviour, wearable devices allow monitoring behaviour, location, and to collect images*
- *Image allows plants recognition and to determine plants' needs (water, fertilizers, pesticides).*
- *Plant recognition enables species identification and nutritive value estimation.*
- *Animal behaviour identification allows to calculate ingestion time, energy expenditure, and to estimate dry mater intake.*

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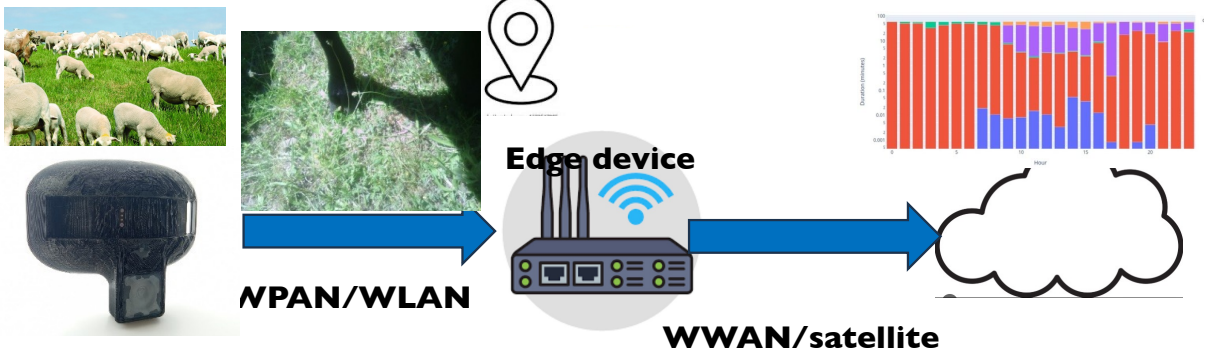

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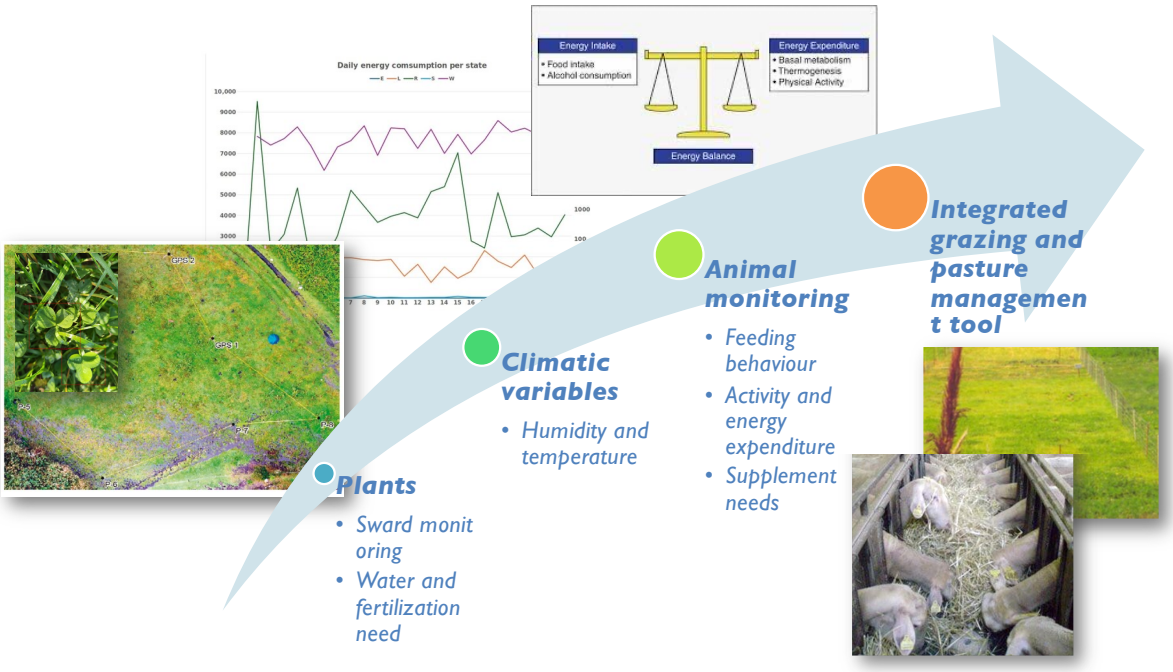
Proposal Introduction (2)

Expected outcome



Project proposed chronogram

Time	S1	S2	S3	S4	S5	S6	S7	S8
Task								
Image dataset	■	■	■	■				
Behaviour dataset	■	■	■	■				
Model creation			■		■			
Model validation				■		■		
Energy balance alghoritm							■	■
Disclosure of results			■	■	■	■	■	■

Partners

Looking for companies engaged in:

- ✓ embedded system developing
- ✓ farming solutions

instituto de telecomunicações

Animal wearable sensors
Animal conditioning
AI-based floristic analysis

NIBIO
NORWEGIAN INSTITUTE OF BIOECONOMY RESEARCH

Animal behavior
Animal wellbeing
Sheep monitoring

INSTITUTO FEDERAL
CATARINENSE
Câmpus Araquari

Data Mining
IoT - LoRaWAN
Image Data Mining

iniav
Instituto Nacional de Investigação Agrária e Veterinária, I.P.

Animal production
Goat monitoring
Pasture management

Contact Info

For more information and for interest to participate please contact:

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https://www.it.pt/Members/Index/4331

Presentation is available via:

Join the Consortium Building Sessions

NOTE:

CELTIC organizes Consortium Building Sessions to foster the partner search for you. Please indicate your availability within the 12-19 September via:

https://polls.eurescom.eu/P0lP5n8R3A/

Login: participant
Pwd: csb-25

We will update this slide for you according to the provided poll information.

Please fill in the poll with your availabilities indicating Animal-Driven Plant Phenotype Mapping, Pedro Gonçalvez, Instituto de Telecomunicações