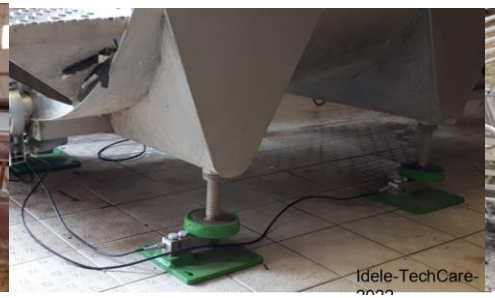



# Large scale activities

## On commercial farms trials



Integrating innovative TECHnologies along the value Chain
to improve small ruminant welfARE management

# TechCare Large Scale farms

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**TechCare final conference**
University Foundation - Room Felicien Cattier
**Brussels**
*(17-18 June 2025)*

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# TechCare - The GOALS of the Large-Scale Studies

- **To test promising innovating technologies under operational environments to:**

**Large-scale studies**

- **Validate the ease of use** of pre-selected technologies and AWE indicators,
- **Collect large datasets** to refine the creation of targeted algorithms,
- Collect users' feedback of use of the innovative technologies and write **guidelines** for future users.

# TechCare – Large-Scale studies for Animal Welfare Monitoring in European Sheep and Goat Farms

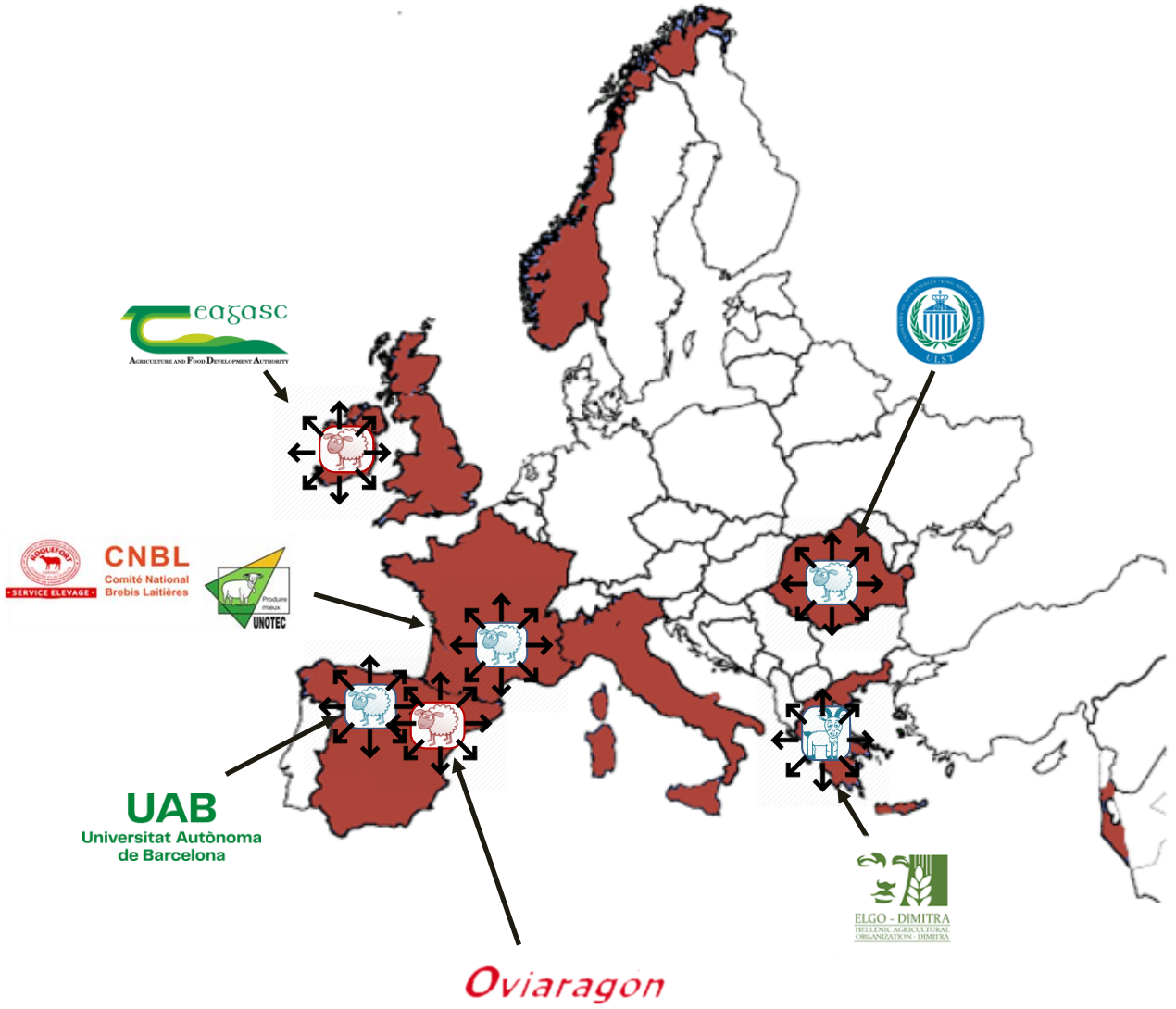
- Research and technical teams in Greece, France, Ireland, Spain, and Romania have installed **various sensors and monitoring devices** in sheep and goat farms to collect data on environmental conditions, milk production, animal weight, animal health and welfare.

- The aim is to **identify early warning signs** of welfare issues, **refine algorithm and develop strategies** to improve animal welfare and productivity.

# TechCare - Large-scale participants

**8 partners** involved

**56 farms** across
**5 countries** in
Europe




***3 sectors:***

*Ireland (meat sheep)*
*France (dairy sheep)*
*Spain (meat & dairy sheep)*
*Greece (dairy goats)*
*Romania (dairy sheep)*

# Technologies selected for LS & WF issues

| Technologies selected | Production | Level of data information | Relevant measure | Welfare Issues | Welfare indicators |
|---|---|---|---|---|---|
|  **EID tags (LF or UHF)** |  | Individual | Movement patterns, use of key resources<br>Behavioural change, ewe-lamb relationships | • Lameness<br>• Mastitis<br>• Other illnesses | Behavioural change (BC) |

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TechCare

# Technologies selected & main measure

| Country | Member | Weather station | Indoor sensors | Automatic Weigh crate (EID) | Milking tank weigh scale | Milk meters (daily) | E-ID reader and LF tags/ bolus | Other measures obtained with other PLF or sources of info | |
|---|---|---|---|---|---|---|---|---|---|
| GREECE | ELGO | 9 | X | .-- | .-- | 7 | .- | Farmer observation | |
| FRANCE | (CNBL) | 11 | X | .-- | 3 | 10 | 10 | Farmer observation | Milking order |
| IRELAND | TEAGASC | 10 | X | 1 (shared) | .- | .- | 1 | FEC | BC score |
| SPAIN | UAB | 12 | X | 2 (shared) | .- | 7 | 3 | SCC | Milk composition |
| SPAIN | OVIARAGON | 8 | X | 1 (shared) | .- | .- | 1 | Production performance | Environment |
| ROMANIA | BUAS | 8 | X | | .- | .- | 8 | Dag and locomotion score | BC score |
| TECHNOLOGIES USED | | **58** | **+1,000** | **4** | **3** | **24** | **14** | | |
| MAIN MEASURES | | **Heat Stress (THI)** | **Air quality, Tª and bedding humidity** | **An abnormal weight change** | **Milk production at flock level** | **Milk production at individual level** | **Order in milking parlour** | | |

# Welfare assessment

| WF ASSESSMENT | GREECE | FRANCE | IRELAND | SPAIN | SPAIN (Ovi) | ROMANIA |
|---|---|---|---|---|---|---|
| **Individual or flock level** | Both | Both | Both | Both | Flock level | Both |
| **FREQUENCY:** | Level 1<br>AWIN protocol<br>Every 15 Days<br><br>At flock level<br>AWIN protocol<br>MONTHLY | April 24<br><br>July Aug24<br><br>Oct Nov 24<br><br>Fb25 | Pregnant ewes:<br>Measurements every 2-3 weeks<br><br>Weaned lambs - every 2 weeks | Monthly | DAILY AT FLOCK LEVEL | Monthly |
| **Farmer or Technician** | F & T | F & T | F & T | | Specialized staff & F | Technician |
| **Handling or not…** | Respiration rate | Respiration rate (T) | Body Condition Score (T, handing) | Respiration rate | Position or locomotion | Body condition(monthly) |
| | Udder score | Udder score (T) | Parasites scores (faecal soiling , signs of scratching, wool loss) (T,visual) | Udder score | Respiration appreciation | Dag score (monthly |
| | | Fleece (cleanliness, moisture) (T) | Lameness and locomotion score (T, visual) | Lameness score | External signs of fever | Locomotion score (monthly) |
| | | | Fleece condition Score. (T, visual and physical) | Fleece score | | |
| | | | Lambing difficulty | | | |
| **All observations and treatment** | x | x | x | x | x | x |
| **Installations and Equipment control** | Notes book: daily | x | x | x | Notes book: daily /density | |
| **Production rates and treatments** | x | x | Lamb mortality or morbidity | x | Lamb mortality or morbidity | x |

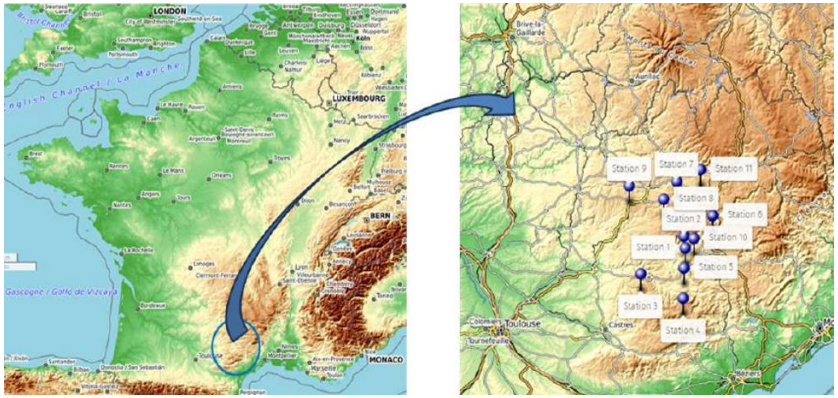
# National Committee for Dairy Sheep (CNBL) Country: FRANCE

**LS Trials** Dairy sheep

**Semi-intensive**

Farm selection: 10 + 1
Breed: Lacaune dairy ewes

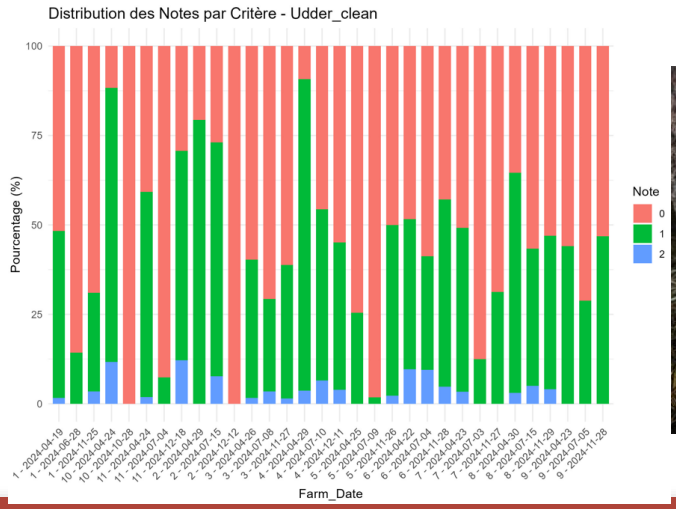
**1+2**

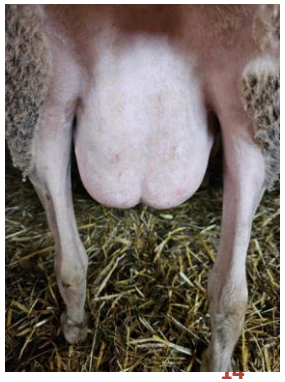



TECH CARE THIcare

3,600,000 milking order records
3,600,000 milk yield records
2,266 welfare records

Algorithms



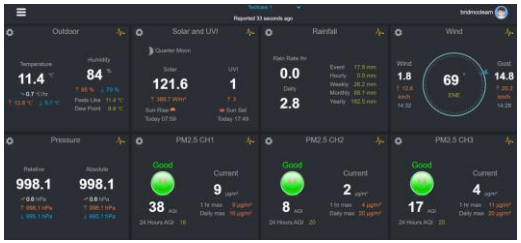



## LS Trial 1. Meat sheep

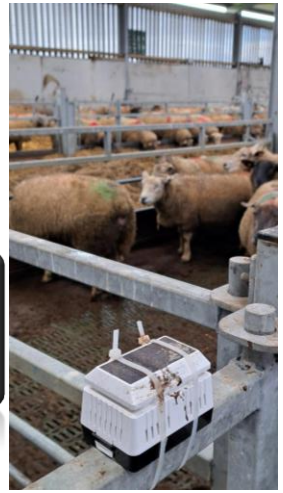
Semi intensive

Farm selection:10
(5 lambs and 5 pregnant ewes)

3




TECH CARE THIcare




>12,000 individual weight records

>12,000 welfare records

Algorithms

**LS Trial** Dairy goat | Semi-intensive (2 extensive) | Farm selection: 8 Farms | 2


THIcare

2,600 milk yield records
4,000 welfare records

Algorithms

- **1st Level** AWIN welfare assessment (every 15 days)
- **Flock level** AWIN welfare assessment (every 30 days)
- Health and welfare status (daily)

## LS Trial 1. Dairy sheep and goats

Intensive

Farm selection: 11 +1
Dairy sheep + dairy goat

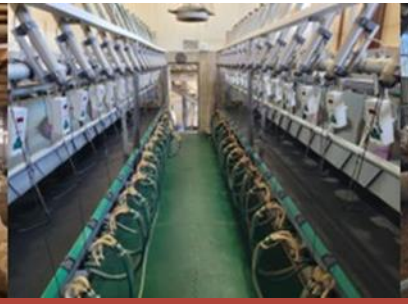
3+1


ecowitt


64,800 milk yield records
2,400 welfare records
24,000 milking order records
>8,600 weighing order

Algorithms

TECH CARE THIcare



**LS Trial 1** Meat sheep

Intensive (lambs)

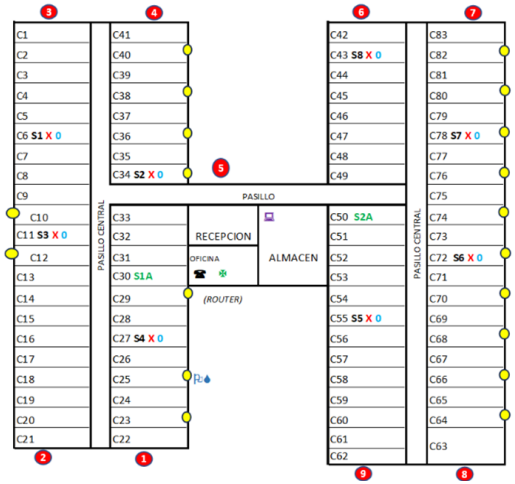
Farm selection: 7 fedlots (2-5000 lambs/feedlot)

4+7


20,000
environmental
records
260,000
welfare records
(daily flock level )

Algorithms

TECH CARE THIcare

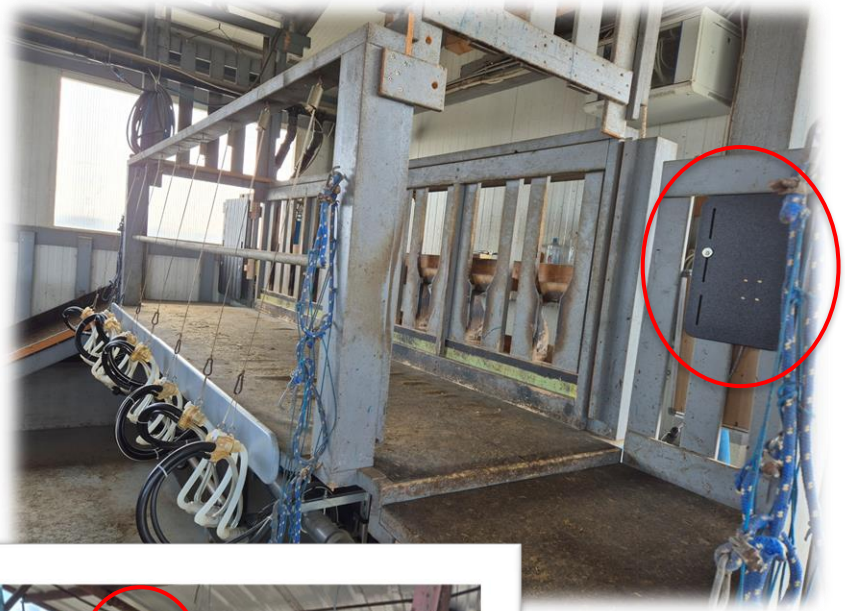



## LS Trial Dairy Sheep

Semi-intensive
(2 extensive)

Farm selection: 8 Farms
Breed: Lacaune,Turcana, Ratca, Assaff

2



231,000 milk yield records
>11,000 welfare records
462,000 milking order records

Algorithms

# TechCare Partners

*Thank you for your attention*

**www.techcare-project.eu**

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