



Integrating innovative **TECH**nologies along the value Chain  
to improve small ruminant **welFARE** management

## Newsletter - Issue 13

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The **TechCare** project has received funding from the European Union's Horizon 2020  
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### **TechCare 4<sup>th</sup> (and last!) annual meeting! - by C. Morgan-Davies (SRUC)**

TechCare held its 4<sup>th</sup> annual meeting in Alghero, Sardinia, on the 4<sup>th</sup> and 5<sup>th</sup> of February 2025. Up to 40 people from the 19 consortium partners all met over the two days. Partners from the UK (MRI, Breedr), France (IDELE, CNBL, INRAe), Italy (AGRIS, EAAP, Abinsula), Israel (ARO, Spark), Norway (NIBIO), Spain (UAB, Oviaragon), Greece (ELGO-DIMITRA) and Romania (BUAS), led by SRUC (UK), discussed the progress of the project over the last 4 years, and focused on the activities for the last 6 months until the end (August 2025). Four advisory members (from Italy, Spain and the UK) also joined in the discussion (two of them via Zoom) and gave their feedback to the project team. One of the TechCare PhD students (Gili Mishal-Shalit) also presented their work on data analysis. The annual meeting had been organised locally by the Italian partners from AGRIS and EAAP. The project has been progressing well, with the welfare issues in small ruminant systems having been prioritised by stakeholders at the start of the project, followed by an inventory of potential precision livestock farming (PLF) tools that could help monitor or manage these welfare issues. Trials and prototyping of some of the identified PLF tools on pilot farms and on experimental farms are now complete and data exchanges and manipulation, to develop early warning systems, are well underway. Deployment and further testing of the retained tools have been set up on commercial farms in Europe (Ireland, France, Romania, Greece and Spain) and data is being collected and used in the design of early warning systems. Business models are being investigated by all partners' stakeholders. Discussions and feedback were essential at this stage, as we are



entering the last months of the project, with still a lot of activities to carry out, not least the organisation of the final project conference on 17-18<sup>th</sup> June in Brussels (watch this space!). It was extremely beneficial to meet once again in person to ensure the whole consortium is ready for the final steps of the project. Overall, a very fruitful last meeting for the project in lovely Sardinia, and the wonderful hospitality of our Italian colleagues!



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**TechCare – technical visits in Sardinia** – by *C. Morgan-Davies (SRUC)*  
*V. Giovannetti, M. Acciaro, M. Decandia and A. Frongia (AGRIS)*

After TechCare held its last annual meeting in Alghero, Sardinia, on the 4<sup>th</sup> and 5<sup>th</sup> of February 2025, the AGRIS partners (Valeria Giovannetti, Marco Acciaro, Mauro Decandia, Andrea

Frongia) organised visits to four dairy and goats farms, where some of the technology retained by the project had been piloted, showcased or discussed.

The first visit on the 6<sup>th</sup> of February was to the dairy sheep and goats farm of Giuseppe Ena, in Mores. The farm had 400 goats Saanen, 200 sheep Sarda on 80 ha. Giuseppe's system is intensive, with the goats inside but free to roam outside the shed. After being part of several projects highlighting the use of technologies, he got the impetus to change his system and reduce his workload, especially around feeding the animals. His goats are now split in 3 groups and fed accordingly. He is still doing 2 milking a day, but his labour costs have decreased by rationalising his management. His next move is to focus on genetics for his herd.



*Giuseppe Ena farm*



The second visit was to the farm of Pietro & Andrea Scanu in Tula. The farm is using more technologies on the management. They have 100 ha, 800 goats and 400 sheep. Most of the food is home produced. Whilst the sheep are still seasonal, the goats are kidding all year round. They are using the services of a veterinary company and focus on embryo transfer and AI for high genetic gain. They carry out male evaluation, and transrectal ultrasound to improve the herd. All kids are fed artificially. They use EID reader in the milking parlour to identify the animals individually for their milk production. They also have a mix wagon for feeding and use portable NIR to analyse their forage. They also have a ventilation system in their shed, for heat stress. They also have less ammonia, flies and birds with this system.



*Pietro Scanu farm: group photo*

The third visit was to the research farm of the university of Sassari. Dr Antonello Canna welcomed us with his team and showed us their EID automatic feed bins (from Biocontrol), set up for up to 60 ewes, and their methane chambers, as well as EID weighcrate. We also saw their Afimilk lactometers used in their 12 places milking parlour.



*University of Sassari: a) automatic feed bins*



*b) methane chambers*

The final visit was to the AGRIS research farm, where some of the pilot work has been done during TechCare. We saw their milk tank weighing system, their walk-over-weigh system (from the INRAe team), and the electronic milk meters installed in their milking parlour.



AGRIS research farm – Walk over Weigh  
© all pictures TechCare

Although quite an intensive day of visits, it has been a real eye-opener on the various stages of sheep and goat farming systems in Sardinia and allowed to put in context some of the TechCare work carried out by our Italian colleagues.

## **Synergies between TechCare and E.INS-APPàre: An Opportunity for Knowledge Transfer and Innovation** - by *F. Martini (Abinsula)* and *C. Morgan-Davies (SRUC)*

On February 5, 2025, at the Hotel Catalunya in Alghero, a meeting between the TechCare and E.INS-APPàre projects took place during the TechCare Annual Meeting. This workshop was a valuable opportunity to explore synergies and potential collaborations between the two initiatives, both focused on improving the management and welfare of small ruminants through technological innovation. The meeting highlighted opportunities for knowledge transfer and the joint development of advanced tools for decision support and animal health monitoring.

### **Complementary Projects for a Common Goal**

TechCare and E.INS-APPàre share fundamental objectives that make collaboration between the two initiatives a natural fit. Both projects focus on the management and welfare of sheep

through a multi-actor approach including farmers, veterinarians, researchers, policymakers, and business. Additionally, the use of advanced digital technologies, including integrated databases, IoT tools, and Precision Livestock Farming (PLF) technologies, enables accurate animal monitoring and the implementation of Early Warning Systems (EWS) for timely anomaly detection. After a brief overview of TechCare’s activities and main achievements, the E.INS-APPàre team presented the scientific methodologies adopted and the technological innovations implemented for data collection and analysis in sheep farming.

## In what ways can APPàre help address Techcare's current challenges?

53 responses



## Demonstration of the APPàre Platform and Project Comparison

One of the key moments of the meeting was the live demonstration of the APPàre platform, an digital system for data collection and analysis in small ruminant farming, currently in the development phase. The platform offers innovative features for monitoring, alert management, and decision support. Following this, a comparison between TechCare and APPàre was conducted, facilitated by interactive tools that gathered real-time feedback from participants. The main discussion topics included:

- Potential adaptations of TechCare’s methodologies for APPàre: Opportunities emerged for transferring analytical tools developed by TechCare into the APPàre context to enhance the effectiveness of adopted solutions.
- How APPàre can contribute to TechCare’s current challenges: Particularly in the Sardinian context, APPàre’s applications and their potential impact were discussed.

## Which tools or methodologies from Techcare could be adapted for APPàre?

54 responses



## Future Prospects for Synergistic Collaboration

The meeting concluded with a summary of the key takeaways and the definition of possible next steps to strengthen cooperation between the two projects. The complementarity between TechCare and E.INS-APPàre represents a concrete opportunity to develop innovative, scalable, and adaptable solutions for different territorial contexts, maximizing the impact of digital technologies in the sheep farming sector. The identified collaboration opportunities during the workshop demonstrate how knowledge transfer and the integration of advanced technological solutions can significantly improve livestock management and animal welfare. The hope is that this synergy will lead to joint projects, new analytical tools, and effective data and methodology sharing for the benefit of farmers and industry stakeholders.

## French partners in visit to Spanish partners! - by N. Litalien (CNBL)



On 20 and 21 November 2024, the IDELE, CNBL and UAB teams met in Barcelona to discuss the processing of the data collected during the project. Each team presented to the other the technologies used in large scale trial and its progress on the project. They also discussed about the next steps in the analyses: comparison of indoor and outdoor THI, linking zootechnical and milk production indicators with THI, etc. This was also an opportunity for the French team to visit the UAB farm and see the automatic weigh crate in action.



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## French students visited La Cazotte Pilot Farm! - by G. Tesnière (IDELE)

On 26 November 2024, Germain Tesnière and Marie Renevey (IDELE) presented TechCare project, and the trials done in La Cazotte Pilot Farm to 3 classes of students from La Cazotte high school. It was also an opportunity to talk to them about animal welfare in sheep



production and to present the technologies tested on the farm as part of the project (weather station, indoor sensors in the shed, RFID UHF tags and readers, connected milk tank scales...).



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## Aimee Walker Silver Academic Award!

Aimee Walker has been selected by The Worshipful Company of Woolmen as one of this year's seven students to receive a Silver Academic Award for her PhD research - Investigating the use of Bluetooth Low Energy to improve small ruminant management and welfare. The award was presented at the Woolmen's annual Civic Dinner, held in 2024 at the stunning Goldsmith's Hall in London (UK). Well, done Aimee for showcasing the work of TechCare in such a grand setting!



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## Michelle Reeves PhD - by M. Reeves (SRUC)



Michelle Reeves completed her TechCare-funded PhD by graduating on November 23rd, 2024, from the University of Edinburgh and SRUC. Michelle's thesis was entitled "Developing and validating animal-based welfare indicators for a Precision Livestock Farming (PLF) approach to small ruminant welfare management" and focuses on testing the potential of various digital technologies for monitoring sheep welfare in extensive farming systems. She identified possible behavioural indicators of disease and tested the efficacy of accelerometers and bluetooth proximity beacons to detect these indicators remotely. She conducted four experiments with live sheep in commercial conditions to observe behaviour and trial PLF technologies. Additionally, Michelle travelled to Norway to work with TechCare partner NIBIO on a study exploring the opinions of Norwegian sheep farmers on technology use. With her doctorate complete, Michelle is now working at the University of Edinburgh as programme coordinator for an animal welfare MSc

programme and at SRUC as a postdoctoral researcher. Michelle's thesis is available here: [Development and validation of animal-based welfare indicators for a Precision Livestock Farming \(PLF\) approach to small ruminant welfare management](#)

## New additions to TechCare: Marie Renevey (IDELE), Claire Alford (Breedr)

### Marie Renevey (Experimentation Officer - IDELE)



Marie Renevey is an engineer in agronomy specialized in animal production (ENSAT). Since October 2024, she has been working for Idele as an experimentation officer for la Cazotte, one of pilot farm in TechCare. In this role, her work for the project includes stakeholder communication, as well as supporting the creation of fact sheets and guidelines on the technologies tested on the farm.





### Claire Alford (Customer Success Manager - Breedr)

My name is Claire Alford, I am a dairy farmer from South East Wales. I am the UK Customer Success Manager and have worked for Breedr for 4 years. In my spare time I enjoy baking and playing tennis. My role is customer support to the country leads on using the Breedr app.



### TechCare in the news

List of past and upcoming events with TechCare partners attendance.

Event 	Date 	Location 	Partner 
←			
11èmes Journées Techniques Ovines, <a href="#">JTO 2024</a> (11 <sup>th</sup> National Sheep Technical Days)  Animation of a workshop on digital tools in dairy sheep farming: focus on milking.	16 – 17 October 2024	Gotein-Libarrenx, Pyrénées-Atlantiques, France	IDELE, CNBL
<a href="#">Fjellandbrukskonferansen 2024</a> (Mountain farming conference)	5 November 2024	Oppdal, Norway	NIBIO
Keynote speech at the Institution of Agricultural Engineers annual conference <a href="#">Landwards Conference 2024 - IAgRE</a>	6 November 2024	Harpenden, England	SRUC
<a href="#">NIBIO-konferansen 2024</a>	19 – 20 November 2024	Gardermoen, Norway	NIBIO
6 <sup>th</sup> National Workshop about business model	17 December 2024	Online	CNBL (UNOTEC, SE CGR), IDELE
→			



<a href="#">The 21<sup>st</sup> Conference on Animal Production</a>	3 – 4 June 2025	Zaragoza, Spain	UAB
Fjellandbrukskonferansen 2025 (Mountain farming conference)	13 November 2025	Oppdal, Norway	NIBIO
Beitekonferansen 2025	25 – 26 November 2025	Gardermoen, Norway	NIBIO



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