TrackLab: a client case study

Installation at Aberystwyth University

A case study by Noldus Information Technology

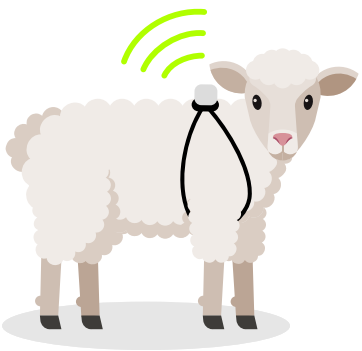
TRACKLAB

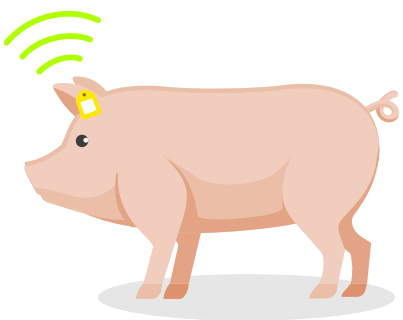
TrackLab is the system designed for the recognition and detailed analysis of spatial behavior.

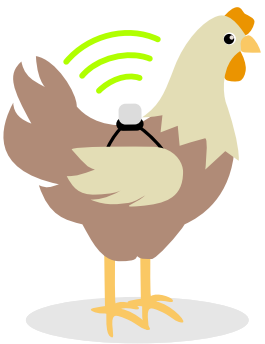
TrackLab is the system designed for the recognition and detailed analysis of spatial behavior in livestock. The software analyses animal movements and can help researchers analyze and understand their behavior and social interaction patterns to improve their health and welfare.

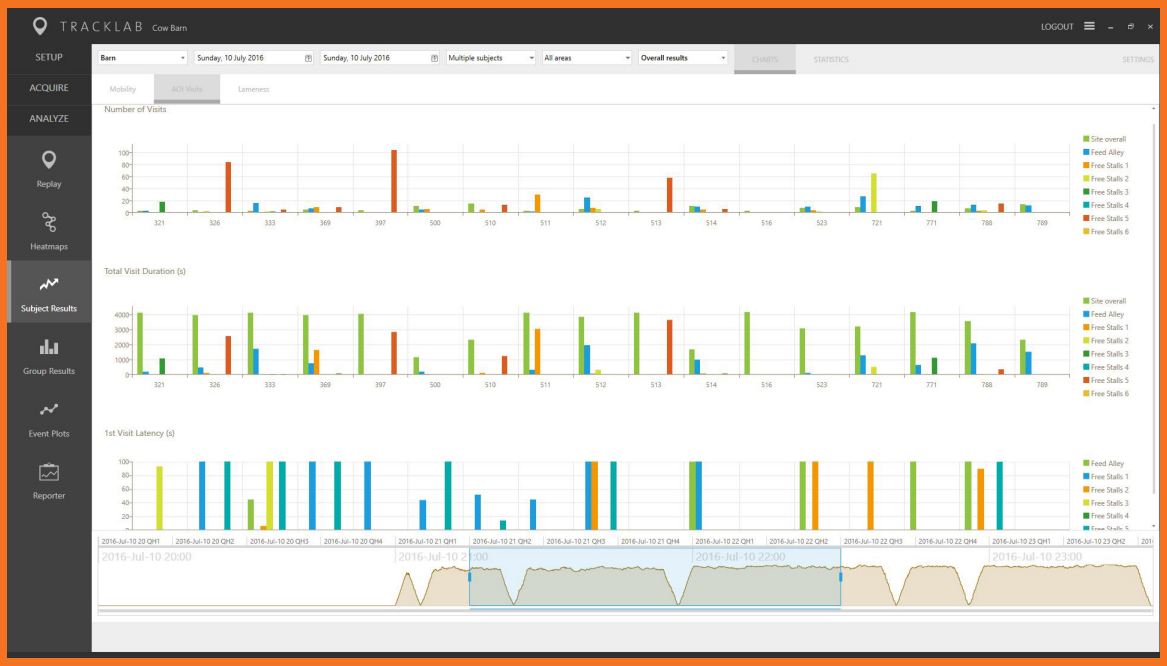
Researchers can gain insights such as where the animals prefer to be, if they are walking, running, standing still or lying down and how these animals transition between areas. Analysis and statistics can be collected for the whole research area or for specific zones such as by the feeder.

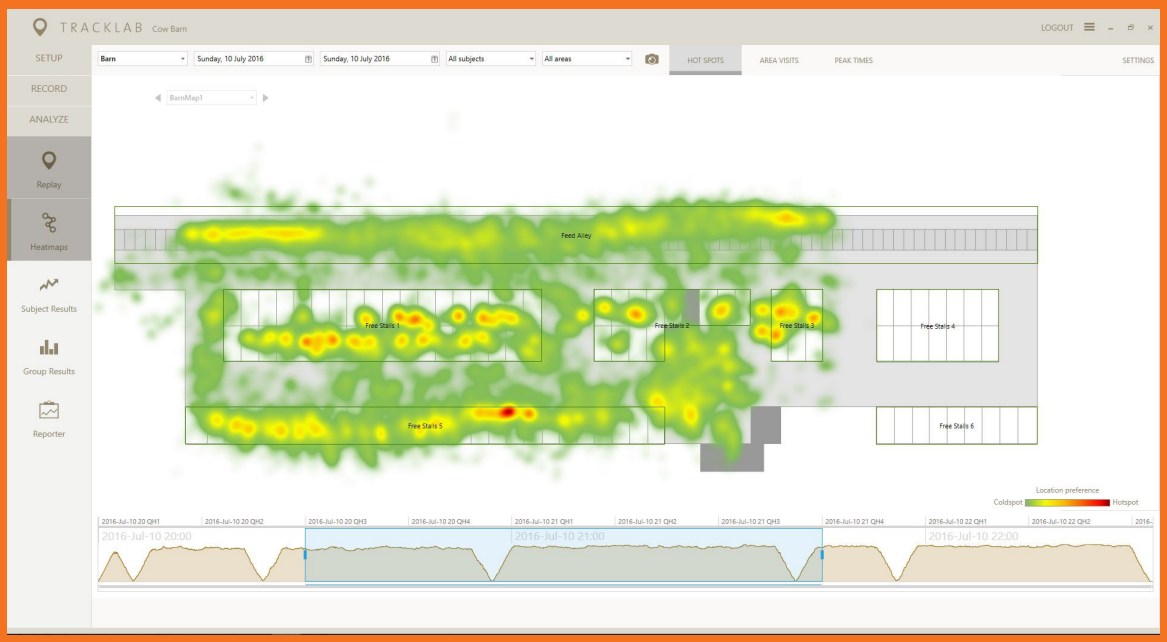
Collecting these patterns and activity can all be done automatically with TrackLab, which uses Ubisense® Ultra-Wideband (UWB) sensors and tags for precise location tracking. Schedule data collection and analyze data from within the Tracklab software comfortably from your desk after the installation of the system.

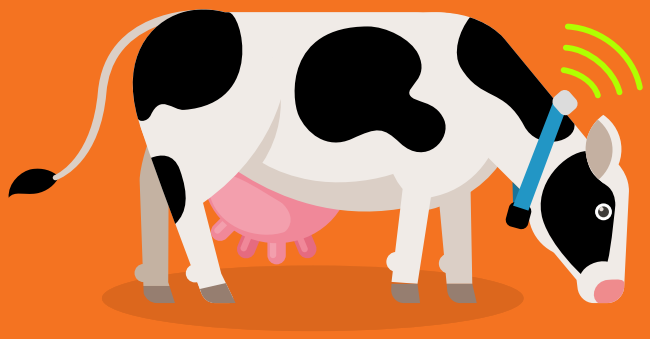












TRACKLAB FOR LIVESTOCK ANIMALS

Visualize the number of visits, duration of visits, and many more parameters (top graph). In addition use heat maps to visualize the use of the barn by the animals (bottom graph).

LIVESTOCK RESEARCH AT ABERYSTWYTH UNIVERSITY

TrackLab was installed at Aberystwyth University for the detailed analysis of the spatial behavior of sheep.

There is still a lot to learn about the behavioral and social patterns in sheep. The more we know about them, the better we can improve the health and welfare of these livestock animals. We recently installed TrackLab at Aberystwyth University in Wales, UK, for the tracking and detailed analysis of the spatial behavior of sheep.

Aberystwyth University's Institute of Biological, Environmental and Rural Sciences (IBERS), recently chose TrackLab to help them understand more clearly the behavioral patterns and activity of sheep, within the scope of the small ruminant phenotyping platform integrated in the Centre for Innovation Excellence in Livestock (CIEL), one of the UK's four Agri-Tech Centres.

They seek to examine:

- sheep exploratory behaviors (distance walked, speed,...)
- location (animal dispersion within the pen where they tend to rest and ruminate)
- eating and drinking pattern (time spent at the feed bunk and drinker stations, at what time of the day,...)

> The system was able to analyze location data based on an accuracy of approximately 15 cm.

The researchers also hope to get more information on:

- social interactions
- sheep's temperament
- affective state under different scenarios

The whole system uses time stamped x, y, and z coordinates. The x and y pinpoints the location of a sheep in the pen. With the z coordinate, the height of the tag is measured, which is on the top back of a sheep, and from this it's possible to derive if a sheep is standing or lying down.

This installation process was a simple setup that took 2 days. The first day was the hardware installation that included cabling and positioning the sensors at the right angles. The tuning of the system took another day. Tuning is the necessary step to calibrate the tracking equipment with the software to get accurate tracking data.

A group of researchers received explanation on how to use the system and training in the TrackLab software for their behavioral research and analysis.

THE RESULT?

The installation of TrackLab was a success at the Aberystwyth University and the whole team present for the installation were pleased with the accuracy and the possibilities of the system. Approximately 15 cm accuracy was achieved!

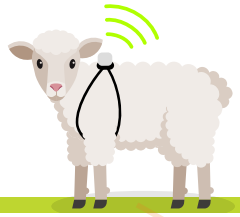
ABOUT US

- Leading in behavioral observation and analysis systems
- User centered design
- Over 25 years of product innovation
- Worldwide service, support, and expert advise

Noldus Information Technology has offices in nine different countries and is represented by twelve distributors worldwide. With this global team, Noldus develops innovative solutions for behavioral research. These can vary from industry standard software packages and lab equipment to fully integrated observation labs including on-site installation, training, and support.

With more than 25 years of experience, we translate your questions into practical and proven solutions. Our consultants have advanced degrees in the behavioral sciences, which provides a unique ability to uncover behavioral patterns and turn them into actionable results.

Developing and delivering innovative software and instruments for behavioral research in close collaboration with the scientific community.



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