

## CAPPA AND STRONGBÓ COLLABORATE TO DEVELOP IN-DEPTH PROCESSING AND ANALYSIS OF HERD



### BACKGROUND

In 2015 following a life of living and working on a farm, StrongBó founder Micheál McInerney realised the necessity of allowing farmers to have better control over their herds. Acquiring up-to-date data on the performance of individual animals and using that data to tailor how each animal is cared for and reared contributes to optimising farm output. This initially began by examining animal weight but expanded into a wider engineering solution with the potential to reshape the methods of beef production.

### THE NEED

The products developed by the company measure several significant parameters on individual animals in the herd. A significant volume of data is generated by the automated weighing system. The animals' weight is measured each time it attends a trough for water.

To fully maximise the potential of the product and the data generated, in-depth data analysis of the raw data was required to extract key figures and allow the herd owner to monitor the day-to-day progress of the animal and the herd as a whole. The developed algorithms needed to be compatible with existing software and hardware and allow the company to implement future revisions.

### THE SOLUTION

An initial interaction via the CIT Rubicon centre led StrongBó to approach CAPPA to assist with the problem. StrongBó funded this research through the Enterprise Ireland Innovation Voucher initiative. This initiative provides an opportunity for SMEs to engage in small-scale or early-stage R&D activities which are particularly well suited to exploring new ideas or concepts.

### BENEFITS OF THE ENGAGEMENT

The work undertaken by CAPPA included an automated data cleaning algorithm. This was able to deal with scenarios where more than one animal was on the instrument generating values which were too large or where the animal only had three legs on the machine generating values which were too low. In addition to this, interpolation was applied to deal with missing data.

All data went through a time series smoothing model to evaluate the overall trend of each animal over time. This was then used to calculate the water consumed by each animal per day, predict the animals' weight and evaluate the growth rate of the animal at the resolution of a single day.



**“The research and data analysis carried out was incredibly valuable for our product development. The interaction with the group was very efficient and we were involved all the way. We would have no hesitation in recommending them as collaborators and look forward to working on more research projects with them.”**

- Micheál McInerney, CTO StrongBó.