Digi-Meat

Digital technologies for advanced quality monitoring of traditional processed meats and innovative alternatives

Traditional processed meats form an important part of the daily diet across Europe. The meat industry is faced with challenges such as health concerns around food formulation, the clean label trend, while sustainability of meat production has also become a hot topic in the agri-food domain. In parallel, a major consumer trend has emerged in the area of plant-based alternative meat analogues, for flexitarian and vegetarian diets which while they don't include meat, or are much reduced in meat content, should replicate the desired quality characteristics of traditional processed meats. This context encourages research-led innovation into developing more effective quality and process monitoring methodologies. Such methodologies are tools that could contribute to process optimisation, more consistent quality and reduction in food waste and therefore support the sector to take steps towards becoming a more robust and sustainable industry. This project will exploit cutting edge process analytics technologies available at Teagasc and the University of Nottingham, to deliver prediction models to rapidly infer ultimate quality of processed meat products. The impact of application of advanced processing technologies will also be studied. Outputs could furthermore assist with formulating clean-label and plant-based alternatives with meat-like flavours and textures. Thus, in this project, non-invasive sensors along with machine learning algorithms will be applied such that fast, and accurate quality evaluation models can be developed for traditional meat products and innovative alternatives that could be suitable for future application in industry.

Project Duration: 36 months (18M University of Nottingham + 18M Teagasc)

Collaborating Institutions: Teagasc, Ireland
University of Nottingham, the UK

Project Team:

RL2025 Fellow	Teagasc Supervisor	Outgoing Phase Supervisor	Third Supervisor
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