

21st Century Meat Inspector project report

Research programme: Research projects

Project status: Completed

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Date published: 2022-04-13

DOI: <https://doi.org/10.46756/sci.fsa.hup976>

Poultry is the most widely consumed meat in the UK, and its effective inspection within processing facilities is essential to ensure regulatory compliance. Poultry inspection is performed manually and is extremely challenging due to the short time available to inspect each bird and the sustained level of concentration required.

The project focused specifically on post-mortem inspection of poultry, adopting a benefits realisation approach to determine the requirements for any new technologies and ensure that business benefits are delivered to all stakeholders within the poultry chain.

This interdisciplinary project included expertise in a variety of complimentary inspection technologies; optical (visual, Near-Infrared, Infrared, Hyperspectral), X-ray and Ultrasonic and IT-enabled benefits realisation management with the Hartree Centre (STFC), a food business operator (referred to throughout as Food Co.) and CSB as project partners.

The main findings of the project include:

- the main requirements for any new digital technologies to assist meat inspectors (MIs) and poultry facilities were identified as: clear business benefits; robust and reliable; easy to use and clean
- deep learning can be used to identify abnormal colour from carcass images with a sufficient number of training images, but more efficient data labelling methods are required
- hyperspectral optical and X-ray imaging methods can identify quality issues such as wooden breast and white stripe in chicken breasts.

Research report

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