

Digital twins report: Methodology

- 6.1. The research team carried out a Gemba walk ([footnote 1](#)) to observe offal inspection processes at case abattoirs and spent a day in each slaughterhouse, interviewing various respondents with oversight and inspection duties to understand the current system of AM and PM meat hygiene inspections vis-à-vis the [FSA Manual for Official Controls \(MOC\)](#).
- 6.2. The respondents included FBO management and staff, plant inspection assistants (PIA), Official Veterinarians (OVs), Senior Meat Hygiene Inspectors and Official Auxiliaries (OAs).
- 6.3. In addition to observing critical controls points, the team also conducted a benchmarking review of available, applied and scalable technologies for optimising existing inspection process.
- 6.4. Using the detailed process map developed from observing live inspections, a DES ([footnote 2](#))/digital twin was used as a supporting digital technology to trial possible innovations in a risk-free virtual environment prior to introducing new technology or making changes to existing inspection processes.
- 6.5. Determination of the future-state of inspection process by modelling a series of use cases of current state operations and simulating future states (post intervention), thereby providing an excellent starting point for the development of a digital twin.

1. A Gemba Walk is a technique used to observe and understand how work is being performed. Gemba is taken from the Japanese word gembutsu, meaning “real thing” or “real place,” and a Gemba Walk has the following elements: observation - watching people perform work in-person; location - observing people at the actual location where work is performed; teaming - interacting with people performing the work. (Dalton, 2019).
2. Schriber, T.J. & Brunner, D.T. (1997) Inside Discrete-Event Simulation software: How it works and why it matters. Paper presented at the Proceedings of the 1997 Winter Simulation Conference. <https://doi.org/10.1145/268437.268441>.