Digital twins report: scope of the review

5.1.   The insight into the process functionalities and relevant metrics for meat inspections presented in this review were developed through;

5.1.1.   A detailed mapping of the process layout/configuration requirements of   AM/PM critical control points.

5.1.2.   A detailed mapping of the manpower requirements and standardized operating protocols for AM/PM inspections and reporting by OVs.

5.1.3.   A detailed outline of in-process KPIs and constraints of AM/PM inspection processes and reporting.

5.1.4.   A relative and absolute benchmarking of available technology interventions that can be incorporated to improve the accuracy and efficiency of specific AM/PM inspections beyond what is obtainable from visual checks, palpations and offal incisions.

5.1.5.   An evaluation of the existing capabilities to incorporate recommended technology interventions within a specific inspection process (offal inspections).

5.2.   By reviewing current inspection processes and conducting a technological assessment to explore available/scalable technological interventions, the scope also entailed;

5.2.1.   Matching inspection process, resource and technology requirements to abattoirs by throughput, species and kill speed.

5.2.2.   Informing investment in the right layout, process and technology interventions with an appropriate balance of human and technology interphases to facilitate 21st century abattoir inspections by the FSA and FBOs.

5.3.   To operationalise the scope highlighted in 4.1 and 4.2, a DES model was developed for a generic pig abattoir process flow to visualise how an inspection process can be transformed using technologies.