



AI ERP TicketingOS – Cattle Farm Estate

Integrated Herd Management · Breeding · Feed Optimisation · Health · Slaughter · Halal Traceability

Batch/Lot driven · RFID/GPS tracking · Zero data entry · AI CoWorkers

1. Master Cattle Farm Execution Flow (Batch/Lot-Driven)

ID	Department	Process	Activity	Action	Progress %
6001	Sales	ORDER	Customer PO	Order for live cattle / beef (by weight & quality grade)	5
6002	Procurement	LIVESTOCK	Calf / young cattle purchase	Source from auction / breeder, RFID tagging, health check	10
6003	QA/QC	INWARD	Animal inspection	Brucellosis, TB, general health, weight recording	12
6004	Inventory	PASTURE / FEEDLOT	Allocation to group	Assign to grazing pasture or feedlot pen by age/weight	15
6005	Production	HEALTH MANAGEMENT	Vaccination / deworming	Scheduled tickets – vet assigns, records batch & date	20
6006	Production	BREEDING	Heat detection & insemination	RFID collar + AI predicts heat → insemination ticket → pregnancy tracking	25

ID	Department	Process	Activity	Action	Progress %
6007	Production	FEED OPTIMISATION	Ration mixing & delivery	Auto calculate from silage, grain, protein – ticket to feed truck	35
6008	Production	GROWTH MONITORING	Weighing & grading	Smart weighbridge – auto record weight gain, create alert if low	45
6009	Production	CALVING	Calving alert & assistance	Temperature drop + movement → ticket to night watch, vet on call	50
6010	QA/QC	IN-PROCESS	Health & welfare audit	Lameness, body condition score, water quality check	55
6011	Production	SLAUGHTER (if beef)	Pre-slaughter inspection	Halal compliance, fasting, transport ticket, stunning	65
6012	Production	CUTTING & PACKING	Primary cuts & vacuum pack	Boxing, labelling with batch (animal ID) and expiry	75
6013	QA/QC	FINAL INSPECTION	Microbial & metal detection	E.coli, salmonella tests; metal detector check	80
6014	Inventory	COLD STORAGE	Chilled / frozen storage	Finished beef stored at 0-4°C (chilled) or -18°C (frozen)	85
6015	Dispatch	LOGISTICS	Cold chain transport	Reefer van, temperature logger, AWB, halal certificate attached	90
6016	Distribution	DELIVERY	To retailer / exporter	POD with temperature check, QR traceability	95
6017	Finance	INVOICE	Final billing	Based on carcass weight / box count, GST e-invoice	100

2. Product Wise Farm Workflow

Breeding to Weaning

Heat detection → AI insemination → pregnancy scan (45 days) → calving ticket → colostrum management → weaning at 8 months → group transfer

Feedlot Finishing

Weaned calves → starter ration → grower ration → finisher ration → daily weight gain tracking → optimal slaughter weight alert

Beef Processing (Halal)

Pre-slaughter health check → transport to abattoir → stunning & bleed → carcass grading → chilling → cutting → packing → cold chain

Herd Health Automation

RFID collar temp + activity → AI predicts illness 48h before symptoms → vet ticket → treatment → recovery monitoring → report

Critical Control Points (CCP) – Cattle Farm


- **Biosecurity:** Incoming cattle quarantine, footbath disinfection, vaccination records.
- **Feed safety:** Aflatoxin in grain, mycotoxin screening, silage pH control.
- **Animal welfare:** Stocking density, lameness scoring, access to water.
- **Antibiotic withdrawal:** Ensure meat residue safe (register treatment date & withhold period).
- **Cold chain:** Continuous temperature monitoring from slaughter to retail (-18°C for frozen, 0-4°C for chilled).
- **Halal compliance:** Separation of halal line, approved slaughterman, no stunning if prohibited by certifier.


3. Milestone-Based Payment Release (Cattle Farm / Beef Industry)


Stage	Release Condition	Payment %	Applicable For
Order confirmation (live / beef)	Customer PO & advance agreed	20% advance	Export / bulk orders
Cattle procurement / breeding	Calf purchased or AI pregnancy confirmed	15%	Feedlot operations
Feed & health costs	Monthly feed consumption + vet tickets	20% (reimbursement)	Contract growing
Slaughter ready (target weight)	Cattle passed antemortem inspection	20%	Beef processing
Packing & halal certification	Boxed beef, QR labels, certificate issued	15%	Export / retail
Delivery & POD	Customer acceptance + temperature log	10%	All


☰ Payment commonly linked to weight gain KPIs and slaughter approval.


4. ERP Module Mapping (Cattle Farm & Beef)

 **Herd Management** – RFID / GPS collars, health records, breeding cycles, calving alerts, weight tracking


 **Feed & Inventory** – Silage, grain, supplement stock; ration formulation; auto reorder tickets


 **Vet & Health (HACCP)** – Disease surveillance, treatment logs, withdrawal period alerts,

 **Cold Chain & Abattoir** – Slaughter line scheduling, carcass grading, chilling temperature, packaging


 **Halal Traceability & Label** – QR per animal / batch, export certificate, FMD-free declaration

mortality
reporting

 **Inventory (FEFO)** –
Boxed beef –
first-expiry-first-out for
frozen and chilled

 **Logistics TMS** –
Reefer dispatch, route
optimisation,
temperature data
logger integration

 **Finance &
Incentives** – GST on
meat (5%), export
incentives, subsidy
tracking

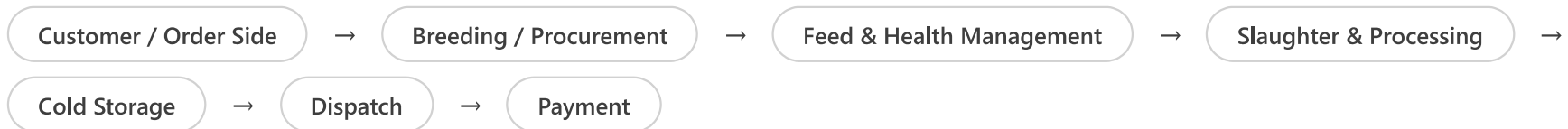
 **AI Engine** – Weight
gain prediction, illness
forecast, optimal
slaughter date, feed
efficiency

5. AI-Based Cattle Farm Automation (TicketingOS)

Function	AI Automation
Illness prediction (ruminant)	Movement + temperature + rumination sensor data → predicts pneumonia / acidosis 48h early → auto vet ticket
Heat detection & breeding	Activity collar + AI → optimum insemination window → auto create insemination ticket → pregnancy check reminder
Feed optimisation	Pasture biomass drone + silage stock + weight gain data → AI adjusts ration and creates purchase order
Cold chain anomaly alert	Reefer temperature deviation → auto SMS to logistics manager and customer

Function	AI Automation
Slaughter date recommendation	Weight gain curve + market price forecast → AI suggests best slaughter week
Halal QR traceability	Consumer scan shows animal origin, feed history, vet treatments, slaughter date, certificate
Carbon / methane estimation	Enteric fermentation model → AI calculates carbon credits from rotational grazing
Predictive maintenance (farm equipment)	Feed mixer, water pump, reefer compressor → AI predicts failure 48h in advance
Allergen / antibiotic residue alert	Withdrawal period countdown → blocks slaughter if residue not cleared
Pasture rotation AI	Satellite NDVI + stocking density → suggests move to next paddock for optimal regrowth

6. Final Cattle Farm ERP + TicketingOS Architecture



Internal ERP Side: Sales → Herd mgmt → Feed & Vet → Abattoir → QA (HACCP) → Cold chain → Logistics → Finance → Compliance

AI TicketingOS Side: AI Illness Predict → AI Heat Detection → AI Feed Optimisation → AI Cold Chain Alert → AI Slaughter Date → AI Traceability → AI Carbon → AI Maintenance → AI Pasture Rotation

Every animal = continuous ticket stream from birth to plate. Zero manual data entry.

Batch & RFID Traceability (Halal / Export Mandate)

Animal RFID eartag

– Unique ID, birth date, breed, dam/sire lineage, import/export permit

Health & treatment batch

– Vet ticket links drug batch, dose, withdrawal period

Final pack label (beef)

– QR code with animal ID, slaughter date, halal cert, FMD status, expiry

Cold chain logger

– Temperature profile linked to each pallet / box

Recall ready

– System can trace any beef pack back to individual animal and farm in under 2 minutes

Cattle Farm & Beef Manufacturing Dashboards

- **Herd KPIs:** Calving interval, conception rate, mortality %, average daily weight gain (ADG), feed conversion ratio (FCR)
- **Health:** Sickness incidence per 1000 head, treatment cost per animal, vet response time
- **Feed:** Silage consumption / month, feed waste %, purchase vs forecast accuracy
- **Slaughter & meat:** Carcass weight, dressing %, grading distribution (Prime, Choice, Select), yield % by cut
- **Cold chain:** % of shipments within $-18^{\circ}\text{C} \pm 2^{\circ}\text{C}$, temperature alarm count
- **Traceability:** QR scan count (consumers), recall drill completion time
- **Financial:** Cost per kg live weight, gross margin per head, export vs domestic revenue split

📄 AI ERP TicketingOS – Cattle Farm Estate | Full lifecycle from breeding to beef export. Halal & ESG ready.
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