



Department
for Environment
Food & Rural Affairs

Technological innovation in animal welfare at the time of killing for the implementation of OIE standards

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Outline

- Precision farming
- The 4 Rs
- Precision slaughtering
- Key technological developments
- Concluding remarks

Precision slaughtering – 4th OIE Global Conference



Precision slaughtering – 4th OIE Global Conference

PRECISION FARMING HELPS FARMERS TO ACHIEVE:



**GREATER SUSTAINABILITY
& ENVIRONMENTAL
PROTECTION**



**HIGHER
PRODUCTIVITY**



**ECONOMIC
BENEFITS**

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The 4Rs in agriculture

Right thing

Right place

Right way

Right time

The 4Rs in welfare at slaughter

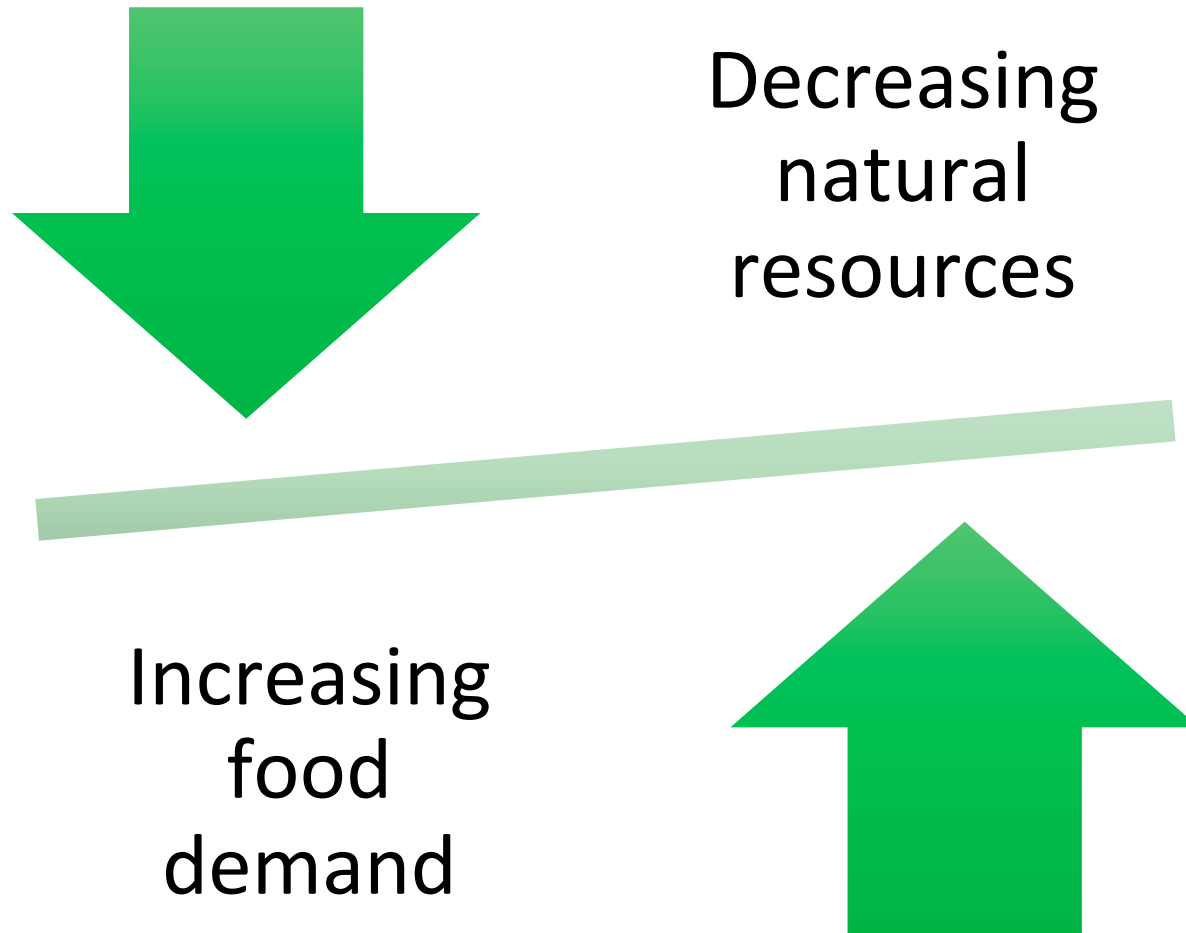
Right equipment

Right place

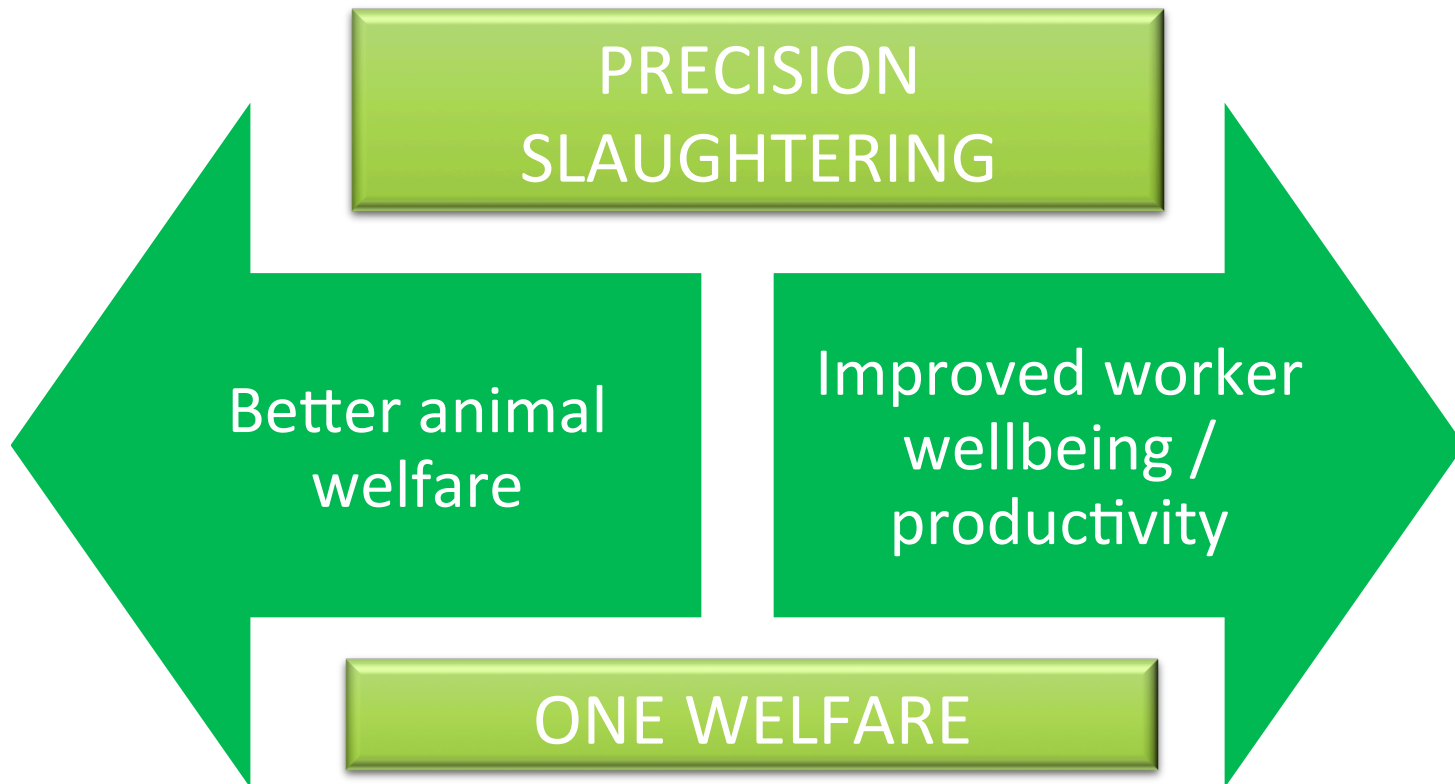
Right way

Right time

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UNLOADING AND LAIRAGING



Fig. 3

Real-time image-based model to calculate gait parameters for lameness detection

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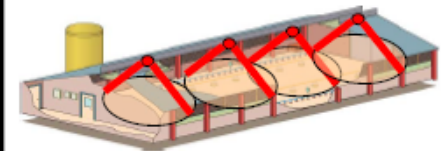
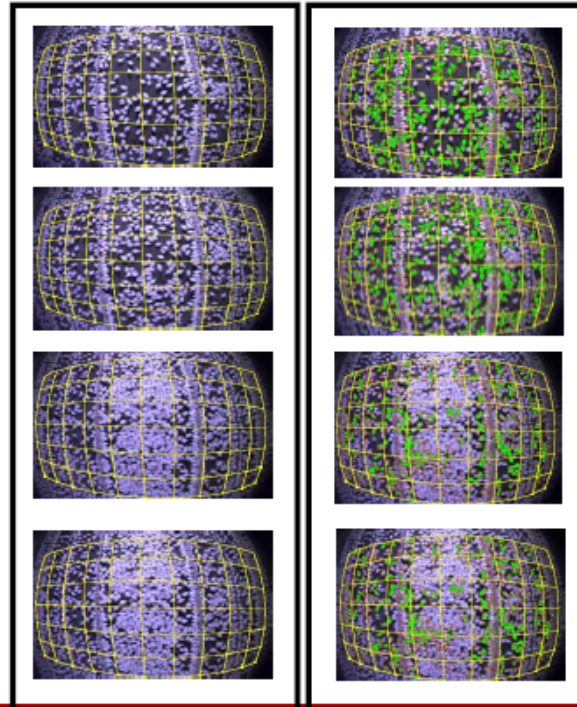
iSlaughter
monitoring

Human-animal
relationship

Fighting
behaviour

Translation of
data to valuable
info is key

eYeNamic: Activity



Smart Farming for Europe

Value creation through *Precision Livestock Farming*



EU Grant Agreement no.: 311825

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iSlaughter
monitoring

Sound sensors

Fighting
behaviour
(groups?)



iSlaughter
monitoring

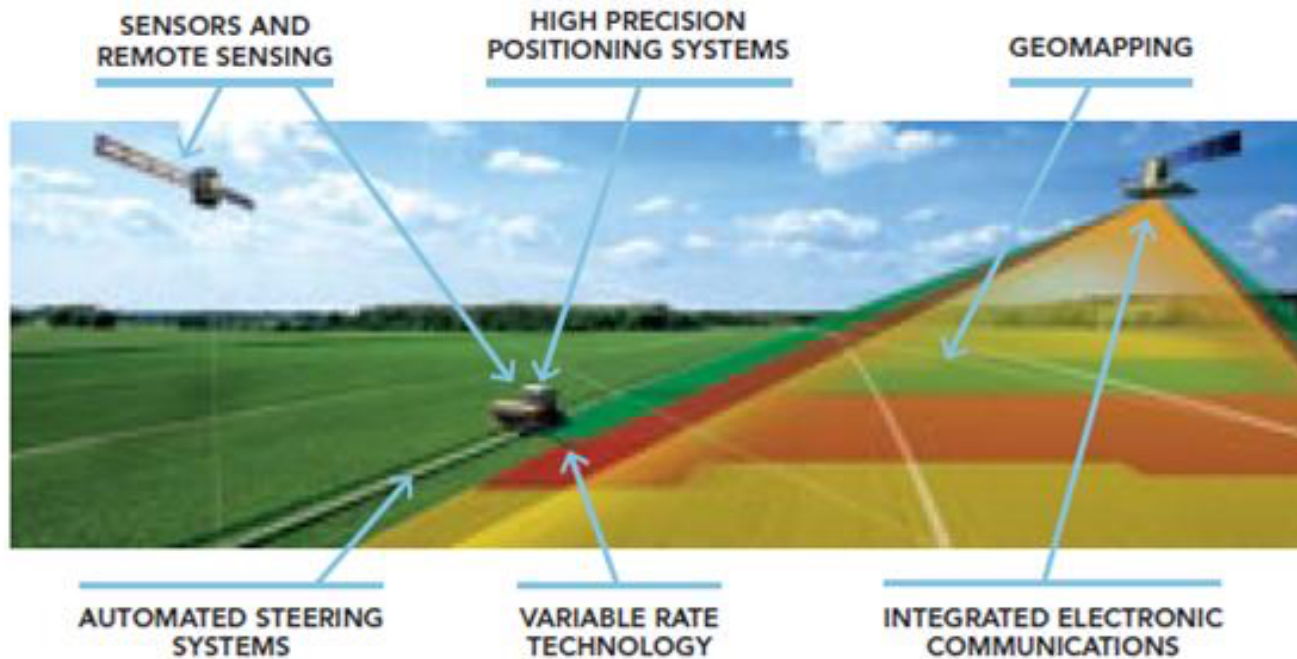
Dust and
ammonia
sensors

Fighting
behaviour
(groups?)

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RESTRAINING AND STUNNING

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8 Proposal for the Next Generation captive-bolt technology

A sensing mechanism to determine the bolt speed & create a record of that speed.

Electrical Connection
Core or Frame
Coil Winding
Plunger
Stroke
Magnetic Flux Lines
Return Spring
Shielding Bodyplate

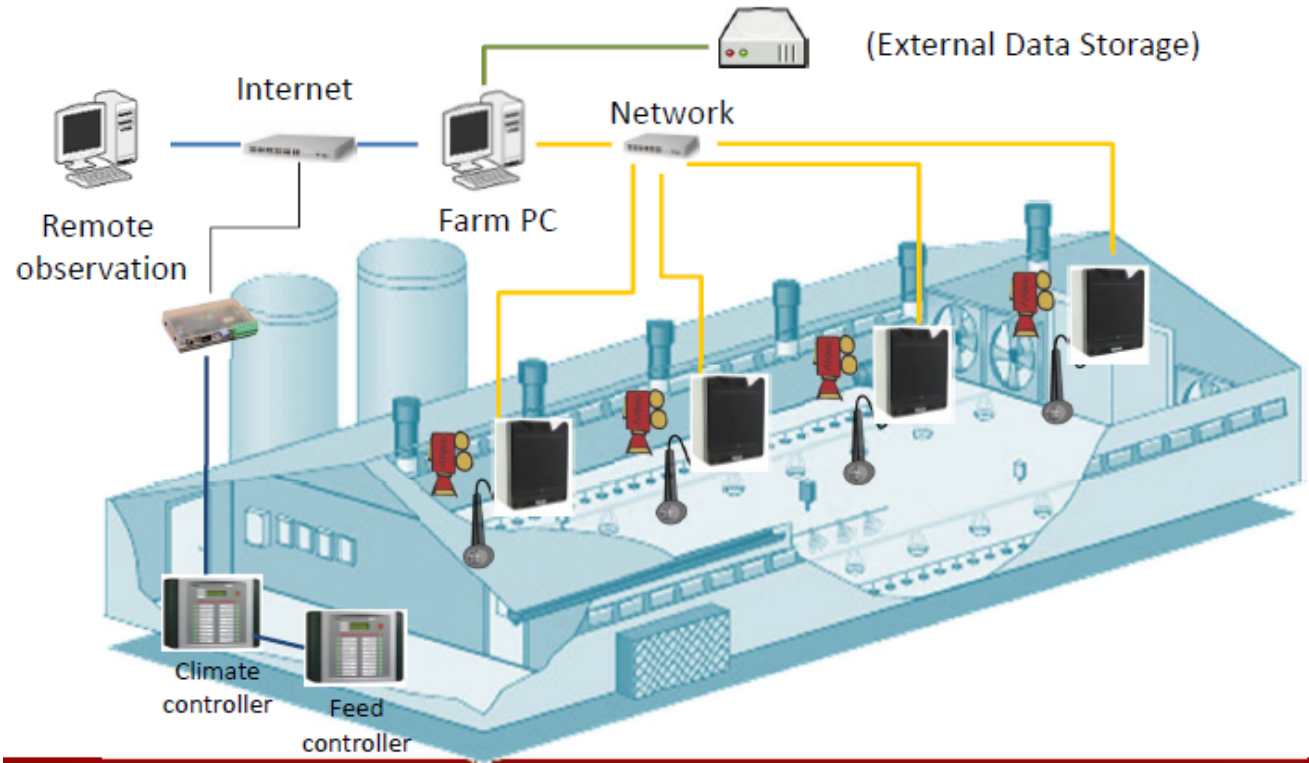
A cross-section view of a solenoid.

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BLEEDING AND
POST-MORTEM

Smart Veterinary Surveillance

Data collection



Smart Farming for Europe

Value creation through Precision Livestock Farming



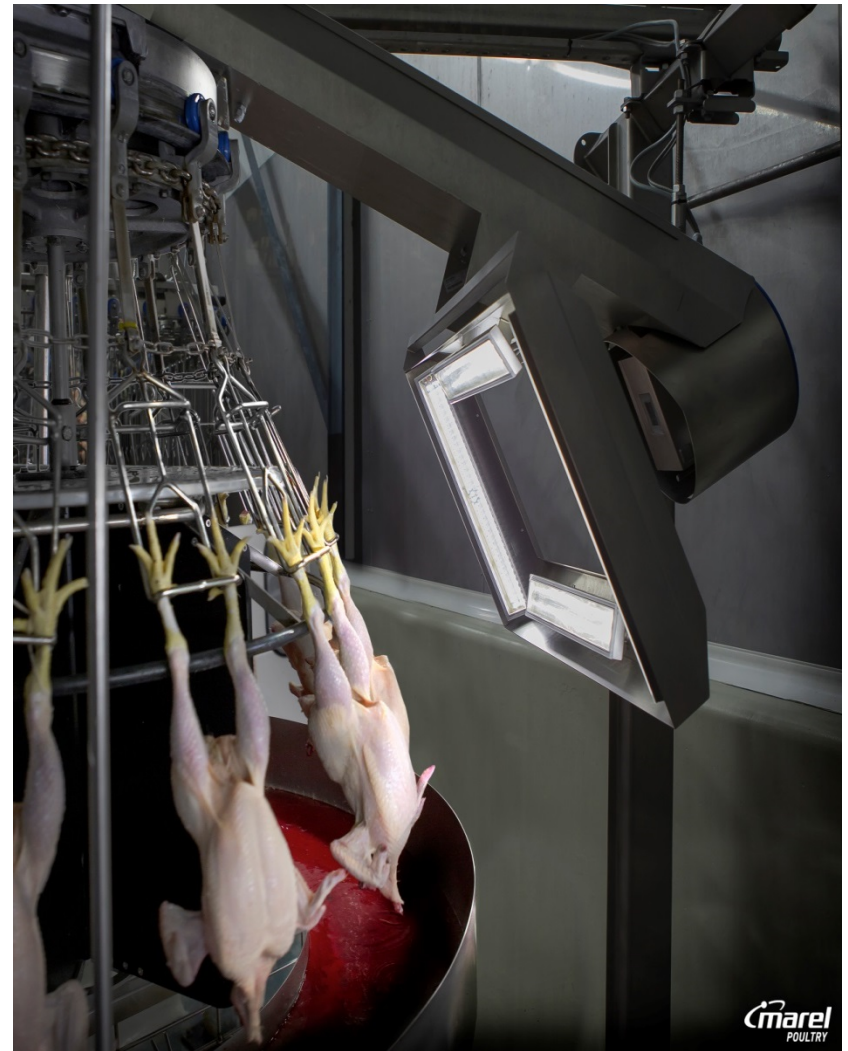
EU Grant Agreement no.: 311825

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Camera System IRIS

Detection of broken bones and bruises

- Quality
- Animal welfare



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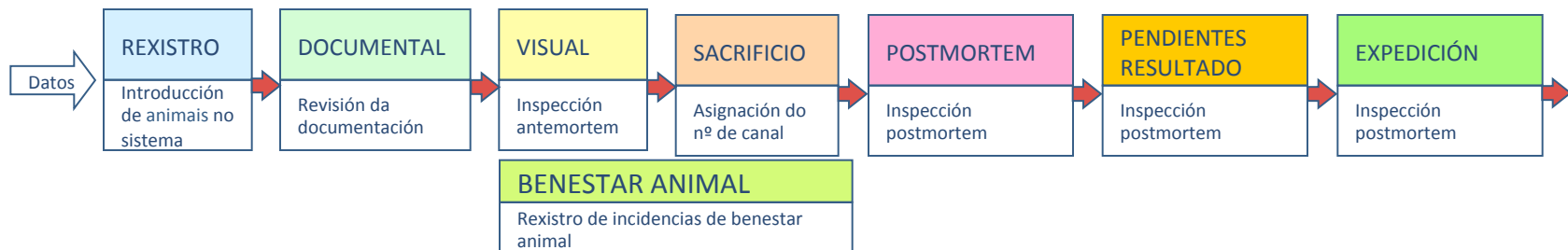


DATA AND
EDUCATION

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Procesos que abarca o sistema

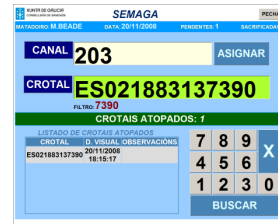
SEMAGA



Smartphonesto photograph and send lesions to pathology labs and sending lesions to



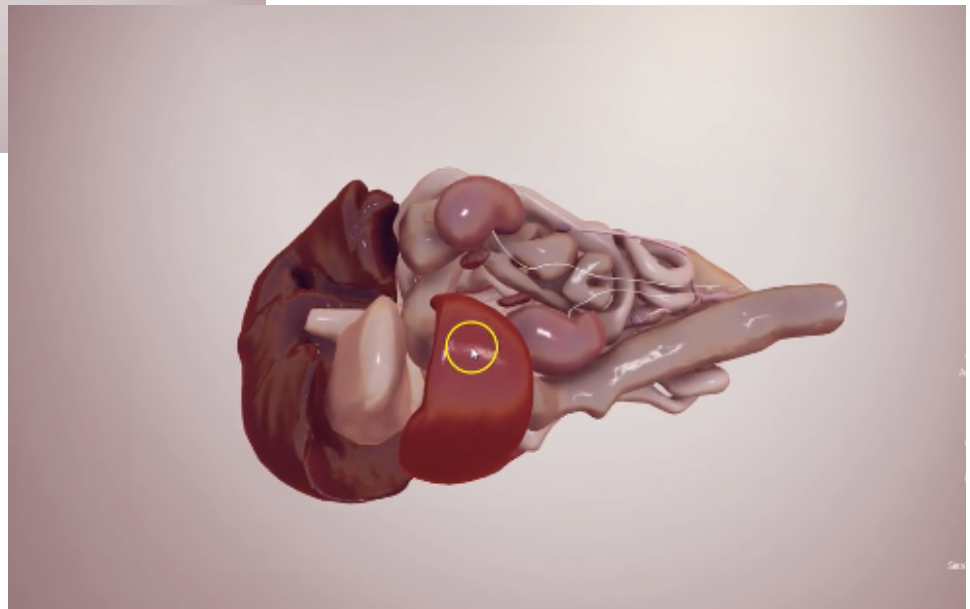
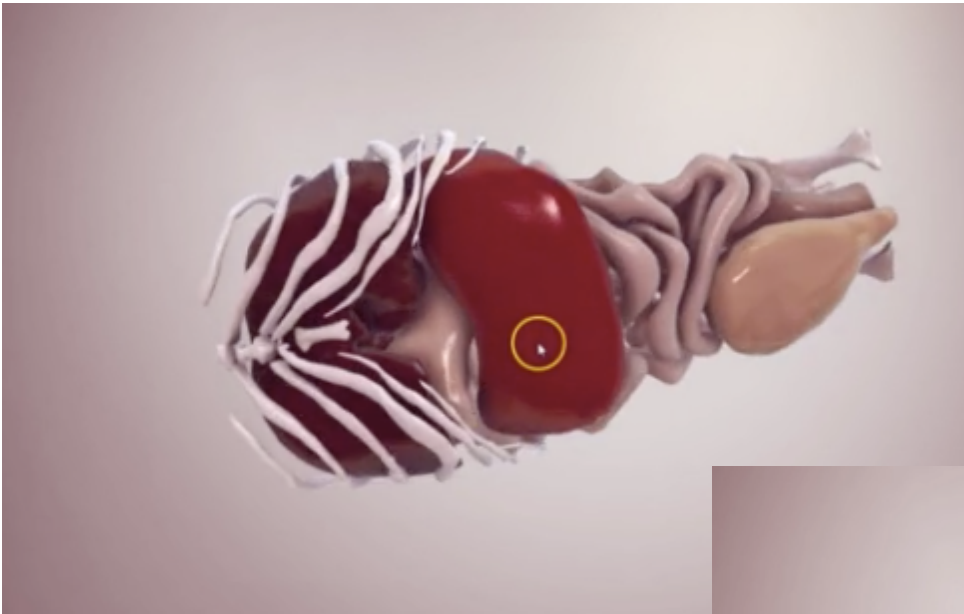
Slaughterhouse inspection register, including welfare monitoring



SMWEB – TabletPC

App allocates kill numbers to animal ID tags

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Concluding remarks

Welfare at slaughter is an intrinsic part of a wider process

Precision slaughter is becoming a reality

Technological innovations can positively impact on welfare at slaughter

More efforts should be made to adopt innovations in this field as tools to underpin implementation of OIE chapters

Thank you



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