



Canadian Pork Council
Conseil canadien du porc

Innovation in Canadian Pork

Dr. Egan Brockhoff

NFAHWC Forum | November 2020

www.cpc-ccp.com

Innovation in Canadian Pork

TRANSPORT

Traditional Trailers

Large punch hole triple axle pot-belly trailers with fixed decks and removable decking, ramps, turns and transition zones.



SLT – Cuppers Trailer

- Mechanical Cross Ventilation
- On Board Watering System
- Wall to Wall Moveable Decks
- No Ramps
- Insulated Walls
- Heated Bottom Floor



Mechanical Cross Ventilation

- 2 Fans IN for every 1 Fan OUT
 - Air **In** Passenger Side
 - Air **Out** Drivers Side



Multiple Configurations



On Board Watering System



SLT – Lift Deck Trailer

- Wall to Wall Moveable Decks
- No Ramps



Hydraulic Decks



Loading Pig Behaviour

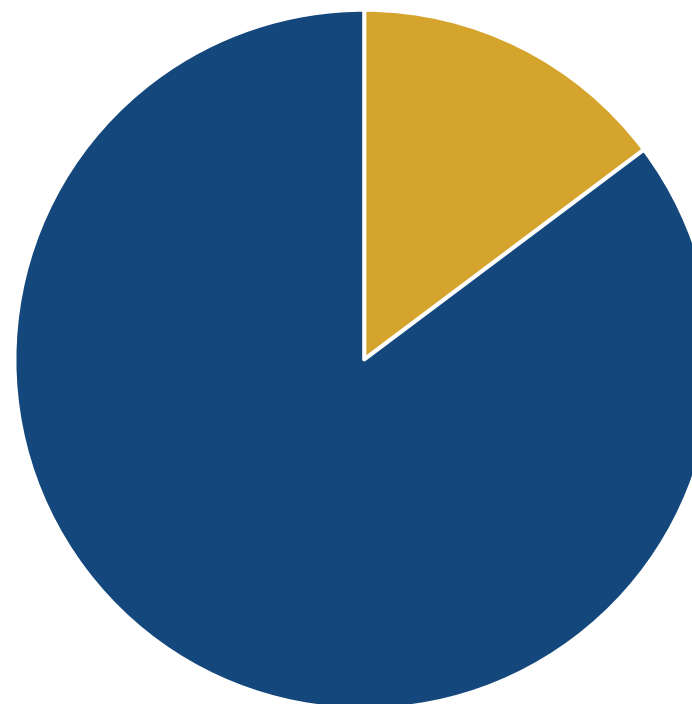
Ramps influence Pig Behaviour

Turns influence Pig Behaviour

Pigs have trouble **ascending** and **descending**

Transition zones influence Pig Behaviour

Loading Metrics



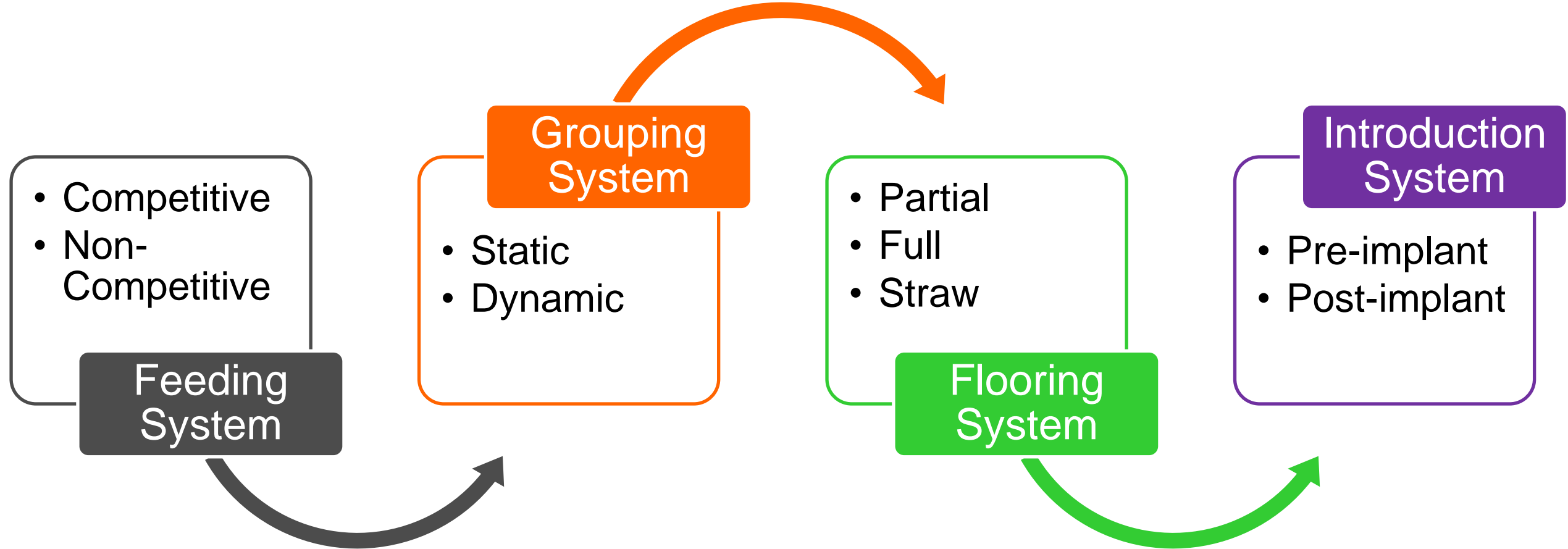
Hydraulic Triple

SLIPS FALLS OVERLAPS SQUEALS SLAPS PROD

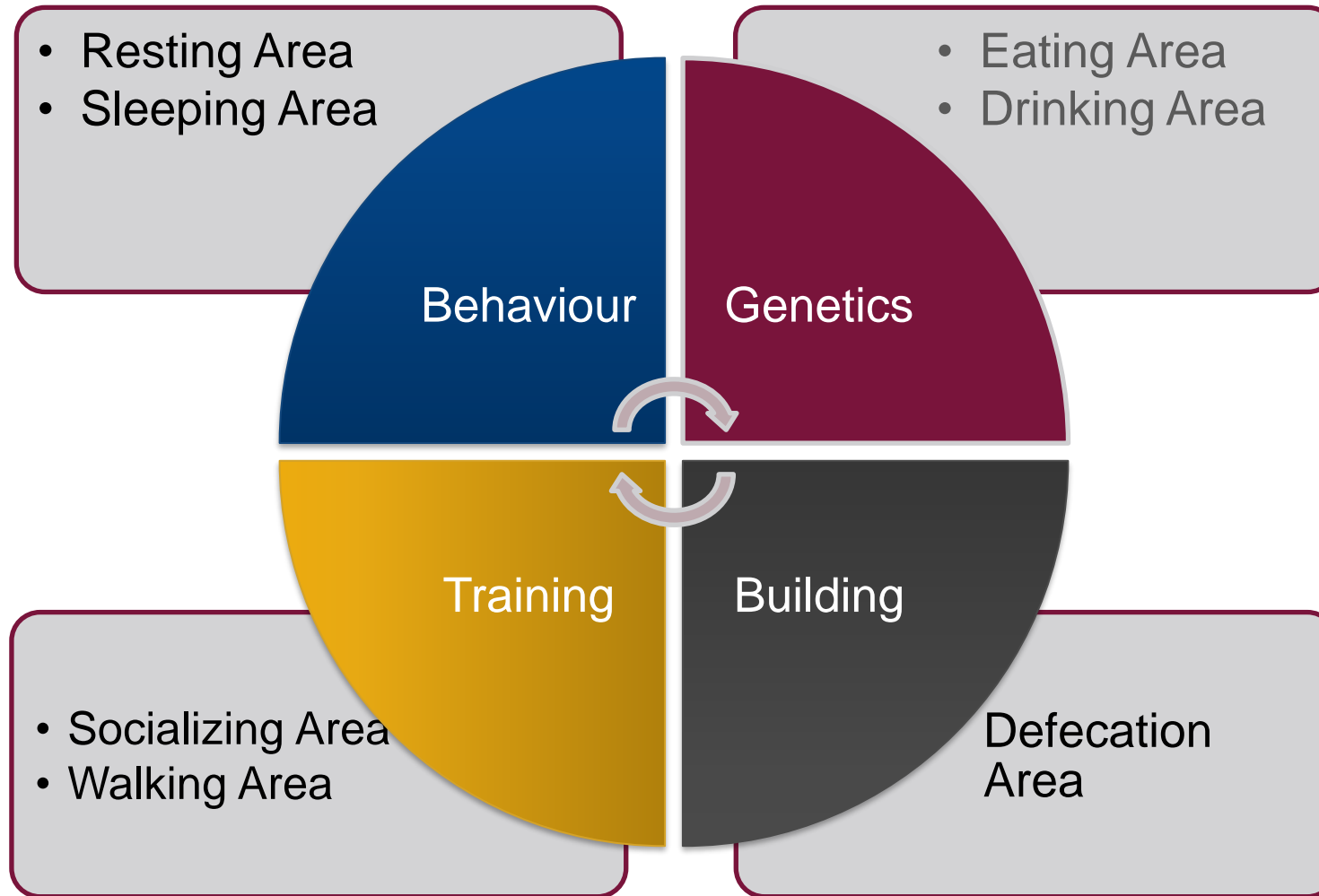
Innovation in Canadian Pork

LOOSE HOUSING

What is Loose Housing?



Designing a Successful Loose Housing System



Innovation in Feeding Systems



Innovation in Grouping Models

Static



Dynamic



Flooring Systems

Straw



Concrete



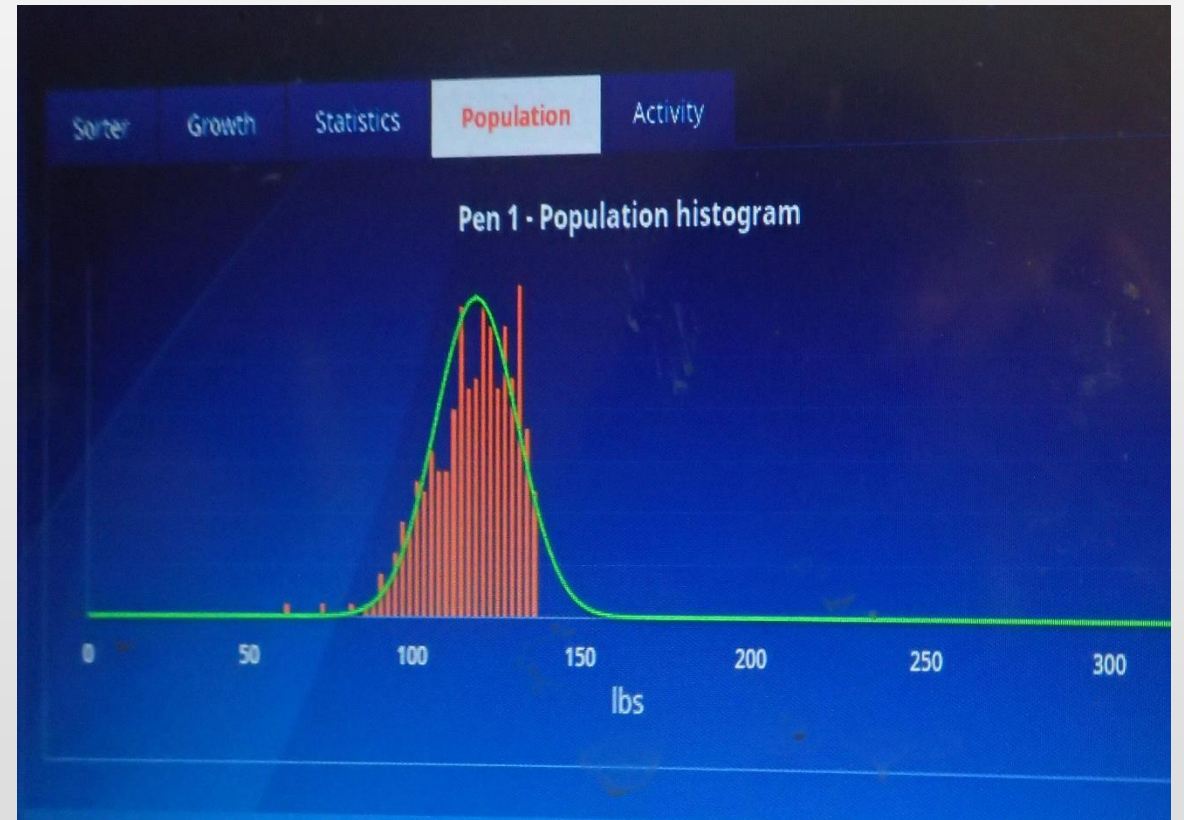
Innovation in Canadian Pork

PRECISION FARMING

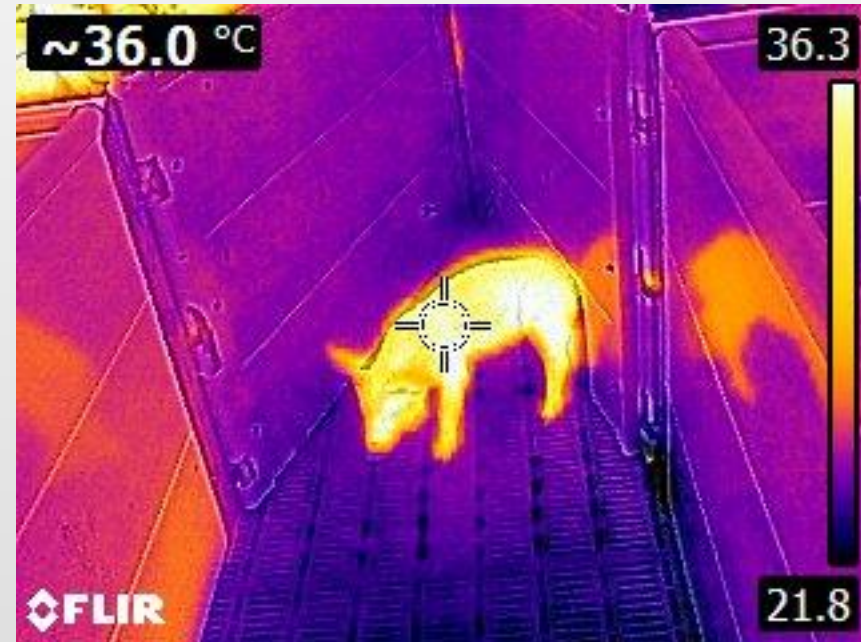
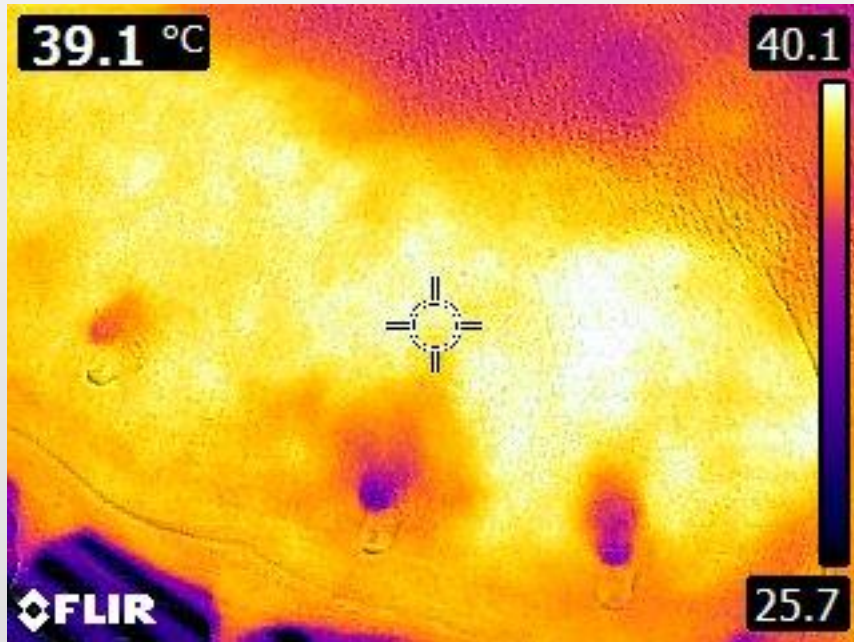
Heat Detection



Auto Sort – Dynamic Groups



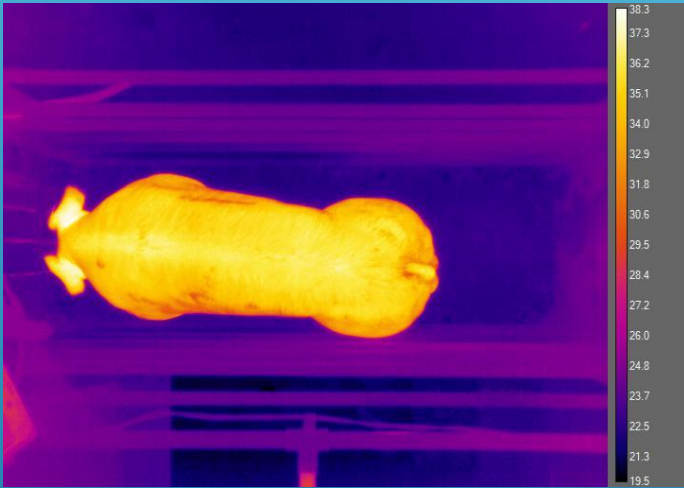
Thermal Imaging



Infrared Evaluation

Metabolism

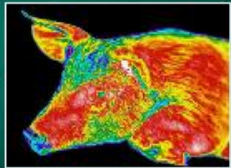
Bio-Surveillance



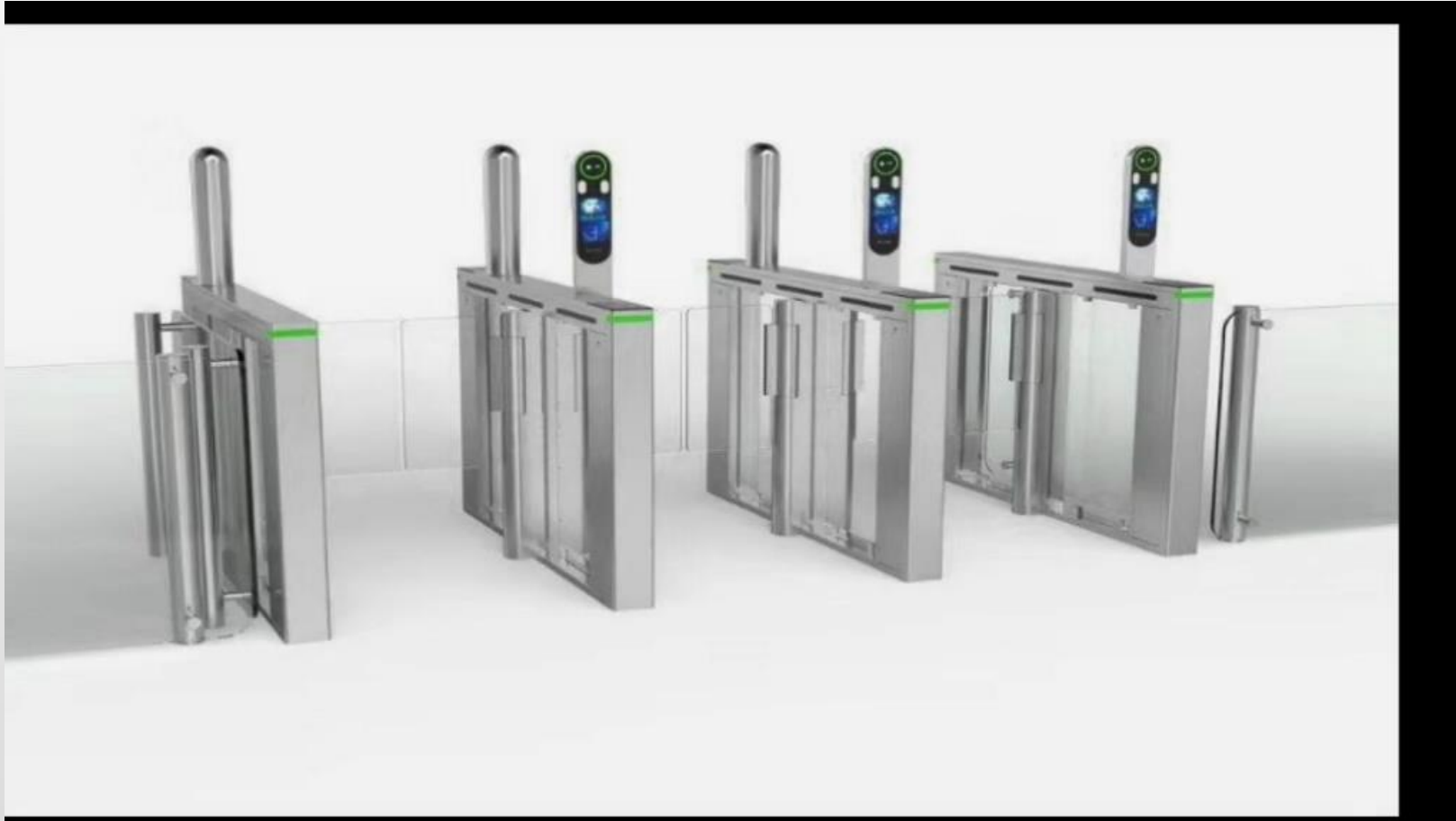
-Cost of P, GHG

-Cost of P, Antibiotic Resistance, Welfare

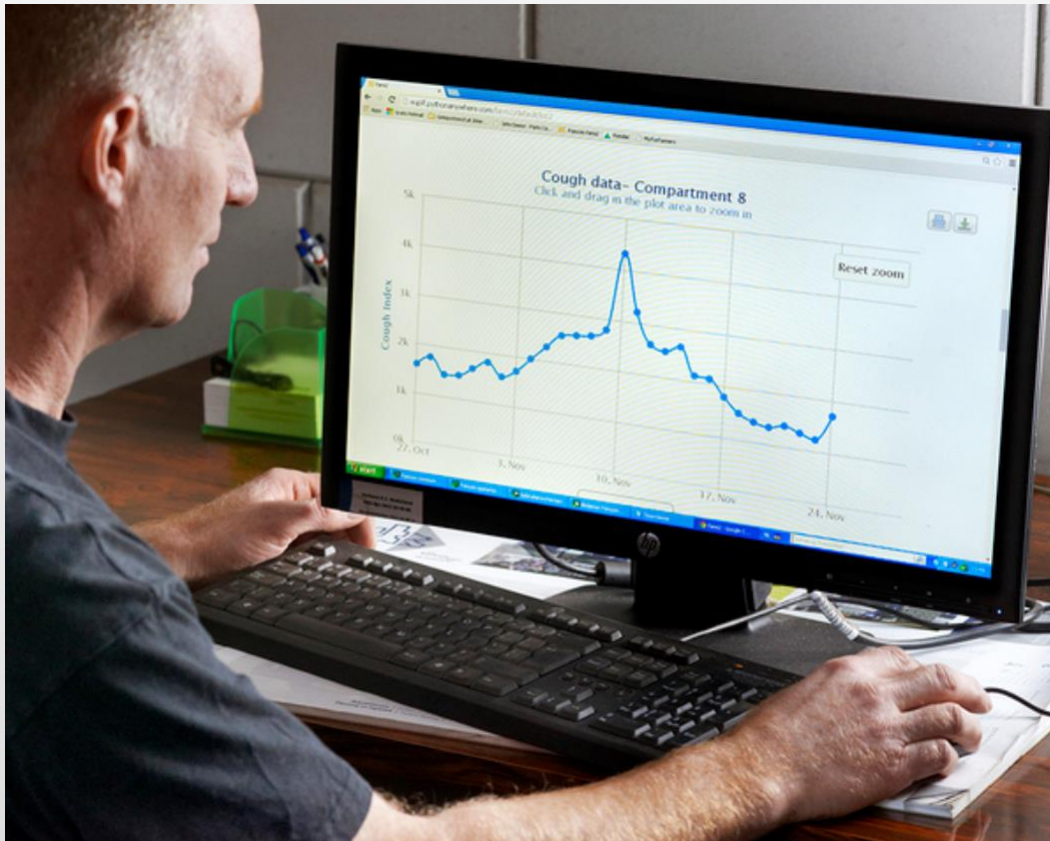
Animal Inframetrics Inc.
AIM

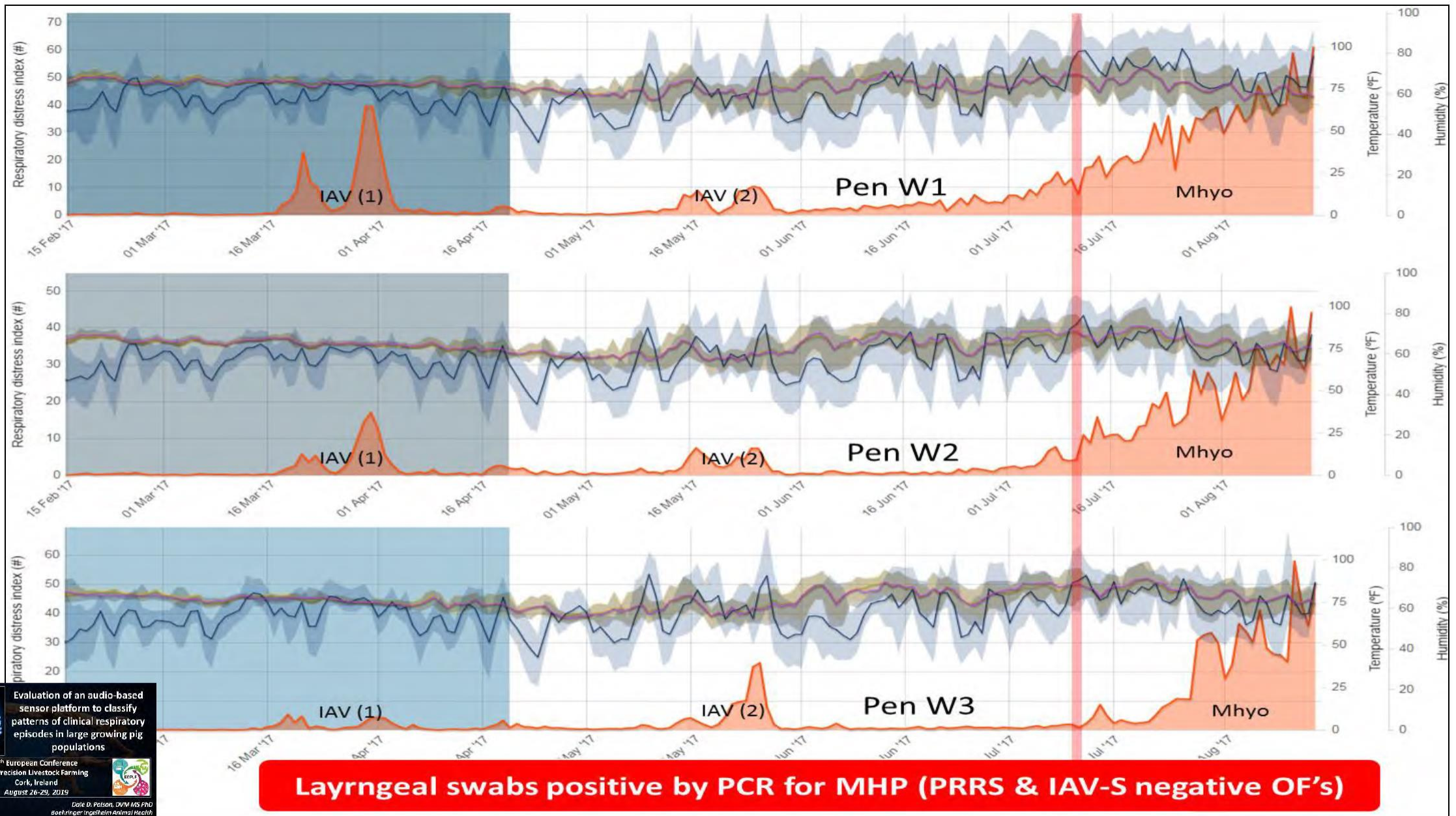


Facial Recognition Software



Coughing Monitors





Evaluation of an audio-based sensor platform to classify patterns of clinical respiratory episodes in large growing pig populations

9th European Conference On Precision Livestock Farming
Cork, Ireland
August 26-29, 2019

Boehringer Ingelheim Dale D. Polson, DVM MS PhD
Boehringer Ingelheim Animal Health

Layrngeal swabs positive by PCR for MHP (PRRS & IAV-S negative OF's)



PREVENTION WORKS
Shaping the future of swine health



Geofencing



Design

ALERT! Your farm may have come into contact with AB Disease. Please call 1 (000) 000-0000 for more information and further steps.

Technology Options

- 1. Smartphone
- 2. Kiosk
- 3. Truck GPS



On-Farm Training

Ensuring that a company's vision and mission and core values are living on farm via pre-training, targeted training, and post-training animal care competency measurements

Sarah Probst Miller, DVM



Pork Avenue
TRAINING PORTAL

TAKE 5

LESSON PROGRESS 1/1

STATUS: COMPLETED ✓

5.01eng - Take 5 - Euthanasia Decision

Deciding to administer euthanasia is a difficult choice. But when you know what circumstances require timely euthanasia as a part of compassionate pig care, the decision is easier to make. In this lesson you will learn when euthanasia is necessary and, therefore, the compassionate choice.

This lesson is part of the curriculum: ****Pork Avenue Breeding and Gestation Curriculum**

5.01eng - Take 5 - Euthanasia Decision

✓ 5.01eng - Take 5 - Euthanasia Decision [Launch](#)

Print the SOP Handout

✓ 5.01eng - Take 5 - Euthanasia Decision SOP [Launch](#)

Print the In-Barn Verification Checklist

✓ 5.01eng - Take 5 - Euthanasia Decision Checklist [Launch](#)

Hipra Link

Cloud Based

Linkage

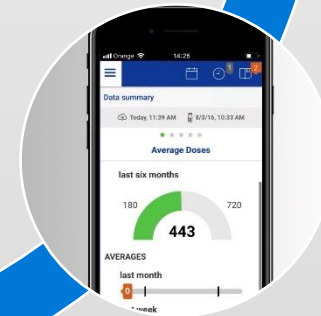
- Staff
- Hardware
- Production
- Metabolic



Vaccine



Injector



App

Genetics



Body Mapping

Pig Weight/Pen Weight

% Lean Yield

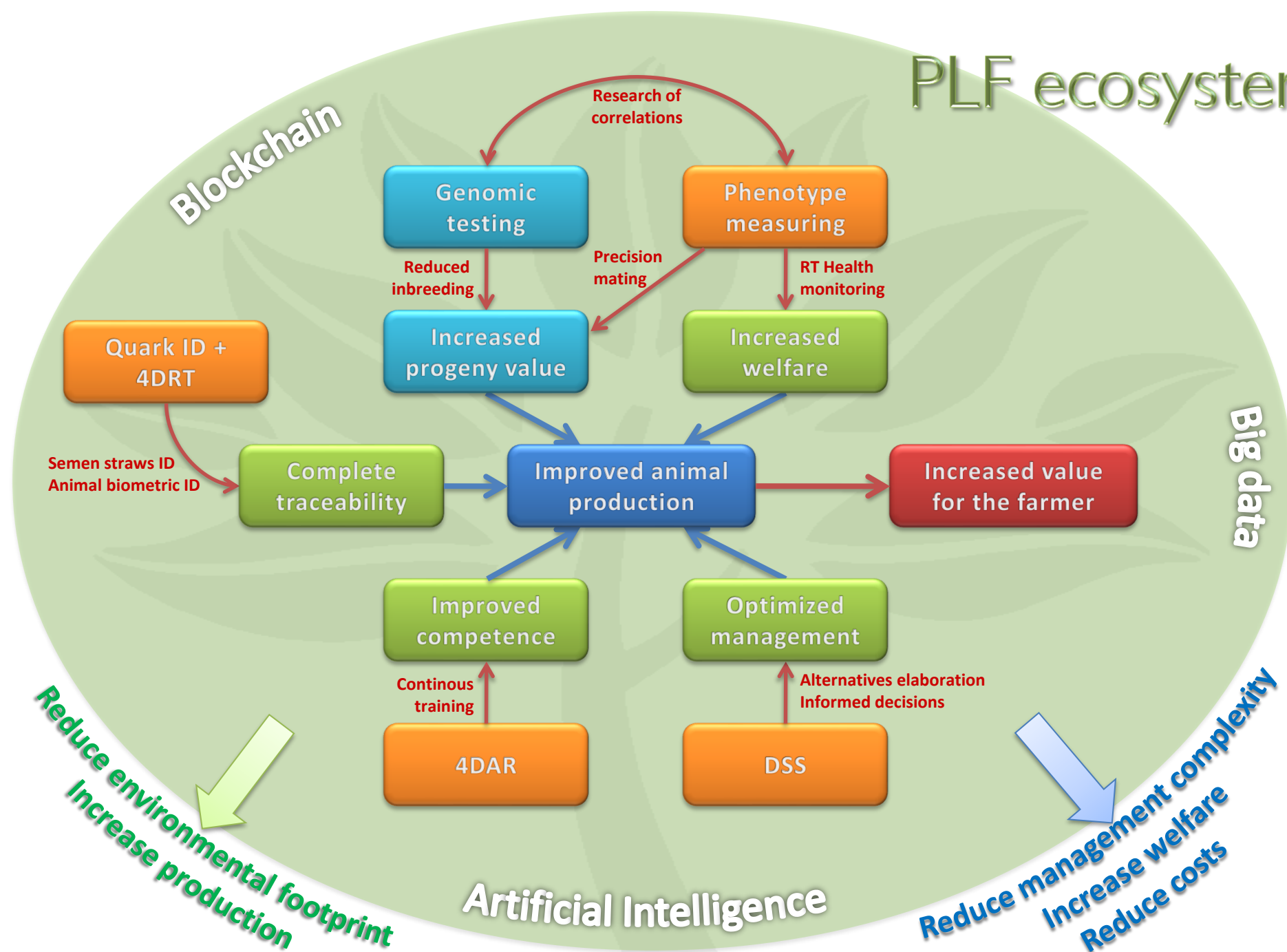
BCS

Heat Detection

Auto Sort



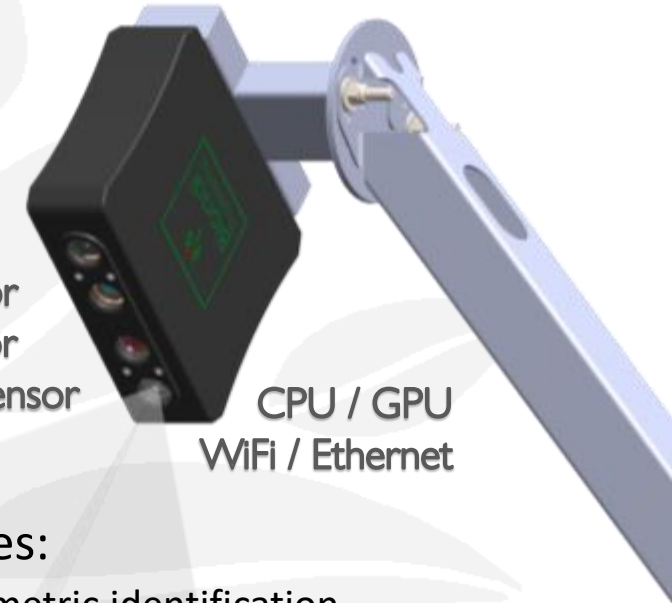
PLF ecosystem



4DRT-A

- Multispectral sensor
 - Depth, RGB, Thermal, Microwave
- Deep learning for RT elaboration
 - Feature extraction and elaboration
- Enhanced data transmission
 - Data compression and encryption
- Freestall monitoring
 - Multiple sensors
 - Multipath tracking

3D sensor
MW sensor
RGB sensor
Thermal sensor
UV sensor



CPU / GPU
WiFi / Ethernet

- Features:
 - Biometric identification
 - Behaviour monitoring
 - Heat detection
 - Fat accumulation monitoring
 - Growth rate monitoring
 - Body weight estimation
 - Morphology and locomotion
 - Thermal stress detection
 - Emissions monitoring





4DRT-W




3D sensor
RGB sensor
Thermal sensor
UV sensor



AR display
Headphone + mic

#canadianporkadvocate

  @eganbrockhoff