Precision Pig Farming (PPF) ‘iFarming’

Charlotte West and Harry Heath
Why Is Precision Livestock Farming Important?

- Exploding Population size
- Need to achieve sustainable animal production
- Limited availability of technical labour on-farm

**What is it?**

* “Management of livestock farming by continuous automated real time monitoring / managing of production / reproduction, health and welfare of livestock and environmental impact”*

D. Berckmans (EU PLF Project)

Pigs are:
Complex; Individual; Time-Varying and Dynamic
Types of Technologies

Vision

Sound

Sensor
Laborious Process of Labelling

Labelled variables:
- Duration of aggression (start-finish time)
- Time of feeder activation
- Aggression interrupted/not interrupted

- Type of aggressive interaction
- Aggression initiator and receiver
- Individual reaction to feeder activation

 Courtesy of Daniel Berckmans
Technology is moving faster than development

Time and Cost of Development (e.g. Data Labeling)
  * Lack of cross discipline / sector collaboration

Lack of Cost Benefit Analysis (Part of EU PLF Project)
  * Quantifying both Tangible and Intangible Benefits Difficult

Society want high quality, high welfare food, but is unwilling to pay for it…. This Needs to Change!!
Future of PLF on-farm?

Outputs/actions:
Individual growth curves; list of pigs ready for slaughter; pigs for treating;

- Sound:
  - Vocalisation
  - Coughing

- Image:
  - Time at drinkers
  - Time at feeders
  - Weight
  - Aggression
  - Body marks/scratches?

- Sensors: Lameness monitoring; listlessness

- Individual monitoring via ear tags
- One sensor doing multiple jobs
- Convert data into actions (and then delete)
- Multiple stakeholders paying for data?
CONCLUSIONS

* New Technology Needs to Be Cheap & Simple
  * ROI: At Least 30%
* Tangible benefits of PLF need to be costed correctly
  * Don’t forget about the intangible benefits!!
* Real time monitoring will allow producers to improve the production efficiency of pigs before sale
* Farmer legally owns the data produced on farm, what are you going to do with it?
* Anything is technically possible!!

Any Questions?