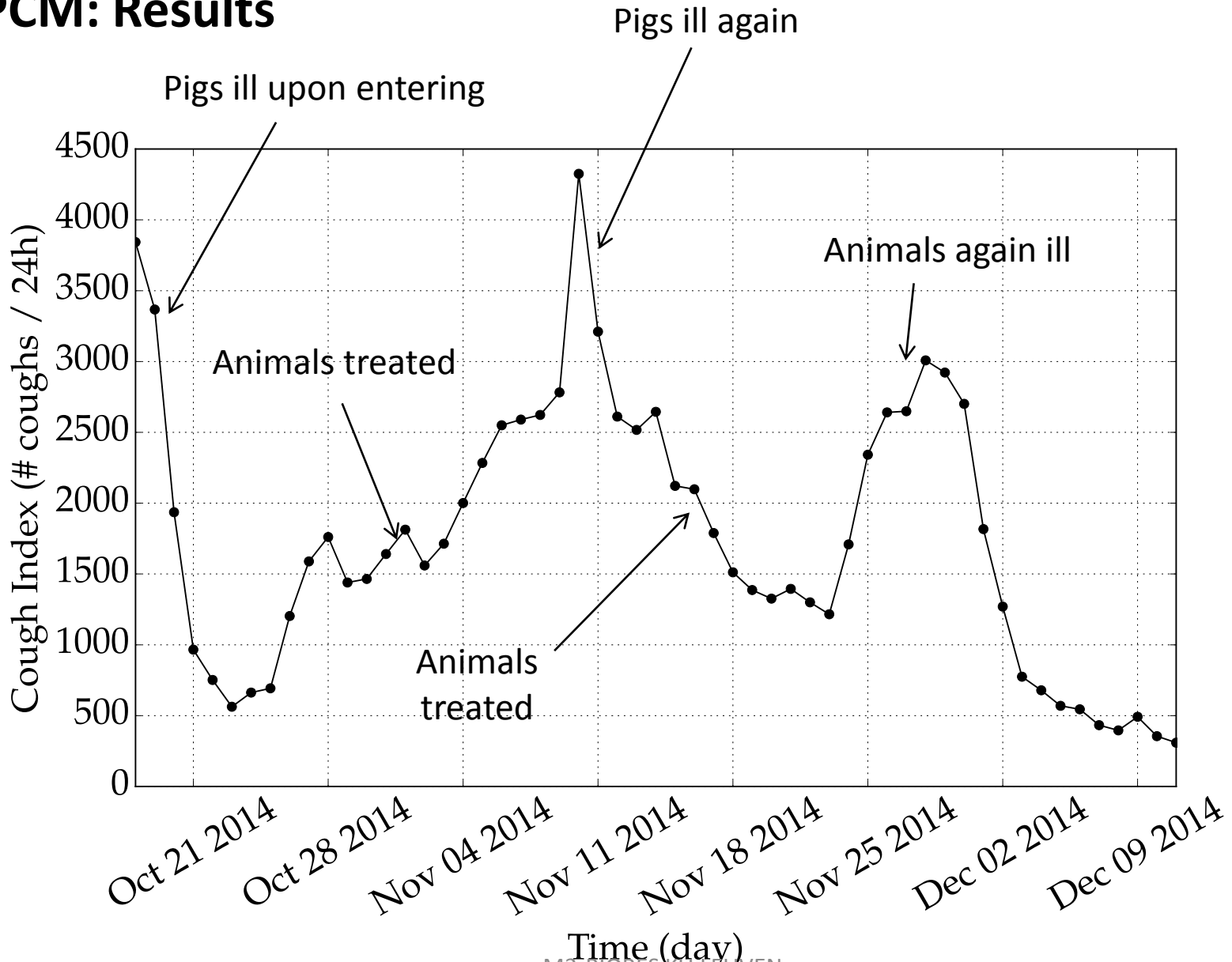
PCM: Results


Pigs ill again
Pigs ill upon entering
Animals again ill
Animals treated
Animals
treated
Cough Index (# coughs / 24h)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Oct 21 2014
Oct 28 2014
Nov 04 2014
Nov 11 2014
Nov 18 2014
Nov 25 2014
Dec 02 2014
Dec 09 2014
Time (day)


SoundTalks
PCM-2012-00090

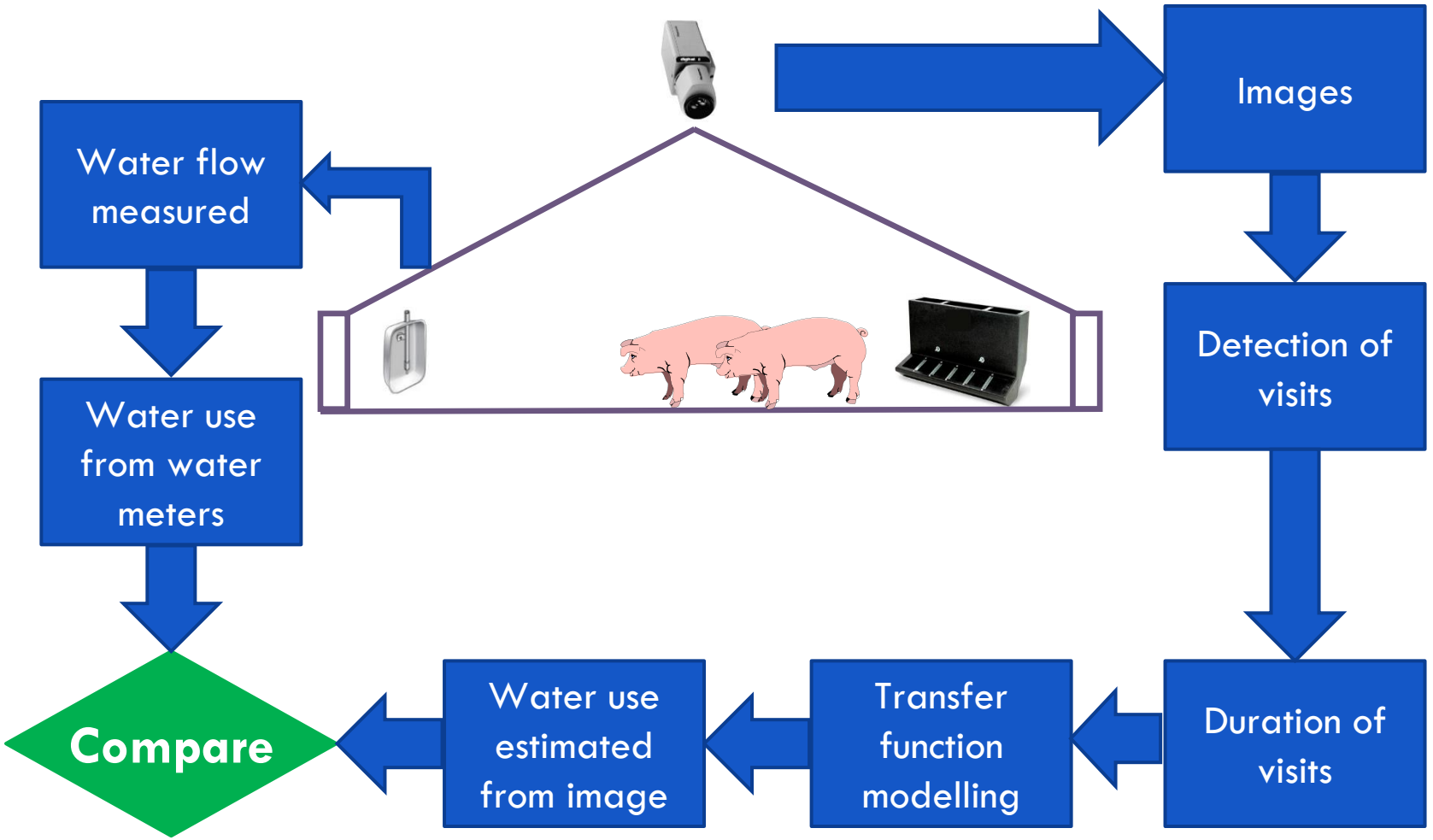
Example: Monitoring of drinking behaviour of pigs (health!)

Monitoring of drinking behaviour in pigs (i.c.w. Ughent, Fancom BV)

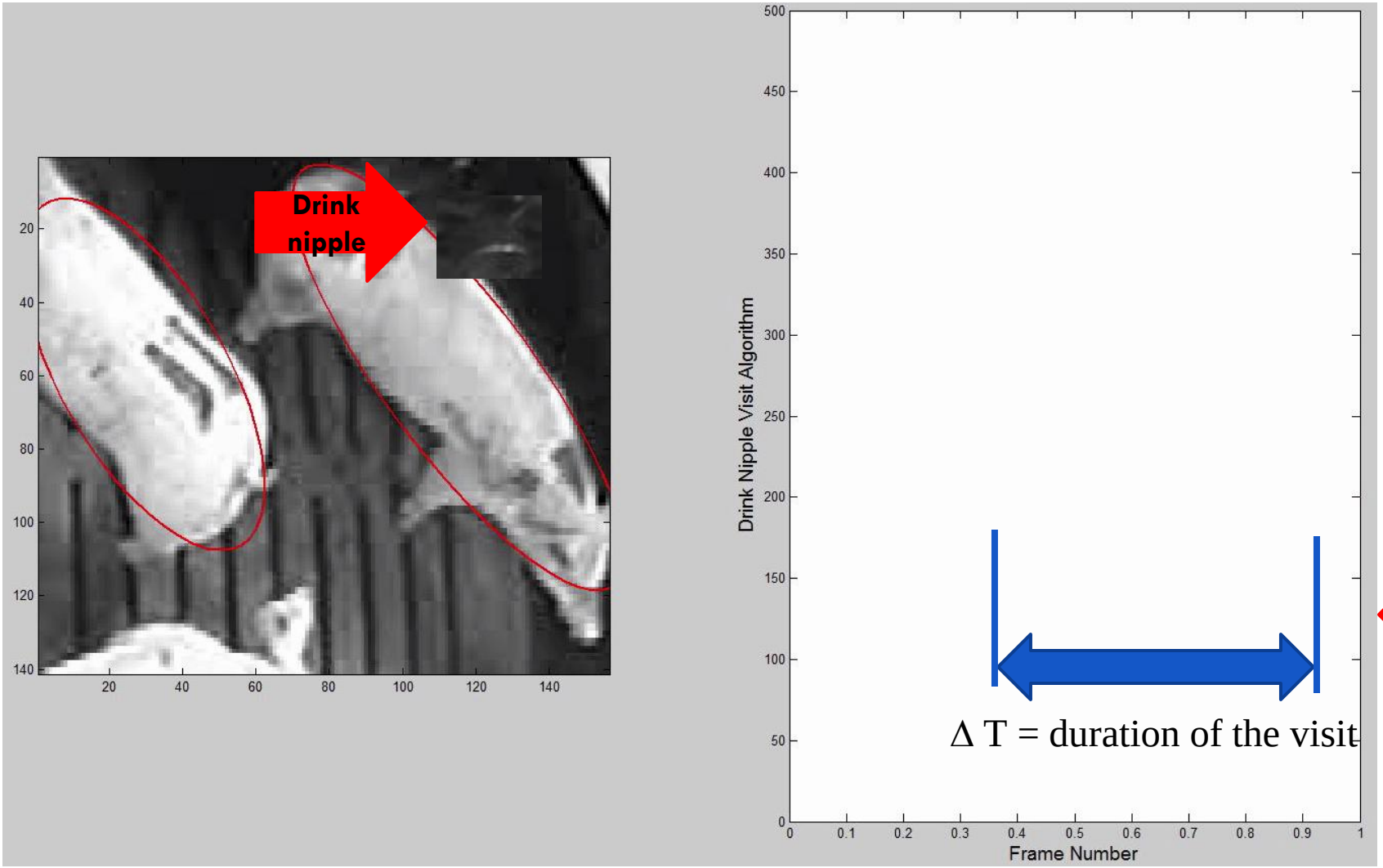
- Monitoring water usage as indicator for health status

- Estimate hourly water use in a pig pen by analysing hourly duration of drink nipple visits

Model-based monitoring of water use

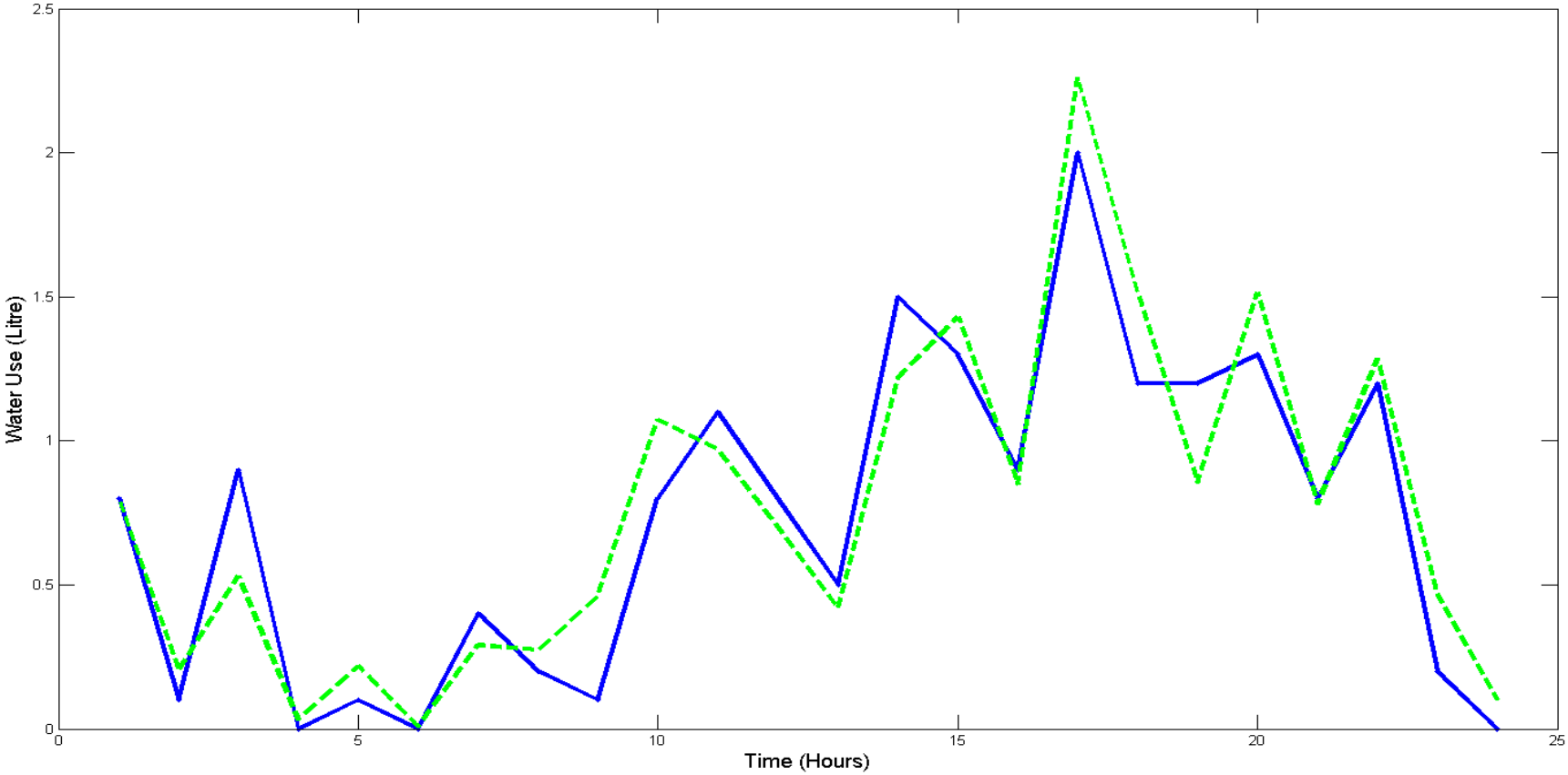


Model-based detection of visits



Play

Results

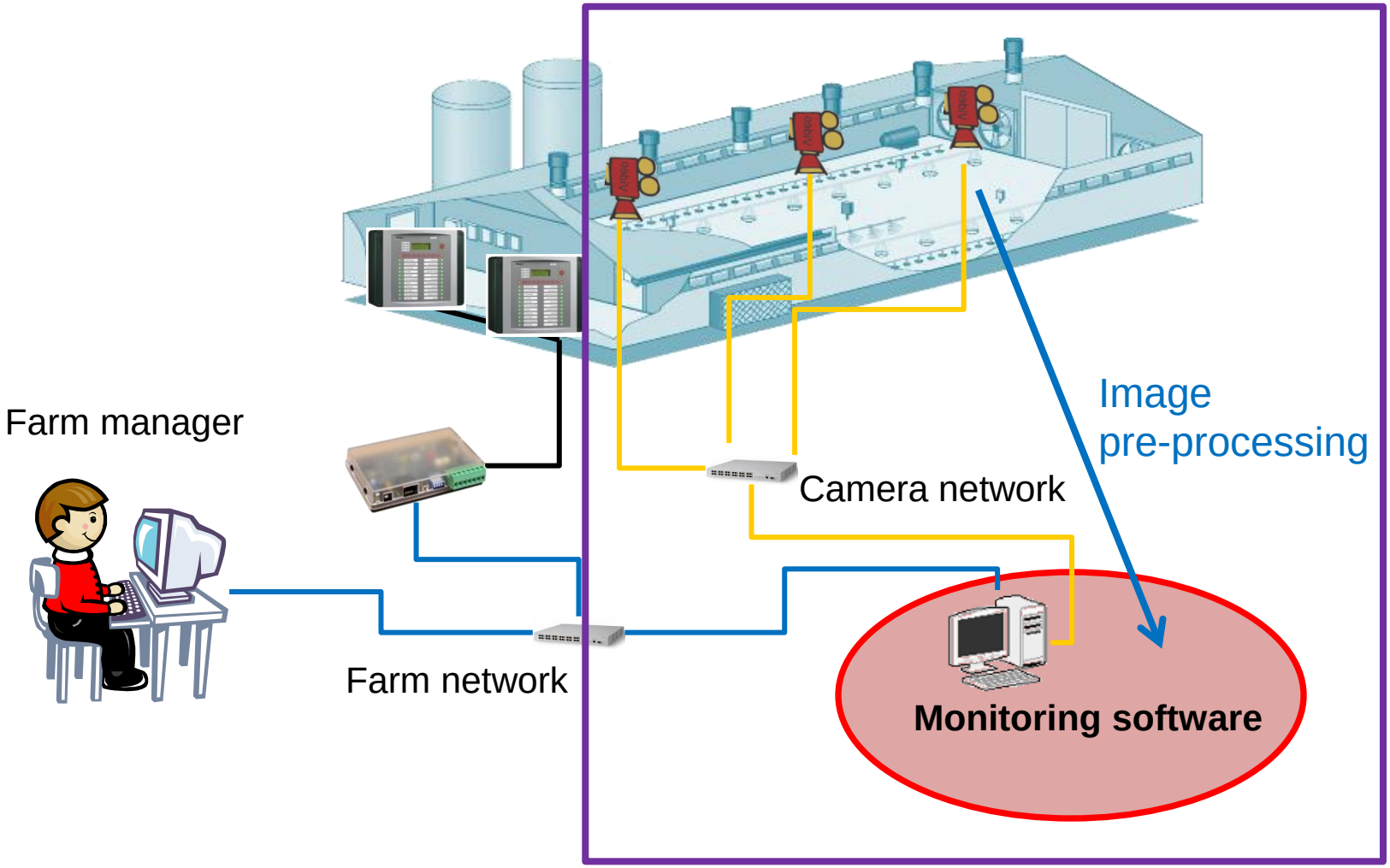


Hourly water use can be estimated with an accuracy of 92% or 200 ml over 13 days

Example : Real time monitoring of problems in a broiler house

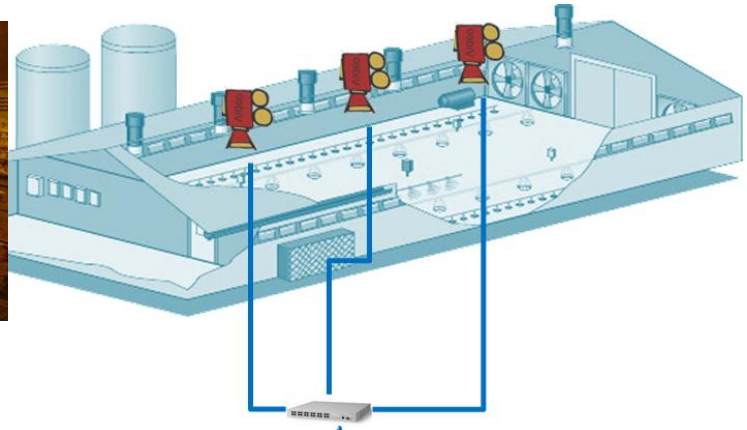
i.c.w. Fancom BV

eYeNamic monitor tool



Vision-based Early Warning System for Broiler Houses

- Solution?
- Farmers can use automatic tools to continuously monitor the welfare and health of their broilers

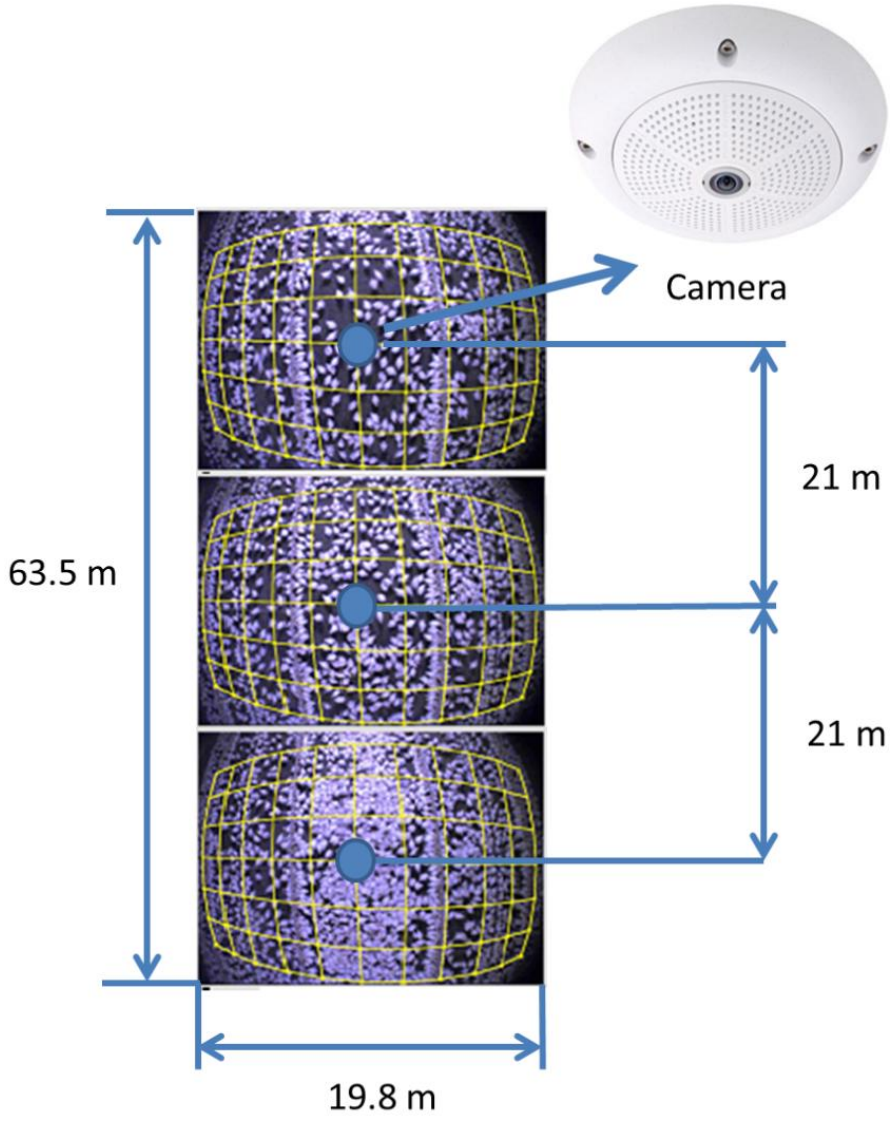


Farm manager dashboard

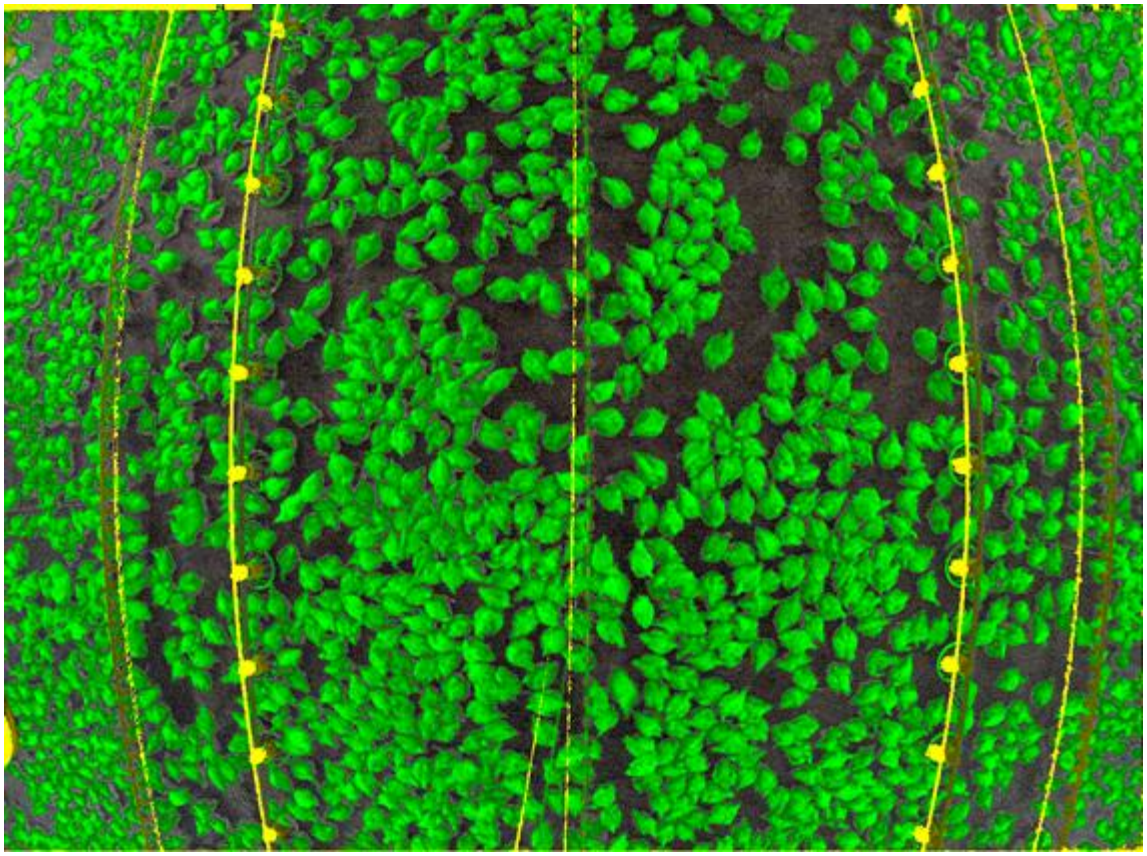
Welfare monitor software

Camera network

Experiment’s ground plan

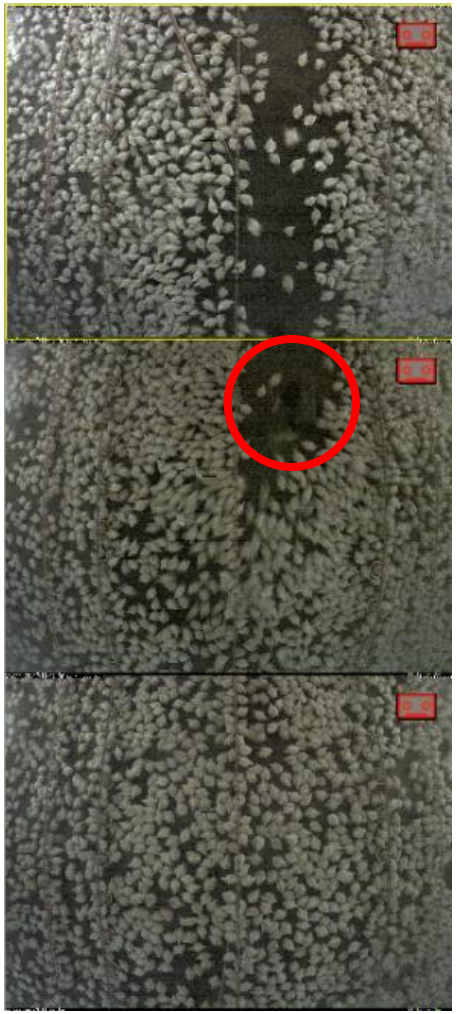


- Detecting malfunctioning in broiler houses
- Produce alarms in real-time when malfunctioning happens (in feeder or drinker lines, light, climate control, etc.)

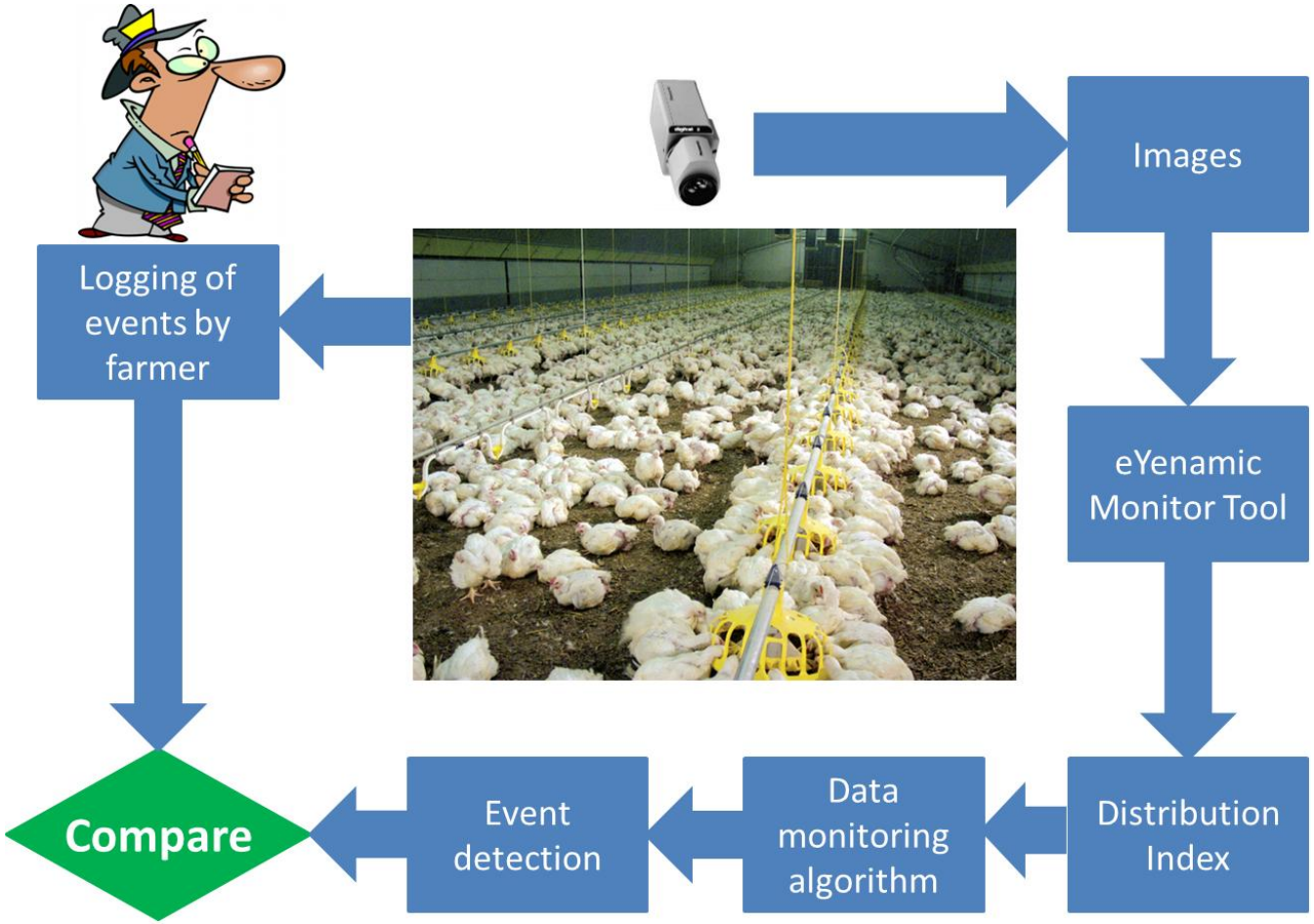


Birds and housing

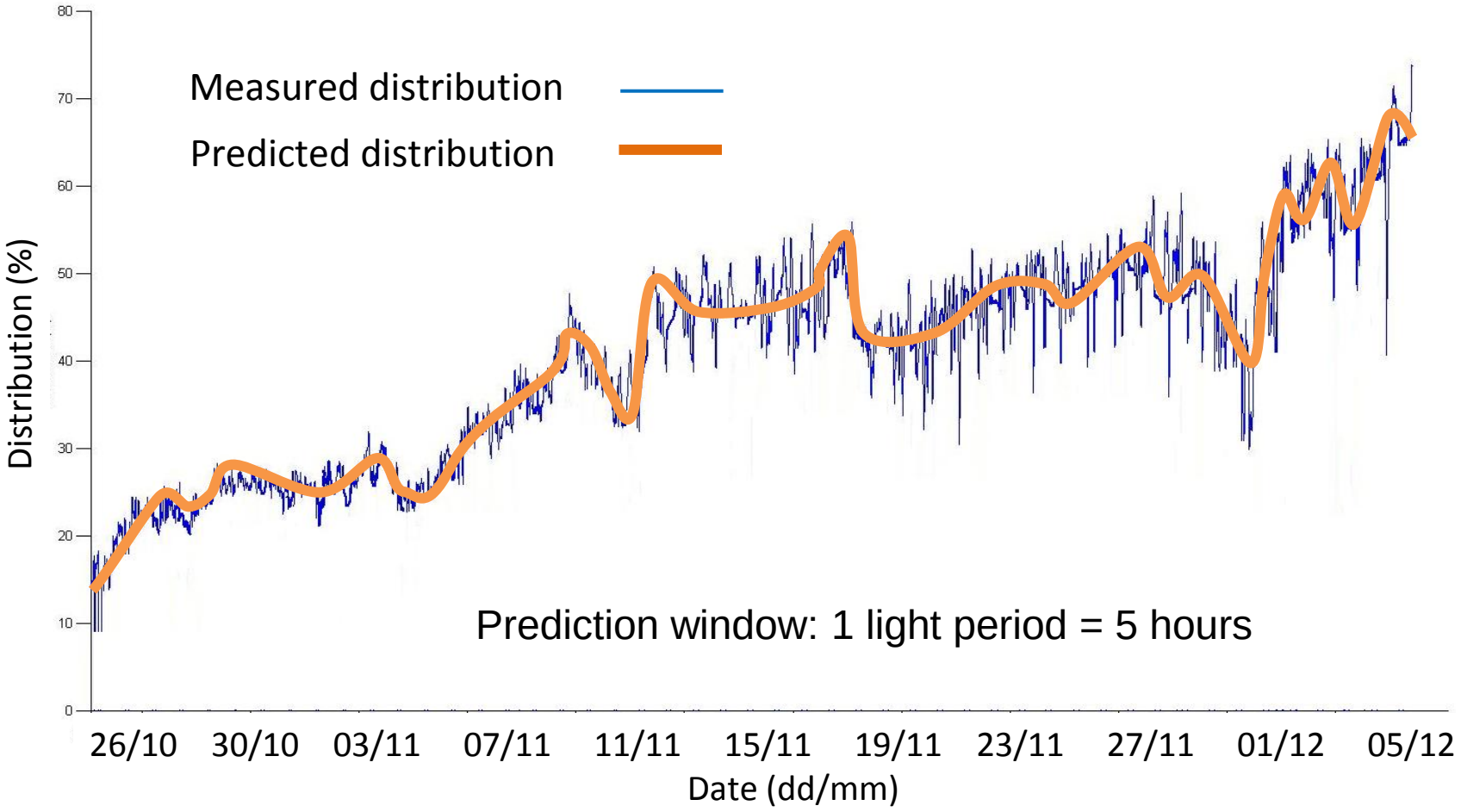
- Experiment rounds: 42 days
- Initial broiler weight: weight of 40±5 grams
- Broiler type: ROSS 308 broilers
- House capacity: 28000 broilers
- Climate control: Fancom FUP1EA2



Farmer logbook and manual video observation as references

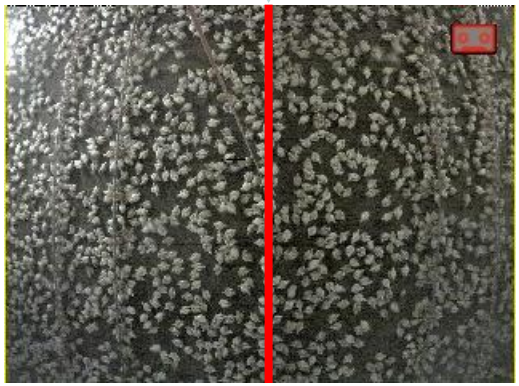


Measured vs. modelled animal distribution



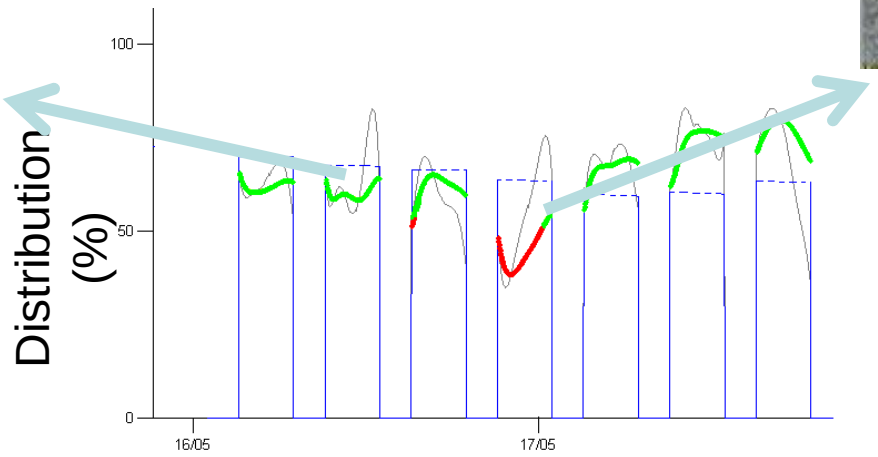
Event detection

Feeder line



Normal situation

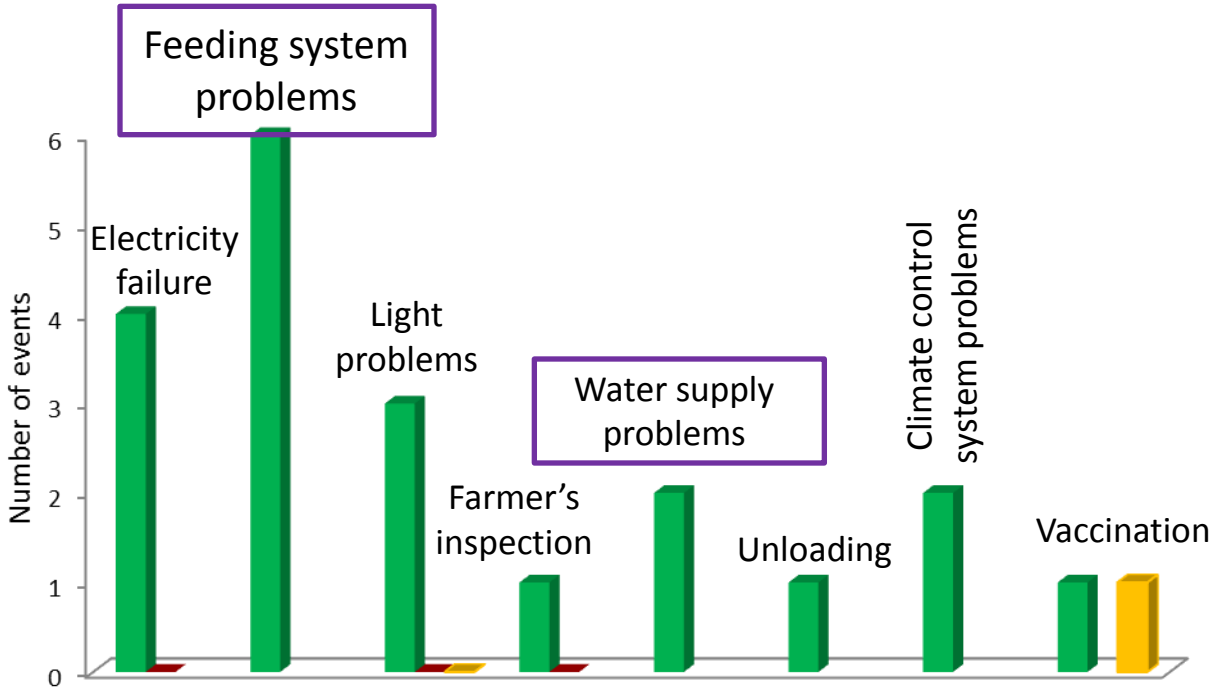
Measured values
Smoothed values within 25% range
Smoothed values out of 25% range
Predicted values

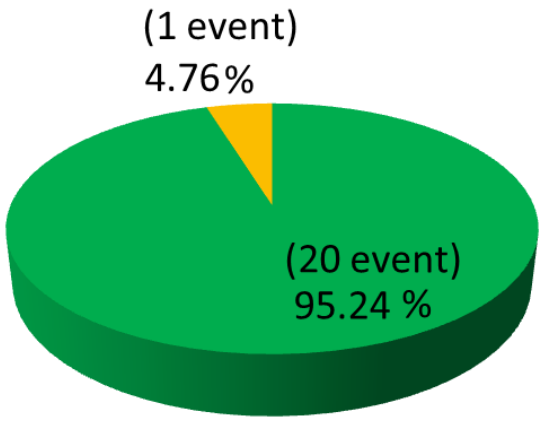


Defect Feeder line

Problem in feeding lines

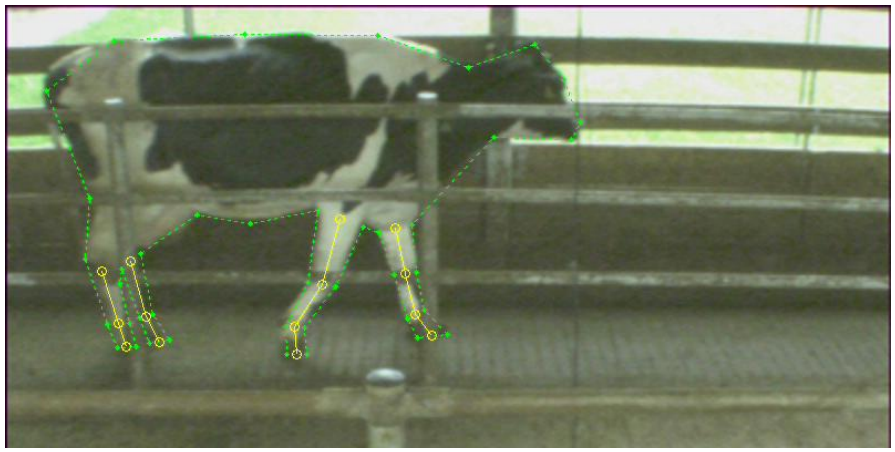
Detected events in the validation experiment over 42 days





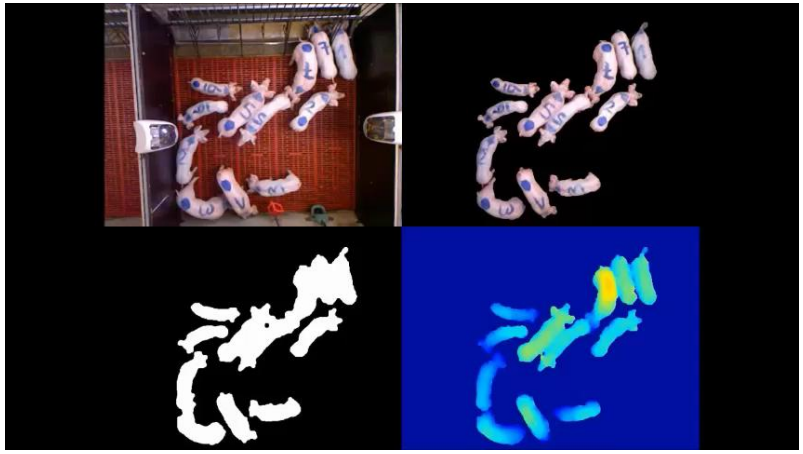
Conclusion: Events in a broiler house could be detected using top-view image analysis with an accuracy of 95.24 %

Cow lameness monitor: i.c.w. Volcani, DeLaval, Wur



Play

Aggression monitor: Umil, TIHO, Fancom BV



Play

Scratching behaviour: Ughent, ILVO

Play

Weight estimation: Fancom BV, Agrifirm

Play

Value Creation through Precision Livestock Farming

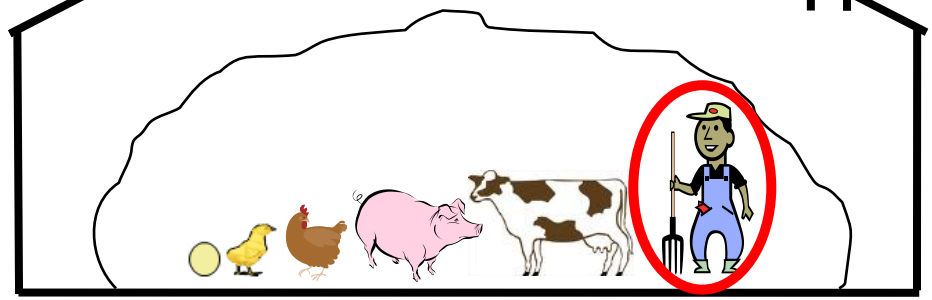
Value for farmer:

Welfare

Health

Environmental Impact

Euros

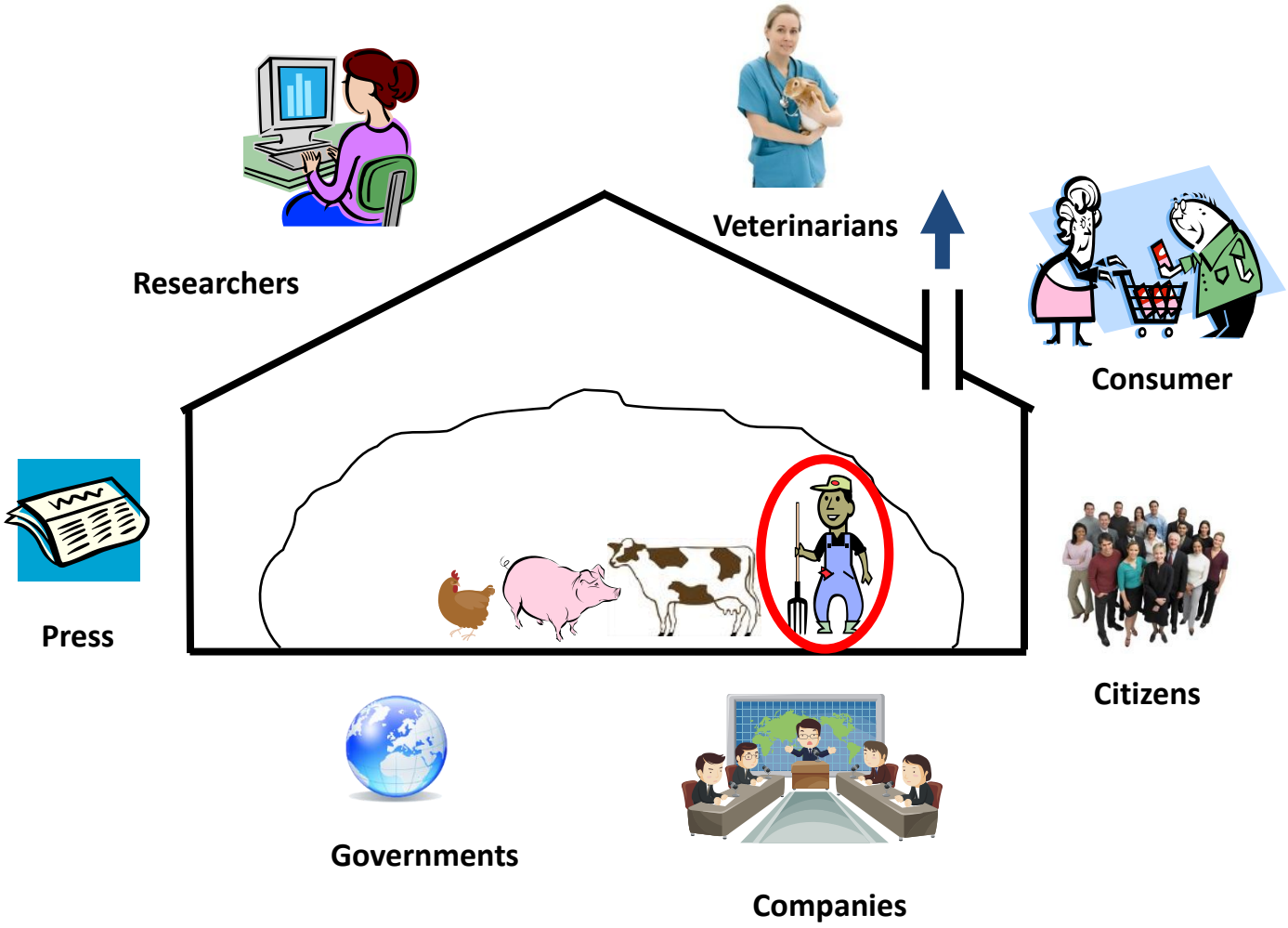


Labour and Time

Social Recognition

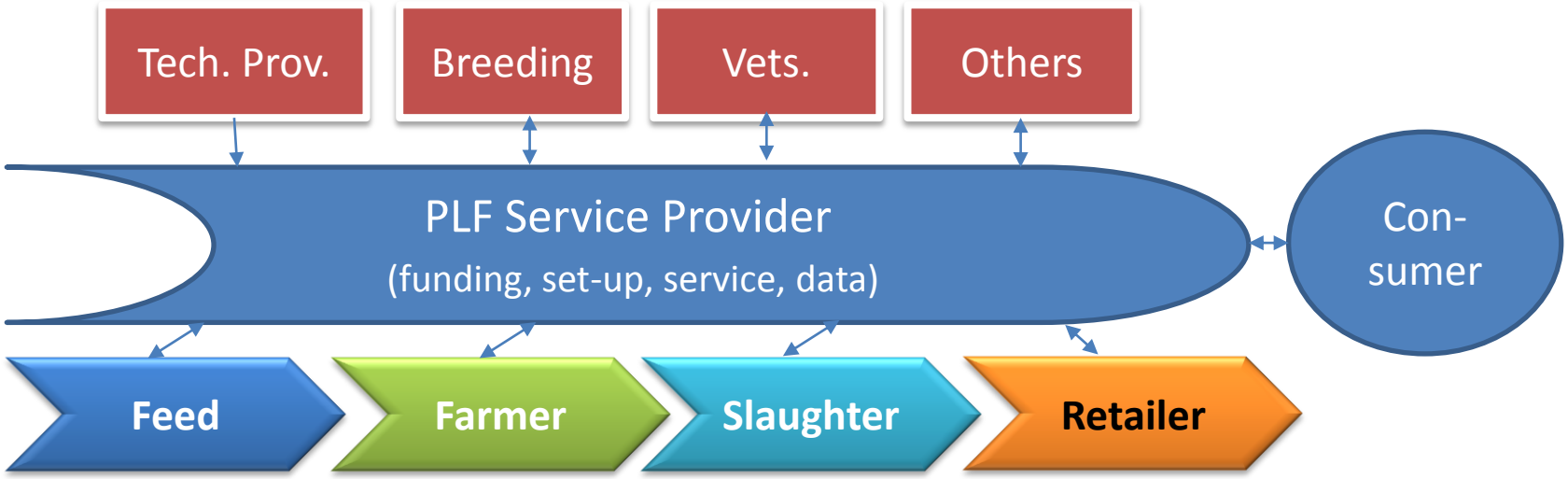
Consumer

PLF is a tool that helps farmers and stakeholders



The PLF Business Model

Cost of PLF investment & operation shared along the value creation chain by payment for access to data pool



General Conclusions

- PLF offers fully automated continuous real time detailed monitoring and management of animals.
- PLF brings the farmer to the individual animals that need his/her attention, active management tool.
- PLF is a tool that helps farmers and stakeholders.
- PLF will allow the animals to drive the system.
- Efficient implementation of PLF needs collaboration between researchers, farmers and stakeholders!

7th European Conference on Precision Livestock Farming - ECPLF 2015, Milan - IT

15-18 September 2015

Organiser: Dr. Marcella Guarino

Acknowledgments and Disclaimer

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement n° 311825

Thank you for your attention

For more information you can check our website:
http://www.m3-biores.be

Questions

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