

Internet access to PLF applications

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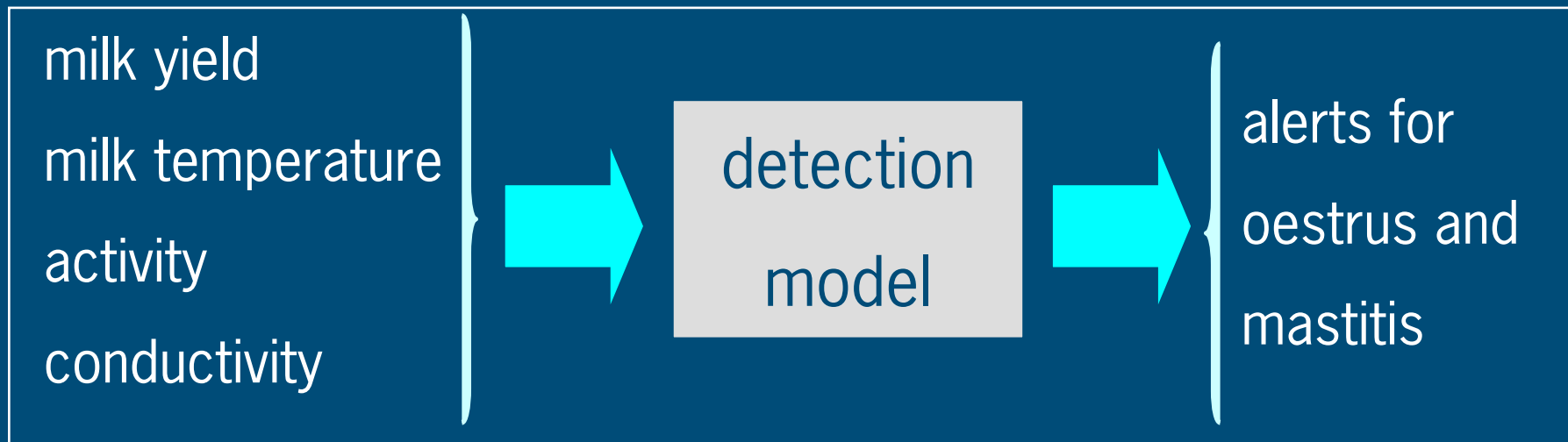


Outline

- *Past:*
Field test of detection model for oestrus and mastitis in dairy cows
- *Present:*
Herd control application in WASP project
- *Future:*
€-data market for real time cow data in Smart Dairy Farming

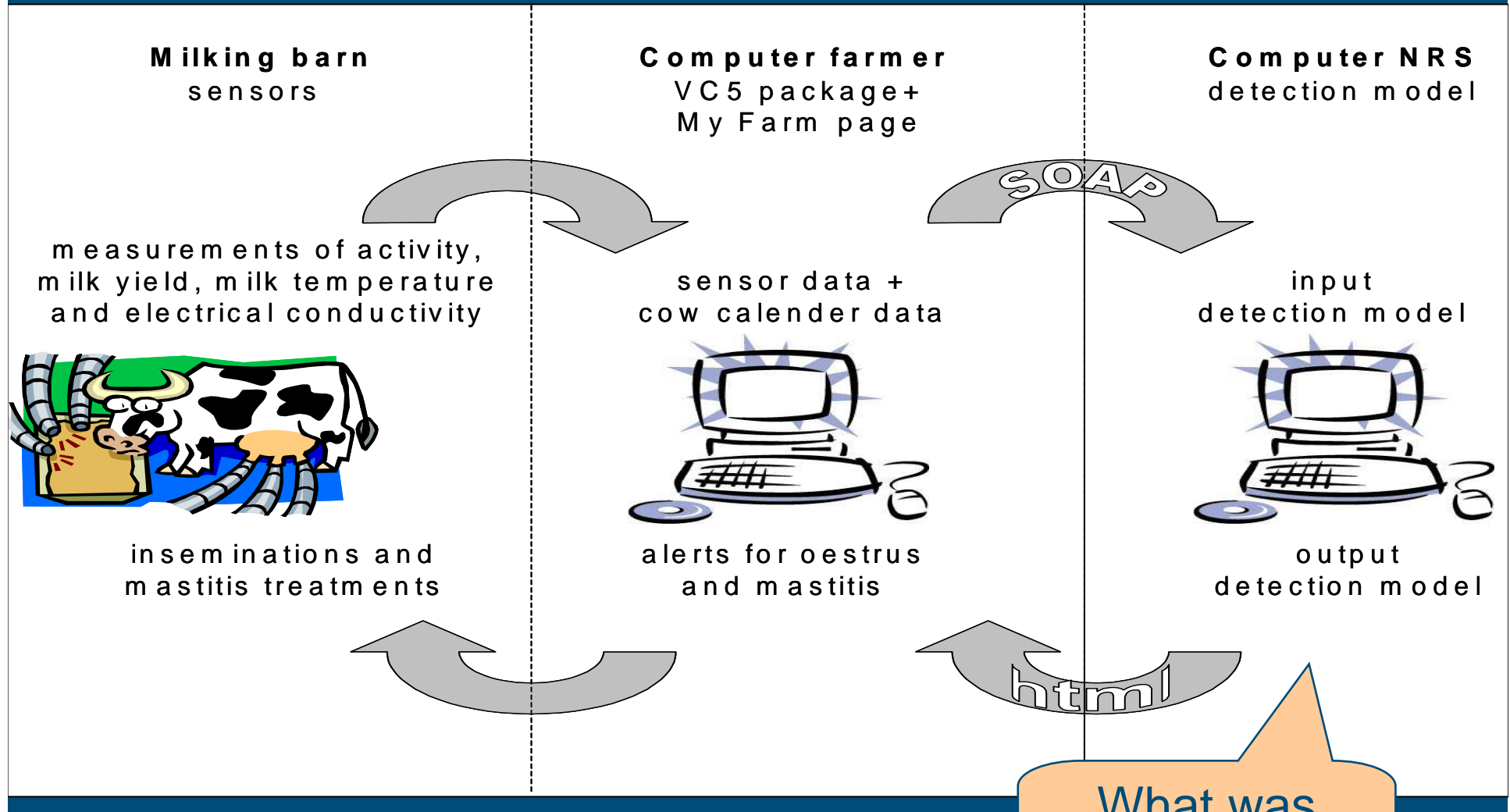
Past: field test of detection model

- Scientific detection model for oestrus and mastitis in dairy cows



- Implementation as Internet application to stimulate practical adoption?

Past: field test implementation



What was added value?

Past: results of field test at two farms

- Practical problems in every stage !!
 - Measurement errors !
 - Good detection results ?
 - Involved farmers were most positive !
-
- To be followed up this year
 - More information: 3rd European Conference on Livestock Farming, Skiathos June 2007

Present: WASP project

- Wireless Accessible Sensor Populations
- Development and application of Wireless Sensor Networks (WSN)
- EU project IST, 18 partners from the Netherlands, Germany, France, United Kingdom, Switzerland and Italy
- Application areas:
 - Elderly care
 - Herd control
 - Road management

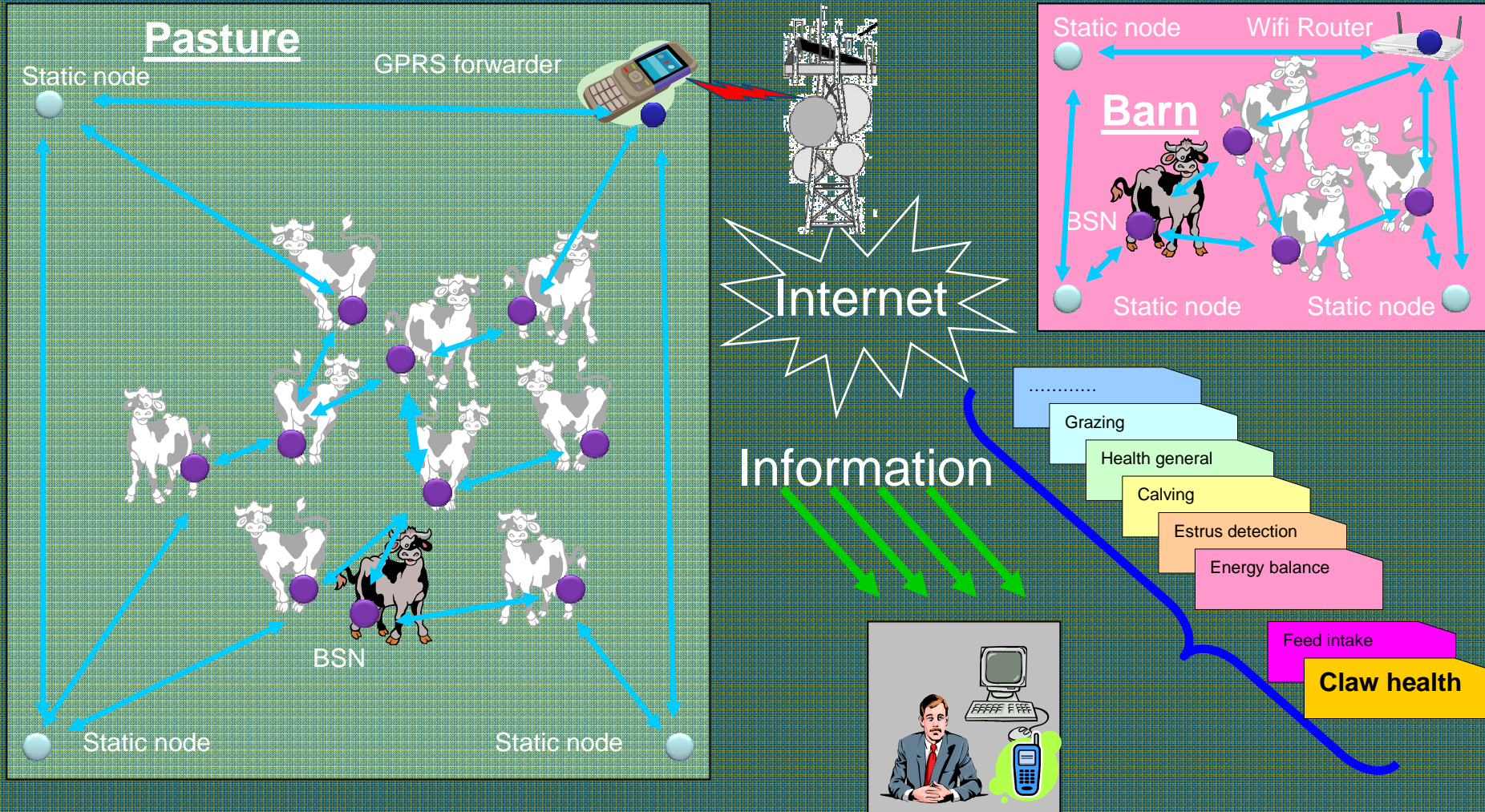


Present: Herd control application

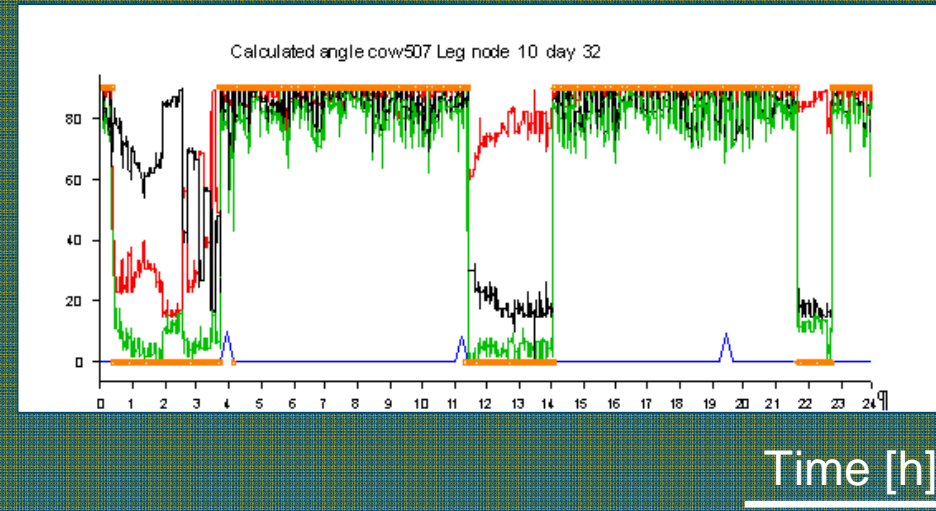
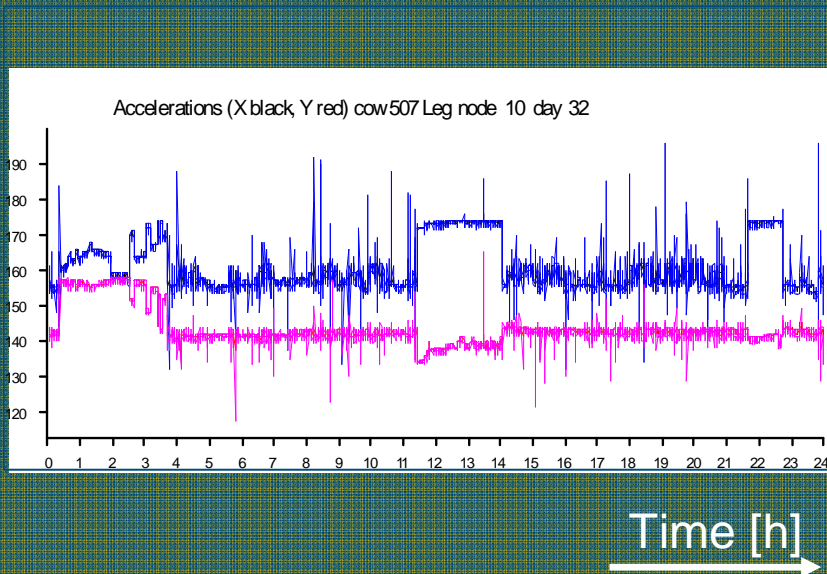
- Real-time cow observation with focus on claw health and locomotion
- Test bed on experimental farm for:
 - On-node data compression
 - Re-programming of nodes
 - State based triggering
 - Location awareness
 - Scaling effects
- Cows can be observed from all over the world
<http://wur.webcam.nl/>



Present: Implementation



Present: on the go behaviour analysis



3D acceleration



data processing

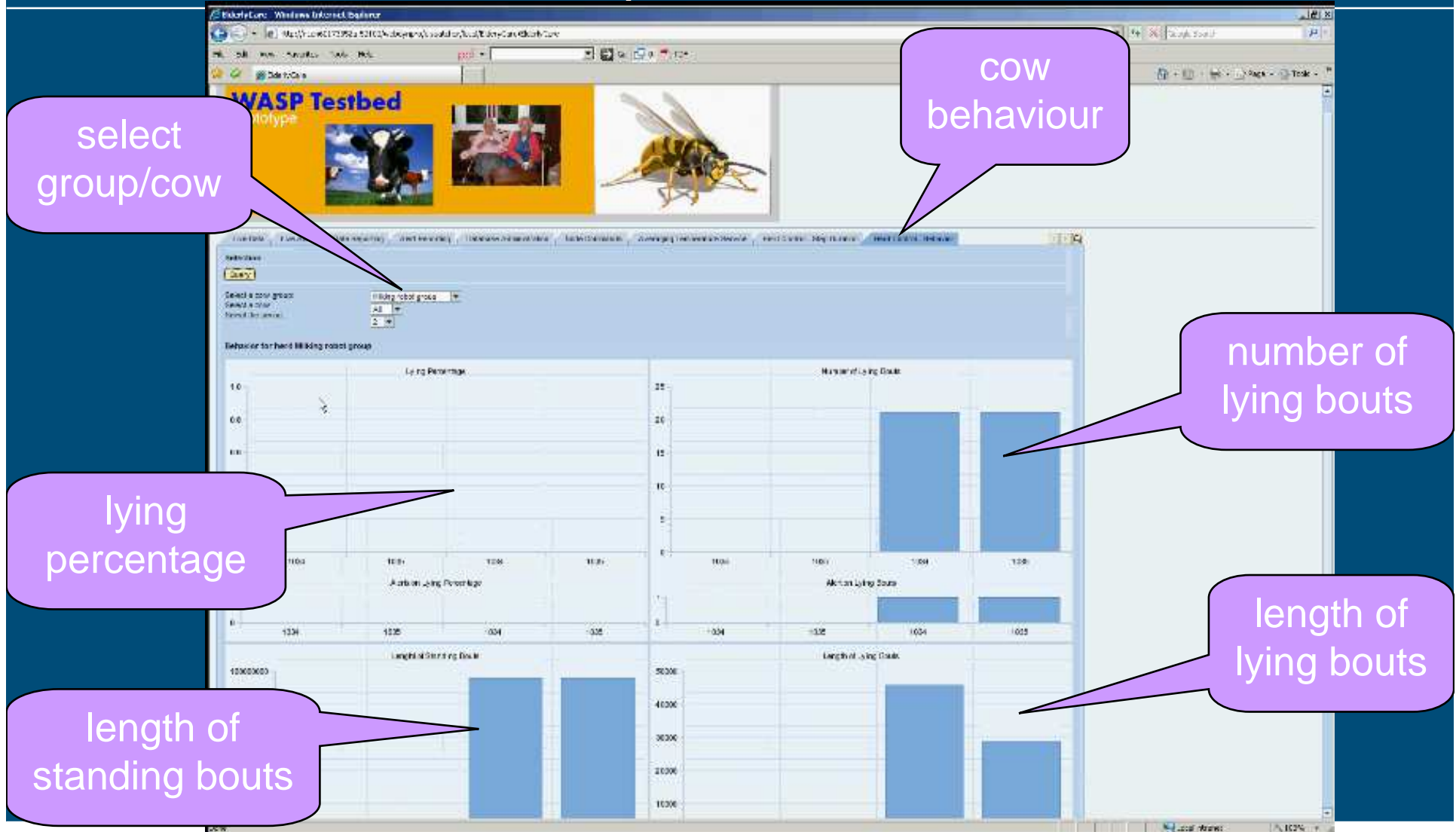


behaviour

Laying, standing or walking



Present: WASP example Internet user interface



Present: WASP current state

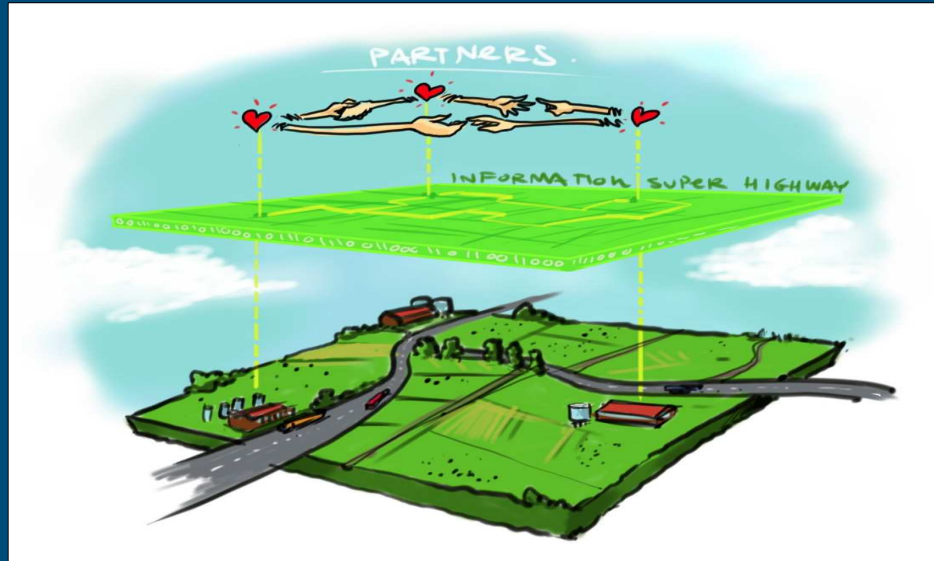
- Last year of project
- Now putting the pieces together
- Internet access is not a problem
- Results will be suited for adoption by SMEs
- More information: <http://www.wasp-project.org/>

Future?: € real time data market for cow data

- Smart Dairy Farming project
- Dutch project, in start-up phase
- Chain integration by using real time cow observations (sensors), models and Standard Operating Procedures
- Focus on daily critical processes (life long?)
 - feeding
 - cow behaviour
 - oestrus
 - calving



Cooperation in the production chain

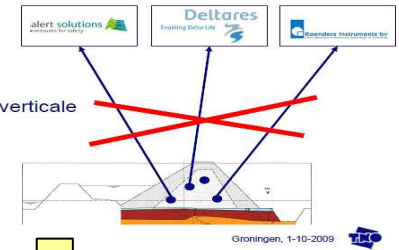


€-real time data market for individual cow data

- Inspiration from TNO-Anysense concept
- Decoupling sensor from model
- Model output can become virtual sensor
- Reuse of data-information in chain

AnySenseConnect: omgaan met sensordata

- Platform voor het verzamelen en distribueren van sensordata
- Aansluiten ongelijksoortige sensorsystemen
- Door toepassing van IT geen verticale oplossingen



Matthijs Vonder

Groningen, 1-10-2009

AnySenseConnect

Toegevoegde kennis wordt weer gedeeld als virtuele sensor

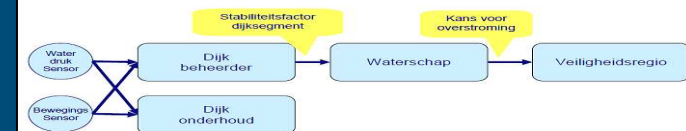
- Virtuele sensoren
- Een veelheid aan manier van data aanlevering wordt ondersteund
- Business case is sneller positief door ontbundeling

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AnySenseWorld

- Kennis uit de domeinen worden gedeeld met virtuele sensoren
- Achter virtuele sensoren hangen modellen



- Robuustheidsaspect: meerdere manieren om tot een virtuele sensor te komen

Matthijs Vonder

Groningen, 1-10-2009

Future: common database

- sensor data should have 'practical' meaning and are combined for different applications and users
- support for different sensor types
- added knowledge in database as 'virtual' sensor
- better business case by common database
- based on experiences with AnySenseConnent in "Ijkdijk" project (Calibration dike), see www.ijkdijk.eu

Future: benefits of common interface

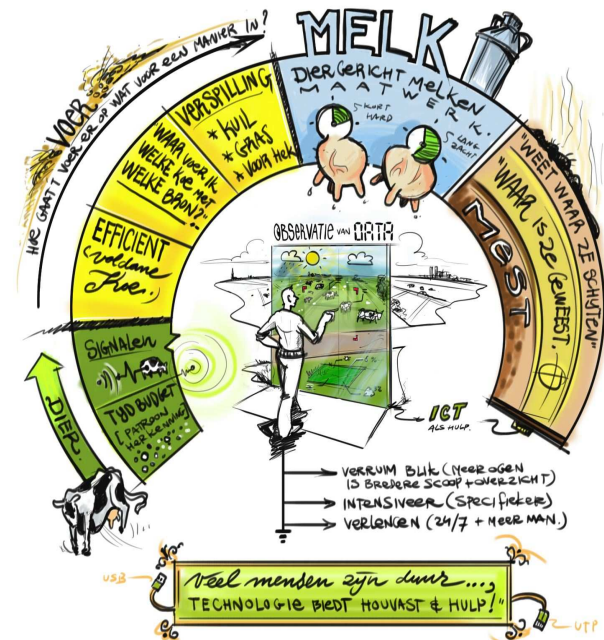
- market for cow data
- to match supply and demand
- improved data quality
- easy to develop internet applications
- fits in future ICT society based on Internet

Future: implementation of common interface

- central or distributed database?
- market for cow data: sell data and buy added value
- Denmark as an example: DAAS database
- To be worked out in the coming years
- More information: kees.lokhorst@wur.nl

Conclusions on Internet access

- Past: practical problems
- Present: no technical problems
- Future: Internet and real time data will be the key for flexible production chains



Questions?

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