

Digital Future Farm (DFF) project

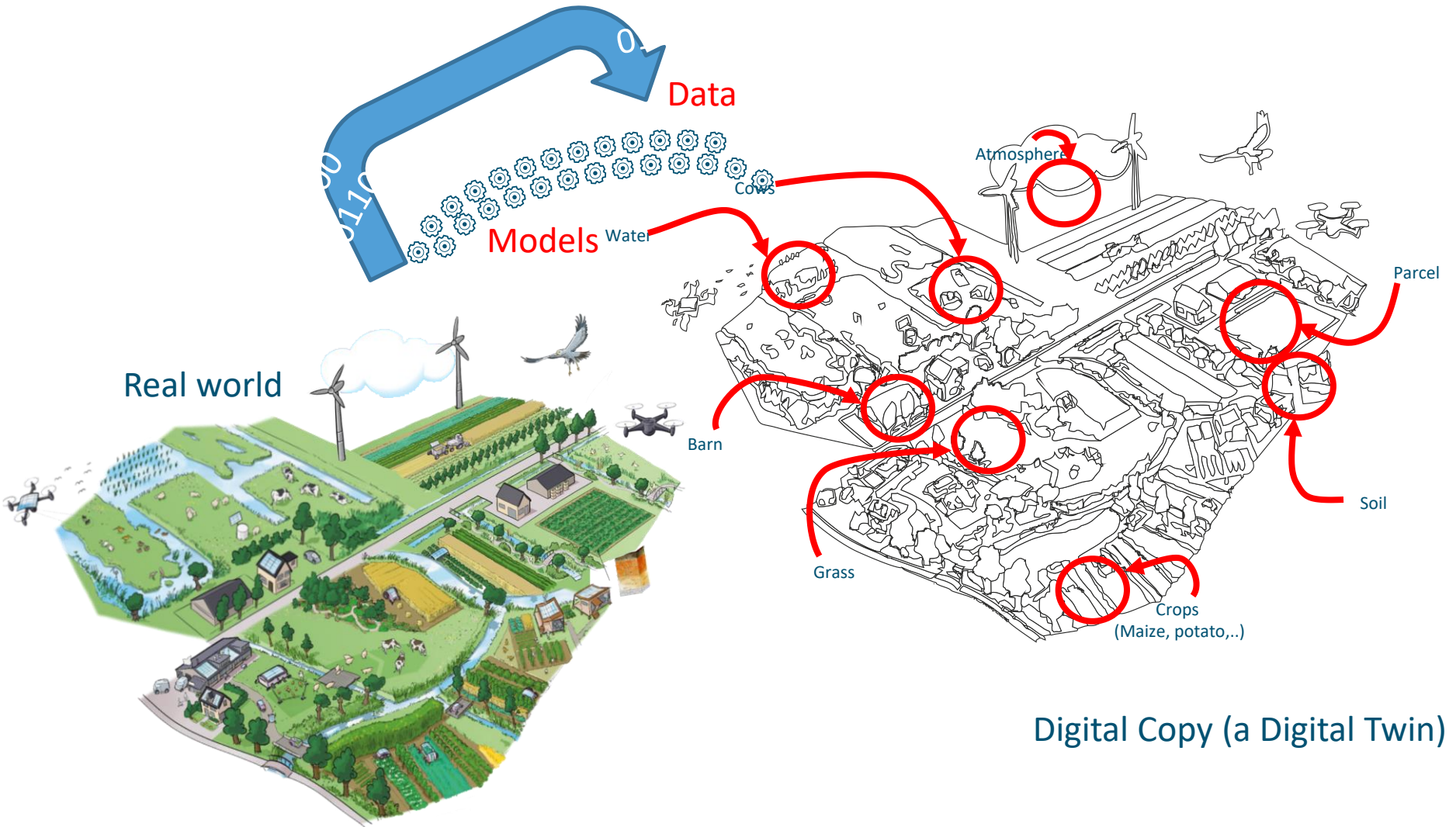
Workshop Wageningen Modelling Group - 18 November 2021

Session Model Integration

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A digital twin for a Digital Future Farm



A digital twin for a **Digital Future Farm**

Realisation with colleagues from the **WUR** and **all WUR**

Twinning the N-cycle for farmers & researchers

Arable crops, feed crops and herd

Diverse models & real time data

Challenges that are overcome



Challenges that are overcome

Engine

MODCOM framework made it possible to

- integrate existing models
- keep model owners in control of source code without IP issues
- keep data owners in control of their data (web-based APIs)

Because of the fact that models are in the MODCOM framework a new “model” was developed to provide missing input in other models.

Data assimilation

Making a model up and running on a real farm with real farm data is a challenge in itself

Challenges that are overcome

Meeting of the minds

Understanding each other on all kind of topics and issues within WUR and with external parties

- Interpretation of the research question
- Mode of working
- Disciplinary language

Developing a way of working together during the proces

- Working in groups realizing deliverables instead of work packages
- Budget of WP's is combined for input where needed
- Creating opportunities to facilitate discussion

Challenges to overcome = Creating opportunities

Challenges to overcome

- Capacity, mainly programmers are difficult to find
- Big data availability
- Inclusiveness of stakeholders
- What will happen with DFF after the project?
- What is the status of model clusters like DFF within WUR?
- Who is the owner of the DFF?
 - Maintenance and development of models and links
 - Who gets the revenues?

Challenges to overcome = Creating opportunities



Challenges to overcome = Creating opportunities

ICT supports techniques to work in model clusters as service

Wageningen Modelling Group as "linking pin" to connect all players in model clusters

Management teams of Science Groups working together :

- Maintenance & development models**
- Sharing profits & costs**

Researchers from different science groups collaborating

Executive Board of WUR making the statement that working in model clusters is needed to answer complex questions

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Business developers from different science groups collaborating:

Defining questions to be answered

Thank you



On behalf of the DFF team the
project leaders

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