



Digital Value Chains for a Sustainable Small-Scale Agriculture

With support from



Federal Ministry
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Project manager



Federal Office
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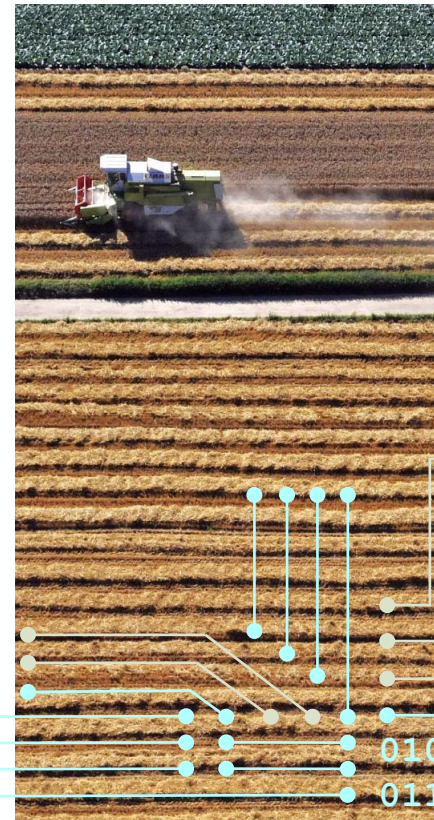


Baden-Württemberg

MINISTRY OF FOOD, RURAL AFFAIRS AND
CONSUMER PROTECTION



UNIVERSITY OF
HOHENHEIM





Digital Value Chains
for a Sustainable
Small-Scale Agriculture



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Possibilities and prerequisites for digital-technical systems in horse husbandry

Linda Thurid Speidel
75th EAAP Annual Meeting
1/5 September 2024 - Florence, Italy



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Introduction

Background

Horses are predominant livestock animals in many German metropolitan regions

Most of work processes associated with horses are carried out manually

Research approach

Digitalisation and mechanisation promise far-reaching changes on animal farms

lack of research into digitalisation and mechanisation on horse farms

Research questions

Which digital-technical applications currently exist on horse farms?

Which prerequisites are required for establishing the systems?



Material and Methods

Expert interviews and practical observations

- Various digital technical systems
- Different horse farms

Online Survey

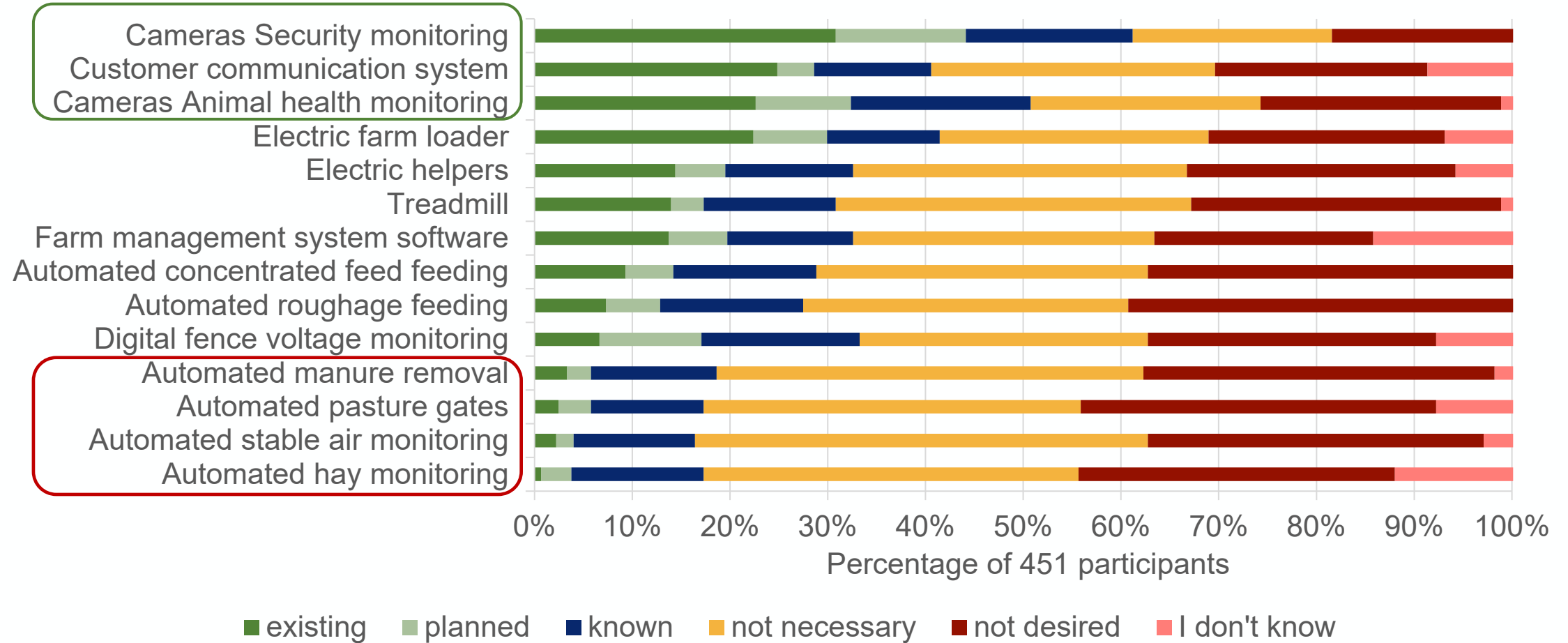
- With 451 stakeholders on horse farms in Germany via *Google Forms*
- Managers, employees and customers

Analyses

- Excel, R-Studio and SPSS
- Frequency distributions (chi-square test)
- Mean comparisons (Welch-Anova)
- Correlations (Spearman rank correlation)



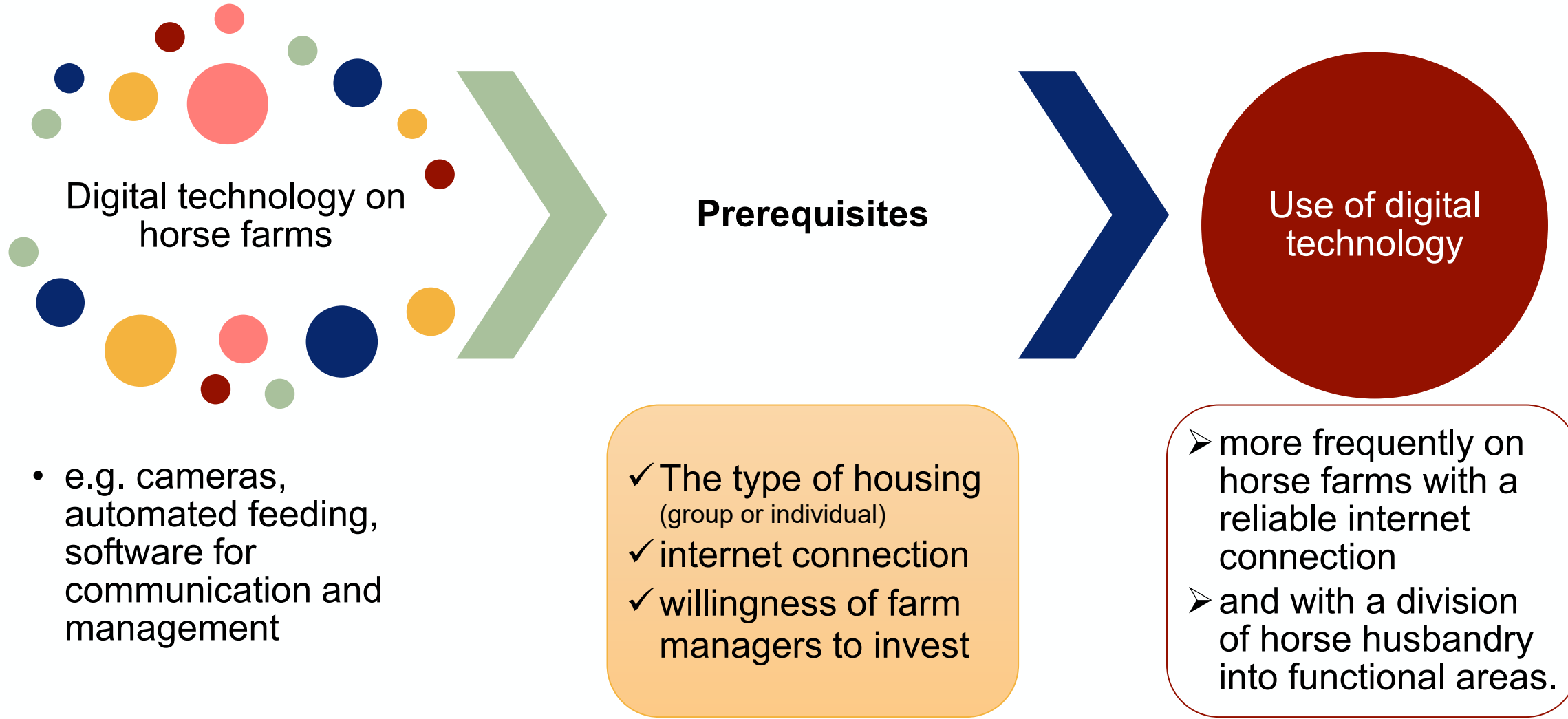
Results – Existing Systems on horse farms in Germany



Statements on different equipment in percentage of 451 participants (N=451, n=6596).
Data basis: Own evaluations of the data set on the status of digitalisation on German horse farms, 2022



Results – Prerequisites for digital-technical Systems on horse farms





Discussion – Digital-Systems on horse farms



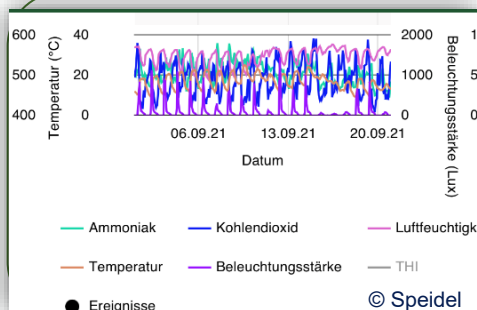
Camera surveillance with artificial intelligence

- Animal control, birth and health monitoring



Self-operating manure removal robot

- Saving labour and time
- Economic advantage



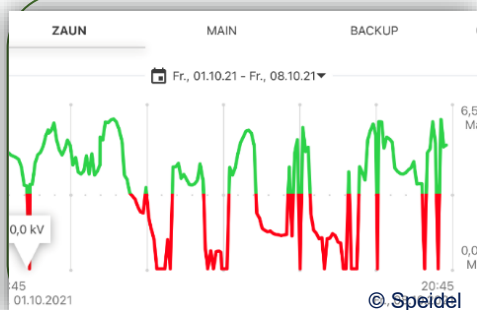
Digital stable air monitoring

- Monitoring
- Simplified management decisions



Time-controlled feeding for individual husbandry

- Saving labour and time
- Optimisation of animal welfare



Digital monitoring of fence voltage

- Labour time savings



Feeding by transponder for group husbandry

- Saving labour and time
- Economic advantage



Conclusion

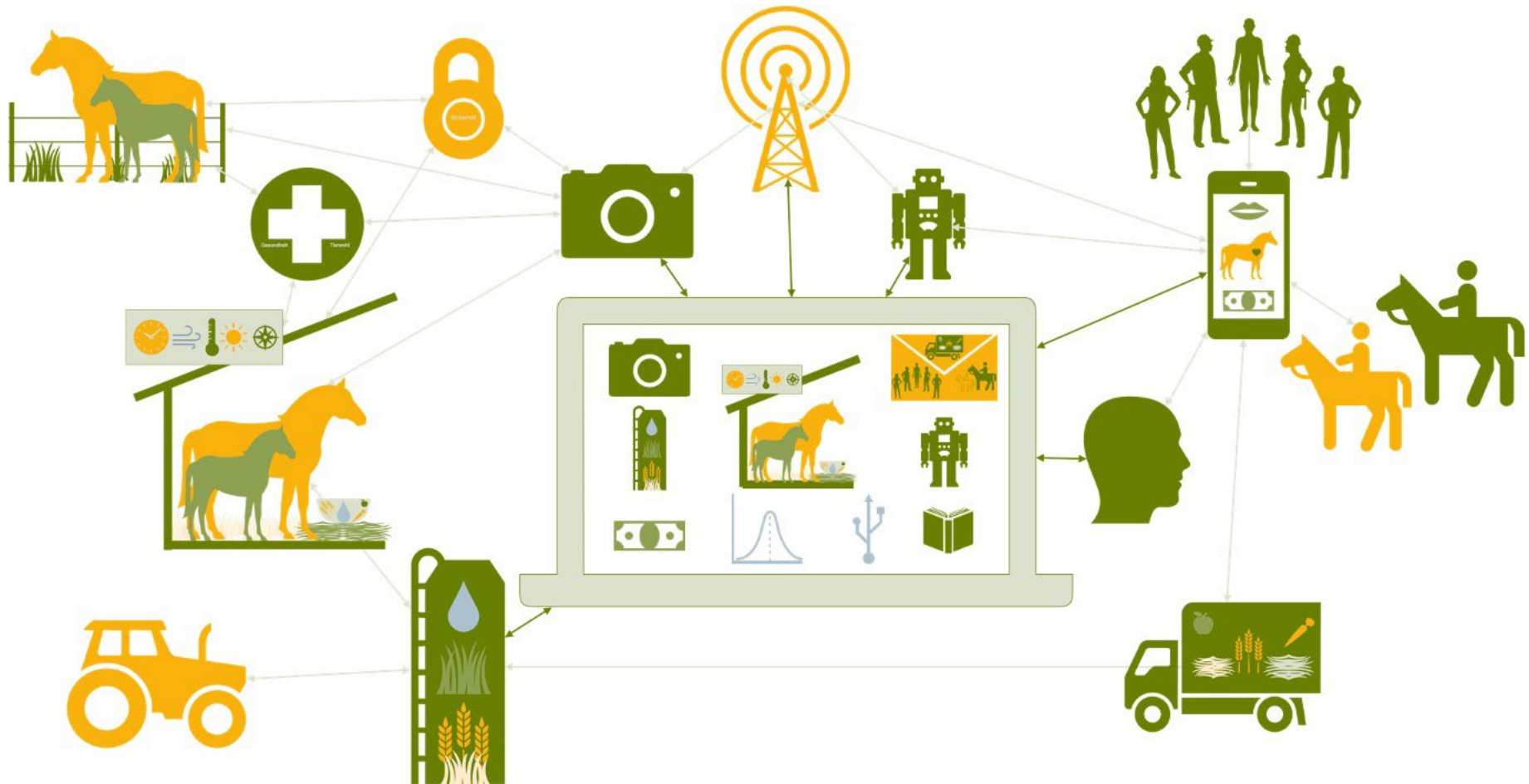
Clear communication of
benefits

animal welfare and
economic advantage

Review of appropriate use
on an individual farm basis

fulfil the prerequisites
and provide added
value for the company

Future horse husbandry



Interfaces on a horse farm © L.T. Speidel, 2020



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University

Thank you for listening!

Contact details:

Linda Thurid Speidel
linda.speidel@hfwu.de



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