

# SMART AGRI HUBS PROJECT

## OUTLINE OF 2 FLAGSHIP INNOVATION EXPERIMENTS

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A photograph of a farmer wearing a blue cap and a maroon shirt, standing in a green field and looking at a tablet. The background is a blurred landscape under a bright sky.

70<sup>TH</sup> ANNUAL MEETING  
OF THE EUROPEAN FEDERATION OF ANIMAL SCIENCE  
GHENT, BELGIUM

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3. FIE 12: DIG-IT FARM

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## 1. INTRODUCTION: SAH PROJECT

# SAH PROJECT

- Smart Agri Hubs project (SAH)
- European project financed by Horizon 2020
- Digitization and innovation in the agri-food sector

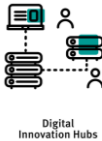


# SAH PROJECT

- Aim = to stimulate and to accelerate the **digital transformation** of the European agri-food sector, by means of



encouraging and supporting innovative experiments, called **Flagship Innovation Experiments (FIEs)**



building and expanding an European network of supporting organizations, called **Digital Innovation Hubs (DIHs)**



Flagship Projects

# SAH PROJECT

- 28 Flagship Innovation Experiments
- 9 Regional Clusters (RCs)
- North-West European cluster



5 FIEs in 



Livestock



Arable Farming



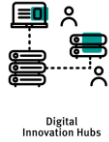
Vegetables



Fruits



Aquaculture



# SAH PROJECT

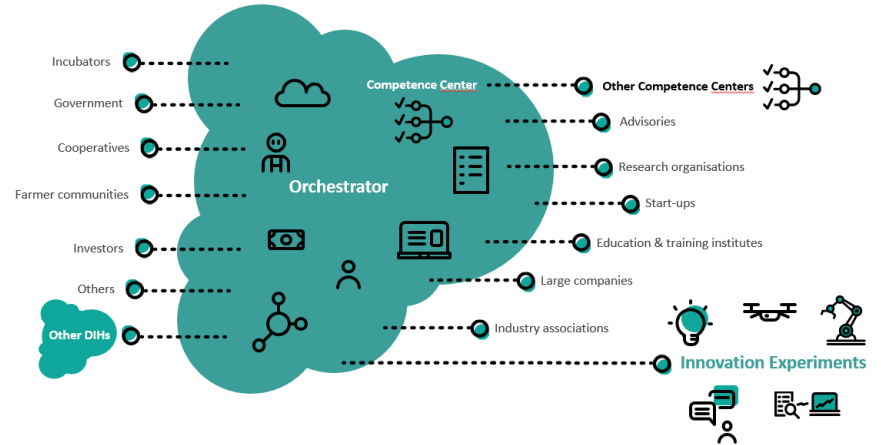
- Current network of 140 DIHs

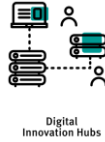


- Aim to have 400 DIHs to support the European agri-food sector



39 DIHs in 





# SAH PROJECT

- A DIH =
  - a one-stop-shop, a platform
  - for companies, end-users, farmers, research institutes, start-ups... of the entire agri-food sector
- A DIH supports and offers services



**Ecosystem**



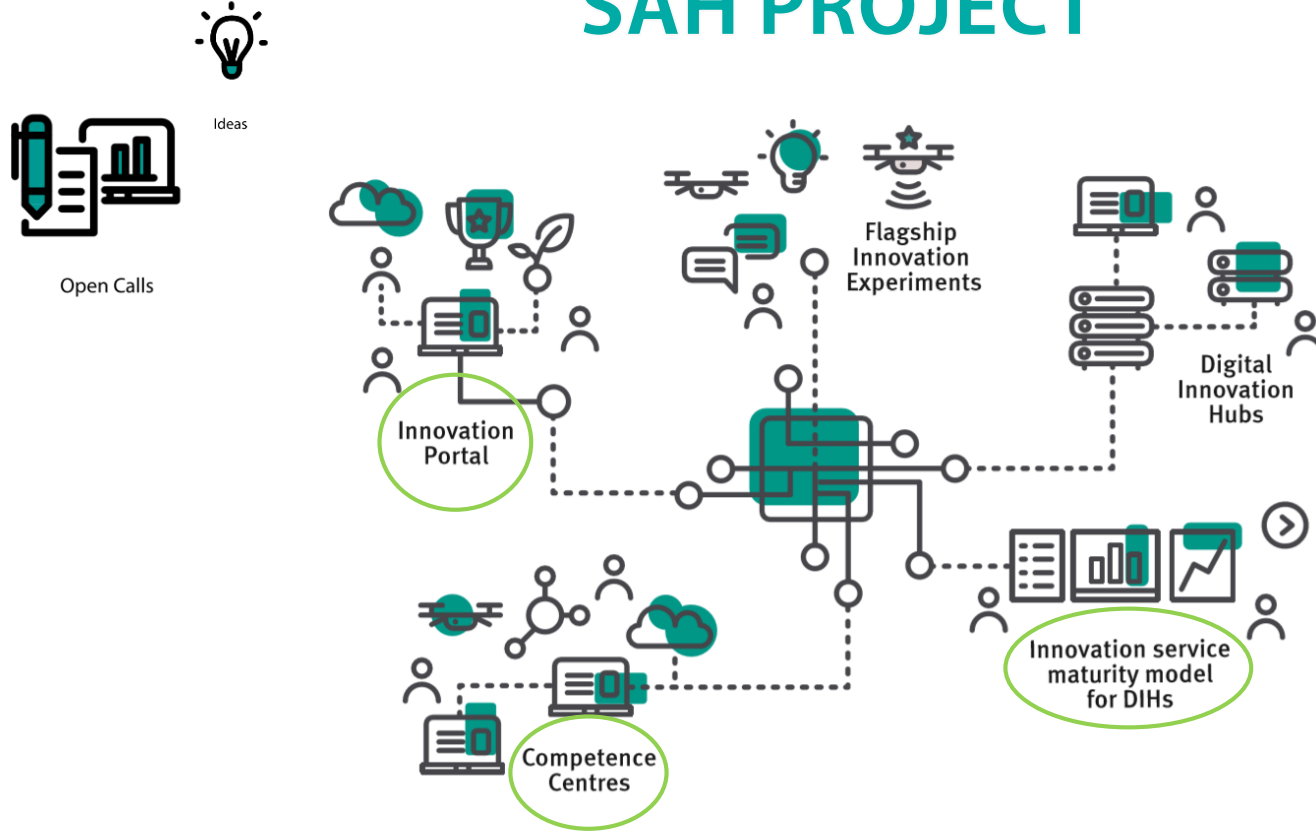
**Business**



**Technology**



# SAH PROJECT



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## 2. FIE 11: SMART PIG HEALTH



- Pig health assessment based on applied sensors
  1. Increasing pig health and animal welfare
  2. Reduction of use of antibiotics and antimicrobial resistance (AMR)
  3. Building up a sustainable ecosystem pig production
  4. Developing predictive analytics (Machine Learning & AI) based on applied sensors
  5. Increasing transparency how pigs are kept and pork is produced



Flagship Projects



Livestock

## ■ FIE partners

Marketing Service  
Gerhardy

Consultancy • Market Research

COORDINATION  
MODERATION  
COMMUNICATION

Landwirtschaftskammer  
Niedersachsen

Swine Health Service, Chamber  
of Agriculture Lower Saxony

Erfolg mit Schwein

regional office SH

regional office WE

main office VzF GmbH Uelzen

regional office EAST

VzF - operation area

regional office South

Munich

DIH vzf: professional  
training  
consultancy  
communication

www.VzF-GmbH.de

innoSEP

DATA ANALYTICS  
provider

TECHNOLOGY  
PROVIDER  
data platform

mais



## ■ Variety of information and data sources

Characteristics of fattening farms

Biological and economic data of pigs

Assessments on pig behaviour

Clinical assessments of pigs on farm level

Antibiotic usage

Sensor data



Flagship Projects



Livestock

## ■ Sensor data

Water consumption

Temperature

Humidity

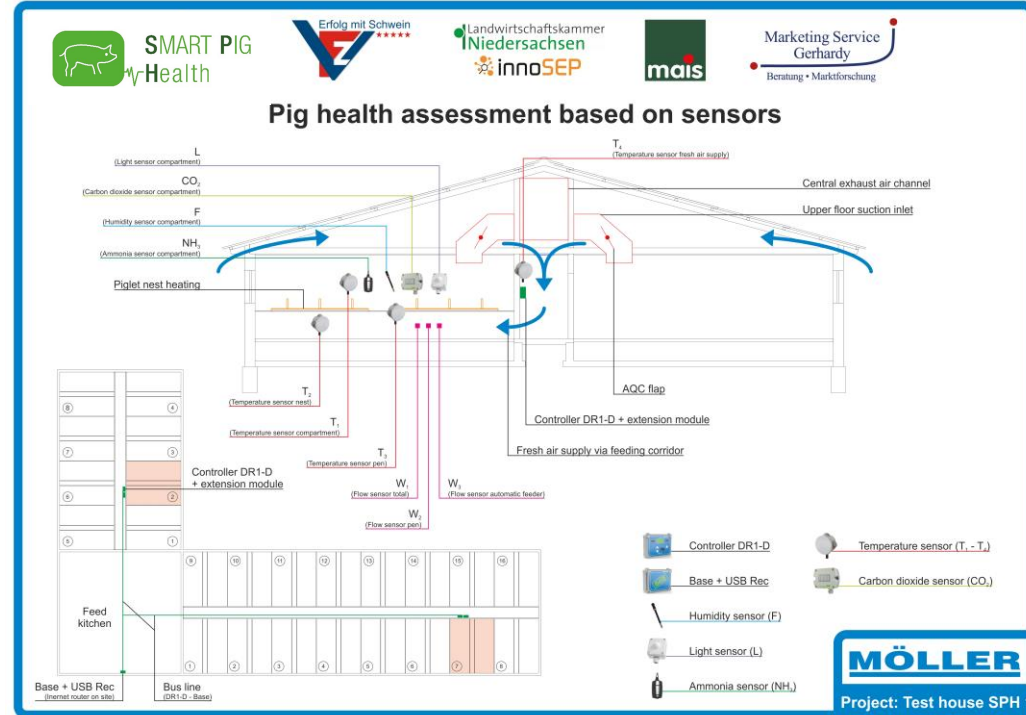
NH<sub>3</sub>

CO<sub>2</sub>

Noise

Luminosity

Movement



Early-Warning Detection Technologies



## ■ Assessment of animal environment and health

Skin lesions

Flank biting

Lameness

Nose discharge

Ear injuries

Tail injuries

Respiratory symptoms

Diarrhea

Abnormal behaviour



Detrimental alterations

- Water supply

- Feed supply

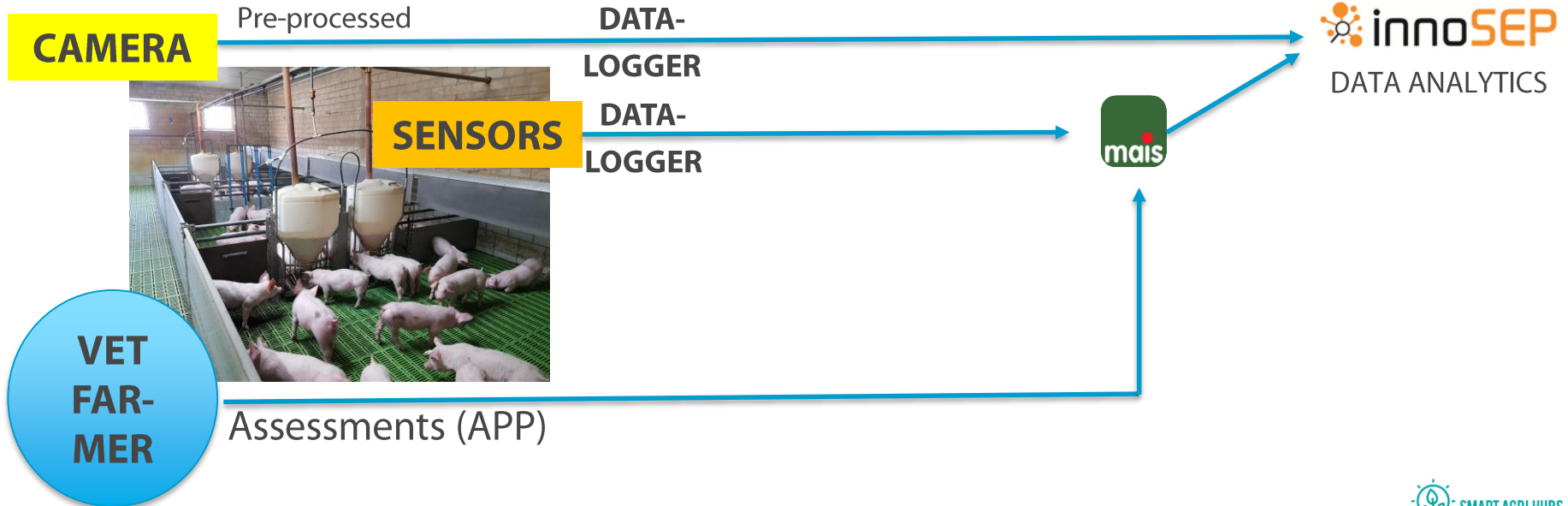
- Ventilation

Mortality

Treatments

„EVENTS“

## ■ Dataflow







Flagship Projects



Livestock

## ■ Workflow



month of SAH	measurements (sensors) accompanying	barn 1 piglet rearing
M 9	assessing of health production	in flat deck
M 10		out
M 11	assessing of health production	offline training
M 12		in flat deck
M13	out	offline training
M 14	in flat deck	
M 15	out	offline training
M 16	assessing of health production	in flat deck
		out

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## 3. FIE 12: DIG-IT FARM



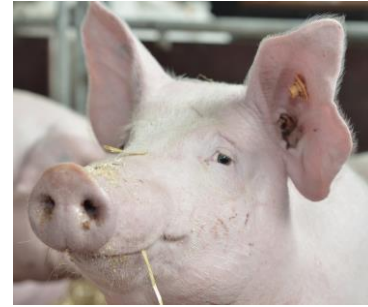
Flagship Projects

# DIG-IT FARM



Livestock

- FIE partners





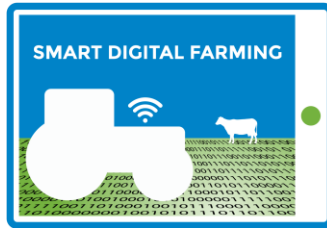
Flagship Projects

# DIG-IT FARM



Livestock

- Digital Innovation Hub



Digital Innovation Hubs

- Competence Center

# ILVO



Competence Centers



# DIG-IT FARM



## ■ Aims =

- Antimicrobial usage ↘
- Antimicrobial resistance ↘
- Animal health and welfare ↗
- Quality of food ↗
- Changing attitude of consumers

 PLF based predicting and monitoring services



# DIG-IT FARM



- Outline



Pig case study



Poultry case study



# DIG-IT FARM



Livestock

## ■ Outline



### Pig case study

- Fattening pigs
- Commercial pig farm
- Installation of Cough Monitor ongoing
- Functional feed ingredients



## ■ Outline



### Poultry case study

- Broilers
- Commercial poultry farm
- Installation of Chicken Boy will start
- Functional feed ingredients







**SMART AGRI HUBS**