

# Mitigating Methane Emissions through Genetic Selection – status update of the Swedish initiatives



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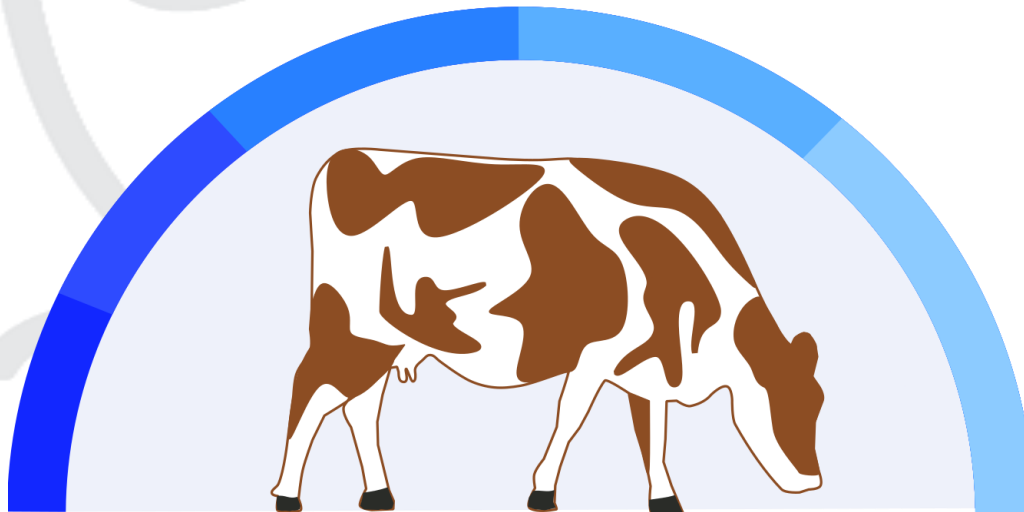
NAV Dairy workshop, 20 January 2026, Denmark

**NAV**



**Nordisk Avlsværdis Vurdering • Nordic Cattle Genetic Evaluation**

# Swedish framework - Red Dairy Cattle



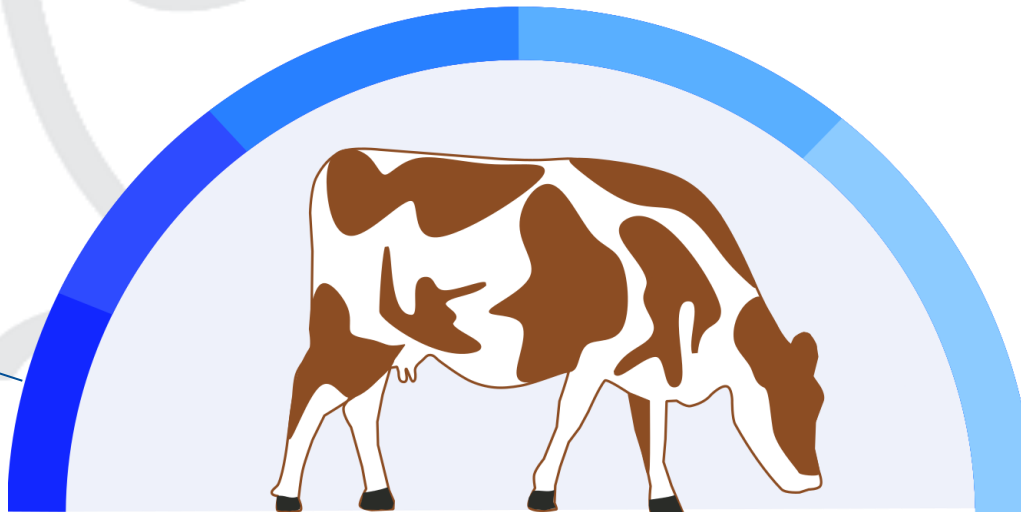
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**Nordisk Avlsværdis Vurdering** • Nordic Cattle Genetic Evaluation

# Swedish framework - Red Dairy Cattle

Nordic (NAV) and  
International (GMG)  
Cooperation



Focus: Red Dairy Cattle

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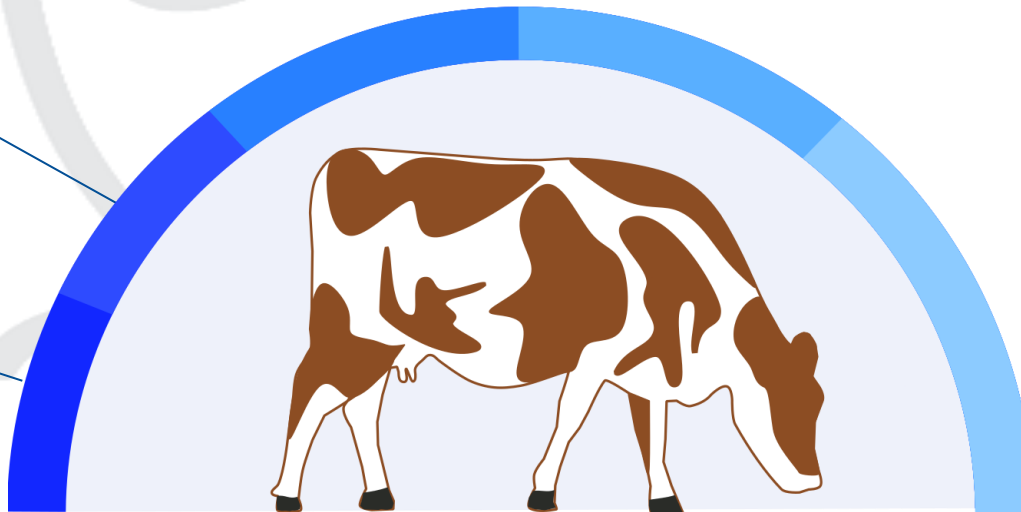


**Nordisk Avlsværdi Vurdering** • Nordic Cattle Genetic Evaluation

# Swedish framework - Red Dairy Cattle

National and International funding  
2025-2028

Nordic (NAV) and  
International (GMG)  
Cooperation



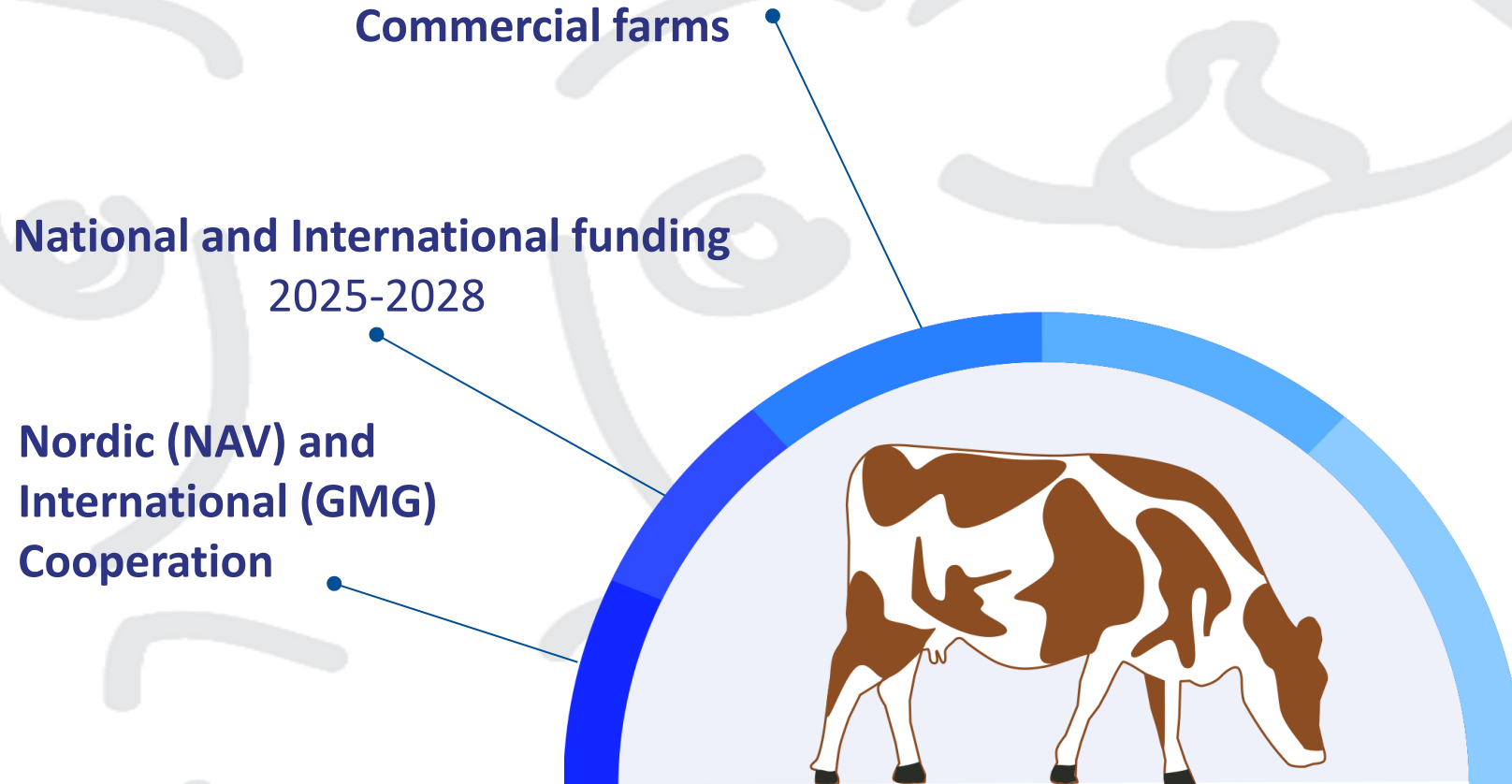
Focus: Red Dairy Cattle

**NAV**



**Nordisk Avlsværdis Vurdering** • Nordic Cattle Genetic Evaluation

# Swedish framework - Red Dairy Cattle



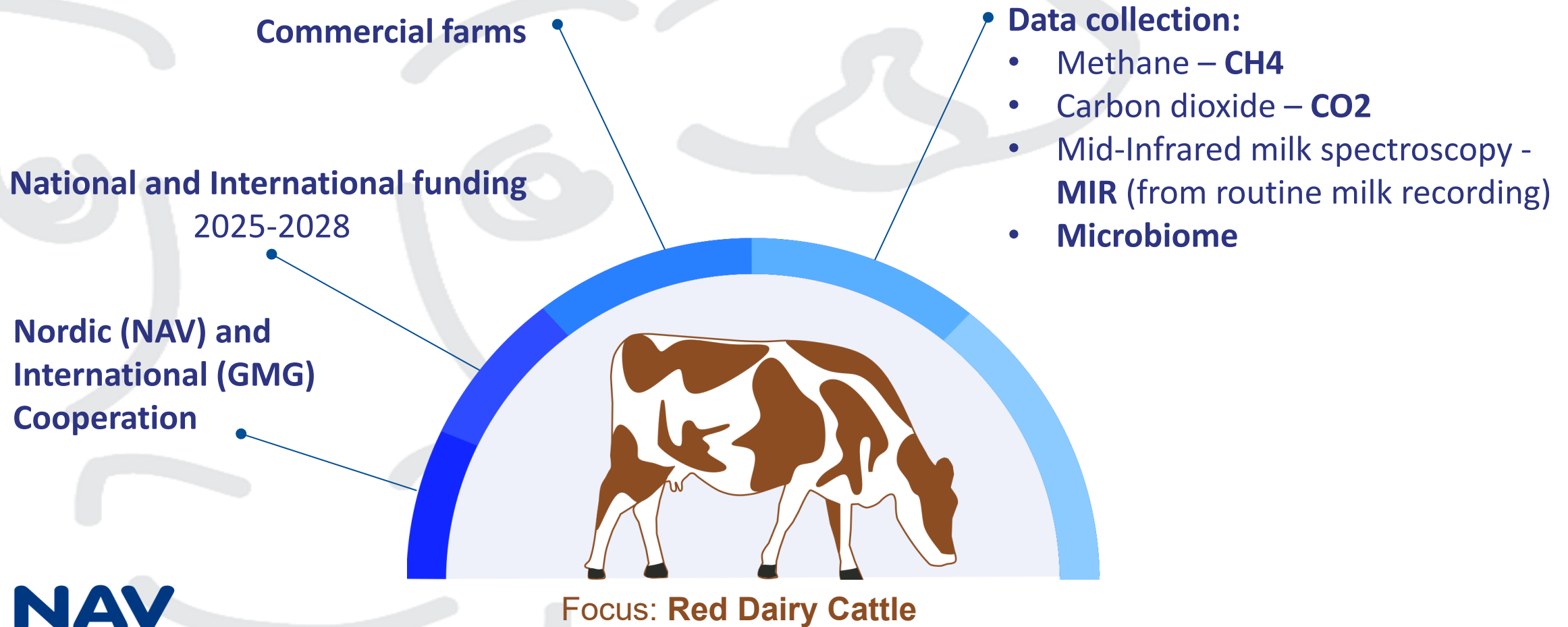
Focus: **Red Dairy Cattle**

**NAV**



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# Swedish framework - Red Dairy Cattle

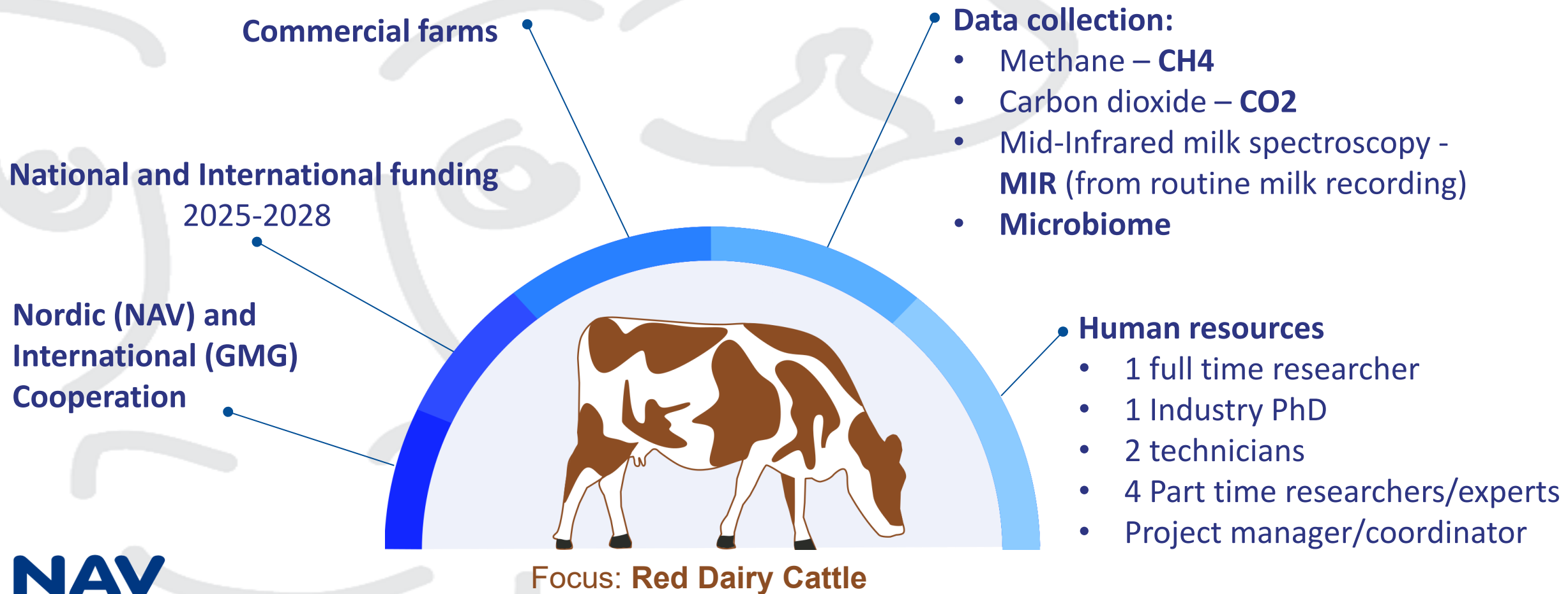


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# Swedish framework - Red Dairy Cattle

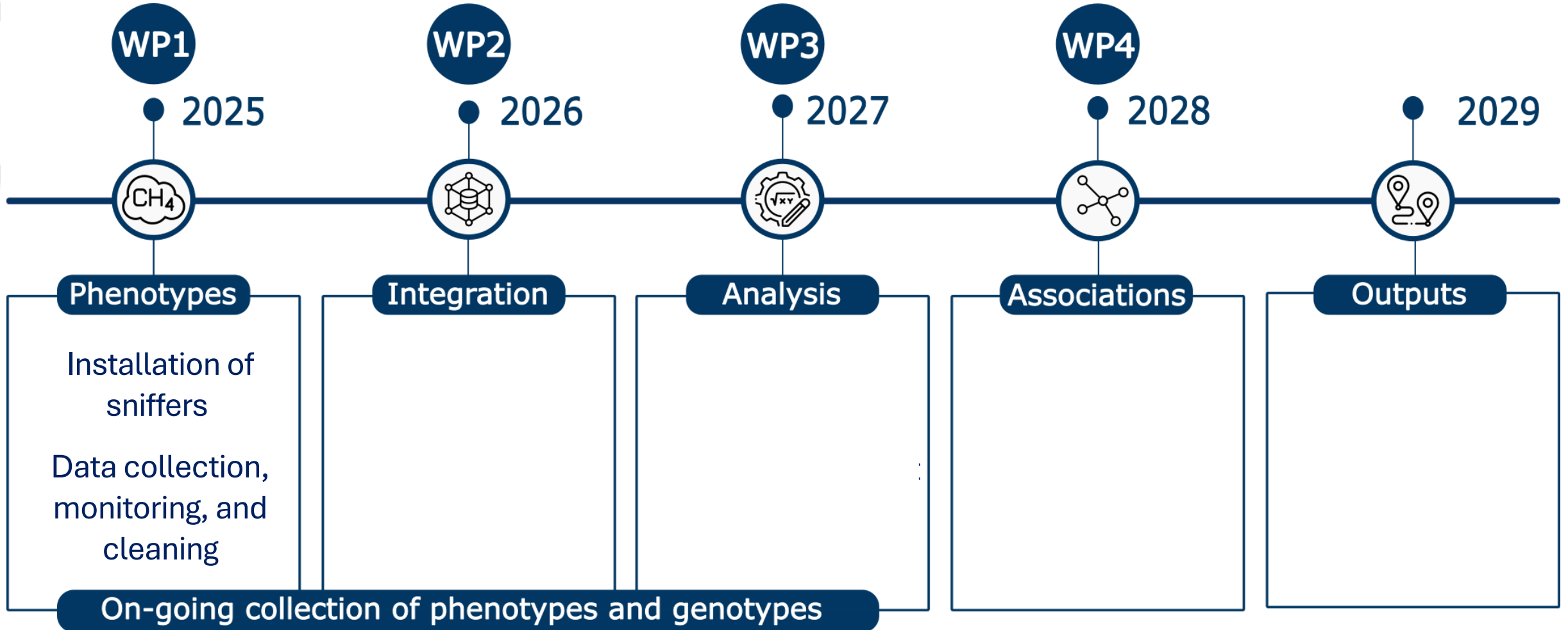


**NAV**

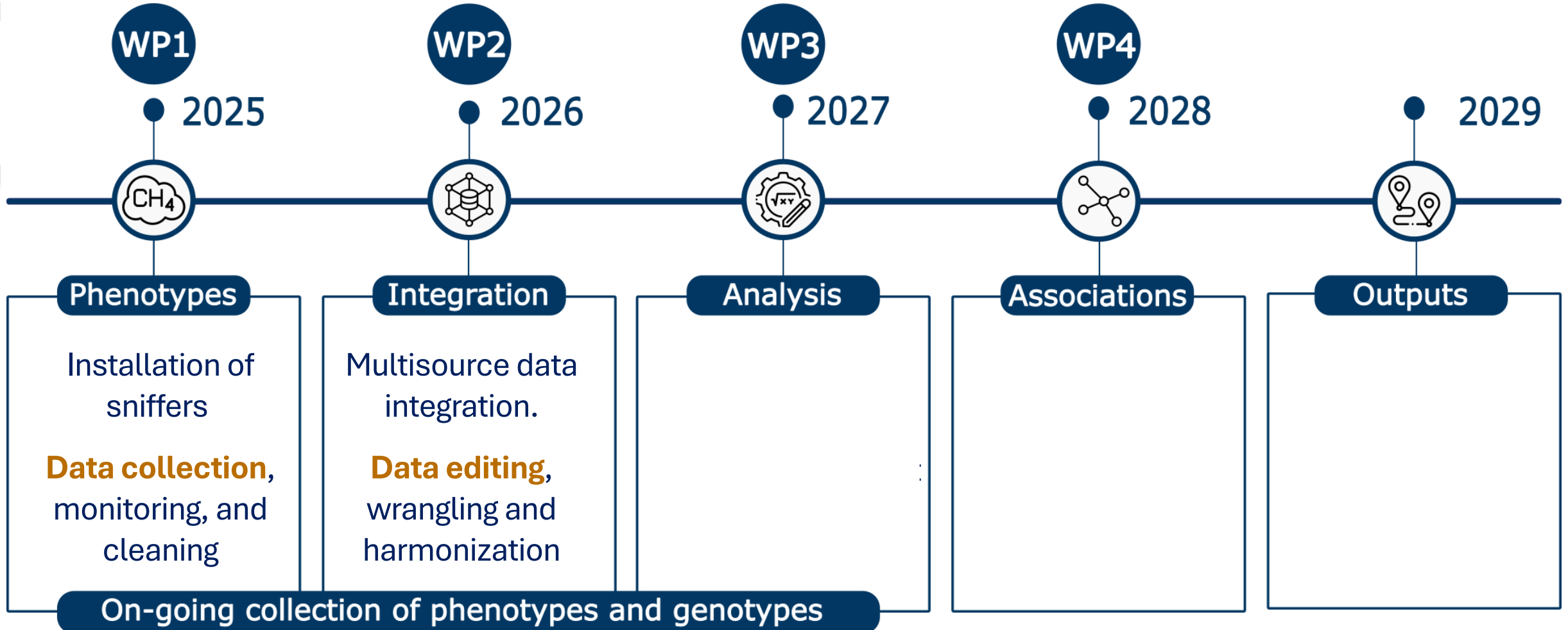


**Nordisk Avlsværdis Vurdering** • Nordic Cattle Genetic Evaluation

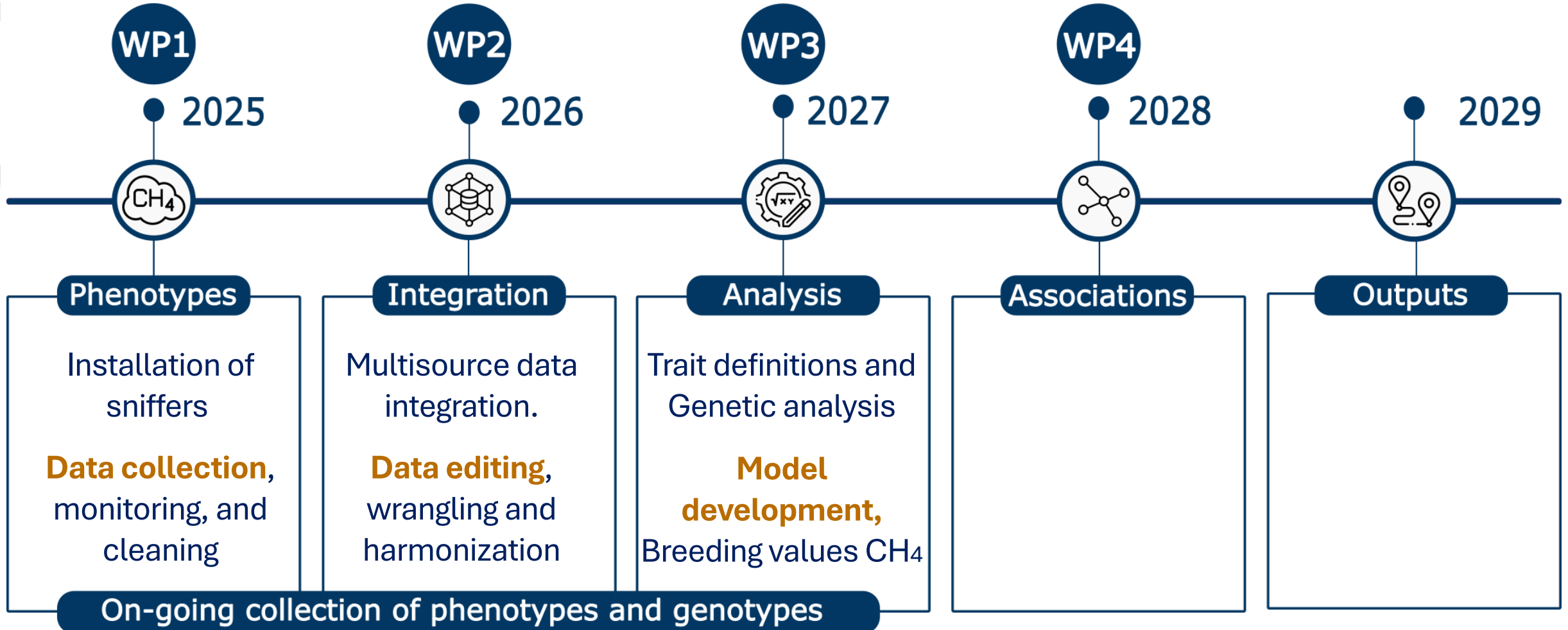
# Project outline



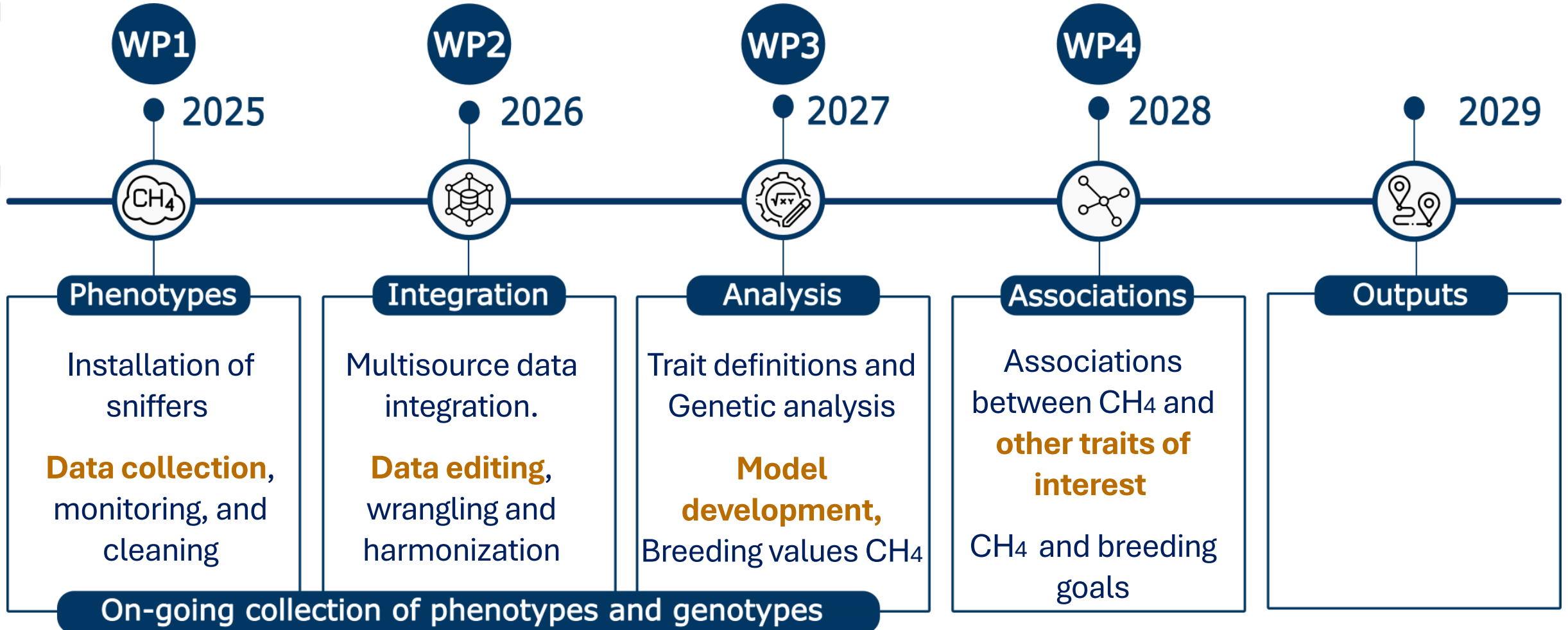
# Project outline



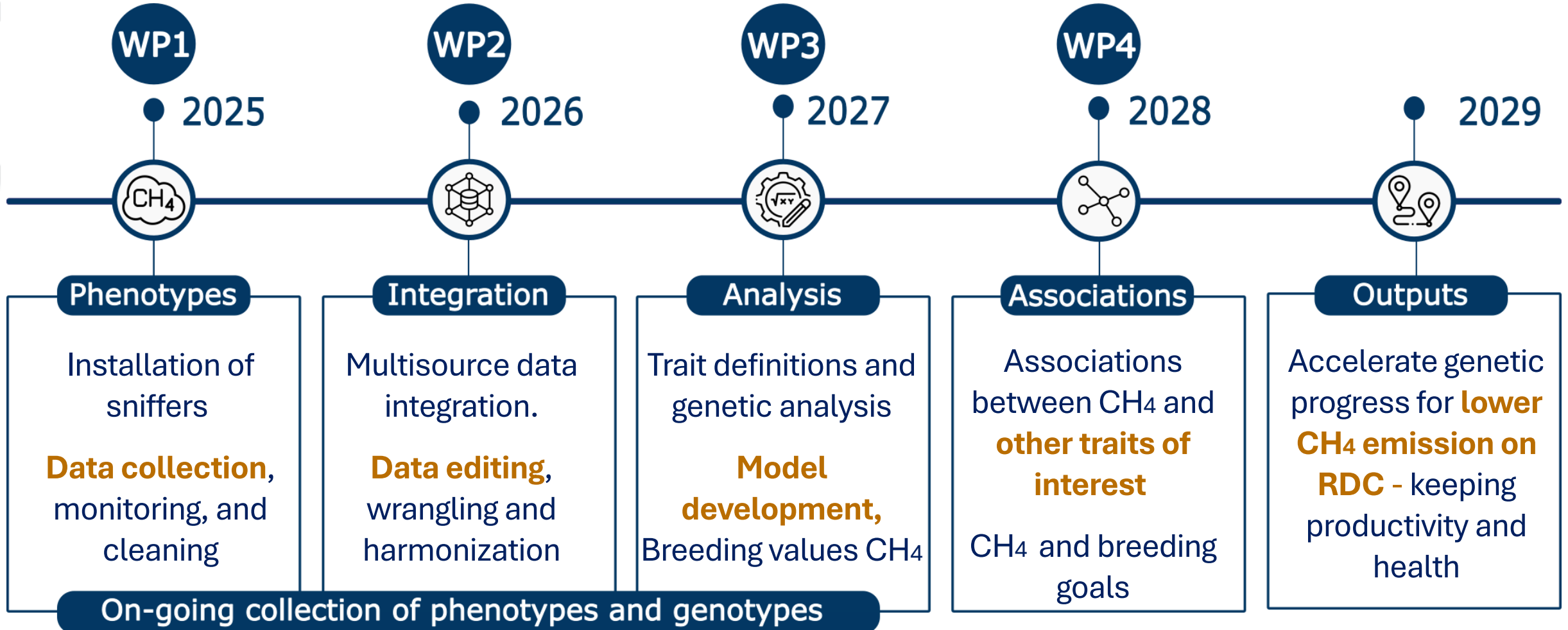
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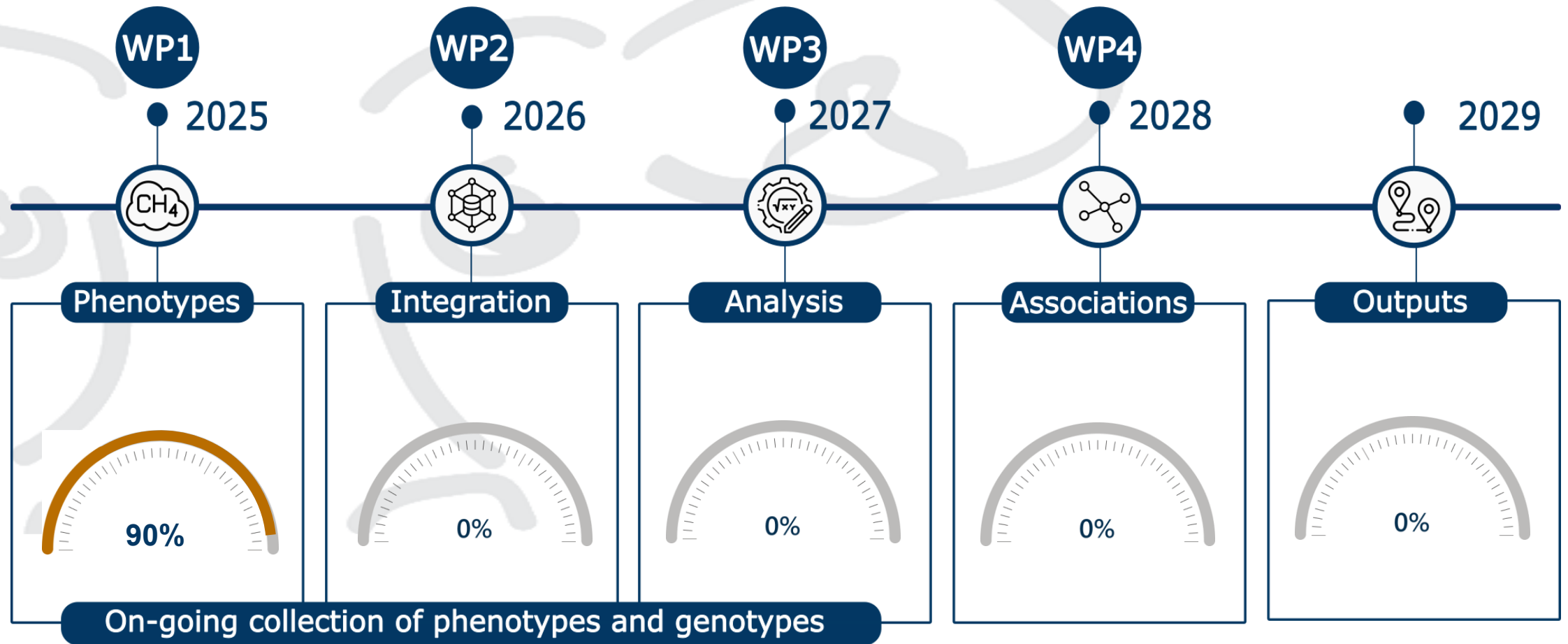
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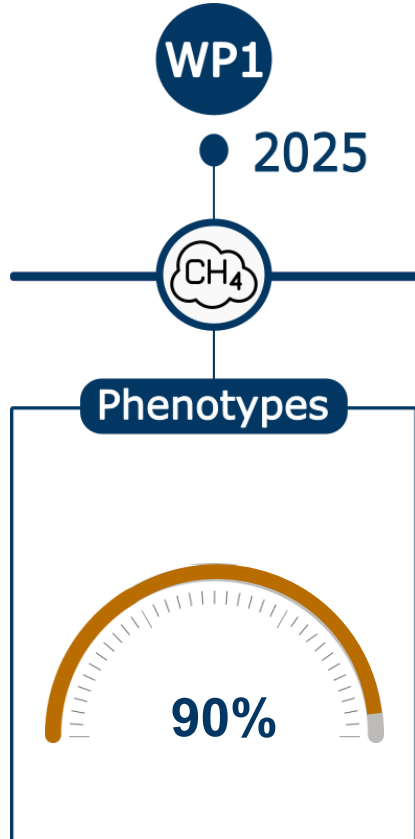
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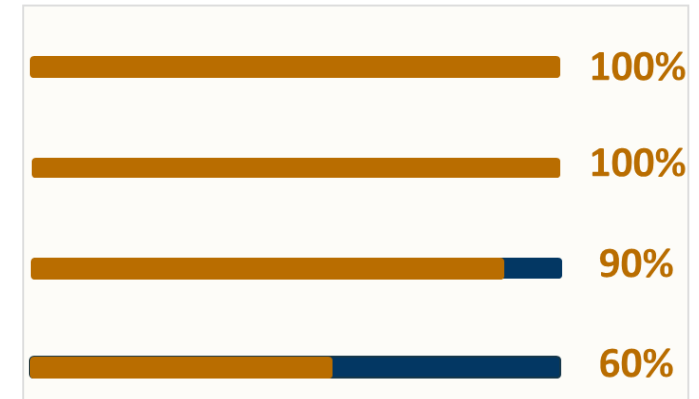
# Progress so far



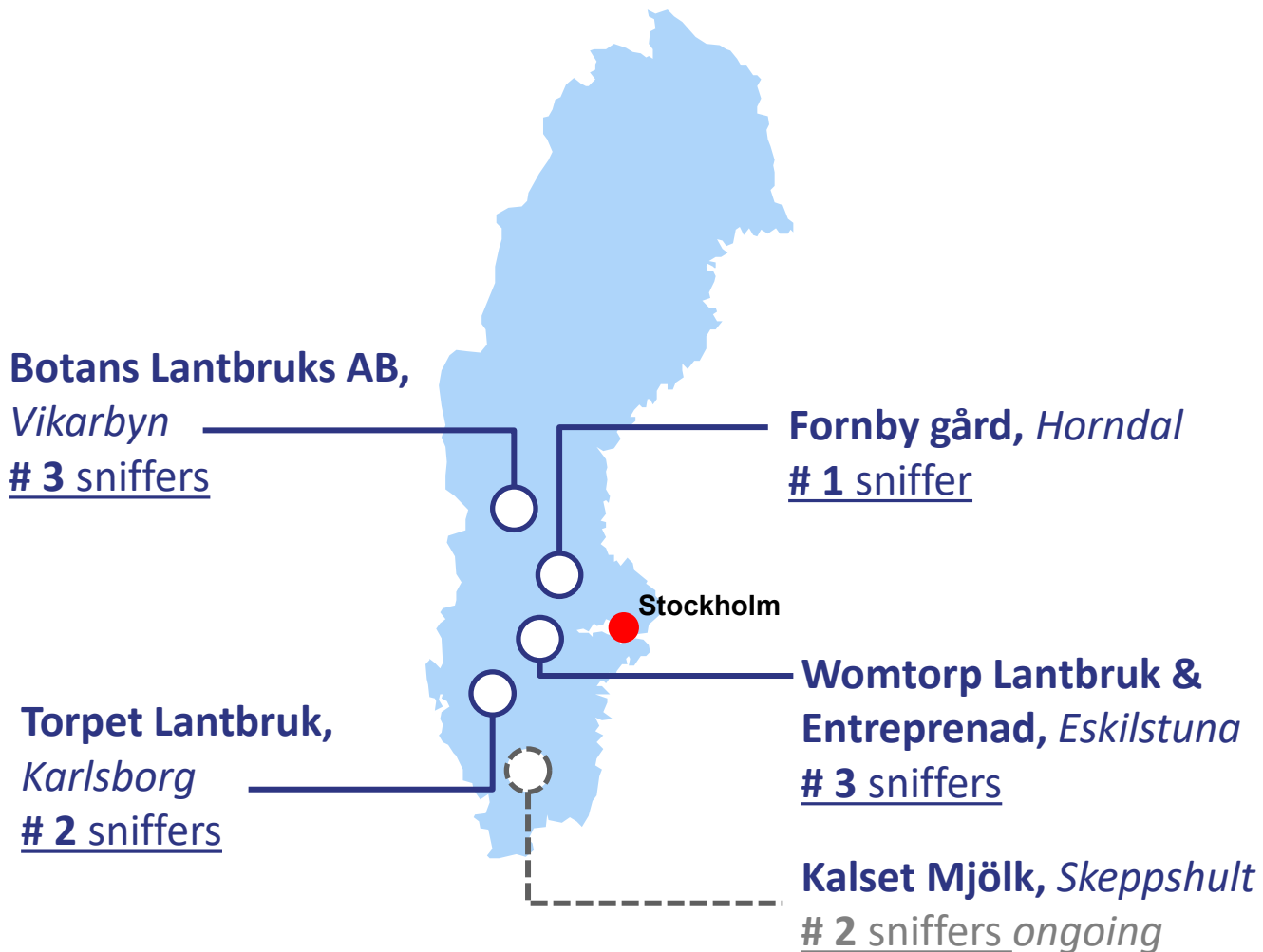
# Progress so far



- Funding allocation
- Purchase of sniffers
- Installation of sniffers
- Monitoring and data collection



# Methane data collection, today



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- **Mixed herds, RDC and HOL, but focus on RDC**
- **November 2025** - 2 frist sniffers installed “test data”
- **December 2025**, start of “official data” collection



# Methane data collection, today – year 2029

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## TODAY

- # 9 Sniffers
- # 4 farms
- # 390 unique methane RDC cow registrations
- Time recording ~2 months/farm
- # live data monitoring

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## Year 2029

- # 11 Sniffer + # 1 GreenFeed
- # ~ 20 farms
- # 2 800 unique methane RDC cow registrations
- Time recording 3-6 months/farm
- MIR data – all farms in Växa's cattle database
- Live data monitoring + alert system

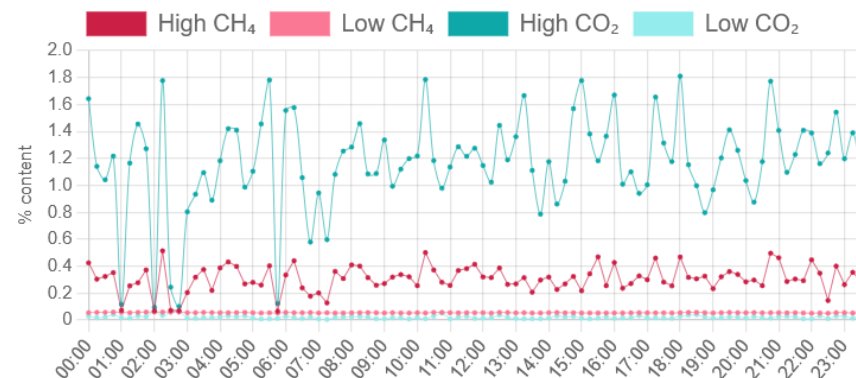


# Data monitoring in Sweden -

Source: SLU Gigacow infrastructure

Sensor 31845

## Day - High and low CH<sub>4</sub> and CO<sub>2</sub> per 15 minutes



### Measurements last 24 h

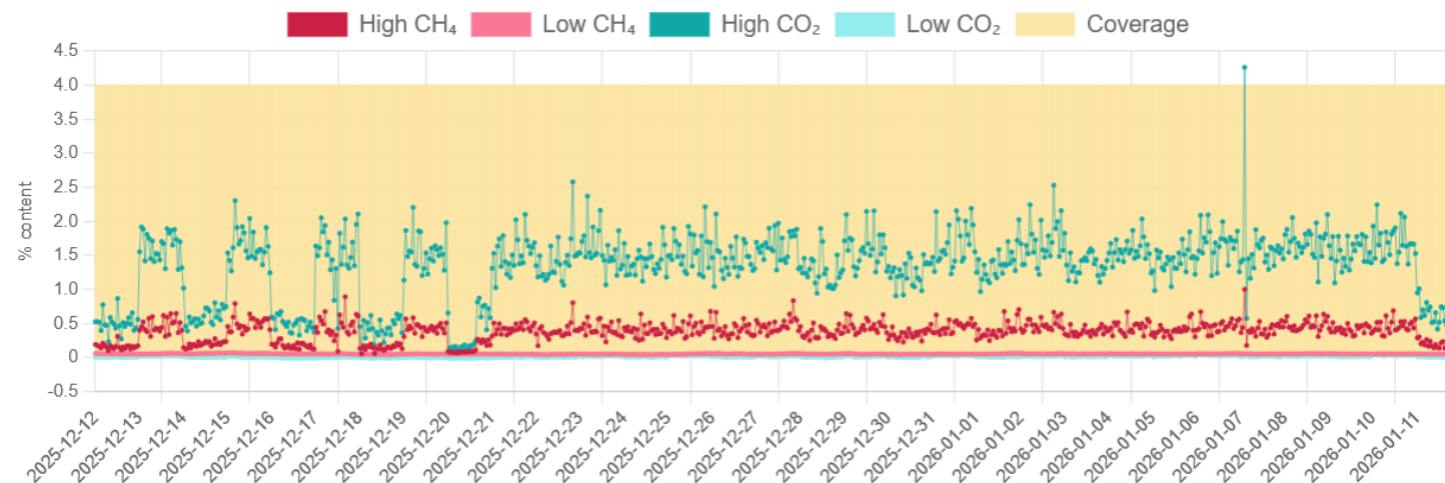
Shows the highest and lowest recorded CH<sub>4</sub> and CO<sub>2</sub> measurement per 15 minute interval, for the last 24 hours.

### Month's gas measurements

Shows the highest and lowest recorded CH<sub>4</sub> and CO<sub>2</sub> measurement per 60 minute interval, for latest month. Coverage 4 means that there is one data point per second collected as expected

You can click the legends to hide/show the data points from each of the data series

## Month - High and low CH<sub>4</sub> and CO<sub>2</sub> per 60 minutes



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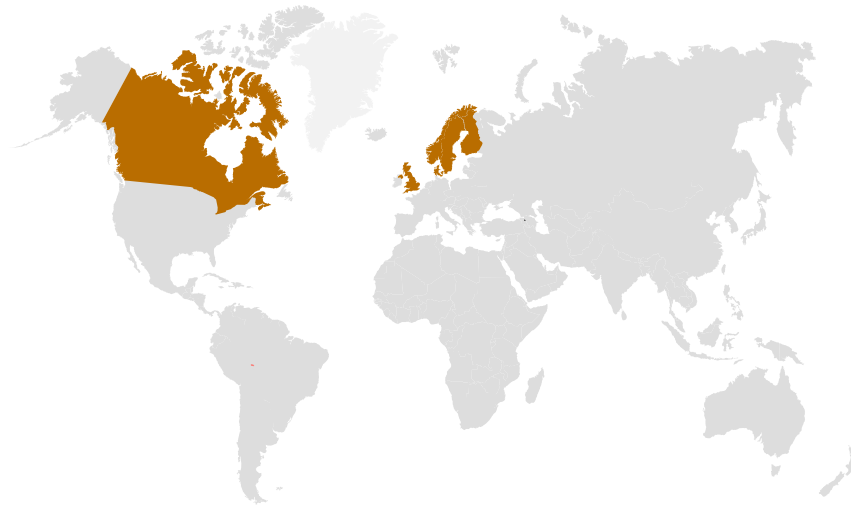
# Summary planned Activities - 2026



- **Finalise sniffer installation + plan rotation - ongoing**
- **Install GreenFeed - ongoing**
- **Raw data handling and pipe to existing data processing flows to NAV – ongoing**
- **Joint Nordic evaluation of methane index for RDC (start with ppm)**
- **Genetic analysis, including other trait definitions**
- **Ethical approval + farm agreement of rumen samples**
- **Continue tight collaboration with NAV and GMG partners**

# Global Methane Genetics initiative:

## Mitigating Methane Emissions in Red Dairy Cattle through Genetic Selection



Partners & Collaborators

**GMGredDairy**  
Denmark | Finland | Sweden | Norway | Canada | UK



**Elisenda Rius-Vilarrasa, Sofia Nyman, Tomas Klingström (SWE),  
Bjørn Heringstad & Karoline Bakke (NOR),  
Trine Michelle Villumsen & Rasmus Stephansen (DNK),**

**Enyew Negussie (FIN),  
Filippo Miglior, Christine Baes & Debora Santschi (CAN),  
Mike Coffey & Raphael Mrode (UK)**

