

Emission measurements i pig herds

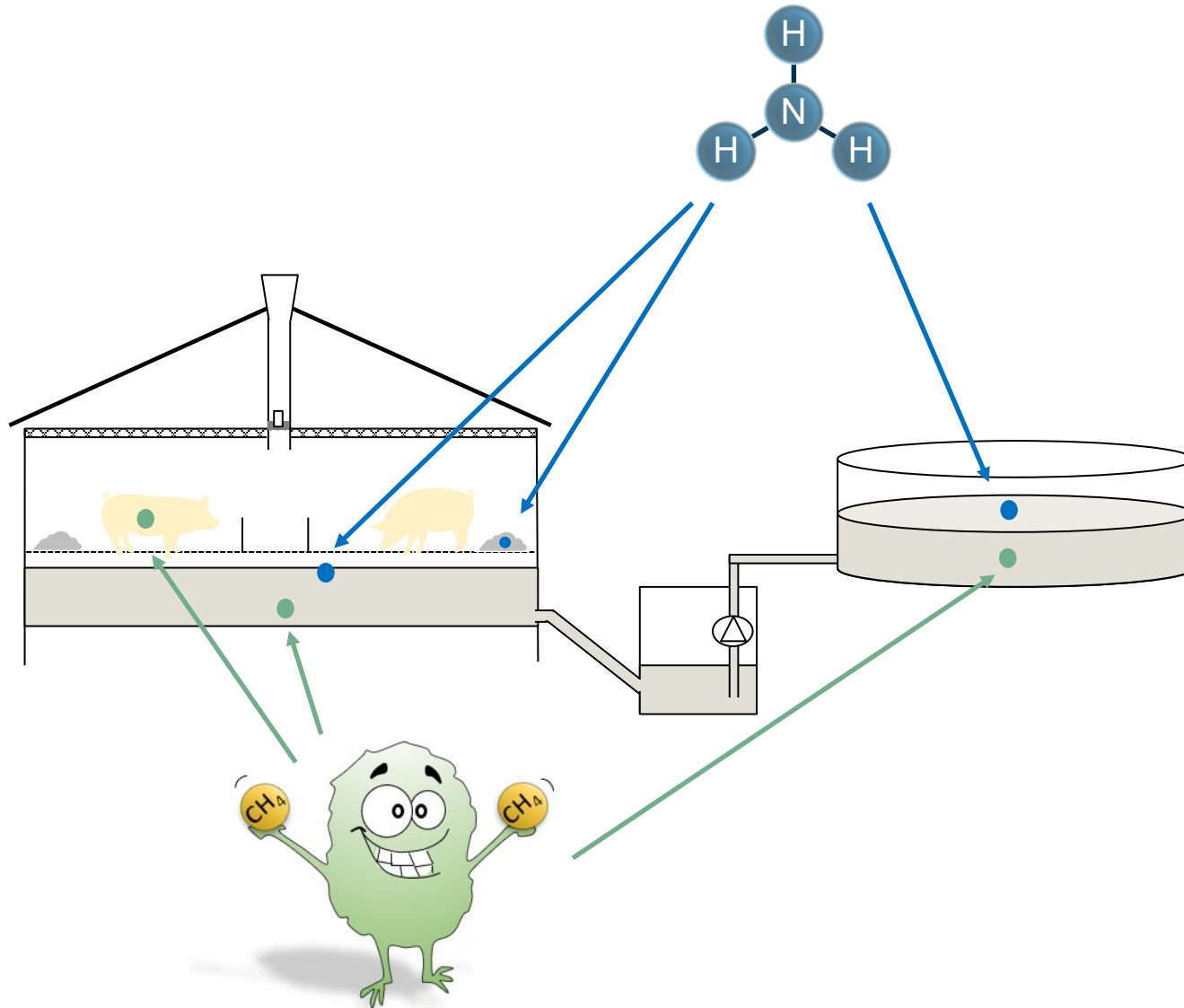
Stine Grønborg, Consultant
Climate & Environmental Technology

01.10.2025

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Danish Pig Levy Fund

Emission of ammonia and methane

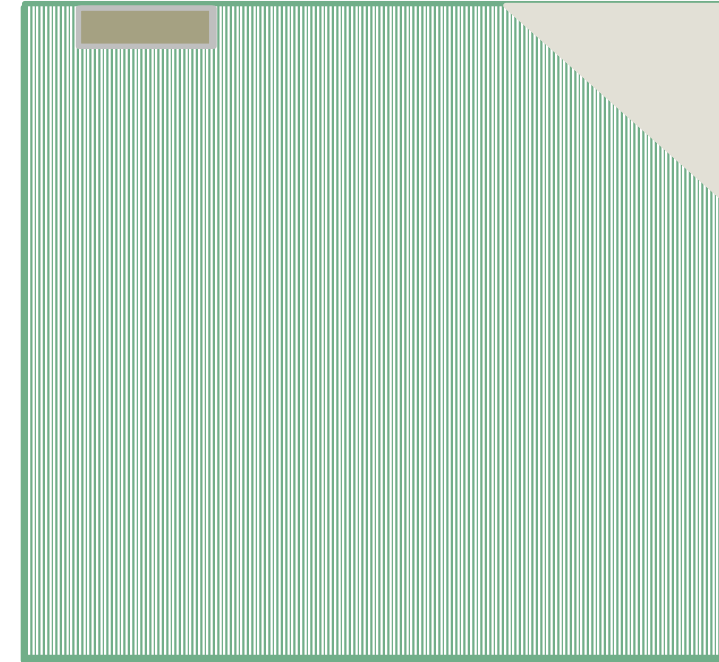
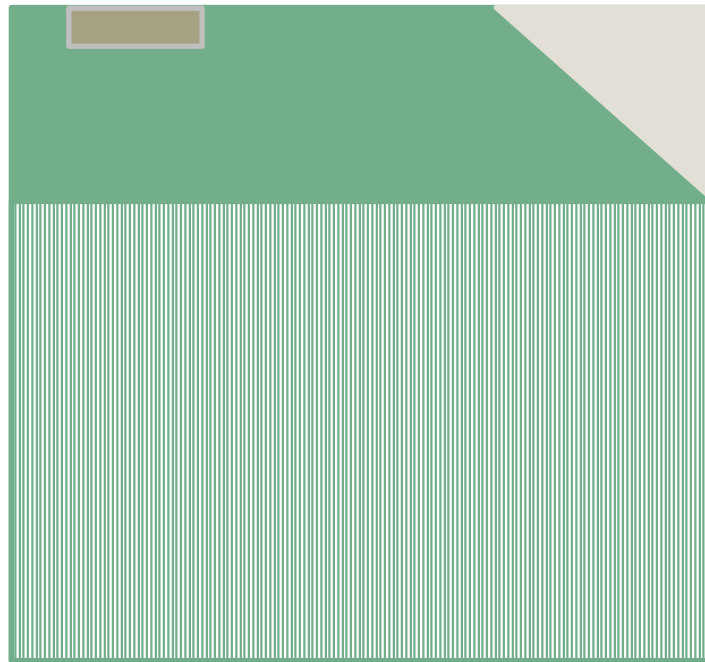
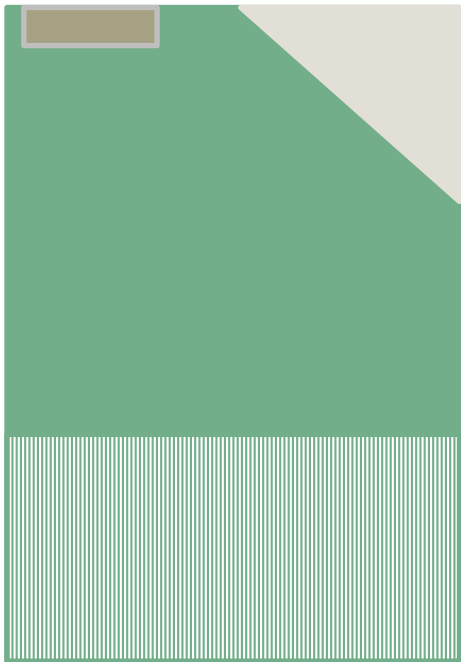


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Welfare vs. emission

Larger surface area
=
Larger emission



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SEGES
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Two simple measures to reduce emissions

- Reduce storage time in the slurry pit
- Reduce the surface area

Traditional manure management

- Slurry pit
- Storage of slurry

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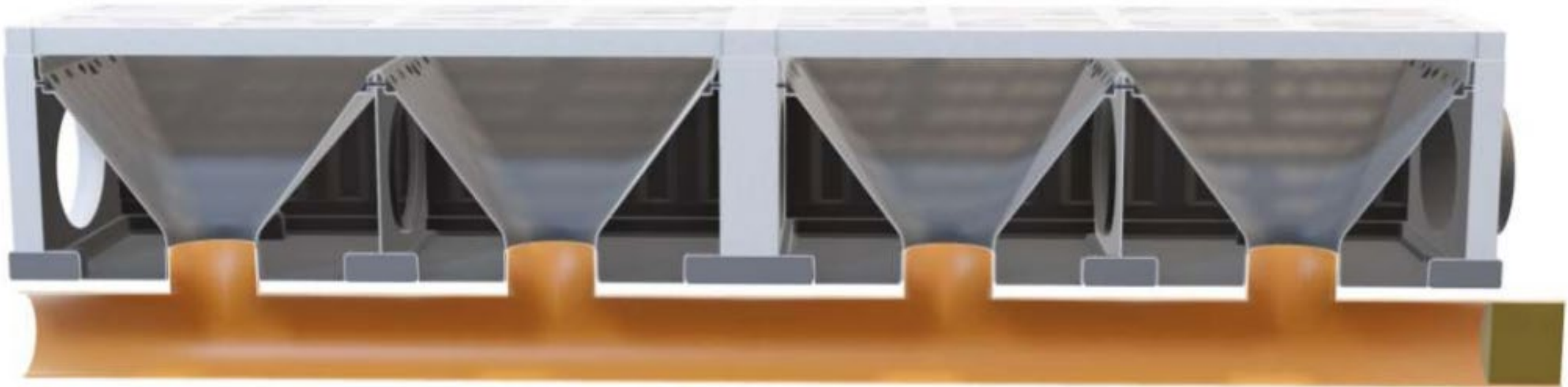
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Slurry funnel

SPACE Systems

Innovative farming



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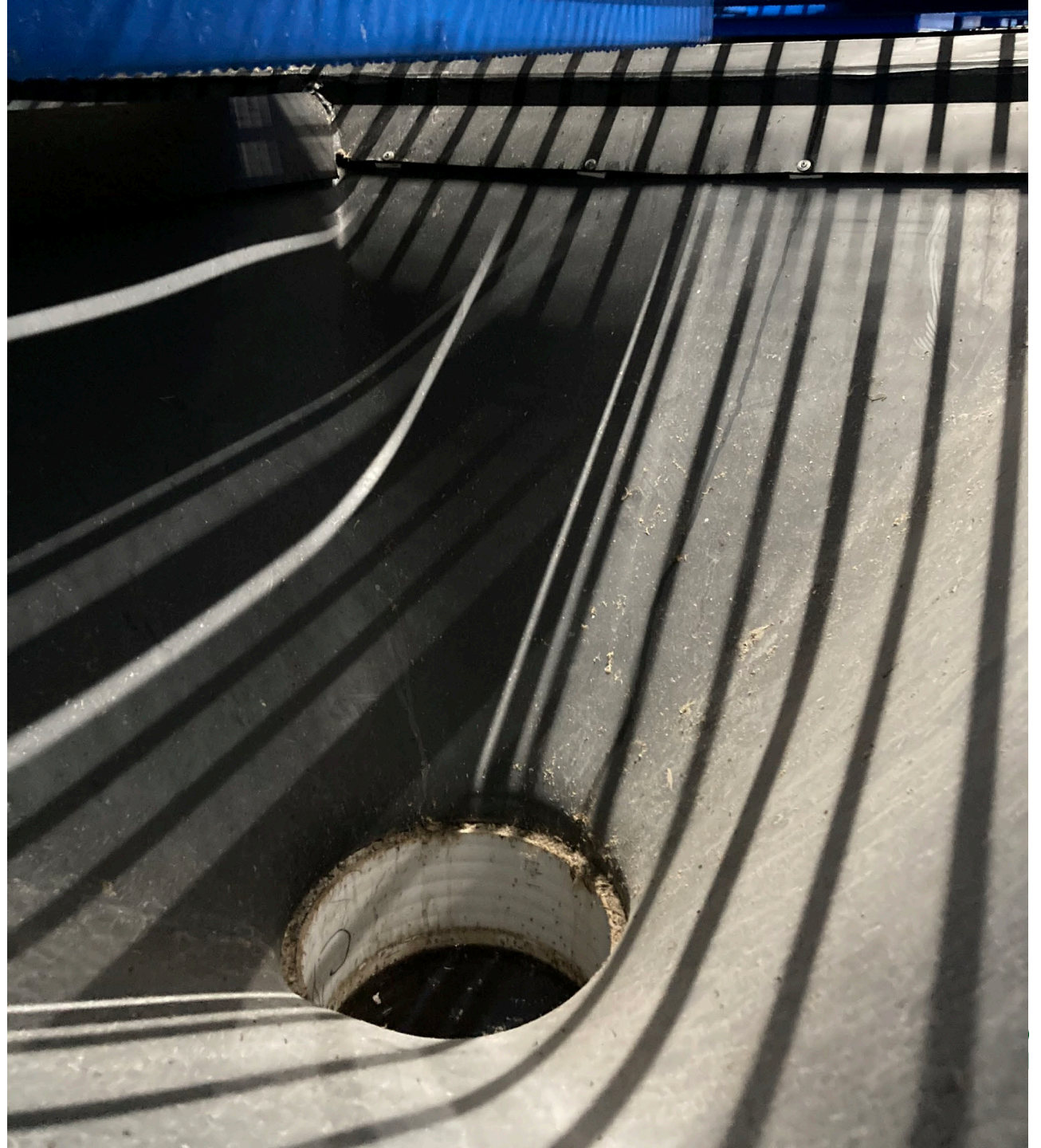
Slurry funnel

SPACE Systems

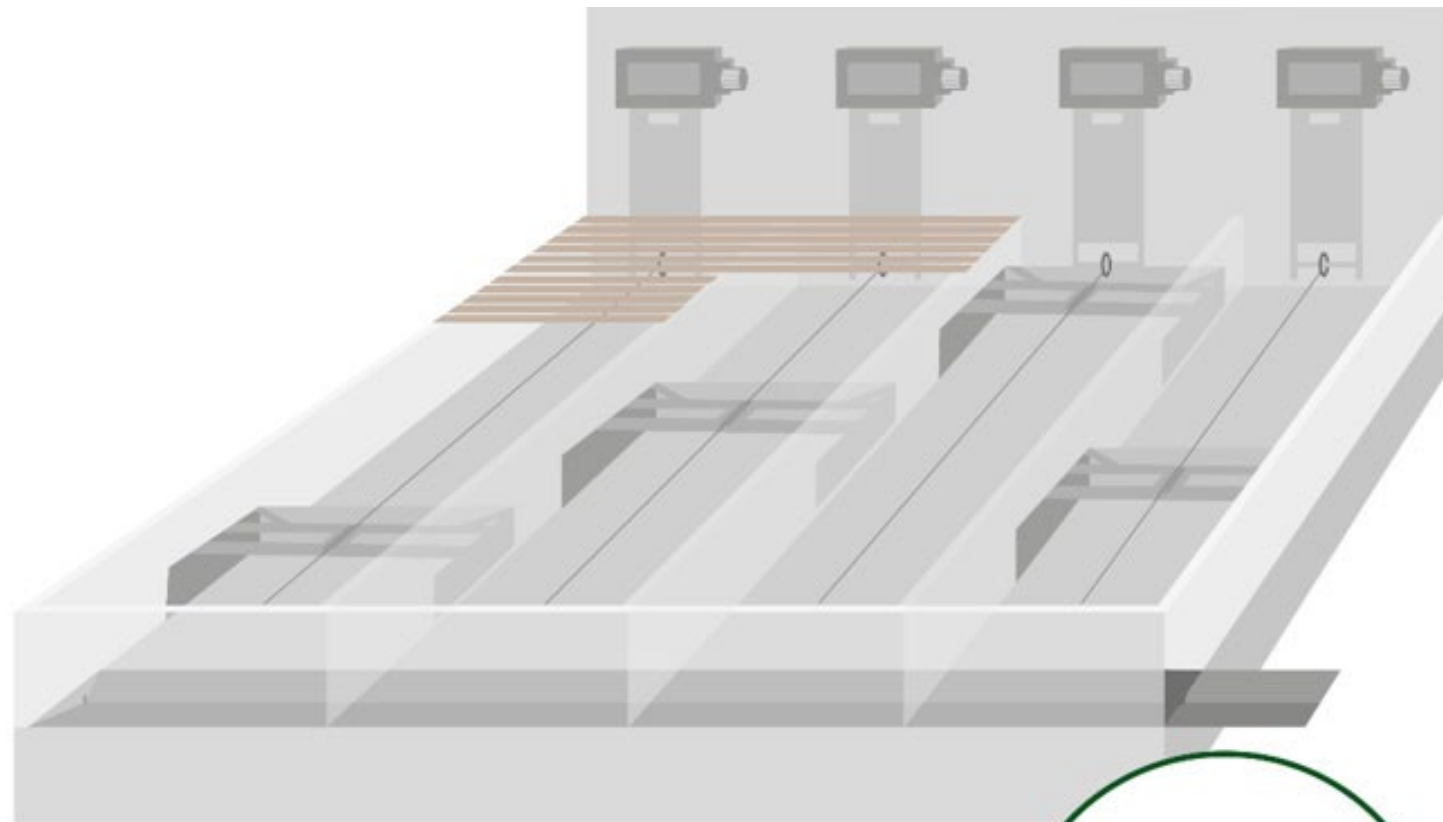
Innovative farming

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Slurry scraper



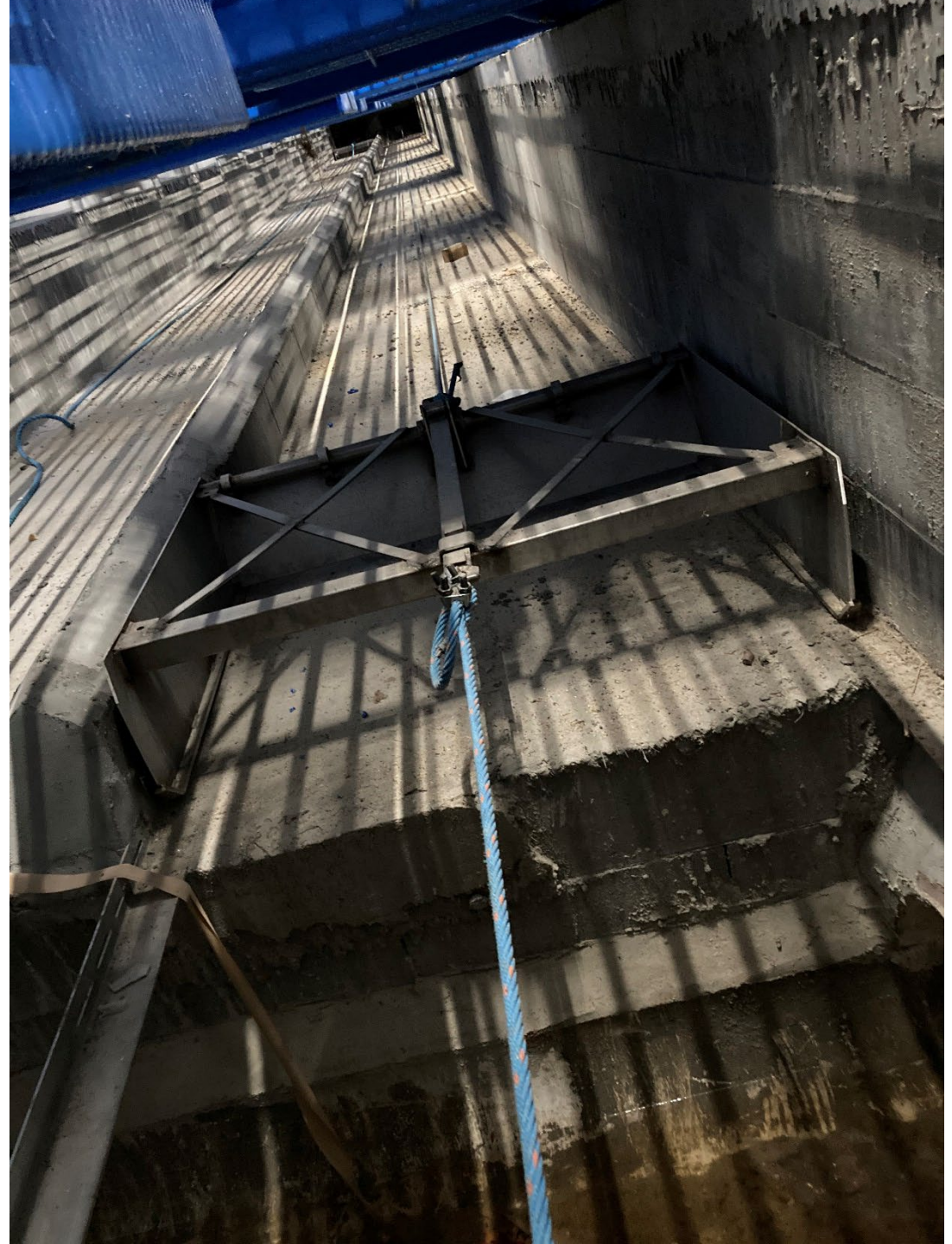
SKOVL



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Slurry scraper



Slurry scraper (with sloped walls)



EMISSION MEASUREMENTS

$$g \text{ NH}_3 / \text{pig} / \text{hour} = \frac{M * C * V * P}{R * T * N * 1000 \text{ mg/g}}$$

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$$g \text{ NH}_3 / \text{pig} / \text{hour} = \frac{M * C * V * P}{R * T * N * 1000 \text{ mg/g}}$$

Molecular mass of Ammonia points to M

Pressure (1 atm) points to P

Gas constant (0,0821 atm mol⁻¹ k⁻¹) points to R

EMISSION MEASUREMENTS

$$g \text{ NH}_3 / \text{pig} / \text{hour} = \frac{M * C * V * P}{R * T * N * 1000 \text{ mg/g}}$$

Concentration (ppm) → C

Ventilation (m^3/hour) → V

Temperature (kelvin) → T

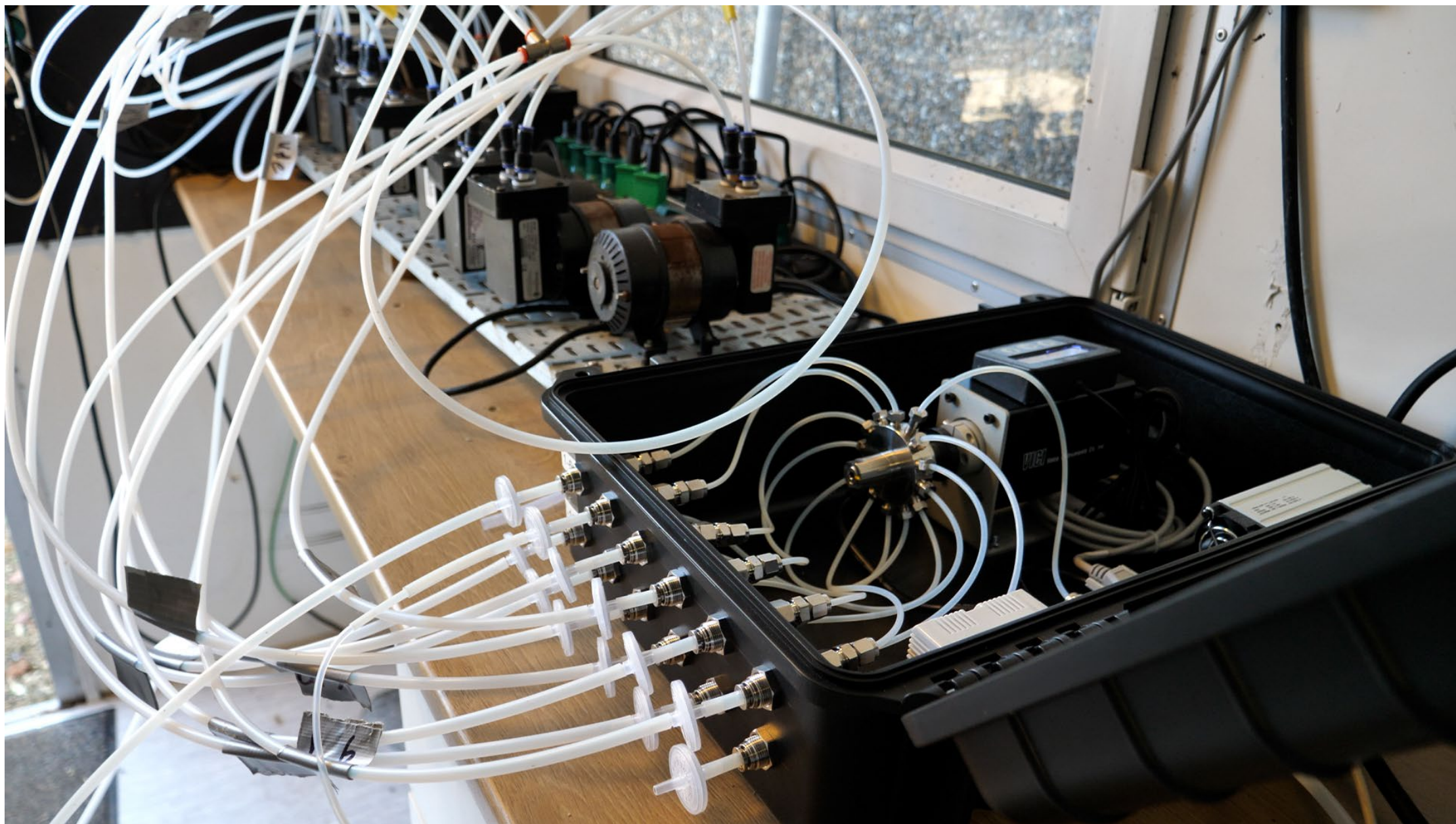
Number of animals → N

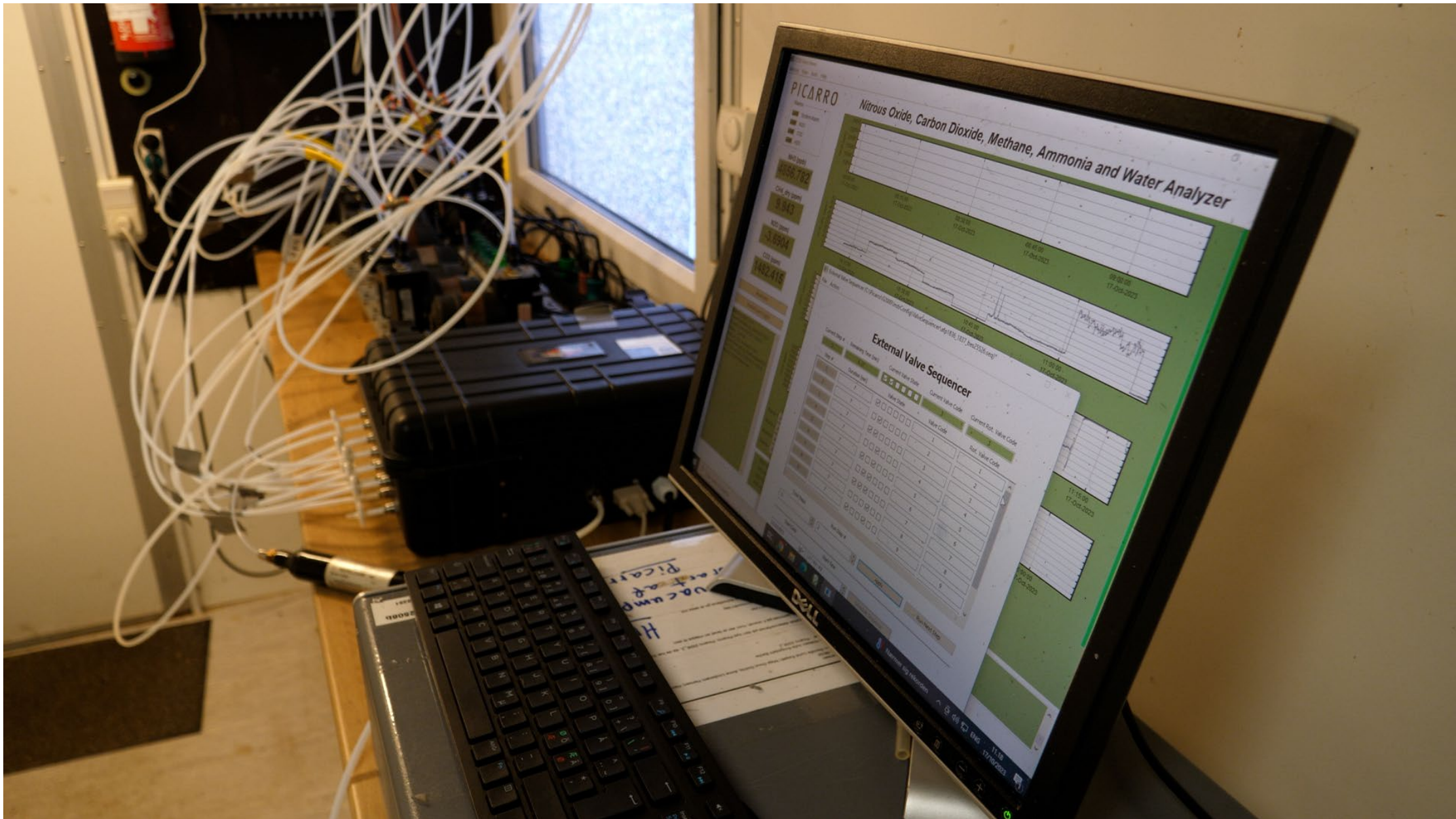












Documentation of environmental technology



Measurements over a year



Test in two or four herds



Acceptance on the Technology List

Videos

How to measure emissions from pig herds

- [Sådan måles udledning fra grisestalde - SEGES TV](#)

Test of manure management

- [Gyllesystemer i farestalde med løse søer - SEGES TV](#)

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