
LELY

Who are we?

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In this presentation

- Introduction Lely
- Regenerative farming within Lely

Lely: Farming Innovators

a short introduction


farming innovators
LELY

Lely

A family-owned company with farming in its DNA

Cornelis van der Lely
Founder

Arij van der Lely
Founder

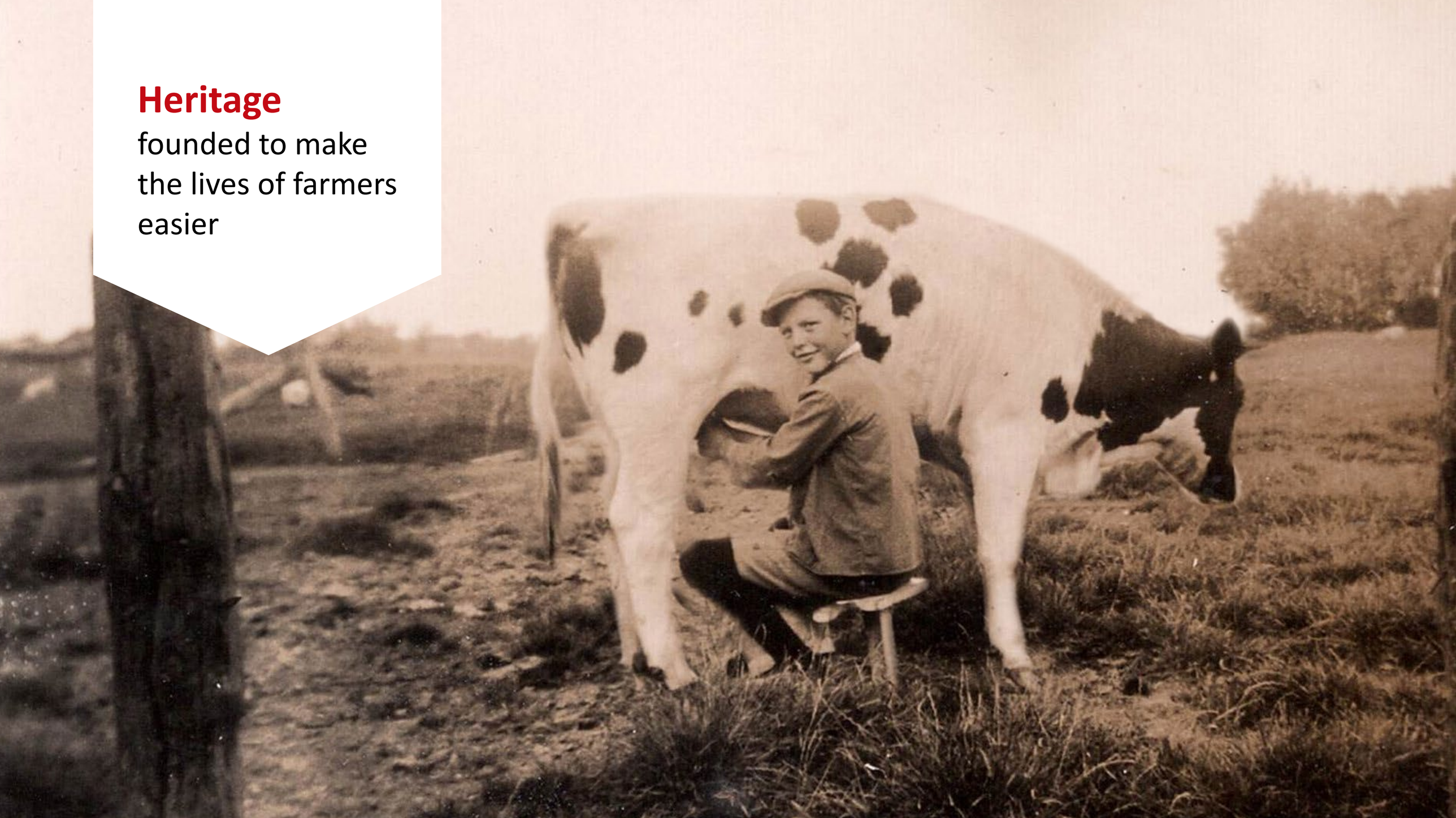
Olaf van der Lely
CEO 1989-2004

Alexander van der Lely
CEO 2004-2019

Chairman Supervisory Board

Heritage

founded to make the lives of farmers easier



Vision

A sustainable, profitable and enjoyable future in farming

Mission

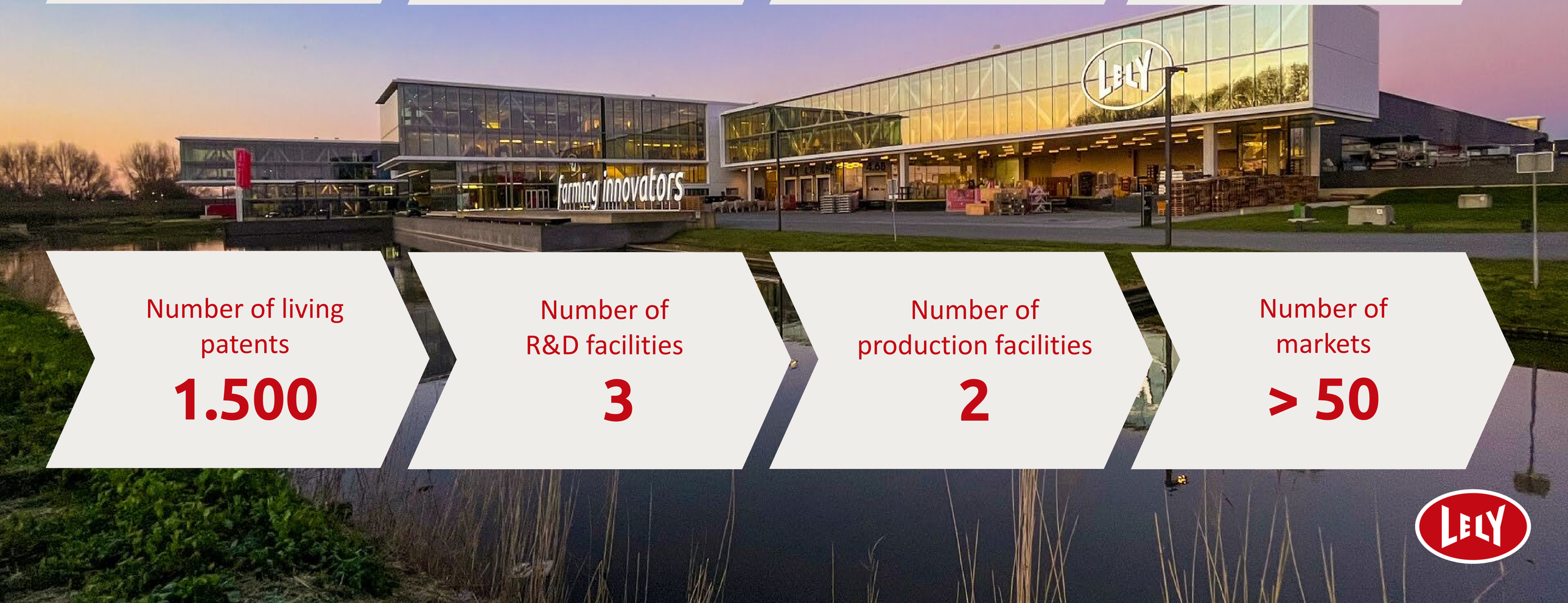
We create innovative solutions that help our customers excel in sustainable milk production to feed the world

Lely today

Annual Sales
€ 857 mln

Number of employees
5.000

Investments in R&D from our product turnover
> 8%



Number of living patents
1.500

Number of R&D facilities
3

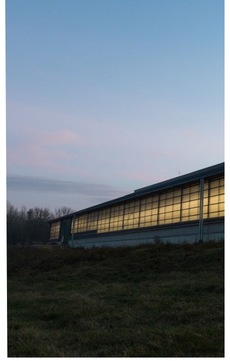
Number of production facilities
2

Number of markets
> 50

Our customers worldwide are

serviced by >260 Lely Centers

Innovation never stops

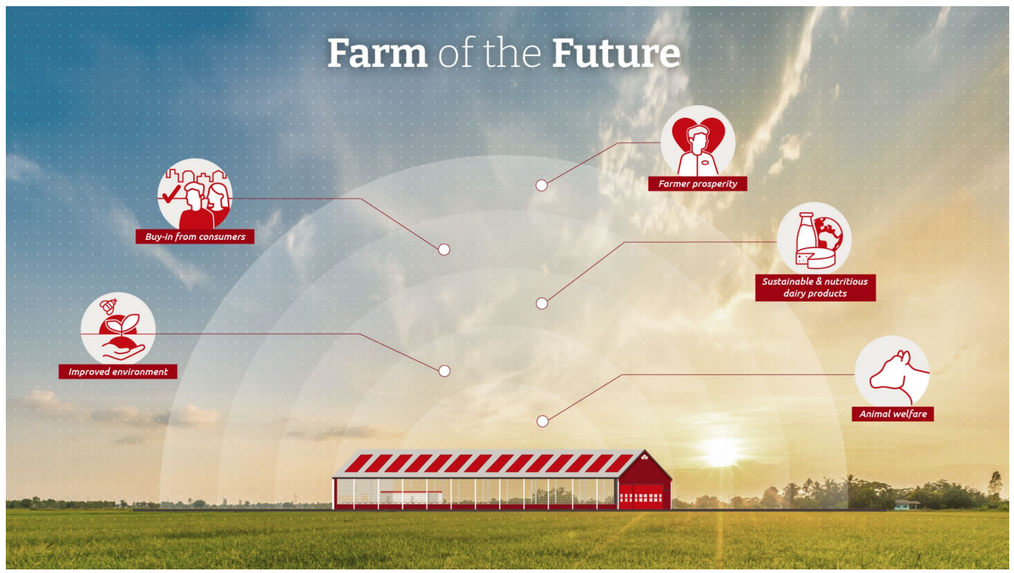


Regenerative Farming

According to Lely

Why is regenerative farming important for Lely?

Intrinsic motivation



Extrinsic motivation

Current portfolio linked to regenerative farming

Take advantage of emissions, fertilise with precision

Lely Sphere is a barn system for separating minerals and turning emissions into a valuable product. The system separates manure and urine at the source, monetises ammonia emissions, and creates three valuable types of fertiliser. You use these separated fertilisers for precision fertilisation, which helps close mineral cycles, reduces ammonia emissions and improves the climate in the barn.

Up to 70% reduction in ammonia emissions

Official measurements at test farms have shown that total ammonia emissions from barns are reduced up to 70%. As an emission-limiting system, Lely Sphere also distinguishes itself by reusing nitrogen to substitute chemical fertiliser. Tests in practice have shown that up to 20 kg of nitrogen can be harvested per cow per year.

Optimal fertilisation of crops

The Lely Sphere system creates three types of fertiliser: (1) mineral nitrogen of mineral-fertiliser quality in the discharge water produced by the N-Capture, (2) phosphate and organic nitrogen in the solid manure and (3) potassium in the urine in the pit. By applying these three types of fertiliser, you can better respond to the needs of the soil and crops.

Healthier climate in the barn

Separating manure and urine and ventilating the pits reduces ammonia in the barn. Extracting manure gases from the manure pit also increases safety, as these harmful gases no longer accumulate. The natural ventilation in the barn is maintained, and cows can walk in and out of the barn freely. The Discovery Collector keeps the barn floor cleaner, which improves hygiene and claw health. Besides creating value from manure, Lely Sphere also keeps the barn climate healthy and safe for humans and animals.

How Lely Sphere works

We start by optimising the existing manure pits. The best set-up is a pit for urine under the slatted floor, and a second cellar for solid manure, for example under the cubicles. If possible, we can even create a third pit in which you can mix the fertilisers in the ideal composition for fertilising your soil and crops.

We then provide the traditional slatted floor with stainless-steel separation strips, which separate manure and urine at the source. The urine flows through separation strips to the pit, while the manure remains above. The Lely Discovery 120 Collector regularly sucks up the solid manure, and takes it to the discharge point. The Lely Sphere N-Capture extracts manure gases that are created in the pit and just above the barn floor. The filter in the N-Capture captures the ammonia, and converts it into circular fertiliser by adding water and acid.

Current portfolio linked to regenerative farming

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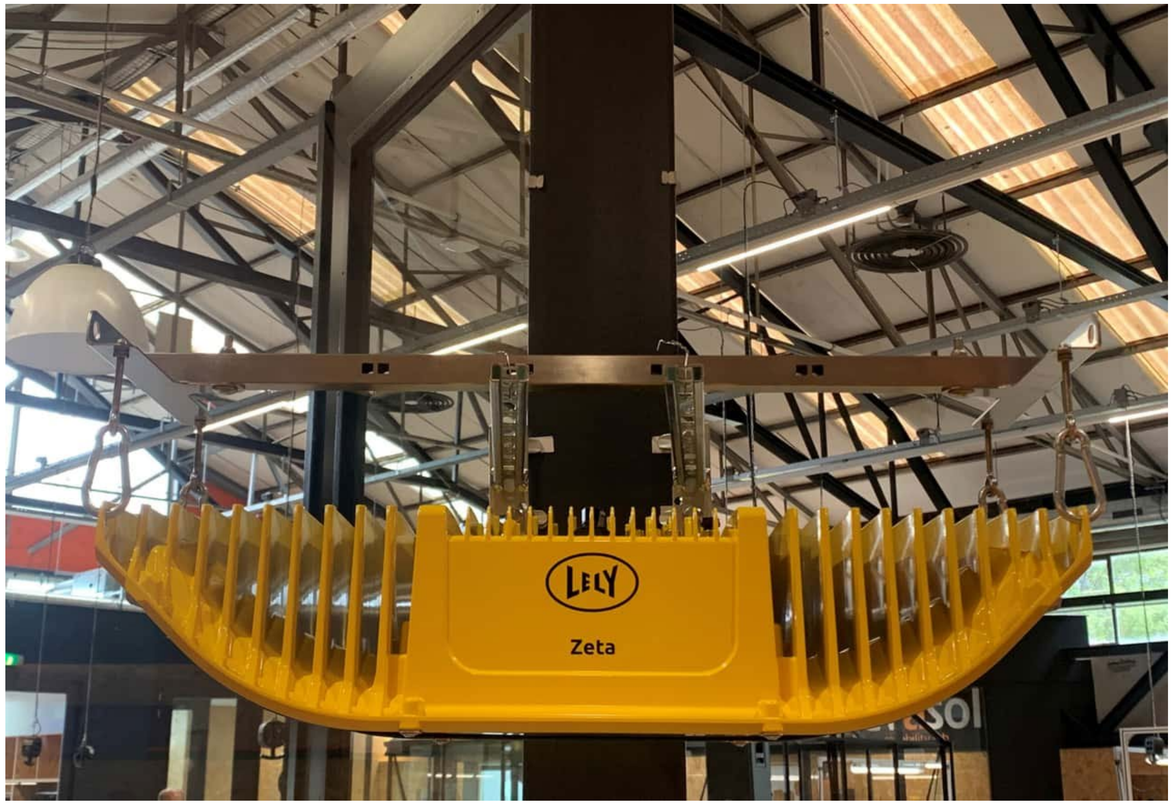
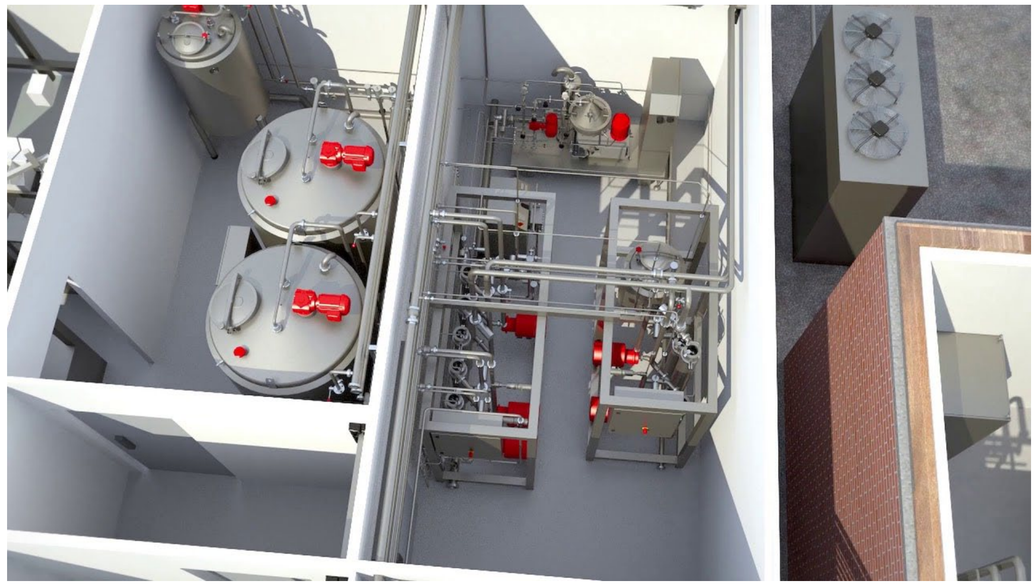
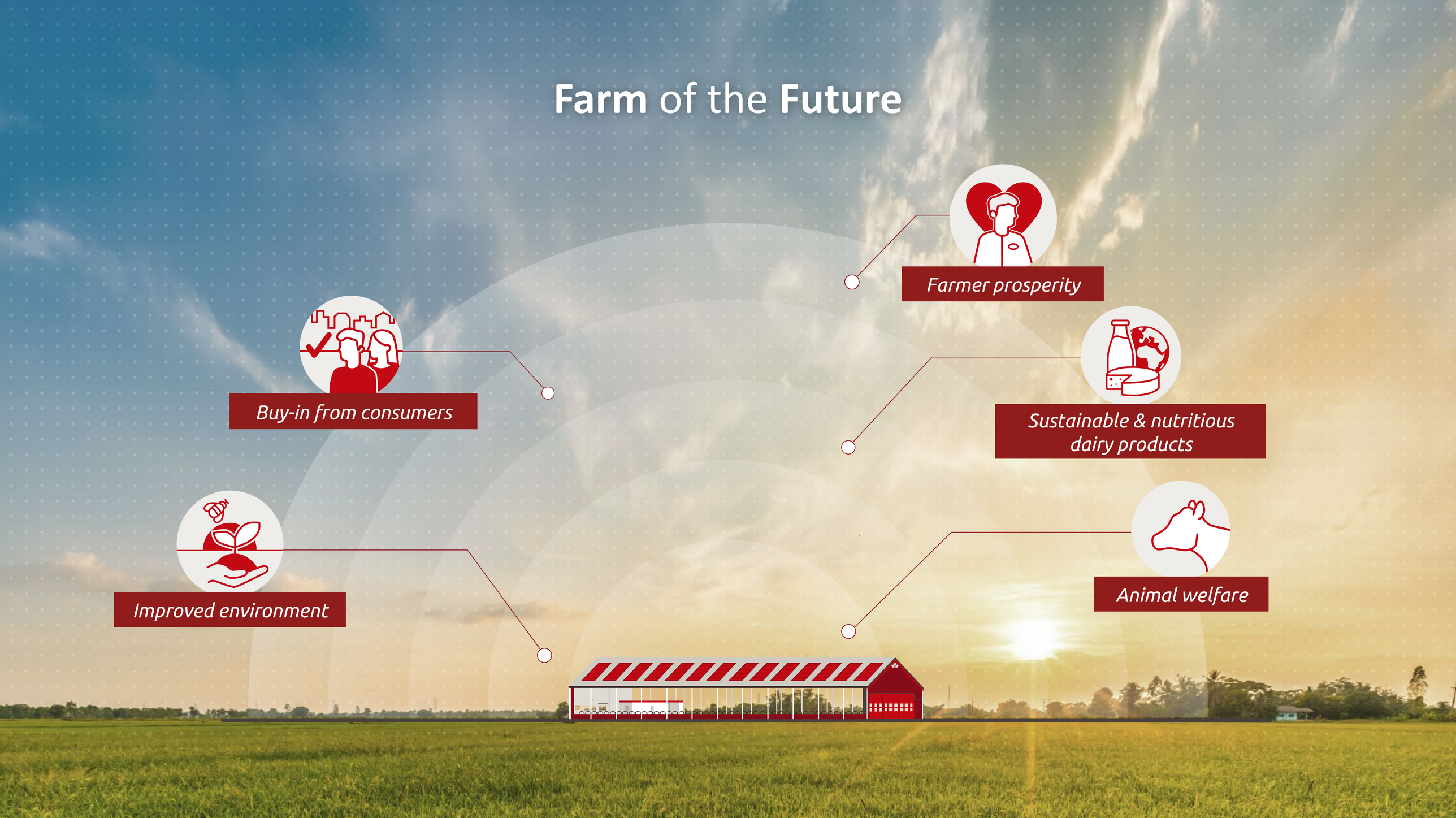


Current portfolio linked to regenerative farming



Farm of the **Future**



Regenerative Farming requires an **understanding** of **conflicting impact areas** and an **integrated approach**. The effects should be **monitored**.

Challenges & Considerations

- **Conflicts** between impact areas
- Large **differences in the "starting point** " and the **"end point"**

- Maintaining **farmer support** while measurement is essential for **consumer trust**
  - Objective measurement
  - Encouraging entrepreneurship
  - Technological support
  - Insight into favorable competitive positioning

- **Scientific research** needed
  - Measurement methods & models for outcomes such as a the best road towards transitions
  - Clarification of what regenerative farming really includes and what is excluded!
  - Development of new housing systems, new solutions, new measuring systems

Available data points

- Astronaut Milking robot
  - Milk process data
  - Visit behavior data
  - Milk production data
  - Milk quality data
  - Weight & feed data
- Collar data
- Calm calf feeder data
- Vector Feed robot
- Grazeway data
- Animal data (combined algorithms)

During each milking, **over 150 data points** are collected and stored.

Some of those datapoints are used in **algoritms.**

For a bright future in farming

- Connection research and industry
- Valorisation: Bringing knowledge from Universities to the field
- What we need:
  - Validation of claims
  - Reference models
  - Hardware development
  - Software development


Thank you for your attention
Please reach out: evrieze@lely.com