

# Personalized milking routine for cows boosts farm performance and animal health

Lely leverages Datamole's expertise in AI to automatically personalize milking routines for individual cows and improve farm performance.

## ABOUT THE CUSTOMER

### Lely

Lely is the leading global producer of robotic systems for dairy farmers. Founded in 1948 as a family business, Lely has been on a mission to make farmers' lives easier by offering innovative solutions for almost all activities in the cowshed, including milking, feeding, or cleaning.

With over 1,600 patents and 3 R&D departments, Lely is a renowned farming innovator serving customers from more than 45 countries



*"We took on a challenging series of projects together with Datamole to make milking dairy cows a personalized experience by using an AI-driven approach. We want each cow to have a comfortable milking experience that fits her specific needs throughout her entire life at the farm."*

**Rik Steenbergen**

Senior Product Engineer at Lely



Industry: agritech

Location: Netherlands

Project duration: 5 years

## Solutions

Datamole Data Platform

AI & ML Models

## Benefits



Automated optimization of milkings



Improved animal health and welfare



Up to 80% reduction of non-optimal milkings



Better utilization of robot capacity

CHALLENGE

# Optimizing more than 5 million milking sessions every day

Lely decided to revolutionize their robotic milking by personalizing cow treatment during the milking process. In 2020, Lely robots milked over 2 million cows every day, resulting in more than 5 million milking sessions needed to be optimized daily.

Even though the robots offer farmers plenty of settings to customize the milking process for each cow, the manual setup would require the farmer to tweak more than 40 knobs before each milking. Therefore, the majority of milking was executed with group settings for cows in a similar lactation stage.

Farmers saw significant value in using individualized treatment for their cows, however, they would not be able to handle the configuration manually.



### Personalization of 5+ million milking sessions

Lely robots milk more than 2+ million cows a day.



### Optimization unattainable by humans

Impossible to set up the robots manually for each milking.



### Data collection from 30,000 robots

Need to collect data from robots around the world.



### Non-optimal milking sessions

As group settings do not satisfy individual needs of cows.

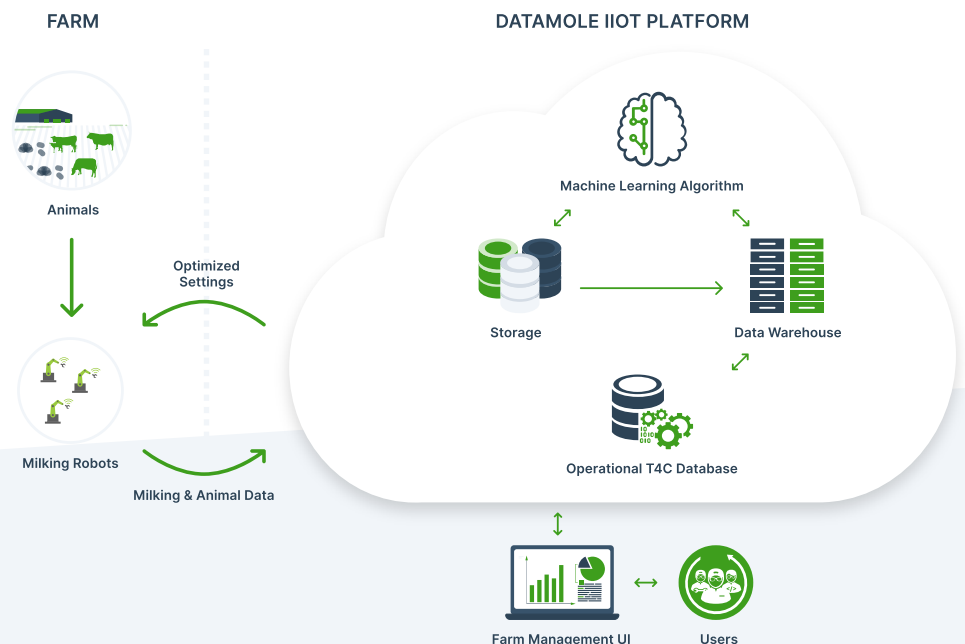
SOLUTION

# AI personalizes milking routine for each cow

Datamole delivered a solution that automatically calculates optimal treatment for each cow every time the animal visits the milking robot. Each cow is described with its history of production, milk quality, last visit, stage of lactation and many others.

The solution was based on the following components:

- **Datamole IIoT Platform**  
collects data from over 30,000 milking robots worldwide.
- **Data Warehouse**  
serves as a source of historical data and the main source of data analytics.
- **Optimization and predictive models**  
infer an optimal treatment for an animal in a given time and circumstances.



The solution was integrated with Lely's farm management system named T4C that farmers use to operate and manage their farms.



## BENEFITS

# Positive impact on cow health & farm performance

The system automatically adjusts the milking settings for each cow. It provides the animals with the best possible treatment based on the measured data.

Farmers enjoy all the benefits of personalized treatment for their cows. Optimal milking routines result in a positive impact on animal welfare as well as overall farm performance.

Thanks to the algorithms collecting data about milking performance, the system is also able to evaluate any deviations, and thus helps farmers detect potential sickness in its early stages.



### Automated optimization of milking sessions

Zero settings for the farmer.



### Improved cow health and welfare

More gentle treatments imply healthier udder and less stress.



### Up to 80% reduction of non-optimal milkings

Personalized treatments address the individual needs of cows.



### Better utilization of robot capacity

Increase of 0.2kg of milk per minute.



*"The effort of the farmer is significantly reduced as we strive for zero milking settings. The milking robot derives and selects the optimal settings fully automatically for each cow to achieve gentle milking. The farmer works with high quality and practical KPI's to manage the herd and farm."*

**Rik Steenbergen**

Senior Product Engineer at Lely

# About Datamole

Datamole is a Prague-based data science and artificial intelligence company. As experts in the industrial Internet of Things, we help companies worldwide leverage data from their devices and turn them into actionable insights and profitable business decisions.

We lead customers through the entire journey of their digital transformation: from collecting and analyzing data from their devices to applying tailored AI techniques. Our key fields include agritech, machinery, manufacturing, biotech, and foodtech industries.

## Innovation with IIoT & Artificial Intelligence



Considering becoming  
an **AI-driven** business?

LET'S TALK