

The Siemens logo is displayed in a bold, teal, sans-serif font.

*Ingenuity for life*

A photograph of a dairy processing facility. In the foreground, two workers wearing white protective suits, hoods, and face masks are focused on their tasks. One worker is holding a clipboard and a pen. In the background, another worker is visible, and the environment is filled with stainless steel machinery and equipment. A teal text box is overlaid on the right side of the image.

This building helps create  
the future of dairy.

With data-driven building performance  
improvements delivered 'as a service'.

#CreatingPerfectPlaces

[siemens.com/perfect-places/building-performance](https://www.siemens.com/perfect-places/building-performance)

**This major dairy company has a simple yet bold vision: to create the future of dairy. Building performance services and innovative delivery models from Siemens create the perfect place to turn this vision into reality.**

#### **Committed to responsible dairy production**

Headquartered in Northern Europe, this dairy group is now among the four largest milk suppliers in the world. It operates in 38 countries, 17 of which also have manufacturing facilities. Its sustainability goals are ambitious: By 2020, it aims to cut greenhouse gas emissions (GHG) from its processing, transport, and packaging activities by 25 percent. It also wants to achieve a 3-percent year-on-year reduction in energy and water consumption over the period.

The group's sustainability efforts cover many areas, from farming to processing, transport, or retail. They have already resulted in a 16-percent reduction of its total climate impact over 10 years – despite a significant increase in production. With milk processing having such an impact on global climate (see side box), reducing the carbon footprint of its facilities became increasingly central to the group's sustainability strategy. In addition, the group needed to inject capital into the ongoing efficiency optimization of its milk processing capability.

#### **A clear sustainability strategy**

To reach these ambitious goals, the group asked Siemens for assistance at one of its milk processing sites in Scandinavia. Siemens was already a long term partner at one of the German sites. The relationship there started with advisory services, supporting the company on topics such as ISO 50001 implementation and energy concepts. Siemens then implemented the recommended optimization strategies and technical upgrades, with ongoing remote monitoring and optimization services. Siemens was therefore the go-to partner of choice for the Scandinavian site.

#### **Did you know?**

Globally, milk production, processing and transport are estimated to account for 2.7% of greenhouse gas emissions (International Dairy Federation, 2007 data).

# A perfect place in numbers

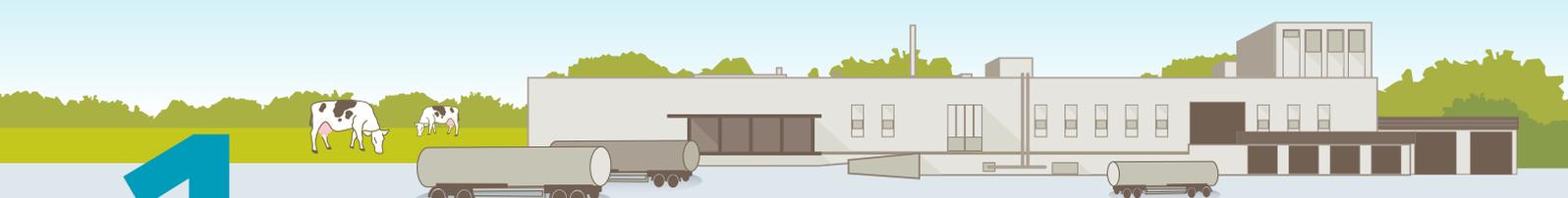
more than **€827,000** savings per year 

**30%** less energy costs 

less than **5** years cost-neutral BEaaS\* contract term 

**26%** CO<sub>2</sub> reduction 

# 1 dairy company



\*Building Efficiency as a Service

## Setting targets supporting the vision

Siemens performed energy audits in all of the group's processing facilities to establish a baseline and enable benchmarking as well as to identify opportunities for improvement.

Together with the customer, Siemens defined energy cost savings, CO<sub>2</sub> emissions, as well as operational and maintenance costs as KPIs. This included guaranteed annual cost savings of 30 percent per year, delivered through a package of facility improvement measures (FIMs).

## Making the vision a reality

These ambitious goals would potentially require a major building optimization and upgrades plan, raising the question of how to fund such a program. Building Efficiency as a Service (BEaaS) solved this concern. As part of the 5-year BEaaS contract, Siemens undertakes and funds all improvement measures and equipment upgrades against a yearly service fee – thus taking over the risk and ownership of the infrastructure. As the costs will never go above the pre-contract baseline, this is in effect a cost-neutral operation for the dairy facility.

## Analytics meet sustainability

The site is connected to Siemens' Advanced Service Center (ASC) via Navigator – the cloud-based energy and sustainability platform. It enables the ongoing monitoring of the

performance against targets, as well as dashboarding and reporting.

This remote connection is essential to enable the ASC to collect, validate, analyze, and act upon the efficiency data from the facility's systems. In this case, high operational and maintenance costs required an improvement of the technical infrastructure to reduce expenses, minimize the carbon footprint and release capital for mission-critical activities.

## From insights to performance

The FIMs followed a holistic approach: In addition to the infrastructure upgrades and new equipment installations, a new building management system was also implemented. Existing heating, ventilation, and air conditioning fans were replaced with new, high efficiency direct drive fans. The plant's heat pump capacity and performance were increased through the optimization of the existing heat pump and the installation of an additional new one. To further increase sustainability, the steam system was partly converted to enable heat recovery. The newly installed building management platform Desigo™ CC guarantees efficient and therefore sustainable operation.

With the right combination of people, technology and services, Siemens helps manufacturing organizations like this dairy group to achieve their ambitious sustainability goals – all around the world.

## Highlights

The BEaaS delivery model made a comprehensive improvement program possible:

- On-site energy audits
- Technical infrastructure upgrades (lighting, air handling units, etc.)
- Remote monitoring of energy consumption via the ASC
- Ongoing data analytics and reporting via Navigator
- Reduced risks associated with the technical infrastructure

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