

## Industrial machinery and equipment

# Lid Jarnindustri

Using Solid Edge enables agricultural equipment manufacturer to compete with low-cost suppliers

### Product

Solid Edge

### Business challenges

Develop and manufacture new products fast and flexibly

Maintain consistent quality standards

Achieve efficient production in a high-cost country

Keep costs low for mass-produced products

### Keys to success

Achieve cost-effective activity in all departments

Engage extensive use of CAD in design and construction

Use Solid Edge to perform simulations

Employ revision manager capability to re-use designed parts

Utilize strong technical support from Siemens PLM Software

### Results

Enabled company to compete with low-cost suppliers

Enhanced product quality and durability

Lid Jarnindustri uses Siemens PLM Software solution to improve product quality and durability

### Staying alive

From modest beginnings as a metal factory in post-World War II Norway, Lid Jarnindustri AS (Lid Jarnindustri) has become a successful enterprise. In 65 years, the company has moved from being a makeshift producer of snow chains for bicycles to using product lifecycle management (PLM) tools to manufacture sturdy and advanced agricultural equipment. Solid Edge® software, from Siemens PLM Software, has played an important role in that success as it has provided Lid Jarnindustri with a computer-aided design (CAD) system that has helped the company achieve flexible and efficient design solutions.

“Solid Edge is essential in our plant today,” says Jarand Mæland, chief of construction for Lid Jarnindustri. “We use many of the parts and assemblies for several different products, sometimes unchanged, or with minor or major alterations. In addition, we use the revision manager capability to copy parts and assemblies into new projects.

“The savings are obvious and essential,” he says, noting that Norway is a high-cost country for manufacturing, so it is particularly important to keep costs

## “Solid Edge is essential in our plant today.”

Jarand Mæland  
Chief of Construction  
Lid Jarnindustri



under control. “Without state-of-the-art software and technology from Siemens PLM Software, we probably wouldn’t exist today. The competition from low-cost suppliers would have strangled us. So the issue goes beyond savings. The issue is surviving and succeeding.”

### Results (continued)

- Improved customer service
- Increased speed for altering product design
- Improved communication between customers, designers and production line
- Reduced number of prototypes



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### Best laid plans

When the company was started in 1948, the founders intended to produce furniture locks and fittings for furniture – articles in great demand in postwar Norway. However, due to lack of raw materials, the company could not start production. Instead, they were able to procure two tons of rusted steel wire, which they used to make simple but useful bicycle snow chains. Cars were scarce at the time, so the bicycle was the preferred mode of transportation. Bicycle snow chains made the icy winter roads of Norway traversable.

Of course, the company did not possess any computerized tools, so the process of removing the rust and then making the chains presented quite a few challenges. The dealers soon discovered that the chains fell apart, and the whole production had to be withdrawn, resulting in substantial losses.

New and better chains were made, and put in the old packaging. Things were starting to look up, until one dealer informed the company that its brand name was already taken by a Norwegian bicycle producer. The chains had to be returned once more.

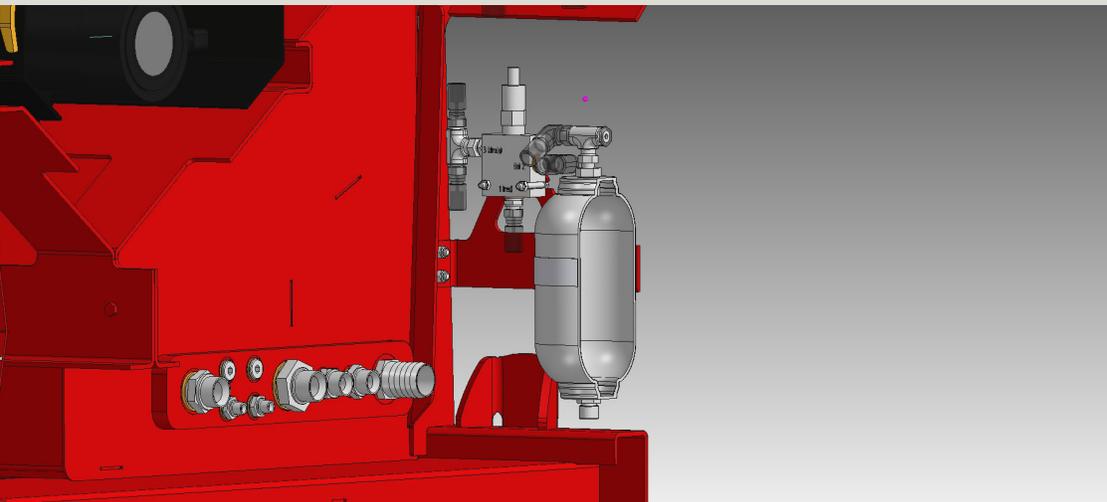
The bank wanted to stop financing the enterprise, but the local farmers backed the firm, and the new packaging was created. After replacing the original chains and packaging, Lid Jarnindustri had modest success selling the bicycle chains, and the firm was on its way to becoming a viable and prosperous factory.

### Adopting more reliable methods

Trying and failing is no longer an option for Lid Jarnindustri because the manufacturing world has become a much more competitive place. The “gut engineering”

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that took place 65 years ago that resulted in a failed product has been replaced by digitally driven best practices.

“Previously, we used software that was relatively primitive and not very different from the old drawing board,” says Mæland. “But in 1998, we made the leap to Solid Edge to make our processes more efficient.”

Simulations are an important part of today’s product development at Lid Jarnindustri. By simulating both durability and functionality, the company doesn’t have to rely on lots of mechanical testing. This makes it possible to conduct projects much faster, and makes the communication with the production department much better, an extremely important consideration.

“Solid Edge makes it possible for us to send sheet metal directly to robot folding and laser cutting, and yet maintain a very precise result at the other end,” says Mæland.

The company makes products in five categories: wood, road, snow, lift and grass. It manufactures products such as firewood processors, snow blowers, pallet forks and round bale handlers. Today, virtually all of the company’s products – which include 18 models – are constructed with Solid Edge, a core component of the Velocity Series™ portfolio. Lid Jarnindustri has over 80,000 Solid Edge files in stock, which makes it easy to retrieve, revise and alter existing and older products.

“Solid Edge enables us to make changes, simulate them and assemble new solutions with a minimum of time and effort,” Mæland says. “This also makes it easier for

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## Solutions/Services

Solid Edge  
[www.siemens.com/solidedge](http://www.siemens.com/solidedge)

## Customer's primary business

Lid Jarnindustri AS designs and manufactures specialized forestry and agricultural products. Instead of contracting production to a lower-cost country, Lid Jarnindustri AS has chosen to keep all operations in Norway so they may retain complete control over product quality.  
[www.dalen.no](http://www.dalen.no)

## Customer location

Norheimsund  
Norway

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### "Trust is essential"

Lid Jarnindustri no longer uses flat rods or angle bars in production. Most of the products are cut from sheet metal, complete with notches and holes, and put together like LEGO® bricks. Another benefit of the robust drawings is that this simplifies the production of illustrations for manuals and instructions, as well as promotional material.

The process of jumping from simple software to state-of-the-art technology was a significant challenge, but the transition started with a good relationship.

"We've had a very good experience with our software supplier, and this was essential for our choices," says Mæland. "Trust is essential, and Siemens PLM Software has provided excellent technical support, which was especially useful when we replaced our server.

"We also had some concerns about the steep learning curve when we converted to Solid Edge, but our engineers have been very eager and positive all the way. Their future priorities are focusing more on calculation of strength and simulation."

That is a long way from turning rusted steel wire into snow chains.

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[www.siemens.com/plm](http://www.siemens.com/plm)

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