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LIGHTENING LOADS

WORKING IN  
PARTNERSHIP WITH

**BJELIN**



a big step forward:  
Bjelin's moving floor  
case study

**“We are always looking for bigger companies that can grow, support and handle different challenges; Joloda ticked these boxes.”**

**Pär Jönsson**  
Supply Chain Director

# introduction

In today's fast-paced and competitive business landscape, optimising supply chain and logistics operations is crucial for companies to maintain a competitive edge.

Joloda Hydraroll, a global leader in loading solutions, partnered with their Finnish distributor, NWE Network Engineering Oy Ab, to provide a cutting-edge solution that revolutionised how goods were shuttled between a factory and a warehouse.

This case study delves into how our Automated Loading Systems, combined with Automated Load Securing Systems from NWE, significantly improved Bjelin's logistics operations, helping to maintain their clean-track record of no accidents in their factory and new warehouse; whilst improving operational efficiency and reducing their carbon footprint.



**“Our expansion plan is quite immense and we could foresee future challenges with unloading and loading...”**

**Pär Jönsson**  
Supply Chain Director

# the client

A renowned hardened wooden flooring manufacturing company, Bjelin was founded in 2016 by Darko Pervan, the Swedish-Croatian inventor and entrepreneur who developed and patented the first mechanical floor-locking system.

Bjelin has a new, state-of-the-art factory in Sweden and responsibly sourced FSC-certified wood from Europe's largest continuous oak forest, Spacva in Croatia, where they have five more factories. Bjelin have over 2,500 employees globally and their biggest markets are in Europe, the USA and Asia, where they predominantly sell hardened wood, parquet (engineered wood) and herringbone flooring.

Bjelin's factory in Sweden has seen rapid growth and expansion, from producing 40,000m<sup>2</sup> in 2016 to 2.2 million m<sup>2</sup> in 2022. They've also future-proofed the factory for future growth and have the capacity to produce up to five million m<sup>2</sup> in the future.

**“Good communication was important to us as it was the first loading system we have bought. It was a good way of working as they were very supportive.”**

**Pär Jönsson**  
Supply Chain Director

# the challenge

Bjelin's primary challenge was to find an automated loading solution that could efficiently handle their diverse product range and streamline the transportation process. With a factory located in Viken, Sweden and a newly established warehouse in Helsingborg, Sweden, Bjelin needed a way of safely and efficiently loading and transporting HDF raw material from their warehouse to their factory and returning pallets of finished wooden flooring to the combined warehouse and distribution centre.

Bjelin produces circa 200 pallets per day of various-sized palletised finished goods, which amount to between seven and ten trailer loads. Manually side-loading and unloading processes with forklift trucks took between 35-45 minutes at both the factory and the warehouse. Each trailer load is

about 20 tonnes (20 pallets at one tonne each), so securing the loads in the trailer with ratchet straps is essential, however, this process was also time-consuming and labour-intensive.

Pallets are of various shapes and lead to another challenge: how to secure the load. Truck drivers were manually securing loads by threading and tightening ratchet straps to the trailer. A less time-consuming solution was required to reduce driver waiting times and allow them to get on the road quicker.

A new, more efficient way of working was required that would allow loads to be loaded and secured quickly and easily without the intervention of additional employees. Automation was the only solution. They sought a system that could:



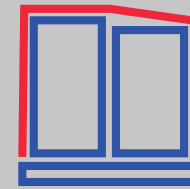
# the challenge



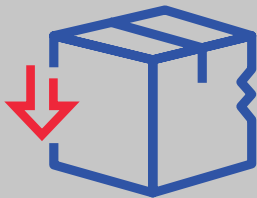
Load and unload full truckloads quickly and seamlessly, reducing the need for forklift trucks, forklift truck drivers, trailers and truck drivers.



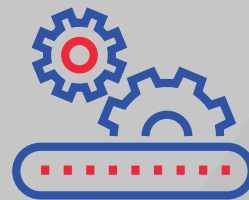
Handle various types of goods, including palletised items with different dimensions and non-palletised items



Fulfil the load-securing requirements for transportation on public roads.



Reduce the risk of product damage during loading and unloading, ensuring that products reach their destination in optimal condition.



Offer a versatile and future-proofed solution that could integrate with their existing logistics infrastructure and accommodate future growth.



Improve sustainability by reducing the carbon footprint associated with transportation.



# worst case scenario

In the scenario that Bjelin hadn't implemented an automated loading system, they would have required three forklift truck operators working three eight-hour shifts across 24 hours at both the factory and warehouse to keep up with the demand of the factory's output.

Truck drivers would have needed to wait for trailers to be loaded (35-45 minutes) and loads secured (30-45 minutes) before making a 20-minute, 23km journey from the factory to the warehouse and then waiting for the trailer to be unsecured (five-ten minutes) and unloaded again (35-45 minutes). The full shuttle cycle time (load, secure, travel, unsecure, unload, load, secure and return) would have taken between three hours and two hours 45 minutes.



**“We got a good connection with their staff and we liked that they showed an interest and came to look at our premises to find a solution that would suit us.”**

**Pär Jönsson**  
Supply Chain Director

# the solution

After getting in touch with Joloda Hydraroll via the website, a thorough and free loading assessment was undertaken to understand the challenges they were facing. The assessment took into consideration their current operational loading and unloading processes, the journey time between the factory and the new warehouse and what type of solution would be required for the types of pallets they were loading.

We proposed our flagship product, the Moving Floor System; an innovative automated truck loading solution designed to optimise logistics operations by eliminating the need for forklift trucks, and additional manual

labour and could load various shapes and sizes of pallets.

The Moving Floor system has been adopted by many other leading companies in industries like food and beverages (e.g., Bimbo), packaging (e.g., Tetra Pak), and consumer goods (e.g., Diageo) adopting the system to enhance their logistics operations, which further solidified its position as the most innovative, most efficient, and most importantly, the right loading solution for their loading needs.

To reduce the time spent on securing the loads, our partner NWE proposed their FIX Truck-Safe® System, which delivers the most cost-effective results in shuttle transports.



# system features



## 1. Robust and Safe Design

The system is a robust engineering solution and ensures a safe and reliable loading process. The automated system eliminates the need for manual intervention during loading, reducing the risk of accidents and injuries, and safeguarding both employees and products.

We also installed fencing around the loading docks in both the factory and the warehouse to eliminate the risk of accidents whilst the loading process is in operation. In addition, Bjelin also installed a pedestrian bridge across the two docks to reduce the risk of accidents between warehouse employees and forklift truck traffic. Upon the successful installation of the system, in the Commissioning phase, we completed risk assessments to



## 2. Fast and Efficient Loading

minimise the risk of accidents whilst the system was in use. Emergency stops, light guards and scanners were installed to protect staff from entering the system's area before coming into contact while in operation. These safety features automatically shut off the system, should members of staff come into proximity whilst in operation.

## 2. Fast and Efficient Loading

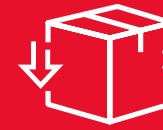
The system's motorised conveyor-like slats move pallets in and out of the trailer, enabling a full trailer to be loaded or unloaded within 3 minutes. This reduction in loading and unloading time allows for more loads to be shuttled in a shorter period and improves their supply chain agility.



## 3. Low Maintenance and Longevity

The system is designed for longevity and minimal maintenance requirements; contributing to cost savings, and operational efficiency. Its durability ensures continued performance even under demanding conditions, making it a reliable and cost-effective investment for the client. Each system we install has a 12-month warranty.

As we Design and Manufacture components and Install complete loading solutions around the world, in the rare scenario that there are any issues with the system, post-installation, our in-house team of global engineers can solve and rectify any Remedial Works; giving peace of mind that it's returned to the highest standards.



## 4. Reduced Risk of Product Damage

The automated loading process eliminated the risk of human errors during handling, reducing the likelihood of product damage and minimising product losses during transportation.

## 5. Versatility in Handling Various Load Types

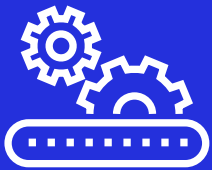
Another of the system's key strengths is its ability to handle both palletised and non-palletised goods with ease. The motorised slats are adjustable, accommodating palletised items of different sizes and shapes, eliminating the need for expensive pallet modifications and without the need for separate loading and unloading equipment.

**“We needed to find a solution to help the process become as swift as possible, whilst also taking out some of the [forklift truck] traffic from the loading bays.”**

**Pär Jönsson**  
Supply Chain Director

# the benefits of implementation

The implementation of the system brought about a transformation in their logistics operations and the new automated loading process offered several key benefits:



## 1. Streamlined Operations

With the automated loading system implemented, the transportation process between the factory and the warehouse became seamless; enabling operations to run efficiently in a significantly reduced time, with only a few members of staff.

The shuttle cycle (load, secure, travel, unsecure unload, load, secure and return) now takes approximately an hour, resulting in a minimum of 70% reduction in time than it would have taken.



## 2. Eliminate Accidents in Loading Bay

With no forklifts required in the trailer loading process, the risk of accidents in the loading bay has been fully eliminated, making it a safer working environment for all members of staff and visitors.



## 3. Sustainable Transport Solutions

In line with Bjelin's sustainability ethos the loading system promotes sustainability and reduces the environmental impact of transportation, consequently lowering carbon emissions by:

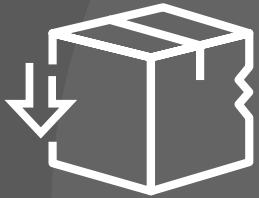
- Optimising trailer space to get the most out of every journey.
- Reducing the truck idling time whilst the truck's being loaded and unloaded.
- Reducing the number of forklift trucks in operation in the factory and warehouse.



## 4. Cost Savings

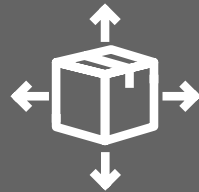
By eliminating the need for forklifts and additional manual labour, the client achieved substantial cost savings in their logistics operations. The cost of labour decreased, the cost of forklift trucks and the reduction of trailers all reduced significantly, contributing to improved overall profitability.

# the benefits of implementation



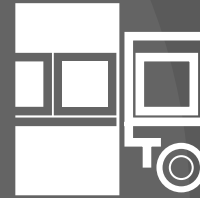
## 5. Eliminate Product and Vehicle Damage

The risk of palletised loads being damaged by forklift truck drivers misjudging the space left on the trailer has been eliminated. In addition, the risk of forklift truck drivers damaging either the forklift truck or the trailer has also been eliminated.



## 6. Factory and warehouse Space Optimisation

Palletised goods can be loaded onto alternate loading docks, meaning the space in the factory and the warehouse can be better optimised. Goods can be loaded onto alternative docks in preparation for the trailer's return, meaning goods now don't need to be stored near the loading bay doors ready to be loaded onto a returning trailer.

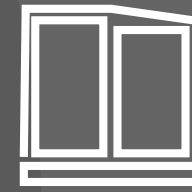


## 7. Indoor Loading

The loading operation now takes place within a sealed loading bay, which offers two advantages.

Loading is now completed indoors, meaning none of Sweden's cold or wet weather conditions can now interfere or risk goods sustaining damage whilst being transported to the trailer.

Air conditions in both the factory and warehouse are easier to control and regulate without the loading bay doors open. With the doors open less, the solution ensures that minimum heat and air escapes the buildings during the loading and unloading process. As a result, less energy is required to maintain the temperature level.



## 8. Load Securing

As part of the automated trailer loading installation and in conjunction with our distributor, NWE, two FIX Truck Safe® load securing systems were also installed into each of the box trailers.

The load securing system, features a cargo securing cover with sewn-in straps, quickly secures and holds loads of various kinds of goods together. The cover and integrated straps lower onto the trailer's load in a way that its tension is distributed evenly.

Securing the load can be done within a minute and be released in seconds all from the push of a push of a button.

**“One of the most important things was that we buy and use equipment from well-known suppliers that can provide a solution and a service that we can lean on going forward.”**

**Pär Jönsson**  
Supply Chain Director





# the feedback



**Pär Jönsson**  
Supply Chain Director,

Supply Chain Director, Pär Jönsson, reflected on the processes and commented: *“Our [Bjelin’s] expansion plan is quite immense and we could foresee future challenges with unloading and loading. We needed to find a solution to help the process become as swift as possible, whilst also taking out some of the [forklift truck] traffic from the loading bays.*

*“After we identified a solution, we got in touch with Joloda for a quotation and looked at the size and scope of the business to gauge whether they’d be a fit for us. One of the most important things was that we buy and use equipment from well-known suppliers that can provide a solution and a service that we can lean on going forward. They also had some interesting references in Sweden.*

*“We are always looking for bigger companies that can grow, support and handle different challenges; Joloda ticked these boxes. We got a good connection with their staff and we liked that they showed an interest and came to look at our premises to find a solution that would suit us.*

*“Our project manager, Anton, had a lot of discussions with Joloda to agree on the scope of the work. Good communication was important to us as it was the first loading system we have bought. It was a good way of working as they were very supportive.”*



**Niclas Holm Nielsen**  
Automated Loading System Sales  
Manager

Niclas Holm Nielsen, Automated Loading System Sales Manager at Joloda Hydraroll commented: *“Working closely with Pär and the team at Bjelin throughout their automated loading system journey has been a truly rewarding experience.*

*“Seeing our clients thrive and achieve unparalleled efficiency drives our commitment to innovative and seamless logistics solutions. We look forward to continuing our partnership together and empowering them to stay at the forefront of flooring manufacturing.”*

# conclusion

The implementation of our Moving Floor system combined with the FIX Truck-Safe load securing system, proved to be the ideal solution for Bjelin's complex logistics challenges.

Their ability to automate loading and unloading processes and streamline its operations between Viken and Helsingborg resulted in improved operational efficiency, increased productivity, a more sustainable logistics operation and reduced costs and risk of accidents.

Through our commitment to innovation and engineering excellence, Bjelin now stands at the forefront of modern logistics, setting an example for others in the industry to follow.



Click here

Watch how  
Bjelin  
revolutionised  
their loading  
processes...



# if you have any questions, please get in touch!



Learn more about  
Joloda Hydraroll...  
**watch our video**

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