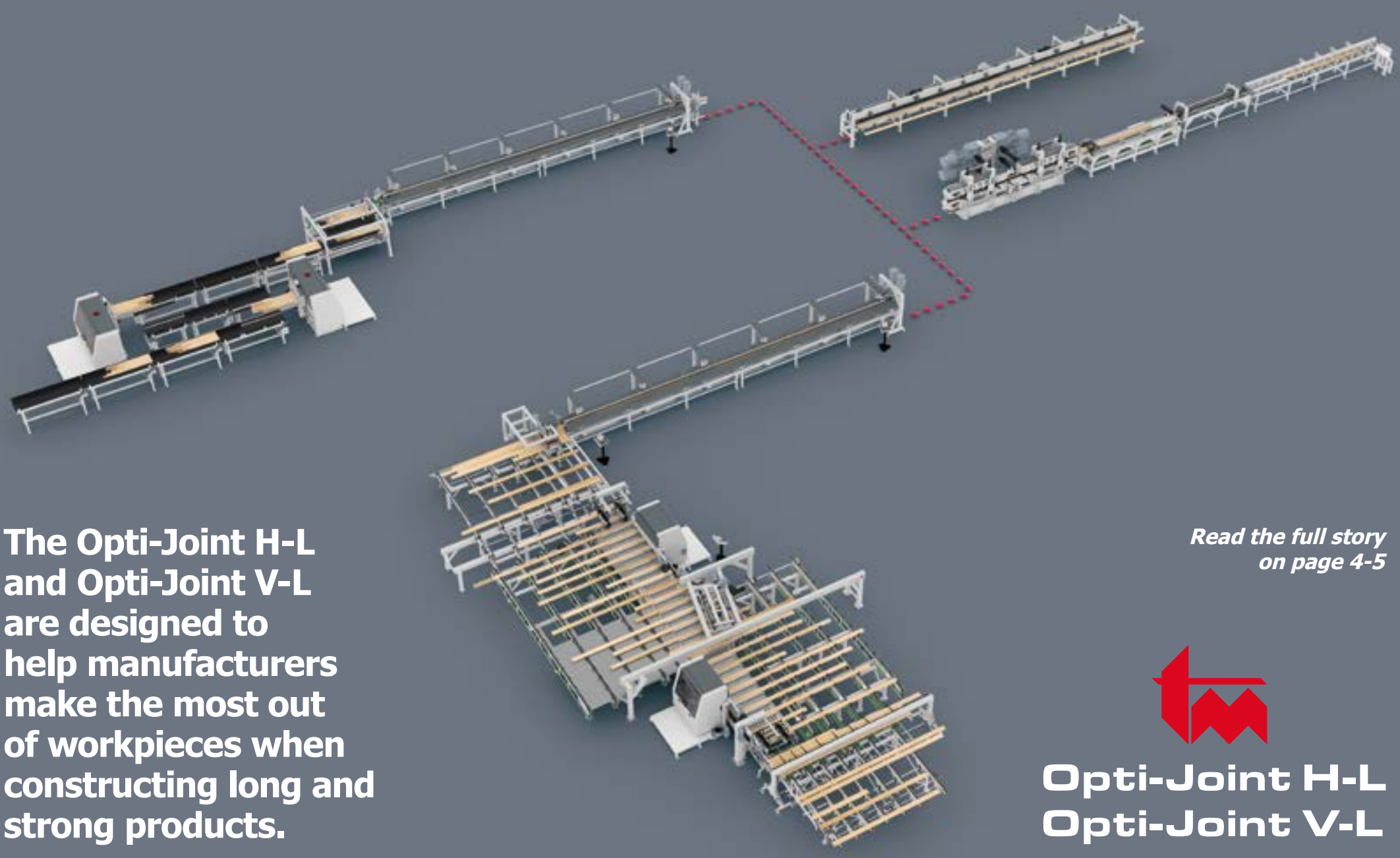
Member of the HOMAG Group

NEWS

www.systemtm.com

no. 1 - 2022

System TM Pursues Market Opportunity by Launching New Finger-Jointers for Long Length Production



The Opti-Joint H-L and Opti-Joint V-L are designed to help manufacturers make the most out of workpieces when constructing long and strong products.

Read the full story on page 4-5

Opti-Joint H-L
Opti-Joint V-L

Falerlegno Invests In New System TM Line

Falerlegno has recently been equipped with a new System TM line after deciding to initiate its own production of custom-made studs for the company's specific products or on-demand studs for large clients in the market.

Read the full story on page 2

KG List Profits From Maximizing Value of Wood

KG List's new System TM line helps improve production flexibility and yield, and by doing so, KG List generates much less production waste than before.

Read the full story on page 3

Barrus Discovers the Value of Flexible Manufacturing

Barrus' new System TM line is a complex system offering maximum flexibility in terms of production options.

Read the full story on page 6-7

optimization of staff and wood resources

Products of Falerlegno, Italy.

Simple, Yet Versatile With Plenty of Uses: Falerlegno Invests In New System TM Line

Falerlegno has recently been equipped with a new System TM line after deciding to initiate its own production of custom-made studs for the company's specific products or on-demand studs for large clients in the market. Simple yet versatile, the new cross-cut and finger-joint line helps Falerlegno achieve various manufacturing objectives.

Mr. Gilberto Del Re, Export Sales Office at Falerlegno

"We are really pleased with our new line from System TM. The installation time was followed perfectly. Thanks to the onsite installation crew for their knowledge and flexibility."

This System TM solution consists of the following:

- *A MiCROTEC Goldeneye 301 scanner*
- *One optimizing cross-cut saw, Opti-Kap 5103*
- *Material handling*
- *Batch builders*
- *A vertical finger-jointer, Opti-Joint V-8*
- *A press station*
- *One automated stacking system Opti-Stack 9000*

Falerlegno's products

Since 1977, Falerlegno has operated in the field of wood profiles and become highly experienced within this field in Europe. Today, the company is renowned for its quality and design of products. Falerlegno produces innovative end-products using high-quality input material and advanced production equipment. The company's clientele ranges in size from craftsman's establishments to large-scale industry thanks to the potential of the company's state-of-the-art production facilities of over 22,000 square meters.

Personalized and efficient production

In light of the steadily increasing sale of its own products combined with the successful strategy implemented at the time, in 2020 Falerlegno decided that it was time to further develop the company's strategy and invest in state-of-the-art technological machinery to efficiently meet the demand for high quality and high volumes.

Pursuing a viable prospect

Originally, Falerlegno was a business lead generated by System TM's scanner partner, MiCROTEC. After discovering that Falerlegno had great potential to develop into becoming a customer, System TM provided Falerlegno some layout drawings of a new cross-cut and finger-joint line. *"Shortly after receiving our layout drawings, Falerlegno came to Denmark to visit us accompanied by MiCROTEC. We discussed the project in detail and sealed the deal. We then installed and tested the line at Falerlegno, and eventually, they decided to add a System TM stacking machine to their line which we delivered shortly after, as well as a manual infeed table for their finger-jointing machine",* says Per Jensen, Area Sales Manager of Australia, New Zealand and Central Europe at System TM.

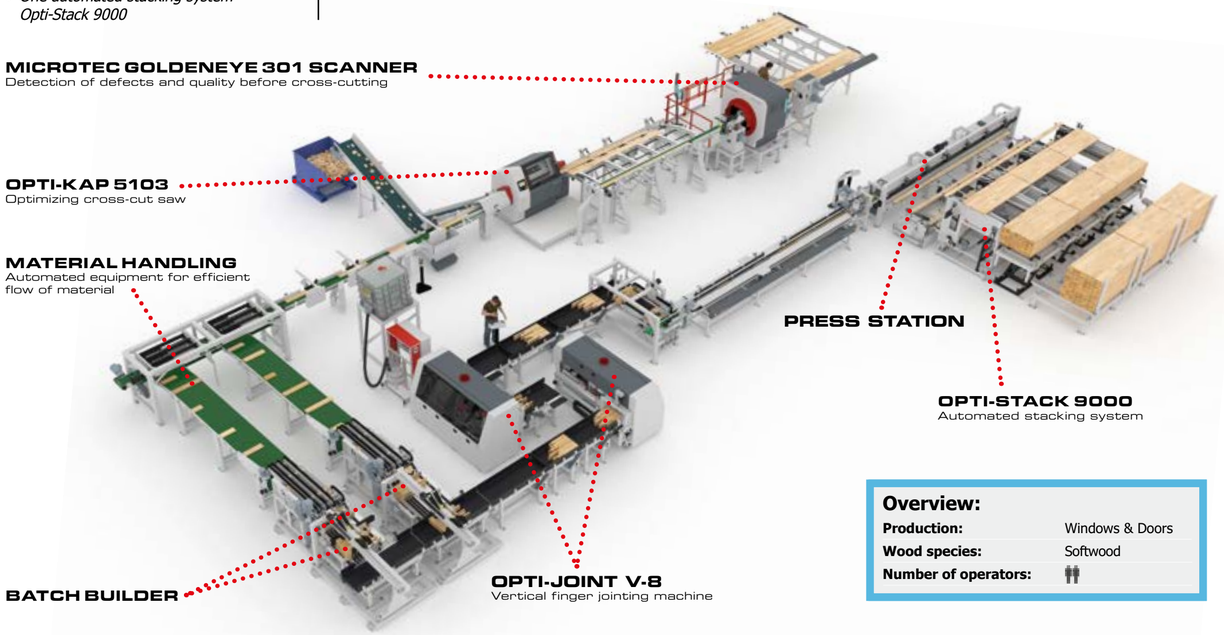
A new line intended for several objectives

The new cross-cut and finger-joint line will be handling Falerlegno's door production. With this line, the company intends to self-produce high quality workpieces instead of having to purchase them externally. Also, Falerlegno plans on achieving economies of scale – by increasing production, the costs per unit produced will become relatively low due to an efficient utilization of the new line's capacity.
In addition to producing end-products at the lowest possible cost, Falerlegno will be able to control the quality level of its workpieces by for instance, determining their lumber grades and level of acceptable defects. As a result, Falerlegno will still be able to produce good end-products because of the possibility to keep a certain number of defects depending on Falerlegno's desired workpiece appearance and strength. This will be achievable for the company thanks to the scanner, cross-cut saw and finger-jointer of this line.
Furthermore, the line offers the possibility to process various quality levels simultaneously by for instance, running one quality through the finger-jointer and concurrently taking out another quality and transporting it to a storage area for subsequent finger-jointing.

A simple, yet highly versatile solution

As raw material enters the line, it is scanned for defects by a MiCROTEC Goldeneye 301 scanner and chopped accordingly by an optimizing Opti-Kap 5103 cross-cut saw. Then, the workpieces move on to a sweeper, followed by a batch builder. As the batches are formed, they enter an Opti-Joint V-8 finger-jointing machine which forms fingers at both ends of the workpieces, applies glue and presses the workpieces together into long lengths. After the workpieces have been pressed together into long lengths, it is possible to chop them into three lengths and stack them into packs using an Opti-Stack 9000 stacking machine, after which the completed packs can be collected.
Although Falerlegno's new System TM line is a standard solution, it can be used for many purposes and by many different types of manufacturers. *"The line is highly versatile in the sense that it can manufacture high-quality products whether it's windows, furniture, housebuilding products, etc. The new line consists of structurally robust components and it's a great choice for a company like Falerlegno searching for a powerful and compact system",* says Per Jensen.

FALERLEGNO FALER PANNELLI



Overview:

Production:	Windows & Doors
Wood species:	Softwood
Number of operators:	

There's Money in Conserving Raw Material: KG List Profits From Maximizing Value of Wood

KG List's new System TM line helps improve production flexibility and yield, and by doing so, KG List generates much less production waste than before.
The line's scanning technology helps KG List profit from using raw material wisely, as the company can now much better identify workpiece quality and grade, and maximize value of wood because of that.

The finest edge-glued panels

Since its establishment in 1951, KG List has developed from a small joinery factory into Sweden's leading manufacturer of hardwood edge-glued panels. Today, KG List owns a factory in Norrhult and a sawmill in Österbymo. The company currently employs 55 people, generating an annual turnover of approximately SEK 130 million.
KG List's factory in Norrhult produces high-quality products for kitchens, furniture, bathrooms, fine joinery, doors, windows and staircases. The company's sawmill in Österbymo is a flexible facility with superior production capacity. Having its own sawmill provides KG List stable access to sustainable, high-quality Swedish timber, which is crucial for the company's end-products.

From first to second investment

KG List made its first investment in a System TM cross-cut line in 2003. Since then, the company has been pleased with System TM's ongoing service and support.
In 2021, KG List decided it was time to equip its sawmill with the latest scanning technology and improve its yield of wood and productivity. As KG List's hardwood production is often associated with high waste, the company needed a multipurpose line to extract as much product as possible out of raw material. Eventually, KG List was presented with a viable solution by System TM, which ultimately lead to KG List's second investment in the spring of 2021.

Efficient scanning optimization of wood

The new System TM line features the latest scanning technology which allows KG List to perform efficient scanning of wood. Efficient scanning involves raising the value of incoming wood thanks to the scanner's intelligent defect detection and optimizing the value of the wood that exits the scanner. The essence of value optimization is to maximize the value of the cutting scheme (by the cross-cut saw) and ultimately improve the economic benefits of KG List.

A broad range of manufacturing processes

The new System TM line is highly customized in terms of production capability, but also in terms of factory footprint. The line spans a broad range of manufacturing processes and products, from the production of small lamellas to large boards. Back in the days, KG List's lamella production used to be performed separately. As a result, one of the company's requests was to incorporate their production of lamellas into the new System TM line in order to increase machine occupation time. *"We integrated KG List's lamella production into the new line which raised KG List's machine occupation time by up to 2 extra days per week. The incorporation of this additional production process is definitely going to contribute to KG List's ROI",* says Allan Them, Area Sales Manager for Scandinavia at System TM.

Upgrading and reusing old stackers

Another request by KG List was to reuse the stackers from their previous System TM line as an attempt to stick to their budget. As a result, three stackers were removed from the previous line, upgraded, and built into the new one.

The results are in

With this investment, KG List gains a triple increase in cross-cutting capacity compared to its previous volume, as well as higher production flexibility and yield. Higher yield also means less production waste. *"Next year, we intend to increase our amount of cross-cut raw material by 20% thanks to the expanded production possibilities of our new System TM line",* says Johan Ingvarsson, CEO of KG List.

By making less production waste and more use of raw material, KG List is better equipped to meet its increasing customer demand. KG List's boost in production capability also strengthens the company's ability to develop its cooperation with existing customers and ability to deliver products to new markets.

Technical description

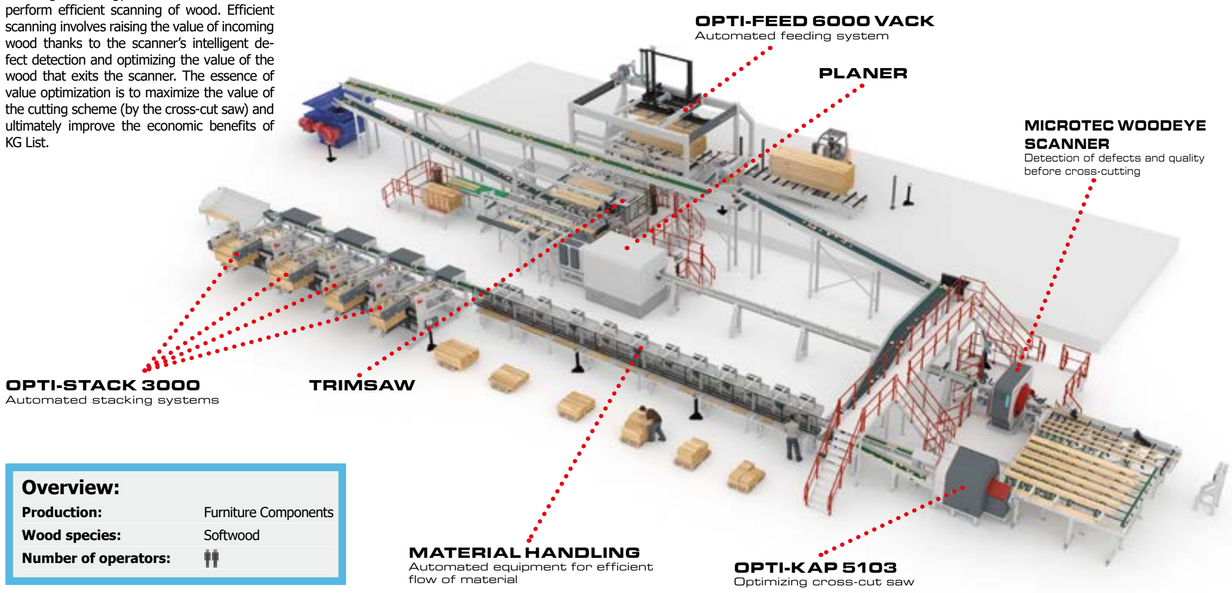
First, packs are placed on a roller conveyor after which they move onto a de-stacker, Opti-Feed 6000 Vack. The de-stacker destacks one layer at a time after which stability sticks are removed from the packs. The planks are then aligned as some of the packs enter the line in a box-stacked pattern. Next, the planks move onto an operator who can remove those with damaged ends. These ends can then be sawn off using a trimsaw, eventually generating oak planks with neat ends. Next, the planks enter a planer and a MiCROTEC-Woodeye scanner. After the scanner, the planks are cross-cut by an optimizing cross-cut saw, Opti-Kap 5103.
The cross-cut planks move along a sorting belt onto some kickers and manual stacking stations for both finger-joint lengths and fixed lengths. Then, the planks are stacked by four automated stackers, Opti-Stack 3000, followed by a chute which can either be used to eject residual product or used as a sorting station for long lengths.
Residual product generated during cross-cutting is pushed out by a kicker and transported to a chopper. After being chopped, residual product is extracted by an extraction system and used as firewood in KG List's heating plant.

*KG List conducting a FAT test at System TM, Denmark.
From left to right: Urban Noryd, Johan Ingvarsson and Tommy Rosander.*

This System TM solution consists of the following:

- *An automated feeding system, Opti-Feed 6000 Vack*
- *A trimsaw*
- *A planer*
- *A MiCROTEC-Woodeye scanner*
- *One optimizing cross-cut saw, Opti-Kap 5103*
- *Sorting system*
- *Four automated stacking systems Opti-Stack 3000*

KG LIST
SWEDISH QUALITY WOOD PRODUCTS



Overview:

Production:	Furniture Components
Wood species:	Softwood
Number of operators:	

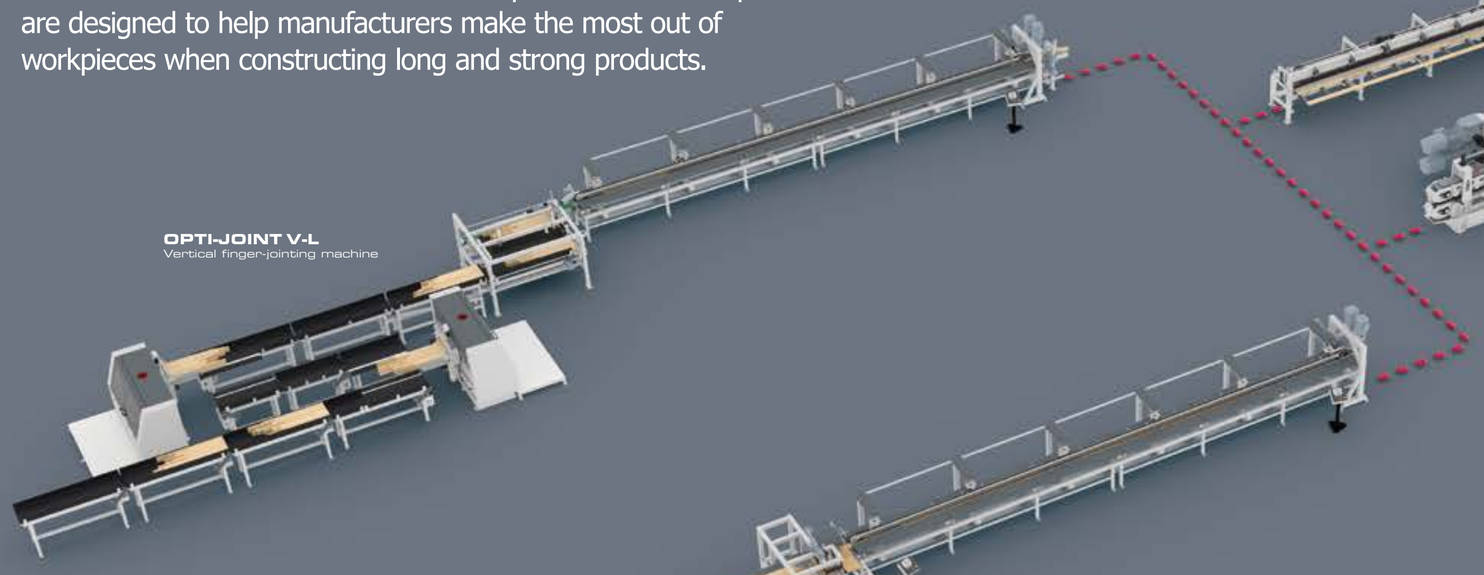
Per Jørgensen, CSO of System TM.
▼

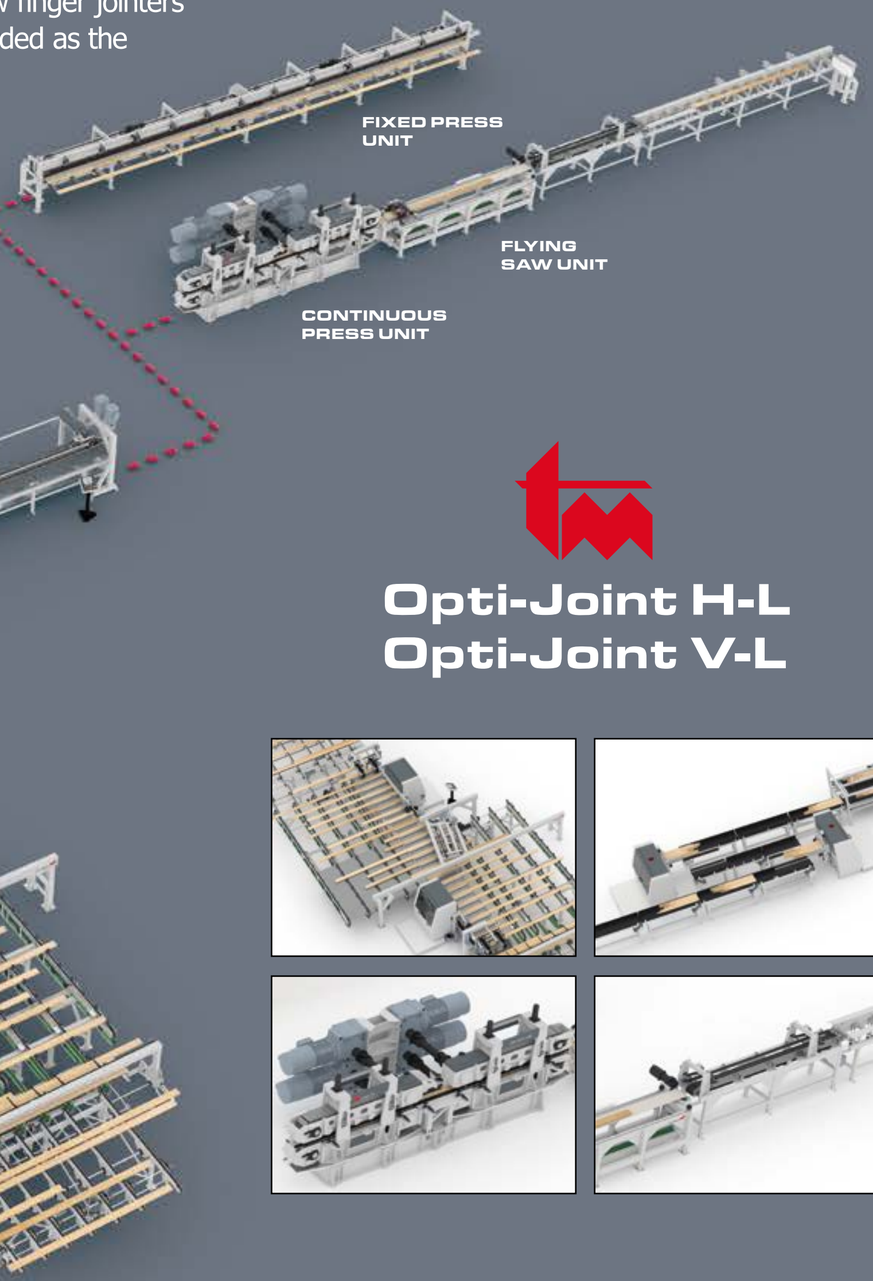
Per Jørgensen, CSO of System TM: <<

"With the launch of the new Opti-Joint H-L and V-L, and the sale of four of these finger-jointers already, it is safe to say that System TM has entered the mass timber market with great success. This new product development expands and matches perfectly with our existing product portfolio and project organization. It will definitely become an important product segment for us in the future."

System TM Pursues Market Opportunity by Launching New Finger-Jointers for Long Length Production

Presenting the Opti-Joint H-L and Opti-Joint V-L, System TM's latest product developments. These new finger jointers have been developed to address a growing mass timber market in a time where timber is being regarded as the sustainable material of the future. The Opti-Joint H-L and Opti-Joint V-L are designed to help manufacturers make the most out of workpieces when constructing long and strong products.





System TM has recently optimized its product portfolio to cater to an increasing market demand for mass timber products, as these products are increasingly becoming a part of the house-construction industry of the future. The new finger-jointers include the Opti-Joint H-L for horizontal finger-jointing of long workpieces and the Opti-Joint V-L for vertical finger-jointing of long workpieces.

The new finger-jointers have been designed because of HOMAG's newly formed business segment, Construction Element Solutions (CES). This new segment combines HOMAG's existing activities in automated home building along with a focus on mass timber production and processing technology. Timber is regarded by the house-construction industry as the sustainable material of the future due to several reasons. As a result of growing populations and increasing urbanization, there is a rise in demand for building with energy-efficient, sustainable and carbon positive materials. Timber is the ultimate renewable in the sense that it offers the environmental benefits of a sustainable, carbon positive building material. In addition, building with timber is synonymous with cost-effectiveness, liveability, ease and efficiency of construction.

The development of the Opti-Joint H-L and Opti-Joint V-L augments System TM's existing product portfolio and thus expands the production capabilities of System TM's clients. Thanks to their open and accessible design, the new finger-jointers are combinable with other System TM machines in the formation of powerful customized solutions (Opti-Solution). As a result, System TM can now supply turnkey solutions to the house-construction industry and provide the industry with reliable components for mass timber products.

The Opti-Joint H-L and Opti-Joint V-L offer continuous or fixed finger-jointing press. Continuous press is used when producing finger-jointed workpieces (no length limitation) which are cross-cut by a flying saw unit based on customer specified length. However, it is still possible to change specified cross-cutting length during production without interrupting production flow. Fixed press is used when producing fixed length finger-jointed workpieces if the customer wishes to perform production runs of uniform lengths. Regardless, both press types are highly safe and constant, and guarantee the highest standard of press force.

System TM's Opti-Joint machines are designed to provide maximum production capacity, precision, and uptime thanks to their intelligent control system. Due to their unique design, the Opti-Joint machines ensure maximum positioning accuracy of workpieces before they enter the shaper or press unit, providing maximum finger-jointing performance.

System TM has designed the Opti-Joint machines with standard components such as motors, gearboxes, valves, etc. which are supplied by component suppliers. The advantage of this is that the service and maintenance work of the Opti-Joint machines can be conducted safely and easily, thus reducing the operating costs of the finger-jointers.

So far, System TM has received four orders for the new finger-jointers. These orders have been placed by the following customers: Egoin Wood Group (Spain), Timberlink (Australia), LOC Holz Gmbh (Austria), and Amata NA Cidade S.A (Brazil).

System TM's production facilities in Odder, Denmark.
▼

Opti-Joint H-L
Opti-Joint V-L

Switching Production From One Product to Another: Barrus Discovers the Value of Flexible Manufacturing

As manufacturers become increasingly focused on improving uptime, the ability to switch production quickly between different products has never been more crucial, especially for a leading company like Barrus. Barrus' new System TM line is a complex system offering maximum flexibility in terms of production options. To provide high production flexibility, the line is equipped with large buffer areas between its subsystems, and these subsystems can both operate separately and combined, depending on the type of product Barrus wishes to produce.

Barrus' production facility in Verijärve, Estonia.

Üllar Rohtla, Technical Manager at Barrus:

"The new line has significantly increased the productivity and efficiency of our company. Due to its high degree of automation, less manpower is required for our production. The use of a buffer system enables more flexible production and provides reduced downtime. The new Goldeneye scanner, combined with System TM's machinery, makes it possible to re-optimize the saw queue to achieve high uptime. Thanks to this modern line and its scanners, we can now make the most out of our wood. The whole project went according to schedule and was completed with high success. We've also received a high level of after-sales service and support in terms of staff training and adjustment of equipment. It's been a pleasure working with System TM's skilled team."

Barrus

Barrus is a leading timber processing company located in Verijärve (Võru County), amid the forests of south-eastern Estonia. Established in 1993, Barrus has an annual production capacity of about 93,000 m³ of high-quality finger-jointed and laminated pine components and boards. The company supplies its products to the Scandinavian window and door industry. With a team of 330 employees, Barrus operates as a one-site facility which makes it one of Europe's largest pine component factories with all its units located in the same place.

Barrus has a strong commitment to quality to make sure its glulam products can withstand even the coldest of climates. At Barrus, nothing goes to waste, as the company strives to extract maximum yield out of every cubic meter of pine tree. Residual product is transformed into valuable household products such as pellets, packaging, books, and hygiene products. The company's raw material is sourced from sustainably managed and harvested forests.

A relationship that goes back a long way

Barrus and System TM go back 20 years. The companies have remained in close contact, as Barrus has grown tremendously over the years. When Barrus decided to establish a new factory unit for pine components, the company reached out to System TM to discuss the design of a new production line. *"We eventually chose System TM because of their favorable price and since their high-quality equipment complied perfectly with our needs"*, says Üllar Rohtla, Technical Manager at Barrus. *"The new line has significantly increased the productivity and efficiency of our company. Due to its high degree of automation, less manpower is required for our production. Thanks to this modern line and its scanners, we can now make the most out of our wood"*, he adds.

Making rapid changeovers in manufacturing

To keep up with changing customer demand, it was necessary for Barrus to implement JIT (Just-In-Time) at their new factory unit in order to quickly move from one production type to another. As a result, System TM collaborated with Barrus to design a highly automated production line with high production flexibility. In the new System TM line, Barrus has complete control over its manufacturing process, which works on a demand-pull basis. The company can respond to customer needs by quickly increasing the production for an in-demand product and reducing the production for slow-moving items. Thanks to the new line, Barrus can now produce with high flexibility and cater to ever-changing customer needs.

Today's manufacturing has become much more reliant on JIT, or in other words, the ability to switch production quickly between different products and maximize production uptime. *"The idea behind the System TM line was to build a large, complex system with maximum flexibility in terms of production options and JIT. When connecting this much equipment, it's important to design large buffer areas between the subsystems of the line but also to design subsystems which can both operate separately and combined"*, says Peter Simonsen, Area Sales Manager of The United Kingdom and Eastern Europe at System TM.

From design to delivery

The new System TM line was designed in collaboration with Barrus, in which the company had the opportunity to work together with all the System TM departments involved in the design and delivery of the project. *"During the sales phase, we collaborated closely with Area Sales Manager at System TM, Peter Simonsen to design the right layout for us. However, due to the limited space at our new factory, designing the right layout wasn't such a straightforward task, but thanks to successful cooperation with System TM, all these concerns were addressed. System TM agreed to make all the changes and additions we requested during the design and FAT testing phases, and these modifications were carried out on time and with high professionalism"*, says Üllar.

At System TM, collaborating with customers is a valuable and essential way of creating results. *"I believe that a successful production line layout is one that is created in cooperation with our customers, because the sharing of ideas and information and constant dialogue between us and the customer is ultimately what enables us to produce highly customized lines which surpass customer expectations"*, says Peter.

When the time came to deliver the new line to Barrus' new factory, System TM did everything in its power to fulfil the agreed delivery targets despite the worldwide supply chain being affected by challenges relating to the COVID-19 pandemic. Eventually, Barrus' new System TM line was installed and commissioned by the end of 2021. *"The whole project went according to schedule and was completed with high success. We've also received a high level of after-sales service and support in terms of staff training and adjustment of equipment. It's been a pleasure working with System TM's skilled team"*, says Üllar.

Seeing that Barrus has had a positive experience with their new line, System TM anticipates great opportunities in relation to future projects in cooperation with Barrus.

Technical description

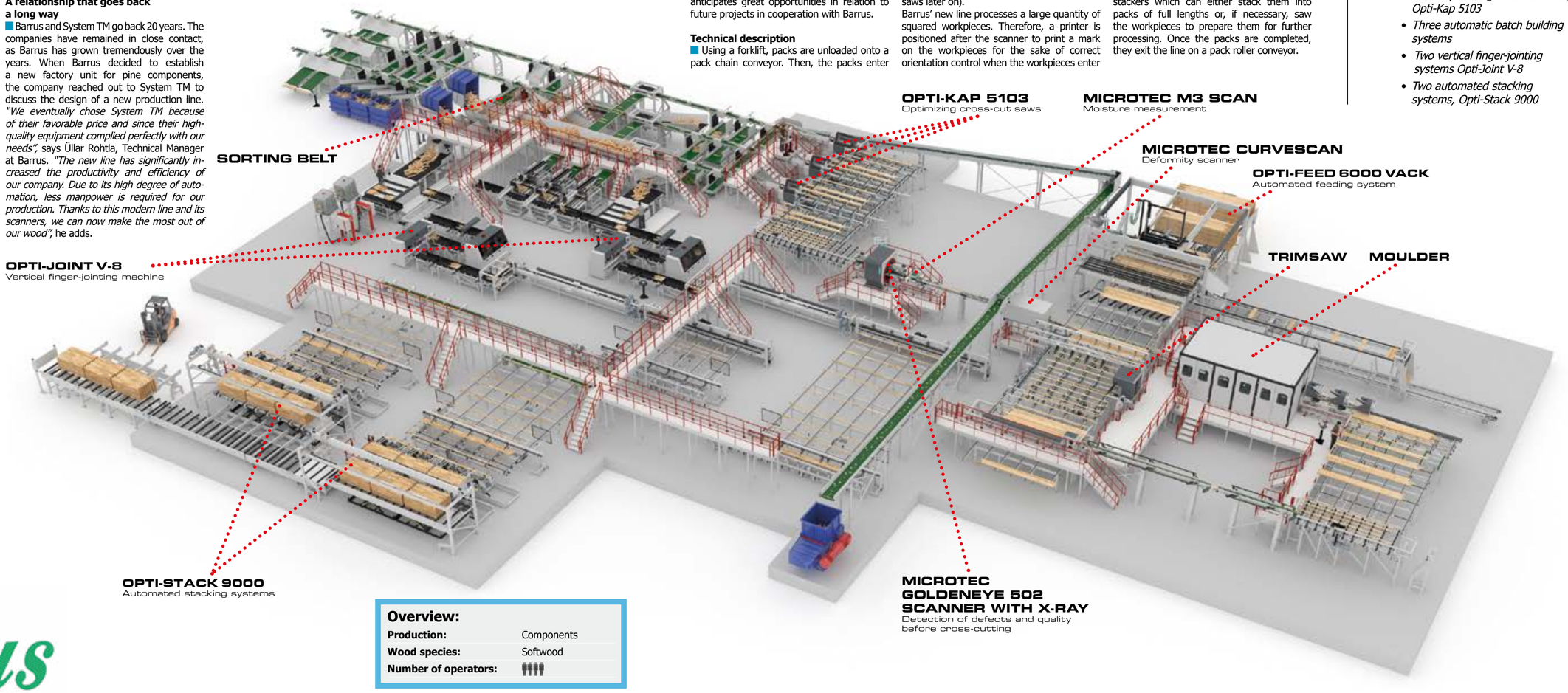
Using a forklift, packs are unloaded onto a pack chain conveyor. Then, the packs enter an Opti-Feed 6000 Vack de-stacking machine which de-stacks one layer at a time from the packs and removes the stability sticks between each layer. Then, the workpieces are aligned and fed into a trimsaw which chops off the ends of the workpieces in preparation for an Opti-side scanner which detects the annual rings of workpieces and ensures correct positioning of workpieces before they enter a moulder. Each workpiece is turned, positioned correctly, and stored in a buffer area from which they are fed into a moulder.

After the moulder, the workpieces accelerate in speed with gaps in between. The workpieces pass through a MiCROTEC Curvescanner which measures their bow, twist, and crook. Then, they pass through a MiCROTEC M3 Scan Moisture Meter in a longitudinal manner. The moisture meter determines the moisture content of the workpieces. The data collected by the curvescanner and moisture meter is then passed on to a MiCROTEC Goldeneye 502 scanner with X-ray. After the workpieces have been scanned, the scanner's data is passed on to an optimizing software program which calculates optimal cutting position (for the saws later on).

Barrus' new line processes a large quantity of squared workpieces. Therefore, a printer is positioned after the scanner to print a mark on the workpieces for the sake of correct orientation control when the workpieces enter a finger-jointer later on. A stud-carrier sweeps the workpieces onto buffer conveyors, after which the workpieces enter three Opti-Kap 5103 optimizing saws. As the workpieces enter the saws, the optimizing software program instructs the saws how to cut workpieces with maximum wood utilization. Once the workpieces have been cut and their defects have been removed, they exit onto a sorting belt conveyor. Short waste is removed inside the saw units and long waste is rejected by the first of several kickers on the sorting belt. The other kickers are used to direct workpieces intended for finger-jointing.

Then, the line features additional control units designed to double-check workpieces with critical dimensions in order to make sure they are positioned correctly before entering the vertical finger-jointer, Opti-Joint V-8. The workpieces are fed into the finger-jointer either from a manual compartment table or from three automatic batch building systems positioned prior to the finger-jointer.

After being finger-jointed, the workpieces are transported to two buffer zones after which they are transported to two Opti-Stack 9000 stackers which can either stack them into packs of full lengths or, if necessary, saw the workpieces to prepare them for further processing. Once the packs are completed, they exit the line on a pack roller conveyor.



Overview:

Production:	Components
Wood species:	Softwood
Number of operators:	

Barrus' production facility in Verijärve, Estonia.

This System TM solution consists of the following:

- *An automated feeding system, Opti-Feed 6000 Vack*
- *A trimsaw*
- *An Opti-side scanner*
- *A moulder*
- *A MiCROTEC Curvescanner*
- *A MiCROTEC M3 Scanner Moisture Meter*
- *A MiCROTEC Goldeneye 502 scanner with X-ray*
- *Three optimizing cross-cut saws, Opti-Kap 5103*
- *Three automatic batch building systems*
- *Two vertical finger-jointing systems Opti-Joint V-8*
- *Two automated stacking systems, Opti-Stack 9000*

Member of the HOMAG Group

Visit System TM at the following exhibitions:

IWF 2022, Atlanta, GA, USA..... August 23 – 26, 2022
Trä & Teknik 2022, Gothenburg, Sweden ..... August 30 – September 2, 2022
LIGNA 2023, Hannover, Germany ..... May 15 - 19, 2023

NWFA 2022

Our booth at the NWFA Wood Flooring Expo, Tampa, FL, USA.

The NWFA Wood Flooring Expo is the largest tradeshow and conference worldwide dedicated exclusively to wood flooring. After a standstill of almost two years and many tradeshows being cancelled due to the pandemic, it was very satisfying to see that the attendance level at this year's NWFA show seemed to be returning to normal with 762 attendees registered.
Our team (System TM, MiCROTEC and Stiles Machinery) was present at this year's NWFA show. The show was a great opportunity to talk to companies we have been looking to connect with, get closer to, or discuss projects with. *"In-person meetings are back and there has never been a better time to reconnect, plan for the future and explore new ways to expand your business,"* said Michael Martin, NWFA president & CEO. All in all, the attitude on the floor was optimistic but cautious as the economy starts to recover from the pandemic.

FIMMA 2022

Linares' booth at Fimma Brasil, Bento Gonçalves, Brazil.

FIMMA Brasil is an international tradeshow dedicated to the woodworking sector and is recognized as one of the most important shows for the sector in the South American market.
System TM participated in this year's FIMMA Brasil tradeshow together with our partner MiCROTEC and our dealer Grupo Linares. The tradeshow provided an opportunity to showcase our latest optimizing wood solutions and an ideal chance for visitors to learn about the features and benefits of our solutions.
FIMMA Brasil is held in Bento Gonçalves, Rio Grande do Sul, Brazil, and brings together more than 400 exhibitors and visitors from more than 30 countries. FIMMA Brasil has been organized by the Furniture Industry Association of Rio Grande do Sul (Movergs) since 1993.

System TM, a leading global provider of customized solutions for the solid wood industry

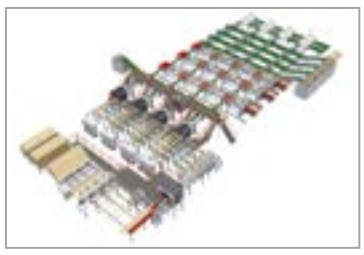
System TM offers a wide range of automated material handling systems designed to provide high production capacity, maximum wood utilization and minimum labor costs. Our material handling systems are defined as standard system solutions and fully customized solutions designed to meet diverse customer needs.

Opti-Feed
Automated feeding systems

Opti-Kap
Optimizing cross-cut saws

Opti-Stack
Automated stacking systems

Opti-Joint
Automated finger-jointing systems



Opti-Solution
Customized system solutions

At System TM, we use our technical expertise, longstanding experience and integrated approach to design the best solution that meets your business objectives.

Please visit our website at www.systemtm.com to find a material handling solution that fits your production requirements.

System TM A/S | Skovdalsvej 35, DK-8300 Odder, Denmark,
Tel:+45 86 54 33 55, tm@systemtm.com, www.systemtm.com