

PEELED VENEER | SLICED VENEER

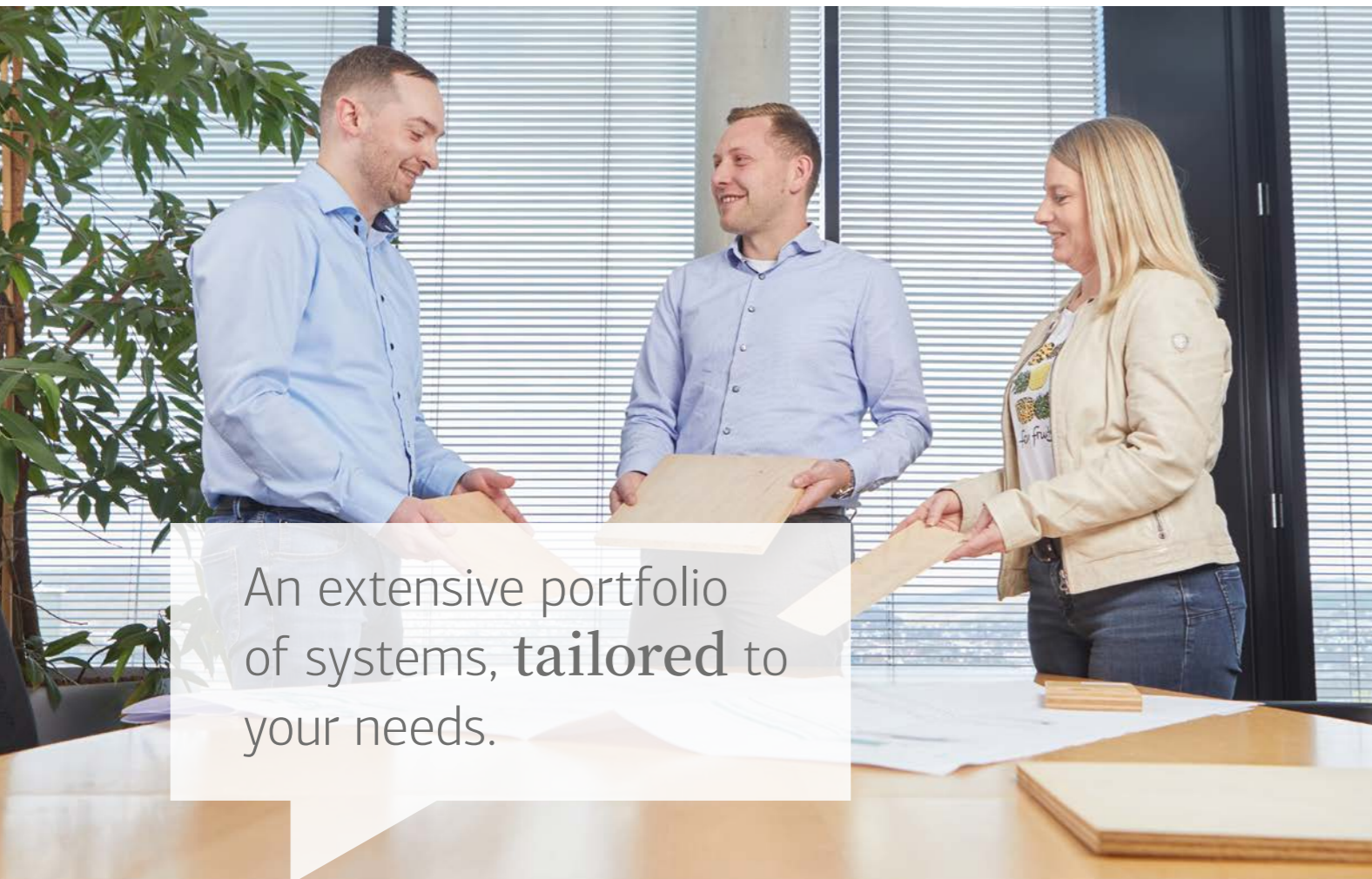


# Wood technology

Quality non-stop



# High tech solutions have a name: Grenzebach



An extensive portfolio of systems, **tailored** to your needs.

## HIGH-TECH MEETS AUTOMATION: PASSION FOR INNOVATION

Our passion lies in thinking solutions further which attracts manufacturers of many different industries. As an international high-tech company, we supply production plants that stand out for their quality, reliability, and long service life.

As a reliable journey partner, Grenzebach supplies production equipment and technologies to various industries.

Whether gypsum, wood, mineral wool, or thermal process engineering – Grenzebach customers benefit worldwide from the expertise and more than 150 years of experience, the specialists in Bad Hersfeld can look back on. The former Babcock BSH company has been a member of the Grenzebach Group since 2002.

Grenzebach places great emphasis on maintaining cooperative partnerships with its customers. With production facilities in Germany, the USA, Romania, and China and 1,600 employees we are always close at hand. Our representatives provide 24/7 support and service around the world.

# A competent **partner** for the wood industry



## GRENZEBACH PLANS, BUILDS, AND SUPPLIES SYSTEMS AND PLANTS FOR THE BUILDING MATERIALS AND VENEER INDUSTRIES

Relying on more than 150 years of experience and extensive research and development, the company's products stand out for their superior technical standard, quality, and availability, a long service life and optimum efficiency. Wood is a material that must constantly meet new requirements. Grenzebach has accepted this challenge and thus acquired a high level of competence and expertise.

**Our wood processing technology solutions include a full range of veneer production systems such as:**

- » Veneer dryers
- » Grading lines
- » Sorting and stacking systems
- » Production lines for peeled and sliced veneer
- » Infeed and outfeed systems

Our prime objective is to provide our customers with system components and industrial plants that are safe, reliable, and environmentally acceptable.

# New generation of roller dryers



Automatic infeed system with accumulator



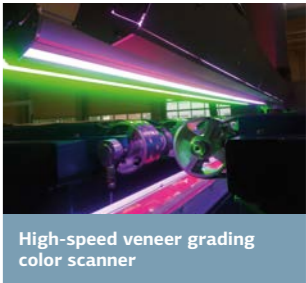
8-deck roller dryer



Jet box in saw tooth tread design



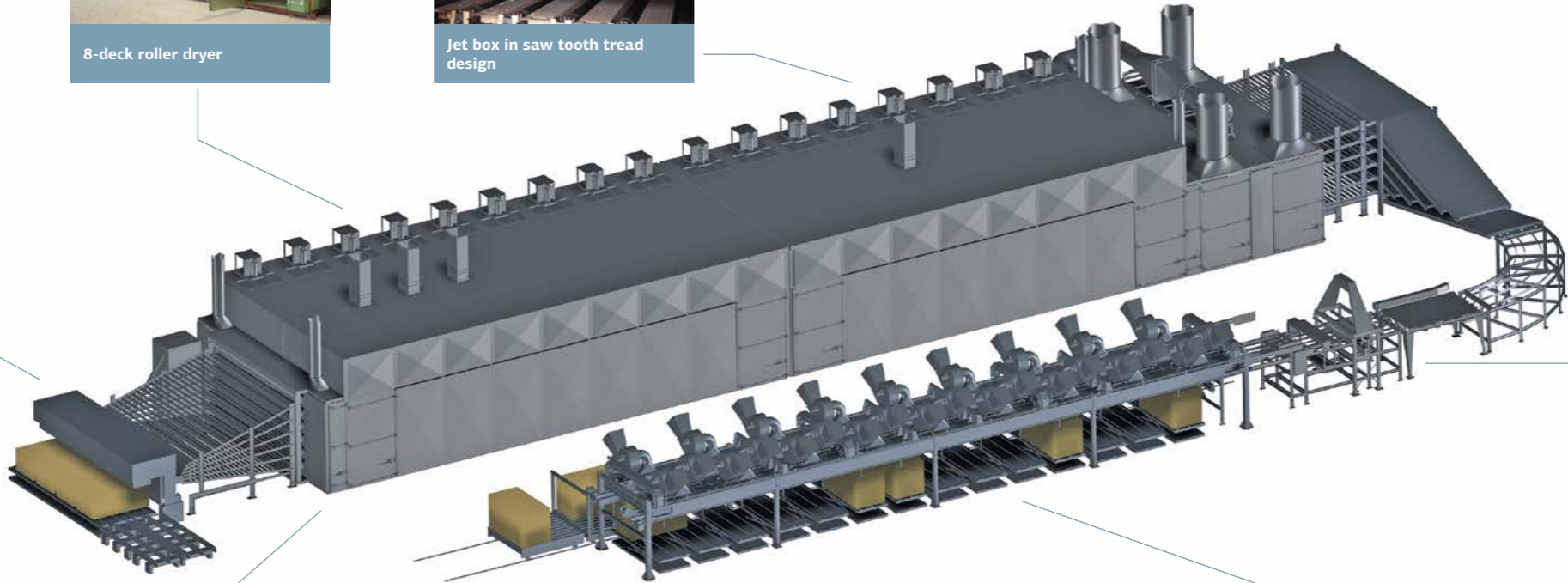
Outfeed system with curve



High-speed veneer grading color scanner



Pressurized air lock system with preheated air inlet



High-speed veneer stacker

## UP TO 8 DECKS AND 6.2 METERS (4 WIDE) WORKING WIDTH

The name Grenzebach stands for the highest veneer drying technology.

Whether as a complete line or as single components, for simple or for complex production processes, based on our long experience in drying, we offer technology of high standards that produces results.

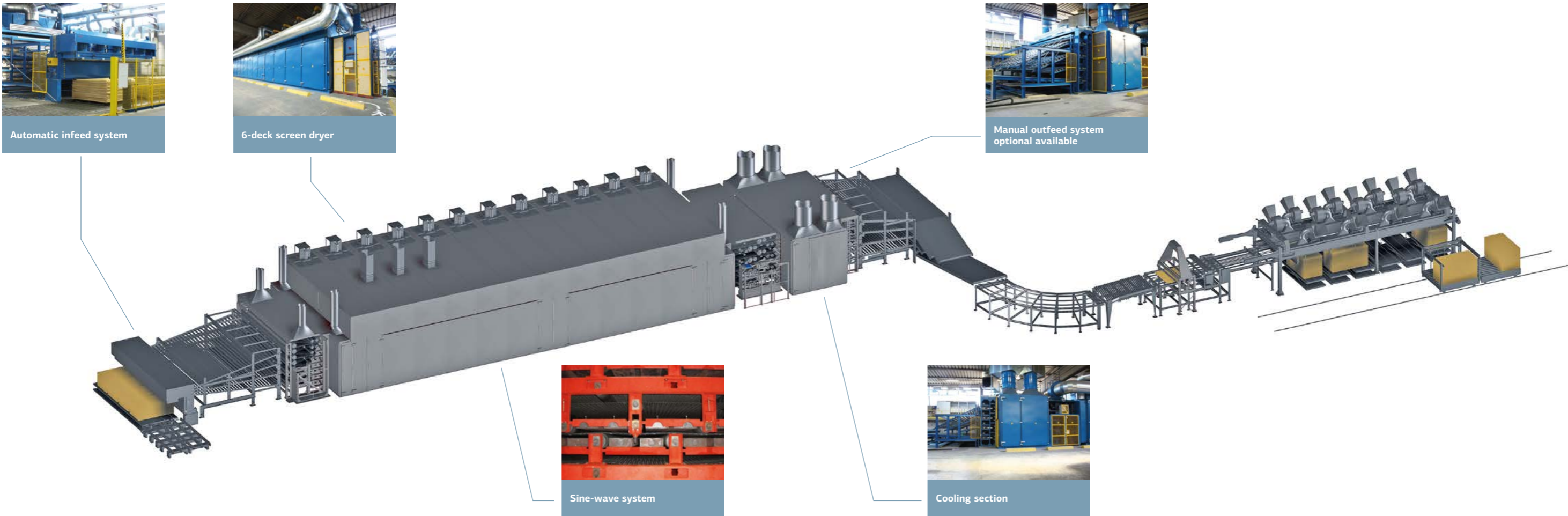
The features of Grenzebach's new generation of modular roller dryers reflect the company's extensive experience gained during its long history in the field of drying the highest quality peeled veneer.

- » No need for special foundations
- » Fast installation
- » Insulated floor
- » New door design
- » Improved sealing system
- » Airlock system
- » Better air distribution
- » Uniform drying
- » Higher drying capacity
- » Higher energy efficiency

Following our tradition of being pioneers in veneer drying technology, we have optimized the drying process by means of flow-optimized air distribution zones and a better balanced air volume over all decks to obtain more uniform drying results. The optimized jet box with a saw tooth tread design provide a homogeneous distribution of the drying air over the entire width. The result is a higher drying capacity at lower energy consumption, and a high quality final product. The entire dryer skin itself, from the seal-welded insulated floor up to the seal-welded upper duct, is made of aluminized sheet metal. Aluminized sheets protect the metal and avoid corrosion. The same material is used for the floating skin type dryer doors. Each of these access doors extends over an entire section. It can be opened with one hand and features a special door hinge design. The door seals are fixed to the frame and consist of a flexible stainless steel construction covered with Kevlar® rein-

forced fabric. Soft bends instead of sharp ninety degree corners enable a long-lasting and perfect sealing effect. In combination with the thick insulation, this well-engineered system provides minimum heat losses and fast, uniform heat-up. To solve the problems of condensation and resinification, Grenzebach has developed infeed and outfeed airlock systems as well as a fresh air preheating device. In combination with the right insulation, these devices enable that there will be no condensation on the hot wall between the air locks and the dryer. Each modular dryer section is 2.25 m long. These modules are combined to obtain the required dryer length. Four, six or eight-deck dryers with a working width of 4 m, 4.8 m, 5 m, 5.8 m and 6.2 m are available. This new generation of roller track dryers features excellent reliability, minimized downtimes, low energy consumption, and highest final product quality for which all Grenzebach systems stand out.

# New generation of screen dryers



## UP TO 6 DECKS AND 6.2 METERS (4 WIDE) WORKING WIDTH

The name Grenzebach stands for the best in screen drying technology.

Whether as a complete line or as single components, for simple or for complicated production processes, based on our long experience in drying, we offer technology of high standards with best results.

The features of Grenzebach’s new generation of modular screen dryers reflect the company’s extensive experience gained during its long history in the field of drying highest quality peeled veneer.

- » No need for special foundations
- » New door design
- » Improved sealing system
- » Airlock system
- » Insulated floor
- » Better air distribution
- » Uniform drying with sine-wave system
- » Higher drying capacity
- » Higher energy efficiency
- » Reliable belt control and tensioning system
- » Easy maintenance

With its belt dryer, Grenzebach BSH presents a new generation of dryers. The new belt dryer has been specially developed for drying difficult wood species, such as poplar, without any loss in quality. This is enabled by gentle veneer transport through the dryer between two screen belts, free from jams which makes the Grenzebach BSH belt dryer an excellent choice for drying thin peeled veneers. Grenzebach BSH belt dryers are built with working widths from 4,000 to 6,200 mm. They can be combined with various feeding and unloading systems and all currently available heating systems.

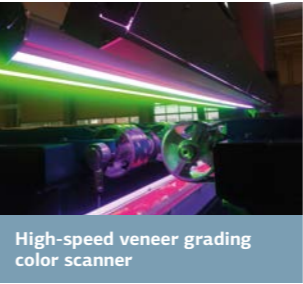
The modular design allows the dryer length to be adapted to the customer's production requirements. Through optimized air flows with precisely matched fans and high-efficiency heat exchangers the Grenzebach BSH belt dryers combine high throughput rates with minimized energy consumption.

Excellent thermal insulation is provided by an improved lagging system (120 mm) and a dryer floor panel that is insulated throughout. The new design does not need any chains and sprockets inside the dryer, which minimizes maintenance. The dryer belts in the cooling zone can be separated from those in the heated part to minimize energy losses. The operators enter the different drying parameters via touch screen monitors on the control panels. These parameters can be saved as 'recipes', making reliable operation and control very easy. The world's largest belt dryer, with a working width of 6,200 mm and a heated length of 50 m, comes from Grenzebach BSH.

# New generation of feeders, scanners and stackers for peeled veneer



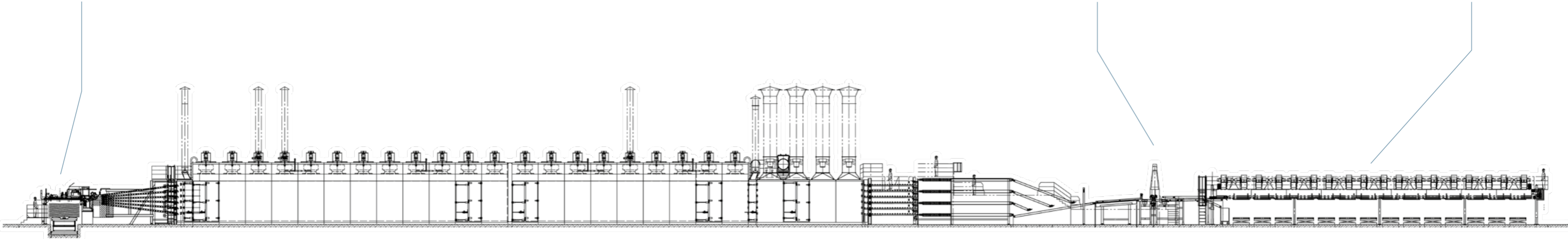
Automatic infeed system



High-speed veneer grading color scanner



High-speed veneer stacker

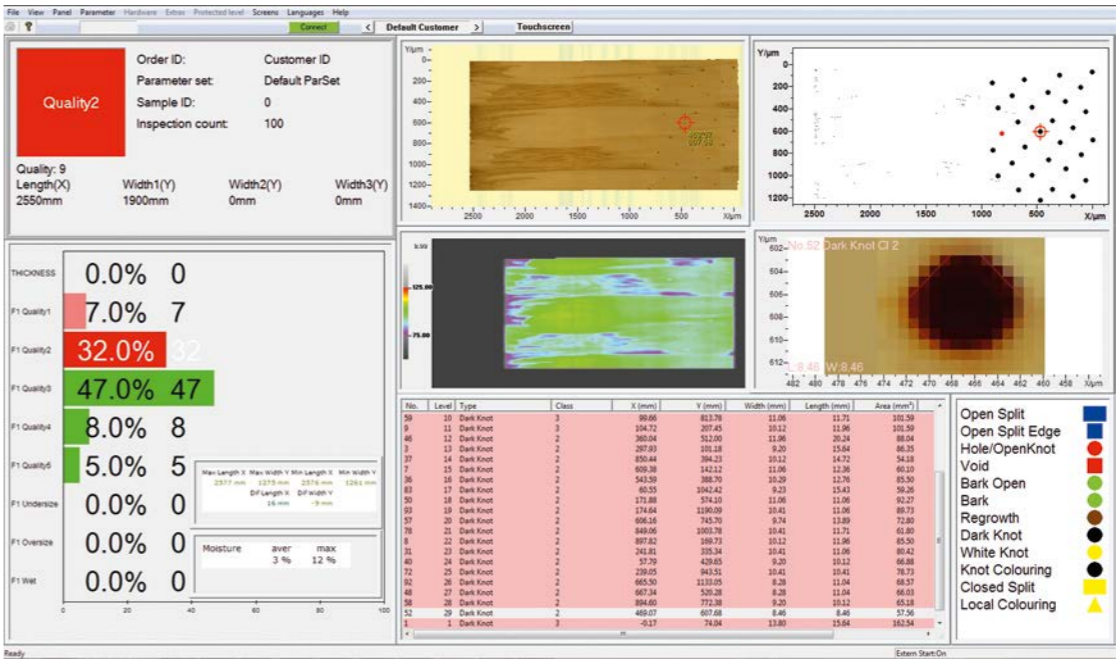


The features of Grenzebach's new generation of feeders, scanners, and stackers for peeled veneers reflect the company's extensive experience gained during its long history in the field of drying highest quality peeled veneer.

With up to 22 feedingcycles/min this is a high-speed feeder with a direct driven pinch roller, suitable for the infeed of sheets as well as of narrows. Depending on the needs, several options, such as additional back suction cups, stop bars for aligning and overlapping as well as non-stop accumulators, can be installed on the feeder. Operation can be semi or fully automatic. Customers can choose from a full range of conveyors and platforms to be installed in front of the feeder.

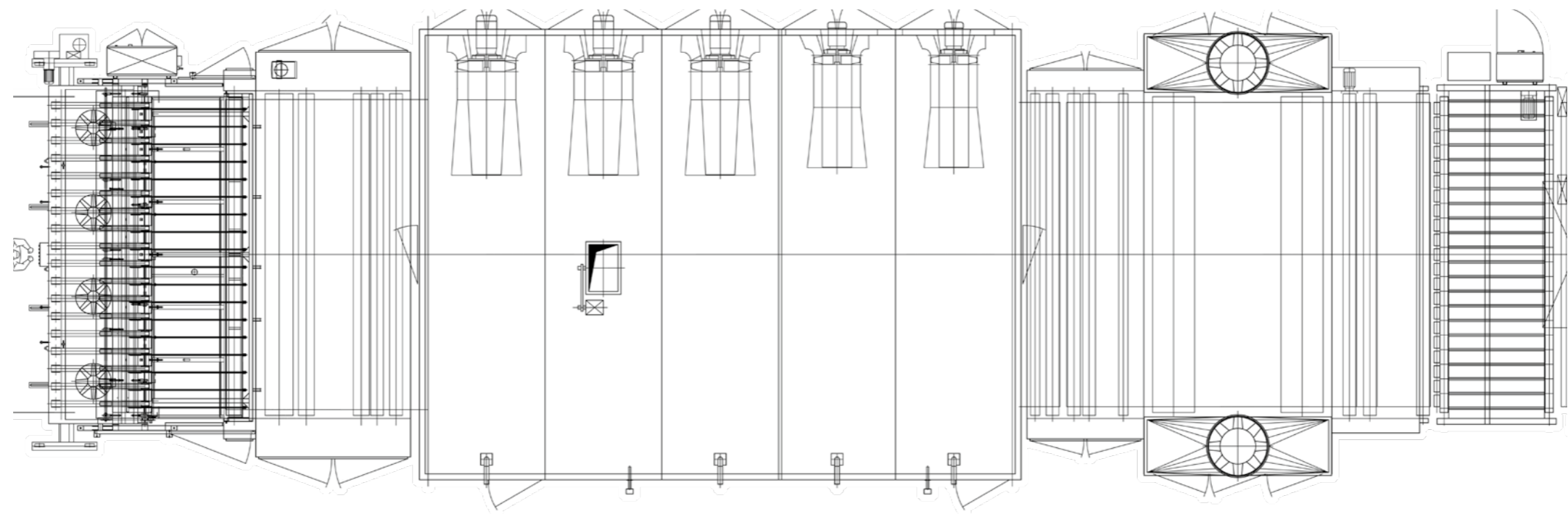
The additional Grenzebach VSP-g scanner detects veneer defects with its special LED lighting at high transport speeds for quality sorting.

Low energy consumption and high stacking accuracy combined with a high transport speed are the main performance features of our new stacker. With its modular construction, the stacker can be assembled to have more than 20 stacking stations with a total length of over 40 meters. A wide range of stacking combinations can be selected in accordance with the production requirements.



# The high-end machines

for production of the best sliced veneers



Half-automatic infeed system for sliced veneer



Midi press dryer



Midi press dryer outlet



Press dryer outfeed system

In the sliced veneer industry, the name Grenzebach is synonymous with high-end machines with highest precision and efficiency for the biggest producers of sliced veneers.

When almost 40 years ago, the press dryer was introduced in the sliced veneer industry, that was a quantum leap in drying sliced veneers. For the first time, it was possible to obtain flat veneers after drying and to manufacture them without additional pressing.

Today this technology is an absolute must for all sliced veneer manufacturers. To give access to this technology also to producers with a medium / small production volume, Grenzebach has developed compact and midi press dryers with integrated preheating, four-drum-pressing, and cooling section for the production of high quality pressed veneers despite the system's small and compact overall dimensions. The dryers can be designed for steam, hot water, or thermal oil heating.

# The Grenzebach service promise for the wood industry. Trust. Guaranteed.

## WE LIVE SERVICE. AROUND THE CLOCK. AROUND THE WORLD.

Choosing Grenzebach assures that you will have a trustworthy partner with reliable services during the entire lifecycle of your equipment. Whether you are in the planning, implementation, commissioning, or operating stage our experts are always available with proven advice and support. Our service team responds quickly and expertly with tailor-made services and products whenever you need us. During the utilization phase, our after-sales teams support you in maintaining your plant's performance or in adapting it to new requirements through modernization.






**DEVELOPMENT**  
 Trust in our innovation.

Grenzebach uses cutting-edge technologies to respond to your requirements in today's or tomorrow's world. We also give you the opportunity to have an impact on a machine's design at the developmental phase. The upshot is production technology that puts you in pole position to rise to global-market challenges. Reap the rewards of from world-class quality and output during the entire lifecycle.

- » Maximum benefit to customers
- » Intuitive usability
- » Added value generated
- » Customers' requirements fulfilled
- » Advanced technologies
- » Durable and future-proof solutions




**PLANNING**  
 Trust in confidence.

At Grenzebach our aspiration is to comprehensively understand your challenges during project planning to enable us to collectively reach the optimal solution. Our goal is to meet and even exceed your technical as well as commercial expectations. The result is an excellent planning for the realization of your high-tech plant.

- » Listening – understanding – integrating
- » Personal contact person
- » One-stop service
- » Solution provider
- » Cost certainty
- » Customer orientation





**EXECUTION**  
 Trust in our experience.

At Grenzebach, our joint goal during execution is to meet the agreed production launch date. Our skilled project management team ensures your plant operates at the quality and performance level specified, on time and on budget. We can adapt to any challenges and requirements presented to us.

- » Guaranteed production launch
- » Professional project management
- » On time and on budget
- » Professional training sessions
- » Performance
- » Seamless handling



**UTILIZATION**  
 Trust in reliability.

We provide professional support and future-proof development of your plant during its entire lifecycle. This translates into less downtime, maintenance that can be scheduled and therefore, lower costs. Your dedicated and experienced service manager is on hand to provide support so you benefit from your investment to the max. As a result, you're ready for any new market requirements or necessary modernizations due to discontinuations of components or software.

- » Peak plant availability and efficiency
- » Remote technical support 24/7
- » Guaranteed supply of spare parts
- » Innovative upgrades
- » On-site support
- » Our service manager - your personal contact

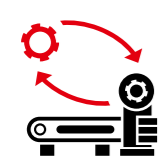
# Grenzebach's service promise: you can build on it.

From years of experience in personal contact with more than 400 customers in veneer production worldwide we know that maximum availability and performance of the plant are in focus. We have made that our mission so that you can concentrate fully on your core business.

With our customized services and uncomplicated service solutions for the woodworking industry we are a service partner you can rely on 100 %, throughout the entire lifecycle of a plant. We can offer you integrated service concepts because our specialists are experts in their field and stand out for their profound product-related know-how. We commission your plant on schedule, and we keep our service promise after that, during the entire utilization phase. In addition to worldwide spare parts supplies and upgrades we ensure equipment performance and sustainability of your plant.



## EVERYTHING TO KEEP YOUR DRYER SYSTEM RUNNING:



### ORIGINAL PARTS

Ensure top performance, value due to durability, cut downtime:

- » Excellent quality
- » A one-stop shop
- » Consistent production
- » High levels of availability
- » Quick lead times for spare parts
- » Professional customer support
- » Long service lives
- » Supplied worldwide



### EXCELLENT SERVICES

Optimize technology availability, keep output constantly high and make usage sustainable:

- » 24/7 hotline
- » Remote support online
- » Health checks
- » Preventative maintenance
- » Training for customers
- » On-site service
- » Flexible service agreements
- » Extended warranty



### ROLLING UPGRADES

Keeping plant performance at a permanent level, raise plant productivity and extend lifecycle:

- » Process optimization
- » Plant overhaul during production
- » Engineering consulting
- » Disassembly and reassembly of machinery and parts if company relocates
- » Customized, automated retrofits
- » Energy saved due to new technologies and machine applications
- » Plant audit and reassessment of the safety concept
- » Upgrading safety components to the state of the art

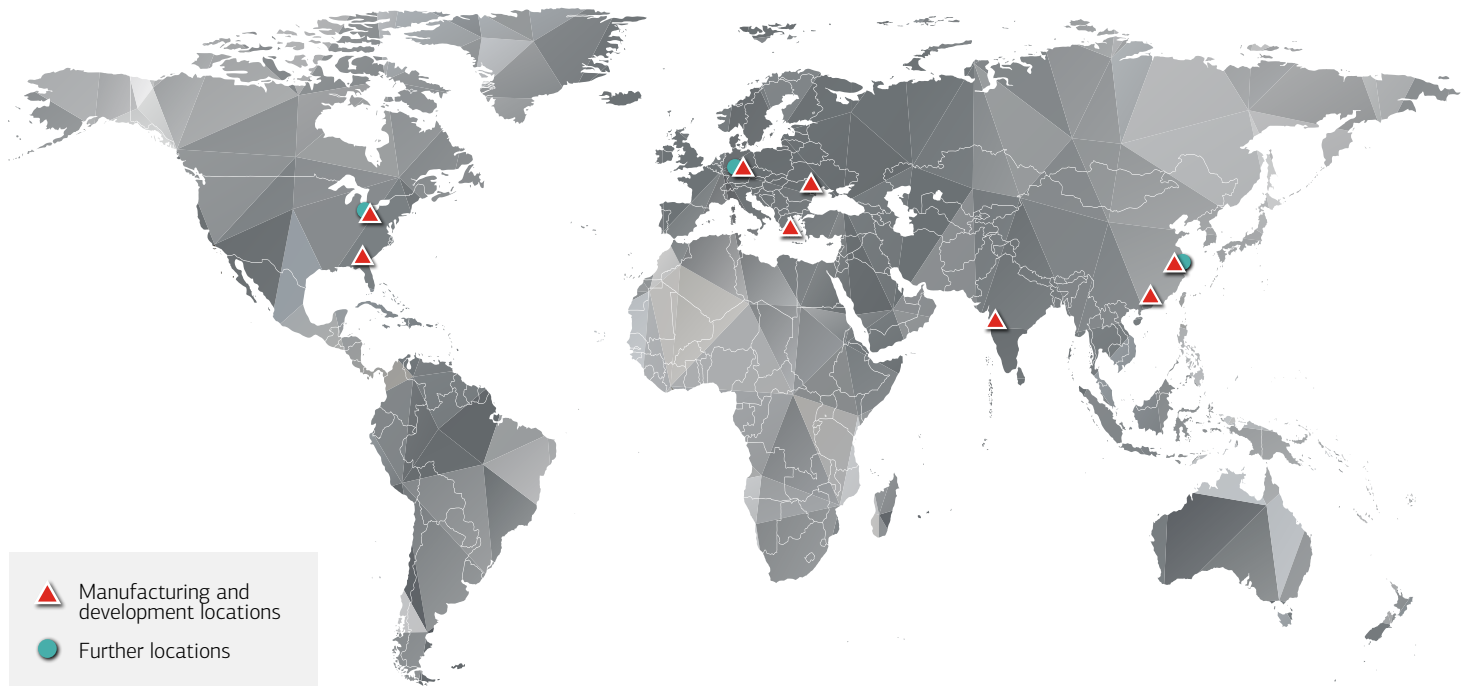


### FUTURE SERVICES

Use Grenzebach's SERICY digitalization platform and benefit from smart, robust processes:

- » Predictive maintenance
- » Clear reporting
- » Detailed statistics
- » Advanced analyses

# GRENZEBACH WORLDWIDE



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