

ENGINEERED WOOD

SPRING 2023

Journal

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WOOD MARKING
SYSTEMS CAN
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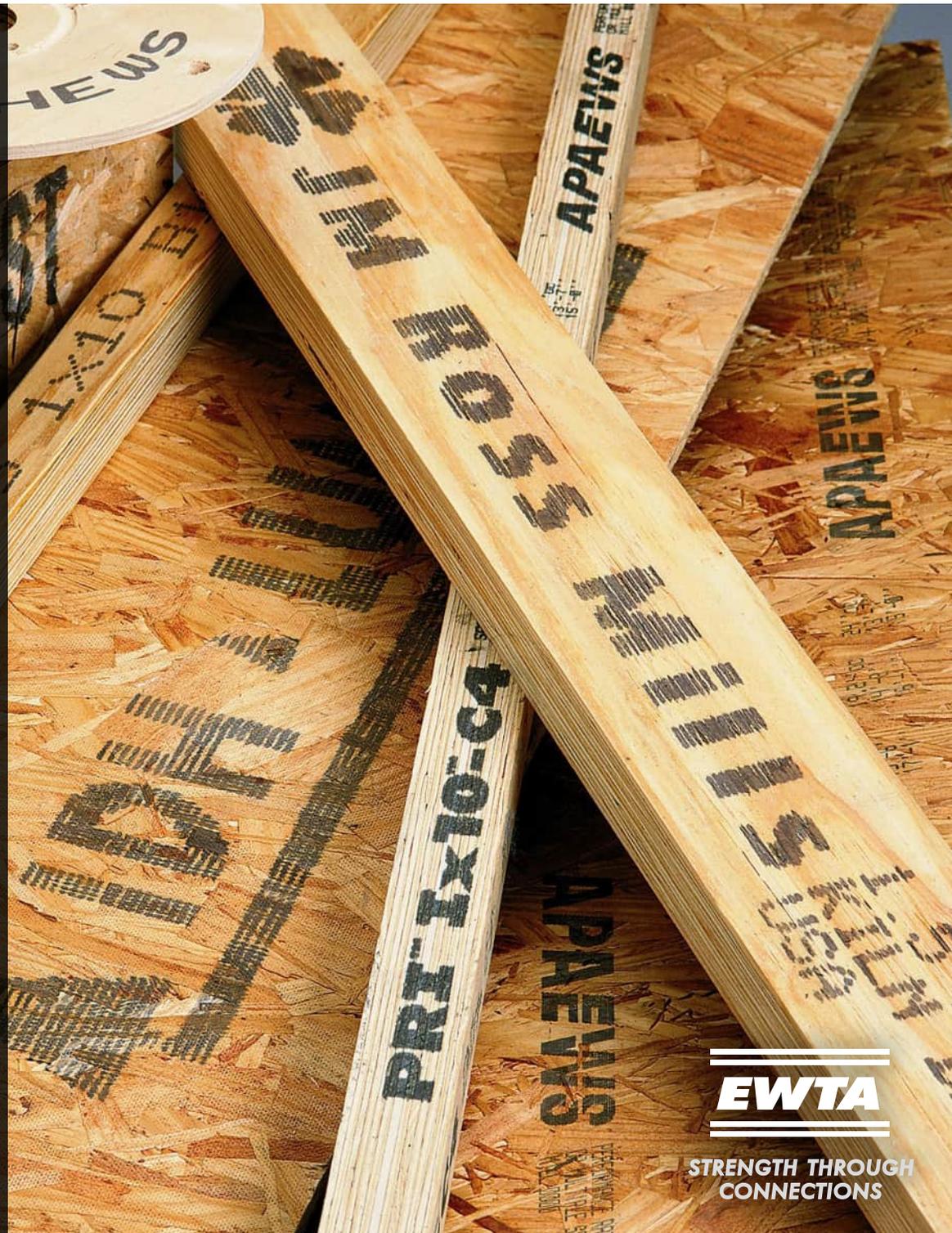
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THE ROLE OF
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PAGE 17

2023
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ENGINEERED WOOD JOURNAL

VOLUME 27, NO. 1, SPRING 2023

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About the cover photo:

Valvejet and inkjet printing samples are shown on a variety of product samples. Photo courtesy of Matthews Marking Systems.



STRENGTH THROUGH CONNECTIONS

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IN THIS ISSUE...

Reconnecting and celebrations. That was the underlying theme of the 2022 APA Annual Meeting and EWTA Info Fair held last fall. It was great to see industry colleagues and celebrate the accomplishments and achievements of individuals and companies. Highlights start on page 5, announcing Tony Vuksich as the 2022 Bronson J. Lewis Award recipient and pick up again on page 42 with additional highlights and registration information for the 2023 event, to be held at the JW Marriott Desert Springs Resort & Spa, Palm Desert, California.

Congratulations to the 2022 Supplier of the Year Award winners! They were once again chosen through online balloting by APA member representatives. The awards were presented at APA's Annual Meeting. Turn to page 35 to read about the four award recipients.

Be one of the award winners this year! It's time to submit entries for the 2023 Innovation of the Year Award. Details are available on page 41.

In this issue, we present three articles that look at the advancements in the engineered wood industry and how they are beneficial to manufacturers, suppliers and the consumer. Turn to page 11 to read how valvejet and inkjet printers can improve efficiency, reduce costs and improve traceability. Continue to page 17 to learn about engineered wood's key role as a green building solution and the role it plays in sustainable structures. Have you considered how machine learning could impact the industry? Flip to page 21 to read Dr. Timothy M. Young's article, "The Potential of Machine Learning for the Engineered Panel Industry."

Each spring, Joe Elling, APA's Market Research Director provides an outlook on how recent steps put in place by the Federal Reserve may impact the housing industry. What lies ahead for our industry? There is no change in the message we've been hearing but flip to page 25 for complete details.

I look forward to connecting with APA and EWTA members this October in Palm Desert, California. Until then, let's connect via email, phone, virtual meeting or social media.

Stay safe and take care.



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APA PRESENTS THE 2022 BRONSON J. LEWIS AWARD

Congratulations to Tony Vuksich, the 2022 Bronson J. Lewis honoree. Vuksich was presented with the award at the APA Annual Meeting on Oct. 17, 2022. The award is named in honor of the late Bronson Lewis, who served for 24 years as secretary and then executive vice president of APA – The Engineered Wood Association. The award recognizes individuals for their leadership and outstanding contributions to the engineered wood industry.

Vuksich has been serving the engineered wood industry for 50 years. He began his life-long career with Willamette Valley Company in 1972 in sales. In addition to his work with Willamette Valley Company, his contributions to the engineered wood industry include a 20-year term serving on the EWTA Advisory Committee where he worked on funding special projects for APA and promoting the EWTA Info Fair and membership. He has served as an active member of the Wood Based Composite Center for the last 12 years. Upon his retirement in October 2022, Vuksich will continue to contribute to the industry maintaining APA's Annual Mike St. John Golf Tournament operations which he has organized for the past 35 years.

Highlights from the 2022 APA Annual Meeting and EWTA Info Fair are on [page 42](#).

APA ANNUAL MEETING AND EWTA INFO FAIR

The 2023 APA Annual Meeting and EWTA Info Fair is scheduled to be held Oct. 14-17 at the JW Marriott Desert Springs Resort & Spa in Palm Desert, California. We look forward to seeing you in October.

Registration, exhibit and sponsorship information was sent to APA and EWTA members in May. Go to [page 44](#) for details.

[READ MORE ►](#)

APA hosts international mission delegates

To expand overseas market access and exports, APA recently sponsored 14 delegates from Australia, Colombia, Mexico, Peru and Taiwan on a mission to the Pacific Northwest to learn about engineered wood products, their use in construction, and related U.S. codes and standards. The U.S. Department of Agriculture's Foreign Agricultural Service (FAS) supported the mission. APA international representatives and a FAS official accompanied the delegates.

At APA Headquarters, Technical Services Director Dr. Borjen Yeh provided a detailed presentation on products, codes and standards. Delegates also witnessed numerous tests demonstrating EWP product



One of the stops fourteen delegates from Australia, Colombia, Mexico, Peru and Taiwan made was a visit to APA Headquarters.

performance at the APA lab. Delegates also attended mill tours and the International Mass Timber Conference where they met with glulam, LVL, CLT and MPP manufacturers and learned about the products and applications. Mission delegates then had the opportunity to visit several landmark projects using engineered wood.

APA international representatives will continue the dialogue with mission delegates to further the international market and export expansion goal.

Engineering students compete in Timber-Strong Design Build Competitions

Forty-four universities participated in eight Timber Strong Design Build competitions held at American Society of Civil Engineers (ASCE) Student Symposia in 2023. It was the pilot program's strongest year to date. Sponsored by APA, the American Wood Council and Simpson Strong-Tie, the competition challenges teams of undergraduate engineering



During their visit to APA Headquarters, delegates witness a variety of tests demonstrating EWP product performance at the APA lab.

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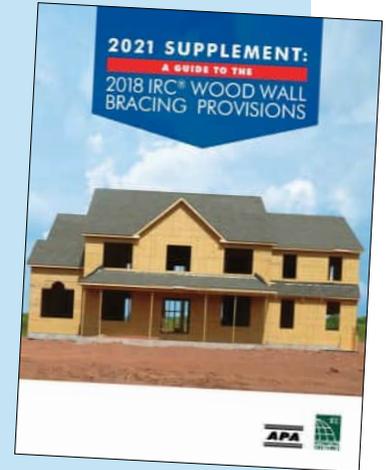
students to design, model, and build creative and sustainable wood structures.

The 2023 competitions expanded from five events in 2022 to eight events, with over 500 students comprising over 40 teams. The following universities hosted the regional symposia: University of North Florida, University of South Alabama, West Texas A&M University, Montana State University, University of Nevada Reno, Cal State Northridge, Western Kentucky University, and Chico State University. The number of participating teams doubled this year, with representation from across the US and Puerto Rico, plus three universities from China.

As noted by the volunteer head judge of the Western Kentucky

2021 SUPPLEMENT TO THE 2018 WOOD WALL BRACING GUIDE

The new 2021 Supplement: A Guide to the 2018 IRC Wood Wall Bracing Provisions has been jointly published by APA and the International Code Council® (ICC) and is available for download on the ICC website. This full-color illustrative Supplement was developed by APA and ICC staff to help building designers, builders, building officials and others using the code in the application of lateral bracing requirements of the 2021 International Residential Code® (IRC), when used in conjunction with the 2018 Wall Bracing Guide, also previously jointly published by APA and ICC.



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University symposium, Brian St. Germain of Louisiana Pacific, "Competition day was fun and exciting for everyone involved. I was especially

impressed by the level of teamwork and camaraderie displayed by the students. What a great way to inspire these future engineers to favor wood while also allowing for sponsors and volunteers to make connections to start careers in our industry."

Symposia locations for the 2024 competitions have not yet been finalized by ASCE. APA and the other sponsors expect an even stronger year next year, with the eventual goal of growing the pilot competition to an ASCE society-wide competition.

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Construction underway at the Lawlor Event Center at the University of Nevada Reno, for the American Society of Civil Engineers (ASCE) Study Symposia 2023 Timber-Strong Design Build Competition.

APA secures key change to DOE Zero Energy Ready Home Program

A proposed change that would have eliminated wood structural panel sheathed walls as an option in the U.S. Department of Energy's Zero Energy Ready Home Program (ZERH) was withdrawn after APA objected to the unnecessary requirement. While still requiring an energy-efficient building envelope (insulated to 2021 IECC performance levels), the newly published ZERH, V2 no longer requires a thermal break, such as foam sheathing, on walls as originally proposed. "Many net-zero homes use deeper wood wall framing at 24-inch spacing with only cavity insulation – providing a robust, highly insulated and structurally sound home that balances energy efficiency and

Continued on next page

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CHECK OUT EWTA AND APA WEB AND SOCIAL MEDIA SITES

Look for EWTA and APA on the web as well as LinkedIn, Facebook and Twitter for added resources to connect with members and others in the engineered wood industry.

[EWTA WEBSITE ►](#)

[APA WEBSITE ►](#)

In Memoriam

GUY STERNAL

Guy Sternal passed away peacefully on Christmas Eve at the age of 76. Sternal served nearly 17 years as APA's General Counsel from December 2002 to September 2019.



Guy Sternal

Born and raised in Minneapolis, Sternal earned his bachelor's degree in 1968 at the University of Minnesota, married his wife Becki Ferber Sternal, and entered the Air Force. His joy was becoming a pilot and teaching individuals to fly jets. Law school followed. After earning his JD from the University of the Pacific in 1977, he moved from flying planes to arguing cases as an attorney in the Judge Advocate General's Corps, or JAG. In 1989, Sternal retired from the JAG and entered private practice at the Tacoma law firm of Eisenhower Carlson. He rose to partner and eventually retired in 2009. Sternal is survived by his beloved wife of 54 years, his two sons, four grandchildren, sister and brother. He was preceded in death by his brother, Branch Sternal.

structural requirements,” said Matt Brown, author of APA’s comment. According to Brown, APA’s energy specialist based in Indiana, the updated ZERH program requirements permit a house to meet the Total UA method of the 2021 IECC, which allows for cavity-only insulation, foam sheathing and other options like double-stud walls. In northern climate zones, program requirements can be achieved with high-density blown-in insulation products in 2x6 framing. Program requirements can be achieved in southern climate zones by using a combination of radiant barrier roof sheathing and improved wall cavity insulation.

APA exhibits at the World of Modular conference

APA field staff exhibited at the World of Modular conference held March 29 - April 1. This was the first year APA exhibited at the event and was undertaken at the direction of the APA Marketing Advisory Committee’s nonresidential subcommittee. The event offered educational and networking opportunities. APA’s booth was heavily trafficked by roughly 1,500 show attendees, and APA field staff obtained over two dozen quality leads to provide engineered wood training for building professionals. As we see an increased demand for affordable housing and a shortage of framers, modular construction provides a solution. APA is researching the best ways to grow this market for member products. Findings from this show will be shared with the APA MAC nonresidential subcommittee to recommend that APA exhibits at the 2024 show and develops a case study highlighting the benefits and best practices of light-frame wood modular construction.

New American National Standards published

Two new American National Standards, ANSI/APA PRS 610.1-2023 *Standard for Performance-Rated Structural Insulated Panels in Wall Applications* and ANSI 405-2023 *Standard for Adhesives for Use in Structural Glued Laminated Timber*, were published by APA in January 2023. ANSI/APA PRS 610.1-2023 replaces ANSI/APA PRS 610.1-2018 and contains routine updates for structural

insulated panels (SIPs) used in wall applications.

ANSI 405-2023 replaces ANSI 405-2018 and includes a full-scale fire test requirement, which has been adopted by the glulam industry for years, for the glulam adhesive approval. Publications are available as free downloads from the APA website.

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STAY CONNECTED

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Valvejet and inkjet printers can reliably produce the essential marks and codes needed for high-performance production environments as shown on these product samples.



UPDATING YOUR WOOD MARKING SYSTEMS CAN REDUCE COSTS

By Kevin Havre

High-quality, durable marking technology gives companies in the engineered wood products industry a competitive edge by improving efficiency, reducing costs and improving traceability.

It's a familiar sight to every builder, contractor and home-improvement-store consumer: wood products with smeared, illegible marks. Beyond aesthetics, there are deeper issues associated with low-quality, inaccurate or unreadable marks that not only impact brand recognition but also pose problems for manufacturing efficiency, compliance, inventory management, tracking and traceability.

For engineered wood product manufacturers, coding and marking provide essential information – from product grades and traceability data to trademarks and industry certifications that reflect on the brand and help improve operations. In today's highly competitive marketplace, how marks are made can have a direct impact on a company's bottom line.

Rather than thinking of marking as a check-box task in the manufacturing process, there are steps to take to turn engineered wood product marks into a strategic asset, reduce waste and improve efficiency.

Reduce maintenance and lower costs

Printing on engineered wood products comes with unique challenges. Industrial production tends to generate a great deal of wood dust, glue and other residue. Marking equipment may also need to withstand extreme hot or cold temperatures. Oddly shaped products often require highly flexible printing equipment and special mounting considerations.

Continued on next page

If contact printing is being used for your marking and coding, you may be missing the mark. Compared to more advanced options, your marks will carry less detail and there's a much greater chance product marks will end up smeared and difficult to read by machines and by consumers. Worse, you'll have to stop production every time you need to change or update the message you're printing. With contact printing methods, more ink is used (and wasted) and equipment needs to be cleaned and replaced often due to wear, adding to your overall printing costs.

Today's modern technology offers options to upgrade equipment to include drop-on-demand (DOD) valvejet, thermal inkjet (TIJ) or piezo ink jet (PIJ) printing technologies, depending on the company's needs. Printers with automated valve flushing systems and highly reliable printheads provide clearer, crisper marks and require minimal ongoing maintenance, providing marking equipment that stays online when needed and ultimately saves money and resources.

These printing technologies also offer greater flexibility and economies of scale for high-volume production as marks can be quickly and easily changed via an intuitive, easy to use controller without involving manual work to change stamps or stencils.

Improve production and supply chain efficiency

Marking ensures accurate identification and proper handling of your product – from manufacturing through final use.

Clear marks on engineered wood products are essential for any number of reasons. These

include product identification, internal and external traceability, manufacturing processes (such as location of finger joints, orientation of boards and panels, defect marking or nail pattern marking) and for noting specifications, standards and structural ratings on the finished product.

If marks are unreadable along the way, whether it's within the manufacturing facility or at any point in the supply and distribution chain, products can end up in the wrong place, with the wrong price, improperly tracked or even discarded. Over time, such errors can add up, impacting a company's profitability and reputation.

On the flip side, high-quality, reliable and durable marks combined with an automated and well-integrated print controller ensure that products are exactly where they're supposed to be – from the manufacturing operations through the entire supply chain and on to the end customer or job site. Not only does this improve efficiency, it also improves quality assurance and accountability, internal and external traceability and compliance.

Ensure more effective traceability

Traceability is more important now than ever – whether a company is in the midst of a product recall or wants to showcase their commitment to sustainability for green builders and eco-conscious consumers who want to know the sourcing of products they buy. With the engineered wood products market estimated to grow at a CAGR of 6.8% between 2022 and 2027, concerns about sustainable sourcing and forest product traceability will continue to grow.



While the simple 1D barcodes and UPCs used for the past 50 years revolutionized supply chains, the limitation of only 20 characters cannot provide enough information for adequate traceability. Newer 2D barcodes such as QR codes and data matrix, on the other hand, hold up to 7,000 characters and provide much deeper information about each product. Simply put, more data means greater internal and external traceability and the ability for each of your products to tell a story that will resonate with green builders and sustainability-conscious consumers. For instance, by simply scanning a QR code printed on every product, customers can confirm that the wood products they are using have been sustainability harvested and transported.

To take advantage of everything 2D barcodes have to offer, companies need to make sure 2D marks are easily readable by optical scanners and can be easily updated as frequently as needed, potentially including serialization, to accurately capture and share traceability details.

Showcase sustainability, quality and brand values

In addition to conveying essential product information, clear, high-quality brand marks improves company profiles in the marketplace. A logo that's crisp and easily readable sends a message of quality and attention to detail – both sought-after brand and product attributes.

Continued on next page

The converse is also true: a poorly stamped, smeared or difficult-to-read company name or logo on products not only impacts brand identification, it constitutes a lost opportunity to build positive brand recognition. It can also have a negative impact on overall brand perception, as poor-quality marks send a subconscious message to your customers about your company's production and quality control processes.

Showcasing company and brand values is more important today than ever and being able to effectively convey company commitments to standards for quality and sustainability.

For example, if a company is producing structural wood panels, glued laminated timber (glulam), cross-laminated timber (CLT), wood I-joists, structural composite lumber or other engineered wood products, it can ensure that every product leaving the plant carries the mark of quality: the APA trademark. This conveys an assurance that the products conform to the highest performance standards for quality inspection and testing.

As the marketplace becomes more aware of the environmental benefits of engineered wood products, using marks to showcase sustainable wood certifications – like the Forest Stewardship Council (FSC), Sustainable Forestry Initiative (SFI) and Programme for the Endorsement of Forest Certification (PEFC) – ensure that green builders and consumers associate identified brands with a commitment to environmental sustainability. And calling attention to the use of sustainable and biodegradable inks in marking is another way to support brand values.

Drive efficiency with marking automation, integration

As noted above, the type of printer technology used depends on company goals the messages and wood products you are marking on. Chances are requirements may include multiple printer technologies that work in concert.

Unlike contact printing with its requirements for manual labor every time you change your codes and marks, state-of-the-art valvejet and



Large marks like this demonstrate a commitment to quality. See it in action at [Matthew's Marking Systems](#).

About the Author



Kevin Havre

Based in Matthews' Wilsonville, Oregon office, Kevin Havre is a global product manager for Matthews Marking Systems where he is focused on aligning products with customer needs and driving business strategies for key products and industries, including the wood industry. He studied computer science at Oregon State and Washington State universities. In the winter months, you'll often find him rescuing stranded or injured skiers from the slopes of Oregon's Mt. Hood where he volunteers as a member of the local ski patrol.

inkjet technologies offer more flexibility and scalability through the efficient automation and integration of your printing processes.

A high-quality automated printing controller platform is key – one that can be easily integrated into existing production lines and customized to meet changing production requirements. Controllers should be able to support a wide range of marking and coding technologies and control multiple printers from a single interface that's easy to use, enabling operators to quickly create and modify messages and adjust settings for different surfaces and products.

Controllers may also include advanced tools for monitoring and analyzing printing performance, including real-time data reporting, remote diagnostics, and predictive maintenance alerts. For example, controllers that include 2D barcode validation capabilities allow you to use cameras and scanners to easily track products on the line for internal traceability, to ensure proper handling during the production process and to identify if it's time for maintenance when code quality begins to diminish due to dust, glue, or poor material handling.

Ultimately, automating marking with an advanced printing controller platform improves workforce productivity, frees up resources and reduces your costs associated with printing.

Remaining competitive in the market involves many strategic and interconnected moves. Recognizing the importance of marking as one of those strategic moves is a step in the right direction. Updating your equipment, inks and the types of marks you make can all be investments that pay off in reduced costs, more efficiency through the supply chain, improved traceability and better brand awareness – giving you a competitive edge.

Kevin Havre is a global product manager for Matthews Marking Systems



Plywood structural panels were used to fully sheathe the walls of this sustainable commercial structure.



The key to building
sustainable structures

THE ROLE OF ENGINEERED WOOD IN SUSTAINABLE STRUCTURES

By Aleeta Dene and Roy Frederick

Sustainability in construction is becoming more important as society moves towards a more sustainable future. Learn about engineered wood's key role as a green building solution.

The increasing threat of climate change has more and more building owners and homebuyers considering the sustainability of their structures and the role construction plays in global warming and use of our natural resources.

What makes a sustainable structure?

According to the Environmental Protection Agency (EPA), green building is the practice of maximizing the efficiency with which buildings and their sites use resources—energy, water and materials—while minimizing impacts on human health and the environment through the complete building lifecycle, from siting, design and construction, to operation, renovation and reuse.

Green building programs and codes first emerged in the 1980s, and as they have evolved, so have their targets. As global warming intensifies, an increased emphasis has been placed on reducing carbon emissions.

Architecture 2030 notes that the building and construction sectors account for nearly 50% of global energy-related greenhouse gas emissions—which are responsible for global warming and climate change. The current building energy code only addresses operational energy but not the impacts of embodied energy/carbon in building materials.

Continued on next page

How do we compare building materials?

Embodied carbon, or materials carbon, refers to emissions related to construction and building materials. These embodied emissions encompass all greenhouse gas emissions that arise from the extraction, manufacture, transport, installation, maintenance and disposal of building materials.

Reducing the embodied carbon in buildings requires understanding the carbon footprint of the materials that go into them. Carbon accounting is the process of calculating overall greenhouse gas emissions associated with the building materials—how much carbon is sequestered into materials (the process of capturing, securing and storing carbon dioxide from the atmosphere) versus how much

greenhouse gases are emitted during extraction, manufacturing, construction and eventual demolition and disposal, as well as emissions during habitation.

If sequestration and emissions are equally balanced, the project is carbon neutral or even carbon negative. Carbon neutrality can be accomplished several ways, but often begins with a design that incorporates carbon sequestering materials, such as engineered wood.

Engineered wood products and embodied carbon

Compared to steel and concrete, engineered wood products typically result in far less emissions because they don't require drastic changes to the material's original form and



Engineered wood products and mass timber can be ordered in custom and longer lengths and even pre-cut framing packages, all of which help reduce construction waste.

because wood manufacturers often use wood waste to power the manufacturing process. This reduces the use of fossil fuels, which have high carbon emissions.

In addition, wood naturally sequesters carbon. Modern forestry standards ensure a continuous cycle of growing, harvesting and replanting of trees. These newly replanted trees absorb more carbon at a faster rate than old, slower growing trees. It's this lifecycle of planting, growing, harvesting, sequestering carbon in buildings and replanting, that makes wood an excellent sustainable resource.

The Sustainability Benefits of Engineered Wood Engineered wood products (EWP) not only offer the lower embodied carbon and carbon sequestration benefits of wood, but they provide additional green building benefits including:

- Due to how they are made, engineered wood products can be produced from small-dimension lumber. Engineered wood products therefore also optimize timber resource utilization.
- Engineered wood products are predictable, so there's less shrinkage, consistent dimensions, less crowning, etc.—and therefore less waste.
- Many engineered wood products are available in custom and longer lengths, and can be ordered in pre-cut framing packages, all of which further reduces waste.
- EWP manufacturing involves a lower-energy-use process that is more energy efficient than the manufacture of non-wood structural products that typically require a greater level of processing from the raw materials to the final product.

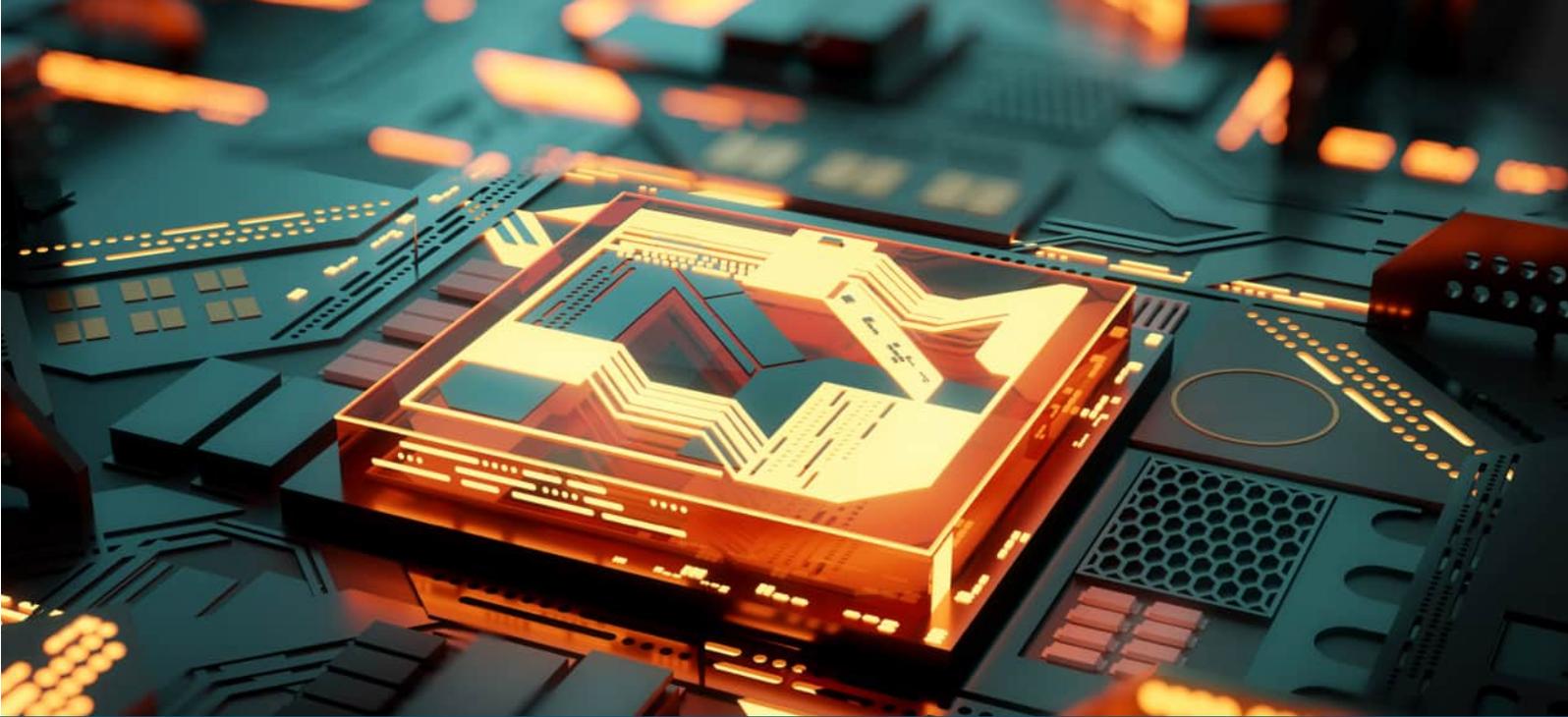
When we compare wood floor systems to steel floor systems and wood wall systems to concrete wall systems, the carbon savings add up quickly. According to the Consortium for Research on Renewable Industrial Materials (CORRIM), choosing wood floor assemblies over steel can avoid approximately 22 pounds of CO₂ for every square foot of floor, while choosing wood wall assemblies over concrete can avoid about 15 pounds of CO₂ for every square foot of wall area.

Using wood building materials can reduce the net carbon impact of a project in many ways, particularly because wood emits significantly less CO₂ from production than other materials. If carbon storage capabilities are factored in, the benefits of wood become even more significant.

Ready to learn more? Watch APA – The Engineered Wood Association's on-demand webinar, "Sustainable Structures Built with Engineered Wood," for a deeper dive into engineered wood's role in reducing the carbon footprint of the built environment. Available to view in English or Spanish. CEUs available.

Find additional green building and design tools and resources at www.apawood.org/green-building.

Aleeta Dene (aleeta.dene@apawood.org) and Roy Frederick (roy.frederick@apawood.org) are Engineered Wood Specialists for APA – The Engineered Wood Association covering the Southwest and South Texas & Louisiana regions, respectively.



THE POTENTIAL OF MACHINE LEARNING FOR THE ENGINEERED PANEL INDUSTRY

By Timothy M. Young, CEO and President, T.M. Young Institute, LLC
Professor Emeritus, University of Tennessee

Machine Learning (ML) is transforming the business world at an exponential rate of change. Everyone reading this article has read about, or experienced 'ChatGPT' or other AI related platforms. The vast majority of AI platforms are based on an ensemble of ML algorithms. ML algorithms evolved from regression trees (RTs) towards the concept of 'random forests' in the late 1990s.¹ Many reading this article have seen some type of RT in their root-cause analyses as a data-driven approach for the company's process improvement effort. RTs have 'explanatory-value' in that a path to optimization (*e.g.*, minimum process weight or maximize strength) is presented as a 'hierarchy tree' of key interactions (Figure 1). Even though the RT has high explanatory value, it tends to have poor predictability that arises from the

way it identifies significant clusters within the data. These important data clusters explain the majority of variation in a response variable that a human is unable to recognize (*e.g.*, $Y = \text{mat weight variation}$). Even though RTs are very useful for process improvement, RTs have evolved towards ML algorithms that are better for prediction.

Random Forests (RF) was the first widely adopted ML algorithm method and is very popular today. RF combines the predictions of all the trees in the forest by taking a majority vote where the final prediction is the class that receives the most votes. The gradient boosting of trees was the next generation of ML algorithms and in my experience tends to outperform RF in this industry. Gradient boosting develops an army of small trees of significant variables

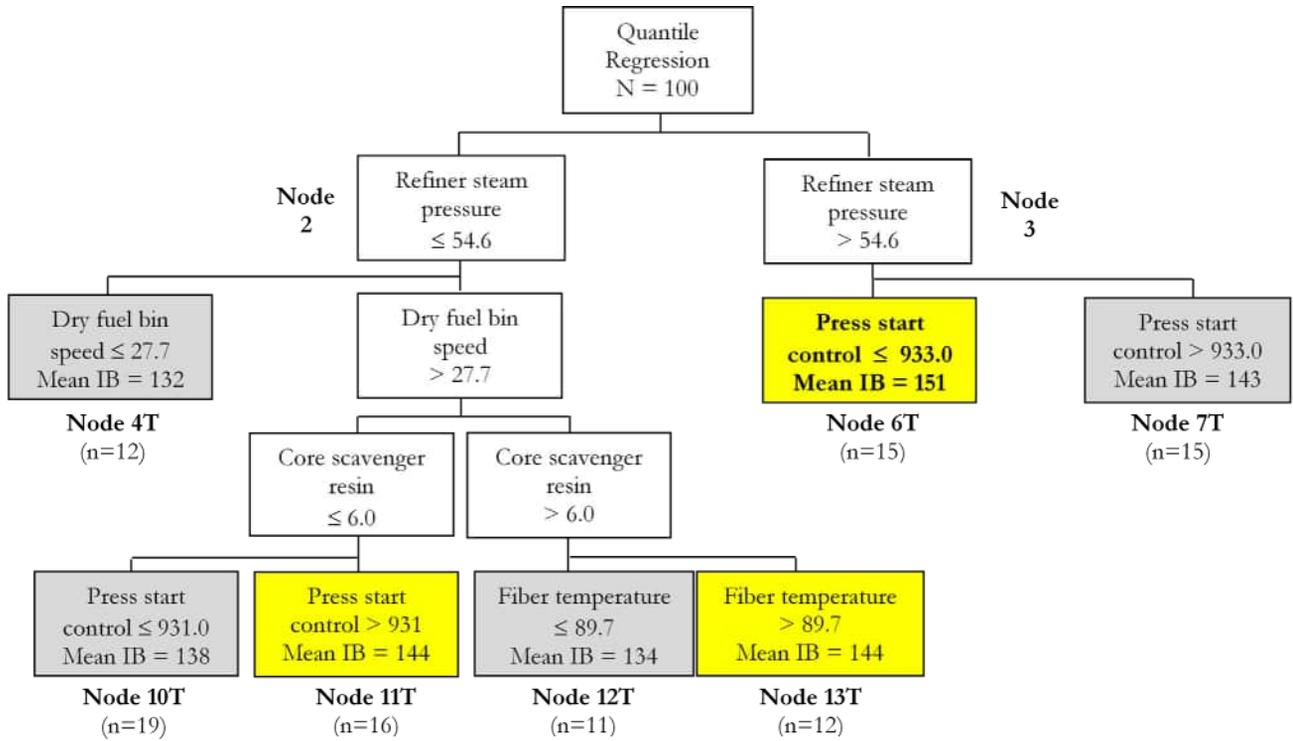


Figure 1. Illustration of regression tree from PhD dissertation by T.M. Young (2007).

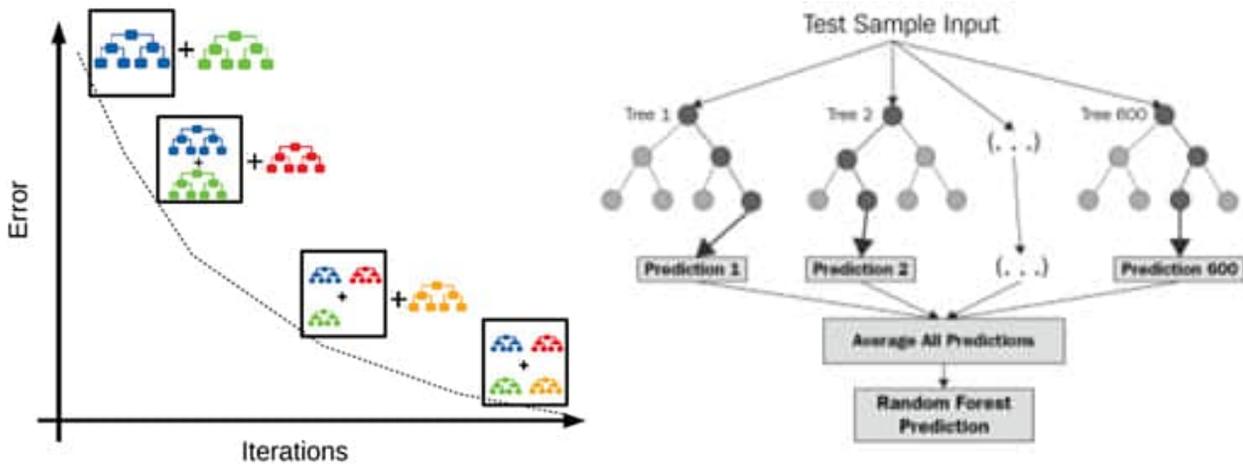


Figure 2. Illustration of gradient boosting of trees (top) and random forests (bottom)

(weak learners) until improvement in prediction no longer occurs (Figure 2). Since this industry typically uses either Minitab® or JMP® analytics software, both ML algorithms are now available in the current versions.²

How can ML help the engineered wood panel industry in lowering costs and improving business competitiveness? ML can help the industry in many ways. For instance, operational target weights, thicknesses, line

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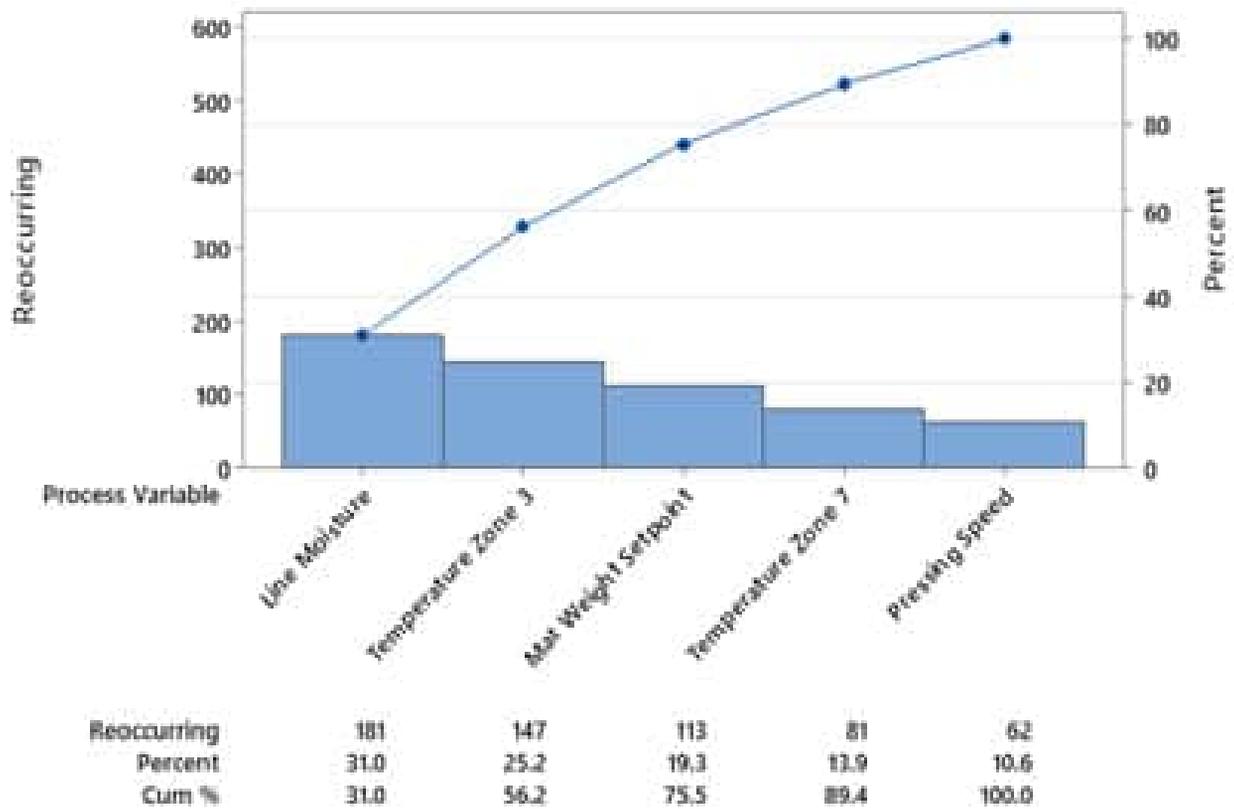


Figure 3. Illustration of Pareto chart of reoccurring process variables in ML models that influence strength of final product.

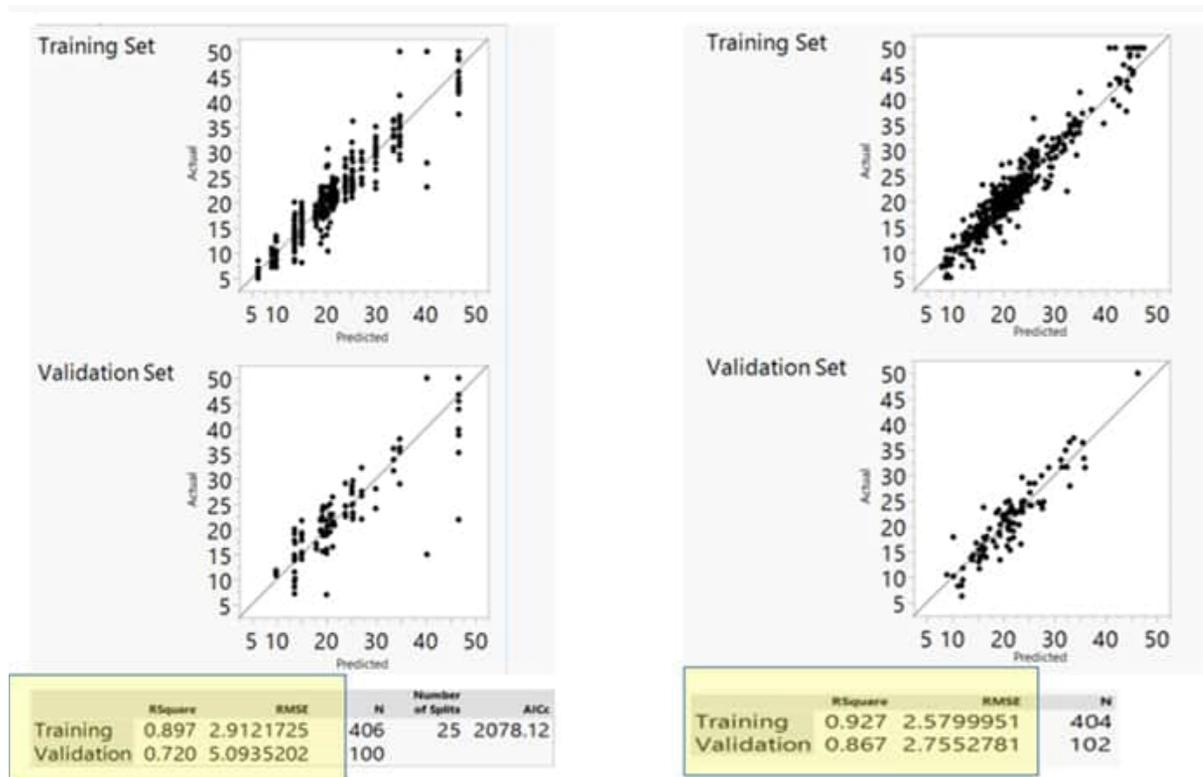


Figure 4. Illustration of predictions from RT (left) and RF (right).

speeds, resin set points, etc., are the direct result of process variation. For example, operational target weight for a specific product is determined from an assessment of the distance in the process mean from the lower specification limit, i.e., an established operational weight target cannot be reduced unless weight variation is reduced. Even though daily process weight targets are sometimes adjusted lower given antidotal signals or hunches that *'raw material variation is lower today'* (blind optimization), there is no validation that a lower adjustment will work, which would be available from an ML algorithm. Reducing operational targets in weight, thickness, resin, etc., in a smart way can lead to millions of dollars of savings for companies by sustaining lower targets. ML makes the process more predictive, which also reduces errors in judgment that result in a scrapped product or off-grade product. How much money does a company lose annually due to scrapped board and order reruns?

ML can also identify the reoccurring process variables that are inducing excessive process variation in weight, moisture, etc. (Figure 3). Some of these process variables may be known, and others yet discovered. This provides a data-driven approach to much deeper root-cause analyses by providing a new portal for variation discovery.

Advanced automation of the process ('Industry 4.0') is not possible without ML. Advanced automation of the process implies being predictive. Predictions must be accurate for improved optimization (Figure 4). Real-time prediction of both key process variables and product attributes is attainable with ML. Of course, all of the aforementioned benefits of ML imply high quality databases. ML predictions are only as good as the data quality.

Timothy M. Young is a professor at the University of Tennessee (UT)

About the Author



Timothy M. Young

Timothy M. Young is a professor in the Center for Renewable Carbon at the University of Tennessee (UT). He has Ph.D. in Natural Resources (Statistics) and M.S. in Statistics (Operations Research) from the University of Tennessee. He also holds M.S. and B.S. degrees from the University of Wisconsin, Madison. He has taught highly successful industry courses in 'Advanced Analytics and Data Mining,' 'Process Analytics, Statistical Process Control | Lean Methods,' and 'Design of Experiments for R&D and Manufacturers' to more than 1,000 industry personnel since 2000.

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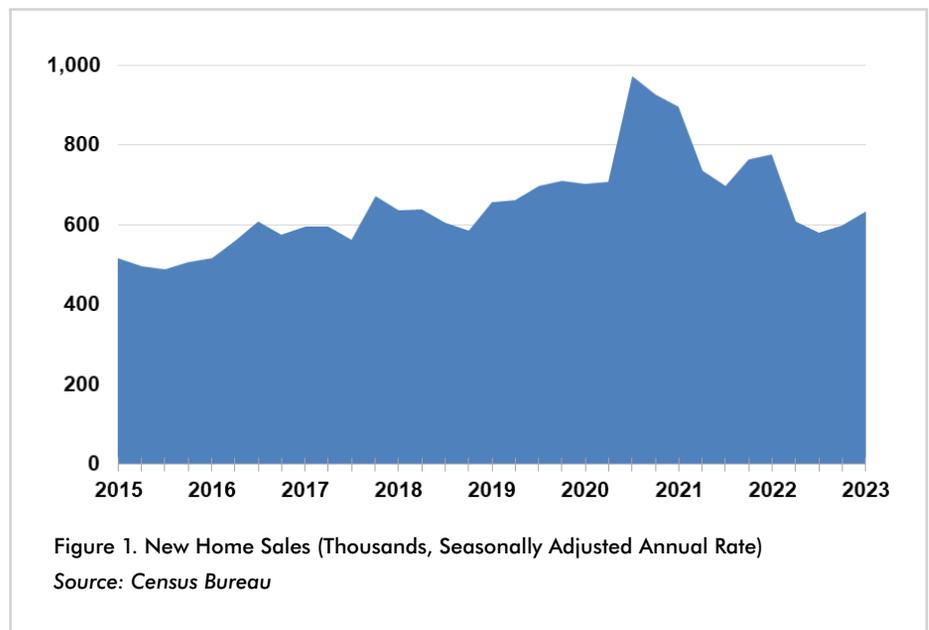


NO CHANGE IN THE MESSAGE

Home building in recession in 2023

by Joe K. Elling

Despite the recent decline in long-term interest rates driven by financial expectations that the Federal Reserve is close to taking a pause in its tightening of monetary policy, home builders will continue to face a challenging market through the rest of 2023. Based on estimates from the Census Bureau, one might conclude that new home sales bottomed in the third quarter of 2022 (see Figure 1). However, the Census Bureau data are estimates of gross sales and do not account for cancellations. One large home builder reported that its cancellation rate in the fourth quarter of 2022 was 68%. In addition, home builders are using various incentives such as mortgage rate buydowns to generate sales, which cuts into their margins.



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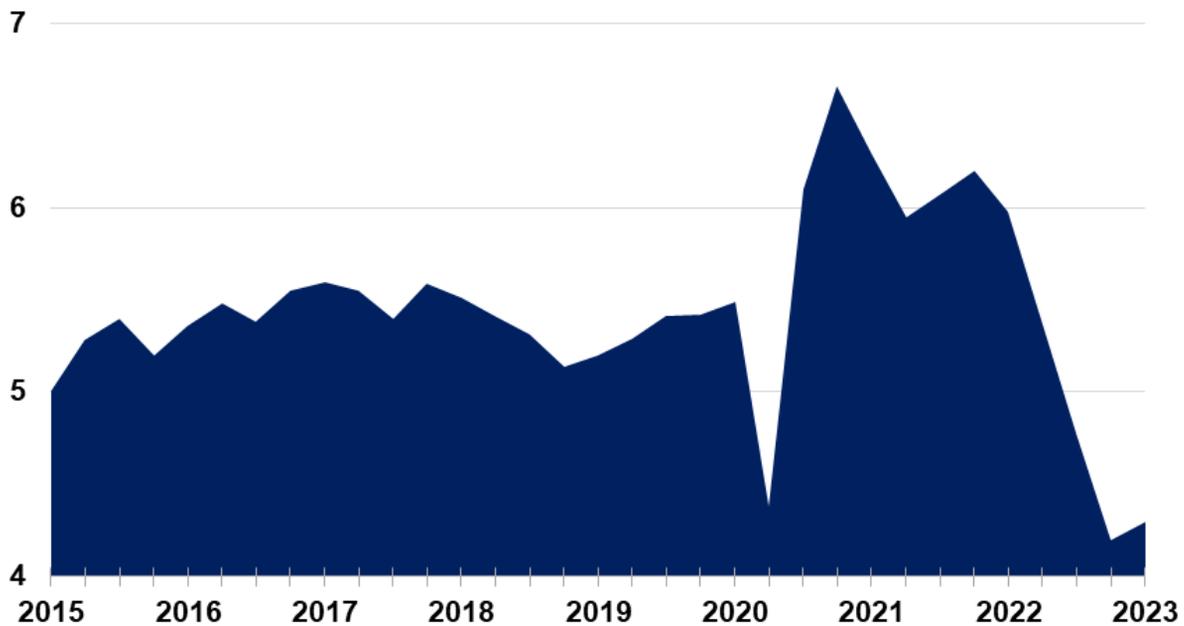


Figure 2. Existing Home Sales (Millions, Seasonally Adjusted Annual Rate)

Source: National Association of Realtors

Existing home sales at lowest level since 2011

With the rate on a 30-year fixed-rate mortgage at 3%, existing home sales in the first quarter of 2022 averaged a seasonally adjusted annual rate near 6 million. The median price of homes sold was up 16.7% compared to the first quarter of 2021. As the rate on a 30-year fixed-rate mortgage skyrocketed to over 7% in November, existing home sales in the fourth quarter of 2022 averaged a seasonally adjusted annual rate of 4.2 million units, down 30% from the first quarter (see Figure 2). Other than lowering the price, existing homeowners do not have the means to offer incentives to generate sales like home builders.

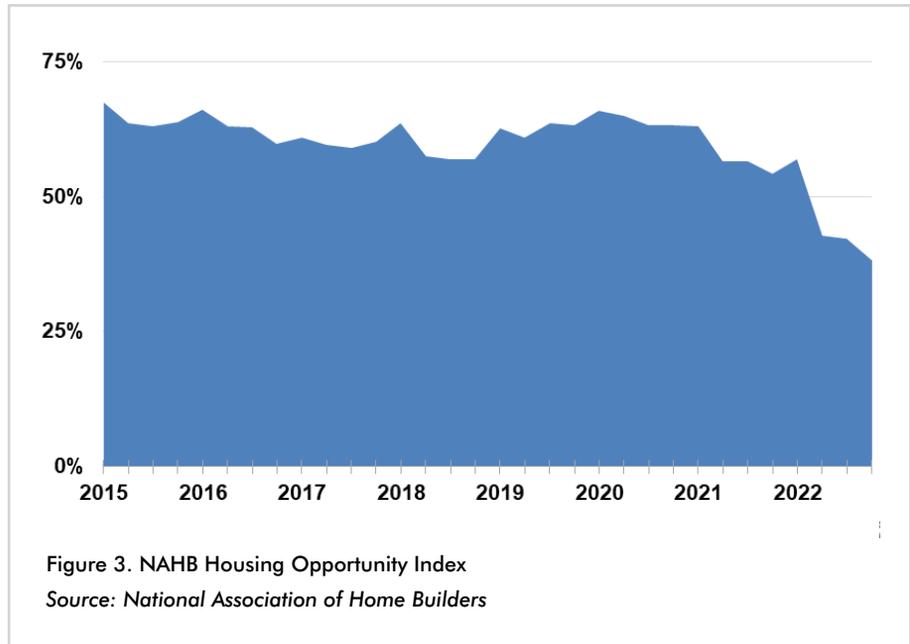
Based on estimates from the Case-Shiller home price index, the median priced home sold has fallen 6% from June 2022 to December 2022.

The decline in home prices has been more severe in the Western U.S. markets, while prices in states like Texas are holding up much better.

Severe deterioration in affordability

There is a large array of ways to measure housing affordability. For the purposes of this piece, the NAHB Housing Opportunity Index is used to depict the deterioration in affordability driven by the rise in the rate on a 30-year fixed-rate mortgage and higher home prices. The Opportunity Index is a measure of the percentage of new and existing homes sold in a quarter that a family earning the median income could afford using a standard set of mortgage qualification guidelines regarding down payment and share of income devoted to the mortgage payment, property taxes and insurance.

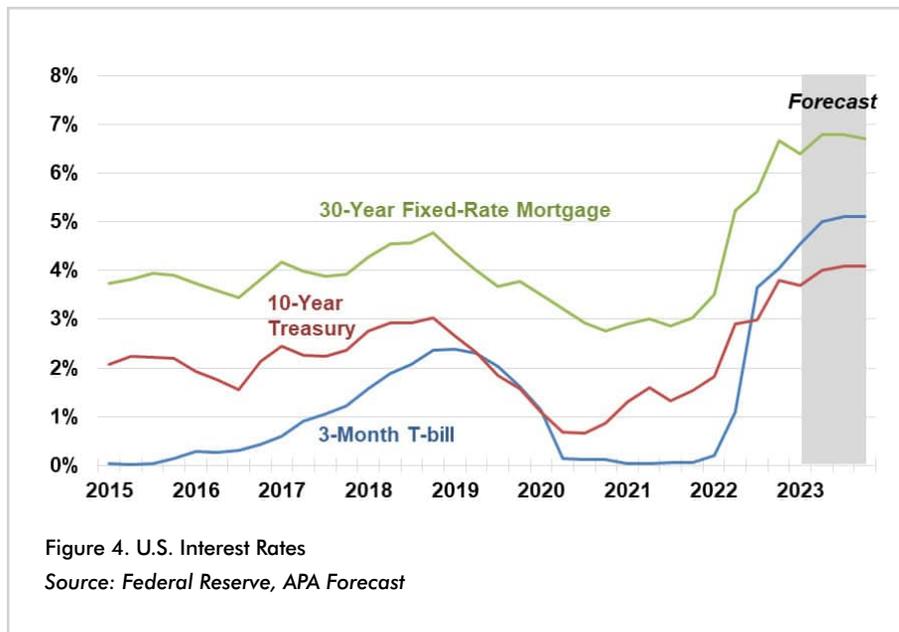
As shown in Figure 3, the Housing Opportunity Index ran above 60% for much of the last half of the prior decade. However, in 2021 affordability started to deteriorate as home price increases exceed income growth. The rate of deterioration continued in 2022 and in the fourth quarter of 2022 the opportunity index had fallen to 38%, a record low for this affordability measure.



No interest rate cuts in 2023

Based on recent statements by Chair Jerome Powell and other board members, we should not count on the Federal Reserve to do the housing industry any favors through the rest

of 2023. Getting inflation down to 2% remains the priority among policymakers at the Federal Reserve. Even though inflation has slowed, it is still running well above the 2% target. The



interest rate forecast, or guess, as some might say, is shown in Figure 4. One thing to note in the chart is that the rate on a 3-month T-bill has been running above that of a 10-year Treasury bond. Historically, when this occurs it has been a leading indicator of a recession. It is this inversion of the yield curve that is leading some economists to forecast a recession in the U.S. economy will begin in the second half of this year.

Continued on next page

Housing starts run near 1.3 million in 2023

Given the interest rate forecast and the likelihood of a recession in the second half of this year, new home sales and in turn, single-family starts are expected to total slightly less than 800,000 units in 2023. In association with that, we should expect the average home size to be down as home builders adjust their product offering to accommodate the challenge faced by potential home buyers.

At the start of 2023 there was a record number of multifamily units under construction. That number rose further 957,000 at the end of February. Banks have tightened their standards for multifamily construction loans. So far, neither of these factors have had much of impact on starts through February. Therefore, multifamily starts are projected at 500,000 units in 2023.

In total, housing starts are projected to be near 1.3 million units in 2023 (see Figure 5). This is a 250,000 unit decline from 2022. Various housing industry analysts estimate the U.S. is short 1.5 million to 4 million housing units. In turn, to whittle away at this shortage, housing starts would have to average 1.8 million or more units through the rest of the decade. The outlook for starts in 2023 means no change in the estimated shortage of housing units in the U.S.

Joe K. Elling is Director of Market Research for APA – The Engineered Wood Association.

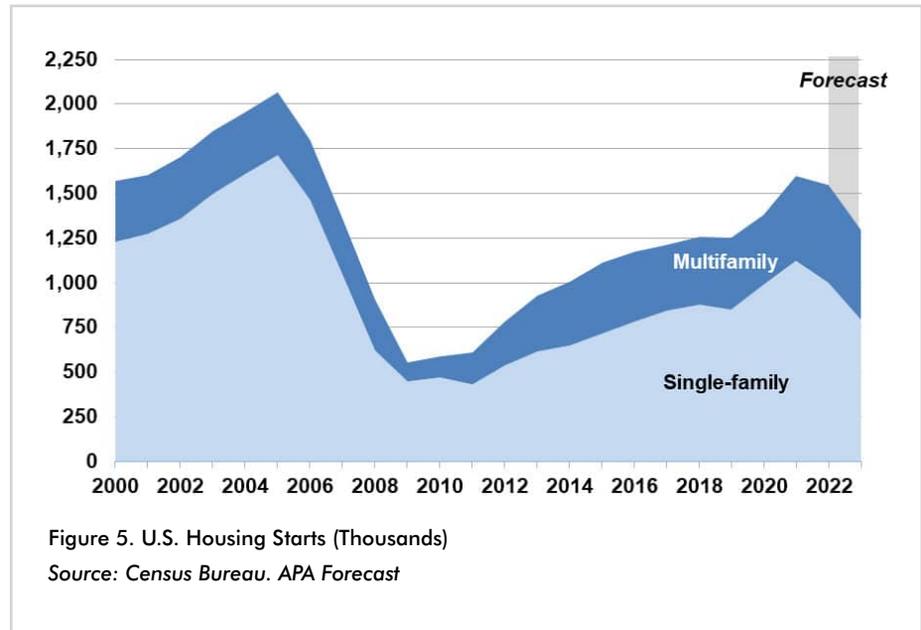


Figure 5. U.S. Housing Starts (Thousands)

Source: Census Bureau. APA Forecast

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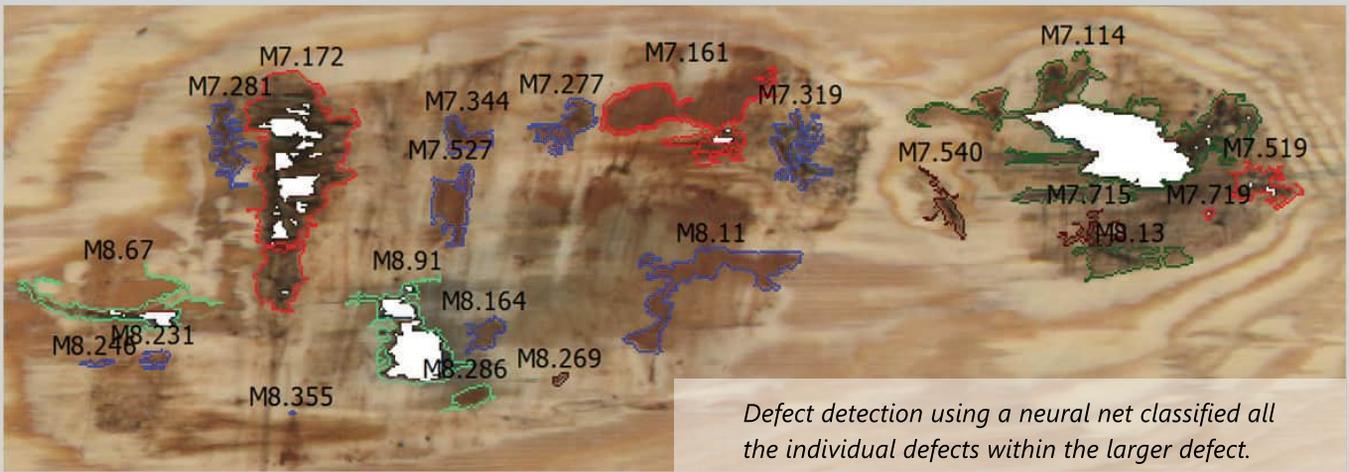


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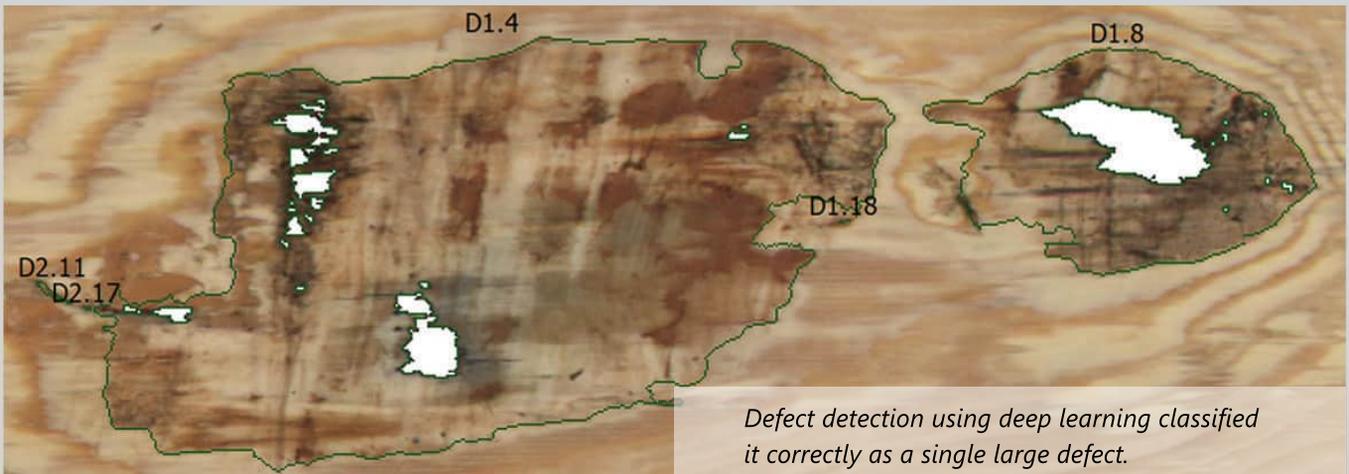
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Defect detection using a neural net classified all the individual defects within the larger defect.



Defect detection using deep learning classified it correctly as a single large defect.

Instant value uplift with deep learning AI

USNR has applied its deep learning AI technology, proven in sawmill grade optimizers, to the NV4g green-end and GSc2000 dry-end veneer grading platforms. The result is a paradigm shift in solution accuracy that achieves a new level of defect detection, making grading solutions more accurate and more profitable.

USNR has several systems installed and operating with impressive results. Mills are reporting improved grading accuracy and increased higher-grade finished products.

Faster to startup up, more accurate, and easier to use than a traditional neural net classifier, deep learning is available as part of a new system or an upgrade. *Visit us a LIGNA or contact us today to learn more.*



JOIN APA AND EWTA IN CALIFORNIA THIS OCTOBER

The 2023 APA Annual Meeting and EWTA Info Fair will be held in sunny Palm Desert, California at the JW Marriott Desert Springs Resort & Spa Oct. 14-17, 2023, where members will connect for business meetings, sporting events, EWTA's Info Fair, and networking.

A new APA and EWTA events website provides Annual Meeting and Info Fair information and registration links for meeting attendees, Info Fair exhibitors, and sponsors. The details are available at www.apa-ewta-events.org. Attendance at APA's Annual Meeting and EWTA's Info Fair is limited to APA and EWTA members and invited guests.

APA | EWTA



ANNUAL MEETING
& Info Fair

APA names new Chair and Vice Chair, Trustees join APA board



Ashlee Cribb

A new chair, vice chair and three new members have been elected to APA – The Engineered Wood Association's Board of Trustees.

Ashlee Cribb, vice president of wood products for PotlatchDeltic Corporation, has been elected to serve as chair on APA's Board of Trustees, succeeding Roy O. Martin III. Cribb

steps into this position after being elected vice chair earlier in 2022. Her areas of expertise include sales, marketing, strategic planning and operations management. Before joining PotlatchDeltic, Cribb was senior vice president and chief commercial officer for Roseburg Forest Products.

Continued on next page

She previously held leadership positions at Georgia-Pacific, including vice president of industrial packaging.

She also has 21 years of experience working in the chemical industry at Imerys Performance Minerals and Solutia, Inc. (formerly Monsanto). Cribb earned an MBA from Washington University and a bachelor's degree in chemical engineering from Georgia Institute of Technology.

Doug Asano, senior vice president of sales & marketing for Roseburg Forest Products Co., has been elected to fill the vice chair position. Asano leads Roseburg's sales, marketing, logistics, customer service and fulfillment teams.



Doug Asano

Asano joined Roseburg in 2020 as the director of sales excellence, focused on process and systems improvements and sales training. Before joining Roseburg, he worked at Huber Engineered Woods for more than 16 years in multiple commercial leadership roles, most recently as vice president of sales and marketing. Asano started his career in investment banking at JP Morgan & Co. and then private equity at Berkshire Partners. He earned his bachelor's degree in economics with honors from Dartmouth College and his MBA from The Tuck School of Business at Dartmouth College.

Three new members to the board include:

John Beers III currently serves as the president of the structural panels business at Georgia-Pacific. As a panel industry veteran, John acquired a wealth of knowledge and experience over the past 23 years.



John Beers III

He began his career in sales with Grant Forest Products in 2002, later joining Georgia-Pacific in 2010 as part of the Grant acquisition. He quickly moved up within the company, rising to president after just 13 years. Throughout his career, John has worked on all levels of the supply chain, from supporting builders and distributors to working closely with manufacturing operations. John graduated from Central Michigan University with a Bachelor of Science in business administration. He joins the APA Board of Trustees, filling the position vacated by Andy Konieczka's resignation and move to a new role within Georgia-Pacific.

Richie LeBlanc, president and CEO of Hunt Forest Products Inc. LeBlanc has been serving the forest products industry for 22 years. He began his career with Willamette Industries in Ruston, LA, which Weyerhaeuser later acquired.



Richie LeBlanc

Continued on next page

"The engineered wood industry, like so many others, is experiencing tremendous change, we are grateful for our volunteer leaders' service to the industry and APA."

- Mark Tibbetts, APA – The Engineered Wood Association

He initially served on the integration team, charged with merging the cultures of Willamette and Weyerhaeuser. He went on to become the land adjustment program manager of Weyerhaeuser's North Louisiana timberlands organization.

In 2015, he was named director of U.S. real estate operations for Weyerhaeuser. LeBlanc was appointed president of Hunt Forest Products in 2016 and now oversees operations at the company's Louisiana mills. He earned his bachelor's degree in business administration and management from Louisiana Tech University. LeBlanc is filling the vacancy left by Travis Bryant as Coastal Forest Products was purchased by Boise Cascade Company.

Stephen Williams, executive vice president and chief financial officer of Western Forest Products. Williams joined Western Forest Products in May 2014 to assist with implementing Western's strategic initiatives.



Stephen Williams

He leads the company's corporate finance, corporate development, investor relations, IT, shared services and legal teams. Williams is a strategic leader with more than 25 years of experience in the forest industry and extensive experience in acquisitions and divestitures. Before joining Western Forest Products, he worked at Interfor. Williams is a chartered professional accountant and holds a bachelor's degree from the University of British Columbia. Williams is filling the vacancy left by Doug Calvert after Calvert Co., Inc. was purchased by Western Forest Products.

STORY IDEAS & SUBMISSIONS ARE WELCOME

The *Journal* covers a wide variety of subjects related to the engineered wood products industry.

[GET DETAILS ►](#)

EWTA Advisory Committee meets in Portland, Oregon

Seventeen members and guests attended the 2023 spring EWTA Advisory Committee on March 29, in Portland, Oregon. The meeting, held in conjunction with the March 27-29, 2023 International Mass Timber Conference, was led by Chair Chris Degnan and provided an opportunity to hear updates on membership, finances, communication and research projects.

The 2023 EWTA budget, presented and approved by the APA Board of Trustees at their fall meeting, includes assumptions of a growth in membership with Info Fair sponsorships and exhibitor attendance equal to or greater than that of 2022. The 2023 budget will not dip into reserves, but includes a projected surplus of \$980, ending the year with reserves of \$237,158.

Plans for the 2023 APA Annual Meeting scheduled to be held at the JW Marriott Desert Springs Resort & Spa in Palm Desert, California was presented to those in attendance and included details on exhibit and sponsorship opportunities. The Autumn EWTA Advisory Committee meeting, the Adhesives and Technology Subcommittee and the EWTA Info Fair will be held October 14-17, 2023, in conjunction with the APA Annual Meeting.

APA FINANCE AND STRATEGY LEADERSHIP CHANGES HANDS

Following 15 years of service to APA and the Industry, Sonya Bachlmayr Retires. Sonya joined APA in 1998 as a senior accountant. In 1999 she was promoted to accounting manager. In 2013, Sonya returned to APA as the director of the Finance and Administration Services Division (FASD) and was promoted to vice president of finance and strategy in 2020. Sonya's last day with the Association was December 31, 2022.

Sonya's legacy is cemented in executing the vision for the high-bay lab. She was instrumental in the financing of the expansion and supporting

Ed Elias and APA staff through construction. APA wishes Sonya the best in her retirement.

Jaclyn Walters joined APA December 1, 2022, succeeding Sonya Bachlmayr

Previously, Jaclyn served as the vice president for finance and administration for Saint Mary-of-the-Woods College. She was responsible for accounting, treasury, debt management, risk management, human resources, facilities, conference and events, and public safety. Before attending higher education, Walters worked as finance director for the Gordon Jewish Community Center in Nashville, Tennessee.



Sonya Bachlmayr



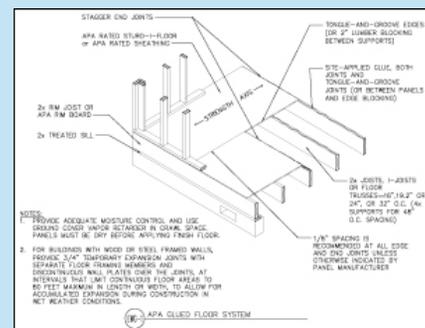
Jaclyn Walters

Jaclyn sits on the boards of several local nonprofit organizations, including Terre Haute Children's Museum and Catholic Charities. She holds a master's degree in accounting from Liberty University and an undergraduate degree from Georgia Southern University.

UPDATED APA AUTO CAD DETAILS, REVIT NOW INCLUDED

Nearly 200 new and updated computer-aided design (CAD) details for wood-frame construction are now available for download from APA's online Resource Library. Available in both DWG and RVT (2D) files, the details are used by building designers and construction professionals to incorporate generic industry recommendations and technical details into construction plans. The details are gleaned from decades of APA research and cover a wide array of construction assemblies. Available for download from APA's website, the details can be dropped into construction drawings and plans to guide designers, code officials and contractors on proper design and installation of member products.

GET CAD DETAILS ►





2022 ANNUAL SUPPLIER AWARD PROGRAM WINNERS

Four EWTA companies have been selected by APA members to receive the 2022 Supplier of the Year and Innovation of the Year Awards. The EWTA Supplier Awards Program is designed to recognize EWTA member companies that excel in serving their APA member manufacturer customers and companies which develop innovative solutions to processing problems and challenges. All EWTA member companies in good standing are eligible to participate in the program and win awards. Congratulations to all the winners!

Supplier of the Year Award Winners

The Supplier of the Year Awards are based on the quality, service and delivery of EWTA member products and services to APA member companies. Awards are presented for each of EWTA's membership categories: Equipment and Tooling, Materials and Supplies, and Consulting and Services. Following are the 2022 winners for each of the categories.

SOY WINNERS ►

Innovation of the Year Award Winner

The Innovation of the Year Award recognizes a company with a new, original and unique product or service that is used in the field and producing positive results. The award is given for a new technology, product or service that has been shown to reduce production costs, increase productivity, improve product quality, or in some other way provide a bottom-line benefit to APA members.

IOY WINNER ►

EQUIPMENT AND TOOLING CATEGORY



USNR

USNR

With the addition of Ventek's veneer scanning, grading, and handling solutions to USNR's lathe, dryer, and downstream product portfolio, USNR now offers tightly integrated mechanical and optimization solutions for the plywood industry. USNR products are known to increase recovery, value, and yield, improving mill profitability. USNR also manufactures machinery for beam lamination, finger-jointing, and presses for the composite board industry. Committed to superior customer service, USNR offers OEM parts, training, and 24/7 support around the globe. 800-BUY-USNR.



MATERIALS AND SUPPLIES CATEGORY



Bostik

ISOSET™ adhesives from Bostik have been specially formulated for engineered wood product applications. ISOSET adhesives applied in I-joist, glulam beams and structural finger jointing wood applications provide manufacturers with high-strength, structural bonds. They cure fast, clean up easy and dry in a neutral wood color offering an alternative to traditional phenol-resorcinol-formaldehyde (PRF) - type adhesives. ISOSET adhesives provide excellent resistance to moisture, elevated temperature and creep making them an ideal choice for engineered wood products. Bostik is a part of the Arkema Group, a global leader in the specialty chemical industry, providing products, services and customer solutions throughout the world.



CONSULTING AND SERVICES CATEGORY



BMI Contractors, Inc.

BMI Contractors Inc, is a machinery installation contractor specializing in the wood products industry for nearly 40 years. We operate across North America and have installed complete plywood, OSB, LVL and I-joist facilities. We have replaced, rebuilt or modernized individual machinery lines including over 100 veneer dryers and a significant number of plywood presses, LVL presses and OSB presses. We pride ourselves in innovation and are responsible for completing three veneer dryers that were rolled into place after their construction. Our crews are ready to assist you in achieving your goals for timely, efficient, safe and cost-effective plant improvement projects.



INNOVATION OF THE YEAR



Flamex Inc.

Flamex Inc. is a leading supplier of customized industrial process fire prevention and protection equipment. We specialize in the protection of facilities that handle combustible dusts that utilize pneumatic dust collection and air filtration systems. To address the process fire hazard inherent in various industrial applications, our company pioneered the utilization of a new technology in North America by introducing the FLAMEX Spark Detection and Extinguishing System in 1977 and the MINIFOG PressProtect System in 1997 for the protection of Industrial Presses. The flexibility of these systems allows their use in other hazardous areas such as Thermal and Hydraulic oil rooms where AFFF Foam Fire Fighting systems can be utilized for further protection.



MXOne High Performance Fire Protection Turbine

Date of First Use: March 2022

Benefit 1: Ability to fight large scale fire events from a distance.

Benefit 2: Versatile fire protection turbine capable of fighting fires with three separate methods, straight fire monitor, fine water spray and/or Aqueous Film Forming Foam (AFFF).

Results: Fire load test by third party approval agency.

Description:

The MXOne has a 360° operating range and enables the highly precise application of water mist from a significant and safe distance. When applied to a fire, the water mist absorbs a huge amount of energy, cools particularly effectively and reaches hidden fire sources better than typical water spray devices.

MXOne can be operated with potable water, seawater and with/without foaming agents.

Spray patterns can range from a fine water mist to a full jet. It can produce a flow rate of up to 4,000 liters per minute. MXOne can be aimed at

a hot spot either fully automatically or manually via remote control. Thanks to a smart operating system, a single turbine can supply water alternately to two or more neighboring areas. Accordingly, several fires can be fought in parallel, or nearby facilities threatened by fire can be cooled to prevent ignition.

The turbine can be easily integrated into existing plant facilities and is suitable for use in areas with temperatures ranging from -25°C to +60°C.

Superior throwing range

MXOne has the unique ability to fight a fire with water mist from a significant distance. The turbine is able to offset the susceptibility of small droplets to external factors such as crosswinds or head-winds using a smart control system and activating a supporting air stream. Its flexibility allows it to be adapted to meet almost any challenge posed by different fire scenarios.

Efficient firefighting with water mist

When extinguishing a fire with water mist, the water is atomized under high pressure, producing a dramatic increase of water surface which allows a greater efficiency in the absorption of heat. When water evaporates, its volume is increased many times over, which causes a cooling and suffocating effect on the fire. The volume of water consumed during the firefighting effort as well as the consequential damage caused by the water are extremely low.

Maximum flexibility in positioning and application

The control and direction of the extinguishing turbine can be done fully automatically upon detection by IR Flame Detectors, remotely by mobile devices or manually. Various stationary and mobile control variants can be implemented according to the operator's requirements.



Call for Entries for the 2023 Innovation of the Year Award

EWTA's Innovation of the Year Award recognizes a company providing new technology, product, or service that has been shown to demonstrably reduce production costs, increase productivity, improve product quality or in some other way provide a bottom-line benefit to APA members.

All current EWTA members are eligible to submit one or more entries for this annual award. Entries should be new, original and unique items or services that are in field use and producing positive results. Each listing must include up to two key benefits and any measurable results achieved during use. Innovation of the Year Award details, entry forms and a list of past winners are provided on the EWTA website.

AWARD DETAILS ►

Deadline: September 1, 2023

An electronic ballot listing the entries will be sent to APA member executives and mill managers in mid-September. The winner will be announced at the APA Annual Meeting, October 17, 2023, in Palm Desert, California, and featured in the Engineered Wood Journal, Connections newsletter and on the [EWTA website](https://www.ewta.com).

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APA AND EWTA MEMBERS GATHER FOR ANNUAL SUPPLIER EXPO

2022 INFO FAIR SPONSORS

Sixty-four EWTA member companies participated through sponsorships and exhibits this year to make the event a success.

Four sponsorship levels are available – Diamond; Platinum; Gold and Silver, with additional opportunities to sponsor the golf or tennis tournaments.

Thank you to the 2022 Info Fair Sponsors. A list of sponsors is available.

2022 SPONSORS ►

After a 2-year hiatus, 400 APA and EWTA members, staff, spouses and guests gathered and reconnected in-person with friends and colleagues on Oct. 15-18 at the JW Marriott Miami Turnberry Resort & Spa in Aventura, Florida, for the Engineered Wood Technology Association's annual Info Fair supplier exhibition.

Held annually in conjunction with APA's Annual Meeting, Info Fair is an opportunity for members to share ideas and network with others in the engineered wood industry. Sixty-four EWTA member companies exhibited at the event, with 47 member companies providing sponsorship for a variety of events or activities.

In addition to Info Fair, the annual event provides an opportunity for both EWTA and APA members to attend APA-sponsored workshops, participate in roundtable discussions and listen to presentations about association activities. Members also took part in numerous receptions, luncheons and sporting competitions, including the annual golf tournament and Ole Sorenson Memorial Tennis Tournament.

Continued on next page



Thank You!

For attending last year's
EWTA Info Fair.

Coming soon...

**2023 APA ANNUAL
MEETING
AND EWTA INFO FAIR**

October 14-17, 2023
JW Marriott Desert Springs
Resort & Spa
Palm Desert, CA

*See you
this year!*



Info Fair 2023: Registration and sponsorship sign up now available

It's time to register for the association's biggest networking event of the year. Don't miss the opportunity to be part of EWTA's 2023 Info Fair, which provides face-to-face opportunities with key decision-makers in the engineered wood industry. In addition to exhibiting, various levels of meeting and sporting event sponsorships are available.

All the details for Annual Meeting and Info Fair, with registration links for meeting attendees, Info Fair exhibitors, and sponsors are located at www.apa-ewta-events.org. Do not delay, as some of the sponsorship opportunities are limited to first come-first serve.

Questions? Contact: [Emily Houg](mailto:Emily.Houg).

Check out the sponsorship opportunities and sign up today!

SIGN UP ►

APA | EWTA



**ANNUAL MEETING
& Info Fair**

We look forward to connecting with you in sunny California!

Please note: the APA Annual Meeting and EWTA Info Fair are limited to APA and EWTA members only. If you are not a member, contact ewta@engineeredwood.org for additional information.

NEW IN 2022: DIAMOND AND PLATINUM INFO FAIR SPONSOR VIDEOS



One of the Diamond and Platinum Info Fair sponsorship benefits is to include an opportunity to have a short company video posted on the EWTA website and YouTube channel.

CHECK IT OUT ►

Capture the Dust Your Collection System Misses with SonicAire Dust Control Fans

- Maintain an OSHA Compliant Facility
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2023 Info Fair Sponsor Benefits/Pricing

OCTOBER 14-17, 2023 ▪ JW MARRIOTT DESERT SPRINGS RESORT & SPA ▪ PALM DESERT, CALIFORNIA

Diamond – \$9,000



- (3) APA annual meeting registrations
- 8' x 10' exhibitor booth space
- Premium logo placement on signage at the APA Annual Meeting/EWTA Info Fair
- Company logo displayed on conference marketing/social resources
- (1) 30 second video (sponsor provides) posted on EWTA marketing/social resources
- Top mention in the *Engineered Wood Journal*
- Top Tier EWTA Newsletter Sponsorship, includes link to sponsor website
- Podium Recognition
- APA Resource Directory – Company name and contact info list on APA Website
- (1) Full page article in the *Engineered Wood Journal* (sponsor provides)
- Attendee List sent prior to Annual Meeting/EWTA Info Fair

Platinum – \$6,000



- (2) APA annual meeting registrations
- 8' x 10' exhibitor booth space
- Prime logo placement on signage at the APA Annual Meeting/EWTA Info Fair
- Company logo displayed on conference marketing/social resources
- (1) 30 second video (sponsor provides) posted on EWTA marketing/social resources
- Featured recognition in the *Engineered Wood Journal*
- Prime EWTA Newsletter Sponsorship, includes link to sponsor website
- Podium Recognition
- APA Resource Directory – Company name and contact info list on APA Website
- (1) Half-page article in the *Engineered Wood Journal* (sponsor provides)
- Attendee List sent prior to Annual Meeting/EWTA Info Fair

Gold – \$4,000



- (1) APA annual meeting registration
- 8' x 10' exhibitor booth
- Company logo placement on signage at the APA Annual Meeting/EWTA Info Fair
- Company logo displayed on conference marketing/social resources
- Recognition in the *Engineered Wood Journal*
- Podium Recognition
- Recognition EWTA Newsletter Sponsorship, includes link to sponsor website
- (1) ¼ page article in the *Engineered Wood Journal* (sponsor provides)
- APA Resource Directory – Company name and contact info list on APA Website
- Attendee List sent prior to Annual Meeting/EWTA Info Fair

Silver – \$3,000



- (1) APA annual meeting registration
- 8' x 10' exhibitor booth
- Company mentioned on conference marketing/social resources
- Company listed on signage at the APA Annual Meeting/EWTA Info Fair
- Recognition in the *Engineered Wood Journal*
- Recognition EWTA Newsletter Sponsorship
- APA Resource Directory – Company name and contact info list on APA Website
- Attendee List sent prior to Annual Meeting/EWTA Info Fair

Other Fees and Sponsorship Opportunities:

Exhibitor Booth – \$2,000

- (1) APA annual meeting registration
- 8' x 10' exhibitor booth
- Pipe and Drape
- Standard booth ID sign
- (1) 8' x 30" Skirted table
- (2) Side chairs
- (1) Recyclable wastebasket
- APA Resource Directory – Company name and contact info list on APA Website
- Attendee List sent prior to Annual Meeting/EWTA Info Fair

Additional Sponsor Opportunities

- **Golf Tournament – \$600**
- **Tennis – \$300**
- **Box Lunches Branding – Golf Tournament – \$4,000**
(Only 2 opportunities)
- **Guestroom Key Card Branding – \$4,000**
(Only 1 opportunity)
- **Safety Workshop Speaker Sponsor – \$2,000**
(Only 4 opportunities)
- **Reception Bar Napkins Branding – \$2,000**
(Only 2 opportunities)
- **Golf Hole Sponsors – \$1,000**
(Only 8 opportunities)

For details, contact [Emily Houg](mailto:Emily.Houg@apa.org), Info Fair Events Coordinator.

MEMBERSHIP DIRECTORY

EWTA Members from the 2022 APA Annual Meeting in Aventura, Florida.



MEMBERSHIP DIRECTORY

The Engineered Wood Technology Association (EWTA), the related nonprofit supplier organization of APA – The Engineered Wood Association, serves as a networking and information transfer vehicle between North America's engineered wood product manufacturers and their product, equipment and service providers. This membership directory, updated for 2023, includes company descriptions and contact information for current EWTA members.

Visit the EWTA website for an online directory with additional filter options. It's just one of many tools designed to help members connect with each other and the industry.

[SEARCH NOW ►](#)

Complete membership details are available on the EWTA website. Questions? Contact: [LaDauna Wilson](#).

[LEARN MORE ►](#)



Albany International

Albany International is a global advanced textiles and materials processing company founded in 1895. We are headquartered in Rochester, New Hampshire and employ approximately 5,000 people worldwide. Our 26 manufacturing operations are strategically located in 13 countries to serve our global customers. Albany International's core business is production of custom-designed engineered fabrics and process belts, used to manufacture all grades of paper from lightweight technical paper to heavyweight container board. In its family of emerging businesses, Albany belting technologies process unique materials for engineered wood products particularly for wood forming in OSB, PB and MDF/HDF manufacturing. Visit us @Albint.com.

Contact:

Tom Israel – Global Product Manager - Americas
Phone: 920-521-4618
Email: tom.israel@albint.com
3601 Electric City Blvd., Kaukauna, WI 54130
www.albint.com

A-Lert Construction Services

A-Lert Construction Services was established in 1979 and specializes in design, manufacturing and installation of equipment in the wood and grain industries. We offer everything from single and triple-pass rotary dryer drums, flash tube and steam tube dryers with the ability to process both organic and inorganic materials across a wide variety of manufacturing industries. We also offer the process piping, trommel screening, conveying and Cleanaire systems often needed with these systems as well. A-Lert serves as a specialty fabricator and replacement parts supplier for all existing M-E-C systems.

Contact:

Jordan Stewart – Sales Manager
Phone: 620-607-4035
Email: jstewart@centurionind.com
120 W. Madison, Fredonia, KS 66736
www.alertconstructionservices.com

Altec Integrated Solutions Ltd.

Altec works closely with plywood and veneer operations to improve all sections of the green end to increase production, quality, uptime, and recovery. After gaining a thorough understanding of each customer application, an improvement solution, drawn from decades of experience and smart use of technology, is proposed.

Improvement solutions are provided which include items such as heavy-duty precision equipment (including complete lathes, back up rolls, chargers, scanners, diverters, stackers, robotics) and enhanced control systems for all sections.

Services include full CNC machine shop, testing, engineering, and field service.

Locations in Texas and British Columbia allow Altec to supply, service, and support customers across North America and around the world.

Contact:

Paul Lupton – Sales Manager, Manufacturing
Phone: 604-529-1991
Email: plupton@alteconline.com
120 - 185 Golden Drive,
Coquitlam, BC V3K 6T1, Canada
www.alteconline.com

Arclin - Performance Applied

Based in Roswell, Georgia, Arclin is a leading producer of innovative bonding and surfacing solutions for the building and construction, industrial materials and natural resource markets. Arclin provides bonding solutions for a number of applications including structural wood panels, engineered wood, composite wood panels, non-wovens and paper saturation. As a world leader in paper overlays technology, Arclin provides high value surfacing solutions for construction and building products, decorative panels and industrial specialty applications for North American and export markets. For more information please visit www.arclin.com.

Arclin - Performance Applied continued:

Contact:

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Phone: 678-781-2980
Email: james.dantzler@arclin.com
1000 Holcomb Woods, Parkway, Suite 342, Roswell, GA 30076
www.arclin.com

Argos Solutions LLC

Argos offers a full range of optical inspection and process control systems that replaces manual grading and patching of wood products. With more than 25 years of experience and installations in more than 30 countries, Argos provides the latest technology of vision-based scanning systems for the plywood, composite and furniture industry. Argos is a single source supplier for inspection and grading after the press, sander, cut-to-size, including edge inspection systems, and automatic patching systems for plywood and parquet panels.

Contact:

Richard Lepine – General Manager
Phone: 919-428-1262
Email: Richard.Lepine@argossolutions.no
2013 Castleburg Drive, Apex, NC 27523
www.argossolutions.no

Arxada

Arxada is a global leader in the development and supply of innovative technologies to improve the performance of wood products, making them resistant to termites, fungi, fire (flamespread and smoke development), mold and moisture. Lonza Arxada offers formulations specifically designed for the treatment of engineered wood, including Permatek® glueline treatments designed to work in harmony with resins as well as water repellents and mold prevention treatments to keep EWP's bright. Additional Lonza Arxada products include Wolman®

Arxada continued:

residential preservatives, SillBor® borate treatments, Wolmanac® CCA and Chemonite® ACZA industrial preservatives, Dricon® fire retardants, FrameGuard® mold inhibition, and AntiBlu® anti-sapstain line. With global operations and an unparalleled offering of services and expertise, Lonza Arxada is dedicated to the success of its customers.

Contact:

Brian Delbrueck – Head of Business Development, Wood Specialties
Phone: 425-229-3757
Email: brian.delbrueck@arxada.com
4501 Somerset Drive SE, Bellevue, WA 98006
www.wolmanizedwood.com

ATCO Wood Products Ltd.

Located in British Columbia, ATCO Wood Products is a forest management company and a producer of softwood veneer. ATCO specializes in producing custom softwood veneer for plywood and engineered wood products customers in both Canada and the United States.

Contact:

Mark Semeniuk – Chief Operating Officer
Phone: 250-367-9441
Email: mark.semeniuk@atcowood.com
2073 Hepburn Drive (PO Box 460)
Fruitvale, BC V0G1L0, Canada
www.atcowoodproducts.com

Axalta Coating Systems

With a wide range of products and technologies, Axalta Coating Systems is the leader in the Wood Coatings Industry for the Building Products market.

Contact:

Craig Lyerly – Director, Sales
Phone: 336-802-4746
Email: craig.lyerly@axaltacs.com
1717 English Rd., High Point, NC 27104
www.axaltacoatingsystems.com

Bakelite Synthetics

Bakelite Synthetics offers a portfolio of thermosetting resins for plywood, OSB and LVL applications as well as custom-formulated solutions to meet our customers' specific needs. Our innovative new RESI-BOOST® Gen2 adhesive technology, when used with Bakelite resins, has demonstrated significant advantages in increased throughput, lower applications rates and energy savings while maintaining performance, potentially saving or generating millions of dollars per plant. In addition, our Customer Inventory and Prediction Service offers our customers a means of maximizing operational efficiency by optimizing resin order profiles. The Dynamic Microchamber performs formaldehyde emission testing on panels in plants around the world.

Contact:

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Phone: 404-652-4322
1040 Crown Pointe Parkway, Atlanta, GA 30338
www.bakelite.com

BASF - We create chemistry

BASF – We create chemistry – Global supplier of MDI to the wood industry with extensive experience in MDI conversions.

Contact:

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Rigid Urethanes North America
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Email: gregory.lonc@basf.com
1609 Biddle Avenue, Wyandotte, MI 48192
www.basf.us

Bates and Company, Inc

Bates & Co. is an industry leader in providing various support products to the forest product industry. Extenders and fillers comprise the majority of sales, especially those customers extending phenol formaldehyde adhesives for use in plywood, LVL, and hardwood. Bates has also expanded its scope and reach by forming a joint venture, Bates-Willamette, LLC, with a strategic partner in the industry.

Contact:

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Phone: 409-883-0384
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707 West Front Ave (PO Box 1328) Orange, TX 77631

Baumer Inspection GmbH

Baumer Inspection GmbH specializes in optical surface inspection systems. In over 35 years of quality service, we have installed more than 1,000 systems world-wide and are a leader in scanners for fully automatic inspection and process control. Baumer Inspection offers inspection systems for particle boards, wood fiber boards (MDF, HDF), paper, film and foils, flooring and surfaces of furniture panels as well as edge inspection systems. Our highly skilled and motivated team always pushes the limit of what is possible to bring you the newest innovation in vision technology for the wood working industry.

Contact:

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Cell: +49 1708 3509-86
Email: seisenkohl@baumer.com
Lohnerhofstrasse 6, Konstanz, 78467, Germany
www.baumerinspection.com

BETE Fog Nozzle, Inc.

Discover solution confidence with BETE's FlexFlow® precision spray control systems for applications of resin, wax, water, and release agents during engineered wood production. Address problems involving overspray or under-spray to ensure production efficiency for chips, mats, cauls, or belts. Our spray technology can help optimize line product zone cooling and applications of mold release, lubricants, fire retardants, adhesives, sealants, or dyes for marking and ID.

Contact:

David Adams – National Sales Manager
Phone: 413-834-4302
Email: dadams@bete.com
50 Greenfield St., Greenfield, MA 01301
www.bete.com

BID Group

The privately-owned BID Group has over 35 years of experience in providing industry-leading solutions for its highly valued customers in the wood processing industry. As one of the largest integrated suppliers to the wood processing industry and the North American leader in the field, BID Group is your one-stop source for comprehensive and innovative solutions that exceed our customer expectations. The ability to provide a complete, smart connected, turnkey manufacturing facilities that includes engineering, project management, installation, startup, and after sales service furthers the BID Group companies' strategic value to its customers.

Contact:

Steven Hofer – EVP of Business Development and Strategy
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Email: steven.hofer@bidgroup.ca
5154 Highway 78, St. George, SC 29477
www.bidgroup.ca

Biele Group

Since 1973 Biele Group is a global manufacturer of customized equipment and turnkey solutions for plywood, particle board, OSB and solid wood applications. The solutions developed by Biele include veneer handling up to the final packaging lines, going through automatic lay-up systems, press lines and finishing processes, including fully automatic solutions for Hardwood Veneer Press lines. Biele's expertise includes advanced data management and complete plant development from concept and design to installation and commissioning. Headquartered in Spain with local sales & technical support facilities in Atlanta, Georgia, USA, Biele provides full service for projects developed in America.

Contact:

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Email: biele@biele.com

US Sales Contact

Juan Flores
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Biele USA LLC,
2030 Powers Ferry Road, Suite 228, Atlanta, GA 30339
www.biele.com

Biomass Engineering & Equipment - Veneer Services, LLC

We build profitable machine solutions based upon better engineering. We take pride in the fact that our machines run reliably with minimum operating costs - yielding you the greatest efficiency and profits. Every prototype machine ever built is running today. We were the first and still the only company to build a voice activated veneer bundle grading line. We developed the most accurate debarker/planer system ever built and then we built a fully automated butt flare reducer to go with it. Our veneer chipper is proven to use less energy and produce better chips. Our veneer machine rebuilds have allowed our customers to improve profits while saving them as much as 50% over the price of a new machine.

Biomass Engineering & Equipment - Veneer Services, LLC continued:

Contact:

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Phone: 317-346-0711
Email: info@biomass-equipment.com
5851 S. Harding Street, Indianapolis, IN 46217
www.biomass-equipment.com

BMI Contractors, Inc.

BMI Contractors Inc, is a machinery installation contractor specializing in the wood products industry for nearly 40 years. We operate across North America and have installed complete plywood, OSB, LVL and I-Joist facilities. We have replaced, rebuilt or modernized individual machinery lines including over 100 veneer dryers and a significant number of plywood presses, LVL presses and OSB presses. We pride ourselves in innovation and are responsible for completing three veneer dryers that were rolled into place after their construction. Our crews are ready to assist you in achieving your goals for timely, efficient, safe and cost-effective plant improvement projects.

Contact:

David Brown – President
Phone: 503-375-2222
Email: dbrown@bmicontractors.com
4375 Turner Rd. SE, Salem, OR 97317
www.bmicontractors.com

BOSTIK

ISOSET™ adhesives from Bostik have been specially formulated for engineered wood product applications. ISOSET adhesives applied in I-joist, glulam beams and structural finger jointing wood applications provide manufacturers with high-strength, structural bonds. They cure fast, clean up easy and dry in a neutral wood color offering an alternative to traditional phenol-resorcinol-formaldehyde (PRF) - type adhesives. ISOSET adhesives provide excellent resistance to moisture, elevated temperature and creep making them an ideal choice for engineered wood products.

BOSTIK continued:

Bostik is a part of the Arkema Group, a Global leader in the chemical industry, providing products, services and customer solutions throughout the world.

Contact:

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Building Components
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Email: thomas.stewart@bostik.com
5550 Blazer Parkway, Suite 350, Dublin, OH 43017
www.bostik.com

Brunette Machinery Company Inc.

Specializing in wood processing machinery and material handling systems for the Forestry and Biomass industries: CBI Grizzly Mill, BioSizer®, Chippers for Pulp-chips or Micro-Chips, Electric Log Sweeps, Log Decks, Log Singulators, Rotary Debarkers, Vibrating Conveyors. Custom engineered solutions to take control of your fiber supply and get more from your mill.

Contact:

Kristy Hammond
Phone: 604-522-3977
Email: kristy@brunettemc.com
8717 132nd St., Surrey, BC V3W 4P1, Canada
www.brunettemc.com

Captis Aire LLC

Captis Aire LLC provides an industrial air pollution control technology that has been commercialized in many applications including automotive, furniture, and electronics manufacturing. It is an emerging clean technology in wood processing that could enable operators to 1) reduce operating expenses primarily by reducing energy usage – especially natural gas, 2) generate revenue by selling valuable organics, i.e. turpentine (terpenes) from pine wood, and carbon offsets, 3) improve sustainability by reducing greenhouse gas emissions. The Fluidized

Captis Aire LLC continued:

Bed Concentrator technology works by adsorbing (capturing) pollutants on specialized Bead Activated Carbon. We have special expertise in wood processing.

Contact:

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East Point, GA 30344
www.captisaire.com

CECO Environmental: Adwest Technologies, Fisher-Klosterman, HEE-Duall

Adwest Technologies provides high efficiency Regenerative Thermal and Catalytic Oxidizers (RTOs and RCOs) for engineered wood, OSB, MDF, laminating, veneer drying, and resin VOC abatement. Adwest can provide compact 2 chamber RETOX RTOs as well as multi chamber RTOs up to 400,000 SCFM flow rates. Our Fisher-Klosterman, Inc (FKI) division provides ultra-high efficiency cyclones and venturi scrubbers for boiler and wood manufacturing applications, while HEE-Duall provides Bioreaction biofilter and scrubber systems for VOC abatement. We also service, rebuild and relocate RTOs, RCOs, Biofilters and scrubbers for the wood products markets including Smith, Pro-Environmental and all other brands.

Contact:

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680 Langsdorf Dr., Fullerton, CA 92831
www.cecoenviro.com/adwest

Chem-Trend LP

Chem-Trend has long been known as a global leader in the development of release agent technology to the world's industries. Our sealers, release agents and lubricants are rapidly gaining acceptance in the wood composites industry, offering significant productivity improvements including increased throughput, improved output quality and definition, cleaner conditions/environment, greater productivity, less downtime and increased costs savings.

Contact:

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1445 W. McPherson Park Dr. (PO Box 860)
Howell, MI 48844-0860
www.chemtrend.com

Clarke's Industries, Inc.

Clarke's provides a broad range of products for the Panel Board Industry. The products include Material Storage and Metering Bins, PyroGuard Spark Detection and Extinguishment System, Hi Speed Abort Gates, Back draft Dampers and Explosion Venting, Waste Wood Processors, Rotary Screens and Classifiers, Rotary Airlocks/Feeders, Fans, Dust Collection and Pneumatic Conveying Systems.

Contact:

Andy Clarke – President
Phone: 541-343-3395
Email: andyc@clarkes-ind.com
660 Conger Street (PO Box 2428) Eugene, OR 97402
www.clarkes-ind.com

Clarke Veneers and Plywood

Clarke Veneers and Plywood is an international trading company of wood products, specializing in imports, exports and domestically traded veneers - including hardwood and softwood species for structural panels, in MDO, HDO and other applications requiring clear, sound faces.

Clarke Veneers and Plywood continued:

Contact:

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3000 Old Canton Road, Suite 335 (PO Box 4876)
Jackson, MS 39296-4876
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CMA engineering Inc.

Since 1986, CMA engineering Inc. has accomplished a number of projects in the manufacturing end of the forest products industry, including the conceptual design, budget preparation, process engineering, detail engineering (mechanical, electrical, civil and structural), equipment procurement, project management, construction management, PLC/HMI programming and start-up of board plants (OSB, particleboard and MDF), plywood and veneer mills, bioenergy plants, engineered wood product plants and sawmills.

Contact:

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60 Wilson Avenue, Suite 101 Timmins,
ON P4N 2S7, Canada
www.cmaeng.com

Coil Manufacturing, Ltd.

Coil Manufacturing is the leading manufacturer of rotary drum blenders and spinning disc atomizers for resin application in the engineered wood industry.

Contact:

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Email: mike@coilmanufacturing.com
8269 - 130th Street, Surrey, BC V3W 7X4, Canada
www.coilmanufacturing.com

Combilift USA

Combilift is the largest global manufacturer of multi-directional forklifts and an acknowledged leader in long load handling solutions. Innovation, Flexibility and Service is the ethos on which Combilift's success is built and has seen us become the world's fastest-growing forklift manufacturer, exporting to more than 85 countries and with more than 60,000 trucks in use worldwide. No other manufacturer in the world can deliver the same level of customisation and adaptability, or cater so effectively to the diverse needs of every individual customer, whether their enterprise is large or small.

Contact:

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www.combilift.com

Connexus Industries Inc.

Connexus Industries Inc. manufactures and distributes specialized chain, attachments and sprockets for OSB manufacturing plants. We also are manufacturers of Laharco Laser Diodes and Rens-Metal Shark Metal Detectors. Locations in Atlanta, Quebec, Portland & Vancouver. Formerly Viking Chains, l'ANCO ...Products and Lacey Harmer Inc.

Contact:

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www.connexusindustries.com



Con-Vey

Con-Vey is a leading manufacturer of material handling equipment and a proven, high quality supplier offering innovative solutions to customers in nearly 20 countries. Con-Vey designs and manufactures complete systems for automated material handling, wood panel processing, packaging, and laminating, including feeders, stackers, and conveyors. Con-Vey also specializes in beam presses, robotics, and PLC control systems. For more information on Con-Vey's innovative solutions, visit CON-VEY.COM or contact Product Manager for Panel Products, Brent Hensley, at brent.hensley@con-vey.com.

Contact:

Brent Hensley – Product Manager, Panel Products
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Email: sales@con-vey.com
526 NE Chestnut Ave, Roseburg, OR 97470
www.con-vey.com

COSTA Sanders LLC

Building on 60+ years of experience manufacturing industrial calibrating, sanding and polishing equipment, Costa's large panel series machines continue a tradition of rugged world-class machinery that made Costa an industry leader in the field of industrial sanding-calibrating equipment. These "super duty" solutions are engineered and manufactured to the highest quality standards, in modular frames, with the right combination of working units, motors, and feed speeds that best fits the industrial process of today and tomorrow. Costa Sanders offers machine solutions engineered expressly to fit each client's own manufacturing environment and production needs - whether particleboard, fiberboard, plywood, OSB, or CLT. Our sanding systems are capable of processing up to 145-inch-wide panels with thicknesses up to 13 inches.

COSTA Sanders LLC continued:

Contact:

Eric Johnston – Sales Director, Panel Division
Phone: 336-434-6644
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107 Seminole Dr, Archdale, NC 27263
www.costasanders.com

Dieffenbacher Customer Support, LLC

Dieffenbacher is an international group of companies specializing in the manufacturer of press systems and complete production systems for the wood, automobile and supplier industries. As an independent fifth generation family company, we have stood for continuity, tradition and reliability for over 140 years. Our Wood business unit plans and implements complete solutions for the manufacture of wood-based panels, such as particleboard, MDF, OSB and LVL plants.

Contact:

Cole Martin – Sales Manager, Capital Sales and Modernizations
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1345 Ridgeland Parkway, Suite 100,
Alpharetta, GA 30004
www.dieffenbacher.com

Dominion Chemical Company, Inc.

Wax products are our expertise. With over 60 years of experience in the wax business, Dominion Chemical offers rare and valuable working knowledge as well as trust and proven abilities to bring solutions, support and alternatives to provide the exact product you want. With locations in Virginia and Georgia, Dominion Chemical's capacity to blend, package and create specialty wax formulations will meet your unique needs. We offer an exceptional emulsification process, state of the art blending, compounding, packaging and experienced personnel as well as a full service wax lab dedicated to your needs for R&D, QC, and general product evaluation.

Dominion Chemical Company, Inc. continued:

Contact:

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Dan Spurlock – Sales Manager

Phone: 804-586-2022

Email: dans@dominionchemical.com

2050 Puddledock Rd. (PO Box 1069)

Petersburg, VA 23803

www.dominionchemical.com

DO2 Industriel

The DO2 Rapid Wrapper Automatic Panel packaging system offers outstanding performance. The wrapping machine's electrical, mechanical and pneumatic components, its design, the programming structure and tactile interface have all been designed for easy use and no-hassle operations. All of the wrapper's components are robust and maintenance-free. Built with durability and efficiency in mind, the wrapper will optimize your plant's production on a daily basis.

Contact:

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Email: info@do2.ca

303 8th Avenue, Dolbeau Mistassini,

Quebec G8L 1Z6, Canada

www.do2.ca



Dürr Systems, Inc.

Dürr Systems, Inc. offers multi-pollutant clean-air solutions to the engineered wood products industry that meet stringent emissions regulations: wet scrubbers and wet electrostatic precipitators for high-efficiency particulate, blue haze and condensed salts removal for dryers and press vents; dry electrostatic precipitators for particulate removal from energy sources, ultra-high-efficiency RTO/RCO systems for VOC abatement, and SNCR systems for NOx control. The Dürr Systems aftermarket group also provides upgrades, parts, and service for every make of air pollution control equipment for the engineered wood products industry.

Contact:

Rodney Schwartz – Vice President CTS

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Email: durrmegtecinquiries@durrusa.com

830 Prosper Street, De Pere, WI 54115

www.durr-northamerica.com and

www.durr-megtec.com

Electronic Wood Systems, N.A.

EWS North America was founded in 1993. We are a leading supplier of quality control measuring systems for the wood composite panel board industry, including: Thickness Gauges, Blow Detection, Press Protection Devices, Spark Detection & Extinguishment Systems, Mass (WPUA) Measuring, non-contact Weigh Scales and Density Profile Measuring Systems.

Contact:

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Email: steve@ews-usa.com

3720 SW 141st Ave #206, Beaverton, OR 97005

www.ews-usa.com

Evergreen Engineering, Inc.

Evergreen is a multi-discipline (mechanical, electrical, civil/structural and environmental) engineering firm. From project planning and feasibility studies through detailed engineering, construction management, maintenance and process consulting, to start-up and commissioning support, Evergreen can handle any project in your mill. Our wood products experience includes OSB, LVL, I-Joist, Particleboard, MDF, Hardboard, WPC, Pulp & Paper, Lumber, Plywood, Chemical and Resin plants. "Our mission is to provide customized support to move our client's vision to reality by delivering practical engineering solutions, displaying project leadership and contributing technical expertise."

Contact:

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1740 Willow Creek Circle, Eugene, OR 97402
www.evergreenengineering.com

Evertree North America Inc.

Evertree North America Inc. is the designer, manufacturer and supplier of a family of bio based and renewable adhesive solutions (both unique bio based adhesive compositions plus innovative application dispensing technology) used in the manufacture of composite wood panels. We are revolutionizing plant – based adhesive solutions for a better and more sustainable way of life. We currently have (2) distinct bio-based technology platforms.

Green Boost™ is a bio-based adhesive additive that reduces the amount, while also enhancing the performance of the current traditional petrochemical based resins used today in the manufacture of composite wood panels.

Green Ultimate™ is a unique bio-based adhesive solution that is free of petrochemical derived formaldehyde and isocyanate.

Evertree North America Inc. continued:

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www.evertree-technologies.com

Fagus GreCon, Inc.

Since 1911, Innovation is Our Tradition. MEASURING SYSTEMS: Improves your bottom line. Check out the full range of in-line measuring systems: thickness gauges, blow & delamination detector, moisture meters, raw density profile. Weight per unit area across the whole production width at the mat former and after the press. Detect surface defects on décor panels and flooring. SPARK DETECTION & EXTINGUISHING SYSTEMS: Provides safety for your production. Detect sparks and extinguish them before the filter. Detect heat buildup in silos, bag houses and storage bins. Outlined in NFPA 69, 654 and 664 standards. Factory Mutual Approved.

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Flamex, Inc.

Flamex Inc. is a leading supplier of customized industrial process fire prevention and protection equipment. We specialize in the protection of facilities that handle combustible dusts that utilize pneumatic dust collection and air filtration systems. To address the process fire hazard inherent in various industrial applications, our company pioneered the utilization of a new technology in North America by introducing the FLAMEX Spark Detection and Extinguishing System in 1977 and the MINIFOG PressProtect System in 1997 for the protection of Industrial Presses. The flexibility of these systems allows their use in other hazardous areas such as Thermal and Hydraulic oil rooms where AFFF Foam Fire Fighting systems can be utilized for further protection.

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Franklin Adhesives & Polymers

Franklin Adhesives & Polymers, a division of Franklin International, manufactures adhesives for the domestic and global wood furniture, millwork and engineered-lamination markets. We have led the way in the innovation of wood adhesives and various types of wood bonds and have developed adhesive solutions for many applications in the wood product manufacturing plant. Under the trusted brand names Titebond, Multibond, ReactITE and Advantage, our products provide superior performance in wood assembly, solid edge and face gluing, engineered product lamination and finger jointing.

Franklin Adhesives & Polymers continued:

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FROMM Packaging Systems

FROMM Packaging Systems for the lumber Industry consists of heavy-duty machinery. Our equipment covers all packaging solutions for the forestry industry (timber, plywood, MDF, HDF, chipboard etc) with strapping machines, wrapping and waterproof machines. We develop and produce a wide variety of systems for unitizing and palletizing goods for transport: strapping machines and systems, pallet stretch wrapping machines, together with all necessary consumables. Established in 1947, the Swiss company pursues a policy of logical vertical integration while upholding traditional values such as proximity to customers, quality consciousness, continuity, independence and environmental awareness, which are the reasons for decades of success.

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Fusoni

Fusoni develops and manufactures release agents and additives for panel board manufacturing, and also for paper impregnation processes. Our chemicals expertise extends to other industries, such as release applications in bakery, polyurethane systems, and other applications. For almost 40 years we have been serving clients in Europe, Asia, Africa, Australia and the Americas. We add value through chemistry, and work closely with our customers, helping them improve the properties of their products and reducing production cost through excellent release and additive performance. We look forward to working with you to make your products better and your business more profitable.

Contact:

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Globe Machine Manufacturing Company

Globe Machine offers single machine centers along with complete systems to the following industries: OSB, MDF, particleboard, plywood, strawboard, moulded door skins, membrane presses, siding, LVL, laminate flooring and sheet plastics. Globe Machine is the leader in the supply of automated I-joist assembly systems and has achieved a leadership role in the cement fiberboard industry and moulded door skin lines. For 100 years Globe Machine has served the forest products industry.

Globe Machine Manufacturing Company continued:

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Grenzebach Corporation

Grenzebach is a leading global manufacturer and supplier of drying systems for the veneer and building materials industries with over 400 dryer installations worldwide. Our veneer product line includes jet and longitudinal dryers, infeed and outfeed systems, and veneer grading and stacking systems. Grenzebach has completed extensive rebuilds and upgrades on all makes and models of veneer, wallboard, and ceiling tile dryers. Grenzebach Service supplies complete parts and service (on-site and remote) for all building materials drying systems.

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Guardian Chemicals Inc.

Providing solutions, results and meaningful service has earned Guardian Chemicals Inc. the enviable industry reputation as the "go to" people for chemical technology and services. Our extensive research and development group, in house ISO 14001 certified manufacturing and products like our revolutionary patented PRESSGUARD series release agent technology for MDI resins in continuous and multi-opening presses, keep us at the forefront of the engineered wood industry. From W.E.S.P. and Scrubber treatment

Guardian Chemicals Inc. continued:

technology, process chemicals and defoamers to maintenance chemicals, odor control and corrosion prevention, Guardian's wood group provides our partner clients with a complete package along with the flexibility to adapt products to the specific needs of each individual application and customer.

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Hansen-Rice, Inc.

Start with the end in mind. Hansen-Rice, Inc. (HRI) has been providing high-performance design and construction solutions since 1983. Over our 40-year history we've minimized risk and maximized ROI on minor and major capital projects. HRI's Engineered Wood experts leverage extensive plant operations, process engineering, project planning, and fast-track construction experience ensuring your project's success. HRI has the experience, tools, and systems to get your plant planned, designed, and built. We focus on integrating your site, equipment, process, and building to optimize efficiency. We'd love to share how, just start by giving us a call.

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HASHIMOTO DENKI Co., Ltd

Hashimoto Denki Company, Ltd was established in 1946 in Nagoya, Japan, the Japanese woodworking machinery capital. Our company specializes in manufacturing machinery for high-efficient and value-added plywood and veneer production, ranging from veneer lathe lines to panel sizing lines. We offer machinery for total plant operation of veneer, plywood and LVL, serving the worldwide marketplace.

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HAWE Hydraulik

HAWE Hydraulik is a well-respected, worldwide, German based company with offices in over 20 countries. HAWE's primary business is providing high quality hydraulic components through modular design and energy efficient solutions. HAWE offers a full range of products from high pressure valving to custom hydraulic units and manifolds to complete hydraulic systems including motion controls. We are a complete solutions provider.

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H.B. Fuller

Our fast setting, strong bonding tapes and glues deliver near zero waste veneers. Zero waste = more profit. Our patented rotary applicators are designed to increase production uptime and eliminates costly and ineffective chillers. Our wood team has over 50+ years of market experience to ensure the right solution for hardwood and softwood veneer in the plywood, parquet and LVL markets. Our industry first Dry & Green Welding tapes are a next generation solution for eliminating laps and gaps while further maximizing drier efficiency. Our goal is simple – help you make more money and build better wood products.

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Henkel

Henkel is the world's largest Adhesive company. LOCTITE® PURBOND is a world leading brand in Polyurethane and Polyurethane Hybrid adhesives for engineered wood bonding, offering ductile bond lines, zero Formaldehyde, zero solvents with a wide range of open and set times for Glulam, CLT, Finger jointing, and innovative applications, both cold setting and RF/hot pressing. LOC-TITE HB Xxx2 Purbond is the ONLY 1 component, high production adhesive certified to North American Glulam, CLT, Finger Jointing and I-Joist requirements. With a strong North American sales and technical team and a fully equipped wood lab, we can provide the solutions, support and technology to meet the demanding requirements of engineered wood bonding and innovations of the future.

Henkel continued:

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HexArmor

HexArmor is a global PPE (personal protective equipment) manufacturer that uses innovative technologies to build high performing hand protection, arm/body protection and eyewear. At HexArmor, we understand the daily challenges faced by safety teams in the wood products industry. Working to meet growth and operational expectations while keeping employees safe on the job can be a tough balancing act. Injuries are costly. Down time and lost productivity damage company reputations and slow growth. Let HexArmor help you build a PPE program that keeps you operationally efficient while giving your employees the best opportunity to go home safely to their families.

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Hexion Inc.

Hexion Inc. is a leading global source for adhesives, resins, formaldehyde, melamine and derivatives serving a broad range of markets including the forest products, foundry, automotive, construction, composites, electronics and oilfield industries, operating 34 manufacturing plants in North America, Latin America, Europe and Asia/Pacific. The Forest Products division of Hexion Inc. is the global leader in supplying resins, adhesives, wax emulsions and ancillary products to the forest products industry. Customers use our materials to manufacture a

Hexion Inc. continued:

wide range of composite and engineered wood products including plywood, particleboard, oriented strandboard, medium density fiberboard, structural beams, cross laminated timber, furniture, mouldings and millwork.

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Hunt, Guillot & Associates LLC

Hunt, Guillot & Associates, LLC (HGA) is a multi-disciplined project management and engineering design firm. HGA has been serving the forest products industry since the firm's founding in 1997. HGA continues to provide expertise to the Engineered Wood Products, LVL, I-Joist, OSB, Plywood, Particleboard, Glue Lam and Lumber industries. Services provided include project management, feasibility studies, preliminary engineering, detailed design engineering and on-site technical support services.

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Huntsman Polyurethanes

For more than 30 years, Huntsman has been a global leader in the production of MDI-based resin binders for particleboard, medium-density fiberboard and oriented strand board. Our dedicated Composite Wood Products teams are committed to helping our customers reach their goals in all market conditions. There is no added formaldehyde (NAF) with Huntsman's RUBINATE® resins, and can be qualified as exempt under CARB Standards and EPA TSCA Title VI.

Huntsman Polyurethanes continued:

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IBC, International Bar Coding Systems & Consulting Inc.

IBC, International Bar Coding Systems & Consulting Inc. - An integrated manufacturer of individual piece wood product specific printer applicators. Complete solutions for finished or in process packs we offer Automated Package labelers (AutoLabeler) for Veneer, OSB, MDF, Plywood, Lumber and EWP. We manufacture tags and labels for any labeling system and are a single source provider for turnkey solutions. We offer Vendor Managed Inventory of consumables and integrated data collection systems across North America. We provide full design, build, onsite service, preventative maintenance, training and consulting on a system wide or mill by mill basis.

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IMA SCHELLING GROUP

IMA Schelling Group

IMA Schelling Group is a single-source provider of sales, service and support of IMA and Schelling machinery and software. We offer customers and business partners the benefit of working with one source for customized industrial engineering, manufacturing and machinery sales under a single roof in Raleigh, North Carolina. IMA Schelling Group works collaboratively with North American businesses. Our customers range from mid-size operations to major corporations.

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IMAL-PAL Group

Established in the 1970's, the Group is a world leader in the manufacture and supply of equipment and systems. It's extensive production program is able to supply complete turnkey plants for the treatment and processing of fresh and recycled wood, in both the wet and dry areas, for production and processing of particleboard, MDF, OSB, Plywood, Pellets, Pallet Blocks and pressed wood-based products in general. IMAL is a leading manufacturer of glue dosing and blending systems and supplies the most innovative on-line and laboratory quality control devices that are found in virtually all the production plants around the world.

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IMEAS Inc.

IMEAS is a world leader in surface finishing solutions, with over 3,000 machines operating worldwide. 2021 marks IMEAS's 55th Anniversary of Innovation and Service to the Wood Products Industry. IMEAS sanding and grinding machines are used to achieve precise surface finish and thickness on a wide variety of products such as plywood, LVL, CLT, composite wood panels, decorative laminates, flooring and solid surface products, etc. IMEAS specializes in extra wide machines - 12' (3.6 meters) and cross-belt sanding for wood products.

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Intertape Polymer Group

Intertape Polymer Group® (IPG®) is the market leader in protective fabrics with over 25 years of experience in the wood industry. IPG is an integrated supplier and manufacturer of woven coated lumber wrap. IPG's wrap offers the ability to advertise your corporate logo in up to four colors and increase brand awareness throughout the transportation process. Available in various weave strengths and colors to fit your needs.

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Itipack Systems

Itipack Systems is a world leader in integrated automated strapping solutions since 1970. Each one of our systems shares in our firm commitment towards high value, optimum performance, and long-lasting results. We provide custom solutions to industries with specific and unique manufacturing requirements.

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Kadant Carmanah Design

Kadant Carmanah provides leading edge technology and equipment to optimize fibre utilization for the production of wood-based panels. Kadant Carmanah's products include SmartRING Stranders, SmartDISC Stranders, Rotary Debarkers, and Conveying/Feeding equipment for the OSB market – all backed by our best-in-class engineering, manufacturing, installation, service, and parts support teams. Recognized as the global leader in stranding technology, Kadant Carmanah holds an impressive 80% of this market share.

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Kimwood Machinery, Inc.

World's leading producer of new equipment and OEM parts for Kimwood Sanders, Hogs and Handling Equipment, Stetson-Ross Planers and Moulders, Ferrari Resaws and Tri-State Equipment.

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Kimwood Sales
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Email: sales@kimwood.com
77684 Highway 99 South, Cottage Grove, OR 97424
www.kimwood.com

KTC Industrial Engineering Ltd.

"Great projects start here." Expertise, experience, and proven track record second to none. Our staff has designed 24 greenfield plants and completed over 600 projects in the engineered wood industry over the past 30 years. KTC utilizes proven methodology to design machinery and processes while supporting the project management team with accurate budgets and schedules. We are now taking the risks out of projects with Dynamic Process Modeling and Advanced Project Tracking technology.

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LDX Solutions

LDX Solutions is a global supplier of air pollution control systems to process industries including the engineered wood products industry. State-of-the-art systems that include the Geoenergy E-Tube Wet ESP, GeoTherm RTO and GeoCat RCO Oxidizers and Geoenergy Wet Scrubbers. Geoenergy systems have provided environmental compliance to the engineered wood products industry on wood dryers, press vents and boilers since 1984.

LDX Solutions continued:

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LEDINEK

LEDINEK is global leader in Cross Laminated Timber (CLT), Glulam Beam and finger jointed Solid Timber technology. Knowledge of mechanical engineering and practical experience in mass timber solutions gained over decades combined with our SOTA equipment, allows us to equip you with individually optimized complete solutions in engineered wood production. From concept and design, to installation, training and commissioning, we provide the leading finger jointing and panel & beam press technology, state of the art planing, moulding, sawing and splitting solutions, material handling equipment, data flow management and excellent aftersales support for you. We cherish our partnerships - Count on us!

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LIMAB North America

LIMAB is the world leader in non-contact laser measuring systems for composite panels and engineered wood products.

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Matthews Marking Systems

Matthews Marking Systems, established in 1850, is a leading supplier of marking and coding equipment for the engineered wood and building products industries. Matthews supplies ink jet printing solutions for applications including grade marking, nail patterns, traceability and large format logo printing. We also offer a variety of inks, specific to the wood industry, including water based, fast dry and VOC free.

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Meinan Machinery Works, Inc.

Established in 1953 in Japan, Meinan develops and manufactures innovative machinery for veneer and plywood production, and holds hundreds of worldwide patents. Meinan's revolutionary "spindleless" lathe drives logs on their circumference with spiked discs instead of spindles, resulting in better veneer quality, higher recovery, and extremely close thickness tolerance. The lathe is part of an automatic veneer peeling line featuring automatic

Meinan Machinery Works, Inc. continued:

knife changing, automatic stacking, and green composing of random width veneer to save labor costs and increase dryer utilization. Meinan also manufactures scarf composers, grading systems, automatic layup lines, and sanders. Represented in USA by Merritt Machinery, LLC in Lockport, NY.

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Mereen-Johnson LLC

Mereen-Johnson has been setting the standard for the woodworking and engineered materials industries since 1905 and offers a complete line of Gang Rip Saws, Profiling Machines, Cross Cutting Equipment, Sizing Systems, I-Joist equipment, and related material handling designed for reliable, high speed production with minimal maintenance. Mereen-Johnson also offers a complete line of solid wood processing equipment such as fixed arbor and shifting blade straight line multiple Rip Saws, Rough Mill Optimizing and Material Handling, Moulders, Single and Double End Tenoners, CNC controlled Dovetailers, and Box Clamps.

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Mid-South Engineering

Mid-South Engineering is a full service, consulting engineering firm that provides a broad range of professional engineering services. Our multi-disciplined staff has served industrial, government, and commercial clients since 1969 with a particular expertise within the forest products industry. With offices in Arkansas, North Carolina, Maine, and British Columbia, Mid-South can serve clients across all North America. Our services include Engineering, Project Development, Project Management, and Construction Support. We welcome projects from small troubleshooting efforts to large greenfield plant installations, as Owner's Engineer or as part of a turn-key project.

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Mill Machinery LLC

Mill Machinery is a provider of new and reconditioned machinery to the veneer and panel industries. Mill Machinery's inventory of production machinery includes veneer lathes, veneer stackers, dryers, plywood presses, sawlines, grade bins, panel feeders, sanders, hogs and related support equipment. Mill Machinery's Magnum line of new machinery includes press loading/unloading systems, press platens, hydraulic units, flying saws, panel feeders, panel stackers and conveyors.

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MINDA North America, LLC

MINDA has been meeting customer needs in the engineered wood industry for more than 40 years, providing leading technology for laminated timber processes. Whether the application requires custom press technology, material handling, data flow management, or overall plant development, MINDA provides specific solutions from concept and design to installation and commissioning. MINDA is a global supplier of flexible, high speed presses for Cross Laminated Timber (CLT), Glulam Beam, and LVL Beam applications. Headquartered in Minden, Germany, with our latest expansion of a full-service manufacturing facility located in Granite Falls, North Carolina, USA.

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Münzing

MÜNZING FENTAK® specialty additives are designed for use in the wood processing industry. The products are used in a number of applications, including decorative and industrial laminates, wood panels and engineered wood. All products are specifically designed to either help enhance the properties or appearance of the final product or improve the production process. Standard products include release agents, wetting agents, resin catalysts and dyes as well as more specialized products such as plasticizers and surface modifiers.

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NESTEC, Inc.

Founded in 1999, NESTEC is a global leader in VOC and HAP emissions control. NESTEC provides innovative pollution management and abatement technologies for a range of industries, including specialty chemicals, wood products, ethanol, and building products. NESTEC's solutions control carbon monoxide, wood dust particulate, condensable organic aerosols, alkali metal containing ash, and water-saturated air streams. NESTEC engineers have treated emissions for over 25 years in plywood, particleboard, oriented strand board (OSB), and wood pellet plants.

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Nextwire

Nextwire is a North American company with over 50 years of manufacturing and engineering experience in woven fabrics for the Engineered Wood Industry. Nextwire CleanSheen II caul and press screens have greatly impacted the industry with extended life resulting in lower cost per board foot. Nextwire can provide these screens with attached tow bars which are manufactured from stainless or plain steel. All caul screens, press screens, and tow bars are manufactured to individual mill site specifications. Nextwire also manufactures preheater, intermediate and tray belts as well as a variety of products in stainless steel and synthetic material.

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Nicholson Manufacturing Ltd.

Industry Leader in ring debarking technology since 1948.

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Northwest Adhesives, Inc

Northwest Adhesives, Inc. offers high performing, cost efficient, "pre-coated" tapes for composing wood veneers, parquet flooring or LVL veneer into durable, continuous full sized sheets. When used with Northwest "spot glues" our PS-tapes provide a continuous, more durable wood assembly and improves lay-up efficiency and reduces cost. Some customers also invest in "Re-Coat" where they use both Spot glue and PS-tape together for best holding power. In the late 1990's Northwest Adhesives, Inc. started manufacturing pre-coated strings and tapes to supply to the plywood industry for veneer composing. Since our beginning we have grown to become a global leader in manufacture, sale and technical service for pre-coated hot melt strings and narrow tapes for veneer composing on Raute, Durand-Raute, Hashimoto, Kuper and PES composers.

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OCI Melamine Americas

OCI Melamine is a supplier of melamine. Melamine is used in the manufacture of formaldehyde based resins commonly found in decorative surfaces, OSB, plywood, MDF boards and others.

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Owens Corning® - WeatherPro®

Owens Corning® is the largest supplier of coated woven wrap to the Engineered Wood Industry. Its custom-printed WeatherPro® packaging products are designed to maintain product integrity throughout transportation, inspection and storage of sawn lumber, plywood, OSB, all types of beams, I-Joists and composite wood products. Owens Corning® is a vertically integrated, global manufacturer of innovative coated woven products serving a wide variety of markets. Consistent product quality is achieved by using state-of-the-art equipment along with a strong commitment to partnership with our customers, employees, and suppliers. Owens Corning's global supply chain efficiency is achieved by our strategic manufacturing and distribution centers located throughout North America, Asia & Europe.

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Panel World Magazine / Hatton-Brown Publishers, Inc.

Panel World publishes six issues per year for domestic and international readership with emphasis on mill project startup articles. Product coverage includes structural and non-structural wood products. Panel World also hosts the biennial Panel & Engineered Lumber International Conference & Expo (PELICE).

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www.panelworldmag.com

Paneltech

Paneltech is a young and growing, forward-thinking company comprised of people who have common values and share a common goal... providing environmentally responsible leadership in manufacturing the best performing products for industry. Our panel overlays are designed for high performance end uses and superior processability. They are designed to increase the value of the wood products they cover by increasing their durability, enhancing their appearance, and creating uniform surfaces to enhance the product's end use.

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Radian Robotics

Radian Robotics provides the newest and most advanced robotics and technology for marking, labeling, barcoding, cardboard application, material handling, and other custom solutions in the wood products industry. Radian uses robotics for stenciling sidewall identification as well as end striping and coding. One system for both applications with availability to use multiple colors. Radian's innovative cardboard application system places and staples cardboard on all sides of a package, ensuring your products are well protected. Robots present high reliability and minimal maintenance. Our systems come with a guarantee to perform at over 99% reliability. Let your product stand out from the competition!

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70 Lancing Drive, Hamilton, ON L8W 3A1, Canada
www.radianrobotics.com

Raute

At Raute, we have global expertise in wood products manufacturing and we are technology and innovation leaders. Raute invests in advancing the production process of plywood, LVL, and engineered wood products. Raute provides profitable solutions for large mill-wide projects, individual process lines, equipment upgrades, spare parts and service. Raute is your partner in production performance.

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www.raute.com

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REA JET has been a global leader of coding and marking solutions for the engineered wood industry for over 30 years. Whether you're looking to print APA grade stamps, large logos & graphics, 2D scannable barcodes or nail grid patterns, REA JET has flexible and reliable systems designed to run at high speeds and hold up in the harshest environments. Contact REA JET today to learn more about our products and capabilities for all of your traceability needs.

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Samuel Packaging Systems Group

With over 50 years serving the lumber and forest products industry, Samuel Packaging Systems Group, offers their customers in the Engineered Wood industry a single source supply for all of their strapping, ink jet printing, labeling, and packaging requirements. Samuel's product line includes steel and plastic strapping, pneumatic and manual hand tools, seals, edge protection, fully automated strapping systems. Our industry leading VK-30 strapping head has been used in both new and retrofit applications to convert our customers from steel to polyester strapping. Samuel is a leader in strapping for engineered wood products, and had the first AAR approved polyester strapping. The Product Identification Division provides fully automated systems for ink jet printing for grade and marketing requirements, as well as piece and package labeling for identification, tracking and shipping.

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Polymer Solutions Group is an innovative manufacturer of proprietary and custom polymer additives, dispersions, and performance chemicals for the rubber, wood, consumer, construction, and medical industries. SASCO's TechKote® Release Agents, Additives, and Platen Conditioners are chemically formulated for all composite and structural panel applications. Together we strive to deliver customer-centric solutions that improve our customers' products, processes and performance.

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Siemer Milling

Siemer Millings produces and markets Glu-X. Glu-X is an All-Natural Chemical Free special glue extender milled from wheat, and used expressly as the protein-starch adhesive for the wood panel (plywood) industry. This proprietary product was developed from the trade secret processes with the contributions of plywood manufacturers, master millers, adhesive scientists and cereal chemists.

Contact:

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Siempelkamp LP

Siempelkamp is a systems supplier of complete process equipment for the wood-based-panel industry. In addition to the ContiRoll generation 9 Continuous press, Multi-opening presses, as well as sanding, cut to size and stacking lines for the panel board industry, Siempelkamp provides the full range of process machinery. With its subsidiaries Sicoplan, the engineering company for complete plant engineering; Pallmann for debarking lines, chippers, stranders, and other size reduction machinery; Buettner for energy systems, dust and multi-fuel burners and dryer systems, the complete process machinery portfolio is covered. Siempelkamp LP provides the service support, modernizations and spare parts for North America.

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Signode Packaging Systems

Signode is a global manufacturer of steel and plastic strapping and the application equipment and accessory products for each. Our protective packaging systems for the Lumber and Panel Industries are centered around the material that ultimately secures loads for handling, shipping and storage, plastic or steel strapping. We offer a full range of application tools, equipment and accessories to complete your strapping system. Our Forest Products Industry sales, equipment service, customer service and engineering departments can help you design the optimum protective packaging system for your application.

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SMARTTECH

Smartech is a technology provider offering software solutions and production equipment for dramatically improving manufacturing processes in the engineered wood sector. Smartech connects people, plant and process with the Artificial Intelligence-based Autonomous MaNEWufacturing™ SW Suite. This solution brings autonomy to critical production processes with the Ultimate Operator™ resulting in lower costs, Optimize production speed while maintaining or increasing product quality.

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Spraying Systems Co.

Spraying Systems Co. is the world's leading manufacturer of spray technology equipment. Our offering includes a family of PanelSpray® systems for applying release agents, moisture, resin, wax or other various chemistries to wood substrate, mats, cauls or belts. These systems ensure the precise volume of fluid is applied even when operating conditions like wood throughput or line speed change. Our line also includes a PanelSpray System for precise nail marking on oriented strand board and the industry's largest selection of spray products for use in humidifying, marking, cleaning and coating operations. We serve our customers around the world from our 12 manufacturing facilities and 90 sales offices.

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SparTek Industries

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Stiles Machinery

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Stratachem Solutions Group LP

Stratachem Solutions Group LP provides chemical solutions specifically for the wood products industry. With over 50 years of technical wood products experience, and a world class research and development group, we are prepared to take on tough process issues. We specialize in release agents for continuous and multi-opening presses, as well as environmental equipment chemical solutions. WESP water treatment chemistry, to keep WESPs and RTOs running up to design capacities. We are dedicated to customer satisfaction and understand the importance maintaining the highest levels of process efficiency while decreasing the cost of manufacturing.

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www.stratachemsolutions.com

Sweed Machinery, Inc.

SWEED is known in the industry as the superior choice for providing full veneer dryer infeed and outfeed systems, dry, green, and random veneer stackers, veneer saws, turners, and hoists. SWEED also specializes in all replacement parts for Raimann and Skoog patchers and manufactures, sharpens, and repairs patcher dies. SWEED provides the latest technology and exceptional craftsmanship, helping processors achieve higher production goals with less downtime. SWEED is based in Oregon, USA, and has served the industry for over 65 years; SWEED continues its legacy in offering unmatched quality, customer service, engineering, and technical support.

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Taihei Machinery Works Ltd.

Taihei is a specialized manufacturer of veneer and plywood machinery, fully committed to the development and production of equipment that meets customer needs. We are driven by the goal of providing proprietary machinery that is second to none to our customers around the world. Taihei is the leading manufacturer of automatic knife grinding and honing machines. Other Taihei products include horizontal hot presses up to 140 openings, veneer jet dryers, veneer stackers, glue spreaders, reeling systems, and finger jointing equipment.

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Union Pacific Railroad

Union Pacific Railroad delivers the goods families and businesses use every day with safe, reliable and efficient service. Operating in 23 western states, the company connects its customers and communities to the global economy. Trains are the most environmentally responsible way to move freight, helping Union Pacific protect future generations. More information about Union Pacific is available at www.up.com.

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University of Tennessee, Center for Renewable Carbon

The Center for Renewable Carbon is a state-of-art research facility at The University of Tennessee. The CRC has nine faculty conducting research on forest products, sustainable biomaterials and bioenergy, <http://renewablecarbon.tennessee.edu/>. The laboratories include wood composite laboratory steam-injected presses, destructive testing lab, conditioning chambers, dry kiln laboratory and new laboratory capabilities for sustainable biomaterials preprocessing, pretreatment research, thermochemical and biochemical conversion, and product analysis. Also, unique analytical capabilities for nanotechnology sustainable biomaterials are available. The CRC has M.S. and Ph.D. concentrations in Sustainable Biomaterials and Wood Science Technology. The CRC provides world-class industry training programs in SPC/Lean, DOE, and data mining.

University of Tennessee, Center for Renewable Carbon continued:

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www.spc4lean.com



USNR

With the addition of Ventek's veneer scanning, grading, and handling solutions to USNR's lathe, dryer, and downstream product portfolio, USNR now offers tightly integrated mechanical and optimization solutions for the plywood industry. USNR products are known to increase recovery, value, and yield, improving mill profitability. USNR also manufactures machinery for beam lamination, finger-jointing, and presses for the composite board industry. Committed to superior customer service, USNR offers OEM parts, training, and 24/7 support around the globe. 800-BUY-USNR.

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Email: sam.pope@usnr.com

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Woodland, WA 98674
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Venango Machine Company, Inc.

Venango Machine and our sister company, Custom Engineering, are complete platen services providers to the forest products industry. We provide new platens for every make of press in the industry for manufacturing of all board products. Our product line includes small specialty platens for lab applications, intermediate sized platens for particle board, OSB, and LVL in both multiple platen and continuous processes. We also provide complete platen-refurbishing programs that include flow and pressure testing, weld repair and re-machining to original specifications. Our technicians also provide assistance in platen change outs and in-press weld repair. Please contact us for all your platen requirements.

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www.venangomachine.com

Wanhua Chemical (America) Co., Ltd.

Wanhua Chemical is the fastest growing and largest MDI producer globally with best-in-class technology and world-leading state-of-the-art manufacturing sites producing WANNATE® PMDI binder solutions to customers and partners in the Composite Wood Panel industry. Wanhua Chemical is renowned for its high quality WANNATE products and dependable supply chain that Composite Wood Panel producers depend on. Wanhua Chemical has worldwide operations with a local commitment to customers, including ongoing investments in technical resources and infrastructure in North America, further strengthening Wanhua's technical service and supply commitments to the Composite Wood Panel industry.

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Walker Emulsions

Walker Emulsions is a supplier of high quality, highly effective emulsions for the wood composite industry. We have a selection of emulsions that will fit the needs of high to low temperature pressing and we can make products specifically to match your process.

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Corporate Office:

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Westmill Industries USA Corp.

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pricing, and long deliveries. Instead, call the small company focused on delivering competitive value Dryer Technology. When we say “we’ve got your back” we mean it. Try us out.

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Willamette Valley Company

Willamette Valley Company manufactures epoxies, putties and urethanes for upgrading all wood substrates, and also makes a wide range of water based coatings, primers and sealers. Willamette also makes many fillers and extenders for wood adhesives and plywood glues. Pretec, the company's equipment solutions division, specializes in the design and manufacture of advanced fluid systems and the integration of robotic application systems.

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MEMBERSHIP BENEFITS

The benefits of EWTA membership are many.

Valuable Networking

Info Fair: The supplier tradeshow is held in conjunction with the APA annual meeting and provides EWTA members direct business-to-business links with your customers in the engineered wood products industry.

- Exhibit and sponsorship opportunities.
- Meet with industry executives from APA member companies.

Supplier Awards Program: This annual program recognizes members for their contributions to the industry.

- Supplier of the Year: Each year the program honors one EWTA member company from each of three categories: Consulting/Services, Equipment/Tooling and Materials/Supplies.
- Innovation of the Year Award: One company is chosen by APA members for a new product or service that has demonstrated a positive impact in the field.

Market Research and Publications

EWTA members receive the following:

- Market Research Reports
- APA Management Report
- APA publications are available for free or at a discount on the [APA website](#).

Member Communications

- Connections Newsletter is emailed to all APA and EWTA members.
- *Engineered Wood Journal* magazine is sent to over 2,000 industry subscribers.

The annual cost of EWTA membership is just \$1,200. For more information about the benefits of membership or for an application. Questions? Contact: [LaDauna Wilson](#).

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Strength Through Connections

The Engineered Wood Technology Association is the leading North American organization of suppliers to the engineered wood products industry.



JOIN

EWTA membership provides vital connections with your customers in the North American engineered wood industry through a variety of networking platforms.



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BUSINESS OUTLOOK

Business optimism declines

By LaDauna Wilson

As businesses emerge from the challenges of a global pandemic, a looming recession is driving caution and concern. It is not a surprise that the Engineered Wood Technology Association (EWTA) members surveyed earlier this year show a drop in optimism for the industry in 2023.

A year ago, the majority of EWTA members surveyed in the association's annual Business Outlook Survey had a positive outlook on the year ahead. Now the tides have turned, and for 2023, members register the lowest level of optimism recorded since 2011, when this annual survey originated. Perhaps the tempered outlook is reflective of the recent housing reports which

predict a challenging housing market through the rest of 2023, as reported by Joe Elling, APA's Market Research Director, in a feature on [page 25](#) that looks at the impacts of the U.S. economy on the home building industry.

The Engineered Wood Technology Business Outlook survey was sent to EWTA members in January of this year and posed five questions relating to wood-product business' performance, future expectations and employment levels. Responses are reflected in the following charts, which also track survey responses from the past five years. Sixty-eight percent of respondents were in the equipment/tooling category, 35% in the materials/supplies category and 8% in the services/consulting category. Fifty percent of respondents had business headquarters in the U.S., 19% were headquartered in Canada and 31% were offshore.

IMPORTANCE OF FACTORS TO 2023 BUSINESS STABILITY AND/OR EXPANSION

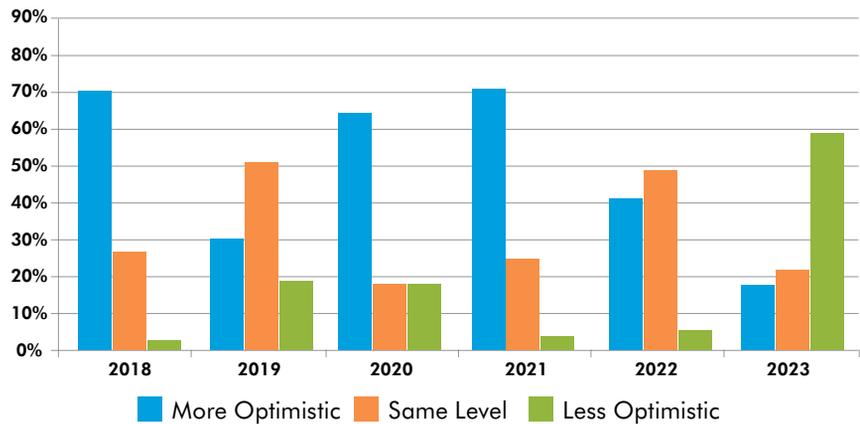
| | Very Important | Important | Unimportant |
|--|----------------|-----------|-------------|
| 1 Raw material prices or supply | 69 | 27 | 4 |
| 2 State of the U.S. housing market | 67 | 29 | 4 |
| 3 Transportation costs | 63 | 21 | 17 |
| 4 International exchange rates/trade policies | 54 | 31 | 15 |
| 5 Economic uncertainty | 50 | 46 | 4 |
| 6 Labor issues | 50 | 38 | 13 |
| 7 Government economic/tax policy | 36 | 60 | 4 |
| 8 Government regulation | 35 | 50 | 15 |
| 9 Marketplace competition | 31 | 62 | 8 |

Important 2023 external factors consistent with 2022 responses

Each year, members are asked to rate the relative significance of external factors in correlation to the stability and/or expansion of their business for the coming year. The top concern of EWTA members for 2023 mimic those of 2022, with the top factor being the availability, price and supply of raw material, followed by the state of the U.S. housing market and transportation costs. There was a shift in the level of importance for the international exchange rates/trade policies, as it rose to the fourth rank of importance in 2023, up from the second to last level in 2022. Marketplace competition remains at the bottom of the factors rated as “very important.”

The chart above shows the survey responses and the varying degree of factors regarding recovery.

HOW OPTIMISTIC ARE YOU ABOUT YOUR WOOD-RELATED BUSINESS THIS YEAR COMPARED TO LAST?



Optimism sinks

One of the questions in the survey asks, “How optimistic are you about your wood-related business this year compared to last?” Most responses to this question in the last six years have reported being “more optimistic” when looking toward a new year. This year, however, the respondents reporting they are “less optimistic” go from 10% in 2022 to 58% in 2023. Those stating a “same level of optimism” for the year shrunk from 49% in 2022 to 23% in 2023, with 19% claiming they are more optimistic.

Continued on next page

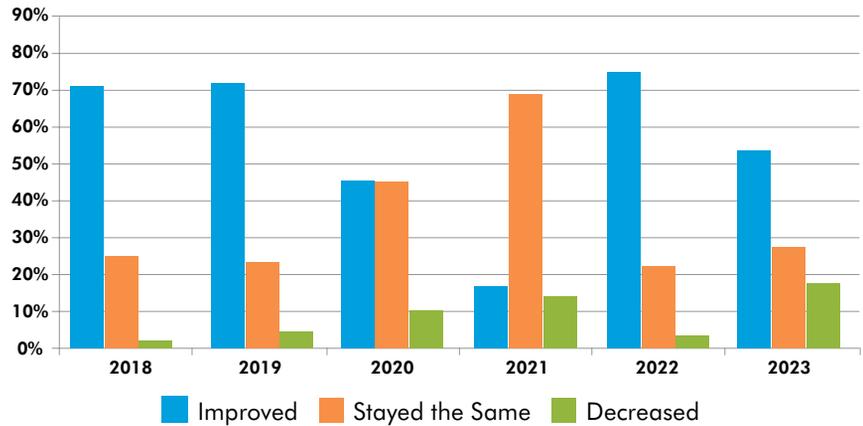
Improvement in business operation drops

Fifty-four percent of respondents saw their company's wood-related business improve in 2022, a drop from the 75% reported last year. Business operations remained consistent for 27% (compared to 22% in 2022) and declined for 19% (compared to 2% in 2022).

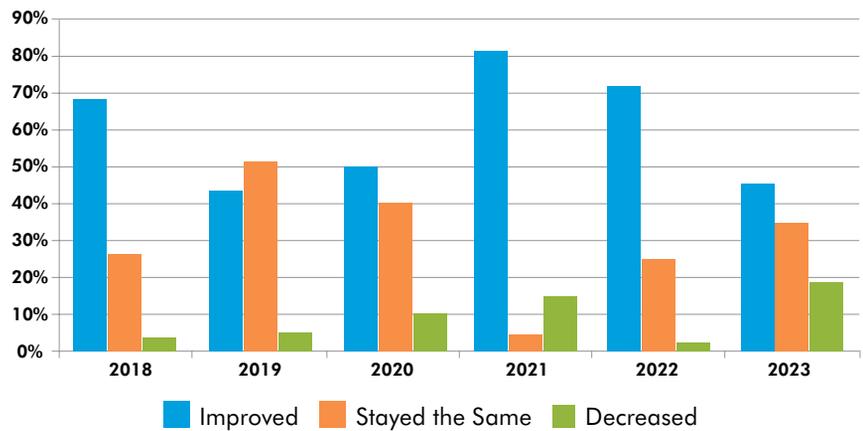
When asked "What is your business projection for 2023?", 46% of the respondents felt business would improve, down from the projections of 72% in the prior year. Thirty-five percent believe business will stay the same (compared to 26% in 2022), and 19% think there will be a decrease in business (compared to 4% in 2022).

According to survey respondents, employment levels for EWTA members remained steady in 2022, and companies anticipate that will continue into the new year. When asked if staffing changed during the year, 28% of the respondents reported an increase in the number of employees (down from 47% in 2022), 60% maintained the same employment levels (compared to 49% in 2022) and 12% decreased staff (up from 4%). Twenty-seven percent expect an increase in employment projections for 2023, with 62% maintaining the same level and 12% predicting a decline.

DID BUSINESS IMPROVE, STAY THE SAME OR WORSEN THIS PAST YEAR?



WHAT IS YOUR BUSINESS PROJECTION FOR 2023?



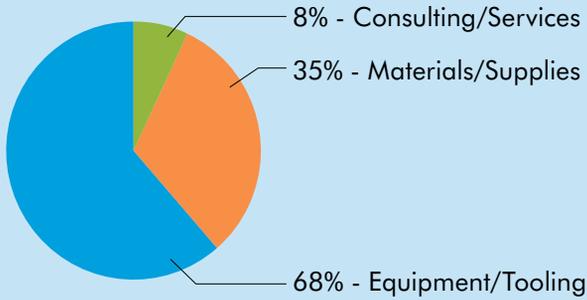
Adjustments continue in the engineered wood industry

When asked how businesses were adapting to current economic conditions, companies report they have implemented a variety of strategies to continue providing products and services to the engineered wood industry.

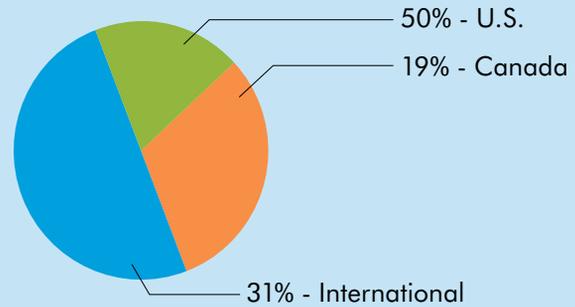
Some companies are seeing increased interest in their products that promote and implement sustainability and decarbonization as businesses look for ways to reduce greenhouse gas emissions. Sourcing raw materials continues to be a challenge and continues to be a focus for several

ABOUT THE BUSINESS OUTLOOK SURVEY RESPONDENTS

EWTA MEMBERSHIP CATEGORY



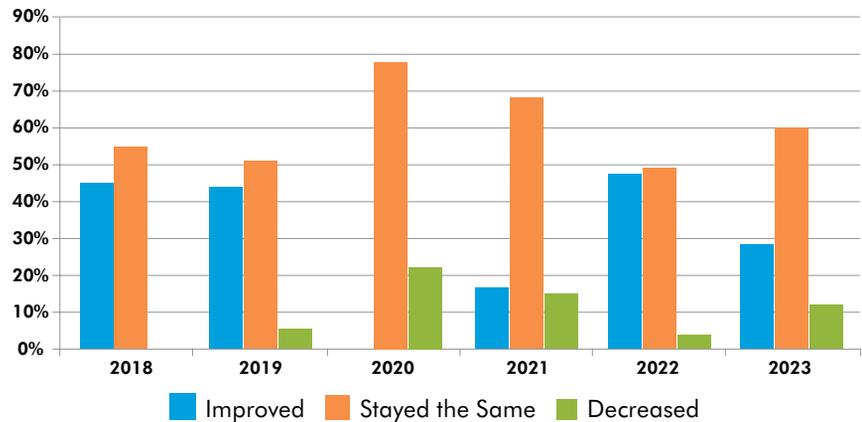
HEADQUARTERS LOCATION



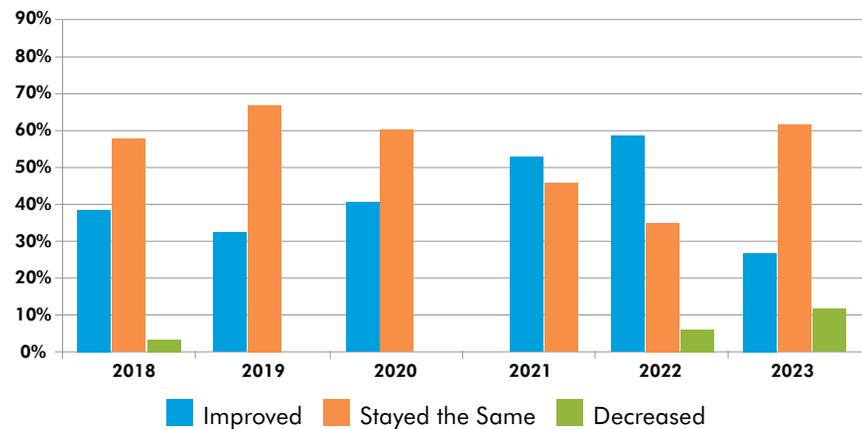
companies. In 2022, companies were identifying secondary sources for raw materials. As the global raw material uncertainty continues, more companies are looking for and implementing alternative raw materials and sources to prevent delays in providing product to customers, no matter the cost. One company shared, “As the raw material markets stabilize and start to soften from a cost standpoint, the additional qualified raw material suppliers should bode well for long-term pricing stability.”

LaDauna Wilson is the EWTA Program Manager and editor of the Engineered Wood Journal.

DID YOUR EMPLOYMENT LEVELS CHANGE LAST YEAR?



WHAT IS YOUR EMPLOYMENT PROJECTION FOR 2023?





SHARE YOUR COMPANY NEWS

The Engineered Wood Journal welcomes news from its members. News suitable for publication in upcoming issues includes press releases about new hires, new products, company news or awards won. Please send your information or direct questions to [LaDauna Wilson](#).

CON-VEY announces new vice president role

Con-Vey LLC, North America's leading manufacturer of automated material handling equipment for engineered wood products, is pleased to announce the promotion of Jeremy Goebel to Vice President. With over 10 years of experience at Con-Vey, Jeremy brings a wealth of industry knowledge and leadership to his new role.



Jeremy Goebel

Jeremy joined Con-Vey as a Sales Representative in 2013 and quickly rose through the ranks, becoming the Sales Manager in 2017. With his exceptional technical skills and personable nature, Jeremy has been instrumental in driving Con-Vey's success and growth.

As Vice President, Jeremy will continue to lead the sales team, while also managing other departments' operations. This promotion is part of Con-Vey's growth plan and the next step in expanding its management team.

IMEAS, Inc. moves to new facility

IMEAS, Inc. recently completed a move to a new and larger facility in Tyrone, GA. The new space accommodates company growth, providing increased office and warehouse space. The new address is 1415 Senoia Road, Suite A, Tyrone, GA 30290. The main office phone number, 678-364-1900, emails and other phone numbers remain current.

Matthews Marking Systems announces new wood products industry leader

Matthews Marking Systems has announced that Bill Ashley, key accounts manager, is stepping in as the go-to advocate and advisor for wood marking solutions at the company. He brings over five years of experience with Matthews supporting EWTA members and the wood products industry. He has over 18 years of marking and printing industry experience. Ashley takes over for his former mentor Donna Meade who recently retired after a 40-year run from her role as strategic initiatives manager at Matthews. She was instrumental in helping dozens of wood products companies transition successfully from contact printing and stenciling methods to modern inkjet and drop-on-demand marking and printing.



Bill Ashley

EWTA companies recognized in Newsweek's America's Greatest Workplaces for Diversity 2023 list

BASF, H.B. Fuller and Kadant were recently recognized as companies identified as one of "America's Greatest Workplaces for Diversity 2023" by Newsweek magazine. The recognition was awarded to 1,000 companies across 34 industries, grouped in six main economic sectors. Scoring was based on review of publicly available data, interviews with HR professionals and an anonymous online survey of a diverse pool of employees. Respondents were asked questions about corporate culture, working environment, and other subjects at their own companies and others they were familiar with. Additional details are available. Congratulations!

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EWTA WELCOMES NEW MEMBERS

CAPTISAIRE LLC

CaptisAire LLC, provides an industrial air pollution control technology that has been commercialized in many applications including automotive, furniture, and electronics manufacturing. It is an emerging clean technology in wood processing that could enable operators to 1) reduce operating expenses primarily by reducing energy usage – especially natural gas, 2) generate revenue by selling valuable organics, i.e. turpentine (terpenes) from pine wood, and carbon offsets, 3) improve sustainability by reducing greenhouse gas emissions. The Fluidized Bed Concentrator technology works by adsorbing (capturing) pollutants on specialized Bead Activated Carbon. CaptisAire has special expertise in wood processing.

Details are available at: www.captisaire.com.



COMBILIFT USA

Combilift USA, is a global manufacturer of multi-directional forklifts and an acknowledged leader in long load handling solutions. Innovation, Flexibility and Service is the ethos on which Combilift's success is built, putting the company on the path to become the world's fastest-growing forklift manufacturer, exporting to more than 85 countries and with more than 60,000 trucks in use worldwide. No other manufacturer in the world can deliver the same level of customization and adaptability or cater so effectively to the diverse needs of every individual customer, whether their enterprise is large or small.

Details are available at: www.combilift.com.



IMA SCHELLING GROUP

IMA Schelling Group is a single-source provider of sales, service and support of IMA and Schelling machinery and software. IMA Schelling Group offer customers and business partners the benefit of working with one source for customized industrial engineering, manufacturing and machinery sales under a single roof in Raleigh, North Carolina. They work collaboratively with North American businesses, with customers ranging from mid-size operations to major corporations.

Additional details are available at: www.imaschelling.us.

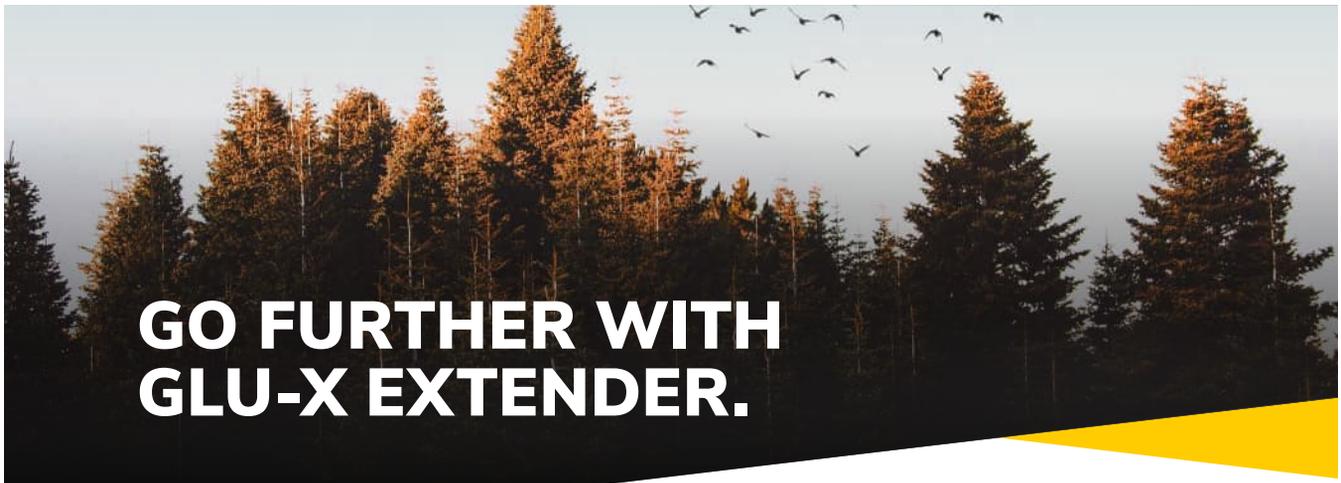


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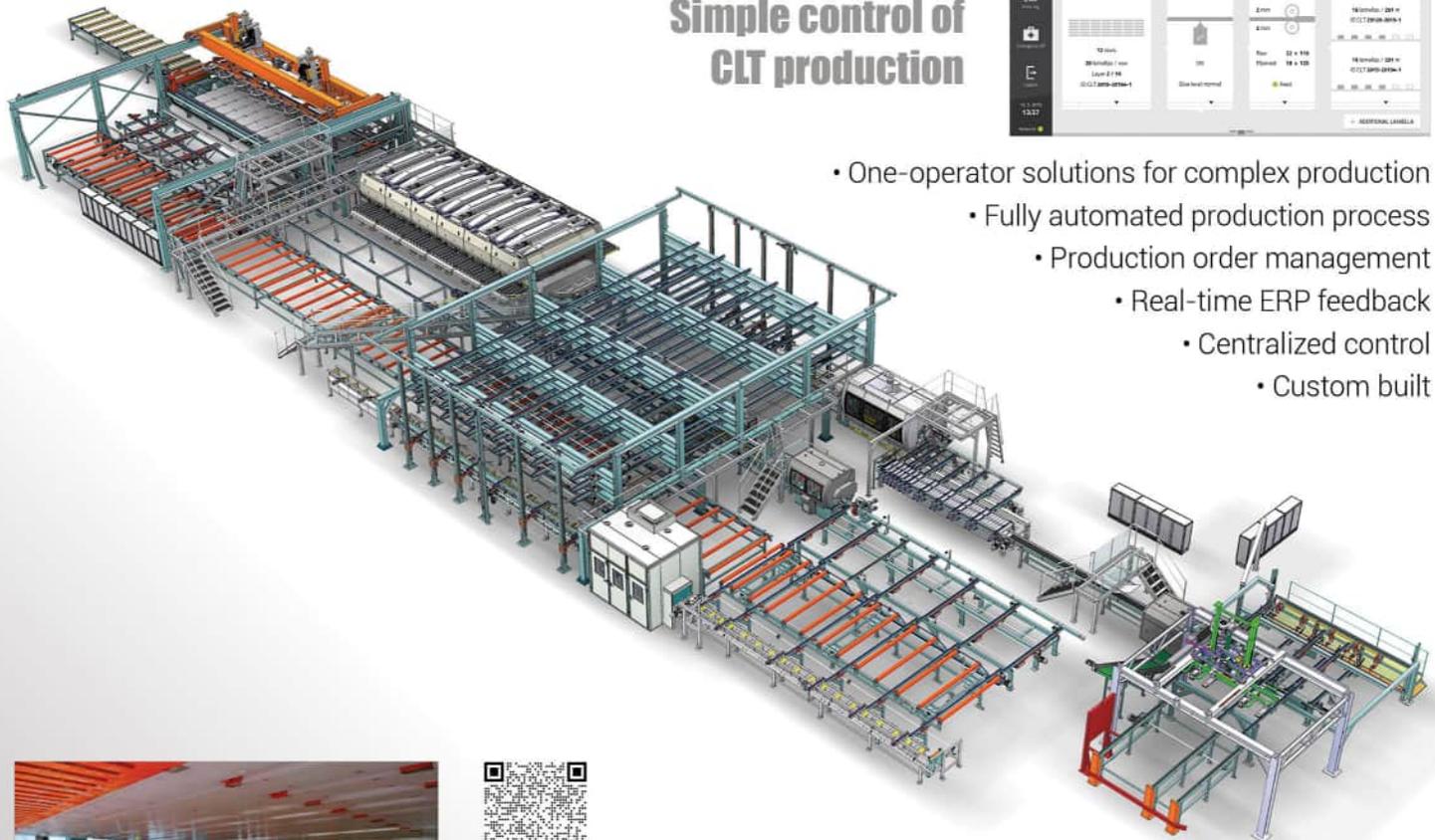
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