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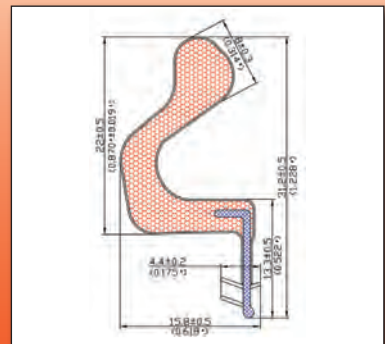
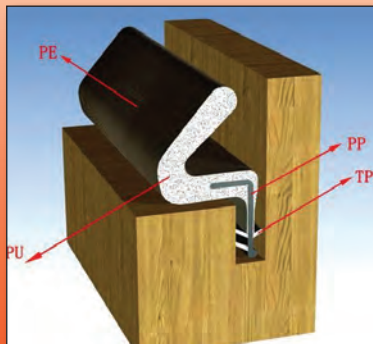
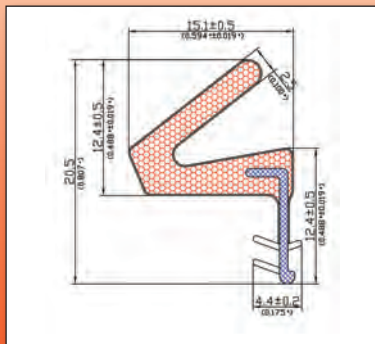


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Incorporating robotics doesn't automatically elevate a plant's efficiency or quality. To get the most out of new equipment, manufacturers must apply the right strategies. This month's In the Trenches looks at the common challenges and opportunities for maximizing such investments and realizing the true benefits of automation.

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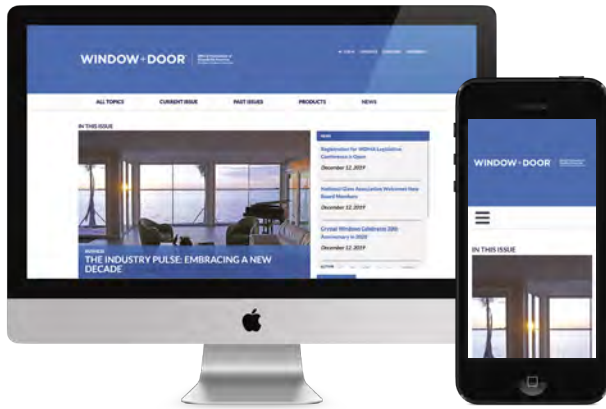


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The new site features:

- A wealth of content tailored to the residential fenestration audience
- Improved site navigation and readability
- Robust search functionality
- User-friendly layout and design
- Direct access to other Window + Door platforms and partners
- New placement and layout for products

On the new site, easily find more content related to this issue, including:

- Digital Development: Insights into advanced digital technologies
- White Paper: Benefits of total transformation
- Navigating Installation Variables, Parts 1-3
- Products from IBS 2020 and WinDoor North America
- The Talk: Blogs of the month

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National Windstorm Impact Reduction Program Gets Hearing

U.S. House of Representatives' Subcommittees on Research and Technology and Environment held a hearing on the National Windstorm Impact Reduction Program. The purpose of the program is to measurably reduce the loss of life and property from windstorms through an improved understanding of risks and impact.

The program is implemented through a coordinated effort between federal agencies, academia and private sector organizations such as the International Code Council. It supports the development, adoption and enforcement of building codes and other mitigation strategies.

The program faces issues of limited funding, according to ICC. By reauthorizing the NWIRP with dedicated funding and the resources it needs to fulfill its objectives, the program can continue to reduce the impact of windstorms on properties and communities across the country, according to an ICC release.

"From 1980 to 2017, windstorm-related natural disasters resulted in over 5,000 fatalities and \$1 trillion in economic losses," the ICC release states. "Since community resilience varies so widely across the nation, federal agencies have recognized that the focus needs to shift from post-disaster recovery to pre-disaster investments, like the adoption and enforcement of up to date building codes, which is what makes NWIRP's mitigation research so important."

WDMA Criticizes Decision to Reinstate Steel and Aluminum Tariffs on Argentina and Brazil

The Window & Door Manufacturers Association strongly criticized President Trump's announcement that his Administration will reinstate Section 232 tariffs on steel and aluminum imports from Argentina and Brazil, which had previously been excluded.

"This sudden action could result in price increases for window, door and skylight manufacturers, and create further uncertainty in the residential and commercial construction markets," says WDMA President and CEO Michael O'Brien.

Formal notices of the tariffs were not immediately announced by the Treasury or Commerce Departments or the Office of the U.S. Trade Representative, CNN reports. Both Brazil and Argentina were exempted from 25 percent steel and 10 percent aluminum tariffs last year when Trump was attempting to avoid a trade war with those countries, according to a CNN article by Maegan Vazquez and Donna Borak.

"WDMA calls on the Trump Administration to abide by its 2018 agreements with both Argentina and Brazil to exclude imports from Section 232 tariffs," O'Brien says.

IN THE NEWS:

Month in Review

A number of major mergers and acquisitions in the window and door industry took place last fall. First announced earlier in 2019, **MI Windows and Doors** finalized its acquisition of **Milgard Windows & Doors** from Masco Corp. The acquisition combines two leading brands in the residential window industry and positions MI to become the most well-known window business in America, say company officials.

The Novatech Group acquired glass product manufacturer **Laurier**, which the companies hope will result in a growth plan that will unite the strengths of both companies in the high-rise, commercial and glass markets. Laurier will now be known as Laurier Architectural.

Pella Corp. acquired Ocala, Florida-based **Custom Window Systems**, which specializes in vinyl and aluminum impact-resistant products. Pella says the acquisition will enable the company to strategically expand and build scale in the high-growth Florida area and coastal regions in the Southeast.

And, **Marvin** acquired the assets of Enfield, Connecticut-based **A.W. Hastings** and is now the owner of its distributor in New England and Eastern New York. A.W. Hastings served as Marvin's exclusive representative in New England and Eastern New York for more than four decades. The company will merge its Cortland, N.Y.-based operations with the Enfield facility to streamline operations in the region.



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Window + Door Magazine Launches New Website

Window + Door magazine and its parent organization, the National Glass Association, launched an all-new WindowandDoor.com on January 8, as well as a newly redesigned W+D Weekly newsletter. Following Window + Door's print redesign in August 2019, the fully updated website offers a wealth of content in a modern and easy-to-navigate format, tailored to its residential fenestration audience.

"The site is designed using modern web best practices for content consumption. Its layout—more space on the page, larger fonts, horizontal format, large images—improves site navigation and readability," says Bethany Stough, senior manager, digital media for the NGA.

There are several changes to the site structure, all designed to offer better user experience, including:

- A more robust search functionality that allows users to search for specific topics; all content published on that topic is available in a navigation tab, plus additional and easily navigable sidebar space with related and further reading, as well as more ways to engage.
- Direct access to the digital version of the magazine, a clearer connection to W+D Weekly newsletter and Window + Door social media, plus clear ways to engage with and contribute to the magazine.
- Connection to the NGA family of sites, including glass.org, glass-build.com and glassmagazine.com. Readers can now easily navigate to and find the latest information relevant to them from NGA, from GlassBuild America and from Glass

Magazine.

- Products, the most-read section of the magazine, has a prominent place on the site, and a design that reflects the importance of this section. Users can filter products by name, type or publication date to find what they're looking for. In this section, readers can again find related information and more products easily.

This is the first major change to the website in a little over 10 years. "Our industry, our readers, the NGA and the magazine have all changed since our last major website renovation," says Stough. "The new website both reflects those changes and is designed to keep pace with further change in the future."

FGIA Officially Launches in 2020

Respective members of AAMA and IGMA voted last July to combine their allied resources into a single organization that will offer streamlined access to critical information via a single credible source: The Fenestration and Glazing Industry Alliance (FGIA). Immediately following the approval votes last July, the existing Boards began working together to execute the unification implementation steps and to blend the vision and priorities for the new organization. These efforts will be ongoing as the new organization unfolds in 2020.

"Pooling the knowledge of professionals from both the fenestration and glazing industries means better synergy for the whole finished fenestration product," explains Janice Yglesias, AAMA executive director. The FGIA will have a continued focus on serving residential and commercial markets. In addition, she says, the combination offers direct access to U.S. and Canadian market

expertise for better perspective when assessing code and regulatory changes and product performance requirements.

In addition, expanded technical competencies and a broader document base will support more extensive educational opportunities, according to Yglesias. She says that a stronger combined financial position will allow for future investments in industry research, technical resources and educational programs.

The first-ever FGIA Annual Conference, the new home for AAMA and IGMA content, will be held Feb. 10-13 in Ft. Lauderdale, and will provide a "road map for the future of the organization," according to Yglesias. There, the new FGIA logo and branding will be unveiled.

The branding strategy will roll out in varying degrees, including a temporary website landing page, leading up to the full brand launch at the Annual Conference in February. The branding strategy includes an indefinite time period where the brand equity of both AAMA and IGMA are maintained concurrent with building the FGIA brand, as the organizations acknowledge the critical importance of retaining strong ties to these existing separate brands, particularly relative to services such as technical standards and certification programs.

All standards, programs and other holdings will be under the umbrella of FGIA, with a nod to either AAMA or IGMA, depending on its origins. For example, technical standards will be designated as "IGMA TM-4510-18, an FGIA technical manual" or "AAMA 502-12, an FGIA specification."

According to Yglesias, this is a "landmark" unification. "Harnessing the synergies of merged staff support and the intellectual knowledge of the associations will cost-effectively provide more resources," she says. ■

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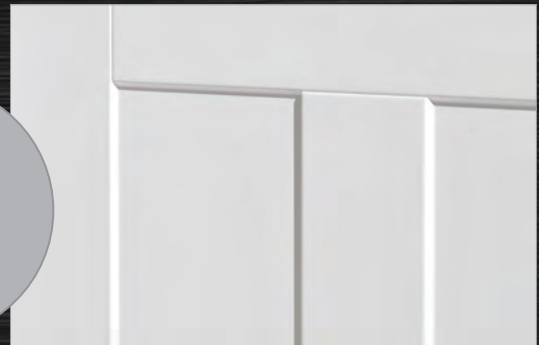
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Ringling in the New



By **Emily Kay Thompson**
*Editor-In-Chief
Window + Door*

Happy New Year, Window + Door readers. We're ringing in the new decade with some steadfast traditions, including our trademark Industry Pulse report starting on page 26, but have plenty of new to celebrate as well.

We are ecstatic to share the January launch of the all new W+D Weekly and windowanddoor.com, a project we've been working on throughout 2019. Window + Door's former Managing Editor, Bethany Stough, was the lead coordinator on the project, bringing insights from the fenestration industry, and fluency in the topics and authors that matter most to our audience, to the conversations about website design and best practices. "Gaining a better understanding of our readers' content and educational needs and being able to respond to those needs via a digital platform is the goal of this redesign," she says.

Stough continues, "This is the first major

change to windowanddoor.com in a little over 10 years. While it was simply time for a change, it's no small feat to redevelop and redesign a website, and we wanted to do it right, for the right reasons. The change was necessary because in 10 years, our industry, our readers, the NGA and the magazine have all changed. The new website both reflects those changes and is designed to keep pace with further change in the future."

When using the new site, readers will note several changes to the site structure, all designed to offer better user experience. The biggest change to the structure is an overall organization by topic and a more robust search functionality. Readers can search for specific topics and the site provides all content published on that topic with the All Topics navigation tab.

Further, the site is designed using modern web best practices for content consumption. Its layout includes more space on the page, larger fonts, horizontal format, large images, all to improve site navigation and readability. Best yet, readers can use any device to find what they are looking for quickly, and staff can offer much more for readers, including early access, photo galleries, educational videos, resource toolkits, digital product guides, multimedia content and infographics.

Readers will get the first taste of web-exclusive content on this new platform with our online coverage of Design & Construction Week and the International Builders' Show this January. Combined with our live social media coverage, we're aiming to make those who can't make it to the event feel like they're there, and those at the event to see the show from a different perspective.

We're excited to hear what you think of the all-new windowanddoor.com, W+D Weekly and, now that we've settled into the new look of the magazine, any comments or suggestions you have for print coverage, too. With more ways to interact with the fenestration industry than ever before, we hope to help you get ready for all that this new decade has to offer. ■

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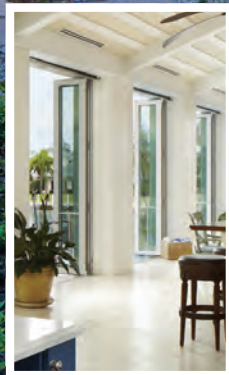
Check in on the all-new WindowandDoor.com for highlights from IBS and follow Window + Door on Twitter and Instagram for live updates from the event.



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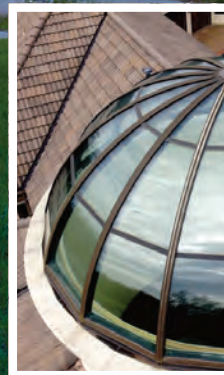
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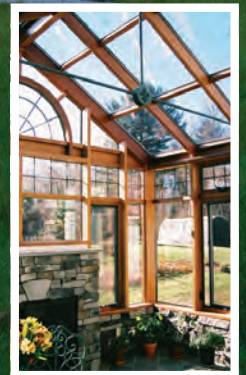
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2020 Benchmarking Report

Industry dynamics support a positive near-term outlook



By **Katie Gregg**

The Window & Door Dealers Alliance, wddalliance.org, is pleased to share highlights from the second annual Benchmarking Report. This annual study measures the sales, trade association interest, value propositions, and business confidence of window and door dealers, wholesale dealers, lumber and building material dealers, and window retailers/replacement dealers. Conducted by The Farnsworth Group, thefarnsworthgroup.com, the report offers a peek into the window and door industry including industry trends and statistics, new year-over-year comparisons, and exclusive analyses that will help dealers move their businesses forward. Following are five key takeaways from this year's report.

01— Industry dynamics support a positive near-term outlook.

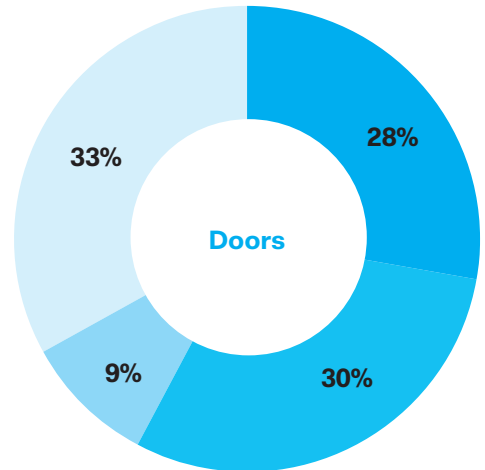
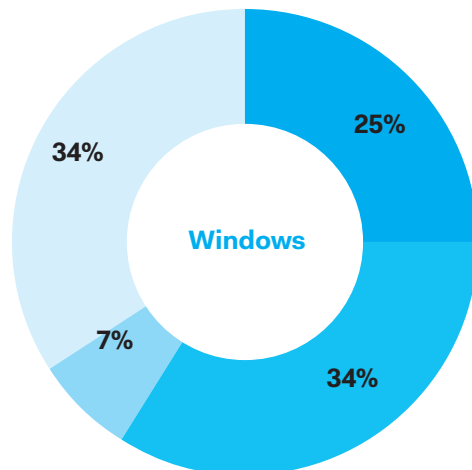
This is evident in the increase in competition and the need to travel less to gain new business. Window and door dealing is a highly competitive space: 27 percent of dealers have 10 or more direct competitors and 32 percent have five to nine direct competitors. Additionally, 54 percent of dealers have a sales coverage radius of 50 miles or less.

02— The near-term outlook also seems positive based on dealer and contractor sentiment, though growth may not be as high as the prior few years. This statement is based on The HomeAdvisor/Farnsworth Group Index, a quarterly sentiment tracker among five remodel, repair and replacement trade groups. The 2019 index numbers indicate strong confidence in getting new business in the next six months and future projections remain strong as high workload across many trade associations continues to boost confidence.

03— There are modest shifts in material share, which reflect that bigger project sizes may be occurring, given higher-than-normal home equity. Vinyl windows continue to have the lion's share of the market in 2018 at 88 percent, and sales of vinyl and wood windows remained relatively consistent from 2017 to 2018. Metal window sales made significant gain, increasing from 7 percent to 16 percent. While fiberglass doors remain the most common type sold, they decreased in popularity by 10 percent from 2017 to 2018. Meanwhile, wood doors saw

Total Sales of Windows and Doors

- \$100K or less
- \$101K to \$499K
- \$500K to \$999K
- \$1 million or more



an increase in market share of 11 percent and an increase in sales of 14 percent from 2017 to 2018.

04— We see moderate shifts toward more business coming from the trades than homeowners.

Again, this may be a reflection of changes in the types of projects being done. In 2017, dealers estimated that 52 percent of their sales came from homeowners and 33 percent came from builders. This differs from the near-even split of 38 percent homeowner sales versus 39 percent builder sales seen in 2018.

05— Dealers can still better define what “quality” and “service” are.

Continuing the trend from the first report, there is still an opportunity for dealers to be more specific when communicating their sales differentiators or value propositions. By better defining service in terms of expediency, knowl-

edge, experience, relationships; and quality in terms of products, selection and variety, dealers have an opportunity to set themselves apart from common industry platitudes.

The full report, including detailed data on the industry outlook, materials, and perspectives on market share and positioning, is available now exclusively to WDDA members. The Farnsworth Group will also join WDDA in a live webinar on Tuesday, Jan. 14, at 2 p.m. ET to present the findings, open to nonmembers and members. For more information on the report, the webinar or WDDA, visit WDDAlliance.org or connect with Katie Gregg at kgregg@glass.org. ■

Katie Gregg is the associate director, WDDA Industry & Member Engagement for the Window & Door Dealers Alliance, wddalliance.org, the only national business organization advancing the interests of independent window and door dealers. She can be reached at kgregg@glass.org.

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Maximizing Investments

How to make the most of today's technology



By **Joe Erb**

By now, many fenestration manufacturers have invested in some form of automated production technology with the hopes of creating efficiencies, boosting profits and enhancing quality. Robotics for cutting, edge deletion, conveying, sorting, racking and vinyl welding all promise to maximize labor and increase product throughput.

However, incorporating robotics doesn't automatically elevate a plant's efficiency or quality. To get the most out of new equipment, manufacturers must apply the right strategies. Let's look at the common challenges and opportunities for maximizing such investments and realizing the true benefits of automation.

Challenge #1: Production Bottlenecks

Bottlenecking happens when inputs (raw materials) and outputs (finished products) aren't optimized. When it comes to input, consider whether the machine is idle because of a lack of raw materials (glass, metal and vinyl) feeding it. On the opposite side of production consider if there is a logjam, with too much product coming off the line with nowhere to go that is halting production.

Losing track of products is another common issue with higher-volume production, resulting in unnecessary remakes or lost time tracking down products. In short, every step of the process must be looked at with a critical eye to achieve the best possible results from beginning to end.

Challenge #2: Shipping and Logistics Hurdles

Companies can work hard to optimize plant flows, but sometimes the unexpected can occur as final products are heading out the door. Driver shortages and the cost of shipping can cause logistical challenges, no matter how efficient the inside of the plant is.

Jobsite-related issues can also cause headaches ranging from weather-related construction delays to onsite labor shortages. Key to managing the backflow when the unexpected occurs is having the storage capacity to manage it.

Such contingencies are magnified with greater production capacity and bigger projects. For starters, communication between manufacturer, installer and customer becomes critical.

Challenge #3: Competing Across Markets

Automation presents the potential to tap into new revenue streams and markets. Increased capabilities and capacity open new worlds of possibilities for manufacturers. We're seeing more residential manufacturers dabbling in light commercial and multifamily residential, for example. With that, however, comes a whole new workflow and different expectations. It's important to fully understand the market and make sure your business is prepared to meet the demands.

For one, training the sales team is critical—



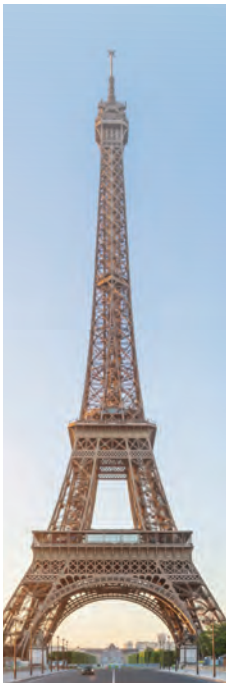
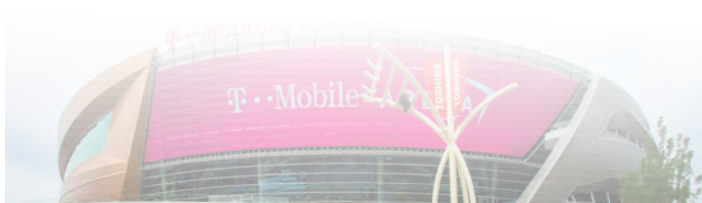
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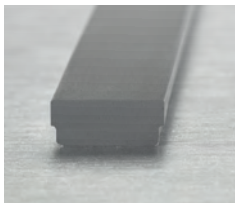
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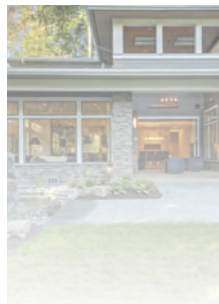
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they have to know how to set the right expectations without overcommitting resources, especially as a company first enters new markets. If done correctly and with due diligence, you will realize the benefits.

The Opportunity: A Fully Integrated Plant Floor

For every challenge, there is an opportunity. When it comes to automation, the solution to almost every challenge comes in the form of looking at the plant floor holistically to maximize returns. Investing in new technology and new equipment is just one step.

To achieve desired results, consider:

- Applying equipment at every stage of operation to reduce bottlenecks and drive efficiencies: lift cranes, glass assist devices and other equipment can help move units from point A to point B more efficiently through the plant.
- Implementing a robust, user-friend-

“
WHEN IT COMES TO
AUTOMATION, THE SOLUTION
TO ALMOST EVERY CHALLENGE
COMES IN THE FORM OF
LOOKING AT THE PLANT FLOOR
HOLISTICALLY TO MAXIMIZE
RETURNS.
”

ly ERP system: software that complements automation is available from a wide range of vendors. These systems can help plants formalize processes, better track line inputs and outputs, and help processes run more smoothly overall.

- Integrating software solutions to improve communication and troubleshoot lines: software is available to give

more visibility into every step of the process, resulting in enhanced customer communication and improved uptime. Predictive and troubleshooting tools can alert problems before they occur, helping to avoid unplanned downtime. Automation plus software means communication can happen digitally.

Final Thought: Keep an Open Mind

The bottom line is: those that get stuck on the way it's always been done could be missing out on opportunities to advance. Keep an open mind, and never stop imagining what could be done differently. This is truly how businesses get ahead and realize all the benefits new technology has to offer. ■

Joe Erb is commercial sales specialist for Quanex Building Products, quanex.com. For more tips, read Quanex's blog, In Focus, or contact Erb at joe.erb@quanex.com.

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A Matter of Privacy

State statutes seek to protect consumer data; what fenestration companies should do about it



By
Matt Johnson

“
CONSUMER
DATA
PROTECTION
IS LIKELY
TO PROVE A
BUSINESS
REALITY
FOR THE
FORESEEABLE
FUTURE.
”

Privacy of consumer data is a legal issue that will affect the fenestration industry into 2020 and beyond. No less than 27 states are in the process of writing or enacting their own privacy statutes. The various approaches to consumer protection can differ wildly, are very technical, and impose substantial fines for failure to comply.

An example is the California Consumer Privacy Act (CCPA). Passed in 2018, the CCPA becomes effective Jan. 1, 2020, and will start being enforced in July. The act applies to any entity that “does business in California” and generally has gross revenue exceeding \$25 million.

Its scope protects various forms of personal information, including simple elements like name and address information.

Companies that fit the requirements of the CCPA must be able to address consumer data access requests and opt-out demands, as well as have updated privacy policies. Penalties for non-compliance include injunctions, statutory damages assessed per-resident and per-incident, and fines for each violation, whether intentional or simply negligent.

In addition to California, state efforts in Nevada, Pennsylvania, Massachusetts and Rhode Island are being pursued because there is currently no comprehensive federal system governing consumer data privacy. Internationally, the approach has been to set broader, uniform standards like the European Union’s GDPR or PIPEDA, used in Canada. These two approaches substantially mirror each other, easing the compliance requirements for companies.

Addressing the issue before it arrives

Because avoiding risk begins with being able to identify it, it is essential to learn what rules might currently apply. Companies must know their market regions, whether requirements apply to the business model in those regions, and what protections are required. Resources for this

education include third-party consultants, commerce/consumer divisions of state governments, and fenestration industry association groups.

Next, take stock of what consumer data is being generated, gathered and retained. Websites and newsletters often request or retain information about consumers that might apply to a particular data protection scheme. Cookies and traditional methods to manage data privacy requests can work, but they also present gaps when consumers use various devices to interface with companies. Knowing how consumer data comes in can help identify what protection tools are available in hardware and software, and across access points.

Document compliance efforts if consumer information must be protected, including specific inventories of the data requiring protection, efforts to protect that data, and periodic evaluations of the protections and data sources. This requires a lot of work, but many current data protection regulations require a company to prove its innocence when faced with a potential privacy breach or claim relating to abuses of consumer data. Without established policies and documented efforts to protect consumer information, companies can have little defense to alleged privacy claims.

Finally, with states currently developing various approaches to protections of consumer information, there may still be time to voice concerns about the costs and burdens these systems can impose. Look for opportunities to have input into the development of these protection systems, because their obligations may be with us for many years. ■

Matt Johnson is an attorney with The Gary Law Group, prgarylaw.com, a law firm based in Portland, Oregon, that focuses on legal issues facing manufacturers of windows and doors. He can be reached at 503/620-6615 or matt@prgarylaw.com.



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Alternate Realities: augmented, virtual reality and other advanced technology can serve as valuable service tools



By
Laurie Cowin
Senior Editor
Window + Door

Worldwide spending on augmented and virtual reality could reach \$160 billion by 2023—more than nine times the \$16.8 billion figure forecast for 2019, according to a study by the International Data Corporation, idc.com. The study reports that manufacturing is one of the segments with the strongest spending.

Fenestration is one such industry exploring these alternate realities and using them to boost efficiency, not only on the manufacturing floor, but throughout the entire supply chain from manufacturing to end-sales.

AR versus VR applications

Despite often being grouped into the same conversation, augmented reality (AR) and virtual reality (VR) are two very different technologies. AR adds digital elements to a live view, frequently by means of a smart device camera, whereas VR creates a completely virtual experience and requires special equipment (goggles or glasses).



GED Integrated Solutions, gedusa.com, showcased its new smart glasses at GlassBuild America last fall. This tool allows users to immediately connect with a technician who can see what the user is seeing through the glasses and help fix problems in real time as if they were onsite.

VR, says Steve Dillon, marketing director at Veka Inc., veka.com, is geared toward a showroom or trade show environment and for digital walkthroughs of large projects. “This is a great visualization tool for after the sale,” he says. AR, meanwhile, can be deployed before or during in-home demonstrations, training, sales tools and advertisements. It also can be easier to monetize, according to Dillon, due in part to the fact it does not require special equipment or hardware, as well as that it can be used on the go and by a single user.

Veka is developing applications through both means, neither of which is yet available for commercial release, but both of which the company demonstrated at GlassBuild America and hopes to share updates about at Fensterbau in Germany in March. The company will develop AR for its key product lines, which Dillon says will allow the technology and its uses to be shared with customers. “In-home demos, showrooms and advertisements will be some of the biggest uses for AR in our industry,” he says.

“We have become a very visual society and technology is the reason for that,” Dillon says. “In-the-moment visualization could make or break a sale. It shows a company is progressive, willing to invest in technology and solidifies a transition into the digital age.”

Sales advantages

AR software will overtake VR software spending by 2022, largely driven by AR custom application development, systems integration and consulting services. Andersen Corp., andersencorporation.com, is one such company embracing custom application development with augmented reality. Renewal by Andersen introduced an iPad app in May 2018 that leverages Apple’s vertical plane recognition technology.

Eric Ottem, senior marketing technology manager at Renewal by Andersen, explains that



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sales and design consultants use the apps during in-home consultations to configure quotes, present design options and even demonstrate how the door or window will operate via high-definition 3D imagery. “Customer expectations are advancing to the point where they really want to quickly understand their options and what the end product will look like,” Ottem says. “People understand things visually a lot faster than in any other format. If you’re using sales samples and parts, you’re asking people to knit together a version in their mind’s eye as to what the end product would look like. With this technology, we can show them very *precisely* what it looks like.”

The app, Ottem says, also generates enthusiasm among the sales group. “It builds their confidence and enthusiasm and, in our business, enthusiasm is what sells,” he says.

Smart glasses

AR and VR can come to life through wearables, too, such as the smart glasses GED Integrated Solutions, gedusa.com, recently rolled out for its customer service department. GED’s customers have a pair of smart glasses and, in the event of a machinery problem, can put the glasses on and immediately connect with a customer service representative at GED, who can see what the customer is seeing through the glasses. The service tech can digitally circle or point to specific parts of the machine and visually guide the customer through troubleshooting.

“We can see the sequence of events that may be happening,” explains Duane Klinzing, field service manager at GED. “This provides a video real-time solution of what’s happening and expedites the uptime and getting the machine back into production.”

That immediate connection is the beauty of the solution, explains Bradly Duguay, GED’s director of customer service. It eliminates the step of sending a technician to the plant, which often takes several days, meaning the customer is losing valuable production time. The hope with these headsets, he says, is to get the customer up and running right away.

Beyond reducing downtime, the glasses can record calls and build a video library to be used as training tools, especially important in this era of skilled worker shortages. “This allows us to work directly with our customers who may not have the most experienced maintenance group,” Duguay explains. “It allows them to take off the knowledge from our folks who have 25-plus years of experience and walk them through it step by step. They’re the hands at the site and we’re the eyes and knowledge behind it.”

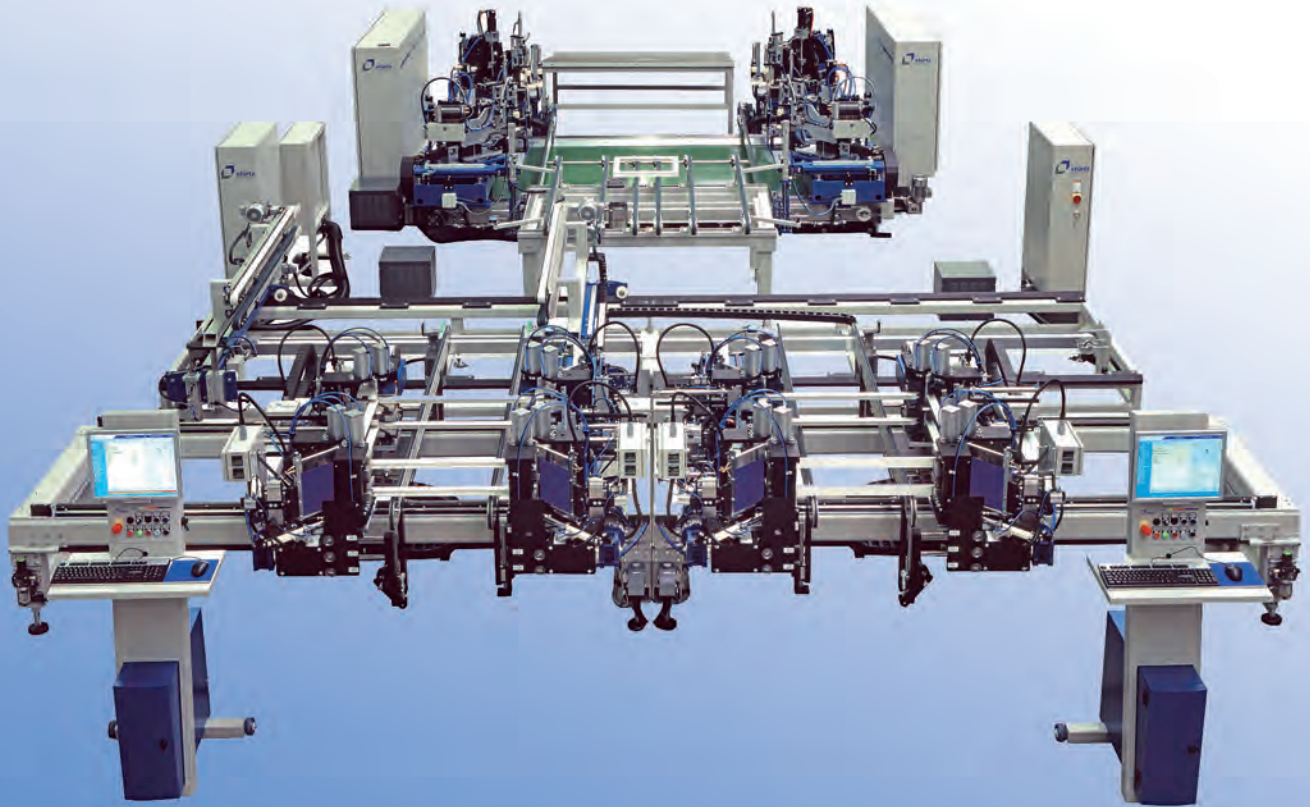
Duguay, who spent 19 years with Andersen Windows running two of its facilities, comes at this solution with a unique perspective and understanding as to what manufacturers need. “Knowing the timelines and short lead times our customers have to get products to their customers, it’s critical we get them up and running,” he says. ■

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THE BIG PICTURE: VINYL STILL DOMINATES, ROBOTS AND AUTOMATION TAKE CENTER STAGE, THE INDUSTRY CONTINUES TO LOOK FOR LABOR SOLUTIONS **BY LAURIE COWIN**



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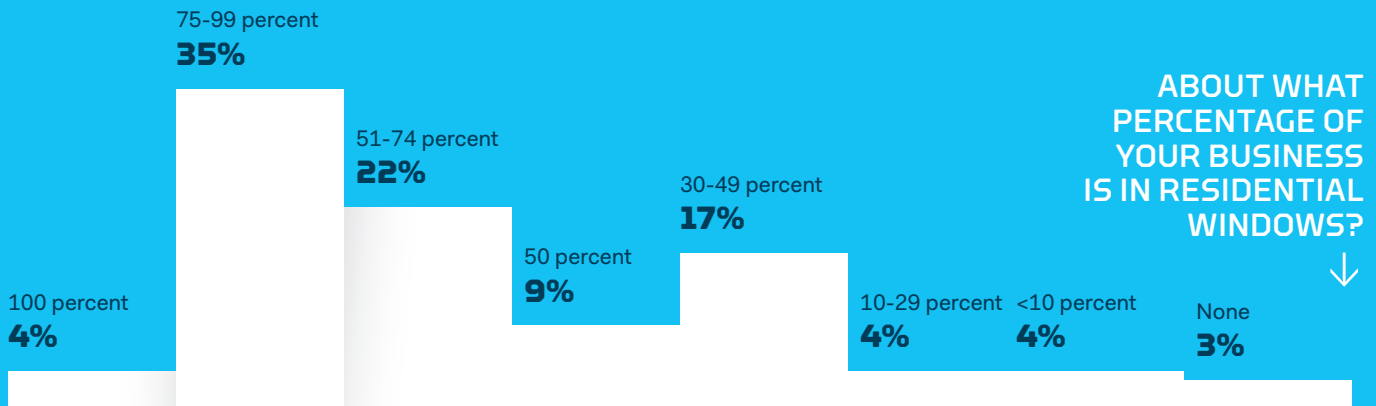
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WINDOW + DOOR'S annual Industry Pulse report reflects on 2019 and lays expectations for 2020, including insights on product, sales and employment trends. The report also frames how the greater economic landscape affects fenestration, and sheds light on how technology is increasingly changing the industry. Beyond the numbers, sources for The Industry Pulse share perspectives on how the industry is innovating, not only to improve fenestration, but the building industry as a whole. The general consensus is that business is good and opportunity, ripe. Some indicate growth and expanding market presence is the biggest opportunity. Others focus on innovation, both in terms of production and aesthetics. Read on for the whole picture of where the market is and where it is headed.

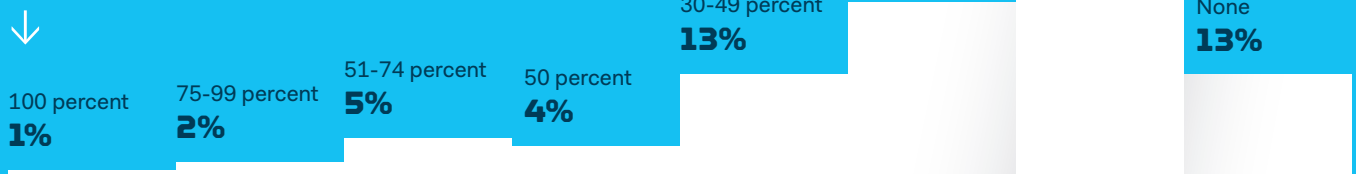
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Meet the Respondents

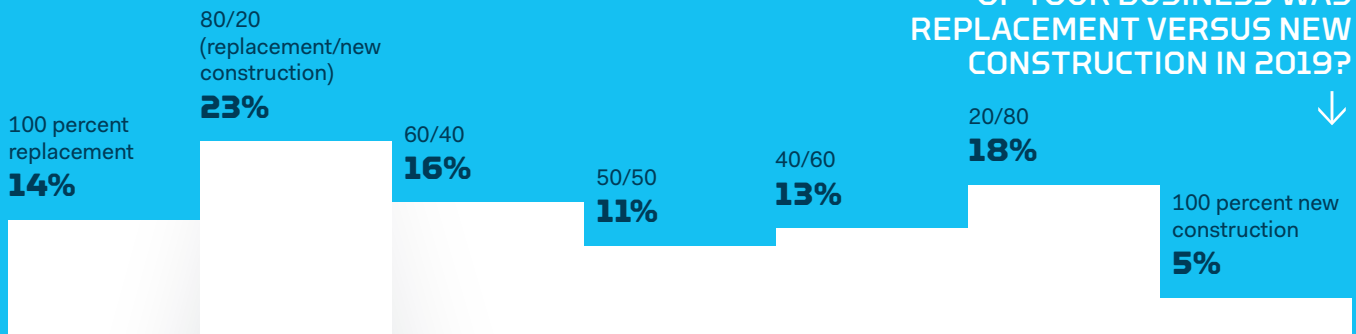
Manufacturers, suppliers and dealers/distributors contribute to the Industry Pulse each year. See the breakdown of this year's response base and where their key business focus is.



ABOUT WHAT PERCENTAGE OF YOUR BUSINESS IS IN RESIDENTIAL ENTRY DOORS?



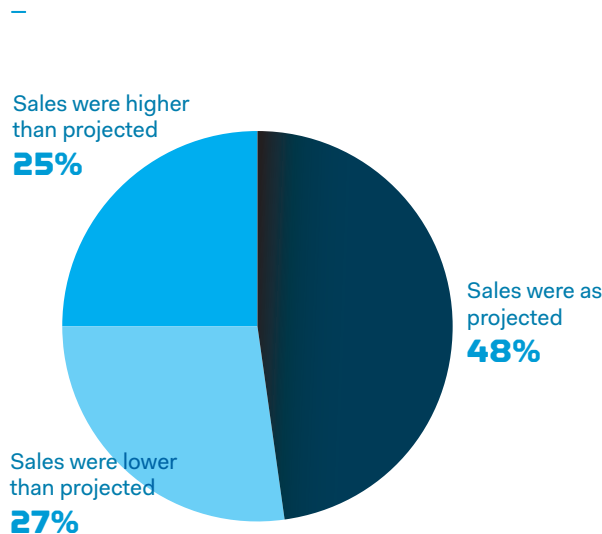
ABOUT WHAT PERCENTAGE OF YOUR BUSINESS WAS REPLACEMENT VERSUS NEW CONSTRUCTION IN 2019?



SALES + PRODUCT TRENDS

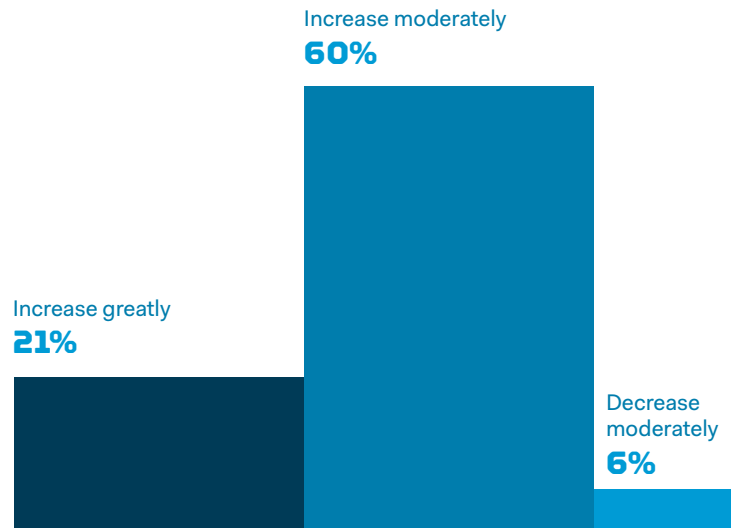
SALES CONTINUE ON A STEADY SPECTRUM;
VINYL WINDOWS CONTINUE TO DOMINATE THE MARKET

DID 2019 SALES MEET YOUR PROJECTIONS?



In addition to generally positive sales this year, 84 percent of respondents had consistent or increased profit margins compared to previous years.

WHAT ARE YOUR SALES EXPECTATIONS FOR 2020?



Despite speculation of a slowdown in new construction, Industry Pulse respondents indicated positive projections across the industry.

According to this year's survey, consumer demands are the biggest drivers of product development as well as rising attention to energy efficiency. Brian Miller, president and CEO, at ProVia, provia.com, says that the push to add the next level of performance and meet market needs are prompts for product advancement.

"There is a desire for differentiation among manufacturers, which often results in ideas for new product development," he says.

For years, color has been a major voice in the conversation on differentiation. Marco Patermann, manufacturer's representative of skai Exterior of Continental Surface Solutions, skai.com, reports that performance in terms of color is now more central to the discussion. "The

continuous demand in high-end finishes and the stronger focus on performance regarding weatherability, low heat build-up and aesthetics in haptic and appearance will drive more market players from using paint toward using laminates, especially when it comes down to the main colors," he says.

Industry standards are continuously reevaluated as performance improves and staying current with these



Stay consistent
13%



standards as well as the codes keeps manufacturers progressing. “The industry, and its requirements, are changing rapidly,” says Benjamin Foreman, marketing coordinator, Solar Innovations, solarinnovations.com. “Code requirements and state laws are beginning to shift towards becoming the driving force for innovation. The worldwide development of technologies allows the manufacturing and

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THE CORE VALUES WE SHARE

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YELLOW —

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GREEN —

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BLUE —

Intelligent pursuit of excellence and loyalty

BLACK —

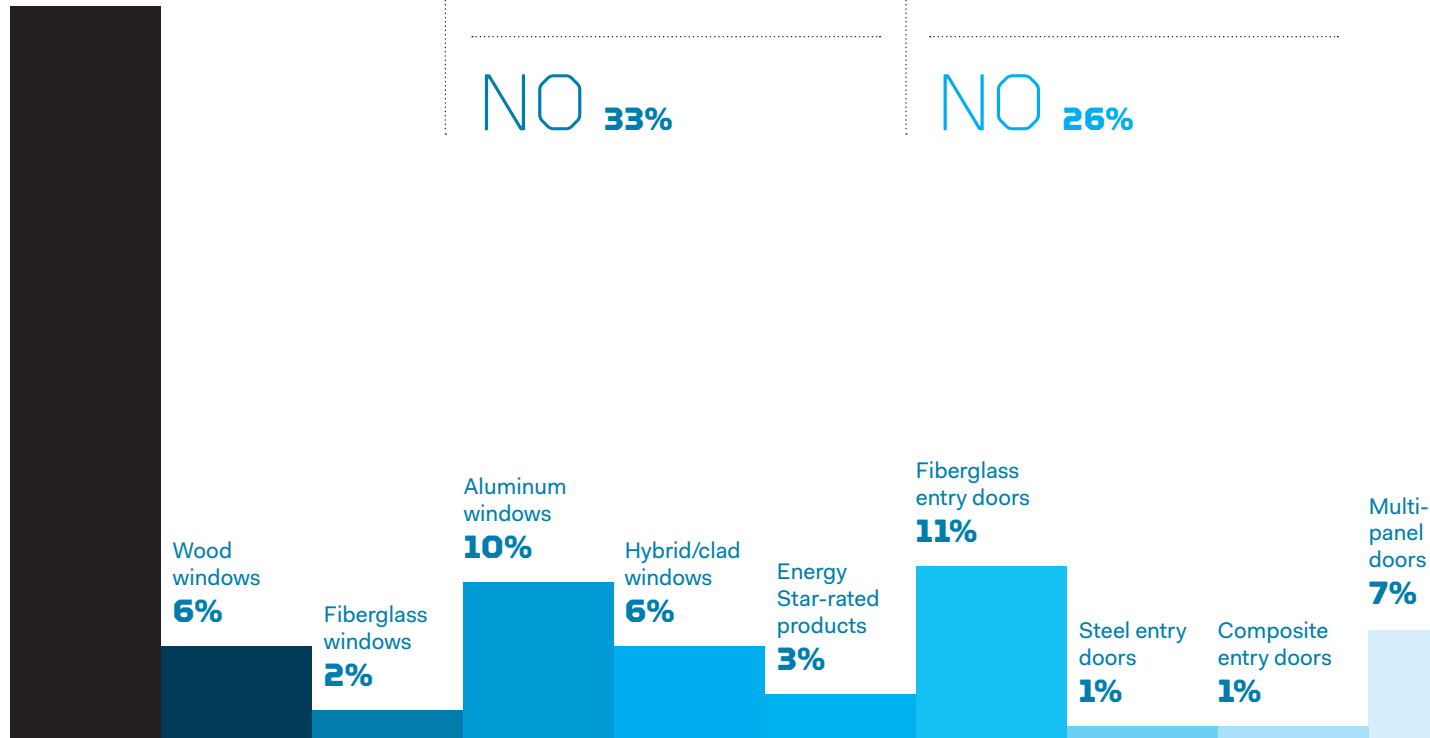
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WHICH PRODUCTS WERE MOST IN DEMAND IN 2019?

Vinyl windows
46%



DID YOU OFFER NEW PRODUCTS IN 2019?

YES 67%

NO 33%

DO YOU PLAN TO OFFER NEW PRODUCTS IN 2020?

YES 74%

NO 26%

architectural industries to integrate and stay ahead of industry trends. However, it is always important to keep a pulse on what others are doing well and how to continuously improve in all facets of the process.”

The demand for products focused around resiliency is growing in light of more stringent codes and rebuilding after natural disasters. “Whether you are required to have specific performance ratings due to geography, or you just want to build with the most durable products available, the need for resilient products is more real now than ever,” says Foreman. “The adoption of climate change ideology has increased

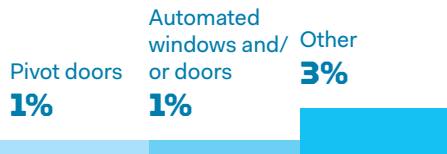
the desire for these products and will continue to do so as long as coastal and other disaster-prone areas are affected by these occurrences.”

Jim Seaser, director of product management excellence, and Aaron Mundt, director of product management case-management and commercial, amesburytruth.com, share several items that influence the company’s product-development trajectory, including impact resistance as well as fall protection, custom applications/solutions, larger windows and doors that bring the outside in, and easy-to-apply and install hardware.

This last point is an important trend

of note. As multi-panel sliding and folding doors get more expansive, stiles and rails get narrower. “Door manufacturers are racing to see who can make the most narrow stiles and rails, leaving very little room to fit functional hardware,” notes Matt Taylor, director of product development, HOPPE North America Inc., hoppe.com. “In some cases, we are challenged to design a multipoint door lock that fits into half the space we are used to working with.”

This modern movement toward the larger, heavier expanses of glass in residential windows and doors also requires more robust hardware systems traditionally seen in more commercial



applications. Of note, Roto North America debuted a new system to address these challenges at GlassBuild America last fall.

Hardware aesthetics continue to evolve as well. There are two distinct trends, Taylor tells Window + Door. “On one hand, minimalism is favored. Narrow stiles and rails mean hardware also needs to be more discreet or at least proportional to the door design. On the opposite end of the spectrum, large pull bars are trending. These highly visible hardware items are typically used to create a grand front entrance. The trend for larger doors is a major factor here.” ■

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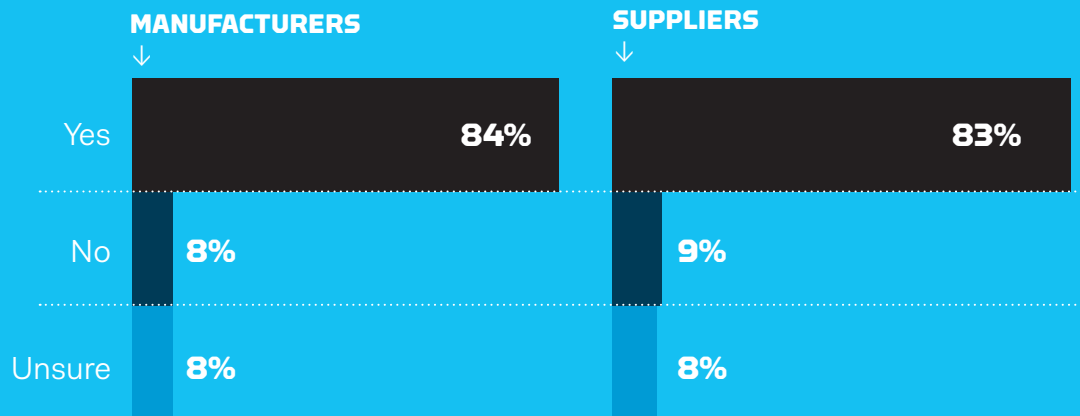
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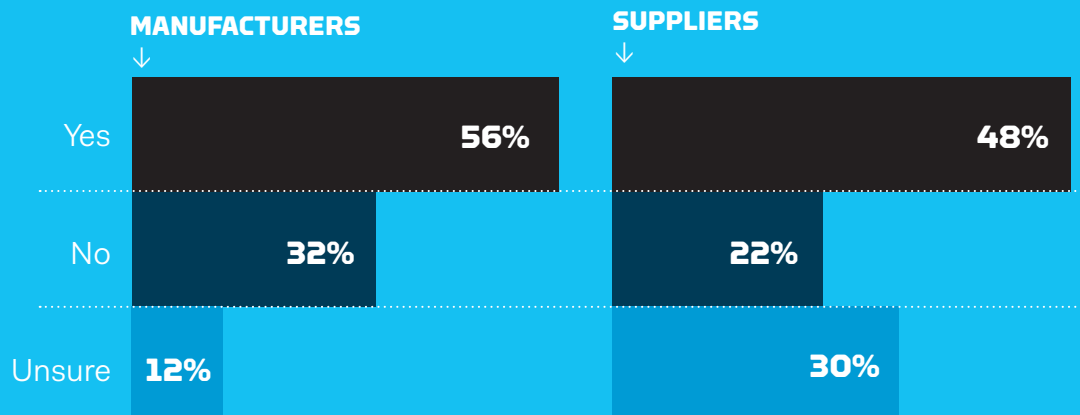
SALES + SUPPLY CHALLENGES

THOUGH THE INDUSTRY ANTICIPATES SALES TO INCREASE AND LOOK TOWARD PRODUCT LAUNCHES IN 2020, THE YEAR WILL NOT BE WITHOUT CHALLENGES. CONSENSUS IS THAT MATERIAL PRICES WILL ALSO INCREASE AND COMPANIES ACROSS THE INDUSTRY WILL LOOK TO DIVERSIFY THEIR SUPPLY CHAIN.

DO YOU ANTICIPATE MATERIAL PRICES TO INCREASE IN 2020?

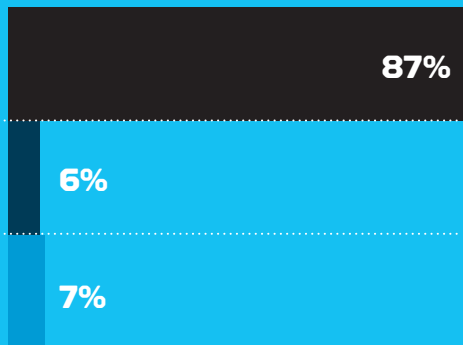


DO YOU ANTICIPATE HAVING TO FIND DIFFERENT SUPPLIERS IN 2020?

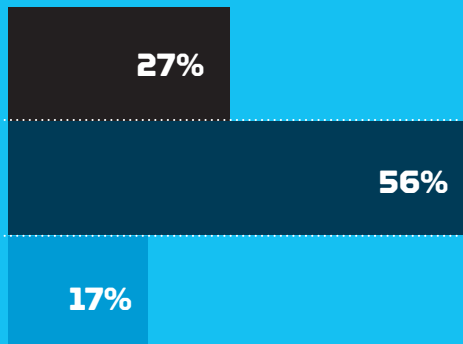




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CUSTOMER PROFILE - (25 YEARS) - fabricator in ontario, canada, who does extensive business in coloured windows in numerous standard and custom colours, painting both lineals and assembled boxes. the choice of using an outside reliable and superior supplier and committing to us exclusively was found to be more economical for them than painting in house.

CUSTOMER PROFILE - (15 YEARS) - major extruder in northeast usa, supplying all their fabricator customers with stock colours plus 20 standard and an entire spectrum of custom colours. collectively, they have fabricated millions of windows which we have painted.

CUSTOMER PROFILE - (15 YEARS) mid-atlantic area fabricator who uses multiple systems from more than one extruder. we agreed to stock some of their more popular dies for them, unpainted, to draw down on, thereby lowering both lead times and shipping costs.

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"we are a high volume user of painted lineals, and vynacolour has helped us promote and sell coloured windows to our new and renovation markets."

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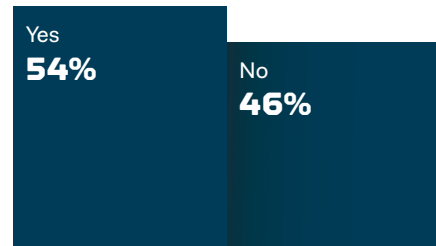
PRODUCTION, AUTOMATION + TECHNOLOGY

MANUFACTURERS

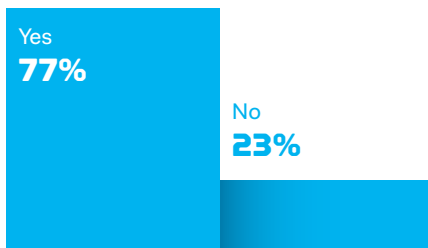
DID YOU ADD PRODUCTION CAPACITY IN 2019?



DO YOU PLAN TO ADD PRODUCTION CAPACITY IN 2020?



SUPPLIERS



Respondents cited increased throughput and capacity as the top benefit of automated machinery, followed by quality and labor.



Larry Johnson, vice president of sales, North American fenestration, Quanex, quanex.com. Automation undisputedly helps with productivity, quality and labor challenges and although many

companies have yet to fully embrace automation, it's bearing down on the industry fast.

"Labor issues won't go away and automation enables them to operate more efficiently," Johnson continues. "Customers are also moving away from anything semi-automated or in a horizontal layout. A lot of this equipment is becoming obsolete as software becomes more sophisticated and manufacturers

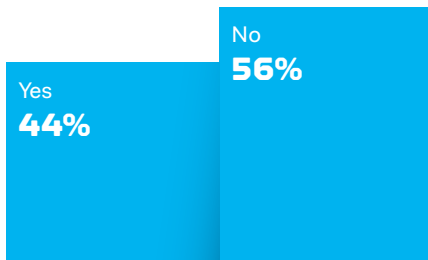
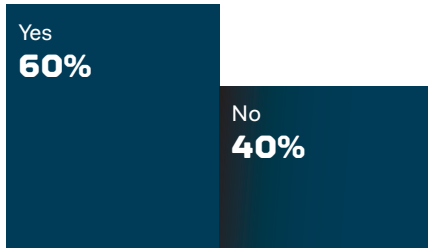
need to do more with less."

Jessica Metz, marketing manager for Erdman Automation, erdmanautomation.com, estimates about 80 percent of its business relates to Industry 4.0 and connected machines, with steady growth coming. Metz also shares that Erdman's focus is on IG equipment but that it continues to "look for ways to innovate by improving existing processes or creating entirely new machinery."

TION



DID YOU INVEST IN AUTOMATED MACHINERY IN 2019?



“[Manufacturers] are investing more capital in automation systems today compared to the past decade in the fenestration industry,” reports Tim McGlinchy, executive vice president of engineering and research and development, GED, gedusa.com. “This is evident to GED by the record-breaking implementation of automation systems integrating robotics deployed over the past five years.”

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GLOBAL INFLUENCE

Many of the suppliers in our industry have European roots. But, even for those without European headquarters, Europe still influences what is happening in the U.S. market. Europe's progress with automation and technology has especially affected the U.S. machinery industry. Survey respondents indicated "advancement of technology" and European technology giving "access to bigger-size units" as some ways European trends have influenced business.

Aesthetic trends are also traveling across the Atlantic, with survey respondents indicating color as one of the biggest trends coming into the North American market. "We are already seeing significant growth in colors in the U.S. and Canada, and it is continuing to grow," Koch notes, adding that, even so, the demand for color is

still much less than in Europe.

Patermann agrees color is on the rise in the U.S., saying the market experienced an unexpected tremendous growth for exterior laminates. "The design/color selection is rather conservative with few choices, but we see there is a growing demand for more diversity in design not only in solid colors, but also in modern woodgrains."

The demand for high performing windows is also growing, Koch reports, including Passive House windows, an area where the U.S. follows the lead from Europe. "There is also the trend for bigger windows that still meet the highest energy efficiency and performance standards."

Technology influence

Sources tend to agree that

technology and automation is more prolific and advanced in Europe than in the U.S., but Patermann clarifies that the two countries have very different concepts based on heritage, market development and different needs and customers in each market. "We get inspired by one another, but technology is not always directly transferable," he says.

Lewandowski refers to Europe as a mature market in that there isn't a lot of population growth, and therefore the market isn't expected to grow much. This is a challenge for European companies on the sales side and has driven many to sell their products in North America. Patermann agrees, saying, "European markets in this segment are already very consolidated and more or less stable, which gives a good solid base for planning, but on the

other hand, there is not strong growth expected there."

Technologically, however, Lewandowski says Euro fenestration companies are "way ahead of us on windows and doors." Necessity drives those more advanced products because of high energy costs in Europe. "We [in the U.S.] have cheaper energy. The cost of keeping a house heated or cooled is lower, so our need for high-performance products is not as high as in Europe."

Similarly, Europe's automation advances are necessity-driven. "Just like with energy, the cost of labor is high so they use labor to solve that problem," Lewandowski says. "They are not just providing workstation efficiency, but complete operational efficiency throughout the production floor."

Mitch Lewandowski, vice president of sales for North America, Soft Tech, softtech.com, agrees that the industry is at a "tipping point." He believes The Internet of Things, Industry 4.0 and eventually Industry 5.0 will be normal within the next 10 years. "Everything will be interconnected. You'll have wireless communications from what machines do on the production floor to how that machine is operating and what efficiency it has," he says.

McGlinchy also sees this trend, stating, "Digitization will dominate the factory floor in 2020." In the past, he explains, advanced material optimization processes were the driving forces for profitability and capacity. "The focus will shift to collecting data, monitoring WIP, and using digitization to drive more optimized solutions."

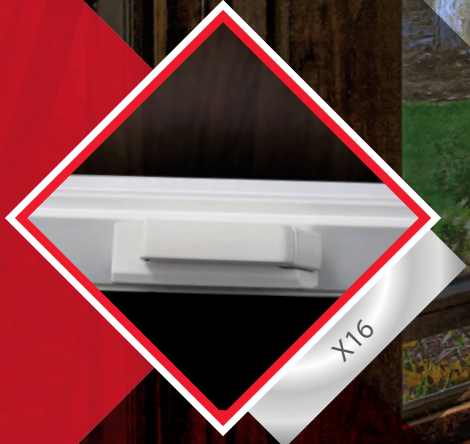
Matt Batcha, business development, FeneTech, fenetech.com, says there's a lot of interest in this, what he calls "the

digitalization of business." Automation certainly is a part of it, with manufacturers demanding more highly automated machines that reduce physical labor, according to Batcha. "Additionally, today's machines can provide feedback to software, providing a picture of the state of production," he explains. "This enables the user to see a clear view of their available capacity and bottlenecks via the software."

To this point, Greg Koch, vice president of sales and marketing for Deceuninck North America, deceuninckna.com, adds that increased automation not only helps to reduce errors, but improves speed and quality in the production environment. "Strides in automation and technological standards continue to impact our business, both in manufacturing and production, as well as overall operations," he says. "It's a major focus for ongoing advancements in innovation, design and sustainability."

Suppliers, too, are looking to automation for solutions to enhance product lines. "On the vinyl extrusion side, we have made significant investments in our plants and operations with new automated equipment," says Johnson. "The increase in volume this equipment can produce is tenfold and we expect that will help us expand our offerings." The company also is investing in automated equipment for its screen business as it adds locations and helps customers with logistics.

As for what's next? According to McGlinchy, the next generation of automation will focus on adaptive robotic technologies, in which the robots acclimate to product variability and manufacturing processes. In a more general sense, as Greg Header, president of Solar Innovations, solarinnovations.com, puts it, "The future looks bright as new innovations in automation are revolutionizing the way businesses grow and adapt." ■



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EMPLOYMENT

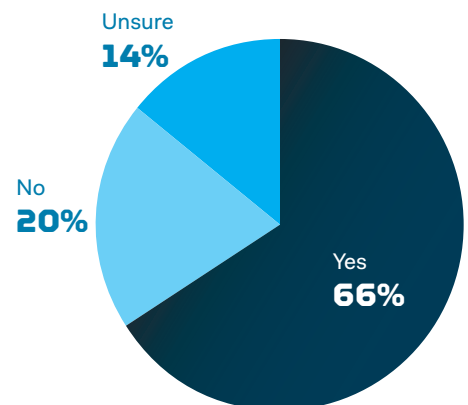
THE SKILLED LABOR SHORTAGE ISN'T SET TO EASE ANYTIME SOON. WITH BUSINESS BOOMING IN MOST SECTORS, COMPANIES ARE NOT ONLY ACTIVELY HIRING, BUT WORKING TO EXPAND STAFF. MANY RESPONDENTS INDICATED THAT PEOPLE—INCLUDING FINDING AND RETAINING EMPLOYEES, AS WELL AS TRAINING THEM—WILL BE THEIR BIGGEST CHALLENGE FOR THE COMING YEAR.

HOW DID YOUR STAFF LEVELS CHANGE IN 2019?



Online job boards were the most popular means for finding staff, with referrals and word of mouth coming in second and third, respectively.

DO YOU PLAN TO HIRE EMPLOYEES IN 2020?



The labor shortage didn't happen overnight and likewise can't be fixed overnight. Each company has its own method of tackling the problem not only to help themselves, but to help the industry. "Retaining and training talented team members is the most important key to sustainable success," says Solar Innovations' Header.

"This is a long-term effort, and we're building relationships that could be fruitful several years from now," says

ProVia's Miller. "Some examples of how we accomplish this are participation in our local Manufacturing Camp and involvement in vocational schools. There's no overnight fix to this. Instead it has to be part of a long-term strategy."

Erdman Automation also feels the labor shortage crunch, but in a different way than companies who have field workers. "We have a more focused subset of labor than our customers," Metz explains. "We need skilled machinists, programmers, welders and assemblers." She notes that, with fewer and

fewer young adults going into technical labor jobs, the company has a rigorous apprenticeship program to teach the skills to young adults who are willing. "We are working with the local schools and have had a steady successful gain in labor numbers."

With challenges in recruitment and retention seen throughout the fenestration industry and in manufacturing in general, more and more processes are being automated. "If companies can't hire people, then automation has to become part of the solution," Koch says. ■

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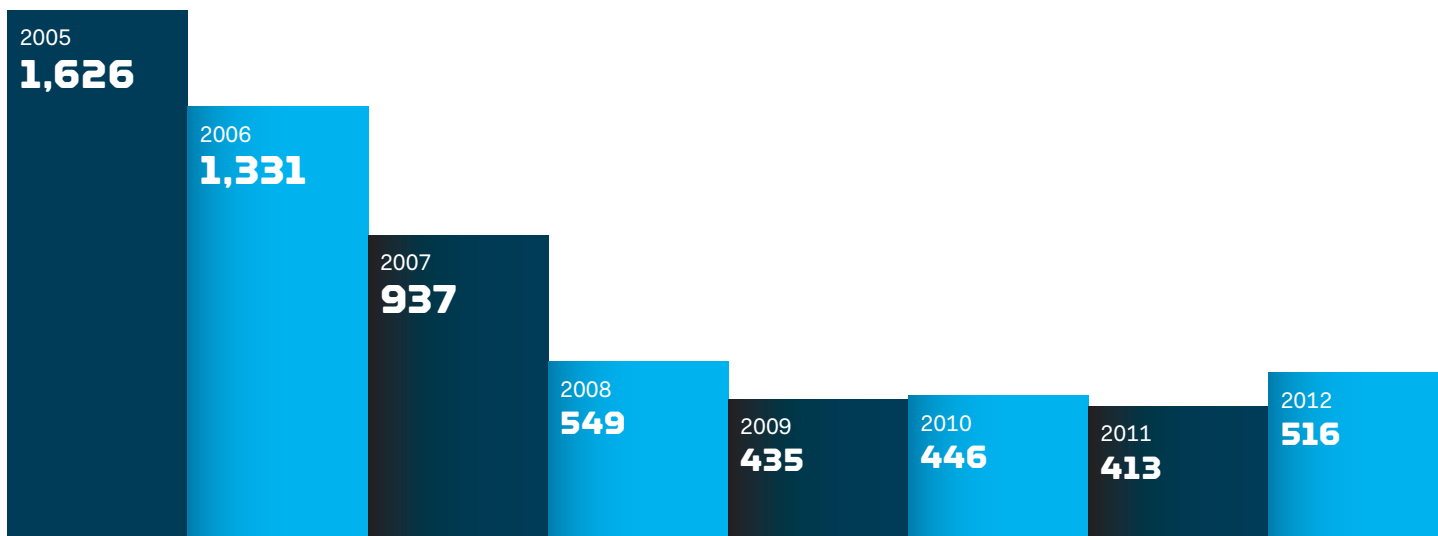
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MARKET FORECAST

EXPECT SINGLE-FAMILY HOUSING STARTS TO SLIDE IN 2020, PER DODGE FORECASTERS

By Katy Devlin, for Window + Door



The recovery in construction starts that began during 2010 in the aftermath of the Great Recession is coming to an end.

Activity in the single-family construction market is expected to decline in 2020, according to the 2020 Dodge Construction Outlook from Dodge Data & Analytics, construction.com. The dollar value of single-family housing starts will fall 3 percent in 2020 and the number of units will decrease 5 percent to 765,000, per the forecast.

The projected slowdown in the single-family segment reflects a softening in the overall market.

Dodge forecasters predict that total U.S. construction starts will slip to \$776 billion in 2020, a decline of 4 percent from 2019 estimated activity. This follows a 3 percent increase in construction activity in 2018 and a projected 1 percent dip in 2019.

“The recovery in construction starts that began during 2010 in the aftermath of the Great Recession is coming to an end,” says Richard Branch, chief economist for Dodge Data & Analytics. “Easing economic growth, driven by mounting trade tensions and lack of skilled labor, will lead to a broad-based but orderly pullback in construction starts in 2020.”

Looking at single-family construction, Branch says affordability issues

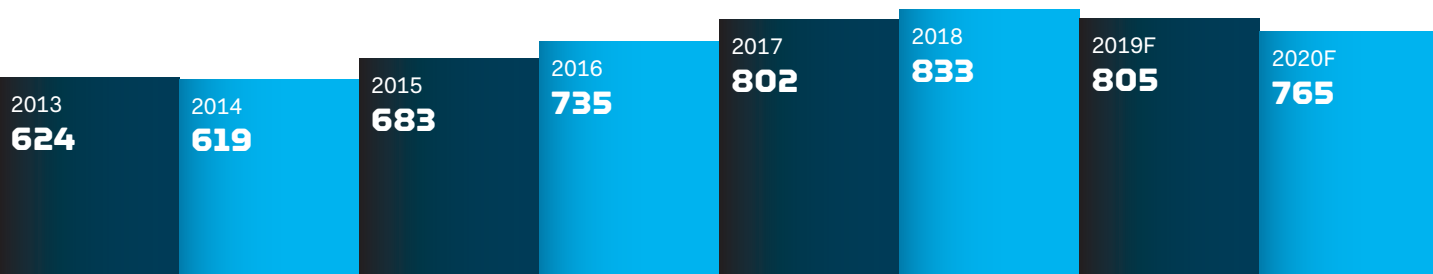
and the tight supply of entry level homes has stunted demand. “The issue is supply. There is a lack of single-family homes that Millennials can afford to buy,” according to Branch, speaking during the 2020 Dodge Outlook Conference held in Chicago in October. “No one is building these homes. The margins to build entry homes are razor thin, with higher wages, higher material costs, higher land acquisition costs. ... We think this is what’s holding the market back.”

During the conference, Branch noted that the single-family market did not recover to the extent of other building segments during the post-Great Recession recovery. “Usually coming out of recession, all of that pent-up demand



SINGLE-FAMILY CONSTRUCTION STARTS

Source: Dodge Data & Analytics
(thousands of units)



tends to translate into fairly immediate growth in single-family construction. It didn't happen this time. We didn't start to see single-family grow until 2013," he says. "In those very early years of recovery, home prices were rising faster than wages and income. Remember the glut of labor following the recession; this was suppressing wage earning, essentially making home ownership less affordable."

The lack of affordable entry-level single-family homes pushed people—primarily Millennials—out of suburban single-family living and into condominiums and apartments, Branch says. So, while single-family market growth was suppressed during recovery—reaching just 833,000 units

at its peak in 2018, less than half of the pre-recession peak of 2005—the multifamily market experienced several years of booming growth. Multifamily construction was an early leader in the recovery, stringing together eight years of growth since 2009.

"What's been bad for single-family has been very good for multifamily. All the folks who were pushed out of the suburbs moved to multifamily in droves," Branch says. In addition to Millennials, this group included Baby Boomers purchasing vacation homes, downsizing or moving to senior homes.

However, multifamily vacancy rates have moved sideways over the past year, suggesting that slower economic growth will weigh on the market in

2020, according to Dodge. Multifamily starts are slated to drop 13 percent in dollars and 15 percent in units to 410,000.

What does this mean for companies in residential construction as the market moves into a softer building economy? For single-family, Branch says the decline is expected to be mild because the recovery was mild.

"If there's no boom, there's no bust," Branch says. "We didn't see a huge run up in construction following the recession, especially on the single-family side, which would cause a huge over correction. ... We're seeing the market slipping 5 percent in 2020. Realistically, that's probably the bottom of the market." ■

MERGER + ACQUISITION IN FENESTRATION

MARKET STABILITY, GROWTH AND LIQUIDITY WILL BE KEY DRIVERS OF A CONTINUED STRONG M&A ENVIRONMENT **By Andrew K. Petryk**



HOUSING AFFORDABILITY HAS REACHED THE HIGHEST LEVEL IN THREE YEARS, WHICH SHOULD PROVIDE SUPPORT FOR SPENDING ON HOME IMPROVEMENTS.

Frothiness in the merger and acquisitions market is continuing, underscored by an increasingly competitive pricing environment. Sellers are reaping the benefits of higher valuations as surplus capital chases scarce quality deals. The window and door industry is aligned with these trends, where valuations continue to be strong, propelled by the strategic need for acquisitive growth and supportive equity and lending markets which are flush with capital.

Healthy valuations

Historical M&A activity confirms a consistent premium for scale. High-quality assets that bring meaningful portfolio diversification, margin expansion and access to new markets see a step-up in purchase price. Illustrating this segmentation

are Custom Window Systems (Pella); Ply Gem (Cornerstone Building Brands); Silverline (Ply Gem); Western Window Systems and WinDoor (PGT Innovations); and Headwaters (Boral Ltd.). Each is highly strategic or “transformational” in its own right, garnering high single- and double-digit EBITDA multiples.

Economic uncertainty and headline risks related to tariffs and global trade cloud visibility and have the potential to impede liquidity in the capital markets. This could subject companies in cyclical industries to greater investor scrutiny and valuation discounts. Businesses with demonstrable growth and those with distinct advantages over competitors typically always carry higher premiums.

Public building products manufacturers are exhibiting resilience. The BGL Composite Index

TRENDS



of window and door manufacturers is outperforming the broader equity market year-to-date.

What will drive M&A in 2020?

Market stability, growth and liquidity will be key drivers of a continued strong M&A environment, both for influencing investor appetite and sustaining valuation multiples at current levels over the near-term.

Macro indicators suggest stable conditions in the housing market (see Market Forecast, page 44).

Repair and remodeling expenditures are projected to surpass \$327 billion in 2020, with the quarterly average growth rate decelerating to 3.4 percent in Q1 2020—down from 6.8 percent in Q1 2019. Housing affordability has reached the highest level in three years, bolstered by low interest rates, which should provide support for spending on home improvements.

Public industry participants are forecasting positive albeit modest growth with acquisitions a primary lever in value creation. Private equity has a significant investment in the industry and will continue to pursue accretive acquisitions in the fragmented landscape to build growth platforms. Equity sponsors are actively competing at or above strategic buyer valuation levels to deploy capital into high-quality assets.

Author's Note: Sources consulted for this article include S&P Capital IQ, S&P Leveraged Commentary & Data, PitchBook,

Company Filings, NAHB, Joint Center for Housing Studies of Harvard University, Window + Door, and public data.

2019 window and door deal highlights

The industry remains highly fragmented, with industry players seeking consolidation opportunities to fill in product gaps and geographic footprint and achieve synergies through scale.

Headlining the year in November was MI Windows and Doors' \$725 million acquisition of the Milgard Window and Door subsidiary from Masco Corp., which looks to increase its exposure to the repair and remodel segment of the housing market. The combination diversifies end-market exposure and establishes a coast-to-coast presence. Milgard is expected to significantly expand MI's capabilities in the vinyl windows and patio doors product segments. Geographically, MI's East and South footprint combines with Milgard's leading position in the Western U.S. to broaden its national reach. The transaction also brings a substantial boost to sales.

In October, acquisitive Pella Corp. added to its stable of buys with Custom Window Systems, which it purchased from private equity sponsor Nautic Partners. Nautic Partners acquired CWS in 2014 and, during its ownership, completed the 2015 acquisition of MGM Industries, which manufactures vinyl windows and doors for the Southeast, Mid-Atlantic and Midwest

residential construction markets. With the acquisition, Pella gains CWS' impact-resistance expertise in a move to grow its footprint in Florida and the Southeast.

Marvin acquired A.W. Hastings in October, solidifying its position as a full-service supplier in the New England and Eastern New York markets. A.W. Hastings has served as an exclusive Marvin distributor for over 40 years. Marvin formed SIW Solutions in January following the acquisition of SIW Windows & Doors, a maker of residential and commercial impact-resistant windows and doors, to expand its coastal window and door capabilities.

Jeld-Wen acquired VPI Quality Windows in March for \$57.5 million, a supplier to the multi-family market with \$60 million in sales. Jeld-Wen has been an active industry consolidator, completing 14 bolt-on acquisitions since 2015 and more than 50 since its founding, according to a recent investor presentation. ■

Andrew K. Petryk is a managing director and leads the Diversified Industrials practice at Brown Gibbons Lang & Company, bglco.com, an independent investment bank serving the middle market. BGL publishes the Building Products Insider, a nationally recognized research publication which discusses critical industry trends and perspectives from leading executives. Contact Petryk at 216/920-6613 or apetryk@bglco.com.

Products



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01



02



03



01 / Roto North America

Each roller on the RotoFasco Secura Sliding Patio Door Roller DR07 has a 400-pound capacity, resulting in the ability to support an 800-pound panel, according to the company. Available in steel or stainless steel, it features a threaded side adjustment with 2 1/8-inch wheels with precision bearings. The roller is also on the AAMA Verified Components List.

860/526-4996 | ROTONORTHAMERICA.COM

02 / ODL Inc.

Zeel doorglass frame offerings incorporate a flat profile design and are available in five sizes: 22 by 64, 7 by 64, 22 by 36, 8 by 36 and 22 by 17. It can be used in conjunction with most doorglass and the frames feature ODL's PC/ABS blend, which is designed to increase durability. It can be stained or painted to match. The frame, which uses a clip system, is made from FiberMate Plus, which has a higher percentage of fiberglass.

800/253-3900 | ODL.COM

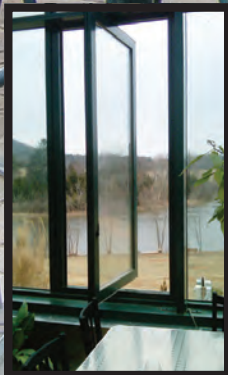
03 / Deceuninck North America

The 164 series hurricane impact resistant window system is designed for light commercial, new construction and replacement applications. Available in single-hung, single slider and picture window configurations, frames include the Florida flange, pre-punched fin and masonry clip. The system is engineered to meet coastal building code requirements up to and including the requirements of ASTM E 1886/1996, Wind Zone 3 with an AAMA rating of up to DP50.

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➔ Products



01



03



02

01 / Marvin

The Marvin Elevate Collection, which has a wood interior and fiberglass exterior, now offers the option for customers to select different finishes on the frame and sash of the window. Four finishes may be mixed and matched: bare pine, clear coat, designer black and prefinished white. Windows arrive finished or painted and ready to install.

888/537-7828 | MARVIN.COM

02 / Euro-Wall Systems

The Euro Vista Multi Slide has an interlock profile of less than 1 inch. The impact-rated sliding door is Florida Product Approved and approved for use in high velocity hurricane zones, according to the company. It can be built with panel sizes up to 8 feet wide by 12 feet tall. The sill/track system can be fully embedded; no sill riser is necessary to meet water requirements.

888/989-3876 | EURO-WALL.COM

03 / CutPro

CutPro's 2020 product range of cut-resistant clothing is designed to reduce the number and severity of cut injuries and laceration, according to the company. Clothing lines include items for the upper body, lower body, and aprons and sleeves. Manufactured from Cut-Tex fabric, the garments come in several levels of protection: abrasion resistance, tear resistance, puncture resistance and cut resistance (TDM-100 Test).

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01



03



02

01 / Alside

Trimworks with Swiftlock technology is designed for Alside's Mezzo Full-frame Replacement System. The system comprises three components: Mezzo replacement window, Ideal frame type and Trimworks decorative window accents. The accents are fabricated at the same time as the window for an exact color match and fit, says the company. Designs include brickmould in 1 ½- and ¾-inch sizes, 3 ½-inch flat casing available four-sided or with a bullnose sill, and flushmount for masonry openings.

800/922-6009 | [ALSIDE.COM](http://alside.com)

02 / Inox

Luna (round) and Urban (square) are concealed fixing flush trim options for privacy barn door locks. Each features smooth, stainless steel thumb turns that sit flush against the wall with no visible screws or fasteners. A one-inch bolt is installed inside the door jamb and the bolt slides securely into the door's strike, which is mounted on the door and has a spring-loaded dust cover with a decorative cap. Six designer finishes are available, as well as CeraMax ceramic-coated door hardware.

916/388-1888 | [INOXPRODUCTS.COM](http://inoxproducts.com)

03 / Weather Shield Windows & Doors

The bi-fold doors in the contemporary collection and premium series now include a 1 ¼-inch low-profile sill option. Comprising aluminum and fiberglass, the sill is designed to integrate with finished flooring for a seamless transition. Contemporary and traditional designs are available, as well as custom finishes, hardware and configuration options up to eight panels.

800/222-2995 | [WEATHERSHIELD.COM](http://weathershield.com)

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01

01 / RSL

The Glide Single Operator Internal Blinds are enclosed between tempered panes to preserve the look and integrity of the product. Blinds can raise, lower and tilt and are available in white and earth-tone colors in several sizes.

800/257-8641 | RSLINC.COM

02



02 / REHAU

REHAU System 4500 windows and doors use compression-seal technology and multi-point locking hardware, and have a glazing capacity of up to 1 3/8-inch. The system has a simulated U-value down to 0.17, an acoustical rating up to STC 43/OITC 34, a structural NAFS rating up to AW-PG100 and an impact rating up to DP65. The system is available in tilt-turn, awning, hopper and fixed windows, as well as matching doors.

REHAU.COM



03 / Momentive Performance Materials Inc.

GE Sealants & Adhesives family of products introduced its siliconized acrylic latex caulks and sealants line, including two new offerings for the window and door market: Max Shield All Weather sealant and All Weather Pro sealant. Both are suitable for exterior and interior paint projects, including gaps and joints in windows, doors, siding, flashing and trim. They are waterproof and mold resistant, according to the company.

800/295-2392 | MOMENTIVE.COM



04

04 / Ergodyne

The ProFlex A4 Moisture-Wicking Cut Resistant Sleeve offers ANSI A4 level cut protection, moisture-wicking capabilities and breathability throughout the entire sleeve. The sleeves are made from TenaLux yarn, an engineered polyester that does not include glass or steel fibers. The lime-colored material has a top hook-and-loop strap and is available in 18- and 22-inch lengths.

800/225-8238 | ERGODYNE.COM



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Win-Dor Inc., a vinyl window and door manufacturer that specializes in large door openings, is quickly growing and expanding. We are in search of an experienced window and door sales representative who would be calling on window and door dealers to join our team to cover the Northern California region. Duties would include establishing new business and supporting our current customer base, developing new customers and new markets, and utilizing existing and cultivating new relationships. A successful candidate must have the ability to maintain strong business relationships. We offer a full benefits package after 90 days. Interested candidates may email rod.preston@windorsystems.com



Northeast Territory Manager

Centor is the world's leading supplier of folding door hardware retractable screens and Integrated Door systems.

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RSL, a Novatech Company, is searching for a manufacturers representative in the Colorado and Utah territory. Contact Kevin Kavanagh for more information, 800/257-8641 or kkav@rslinc.com

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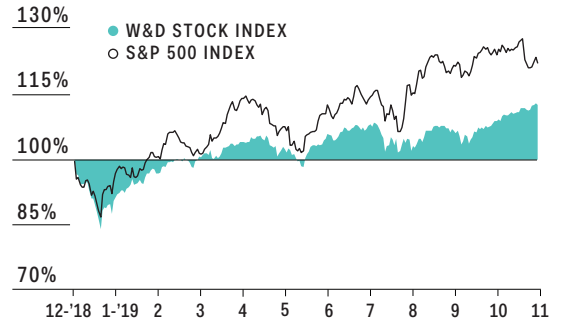
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➔ Windows on Wall Street—Lower Mortgage Interest Rates Manifest in Higher Levels of Construction Activity

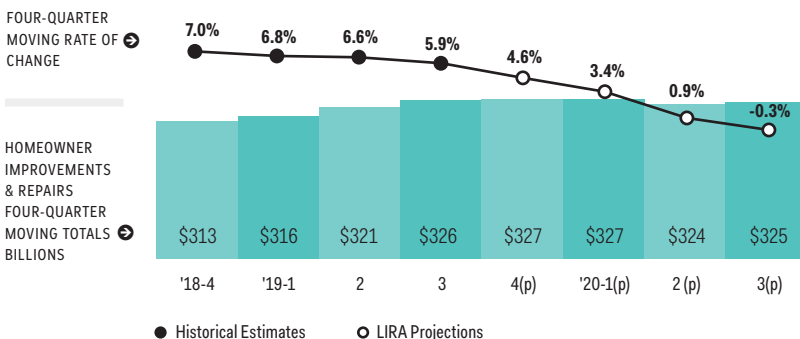
Stock prices of publicly traded window and door companies outpaced the broader market in November, as the W&D Stock Index increased 2.4 percent compared to a 3.3 percent decline for the S&P 500. Building products stocks have outperformed the market as they are less exposed to trade tensions and tariffs, which has impacted the broader market.

Also supporting the W&D Stock Index is that lower mortgage interest rates have manifested in higher levels of construction activity. The Bureau of the Census reported that housing starts increased by 3.8 percent in October compared to the upwardly revised September report. This pushed the last 12-month growth in overall housing starts to 8.5 percent or 1.314 million units. This was supported by the forward-looking permit data showing 5.0 percent monthly and 14.1 percent annual growth to a total of 1.461 million units.

Importantly, the growth in starts and permits have been driven by a significant rebound in single-family construction activity across the country and has shown positive trends for the past five months. Overall, growth in the construction market has resumed, which will support valuation and M&A opportunities in building products in the months to come.



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➔ Market Snapshot—Remodeling Market Expected to Stall in 2020

Annual gains in homeowner spending for improvements and repairs are set to give out by the second half of next year, according to the most recent Leading Indicator of Remodeling Activity released by the Remodeling Futures Program at the Joint Center for Housing Studies of Harvard University, jchs.edu. The LIRA projects that annual home improvement and maintenance expenditures will post a modest decline of 0.3 percent through the third quarter of 2020.

“Continued weakness in existing home sales and new construction will lead to sluggish remodeling activity next year,” says Chris Herbert, managing director of the Joint Center for Housing Studies. “Slowdowns in other key indicators of improvement spending—project permitting, sales of building materials and home prices—also suggest the remodeling market may be reaching a turning point.”

“At \$325 billion, owner improvement and repair spending in the coming year is expected to essentially remain flat compared to market spending of \$326 billion over the past four quarters,” says Abbe Will, associate project director in the Remodeling Futures Program at the Center. “However, today’s low mortgage interest rates may help counter some of these headwinds, which could buoy home improvement expenditure over the coming year.”

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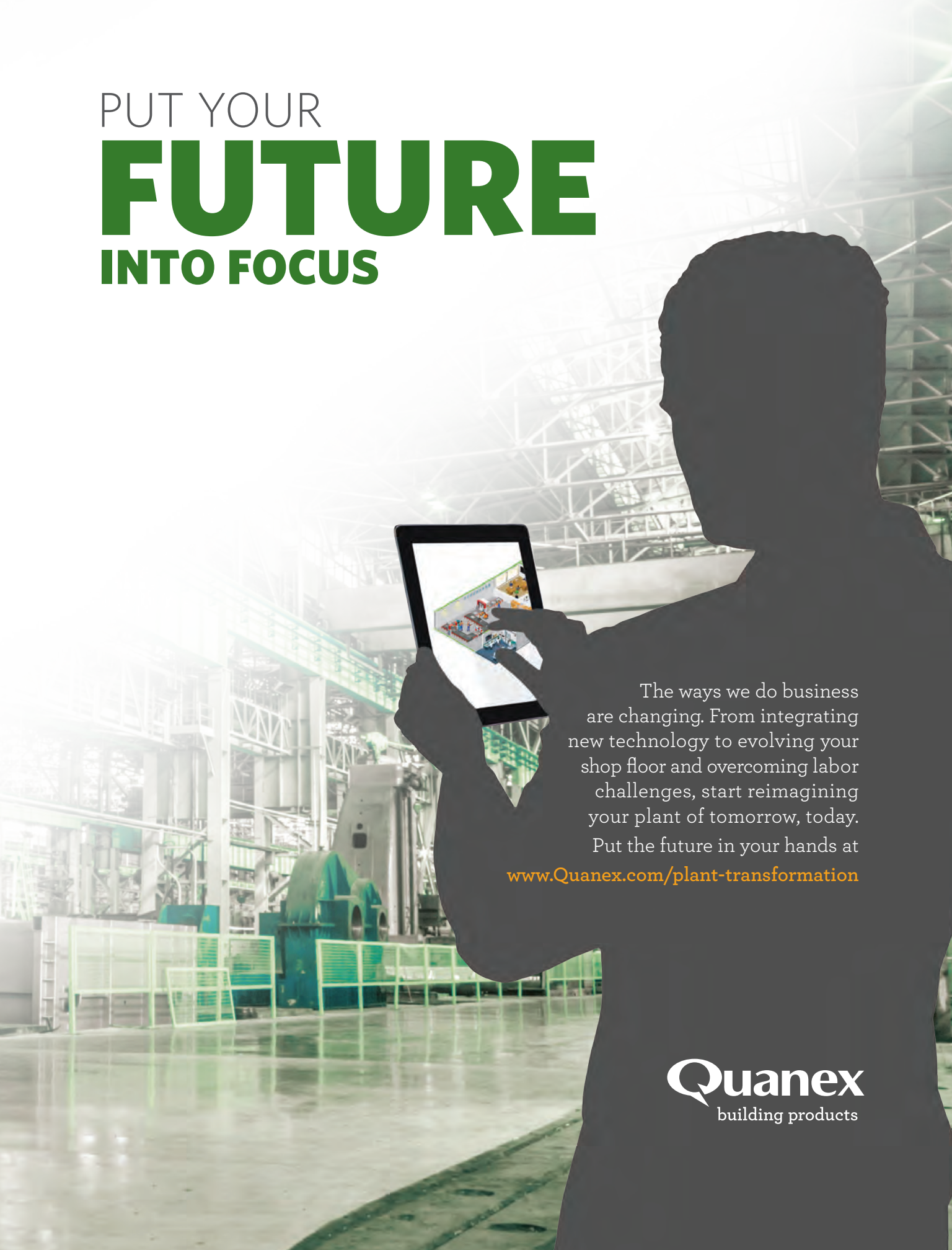


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