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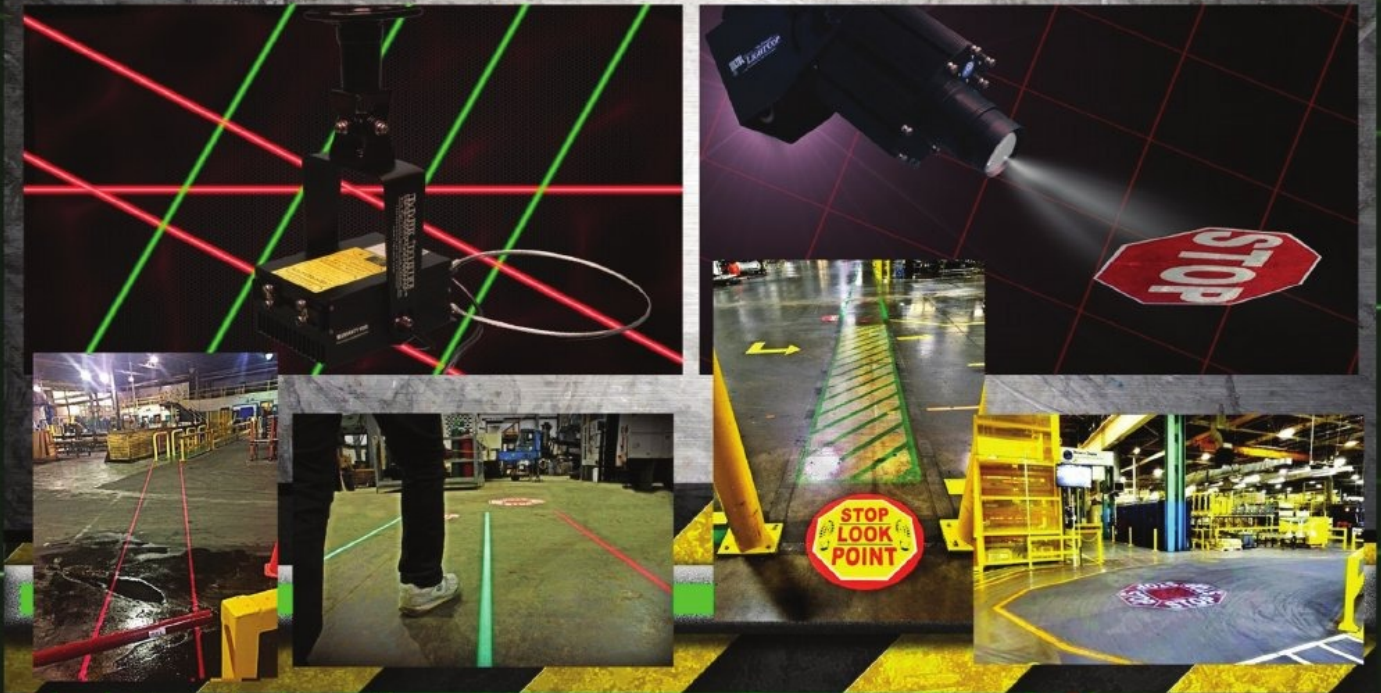
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Are you taking a vacation this year? If you're like many Americans, you're not. The reasons vary. Some people can't afford to; they don't get paid vacations and they'd miss the wages they would make if they took time off. Some can't afford to travel anywhere – a state which has given rise to the popularity of “staycations,” in which you theoretically stay home and sip Mai Tais on your patio, pretending that you're surrounded by lush tropical greenery instead of dandelions and a lawn desperately in need of mowing. And of course, the pandemic put the kibosh on many forms of travel, so even people with the funds and desire to go somewhere weren't able to. Now I'm hearing people who are fully vaccinated against COVID-19 say they're taking “vaccinations.” They feel safe enough to venture out again, while still taking some precautions.

But even before the pandemic, Americans were notoriously poor vacation-takers, compared with people in other countries – especially the European Union (EU) and Scandinavia. Part of that, as noted, is that that EU countries and others mandate that companies provide paid vacations to their employees – and lots of it. Workers in Sweden get 25 paid vacation days a year, while those in France get at least 30.

However, even when Americans do get paid vacations, many don't use it, or don't use all of it. They're saving it up for...retirement? They're taking the money instead, if that's an option. And those who do use it aren't always able to truly leave work behind, thanks to our thoroughly connected world. That tendency might be even more pronounced this year, as companies and their staffs strive to recover from the economic impact of the pandemic. A lot of people lost a lot of money last year. Almost all of us had to figure out how to “pivot” and find new strategies for coping with the new and unwelcome normal. The pressure, for many, has been intense.

That's why we need vacations this year more than ever. Unplugging, disconnecting and logging off provides a much-needed respite from the pressure of having to make work work. It gives us a chance to recharge our batteries and refresh our perspective. Immersing yourself in work can yield positive results, but it can also give you tunnel vision. Going somewhere new or different, relaxing, engaging in fun activities are all vital to our psychological well-being.

By the time you read this, I'll have spent a week “up north,” which is where many downstate Michiganders go when they get some time off. Swimming in Lake Michigan, hiking through forests, playing really terrible golf and sitting around campfires at night with friends are what make these northern sojourns so enjoyable (except for the mosquitos!). It's always difficult to break the habit of checking my work email on my cell phone, and I confess to having the strong desire to bring my computer up north with me every summer, just in case I need to do some important work that pops up in the email account that I am not checking.

I hope you're taking some vacation time this year, too.

We all need it. Especially after 2020.

## Maureen Paraventi

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# WORKPLACE

Material Handling & Safety

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## Sustainable Supply Chains and Materials

By: **Jonathan Parks**, Contributor

Both throughout the pandemic, and now as the United States begins cautiously to emerge from it, skyrocketing demand for consumer goods continues to increase the pressure on global supply chains. Managing business logistics has become even more complex as companies compete furiously for the labor and resources needed to meet rising demand associated with new shopping behaviors. As global supply chains expand and evolve, so too does their impact on our planet's environment — and calls from consumers to improve their sustainability efforts.

While public perception is often fixated on whether a particular product is recyclable, the greatest impact many businesses and organizations have on the environment is through the supply chains that provide such products. Creating a sustainable supply chain can considerably reduce a company's carbon footprint as well as energy and resource consumption, which comes with many benefits. Implementing eco-friendly business policies enhances a company's brand as an increasing number of consumers,



A huge component of the sustainable supply chain is the focus on lighter and more environmentally friendly materials. Image courtesy of iGPS Logistics.

and Wall Street, recognize the importance of sustainability. Finally, a sustainable supply chain is a leaner, more economical supply chain, which significantly impacts a company's bottom line.

A photograph of a large industrial machine, the ATX High-Production Auto-Tie Baler, in a warehouse setting. The machine is blue and yellow, with a large hopper for cardboard waste on the left. It is processing the waste into bales, which are visible on the right. The machine has a roller platen and a tie mechanism. A text box in the upper right corner of the image reads: "AUTO-TIES, TWO-RAMS, CLOSED-DOORS, VERTICALS & SPECIALTY MACHINES SINCE 1946".

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A huge component of the sustainable supply chain is the focus on lighter and more environmentally friendly materials. To cite just one of many examples, Costco reports that changing its egg packaging to a clear clamshell has reduced waste by 9 million eggs per year.<sup>1</sup> That's more than a million pounds of food diverted annually from the waste stream, just based on one particular package change to one specific product.

Companies seeking to create sustainable supply chains can implement a variety of strategies:

## PARTNER WITH GOVERNMENTS

In step with consumer demand, worldwide governments are increasingly pushing businesses to implement eco-friendly policies. It's not up to businesses alone; governments can play an important partnership role as well. They often offer tax and investment incentives to companies intent on investing in sustainable supply chains. They can also help connect companies with important technological, nonprofit and community partners who can help with sustainable supply chain implementation.

These types of partnerships are critical with local governments as well. Companies developing warehouse sites, for example can work closely with municipal officials and

1 [www.costco.com/sustainability-kirkland-signature.html](http://www.costco.com/sustainability-kirkland-signature.html)

planners to optimize warehouse locations. An optimized warehouse location will help minimize the amount of time delivery vehicles spend in transit or idling, reducing the amount of greenhouse gas emissions in the area, and making that part of the supply chain more sustainable.

## INVEST IN TECHNOLOGY

As noted above, a key aspect to creating sustainable supply chains is minimizing the amount of time an operation's vehicles are underutilized. Wasted miles, stock balancing and improper order aggregation can lead to inefficient use of transportation that leads to excessive consumption of fuel, tires and other consumables including packaging.

This can only be accomplished if a company's transportation network is thoroughly and regularly assessed. Investing in good forecasting software to fully understand challenges like seasonal peaks, changes in shipping demands and transportation issues can help businesses streamline their shipping process, avoid unnecessary trips and costs and reduce greenhouse gas emissions. This is not a one-sided effort; both suppliers and customers must work together to provide accurate forecasts to better inform decision-making. Meanwhile, the use of lighter, more sustainable materials — more on this in a moment — also help to decrease the carbon footprint.



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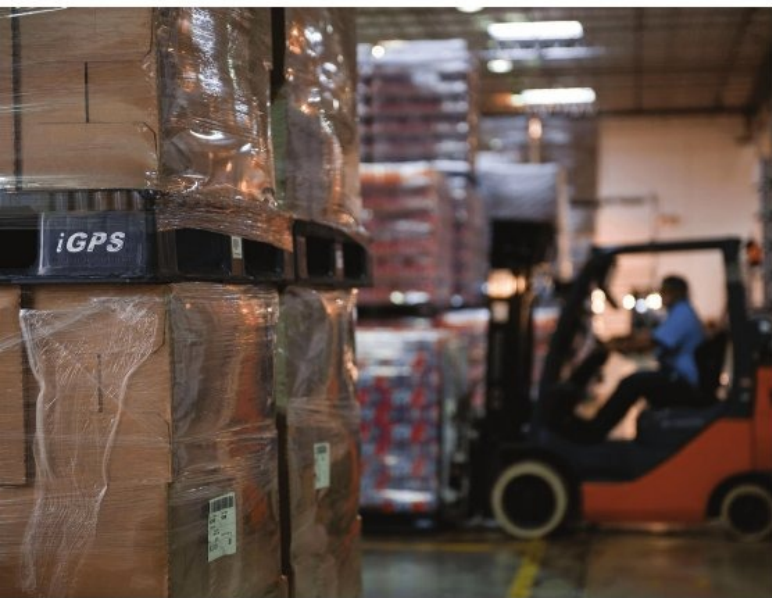
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Using lightweight plastic pallets helps reduce supply chain weight loads. Image courtesy of iGPS Logistics.

Companies that manage truck fleets can also invest in making their vehicles more eco-friendly. This can involve installing telematics technology that enables them to detect equipment issues and vehicle maintenance needs more efficiently, allowing for the correction of problems that contribute to harmful emissions in the early stages. More

inexpensive options can include making trucks more aerodynamic by installing roof fairings and gap reducers between the truck and trailer, resulting in shorter shipping trips.

## USE LIGHTWEIGHT, RECYCLABLE PACKAGING AND SHIPPING MATERIALS

This greenhouse gas calculator<sup>2</sup> demonstrates how even small reductions in transport weight can make a significant difference for a company's carbon footprint. More weight requires more fuel to push heavier and more frequent shipping loads, resulting in higher fuel consumption, higher fuel costs and more harmful emissions. Fortunately, companies investing in sustainable supply chains can use packaging and shipping material that is not only lightweight but also recyclable.

Packaging materials that are not biodegradable or recyclable can linger for an eternity in landfills or eventually wind up in our waterways. Shipping companies can make their supply chains more sustainable by using everything from biodegradable packing peanuts to air pillows and boxes constructed from recycled materials, or even mushroom packaging<sup>3</sup> made from fungus roots and farm residues. These packaging materials are also lighter than more conventional and rigid metal and glass packaging.

Companies seeking to reduce supply chain weight loads can also use lightweight plastic pallets for shipping. Wooden pallets are heavy and add unnecessary pounds to loads. Plastic pallets, by contrast, can be up to 35 % lighter<sup>4</sup>.

Plastic pallets can also be recycled. Wood pallets usually wind up in landfills after their shorter lifespans, contributing to pollution and possibly endangering marine life in the future. Durable plastic pallets, some of which have lifespans of up to 100 trips, can simply be broken down and remade for future use. Their ergonomically friendly weight and absence of nails and splinters can also make this material safer for both workers and automated equipment.

Investing in sustainable supply chains has become even more critical as global supply chains respond to increasing consumer demand. Companies that do so will help fight climate change, enhance their brand value and benefit from reduced Total Cost of Business. **WMHS**

*Jonathan Parks serves as SVP, Supply Chain at iGPS Logistics, a leading provider of plastic pallet pooling solutions. He has more than 15 years' experience in the supply chain and logistics industry (www.igps.net).*

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<sup>2</sup> [igps.net/resources/green-house-gas-calculator/](https://igps.net/resources/green-house-gas-calculator/)

<sup>3</sup> [sustainabilityguide.eu/?guide=mushroom-packaging](https://sustainabilityguide.eu/?guide=mushroom-packaging)

<sup>4</sup> [igps.net/resources/lightweight-plastic-pallets/](https://igps.net/resources/lightweight-plastic-pallets/)





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# Mobile-First Strategies to Create Smarter Supply Chains

By: **Karen Bomber**, Contributor

Due to a dramatic increase in online orders, mobile workers in the supply chain industry are more important than ever while facing heightened pressure to speed up fulfillment. According to Digital Commerce 360, worldwide consumers spent \$861 billion online shopping in 2020, a 44% increase from 2019. This sharp growth in ecommerce and the resulting consumer demand for delivery and curbside services put added stress on an already taxed supply chain, particularly the mobile workers handling goods along the journey.

To ensure these workers are equipped to meet the increased volume and accelerated delivery time consumers expect, software and hardware solutions need to advance at an equal pace. When software and hardware act in

harmony, workers and the business have access to the data needed to make better business decisions.

### A MOBILE-FIRST STRATEGY

An integral part of supply chain success is a mobile-first strategy that leverages devices and task-specific apps to allow companies to better meet the needs of both buyers and sellers. Mobile-first strategies are particularly important for the last mile as it can make or break a successful transaction.

In North America, 58% of companies that had a mobile-first, last-mile strategy said it effectively reduced their operational costs. Mobile devices help reduce costs, improve visibility and allow companies to focus on customer satisfaction and overall efficiency.



Mobile devices allow companies to focus on customer satisfaction and overall efficiency. Image courtesy of Honeywell Productivity Services and Solutions

When last-mile strategies are flawed, supply chain management and the resulting customer experience are

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negatively impacted, as is the ability to create new revenue streams. Speed, accuracy and efficiency are key drivers to last-mile success. We know consumers have little patience for delays or receiving incorrect packages, and inefficiency in delivery services leads to increased retailer costs.

A successful last-mile strategy is fully connected and increasingly smart due to software and hardware innovations. It includes mobile software platforms, purpose-built devices, real-time visibility, driver orchestration, intelligent carrier selection, real-time customer scheduling and predictive management. These innovations also ensure productivity and safety for mobile workers, as well as providing them with data intelligence programs fit for supply chain visibility and improvement.

## SOFTWARE INNOVATION

The complex challenges of the supply chain and logistics industry cost enterprises trillions of dollars annually. The key to industry evolution is the

forward movement of data intelligence at a faster pace. With more knowledge available, enterprises and workers are both quicker and more efficient.

Suites of enhanced supply chain software for mobile computers offer powerful solutions to increase efficiency and deliver better customer experiences. Low-code SaaS platforms like Honeywell's FarEye include an open API architecture for software integration and allow mobile workers with devices to manage, visually track and monitor delivery logistics operations. Implementing SaaS-driven platforms enable real-time problem solving with end-to-end operational visibility to address challenges in the supply chain.

GPS driver tracking and delivery management software is another tool that assists mobile workers by communicating a product's location. From vehicles to wristwatches, the importance of GPS tracking is highlighted throughout the final steps leading to a completed delivery. Various features,

such as route optimization, offer drivers immediate insights regarding suggested priorities, traffic conditions and the average time to complete a delivery. Like GPS directions in a car, systems communicate a driver's route in real time while considering external factors. These software advancements drive delivery improvements, which can lead to a superior customer experience.

## HARDWARE INNOVATION

Software is essential to the technology evolution; however, it can't exist without innovative hardware. While software provides data intelligence and autonomous capability for product enhancement, hardware advancements improve product functionality and safety.

An open API architecture approach provides consistency for enterprises to upgrade current hardware models, manage device refreshes and quickly deploy software applications. Software integration across different devices provides a unified platform for all

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# MOBILE DEVICES



An integral part of supply chain success is leveraging devices and task-specific apps to meet the needs of both buyers and sellers. Image courtesy of Honeywell Productivity Services and Solutions

hardware systems. An open API architecture also allows business to easily test and deploy critical software and hardware when adding new devices. Devices that support future versions of the operating system without making

new hardware investments are critical to the technology evolution.

In addition, health and safety are top of mind for mobile workers post-COVID-19 and this has further accelerated the demand for robust hardware materials. Harsh cleaning solutions can degrade standard plastic housings, causing vital workplace assets to become discolored and parts to become brittle and break. This interrupts cleaning protocols that keep mobile workers safe. Disinfectant-ready housings allow devices to withstand more frequent cleanings. Devices go through multiple hands so frequent cleanings can help curb the spread of viruses, including COVID-19, for mobile workers.

In the supply chain industry, software and hardware must work together seamlessly to co-exist. Software brings computing intelligence and autonomous capability, allowing hardware to increase its effectiveness. The key to boosting mobile workers' productivity and safety is utilizing software

and hardware in harmony as this allows workers and the business to make smarter decisions. While the world adjusts to a new normal, the disruptive power of new software and hardware technologies is solving the complex challenges of the supply chain. The result – faster and more efficient mobile workers – unlocks the power of the successful supply chain. **WMHS**

*Karen Bomber is the Director of Vertical Marketing, Honeywell Productivity Services and Solutions, which provides products, software and connected solutions that improve productivity, workplace safety and asset performance. The company achieves this through industry-leading mobile devices, software, cloud technology and automation solutions, the broadest range of personal protective equipment and gas detection technology, and custom-engineered sensors, switches and controls (<https://sps.honeywell.com/us/en/>).*

## Enhance Safety with LED Signs

A large advertisement for Directional Systems. The background is a photograph of a warehouse interior with a forklift in motion. Overlaid on the image are several examples of LED safety signs. In the top left, a yellow sign with a black border reads "CAUTION" and "WATCH FOR FORKLIFT" with a forklift icon. In the bottom left, a red sign with a black border reads "Danger High Voltage Test In Progress". In the bottom center, a white sign with a black border reads "CAUTION" and "RF/MICROWAVE ENERGY CONTROLLED AREA" with a radio wave icon. On the right side, there is a large, vertical, three-lens LED traffic light with red, yellow, and green lenses. The text "Our signs are:" is written in a stylized font above a list of three bullet points: "• Made in the USA", "• Made to Order", and "• Customizable".

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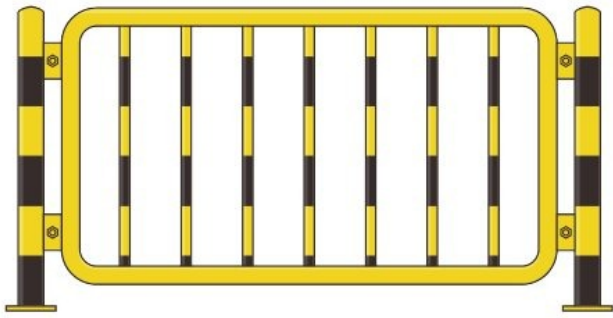
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## Standard Spells Out Crash Testing Method for Protective Guarding

By: **Maureen Paraventi**

A standard published earlier this year is designed to improve safety in the material handling industry, while also leveling the playing field when it comes to evaluating the effectiveness of industrial guardrail barriers and posts. The standard, ANSI MH31.2-2021, provides a crash testing method for evaluating the performance characteristics of the products.

Found in many industrial and warehouse environments, industrial guardrail barriers and barrier posts are intended to prevent workers and other pedestrians from being struck by vehicles, among other things. They are typically mounted to the ground-level concrete floor slab at a safe distance away from pedestrian aiseways, vital equipment or critical infrastructure.

The standard has similarities to test methods found in ASTM F3016, but uses different impact velocities and surrogate test vehicle mass in order to replicate the kind of powered industrial truck impacts that can occur in manufacturing, warehousing or distribution environments. Prior to ANSI MH31.2-2021, there were no standardized parameters for manufacturers of guardrail barriers and posts to use when performing independent testing of their products. The new standard is designed to make it easier for end users to compare products and

determine which ones are appropriate for their particular applications.

ANSI MH31.2-2021 was published by the Protective Guarding Manufacturers Association (ProGMA), an MHI industry group that focuses on protecting people, product and facilities, as well as promoting best practices in the industry. ProGMA worked on developing the standard with Texas A&M Transportation Institute (TTI), which addresses complex transportation challenges. It was a natural fit, since the TTI testing laboratory is capable of conducting the crash testing outlined in the standard.

TTI has a history of involvement with guardrail safety. A product that originated in the TTI lab figured heavily in a 2008 incident in Texas, a man driving a pickup truck lost control of his vehicle when it began hydroplaning on a rain-soaked highway. Twenty-three-year-old Garrett Placke was driving home from his niece's christening when the life-threatening incident occurred.

"I knew I was going to hit the guardrail head-on at 65 [miles per hour], so I was expecting a really big slam," said Placke. "Remarkably, my truck stopped very quickly, and I couldn't believe I wasn't hurt." The guardrail

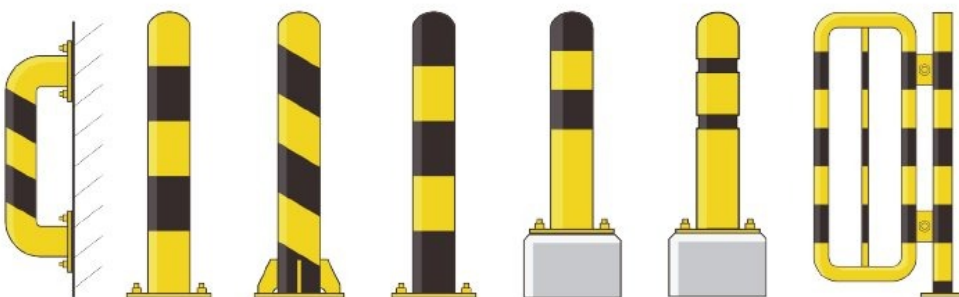
absorbed the truck's impact and prevented it from heading over a steep embankment into a creek. The guardrail Placke's truck struck was an end terminal called ET-PLUS, designed by TTI and manufactured by Trinity industries. Ironically, the incident occurred near Texas A&M's Riverside campus – not far from where the guardrail was designed.

### DETERMINING YOUR NEEDS

Within the material handling space, the type of industrial guardrails and barriers should be chosen based on their purpose and the location where they'll be used. Will the protective guarding need to:

- Prevent pedestrians from being struck by powered industrial trucks (PITs) in an area of the plant, warehouse or distribution center with a lot of PIT traffic?
- Separate different areas of the facility in a highly visible way?
- Keep employees at a safe distance from hazardous machinery?
- Protect assets?
- Protect columns from being struck and damaged by PITs?
- Protect overhead door tracks on docks from being damaged?
- All of the above?

Depending upon specific needs, single and double guardrails with pedestrian gates may be the best fit for your



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facility or one area of your facility. Short, sturdy vertical posts called bollards, with flexible and bounce-back options are useful for preventing vehicles from entering an area while allowing personnel to pass through. All of the above are available in both steel and polymer versions. Other guarding options include column protectors, guarding that prevents items from falling onto conveyor systems, dock door protection and dock lift gates. In addition to choosing the right kind of protective guarding, it's important that it be spaced and installed correctly. It's important to remember that even with a company



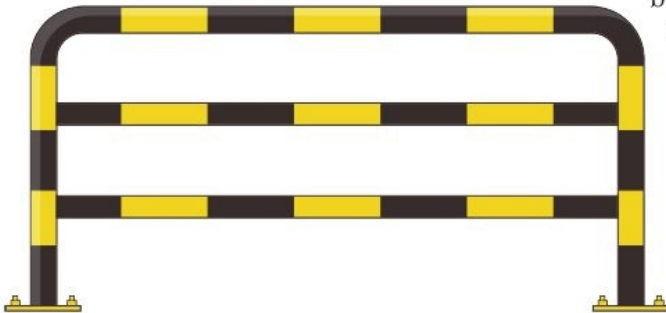
that has adequate safety training and procedures, a worker could suffer a devastating injury – or worse – if a moment's inattention causes him or her to stray into the path of a PIT. Having highly visible, traffic-strength guardrails in place reduces the risk of such an incident. Likewise, a new, inexperienced employee might not

protects assets, columns, conveyor systems and dock lift gates, reduces repair costs and downtime.

ProGMA has a protective guarding search tool at: <https://www.mhi.org/progma/technologies> that can help companies find products and technologies that fit their needs. It also provides lists of manufacturers that provide those products.

The standard, **ANSI MH31.2-2021**, is available at: <http://imis.mhi.org/WMHS>

be aware of the need to maintain a certain distance from dangerous machinery or equipment. Protective guarding removes the element of risk. An additional benefit of protective guarding: it



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## Resilience For Tomorrow: How to Future-Proof Your Warehouse Operations

By: **Derek Rickard**, *Contributor*

Warehouses and distribution centers are no stranger to fluctuations in consumer demand and business needs. After all, nearly every industry experiences seasonal peaks when order volumes skyrocket and facilities must scale up their workforce to keep products flowing out the door. Yet the events of the past year have highlighted just how unpredictable the future can be—and just how critical flexibility is for resilience.

When sudden market shifts or external disruptions affect their business, companies need to be able to adapt accordingly to meet demand, maintain efficiency and provide a high level of service quality for their customers. But this is difficult for traditional warehouses that still rely on manual order picking. Their ability to keep up all comes down to the speed, physical endurance and availability of employees (which may be unsustainable in times of disruption, given the ergonomic risks and labor shortages prevalent even in the best of times).

So, in this article we'll examine innovative ways to gain flexibility to face both the expected and unexpected, ensuring your warehouse can run at its best no matter what tomorrow may hold.

### INVEST IN MODULAR, SCALABLE AUTOMATION

One of the best ways to build resilience is by incorporating warehouse automation. Today's robotic order picking systems can take on the majority of product handling operations, receiving, storing and retrieving products much faster than humanly possible for a facility that's six times more efficient than its manual counterpart. These systems can run 24/7 with minimal human involvement, eliminating the need for temporary staffing and alleviating existing employees from bearing the physical brunt of order volumes spikes.

When investing in automation, some may think it's necessary to build a solution up front that can meet long-term goals as well accommodate any unpredictable scenario that could affect business in the future. However, this can leave you overwhelmed with far-out projections and analysis, slowing down the design and implementation process altogether.

A far better approach is to look for systems that are flexible and modular in design. This allows you to streamline development by focusing on automating the processes that will meet your present needs and provide the biggest and

quickest return on your investment. You can then increase the levels of automation as necessary in the future, without interrupting operations.

To fast-track implementation, also consider standardized solutions that can easily fit into your existing facility. Standardized equipment, such as that of a modular solution, allows you to utilize a pre-engineered cell of automation that reduces lead times, optimizes space utilization and can easily be repeatable as your business grows.

### SCALE WITH SPEED THROUGH MICRO-FULFILLMENT

An important part of resilience in distribution is not only scaling operations, but also doing so quickly. One strategy gaining popularity is micro-fulfillment, where "mini warehouses" are set up in a matter of weeks in regions near high demand. These highly automated micro-fulfillment centers offer benefits such as:



The automation implemented by Kwik Trip enables the company to process orders for 53,000 outbound trays of fresh baked goods per day. Image courtesy of Cimcorp



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# ORDER PICKING & FULFILLMENT

- A smaller, more flexible footprint: Compact enough to squeeze into tight urban industrial buildings or even fit in the back of brick-and-mortar stores, micro-fulfillment centers require minimal investment in real-estate space and construction costs.
- Lower automation costs: Their small size make micro-fulfillment centers far less expensive to automate than their larger counterparts.
- Shorter lead times: Strategically located in major metropolitan areas, micro-fulfillment centers position products closer to consumers to reduce the time and costs involved in last-mile delivery.

## THINK SMART WITH A WAREHOUSE CONTROL SYSTEM

To intelligently adapt operations when disruption comes your way, you need ready access to data and robust control over your automated material handling system. In other words, you need a Warehouse Control System (WCS)—what you could imagine as a bridge that brings data, analytics and robotics together to connect the digital and physical world.

A WCS receives and stores real-time data transmitted by sensors on your robotic equipment, and assesses information on inventory, order lines, priorities and deadlines to orchestrate everything from individual robot movements

to the entire flow of the warehouse (adapting of course to demand surges or extremely tight lead times).

With historical data stored in a WCS, your warehouse managers can also run analyses to find opportunities for future improvements. For example, they can eliminate process inefficiencies according to evaluated facility performance, preemptively detect if a system needs maintenance to ensure maximum uptime, and also determine when to scale up the number of robots to accommodate business fluctuations. Overall, a WCS elevates an automated warehouse to a smart warehouse.

## KWIK TRIP'S RECIPE FOR RESILIENCE

A great example of automation-enabled resilience comes from Kwik Trip, a family-owned and operated chain of convenient stores founded in 1965. With more than 700 locations throughout the Midwestern U.S. today, Kwik Trip's own bakery produces and delivers 25 to 30 different types of fresh baked goods to its stores each day.

To meeting growing demand for these baked goods, Kwik Trip opened a new 200,000-square-foot baking facility in La Crosse, Wisconsin, in the fall of 2018. This state-of-the-art facility leverages automated systems to handle end-to-end operations in a well-orchestrated, integrated fashion. In the 87,000-square-foot warehousing section

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## Fire Barriers

Today's warehouse fire protection systems include more than just pipes and sprinklers. When the products being stored include highly flammable items such as plastics, aerosols, liquors or oils, fire codes may require fire barriers inside the racking structure.

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of the facility, Kwik Trip implemented a space-saving, high-density automated solution that combines buffer storage and order picking into one seamless operation. The solution rapidly manages 80,000 trays of fast-moving bakery products and processes orders for 53,000 outbound trays to Kwik Trip stores, within 20 hours each day. When orders come in, that data is transferred to a WCS, which then directs the robotic system to pick the orders based on store and route. This ensures that the orders are picked with 100% accuracy and that the company follows a first-in-first-out (FIFO) inventory management model for optimal product freshness.

The modular design of Kwik Trip's system proved invaluable at the beginning of the COVID-19 pandemic when the company saw consumer demand and output nearly triple in a single week. While Kwik Trip would have struggled to handle this surge with its previous manual setup, automation enabled the La Crosse facility to maintain product flow and order accuracy as usual.

Like Kwik Trip, companies can take proactive action to future-proof their warehousing operations and order fulfillment processes. While no one can predict the future, the technologies and strategies you implement today can help you mitigate the risks of the unknown and ensure your products continue to flow efficiently and effectively for years to come. **WMHS**

*Derek Rickard serves as Director of Sales at Cimcorp, where he leads the sales team in developing robotic order fulfillment solutions designed to meet each customer's warehousing needs. With 20+ years of supply chain experience, Rickard has worked on many of the first fully automated robotic picking systems in North America, with some of the largest exceeding 1 million cases per week ([www.cimcorp.com](http://www.cimcorp.com)).*



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## Forklift Certification & Enforcement:

# Take It Seriously

By: **Brian Colburn**, Contributor

If you look at things worth achieving in life, most require work, patience, time and some level of competency. I once watched a show about U.S. Navy Seal training; it stated that about 75 % of the trainees would not successfully complete the training due to its demanding requirements. Other programs, such as obtaining an airline pilot's license or a commercial driver's license, also require substantial work and knowledge, and not everyone can meet the requirements to obtain them.

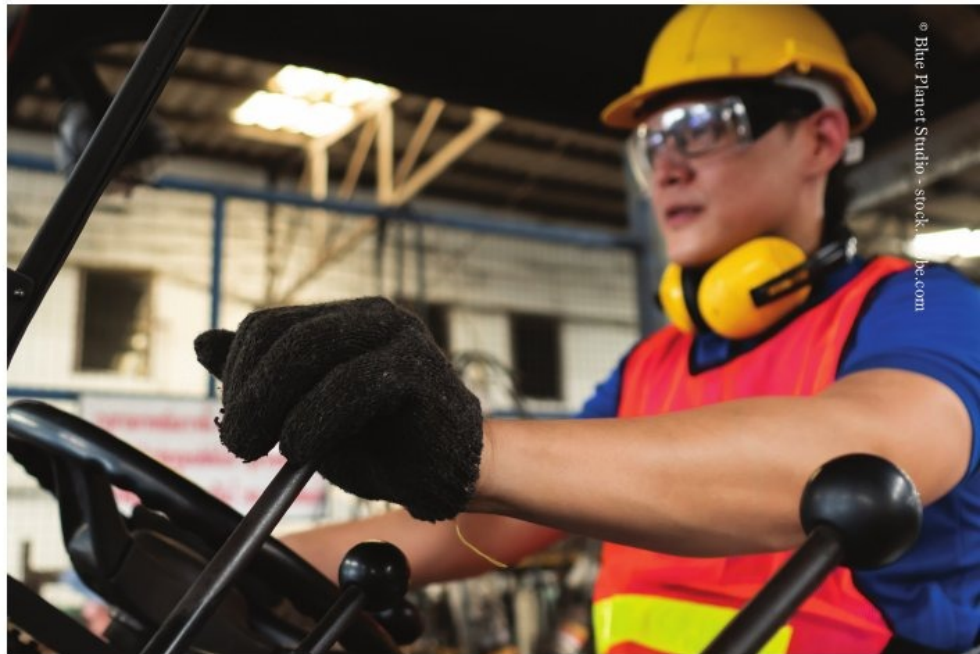
Even with updates to forklift training requirements here in the U.S., I still question whether everyone who is charged with training forklift operators really takes the job as seriously as they should. Periodically, we audit other training programs and see people with little to no forklift experience successfully completing programs and being turned loose to operate a forklift with zero supervision. Many times, the driving test amounts to moving some empty pallets around in a parking lot. Many written tests we review consist of 15 or less questions which an average 10-year-old could pass. Would we turn our children loose in an automobile with no practice, or allow someone to fly a plane by simply spending some time in a simulator? We all know how dangerous those things would be.

Companies should put together tougher pass/fail criteria that weed out weak and inexperienced operators for more training prior to certification. When our company conducts final, hands-on evaluations, we expect the trainees to be able to handle real-life loads and to be able to stack as high and tight as they would in their regular jobs. We always tell our trainers that when in doubt we would rather have someone held back that might be ready vs. certifying someone that might not be ready. Third-party trainers, such as safety consultants and forklift dealers, also have additional pressures. Many end-users expect that paying for a person to be trained ensures they will pass the course. We tell customers up front that some operators may not pass and or will need additional supervised practice before certification.

### ENFORCING COMPLIANCE

If you have a great training program, with excellent materials and instructors, is that enough? There is another

ingredient to safe forklift operations that is equally important, which is enforcement. A famous verse from the Bible states, "He who spares the rod hates his son, but he who loves him is careful to discipline him," Proverbs 13:24. You might ask, "What in the world does that have to do with forklift safety?" and my response would be "everything." There are many potential factors in forklift accidents, and I have seen most of them during my time in the industry.



When I first started training, I felt that if a company saw one of its forklift operators violating forklift safety policies, someone should stop them and discuss why to work safely. The conversation might have gone like this, "Hey John, I noticed you are not wearing your seatbelt. We would appreciate it if you wore the belt to protect yourself and your family; it is very important. Have a good day."

While there is nothing wrong with that approach, the years have hardened me a bit, as have working with people and families torn apart by forklift accidents.

These may sound callous, but consider the following:

- We are dealing with adults, not children. When you tell a child something they might not understand the consequences of non-compliance, or they may choose not to follow them. Adults, on the other hand, do typically understand what they are being told. If training is done correctly, they will fully understand the potential



consequences of non-compliance. Not following the rules should not be an option for your employees. If they expect to collect their paycheck, they should expect to “toe the line” from a safety standpoint.

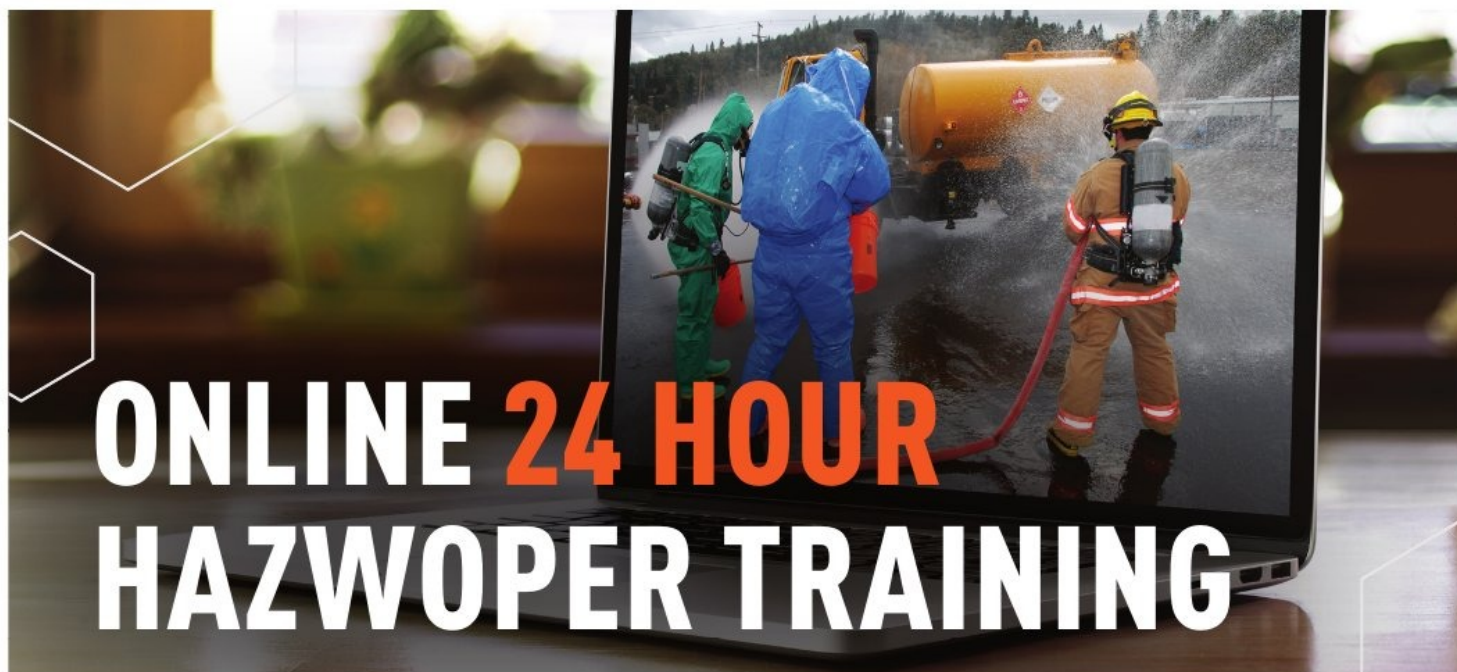
- There is no need to “dance around” the issue of confronting people for violating safety policies. As supervisors and trainers, that is our job. Like it or not, confronting safety violations and fixing problems is part of the job, maybe not a pleasant part, but one of the most important parts. When parents don’t address problems with their kids, we know what can happen. They can end up on drugs, in trouble with the law or with no respect for authority. When companies do the same, we also know what happens, things like non-compliance, accidents, injuries, unsafe situations and no accountability.
- Although we should not be disrespectful or rude when dealing with anyone, we need to cut to the chase and be sure people are getting our message. A few paragraphs ago, I talked about how I thought a conversation should go, now let me define how I would do it today on a first offense, “Hey John, I see you are not wearing your seatbelt. You know we covered this in training and that it is a rule at our company to wear it. I need to have you put it on now and we expect you to wear it each and every time you are operating the forklift. It is the number one killer of operators, and we don’t want something to

happen to you or to your family. I will write you up a warning this time and put it in your file, but if it happens again, it will involve time off from work. Are we clear on what needs to happen from here on out?”

One customer of ours repeatedly warned operators for a set period of time about seatbelt use. They had experienced a fatal accident at a sister plant during a forklift tip-over and made seatbelt use a cardinal safety rule. Violation of this rule would result in immediate termination of employment for offenders. Not long after the warning period ended, a 20-year veteran was caught violating the policy and was let go. This company runs 24/7 operations with large numbers of forklifts, and I have not seen seatbelt non-compliance again for many years. No matter how hard the lesson was, the message got across and their facility is much safer as a result.

In summary, put some “teeth and muscle” behind your enforcement of forklift safety issues. Set the rules and then enforce them with a vengeance. You are protecting workers and their families by doing so. **WMHS**

*Written by Brian Colburn of Forklift Training Systems, a leader in forklift safety training and products ([www.forklifttrainingsystems.com](http://www.forklifttrainingsystems.com)).*



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# SAFETY21

## CONFERENCE + EXPO

# What to Expect

The American Society of Safety Professionals' (ASSP) Safety 2021 is "back and better than ever," according to the organization, which had to convert last year's conference to a virtual version due to the COVID-19 pandemic. This time around, virtual is still an option, but attendees can also take in the conference in person, in Austin, Texas as "a re-imagined in-person experience."

The Safety 2021 Professional Development Conference & Exposition will run September 13-15 and include all of the features that have made this annual gathering one of the top occupational safety and health conferences in the world. There'll be dozens of education sessions, and the chance to earn continuing education units (CEUs), the opportunity to network with peers and the chance to connect with exhibitors and learn about new products and services.

Key issues facing safety professionals will be identified and explored. Both the information gained in sessions and through speakers and the products and services shown by exhibitors are intended to provide safety professionals with solutions that they can apply to their workplace challenges. These include, of course, issues related to or revealed by the pandemic. The ASSP notes that "health and safety have never been more critical to operational success, and safety professionals are at the center of it all. What have we learned in this past year, and how can we apply it to a safer, stronger future?" In-person attendees will get to venture outside of the conference center and enjoy Austin, which is considered the live music capitol of the world, while those connecting online through the conference's event platform will get live streaming and new ways to connect.

Session categories include:

- Business leadership skills
- Fall protection
- Risk assessment and management
- Total Worker Health

According to the ASSP, "There will be over 60 more concurrent sessions available in our online event! The sessions listed below will be pre-recorded and are designed specifically for our virtual format. Speakers will be available to chat live with online attendees during the premier broadcast of the session, and support materials can be downloaded after the presentation."

Session topics include: Innovating for Safety: How Technology Can Create Safer Workplaces; Diversity in Global Organizations: Challenge for OSH Professionals; How to Leverage Social Media to Push a Safety Message; Agile Knowledge Sharing Through Microlearning; Deploying Operations Risk Management in any Organization; Interesting OSHA Cases From the Field: Part 1; Mentorship In Safety: A Mentee/Mentor Phase Model; ANSI/ASSP Z359 Fall Protection and Restraint Forum; Lessons Learned From Recent OSHA Lead Inspections; A Risk-Based Approach to Fatigue Management; Virtual Ergonomics Solutions in the COVID-19 Environment; Our Dust Hazard Analysis Is Complete: What's Next?; COVID-19 and Construction: How We Kept Working Safely; Driving Risk to an All-Time Low: The Journey to Zero; SMS implementation in the Military and Government

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The speaker at the Opening General Session will be Connie Podesta, whose talk is entitled: "Relationships: Life Would Be Easy If It Weren't for Other People." Imagine what you could accomplish if you could understand what makes people do what they do and say what they say. Our ability to get along with others, at work and at home, is key to success. How we choose to relate to, communicate with, be accountable to, resolve conflict with and garner respect from other people directly impacts our ability to be happy, develop healthy relationships, collaborate effectively and experience success. Human relations expert Connie Podesta will share insight and tools to help us act rather than just react to whatever life throws our way.

The Closing Session speaker on Wednesday afternoon will be Michael Bonner, Teacher of the Year and published author. Bonner's topic: "Adapt and Elevate: Improving Performance Through Metacognition." Challenge your assumptions. The entire world was forced to stop due to COVID-19 as it wreaked havoc across multiple industries. It dismantled many businesses and forced most organizations into emergency online systems. Despite all of the damage that has taken place, we have been presented with a prime opportunity to reimagine how we operate from a new perspective! In this keynote, Michael Bonner breaks down important principles of environment and culture, the importance of purposeful collaboration, and how self-development can create a higher level of performance.

The ASSP has established a range of protective measures for Safety 2021 intended to safeguard the health of attendees, exhibitors and ASSP staff. In-person attendees will be required to:

- Provide proof of vaccination or negative COVID-19 test within 48 hours prior to the event.
- Wear a mask (one will be provided to those who arrive without one).
- Practice physical distancing in the convention center, hotel meeting rooms and on the exhibition floor.
- Practice good hygiene (frequent handwashing and use of hand sanitizer).

The conference will have contactless registration and badge printout; regular cleaning protocols throughout the event; one-directional aisles and designated entrances/exits; seating limitations for all meetings and sessions and food options that are outside, to reduce the amount of time someone has their mask off indoors. **WMHS**

For more information about Safety 2021, visit <https://safety.assp.org>.

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## What Kind of Safety Gates Do You Need?

By: **Maureen Paraventi**

Guard rails and other types of physical barriers are vital to worker protection in certain environments. They make sure that people don't come into contact with vehicles or hazardous machinery and equipment. However, when it's necessary for personnel to have some type of access to areas that are enclosed or divided by protective guarding, it's not enough to simply leave a gap between guard rail sections. That leaves room for human error which is an all-too-common occurrence in noisy, busy environments that are full of distractions. Industrial safety gates are a solution that allows both access and protection.

### DOES OSHA REQUIRE SAFETY GATES?

OSHA does not specifically mandate the use of safety gates. However, they are one way of complying with OSHA 1910.29 (b), which addresses fall hazards:

"The employer must ensure guardrail systems meet the following requirements: (13)(i) Has a self-closing gate that slides or swings away from the hole, and is equipped with a top rail and mid-rail, or equivalent intermediate member, that meets the requirements in paragraph (b) of this section; or (13)(ii) is offset to prevent an employee from walking or falling into the hole."

### WHAT TO CONSIDER

Every factory, warehouse or distribution center or other type of facility has unique needs when it comes to safety gates, based on:

- The layout or floor plan of the facility
- Existing or planned guardrails or barriers (safety gates must be able to withstand the same amount of force and be at the same heights as existing rails)
- Areas that need to be accessed by employees, visitors or contractors
- Specific hazard areas

In order to determine the right types, sizes and materials of the safety gates needed at your facility, it's necessary to take all of the above into consideration. Gates may be self-closing, made for specific areas – like loading docks and mezzanine – or customized to a facility's unique needs. Depending upon the manufacturer, they are available in materials that include aluminum, stainless steel and carbon steel and finishes such as galvanized and safety yellow powder-coat.

### QUESTIONS TO ASK BEFORE SELECTING A SAFETY GATE:

- What is the size of the opening?
- Where will the safety gate be installed? (Pallet drop areas? Loading docks?)

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- Do I need a gate that offers a custom length or mount?
- Will the gate need to mount from a left or right position?

## TYPES OF INDUSTRIAL SAFETY GATES INCLUDE:

**Self-closing gate.** A spring in this kind of gate causes it to automatically close after each use. Self-closing gates can serve as passive fall protection systems and are ideal for platforms, stairs and ladder ways.

**Loading dock gate.** The basic loading dock gate is easy-to-open gate and generally doesn't take up much space. It protects against falls from loading docks. Other styles for docks including a vertical lift loading dock gate and a cantilever dock door gate.

**Mezzanine safety gates.** These keep your workers safe during the pallet loading and unloading process.

**Clear-aisle safety gates.** Some models can take up less than a foot of aisle space when open to the mezzanine floor, making them ideal for tight spaces.

**Clear-height safety gates** are a good fit for spaces with overhead movers or tight clearances.

**Pivot-style safety gates** protect open areas of pallet rack systems, elevated platforms, mezzanines and elevated platforms during loading and unloading.

## SAFETY GATE MATERIALS AND FINISHES

Determining which material the safety gates in your facility should be made of and the finishes they should have starts with a careful assessment of the environment in which they'll be installed. If the gates will need to be washed regularly, stainless steel might be the best choice. For many warehouses and material handling operations, painted mild steel will be an economical option and, when treated with powder coating, will have a crack-resistant finish. Some safety gate types are also available in carbon steel and aluminum versions.

Choosing bold, safety-related colors – like bright yellow – can help amp up the protective level of gates, especially if the colors are a contrast to those of the stationary guard rails to which the gates are connected. Contrasting colors may also be used to designate an area with special hazards. If there is a dominant color scheme throughout the facility, having safety gates of a different color will make sure they're immediately identifiable, even from a distance.

Installing industrial safety gates is a relatively easy way to keep personnel in certain parts of your facility safe – especially from falls – without affecting operations. **WMHS**

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# Key Signage for the Warehouse

By: **Brian McFadden**, Contributor

Many warehouses and distribution centers have changed dramatically over the last few years, and customer activity and buying patterns are continuing to shift. Ecommerce is continuing to soar, driving even higher demand for warehousing space. Expansion and reorganization will be critical for many facilities to keep up. But as facilities change, communicating that change to affected workers can be a challenge. Visual signals like signs, labels and lines offer effective solutions for these needs, especially in three key areas: hazard warnings, location identification and traffic management.



As facilities change, it is imperative to communicate that change to affected workers through signage. Image courtesy of Graphic Products.

## PROVIDE WARNINGS FOR HAZARDS

As long as there are humans in a workplace, keeping those humans safe will be a high priority for effective management. One of the key steps to protect workers is to warn them about situations that could cause harm—that is, posting safety signs.

OSHA has a variety of rules for safety-related signage. Many of these requirements apply to specialized equipment or unusual circumstances, but there are also general rules that apply to nearly all workplaces. These general rules, found in 29 CFR §1910.145, include some basic points that have been developed further in an industry standard called ANSI/NEMA Z535.

The Z535 standard uses a series of boldly colored headers and memorable signal words, typically at the top of a sign,

to help workers quickly recognize what kind of message they're seeing:

- Yellow, with the word "CAUTION," for minor or moderate hazards
- Orange, with the word "WARNING," for more serious hazards
- Red, with the word "DANGER," for the most severe hazards

Where a worker could be hurt by something in your workplace, appropriate protections will often include one of these signs.

## IDENTIFY AISLES AND RACKS

A more general kind of signage can simply involve labeling each rack, shelf or aisleway in a storage area. This may seem like an obvious point, and most working warehouses use some identification system already. But it's worth investigating whether the existing signs or markings are really doing their job.

Can these signs be seen and read easily from a worker's normal approach? Does one sign block another from view? If workers need to back up to find the sign for the aisle they need, will that movement put them in the way of other traffic?

If your workplace has been reorganized recently, some of the existing signs may no longer be accurate or helpful. In many cases, reorganization may be a continuous process, with products, storage areas and work processes being shifted around on a daily basis. Having an on-site label printer will simplify the process of creating new signs or labels when they are needed, and the right choice of signage materials can even simplify these changes. For example, printed labels with dry-erase portions allow for a combination of permanent identification with temporary details, and magnetic signs can simply be moved from one rack to another.

## DIRECT THE FLOW OF TRAFFIC

While major reorganizations deserve careful planning, so do the ordinary movements that take place as part of normal work. Whether that traffic consists of workers on foot, forklifts carrying heavy loads or automated equipment moving through a facility, movement represents a major part of a workplace's productivity—and a major factor in waste and loss.





Smooth traffic flow reduces the time and effort spent on moving materials, improving delivery rates and maximizing throughput. Image courtesy of Graphic Products.

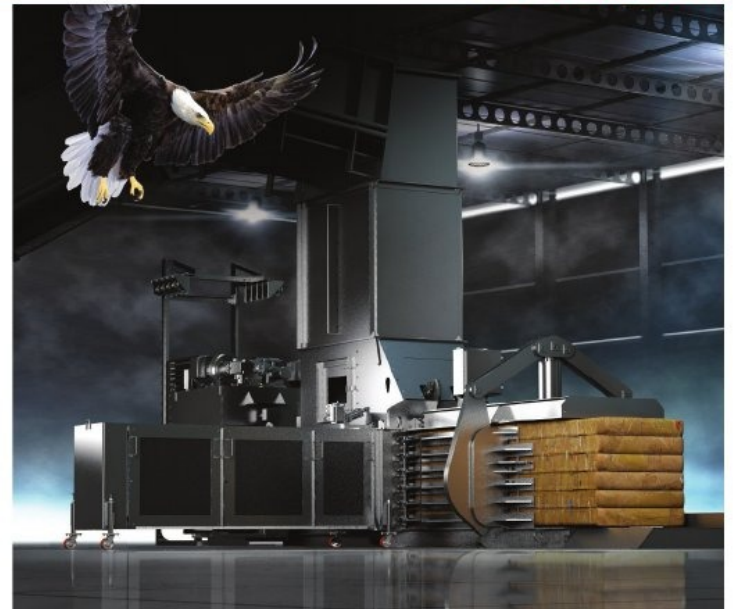
Smooth traffic flow reduces the time and effort spent on moving materials, improving delivery rates and maximizing throughput. Traffic problems, in turn, cause delays. More serious issues can result in collisions, causing damage to products or equipment, and even leading to injuries or death among workers.

According to the National Safety Council, forklift accidents accounted for 79 workplace fatalities and over 8,000 nonfatal injuries involving days away from work in 2019. Forklift safety is consistently among OSHA's top ten frequent citations.

As with other issues in the warehouse, good communication can help solve these problems. Consider where people and forklifts need to go, and how they will get from one place to another. Where paths cross or overlap, what is the best way to ensure safety? Communicate that approach with visual signals. Often, effective markings can imitate the system used for street traffic: yellow lines can separate lanes that go in different directions, while a white line that crosses a path can indicate where to stop.

As you make the decisions that will keep your facility running smoothly, get feedback from the people at ground level. Consider the different perspectives that foot traffic and forklift operators will have, for example, and see if your other workers have insights that you may have missed. In the constant search for competitive advantages, don't overlook your company's best resources. **WMHS**

*Brian McFadden is a Compliance Specialist with Graphic Products, which improves operational efficiencies and breaks down communication barriers by providing tools and resources that transform ideas into clear messages. For information about Graphic Products' safety signs, floor tape, pipe markers and printers visit [www.graphicproducts.com](http://www.graphicproducts.com).*



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## Features and Fit Make the Difference in Safety Eyewear

Protective eyewear must be worn correctly and consistently in order to be effective. Photo courtesy: Wiley X

Personal protective equipment (PPE) is a key item in the hierarchy of controls OSHA spells out for making workplaces as safe as possible. Along with the engineering and administrative controls, PPE is necessary in a variety of hazardous work environments and for specific tasks. It includes everything from hard hats to high visibility vests; garments, gear and pieces of equipment that are designed to protect the wearer from safety hazards. Safety eyewear, like all PPE, can be a substantial budgetary line item in an industrial setting and workplace. In order to make sure that companies are getting the best value for their eye protection expenditures, it's important to keep a few factors in mind. Selecting and using effective eye protection involves both management and the end user. Careful consideration at the front end of the purchase can often be worth far more than the cost of the gear itself.

**“Every day, companies spend hundreds, if not thousands, of dollars on PPE to keep their workers safe. The one item that I believe is most important but is invested in the least is safety eyewear.” - Brady Odom, Wiley X**

### TOP CONSIDERATIONS

- Application
- Associated hazard
- Fit
- Features

Not all eyewear is created equally, of course, and there's a lot to think about before purchasing it for your employees. It begins with identifying the application and the hazards associated with the job. Where will it be used and why? Will your employees need protection in the office, in the

field or on the jobsite? What specific hazards do they need protection against?

### WHICH SAFETY FEATURES DO YOU NEED?

- Certifications/ratings
- Venting/anti-fogging
- Side shields
- Gaskets
- Filters
- Straps
- Hinges
- Composition
- High-wrap
- Prescriptions

The answers to all of these questions about where and why you require protection will inform your decisions



Make sure the eyewear you're purchasing has been built and tested to meet required standards for your industry. Photo courtesy: Wiley X





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about the kind—and the level—of the protection you should purchase. Certain features can make or break the deal in industrial environments. Knowing which ones do what will be an important part of the decision-making process. If a worker is likely to be exposed to airborne particulates, for instance, buying eyewear without an irritant-blocking gasket won't offer as much protection as glasses or goggles with one.

Assurance that the eyewear you're purchasing has been built and tested to meet required standards for your industry is also critical and should be considered a feature to prioritize when choosing your level of protection. For example, in workplaces where being struck by flying fragments, objects, large chips and particles is a possibility, be sure the frames and lenses been tested to withstand the impact of a projectile.

Some activities may require side shields, which provide angular protection from impact hazards in addition to frontal protection. Side shields may be full or semi (flat fold), removable or permanently attached to the temple, tinted or clear. Other activities may require goggles that prevent objects from entering under or around the eyewear by forming a protective seal around the eyes. Still



Where and why you require protection will inform your decisions about the kind—and the level—of the eye protection you should purchase.  
Photo courtesy: Wiley X

other tasks may call for full-face protection. Employers and safety officers should always consult OSHA to help determine which type of safety eyewear is most appropriate for different job positions, and what certifications to look for before purchasing. ANSI Z87.1 stamped on the inside of the temple of the frame, for example, indicates that it's approved for industrial use.

## THE IMPORTANCE OF A GOOD FIT

In addition to function and features, fit is also a priority. If eyewear doesn't fit correctly, it can't do its job correctly. Improper fit can increase risk of exposure, resulting in injury. However, an equally important concern is that the eyewear itself can become a hazard. For example, if ill-fitting glasses cause continual lens fogging, the lenses themselves lead to impaired vision, which can lead to accidents. A comfortable fit is also important in regard to compliance. If protective eyewear isn't worn correctly and consistently, its effectiveness is compromised.

In summary, the more information you have about application, associated hazards and the features that will help to protect against those hazards, the clearer your choices for industrial safety in the workplace will be. Consider your employees' eyes and vision a top priority and choose protective eyewear accordingly. Doing your research and considering options thoroughly before making big decisions or purchases of equipment, will keep your employees safer, healthier and happier. **WMHS**

*Wiley X Eyewear was founded in 1987 by Myles Freeman, a U.S. military veteran who saw first-hand the need for innovative eye protection that could withstand the harshest environments and situations in military and industrial environments but also feature comfort, fit and a great appearance. Wiley X is at the forefront of the eyewear industry, with technologically advanced products that surpass safety standards ([www.WileyX.com](http://www.WileyX.com)).*

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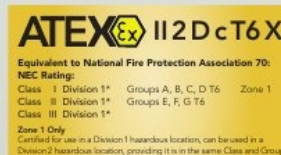
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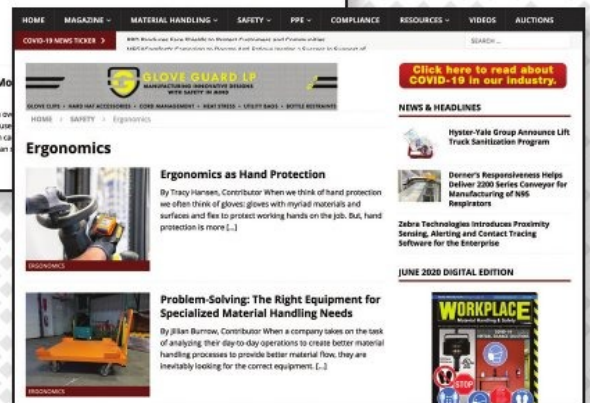
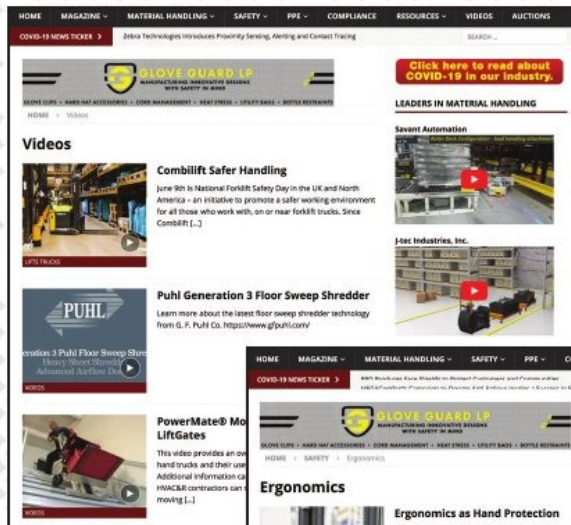
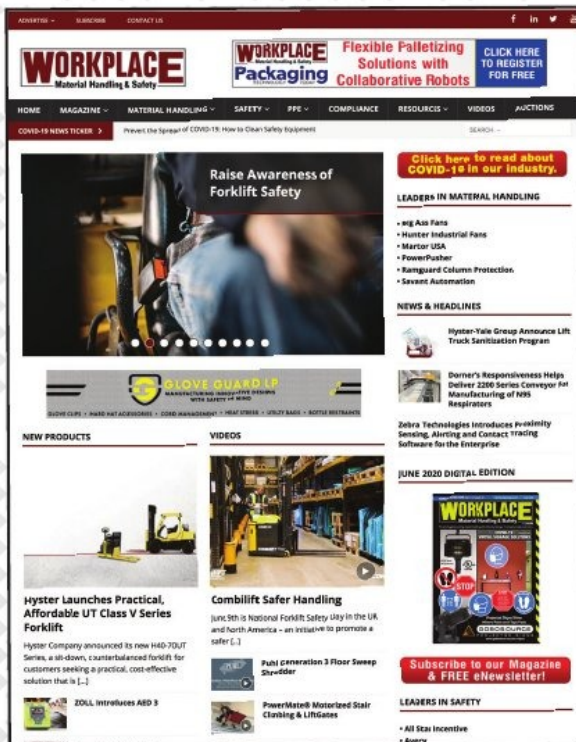
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