

MODERN

MATERIALS HANDLING.



MAKING THE CASE FOR Streamlining Your Dock Operations

How all-in-one digital master control panels take the guesswork out of running a safe, streamlined, efficient warehouse or DC dock.

Using Technology to Create an Efficient, Safe Dock Environment

With e-commerce driving the need for faster fulfillment, shipping, and delivery times, more companies are investing in technology that makes their dock operations run faster, safer, and more efficiently.

IN TODAY'S FAST-PACED FULFILLMENT ENVIRONMENT, balancing speed with efficiency and safety is no easy task. Driven by the uptick in e-commerce, shorter delivery times, changing customer expectations, and national unemployment rates that are currently at 50-year lows, product-oriented companies across all sectors are looking for new ways to streamline their dock operations.

Seeking higher facility throughputs, many of those companies are looking to a warehouse and distribution center (DC) mainstay: the dock door. Both functional and fundamental in nature, this threshold to and from the loading dock is ripe for a technological upgrade. In a world where labor is not only hard to come by, but where many fulfillment operations rely on temporary workers, any new equipment must be easy to use and require little or no training to operate.

"It's about squeezing more productivity out of

the same warehouse footprint," says John

Carroll, Kelley's Vice President of Sales and Marketing, Loading Dock Products. Velocity at the docks is also becoming a key concern for companies operating in the e-commerce universe, where companies like Amazon and Walmart are both raising the bar on same-day and next-day shipping commitments. "Companies need equipment that provides the highest levels of uptime," says Carroll, "while also managing the extra velocity in a very safe manner."

ENHANCING SAFETY, PICKING UP SPEED

With a greater focus being placed on equipment that's easy to use and streamlines the fulfillment process without placing extra constraints on workers, control panels that incorporate advanced functionalities are becoming more popular.

Daryl Day, Kelley's IoT Product Manager, Loading Dock Products, says higher workforce turnover is driving those needs just as e-commerce is on track to exceed \$712 billion by 2022 (up from \$506 billion in 2018), according to Forrester

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Research. "Connecting and sharing data among disparate systems is becoming more and more critical," says Day, "as more companies integrate advanced technology like collaborative robotics into their workforces."

Those easy-to-use systems also have to be able to share data among each other and batch that data in a way that makes it very useable in today's fast-paced e-commerce operations. "Driving e-commerce and automation can be quite difficult with some of the older control panels that are currently in use," Day points out. "In many cases, they require some training for use and the systems themselves aren't very good at collecting and sharing information."

All-in-one control panels that require no training and that digitize the movement of dock doors also help carriers who are feeling the pressure of the tight labor market, fluctuating capacity issues, and changing regulations like the Hours of Service (HoS) rules. With the latter ensuring that no drivers are on the road longer than they should be—and with the electronic logging device (ELD) mandate creating higher levels of accountability in that regard—there is simply no room in the schedule for idle time at the dock.

"Carriers are very interested in getting in and out of facilities quickly, and the more efficient the dock is, the closer they can get to meeting that goal," says Carroll. At the same time, shippers can avoid penalties, demurrage fees, and other fines. "A connected and efficient dock operation helps both the facility and its carriers work smarter," he says.

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To fulfill these changing demands while streamlining their loading dock operations, companies are replacing older control panels with solutions like Kelley's HMI Digital Master Control Panel. In this Making the Case report, we explore the key dock-related issues that warehouses and DCs are dealing with as they adapt to the e-commerce economy and show how companies can use master control panels to streamline their docks, improve safety, and meet today's shrinking delivery time expectations.



Making Loading Docks Safer and More Productive

The Kelley HMI Master Control Panel puts the power into the hands of users, who now operate dock doors in a safer and more efficient manner.

WITH MORE THAN 70% OF CURRENT U.S. BUILDINGS now more than 20 years old, the number of warehouses and distribution centers needing technological upgrades continues to climb.

Construction of new facilities is costly—both in terms of the building itself and the real estate that it sits on—so retrofitting current facilities with state-of-the-art technology is a popular choice for many companies. Done right, the technology not only supports higher throughput levels, it also helps create a safer workplace, streamlines operations, and improves overall efficiency.

In their warehouses and DCs, companies are also using more powered loading dock equipment (versus mechanical); incorporating more vehicle constraint mechanisms; and implementing unified control panels that require no additional training to use. A dockworker who is hired on a temp basis to help with higher seasonal shipment volumes, for example, needs to be able to safely use the dock doors on his first day on the job.

When workers can be brought up to speed on dock door usage quickly, workplace throughput improves exponentially. “The greater the throughput, the more opportunity there is for accidents and incidents,” says John Carroll, Kelley’s Vice President of Sales and Marketing, Loading Dock Products. “This holds true both in the warehouse itself and on the dock—the latter of which is

driving higher demand for vehicle restraints and fall-protection devices.”

The same companies are placing a higher premium on their docks’ “environmental fields,” or the areas of the facility that could be potentially exposed to the outside elements. “Keeping moisture off the docks has always been important, but e-commerce, in particular, has a very low tolerance for moisture and water intrusion,” says Carroll. “That’s been driving the use of more environmental sealing and controlling—both of which tend to enhance safety.”

A SIMPLE TOUCHSCREEN INTERFACE

With Kelley HMI (human machine interface) Digital Master Control Panels, companies get the benefit of using a touchscreen to manage the movement of dock doors. Going beyond the traditional push-button interfaces, these integrated control panels seamlessly integrate operations for dock equipment, putting control conveniently in one highly-visible location and improving productivity on the dock while saving on electrical costs.

Often used to combine operations across multiple pieces of dock equipment, master control panels can

allow workers to perform step-by-step operations. The control panel's HMI feature functions as an interactive touchscreen. Once installed, the panel makes dock equipment functionality completely intuitive because the only information that shows up on the screen is the "next step" that the worker must take to operate the equipment (versus having to key in a specific memorized sequence).

For example, when using a dock leveler, restraint, inflatable dock seal/shelter, and dock door interconnect interlock, the sequence would look like this:

- Restraint must first be engaged
- Next, the seals or shelter must be inflated before the door can be opened
- Once the overhead door is opened, the dock leveler can be operated
- When loading/unloading is complete, the process works in reverse

"It won't let someone operate it out of sequence (i.e., secure the trailer restraint, put the dock leveler in the trailer, open the door, and so forth)," says Carroll, "driving improvements in safety, efficiency, and speed."

All of this takes place without the need for a text interface—a real win in today's diverse workplace, where multilingual workers need no additional training to be able to use the equipment. "Dock workers can be productive much faster," says Carroll, "essentially as soon as they come onboard with the company."

DATA IS THE NEW OIL

Going a step further, the HMI Digital Master Control Panel also captures data that can be used for better decision-making—something that more traditional panels can't do. It also gives users greater control in the form of passwords and dock-operation capabilities. Should a vehicle constraint not engage with the trailer properly, for example, a dock employee can use the panel's password override function to move to the next step in the sequence.

"There's also a third layer of password protection that supervisors can use to access the data that's been collected by the panel," says Carroll. Someone wanting to know just how long a trailer has been restrained at the dock, for example, can use the on-screen timer to get that data.

"That's an important metric for warehouses that want to improve throughput," says Carroll, "and that don't want their supervisors standing around, looking at their watches and trying to figure it out." That timer and the data that it generates go a long way in helping companies avoid demurrage fees, turn trucks around faster, and position themselves as "shippers of choice" in the transportation market.

The system also tracks the number of cycles completed on all equipment, making preventive maintenance easier. For example, the control panel counts the number of times that a vehicle restraint is put into override (i.e., effectively counting the number of trailers that aren't being "captured" properly at the dock). "That's a very valuable metric for operations personnel," Carroll explains, "who can pinpoint a carrier whose trailers aren't compatible with the vehicle restraints being used on the dock."

EASY TO PICK UP AND USE

From the engineering perspective, Daryl Day, Kelley's IoT Product Manager, Loading Dock Products, says the Kelly HMI Digital Master Control Panels can be easily configured for use with different types of dock equipment. Once in place, the panels improve truck turnaround times, speed up delivery times, and enhance customer service levels—all while streamlining dock operations.

When working with one large e-tailer that was dealing with high warehouse staff turnover, for example, Day says Kelley installed its HMI Digital Master Control Panels in order to simplify its dock operations. The panels' ease of use was immediately clear to the e-tailer.

"They couldn't believe how easy they were to pick up and use," says Day. The system also provides safety features not available on conventional panels—like the password protection that kept one truck driver from overriding the solution. "Because he didn't know the password," says Day, "it precluded him from using the equipment."

This is just one of many ways that the HMI Digital Master Control Panel is proving invaluable in today's e-commerce and retail distribution environments. "We've literally had people walk up to the panel not knowing anything about dock equipment, and using the interface within just a few minutes," says Carroll. "That's because it eliminates any confusion over how to operate the equipment. That's pretty powerful."

How All-in-One Master Control Panels Improve Warehouse Operations



AS THE HEAD OF TECHNICAL SERVICE FOR KELLEY'S LOADING DOCK PRODUCTS, Travis Kennan has seen more than his fair share of unsafe, unproductive loading docks. Knowing the pressures that his customers are under on the e-commerce front—and the importance of improving both throughput and safety in their operations—Kennan recently worked with one shipper whose employees were spending a lot of time trying to figure out the proper sequences (or “keys”) for specific tasks.

“Finding the right keys is a big hassle that usually stops dock production, until the user can find the person who has the key,” Kennan explains. “In big operations like this one, it’s not unusual for that person to be 50 docks away, or to be tied up doing something else.”

Ready to streamline its dock activities, the e-tailer installed Kelley HMI Digital Master Control Panels. Because the solution requires a user password, and then walks that user through the right sequence, keys have become a thing of the past. And because the order of operations is always accurate, the potential for dock safety and efficiency is far greater.

“We see a lot of instances where workers just walk up and start randomly pushing buttons until an action happens (e.g., the vehicle restraint moves into place, the dock leveler works, etc.),” says Kennan, “and whether that’s the right action that they wanted, or not. The master controller takes the difficulty out of the process because it’s all icon-based and

completely controls the sequence of operations.”

The benefits didn’t end there. For the high-volume, high employee turnover operation, the intuitive control panels could be operated correctly with minimal training. Whereas a conventional panel may include 20 different buttons and no visual interface, the HMI Digital Master Control Panel’s interface looks like a lot like a consumer mobile phone.

“Everyone has experience using a smartphone, and the icon-based apps that are stored on them,” says Kennan, “so pretty much anyone can pick this up in

just a few minutes.” The e-trailer is now able to customize its lock codes, which comes in handy if an employee who was the “keeper” of the code leaves or retires. “They can change the passcode on the fly,” says Kennan, “and without having to call tech support to handle it.”

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— Travis Kennan, head of technical service
for Kelley’s Loading Dock Products

MAKING THE CASE FOR Streamlining Your Dock Operations

When companies use HMI Digital Master Control Panels
to streamline their dock operations, everyone wins.

FOR THE LOGISTICS OR WAREHOUSE MANAGER:

When a worker can walk up to a dock door and instantly know which buttons to push and when, and without any extra training or support, warehouse and logistics managers definitely win. Operating in a world where employee turnover is high, and where faster throughputs have to be balanced with high levels of safety, the ability to override a control with a simple password is priceless.

Traditional control panels typically only work in a certain sequence, but there may be some “misses” as the user tries to figure out which button to push first. “With the HMI Digital Master Control Panel, we’ve eliminated that text—a feature that speeds up new-user training because it’s very intuitive,” says John Carroll,

Kelley’s Vice President of Sales and Marketing, Loading Dock Products. “It walks them through the steps as they perform the tasks, and because there’s no text to read, there are no language barriers to work through. Dock workers are productive as soon as they come onboard.”

The digital control panels also help to streamline vehicle management and ensure higher levels of safety out on the dock, where unauthorized users can’t override the equipment. Finally, logistics and warehouse managers are responsible for monitoring cycle counts—something that the HMI Digital Master Control Panel does for them.



FOR THE CEO OR COO:

In an environment where companies want to squeeze more productivity out of the same warehouse footprint, both speed to the docks and velocity through the docks are becoming premiums. CEOs and COOs need to know that the equipment their companies are investing in provides the highest uptime while also handling the extra velocity in a safe manner.

“These realities are driving more companies to invest in powered equipment, safety equipment, and unified controls,” says Carroll, “In fact, we’re seeing a higher percentage of these types of investments over the last year versus anything we’ve witnessed in the past.”

Using vehicle restraints and timers that measure truck turnaround time, for example, companies can effectively up their throughput in a safe and reliable manner. These wins not only help keep warehouse and distribution operations running smoothly they also add to the company’s bottom line while contributing to better workplace safety.

“We’ve seen instances where simply adding these digital control panels with timers in facilities and on docks helped companies eliminate almost an entire shift,” says Carroll, “and all because they had some very visible data and metrics to work with for the first time.”

FOR THE CFO:

Focused on making prudent equipment and technology investments that benefit the enterprise, CFOs want to know that automation investments that they’re approving will truly help speed up their supply chains in a safe and profitable manner. Right now, for example, companies are investing in a lot more powered loading dock equipment—as opposed to mechanical.

“Our company actually pioneered the concept of putting all of the equipment at the dock into a single master control panel decades ago,” Carroll explains. “And while controllers and components have evolved and morphed over the years, the overall functionality along with the way users interact with those control panels hasn’t really changed over the last 25+ years. That’s where our new HMI Digital Master Control Panel really takes a generational leap forward.”

This year, Kelley will roll out its 4Sight Connect product, where users will have dashboards that enable “live looks” across multiple docks and/or facilities right from their mobile phones or tablets. So, the manager who oversees 50 docks across a large physical area can open a screen on any dock individually, see the status of all the equipment, and know immediately whether the restraint is engaged, a door is open, or the leveler is deployed.

“Once it’s collected, that data can be transmitted to a cloud software platform (via a Bluetooth mesh network) for further analyzing,” says Carroll, “and to use for generating reports or sharing with others. It gives supervisors and managers a cockpit to go to—and to work from—across their entire operations.”

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It's Time to Make a Change

A S E-COMMERCE CONTINUES TO BOOM and as customer preferences change over time, the need for reliable, automated dock equipment is only going to grow right along with these trends.

Any area of the facility that can be made safer, more productive, and more streamlined through technology is sure to become a focal point for companies looking to improve workflow and throughput. In return for their investments, all stakeholders gain peace of mind knowing that their dock doors are key facilitators in the movement of goods from point A to point B.

“Going forward, all warehouse equipment is going to be automated and connected,” says Daryl Day, Kelley’s IoT Product Manager, Loading Dock Products. As more companies look to integrate IoT and data collection into operations that may not necessarily have been part of that technology “loop,” the results will be substantial.

“Here at Kelley, we have the solution for the loading dock, where the opportunity to improve throughput is substantial right now,” Day continues. “With technology changing the way companies do business and how they interact with their customers, there’s no question that a streamlined dock operation should be a focal point for any shipper.”



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