

ATLANTIC RACK:

Triple-Threat

PROVISO ROBOTICS:

Playing Mind Games

EASYWMS:

Five Easy Pieces

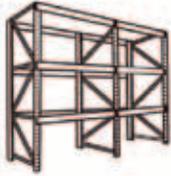
CASE STUDIES:

Blencor

Brightstar

Molinos Río de la Plata





ATLANTIC RACK

WAREHOUSE EQUIPMENT AND SUPPLIES

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Contents

perspective

- 5 Accelerating Through the Recovery
- 7 Five Easy Pieces
- 8 Rising to the Top
- 11 High Efficiency in Low Temperatures
- 14 Lean and Green in Sumter

community

- 17 The Home of Kings
- 20 ALAN: Wired for Relief
- 24 Playing Mind Games

record

- 28 Hayat: Piece by Piece
- 31 Porcelanosa: Out On the Tiles
- 33 Case Study: Blencor
- 38 Case Study: Molinos Río de le Plata
- 40 Atlantic Rack: Triple-Threat
- 46 Case Study: Brightstar

industry

- 50 Seismic Spike
- 56 The Weakest Link
- 59 New Tax Law
- 61 Open Roads
- 62 QRC: The Evolutionary Bar Code
- 64 Painting to Protect
- 67 Cold Hard Cash vs. Greenhouse Gas

world

- 70 World Scope
- 72 Country Spotlight: Brazil

events

- 74 Showroom in Barcelona
- 78 Picking the Successful Brain
- 77 Upcoming Events 2159-0575

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Accelerating Through the Recovery



With this spring's announcement made by the U.S. Department of Labor that unemployment dropped to the lowest level since March 2009 and has since avoided swelling to the terminal numbers of 2010, the anticipation of an economic recovery is finally moving toward a reality. We are now arriving at a point where the job market is on firmer footing, and the slow but steady ascent towards a prosperous and healthy economy is becoming increasingly bolstered.

At Interlake Mecalux we feel that in some way we are not only a reflection of this good news, but also an exception to it.

Amid the looming global financial crisis, we were able to steer clear of the storm by setting our course for newer territories. A rapid international expansion proved to be the best preemptive measure that we could have taken. Tapping into the markets of South America and Eastern Europe has resulted in huge successes, and these outcomes motivate us to set our sights even further. Our challenges are therefore to continue upholding our standards of excellence at a global level. In this sense, Interlake Mecalux has become a champion of resilience and adaptability during hard times.

In the last two years, the number of our associates at Interlake Mecalux has increased by 87 percent. Such an achievement is proof that the increasing demand for our products and services is being met by the tireless efforts of our ever-growing work-

force. Now more than ever, Human Resources plays a critical role in furthering our expansion initiatives by carefully selecting the best possible talent. Incorporating the most unique and progressive individuals is instrumental in being able to anticipate and meet the demands of our clients. With 11 production centers and sales offices in 16 countries—and more on the way—our company's growing family of associates spans the globe one community at a time. Each one of them is a major contributing force to the growth of Interlake Mecalux, securing its success in the coming future.

Job gains are not only a sign that the economy is gathering forward momentum, but also an indication that our vision of broadening our scope as leaders in global logistics is beginning to be realized. Our optimism is grounded in the growth shown by our production and distribution centers in the past year. This translates into our expectations being surpassed: not only in terms of tangible results, but also in terms of our associates' ability to go above and beyond the call of duty.

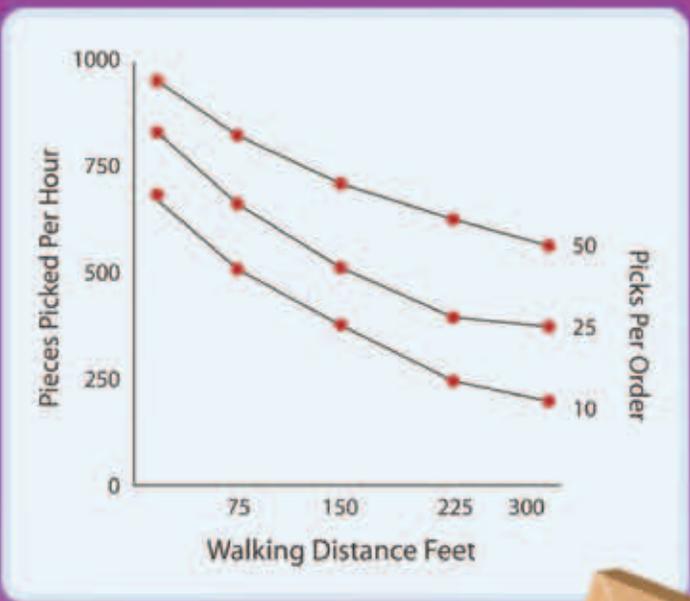
Ultimately, Interlake Mecalux aims to forge its success into a virtuous circle. The rising demand for material handling solutions generates rapid employment growth, which in turn results in our clients continuing to seek us for their business needs. The arrival of the good news about job growth spurs us on in the expansion of our business. Just as we are an integral part of our clients' storage solutions, so is our commitment to investing in the exceptional talent that constantly leads Interlake Mecalux to something better.

Javier Carrillo
President
Interlake Mecalux

Carton Flow

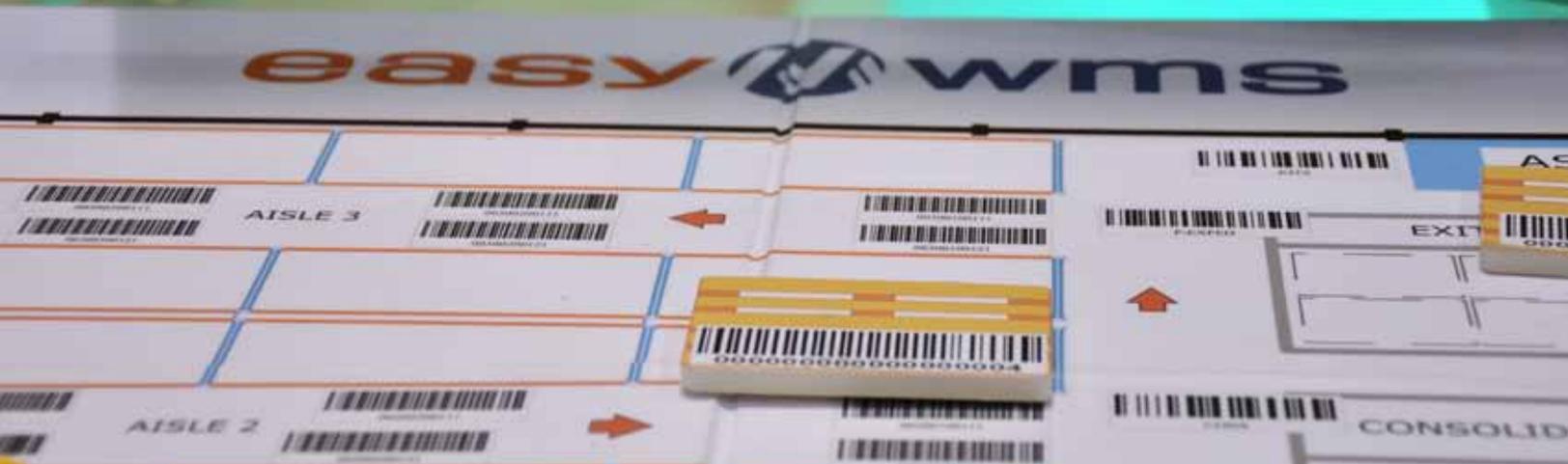
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The Track
To Better Picking





Five Easy Pieces

The Interlake Mecalux WMS software advances from all sides

There are two sides to the economic recovery in the U.S.: the side in which businesses dress their wounds and get out of the red and the side in which those same businesses throw on a helmet and move forward with planned investments. A recent study illuminating how the industry views its own economic recovery, conducted by the Peerless Media Research Group, suggests that more than 80 percent of the industry plan this year to spend amounts either equal to or in excess of last year's spending. Of that majority, the amount businesses plan to invest averaged \$77,000, a drop in the bucket as compared to amounts invested during boom times. Still shy on investing despite being back in black, companies are more focused now on making investments to succeed, but done dirt cheap.

EasyWMS was designed to adapt to these industry needs. To maintain this adaptability, Interlake Mecalux is dedicated to the constant expansion of its software's capability. As an answer to the current industry trends, Interlake Mecalux has developed a five-point approach to meeting its customers' broad spectrum of needs.

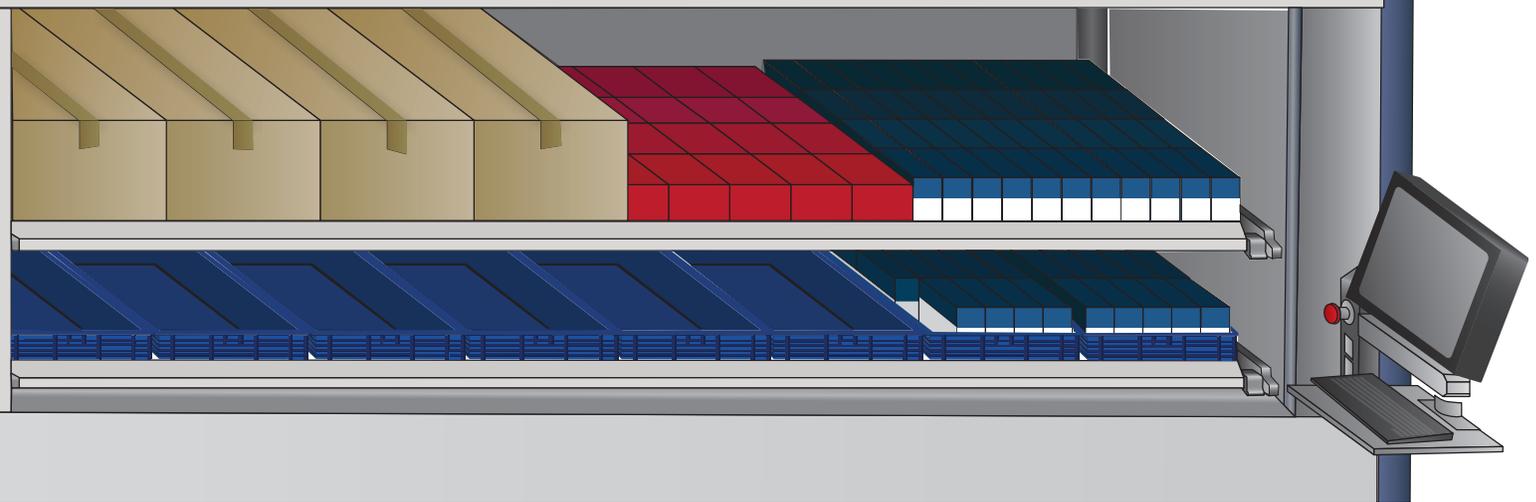
Multi-site functionality. As businesses expand, company management resources also expand to more than one location. EasyWMS has developed the functionality that centralizes each location and its IT resources into one software accessible in multiple warehouses.

Software on-demand. Easy has already begun adapting the Software as a Service (SaaS) delivery model, which would effectively centralize and connect the software data stored from warehouse to warehouse in an Internet cloud. The difference would be the ability to access data from any of your warehouses instead of accessing only the data from the warehouse in which you are standing.

Expanded logistics assistance. In a short time, EasyWMS has leapfrogged other similar software by offering customers a finely tuned customer support program that includes logistic consultancy and online support training for everything under the scope of EasyWMS.

Louder bells, crisper whistles. In addition to evolving the software into the efficient and convenient SaaS delivery model, EasyWMS will soon feature enhanced web reports, partial order releasing, updated picking screens for automated warehouses, ergonomic graphic interfaces in the radio frequency terminals.

Growth match. The Interlake Mecalux software as a multi-sectoral and standard WMS can manage both conventional and complex warehouses. This allows matching, scaled solutions matching customer growth without having to change the software ERP or WMS suppliers. 



Rising to the Top

Interlake Mecalux named as one of two companies manufacturing five types of AS/RS, including its revamped Clasimat VLM

For some, reaching the summit can be equally as perilous as the ascent. Once you're on top complacency may ensue, invalidating the merit of success. For the Mecalux Group, to rest on one's laurels means finding solace in past achievements instead of looking forward to conquering bigger and greater mountains. In the quest to provide advanced material handling solutions to the global community, the Mecalux Group is steadily conquering the mountain of automated storage systems.

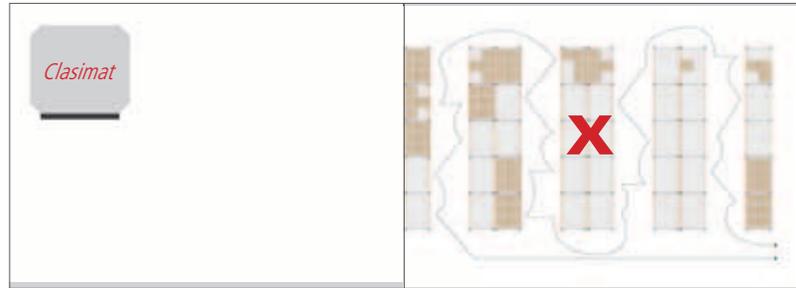
As warehouses continue adopting automation, integrating technology while still providing simplified storage and handling solutions becomes an increasing challenge. With automated storage and retrieval systems (AS/RS) becoming more prevalent in automated warehouses, vertical lift modules (VLM) are incorporated as strategic implements that address specialized storage needs. Although still in its nascent stages of popularity, VLMs are gathering momentum as AS/RS applications that increase throughput, reduce labor costs and optimize warehouse floor space. Needless to say, the growing presence of VLMs has

not gone unnoticed. In its March 2011 issue, Modern Material Handling magazine provided insight into the impact of AS/RS in automated warehouses. Out of the 19 featured companies that currently develop AS/RS applications, Interlake Mecalux stood out as being one of the few to manufacture the five types of AS/RS modules — including VLMs — available in the market. Among the AS/RS modules produced by the Mecalux Group, the Clasimat vertical lift module is climbing to the top as the eminent member of the VLM family.

To comprehend how the Clasimat can become a major asset to any warehouse, a look into what constitutes its internal structure is necessary. The Clasimat is made up of two multi-level sections of racking on opposite sides of a movable lift unit that travels vertically on a middle column. This lift unit acts as a shuttle system that picks and moves trays located on the racks. The shuttle system is operated employing EasyWMS software to locate and retrieve stock items. Using the software, the Clasimat operator locates a desired item from the level on which the tray is located and commands the module to lower it for picking.



The Benefits of Clasimat



Clasimat not only reduces pick times by allowing the user to remain stationary, but it also dramatically increases floor space (illustrated above).

Vertical Relief. The Clasimat takes full advantage of a warehouse's vertical space, freeing up valuable floor area.

Communication at All Levels. As further testament to the versatility EasyWMS demonstrates, the warehouse management software enables the Clasimat to operate on diverse levels of management complexity regardless of software or technological platform. On a basic level, the Clasimat operates independently as a singular warehouse; on a complex level, when several Clasimat units are functioning together, or a Clasimat unit is functioning with other automated warehouses, the EasyWMS integrates them into a network connection with external database servers. By maintaining constant communication with HOST and ERP systems, which house the databases, EasyWMS allows Clasimat units to import and export data more readily.

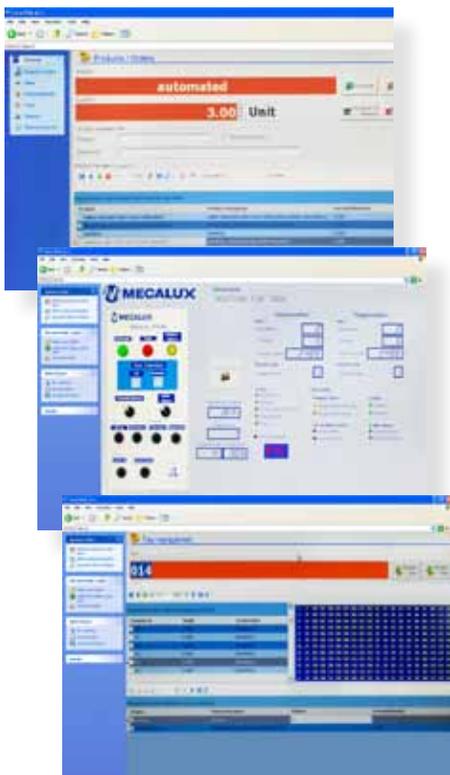
Higher Placement, Lower Cost. By strategically placing a stock item on a higher level, the controlled environment in which it is stored is more self-sustained, minimizing the cost of heating and cooling of the storage environment. Furthermore, since stock items are enclosed in the Clasimat, their risk of damage or tampering is lowered.

EasyWMS + Clasimat = Reduction of personnel footprint. Applying EasyWMS, a user can access order preparations, inventory control, item entrance and exit, and picking assignments at the ergonomic control panel. This, in turn, reduces personnel since all logistics operations can be executed by a single person.

Safety First. As is true for all AS/RS, the level of safety for operating personnel is maximized. Optical security barriers have been installed in the Clasimat to provide a safe distance for machine operators. The Clasimat is also equipped with position sensors, ensuring that the shuttle tray system moves at a reasonable speed during picking operations. Increased security is provided by having operations carried out behind an outer door that opens upon completion. The operator also has access to an emergency stop button.

Clasimat operates independently as a singular warehouse.

“Adopting 'more for less' solutions has become a driving concept for customers in the wake of automated warehouses.”



Upon reaching the picking area, the tray is pushed out to the operator. The sum of the Clasimat's functions provides advantages at all levels:

Adopting “more for less” solutions has become a driving concept for customers in the wake of automated warehouses. The Mecalux Group has adopted a mindset of continuous improvement, built on the foundation that the simplified processes contribute to increased efficiency and productivity. This entails curtailing human production functions in favor of automation with the intent of eliminating redundancy or any detrimental element that would hinder productivity. By relegating human contribution to a supervisory role, intelligent automation focuses on enhancing and aiding human productivity. In this sense, automated applications have been endowed with a “human touch”: the technological capability to optimize tasks and workflow, and recognize abnormal work functions that require human attention. This can be seen in the combination of EasyWMS and Clasimat VLM. The integration of EasyWMS into the Clasimat VLM facilitates

an all-encompassing communication to expedite multi-level warehouse management procedures.

Ultimately, the Mecalux Group not only seeks to excel as the leading manufacturer of AS/RS applications, but to establish itself as a one-stop shop for storage solutions. Understanding the needs of a customer is tantamount to constantly providing tangible solutions by innovate means. The truth of the matter is that the company that doesn't innovate stagnates. The integration of cutting edge technology establishes the Mecalux Group as a centralized service company. By offering a wide array of AS/RS modules supplemented by highly compatible automated management software, in addition to continuing to push its universal line of racking, customers are delivered readily available holistic warehouse solutions. At a time when reducing waste and saving capital is a critical element to maintain a sound business practice, Interlake Mecalux is pleased to help its customers save time looking for storage solutions. 



High Efficiency in Low Temperatures

Safety, speed make automated cold storage a hot commodity



The refrigerated logistics sector is increasingly looking for ways to optimize industrial freezer storage units. The ideal solution for these storage units would be to fully automate them, an expensive short-term option, but one likely to produce high long-term dividends. Designing or maximizing a refrigeration storage space relies heavily on the type of goods being stored, the weight that will go on the shelves, input/output flows and equipment already used in the facility. Once such factors are determined, other factors can be addressed to ensure the full optimization of any refrigerated storage space.

Goods Accessibility. A single-mast AS/RS is an appropriate way to increase the height of your storage capacity and direct access to any pallet, but an easier way to remain agile and maintain easy accessibility with most product rotations is to minimize handling times when loading orders into transport trucks. The ability to move products waiting to be loaded instead of having trucks load in a different location is important to maintaining an efficient turnover rate, which can be of particular importance for frozen goods reliant upon consistent temperatures. Having preloading areas where orders are held and moved according to the period in which they are to be delivered is also important.

To do this, rollers or chain conveyors best facilitate moving goods in or out of the industrial freezer units.

Personnel Reductions. In many cases, cold storage facilities expend equal energy refrigerating and freezing goods as they would heating personnel-filled warehouse space. The difference is that energy used for refrigeration is unconditionally necessary, whereas maintaining workable environments can be avoided or minimized with automation. This way, warehouse personnel are no longer needed to operate within the cold temperature areas.

COLD COMFORT: Fully automated cold storage facilities require fewer employees to brave inclement conditions.

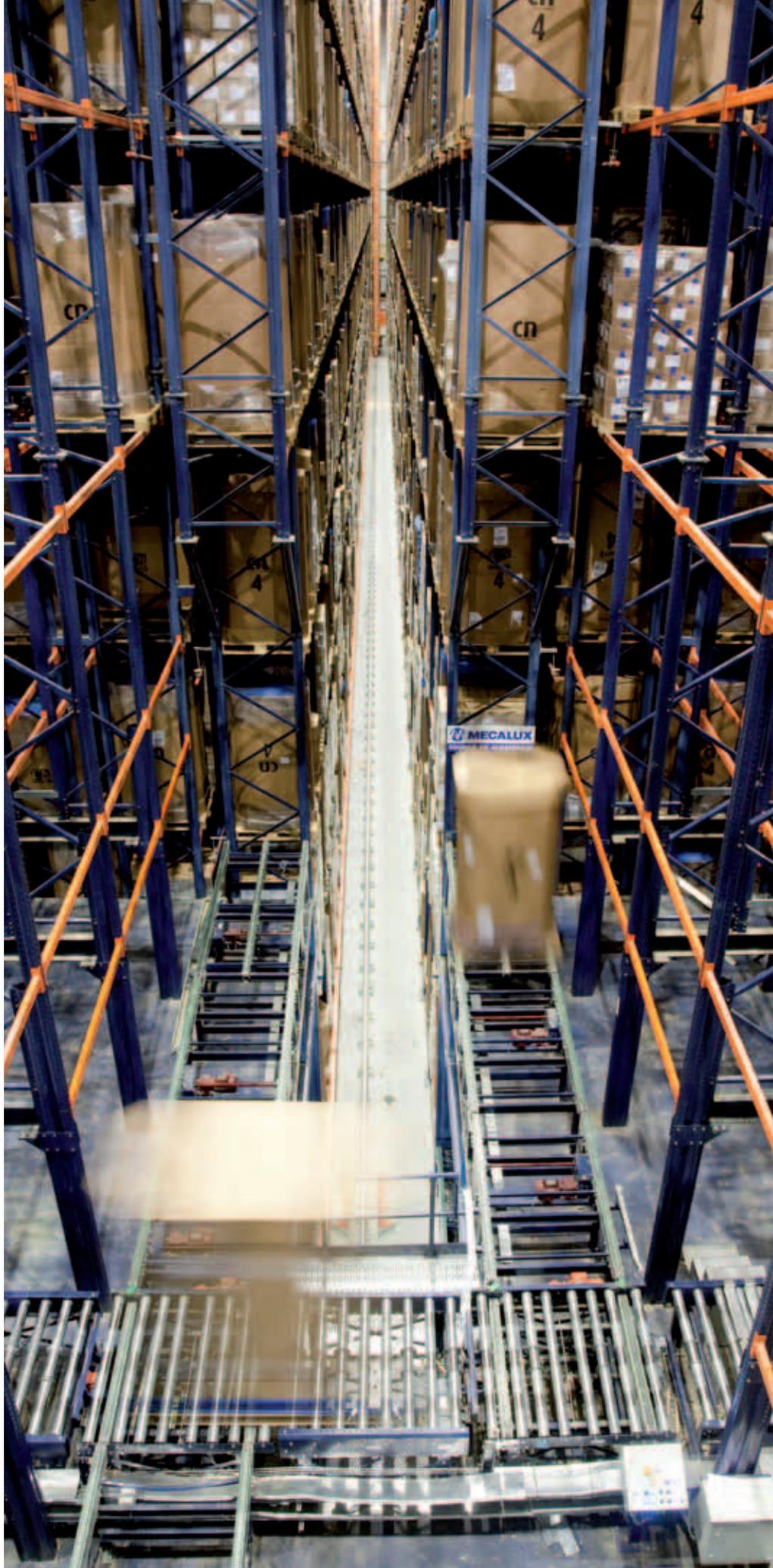
Comfort & Safety. Even if personnel are required inside the warehouse, radio shuttles may relocate freezer pallets to a warmer space that is more inhabitable for employees, while reducing – if not eliminating – the risk of accident and the need for trucks to enter storage aisles.

Personnel operating in a frozen picking environment would benefit greatly from voice synthesizing equipment. Use of voice picking in freezing temperatures increases efficiency by leaving employee's hands free to handle goods while issuing instructions and confirmations of accepted orders and, in some cases, decreasing the time necessary to remain in such an environment.

Additionally, double-mast AS/RS units yield a 60 percent higher capacity than the single-mast, a preferable option in refrigerated storage spaces in which most of the pallets carry identical stock and may be automatically relocated and stored elsewhere if necessary.

Integration. Many frozen warehouses are not used solely as freezer storage, and as such, it is important to maintain flexibility by mingling other systems into more complex warehouse operations. The Mecalux Group's EasyWMS software can not only accommodate this integration, but also adapts to a warehouse system that requires the software to operate independently of other WMS.

With interest in increased cold storage installations growing, the ways in which opportunities present themselves to maximize efficiencies are both vast and varied. Better to be ahead of those opportunities than behind. 



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Lean and Green in Sumter

Interlake Mecalux continues its commitment to environmental excellence in South Carolina

Adopting an ethic of environmental accountability will yield a lasting legacy of sustainability beneficial to future generations. Corporations, normally the slowest sector to embrace the ideals of a habitat stewardship, are finally acknowledging the advantages of bringing about environmental practices that will result in reduced costs and streamlined manufacturing. Nevertheless, measuring the effectiveness of these changes depends on regulatory bodies enforcing environmental laws and recognizing the exceptional compliance among businesses. For over 10 years, the South Carolina Department of Health and Environmental Control has established a program that acknowledges the outstanding ecological contributions that the business sector is making to the state. For the Interlake Mecalux production facility in Sumter, South Carolina, demonstrating environmental excellence and promoting ecological sustainability is part of the company's continuous vision to become a green powerhouse.

Since 1998, the South Carolina Environmental Excellence Program (SCEEP) has been instrumental in impelling local businesses to adopt environmentally conscious measurable efforts and improve production processes. This voluntary program allows companies to proactively commit to improving

green leadership, while also creating a forum for members to exercise corporate mentorship on environmental issues to each other. The SCEEP Advisory Committee is responsible for overseeing how applicants have implemented innovative measures that regulate air and water pollution, material waste, as well as foster sustainable resource management. The company that has demonstrated superior environmental performance is awarded membership into the program for three years. By acknowledging the merits of companies actively pursuing environmental innovation, the state of South Carolina has laid the groundwork for a thriving business collective, of which Interlake Mecalux has been a member for years.

The Sumter facility, having accumulated zero pounds of hazardous waste in 2010 and therefore categorized as a Conditionally Exempt Small Quantity Generator, is one of the major accomplishments Interlake Mecalux has achieved in the last decade. The defining factor was the adoption of powder coat finishing on its rack products, which has resulted in curbing the amount of volatile organic compounds (VOCs) emissions and hazardous solvents. However, the application of powder coating to surfaces can sometimes result in an indirect amount of waste accrued. The biggest hurdle in minimizing material waste has been finding an effective use for the byproduct



PAINT WASTING TIME, NO MORE: Steel beams sprayed along the line in the powder coating process leave a lot of wasted paint in between each beam. The Interlake Mecalux Plant in South Carolina has continually found ways to minimize such waste.

generated by powder coating. In the last year and a half, the facility has reduced waste by applying specific changes to paint formulas and applications, resulting in significantly minimized amounts of solvents, air emissions, and solid and liquid waste.

Presently, the company's environmental concerns have focused on internally implementing specific cleaning and recycling processes without resorting to outside waste management organizations. One major goal being pursued is continuing to reduce water consumption. Since much of it is used to rinse pretreatment washers, the total elimination of rinse tanks for cleaning products is a challenge that will be met in the future. At present, the facility has been using a cleaner-coater agent that allows washed steel pieces to be cleaned and phosphatized before they are painted. The advantages brought about by this cleaner-coater are threefold: it condenses procedure stages, reduces waste levels and cuts operating costs. Since the cleaner-coater both cleans and phosphatizes, it expedites the pretreatment process by combining and eliminating redundant rinse stages. The cleaner-coater produces zero phosphate sludge, so water discharged in the treatment tanks is virtually free of any VOCs. Considering that this chemical agent reduces one of the rinse stages, it eliminates water usage considerably. A further advantage is that it functions at an

ambient temperature. Previously, the treatment tanks needed to be heated to temperatures close to 140 degrees Fahrenheit, so the phosphate coating would adhere to the steel pieces. By switching to an ambient cleaner-coater, the energy costs have been greatly reduced. Currently, a new cleaner for pretreatment washers is in its initial stages of development, which would at first eliminate one rinse stage on two production lines, though ultimately the goal is to eliminate water usage altogether. This would also further minimize the energy consumption used to power water pump motors.

The relevance of the SCEEP affiliation is not only a recognition of the company's merits, but also an opportunity to understand how Interlake Mecalux is able to optimize its environmental needs and those of the communities it serves. The Sumter facility has acquired a wealth of knowledge through its efforts, and plays a valuable role in the mentorship of fellow member companies in their quest to reduce, recycle and conserve. For the company, distinctions of this kind not only lend credence to the company's superior environmental performance, but also serve as an incentive to continue preventing pollution and putting into action responsible waste management. At the end of the day, Interlake Mecalux can add another notch to its belt of excellence for being an exemplary champion for the environment. 

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FROM LEFT: Ronald Serpico; Susan Elizabeth, CFO of Interlake Mecalux Americas; Javier Carrillo; Richard Battaglia, A.D. of Melrose Park Economic Development.

The Home of Kings

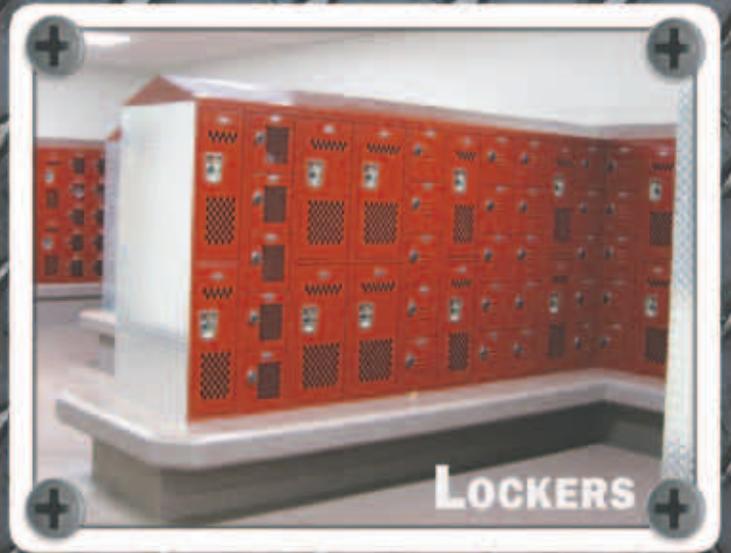
Melrose Park mayor visits Interlake Mecalux home office

Upon entering the Illinois Village of Melrose Park, visitors are greeted with a welcoming epithet that proudly states the Chicago suburb as “Corporate King of the Suburbs.” Among the businesses that call Melrose Park home is Interlake Mecalux, and in April, the company was honored with a visit from Mayor Ronald M. Serpico.

The meeting between Serpico and Interlake Mecalux President Javier Carrillo was an opportunity for the company to reiterate its continued commitment to the community

and its members. With the involvement of Interlake Mecalux in activities that are beneficial to the community, Melrose Park has a strong ally in serving the needs of its people. Laying down the groundwork for a fruitful cooperation is fundamental in ensuring that Melrose Park and Interlake Mecalux advance together toward a future rife with possibilities. As the company further grows and deepens its roots as a local enterprise, it also becomes an integral component of Melrose Park’s future success as a thriving community. [M](#)

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Interlake Mecalux team members pack relief kits to be dispersed in disaster areas around the U.S.

ALAN: Wired for Relief

National non-profit weaponizes supply chain pros against disaster

Kathy Fulton, the director of operations for the American Logistics Aid Network (ALAN), a not-for-profit organization that plays matchmaker between supply chain professionals and relief agencies in times of emergency, looks exhausted. She should. She's been working harder than almost anyone else involved in this year's ProMat. By the afternoon of the expo's third day, most showcase booths have little more in them than bored customer service reps reciting the same spiel they perfected over



“ Everybody can do something with disaster relief. ”

the previous two days. Fulton, by contrast, never finds the time for boredom as she and her staff busy themselves by putting ProMat attendees to work packing relief kits to be shipped to areas of need.

“The packing project is a little off the radar for us,” Fulton said in a conversation several weeks after the tradeshow. “[ProMat] is not specifically aimed at disaster relief and so it was really all about education. Everybody can do something with disaster relief. The better prepared we are to respond and coordinate disaster relief in a community, the better that community will be at getting the economic engine humming again.” Six years before Interlake Mecalux volunteers packed boxes for ALAN, Jock Menzies, a member of the Concept Supply Chain Management Professionals and Red

Cross volunteer at the time, traveled to an eviscerated post-Katrina New Orleans to present a case that validated the need for the involvement of the supply chain industry in relief efforts there. Enough people were in attendance during his presentation and his case was compelling enough that it formed a groundswell of support that soon developed organically into what ALAN is today.

Though the network is growing, plenty members of the supply chain industry still couldn't tell you what exactly the American Logistics Aid Network is today. Menzies, now the president of ALAN, separates his organization from relief agencies such as Habitat for Humanity or the Salvation Army, pointing out that his organization assists those groups by

finding solutions to problems that arise in the relief process. “If you're the Red Cross, you know what you have in your emergency toolkit,” Menzies said. “It's after those groups get on the ground that they find a need beyond what they've got on the shelf. That's when we try to reach out to the [logistics] community.” Essentially, when a disaster strikes, coordinators at ALAN project, what relief efforts will be necessary and relay the information to designated point men and women within the network. From there, ALAN waits – an excruciating wait at times – until the relief groups like the Red Cross can get on the ground and articulate what it is they actually need.

But ALAN isn't just an organization that looks for ladders and bandages



when the Red Cross is too swamped to do it themselves. It is one of the few organizations always preparing for disaster by wiring existing networks and tapping into groups or regions in which ALAN doesn't have a strong presence. Businesses have day-to-day operations that make it impossible to know how to engage a relief effort should one be necessary. The challenge, according to Fulton, is that relief agencies and governments have a hard time assimilating volunteers quickly. ALAN's goal in sustaining its viability is to network with businesses all over the nation (and by extension, the globe) so that if disaster strikes, ALAN has a big enough posse that assistance can be enacted immediately. Think of a volunteer firefighter brigade that stretches across all 50 states and has the capability to mobilize to assist governmental agencies intelligently and efficiently.

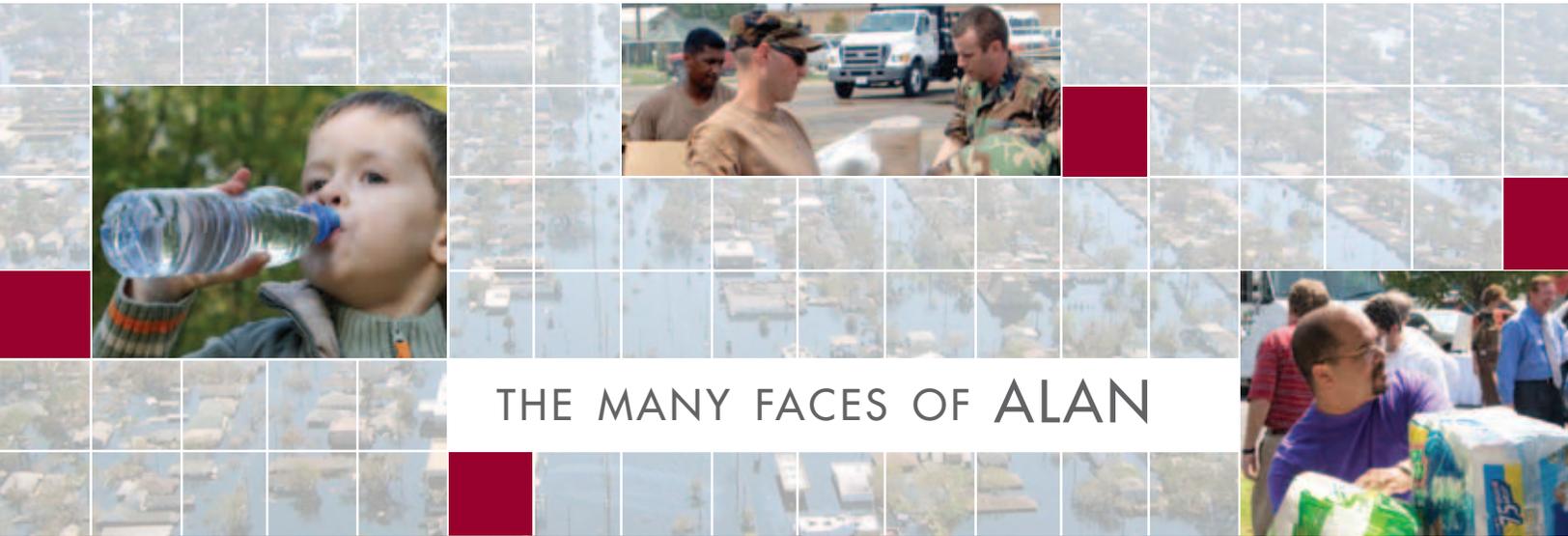
Back on the ProMat floor, Menzies and Fulton shake hands with Interlake Mecalux employees as they each write a brief message to the recipients of the relief

rations that are included in the packed kits. This was supposed to be ALAN's offseason. It's too early for hurricanes or floods; tornados aren't scheduled for another couple months, but with the three-headed devastation in Japan, the season began early. The organization fell in the lap of Interlake Mecalux at Chicago's ProMat and made a connection because of it. Certainly, it wasn't the first such connection. ALAN has expanded its network wide enough to include companies that either work globally or are international themselves. Indeed, the network is more equipped than ever to handle whatever and wherever disaster strikes next.

"People choose to engage with whatever outfit is in their backyard or in the market they sell to," Menzies said about ALAN's philosophy on the best way to expand the organization's reach. "Our model is to engage with other business groups instead of trying to colonize the world." 

LOST IN THE FLOOD: When disasters erupt, like those resulting in New Orleans in the wake of Hurricane Katrina, ALAN's main function is to coordinate ways in which backup relief materials will be sent to on-site relief organizations.

“The better prepared we are to respond and coordinate disaster relief in a community, the better that community will be at getting the economic engine humming again.”



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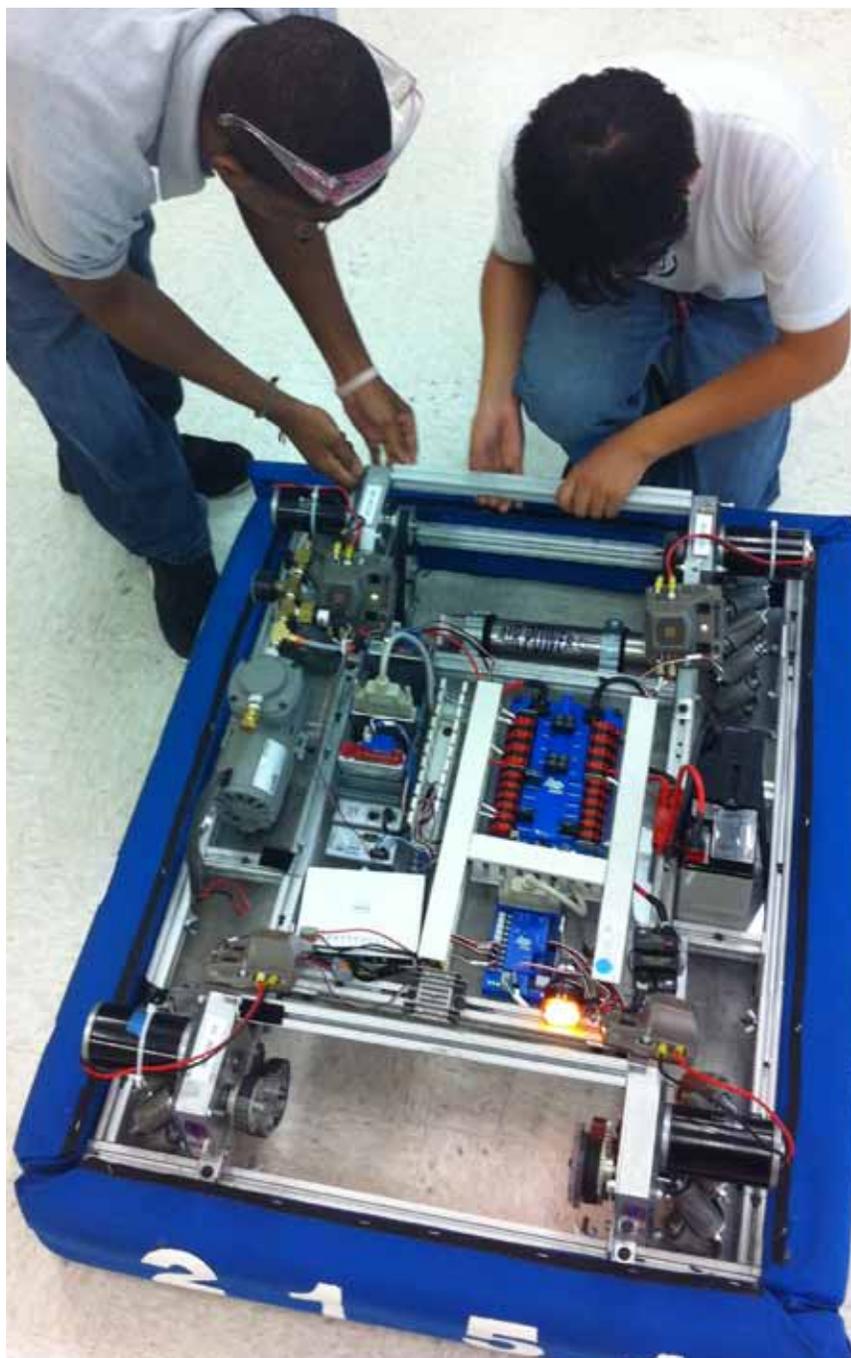
Our website provides a convenient portal to facilitate donations. Whether you can provide logistics expertise, supplies, vehicles to haul them, or local warehouse space to store them, we can match your resources with regional needs.

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Proviso Robotics: Playing Mind Games

Fewer of the world's robotics engineers are being developed in U.S. schools, but platoons of teens are staying after class to change all that

Sophomore Blake Comenduley slumps in his chair, mumbling while he fidgets with a video game controller. He's preoccupied; momentarily self-absorbed. In any other situation, nothing about this scene would be noteworthy; just your average American teen doing what average American teens do. But here, on the fifth floor of Proviso Math & Science Academy in a Western suburb of Chicago, Comenduley is anything but average. He's the build captain of the school's 23-student robotics team and the controller he's holding has been programmed to manipulate the 120-pound machine constructed for this year's biggest U.S. teen robotics competition.

Class finals are next week with summer vacation not far behind, and a handful of students and volunteers are packing up the Proviso lab space they've been using most of the year. The robotics competition that kicked off in January is over. The Proviso Pythons, who fell just short of their goal to finish in the state's top 20, has little left to do but jam gears back into boxes and wires into their rightful totes. Most of these students from low to middle class neighborhoods are still too young to apply to colleges, but are nevertheless settled on where they will be attending. MIT, U of I, Worcester College of Technology, and Purdue are rattled off in quick succession by the students. This is clearly not the first time they've thought about it. The other two district high schools only graduate about 75 percent of its seniors, Proviso MSA graduates an astounding 99 percent and lends much credibility to volunteer coordinator Jocelyn Gough's emphasis that, "We're a robotics team, but we do a lot more than build robots."

Every year for the last two decades, upwards of 250,000 students retreat to their separate parts of the nation to spend six weeks designing, programming, building and preparing robots to do battle against other student groups, determining which gang of young engineers built the best bot. The New Hampshire-based host program, FIRST (For Inspiration and Recognition of Science and Technology), has become known as the “Olympics of the Mind” among its contestants. The competition for which they annually gather around the country is called the FIRST Robotics Competition (or the rare acronym-within-an-acronym FRC). The FRC is the last of four stages developed by the charitable organization. Students as young as eight may enroll in more rudimentary robotic design courses that demonstrate mechanics through the use of Legos. As many of the team members are quick to point out, kids who have taken the previous courses are more likely to earn acceptance into this high school club. In turn, students competing in the FRC are more likely to gain acceptance into the college of their choice.

The FRC game rules change from year to year and are revealed to each team simultaneously. This year’s games required teams to design a mobile robot able to pick up objects at varying heights. After six weeks of design and construction and several more weeks of waiting to contend, regional teams gathered in Thunderdome-like atmospheres all over the country to compete in time trials against other robots. Similar to Olympic trials, depending upon the team’s success at the regionals, they go on to compete nationally.

Of the nearly 6,000 students populating the three high schools in Proviso’s

district, the Academy of Math & Sciences has only 800 of them, all of whom had to qualify for the school’s selective admissions program. There are only 30 spots available on the robotics team for those 800 students. In this district, that means only 1-in-200 students will compete in the FIRST program. The optimistic outlook is that such scarce availability will drive the competitive desire among students to make the team. A more pessimistic view is that there aren’t enough teens interested in joining to propel the demand past the same 30 participants. American engineering has taken a power dive in the span of a generation. Math and science scores among U.S. teens have dipped from top 5 to outside the top 15. In a recent CNN interview, U.S. Secretary of Education Arne Duncan said, “We’ve basically had a 19th Century model of education that is not preparing enough young people to be successful in the 21st Century global economy. At a time of high unemployment rates, we actually have 2 million unfilled, high-wage, high-skilled jobs because the U.S. hasn’t produced.”

One wouldn’t know any of this watching the Proviso Pythons explain the details of the robot they named Monty 5. They treat Monty like the family dog; proud of the tricks it can do in front of guests, embarrassed when it malfunctions and makes a mess on the floor. The school’s previous four years yielded Montys 1 through 4, all of which are now splayed lifelessly in the corner of the lab like organ donors, gutted and non-functional from teams of yesteryear having to use its parts for newer robots. This is a by-product of a high-cost program in a low-budget district and such cost-cutting is happening throughout the States, even forcing administrators that would like FIRST in their schools to go without the



'TIS BUT A SCRATCH: The picking arm of the Python's Monty 5 sits detached from its body after the complete robot would not fit inside any vehicles owned by team members.

OPPOSITE: Two members of the PMSA Pythons prepare the bottom portion of the Monty 5 for a demonstration.



Many of the robots functioning parts were taken from the team's four previous entries in the FIRST competition.

programs. Unable to afford every last part it needed to create Monty 5, the team literally had to dismantle its past in order to sustain its future.

Gougisha, who began volunteering with the program when her daughter joined in 2007, understands the school's limitations and focuses heavily on decreasing them while maintaining perspective. "FIRST has been around for 20 years," she says. "Other schools have been building robots for 20 years. We've been around for five. Obviously there are schools with significantly more experience than Proviso." It also doesn't help that 10 seniors graduated last year and left a gaping hole in team leadership. Indeed, none of the four team captains are seniors. With the Pythons' built-in leadership off to college, the necessity for outside mentorship is even more dire than usual. This year, in addition to Proviso's volunteers and teacher sponsors (a calculus teacher and a physics professor), the team has benefited from mentors with backgrounds in

electrical engineering, automation and programming. Those volunteers that have given their time usually do so during the six-week construction process to oversee and educate the students on the finer points of robotic construction in which they need help. More mentors are needed. In fact, this is the thrust that compelled Interlake Mecalux to get involved. "We have a core group of parents," Gougisha says, adding with a hint of foreboding, "but there are never enough. The main groups of mentors now don't even have kids that go to the school." It's both a testimony to the quality of the program that those who get involved stay involved, as much as it is an indictment of the dangers not finding more volunteers may present. Funding is scarce at Proviso and the contest requires considerable amounts of money to compete. The team has been involved in some marketing aimed at landing sponsorships, a process Gougisha called successful, but not without room for improvement. To date, the Pythons have wrangled partnerships

“Every year upwards of 250,000 students spend six weeks designing, programming, building and preparing robots to do battle against other student groups.”

including a nearby community college, the American Society of Mechanical Engineers, BorgWarner, JCPenny and NASA, all sponsorships of which were procured through presentations given by the students to the board members of each of these companies. In NASA's case, it developed an initiative to sponsor teams in just their first or second year of competition. In some hardship cases, such as Proviso's, NASA extended the sponsorship into a third year.

Ultimately, the program isn't about sponsors or mentors, teachers or school districts; it comes back to the teenagers working together in a lab five months out of the year, and their growth from putting that kind of time into an extracurricular activity. When team captain Eddie Hudson IV first entered the program he knew nothing about robotics. "I didn't even know how to take apart a bike chain," Hudson says today, acknowledging the encouragement he's received from mentors and from the FIRST programs. "I was always interested in building things.

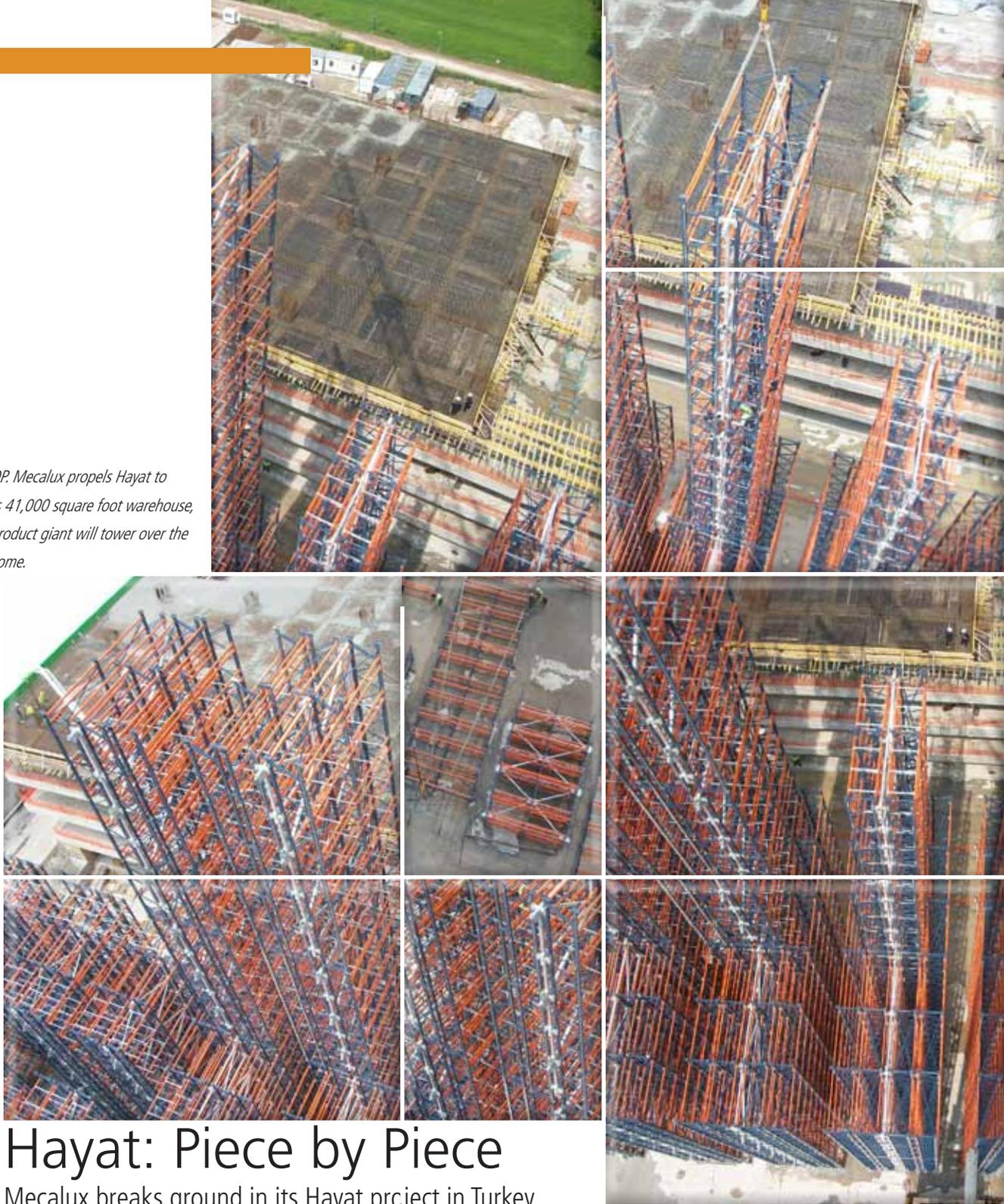
Like, I would always take apart mechanical pencils and see what I could do with them. I've always liked how a robot can do so much and think on its own. When I was in sixth grade, [the Proviso Academy] opened and I found it had a robotics team, getting into this school became my goal." Hudson could have been speaking for any of the students on the team, and as team captain, he often does.

The students stand over the detached picking arm of Monty 5, relaying their already long and involved history with the elements of robotics. "I've always been fascinated by electricity - I've been zapped a few times," Comenduley says. He's the youngest of the captains, but significantly taller, more vocal and without the normal teenage self-consciousness flickering in the other members of the team. "I've been hit with the full voltage of my house," he continues. This causes a pregnant pause from the rest of the group. It appears they are all embarrassed by their lead builder's dangerous fascination until Brent Williams, the team's thin, deep-

voiced design captain chimes in. "Yeah, same," he says. "I've stuck a penny in a light socket at my house." Everyone cracks up, nodding in agreement. It is entirely possible that this room is filled with kids who have all been zapped by the electric currents flowing through their homes.

For a month between March and April, in warehouses all across the country, odd little robots sat packed in crates like stowaways. In those crates sat a thousand examples of the nation's fragile promise; sweat, creativity and intelligence wired and plugged into a single symbol. It's early yet for this group, but already their innovative minds appear hell bent on yanking the nation back into one that creates. But before this generation can see through on that desire, someone must first show them where to start. Because whether it's electrified pennies or robot competitors, if it keeps these bright kids glowing, it must be worth it. 

A VIEW FROM THE TOP. Mecalux propels Hayat to new heights. With this 41,000 square foot warehouse, the Turkish cleaning product giant will tower over the industry for years to come.

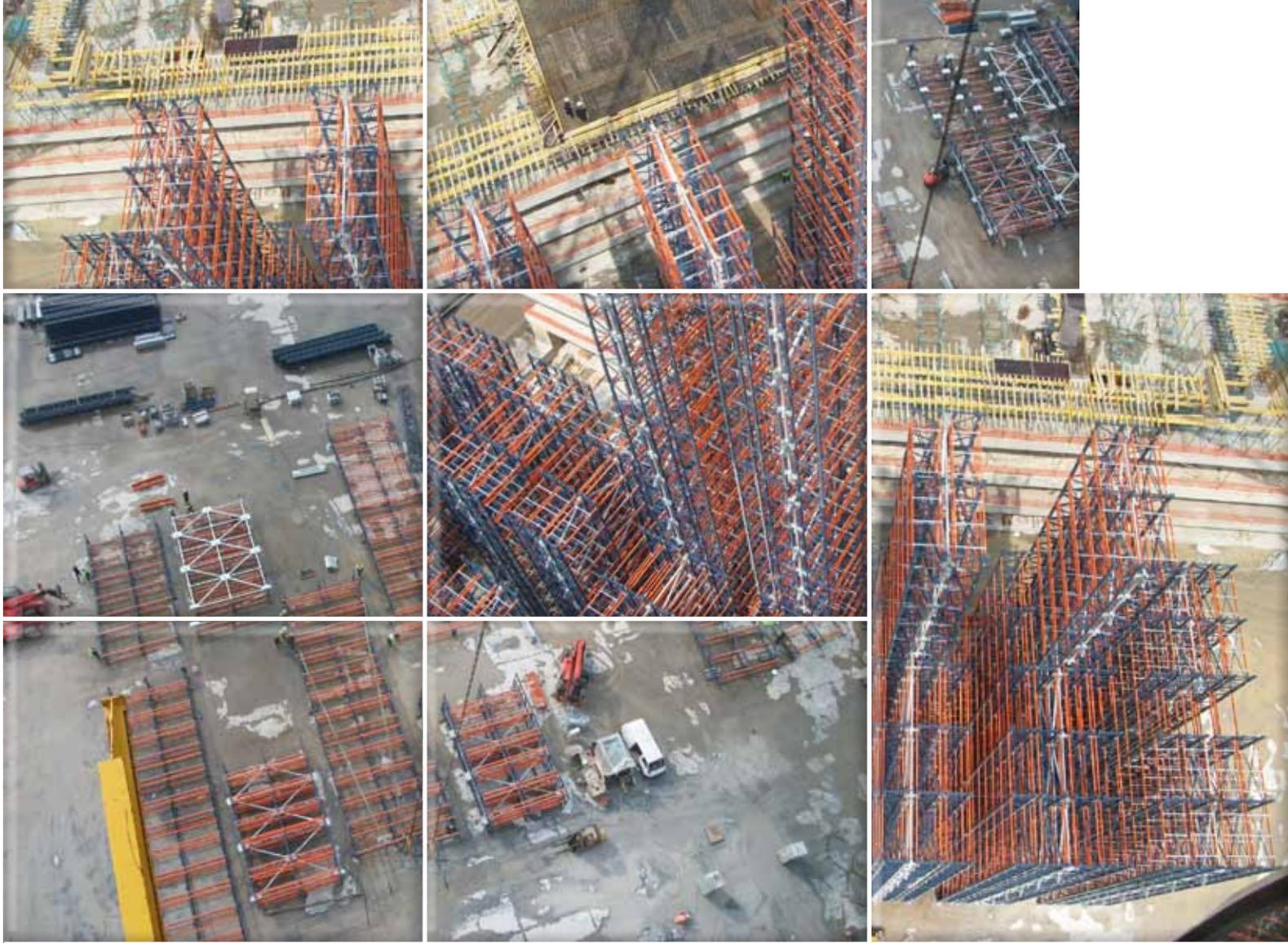


Hayat: Piece by Piece

Mecalux breaks ground in its Hayat project in Turkey

The inception of any colossal venture is just as vital as its consummation. Commencing the construction of the 41,000 square foot logistics warehouse for the Turkish cleaning and household products giant,

Hayat Kimya Sanayi AS, is a major landmark in Mecalux history. The massive undertaking exemplifies the company's dedication to providing large-scale intralogistics solutions. In February, Mecalux crews launched their year-long endeavor in Izmit, Turkey.



The assembly crew has divided the 15-aisle warehouse into three equal sections. Each section's crew has been equipped with its own crane (two cranes 164 feet high and another one 197 feet) to lift the racks over the 147-foot-high warehouse roof and install them from above. During February and March, 10 aisles were laid out, and the remaining five were laid out in May.

The assembly of the rack systems began mid-February and the first products were delivered a month later. The construction of the racks has been divided into three phases: first, the frame assembly, followed by the rack unit assembly; and finally raising the rack unit into place. Parallel to this rack unit assembly are the initial phases of the MT vertical crane installations. In March, the initial construction phase of the 139-

foot MT stacker cranes set up a single mast with a bi-pallet load handling device. The first columns arrived in late April, and by June the first MT cranes were mounted. The stacker cranes have been equipped with a double depth fork capable of holding 1,500 pounds. In order to reduce energy consumption, the cranes are equipped with regenerative brake mechanisms, which convert the kinetic energy expended when the crane slows down or a load is being lowered, and distribute it for other crane operations. This energy recovery mechanism results in an energy reduction of 18 percent.

One of the biggest challenges that the construction crew has encountered has been the seismic retrofitting of the warehouse structure and interior rack installations in compliance with strict Turkish

construction regulations. Given the area's recurring seismic activity, Mecalux engineers have installed secondary support structures onto the existing vertical cross-bracing in between the rack frames to enhance the building's seismic performance. The vertical bracing not only provides further support to the rack framework, but also aids the steel structure in adequately dispersing the wave energy produced by ground motion onto the building without damaging its structure.

As the construction project continues to gather momentum, the number of crew members has increased from 45 to 120. In the spirit of collaboration, local and international workers have joined forces to help Mecalux pave the way for the Hayat Group to become a steadfast global leader. 

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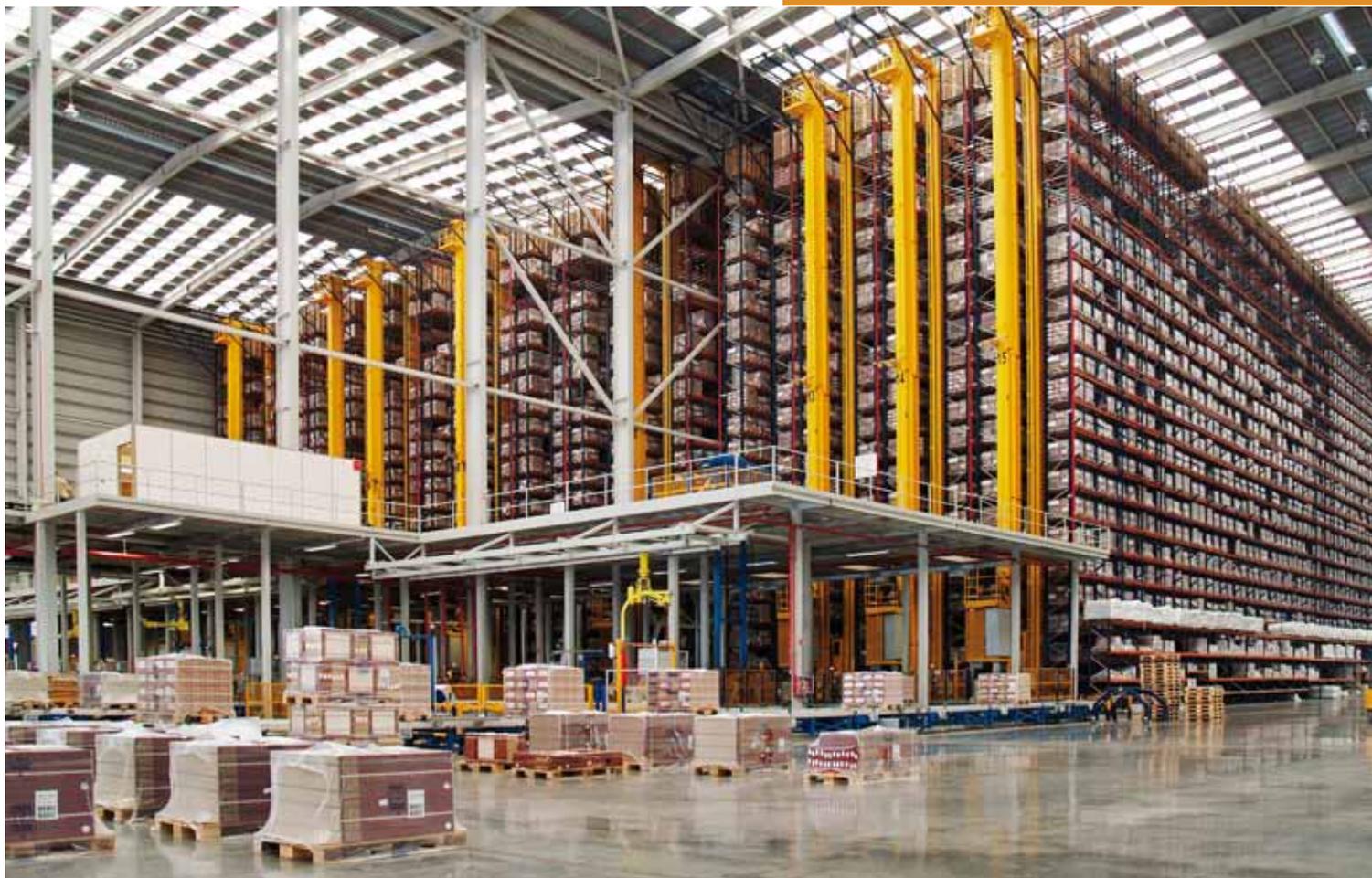
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Porcelanosa: Out on the Tiles

Mecalux expands high and wide with Spanish ceramic giant to create one of the world's largest automated warehouses

Mecalux, is building an addition to the Porcelanosa Group logistic center in Villarreal, Castellon. With 35 years of experience and close to 5,000 people in almost 100 countries, Porcelanosa is a leader in kitchen, bath and architectural products. The new installations will provide Venis, one of the Group's eight companies, with one of the largest automatic warehouses in the world with a total storage capacity of 275,000 automatic pallets, the new construction will pair on 10 automatic bilateral stacker cranes with

20 shelving units, each 525 feet long. The 35,000 square foot warehouse extension was constructed 105 feet high and 913 feet long, roughly the size of a 10-story building, and has a storage capacity for 65,300 pallets.

The Venis warehouse is connected to the already existing Porcelanosa Group factory through a 2,625-foot-long underground tunnel. The pallets, prepared in the factory and weighing up to 3,500 pounds each, will be lowered by a freight elevator and placed on a conveyor belt that moves them to the end of the tunnel. From there,



The Venis Facility, already one of the largest automated warehouses in the world, will add another 35,000 square feet of space. An additional 65,300 pallet storage capacity will be added to the pre-existing 210,000 pallet capacity.

automatic lines take the merchandise to the front of the warehouse.

According to Mecalux Vice President Javier Carrillo, "We will build an automatic warehouse capable of moving merchandise quickly, both in intake and output. We estimate that our storage system will be able to move 474 pallets per hour."

To achieve a fast and efficient job, eight picking stations will be installed with pneumatic manipulators that, thanks to their effectors, allow the operator to retrieve the chosen merchandise easily. The rack has also been designed to allow great speed during intake and exit operation of the pallets.

Ten powerful bilateral stacker cranes that move at great speed through 6-foot-wide aisles and that will elevate the pallets at a speed of 160 feet per minute. Each stacker crane will have an independent freight elevator, which will allow for maintenance work as well as the ability to operate the crane manually.

Venis is a company characterized by its technological innovation and for being a pioneer in the introduction of new products. Its manufacturing activity is centered on the production of flooring and ceramic tile in a wide variety of formats, types and finishes. The new warehouse will allow enough space for a future addition that will enable them to install five more stacker cranes. 

“We estimate that our storage system will be able to move 474 pallets per hour.”

TOP: Automated conveyor of blended product, divided into serving sizes. BOTTOM: Vacuum pickers used to palletize packages product before being moved to freezer storage.



CASE STUDY: *Blencor*

Texas packaging company borrows from European design.

When frozen food packager Blencor broke ground on its new cold storage facility in 2010, its Spanish and Peruvian owners looked outside the Southern Texas borderlines for its aesthetic inspiration. Turning to a European installation design, it turns out, isn't easy.

With an output upwards of 70 million pounds per year in its first phase, Blencor blends and packages different frozen

ingredients like broccoli, peas and carrots with flavorings and oils to create frozen culinary dishes on an industrial scale. In the process, the company parlayed the growing popularity of skillet meals and other similar steamable pouch dinners into a value-added vegetable boom, an impressive feat given the company's relative short tenure in the U.S.

Found just west of Houston in Sealy, Texas, the Blencor facility became fully operational last May after an intensive three-year period designing and constructing it. In

that time, everything from people flow to the logistics was planned and built. The company modeled its new warehouse from a distinctly Euro set of constructs, but replicating a structure built under a European set of building codes in a country with its own set of building codes proved immediately challenging. "Food regulations in Europe are different than in the United States," said Blencor's Executive V.P. of Operations Shane Sampels. "Another important change was the material handling. A pallet in Europe is a different size than in the



United States, so we had to make some adjustments into our racking system to handle the pallets.”

Drive-In Rack - which, along with Selective Rack, was the major installation component on this project - works best with a sturdy pallet. U.S. pallets are of a different structure and durability; the European pallets are usually built with stronger bases to prevent them from deflecting and breaking. Additionally, Blencor wanted the rack to withstand the weight of double-stacked pallets, which necessitated the unique challenge of welding a new channel into a standard frame arm.

In order to maintain the authenticity of the European warehouses, each pallet rack had to be specially engineered to conform to a pallet type unc customary to the United States, a seemingly small detail that may have cost other companies both time and money had the problem gone undetected too long. Miguel Lopez, the Interlake Mecalux project manager, identified a potentially problematic redesign early in the process. Lopez noted the difference in size between European and U.S. pallets and consulted with Blencor’s engineers about the deviation. It was necessary to account for the difference in weight the rack would need to withstand. “I took some pictures,” Lopez said, “sent them to [Blencor] and they realized that some things they were doing in Europe they were not going to be able to do here.” Sampels echoed this sentiment remarking how quickly the two companies were able to identify issues, adjust and move forward. “Even during the installation, we found some engineering changes on our side. Interlake Mecalux accommodated us.”

TECHNICAL DETAILS

Pallet dimensions:
40" x 48"

Load dimensions:
40" x 48"

Total height (load + pallet):
96" (2 pallet of 48")

Total weight including pallet:
3,500lbs. Maximum
(2 double stack pallets,
each pallet 1,750lbs.)

Clearance between frames: 54"

Clearance between guide rail: 47 ¼"

Clearance between loading arms:
34 ¾"

Year installed: 2010



OPPOSITE: Blencor uses special lift trucks capable of reaching advanced heights and handling double-pallet weight. THIS PAGE: Cement guard rails add extra protection against lift truck damage.

Due to the nature of the project, Mecalux in Spain designed the unique racking system frame and the arm accommodating it and sent each design to a team of engineers in the U.S. for final approval. Once approvals were met and the installation began, having multiple pre-existing templates for the facility proved to ease the completion. With one middle row of double-entry racks 35 bays wide, and two single-entry racks 31 bays wide, all of which

are 30-feet high, the final product scale was both impressive and unique to other warehouses within 1,000 miles of Sealy.

A year later, both companies have experienced the sweetest kind of déjà vu: Blencor's packaging and blending facility has again experienced the same output growth as its Spanish predecessor, while Interlake Mecalux can again say it facilitated its growth. 

“ Food regulations in Europe are different than in the United States. ”



The Mecalux Group talks with Sal Fateen about some of the more unique aspects of the Blencor installation. Fateen is the president of Seismic Inc., an industry leader specializing in the structural analysis of material handling equipment.



M: Detail the support adjustments made to the rack to support the double-stack pallets.
SF: The double stack pallets makes the distance between the arms too high, requiring a larger or a double column. The rails, which are supported by the drive in arms, would see the added loads and will also need to be stiffened.
M: What other challenges besides weight capacity must be considered when extending and customizing Drive-In Rack?
SF: At all cases, the added load is in direct correlation to added seismic forces. The forces are magnified as the height is increased.



M: Can you explain the function of the aisle support beams?
SF: The seismic forces that will tend to push the rack left to right (As you are looking at the bay), need to be transferred to the slab. In this case, a brace to the slab was the right solution.
M: Could Blencor have incorporated Drive-Thru Rack had it not been for those braces?
SF: In seismic areas, it is highly unlikely that you can have a drive through tall system, with heavy loads. The forces need to be transferred to the slab.



M: Sinking rack into concrete is fairly unique. What are the advantages of doing this?
SF: I have seen similar applications. Two different reasons: 1. Because of cleanliness and not desiring having any debris fall into the narrow space. (Another option could have been Styrofoam.) 2. In order to stiffen the guide angles, concrete will be more effective.
M: If rack constructed like that were damaged, how would it be repaired?
SF: Cut the damaged column above the concrete and weld another piece.



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CASE STUDY: *Molinos Río de la Plata*

Trailblazing cold storage company is
keeping it cool in Argentina

Since the 19th century, Argentina's claim to fame has been in being "the breadbasket of the world." Despite the fact that the agricultural and economic environment has changed drastically since then, the South American country still holds on to its reputation as an agricultural world leader. Among its many exponents is Molinos Río de la Plata, a company with such a rich history, it parallels Argentina's rise to agricultural prominence over a century ago. Starting in 1902, Molinos evolved from a flour manufacturer to one of the leading South American food packagers in the industry, encompassing everything from artisan pasta to chicken empanadas. Today, it is a major player in soy processing and commercialization, commanding the oilseeds industry by producing sunflower and soybean cooking oils. With the massive success of the company, the need to diversify its production methods has meant finding innovative ways of

product storage, none moreso than when the company ventured into the frozen food industry.

When Molinos acquired the frozen food company Granja del Sol in 1997, it positioned itself as a supplier of a diverse line of frozen food products with mass consumer appeal. However, the challenge of meeting the newfound demand for frozen food products required building a facility area that could withstand the demands of a mass logistics operation. Fortunately, Molinos found an ally in Mecalux that could help strengthen its vision as a global food supplier.

In August 2008, construction of the first automated warehouse for cold storage in Argentina history broke ground in Pilar (northwest of Buenos Aires). The eight month project was new territory for all parties involved. Considering the size and special nature of the project, Mecalux engineers had to adapt to the needs of Molinos and specifically develop an automated rack supported warehouse that could operate in conditions as low as minus 18 degrees Fahrenheit. Under the supervision of project engineers Andres Domaica and Horacio Aguirre, the historic installation was built to enhance and expand the capacity of Molinos' cold storage areas to house the entire line of Granja de Sol frozen food products. The need to create an automated warehouse was impelled by the company's need to increase capacity in a cold storage environment. However, given that the freezing conditions are a hazard for a human workforce operating for extended periods of time, two single-mast MT3 stacker cranes were installed to alleviate human involvement.

What has made this project a landmark in Argentinian history according to Andrés Domaica, project engineer for the Granja de Sol facility, is that it encapsulates every aspect of warehouse operation. "The reliability of the installation, its receiving and supply performance for both the facility and clients, the security in stock control and the safekeeping provided to our personnel by not subjecting them to harsh work conditions," Domaica said, "are traits that makes this installation stand out from conventional ones."

For 30 years, Mecalux Argentina and Molinos Río de la Plata have been working side-by-side to accomplish their goals as leaders reaping the fruits of success on Argentinian soil. With 16 industrial plants and seven distribution centers reaching out to over 50 countries worldwide, this food industry giant is certainly busy feeding the region. If Argentina wants to continue calling itself "the breadbasket of the world," then Mecalux is proud to be the plate on which companies like Molinos are serving the meal. 

“The reliability of the installation, its receiving and supply performance for both the facility and clients, the security in stock control and the safe-keeping provided to our personnel are traits that make this installation stand out from conventional ones.”

**- Andrés Domaica,
Project Engineer**

Technical Details

Type of system: rack supported warehouse for cold storage
Pallet positions: 2,240
AS/RS Specs: single-mast MT3 stacker cranes (2), approx. max. height: 75'
Number of aisles: 2
Number of levels: 10
Height of building: 83'
Aisle width: 6'
Pallet type: ARLOG pallet (Approx. 39" x 47";)
Capacity: Approx. 4,400 lbs per bay
Years installed: 2008-2009



Luis Jimenez (center) with his Atlantic Rack team. The hand-made sculpture behind them was created by Jimenez.

RIGHT: Inside Atlantic's home office, art pieces line the halls like monuments, each vouching for the company's unique outlook on its industry.



The 300,000 square foot floor space at Chicago's ProMat material handling tradeshow is a buzzing, thumping spectacle of urgency. Nothing is still and each moving part hums in eight-hour increments. Everything is in motion except Luis Jimenez, the CEO of the multi-million dollar warehouse equipment and supply distributor, Atlantic Rack.

Standing calmly among the clatter, surveying the scene like a runner who's already lapped everyone else, he remembers a time where he had neither credit nor cashflow and operated out of the bed of a pickup truck. These are not memories meant to be exploded into oblivion, but used as the launching mechanism for the rocket ship Atlantic. "We're not out there to make a sale," Jimenez says about Atlantic, which he distinguishes more as a solutions company than a racking distributor. "We're focused on the production side of our customers and how to maximize their revenue. By doing that and doing it right, that's how Atlantic earns its revenue." Putting customer needs ahead of the company's desire to install maximum amounts of rack is nothing new. In fact, that personal connection predates Atlantic.



Jimenez was originally trained as a mechanical engineer and buttressed his technical skill with a job as a factory sales manager for a Colombian racking company, a situation Jimenez felt, at the time, wasn't beneficial.

"Not everyone in the industry has a background in engineering, manufacturing and selling," Jimenez said, humbly leaving out the fact that he's also an artist, as his numerous pieces adorning parts of the Atlantic offices showcase. "I can back up my product with engineering experience." "We went through the used industry,

Atlantic Rack: Triple-Threat

A distribution company dedicated to customer satisfaction goes from truck to triumph in 10 years



ALWAYS IN MOTION: The newest Atlantic Rack facility is its seventh warehouse space in eight years. The company has had to move into larger facilities each time.

“What we were doing 10 years ago and what we continue doing today is make the customers grow.”

outgrew the market,” Jimenez said. “We needed something new. I was knocking on every door, and Mecalux was one of the few that opened it.”

It turns out Interlake Mecalux was both the first and second company to extend Atlantic credit. Monarch, a United Fixtures Holdings company, was Atlantic’s first creditor. In April 2006, UFH purchased Interlake. Three years after that, Mecalux purchased Interlake. Jimenez was familiar with Mecalux back



in his Colombia days. By the time he founded Atlantic in the States, Mecalux was one of the first companies he turned to.

At the turn of the millennium, Jimenez left Colombia, moved to Miami and built his company from scratch – or scrap, as the case may be. “I started out of a pickup truck,” Jimenez says with a smile betraying both pride and embarrassment. He continued trading used rack in southern Florida for the

next decade, all the time building a reputation (and a company) upon a foundation of fairness and reliability. The truck soon became a modest warehouse space, which, in turn, became larger warehouse spaces.

It wasn’t long after Atlantic’s inception that the general lethargy of customer service in Florida’s material handling industry proved enough of a loose plank in the fence to allow the company full entry into the field. Atlantic positioned itself as a destination

to which customers turned, not just as simple suppliers of rack, as so many other area distributors had done at the time, but as a source for strategic solutions to their specific needs. Incorporating old rack with new systems, orchestrating machines to fit with new rack, and detailing how quickly customers will see an ROI – among other procedures -- customer satisfaction became Atlantic’s endgame. The belief being that for the company to grow, the company’s customer base must grow first.

Atlantic's crew of 16 includes six sales representatives that inspect the customer's operations, measure the group's efficiency, determine a plan of action and then present that plan to Atlantic's engineering staff.

Once the engineers' design is finalized, Atlantic has four crews of installers in southern Florida, three in Key West and a Miami group in charge of Caribbean installs – all readied to contort around the customer's schedule.

The installation scheduling is important, the most important, really, as it is the aspect most of Atlantic's competition still has not buried deep into its foundation. Only after Interlake Mecalux toured Atlantic's facility in April is Jimenez's uneasiness with the relationship other Florida distributors have with their customers revealed. In Florida and the Caribbean, distributors don't offer systems like push-back or drive-in the same way distributors elsewhere might. "People actually know what they need," Jimenez said, "but their ideas are very basic. Most

customers just think of rack as upright. I wanted to stress the advantages of using such systems to customers who might not already know."

In addition to customer demands, Atlantic knows that the quickest way to a customer's heart is through his stopwatch. The Miami distributor maintains a heavily monitored and even heavier stocked inventory that allows immediate turnover within 2-3 business days. If there is an unusually large order or a glut of multiple orders at the same time, this – as Jimenez reminds us – is why it pays to form good relationships with not only the customer, but with manufacturers like Interlake Mecalux.

It isn't just Atlantic Rack that has grown in the last decade, but those very same "guys on the corner" to whom Jimenez sold steel in the first place. Growing alongside the customers has been Jimenez's philosophical flashpoint since his truck bed days. If the customer's resources are maximized, as the

philosophy goes, so too is the customer's ability to stay competitive in the industry.

Atlantic's steady growth has induced seven facility upgrades in eight years and propelled its reach westward, exporting to Illinois, Texas and Tennessee. Neither development has threatened to force the company to lose sight of its main goal: customer service. "Atlantic has customers that we sold \$100 worth of used rack [10 years ago] and are now buying \$16,000 from us still," Jimenez says with a hint of whimsy. "Sometimes customers call me requesting this or that – they don't even wait for a quote. They don't need it. I'll never take advantage of that loyalty."

Jimenez sinks his fist into his suit pocket and pulls out a business card. Sure enough, just under his name, the title reads, "CEO / Mechanical Engineer," a telling affirmation of the boss' dedication to serving his customers with every tool he has. It's a wonder "Salesman / Sculptor / Indian Chief" didn't also make the cut. 

“We went through the used industry, outgrew the market,” Jimenez said. “We needed something new. I was knocking on every door, and Mecalux was one of the few that opened it.”

IF THESE AISLES COULD TALK: Unloaded Interlake Mecalux rack from a recent Atlantic installation in a Miami neighborhood facility.



CASE STUDY: *Brightstar*

Mover and Shaker in a Mobile World

SCOPE. Founded 13 years ago in Miami where the home office remains, Brightstar is a global service provider to the wireless industry. The services provided in this instance run the gamut from warehousing and distribution for customers to such services as phone reprogramming, repackaging, and changes involving accessories. Noted for being the largest Hispanic-owned business in the U.S. (on any given day anywhere between 60 and 120 employees can be found in their Miami Operations Center), the organization spans the Americas, Asia and Europe and first carved its niche in the industry distributing mobile phones throughout Latin America's largest wireless device markets.

OPPORTUNITY. Brightstar awarded Atlantic Rack the contract for last year's installation involving not only a move

into its current warehouse, but the simultaneous gutting of the company's old one. Having moved seven times in the last eight years, Atlantic Rack itself was no stranger to relocating warehouse spaces. The wireless service provider's new warehouse allotted a portion of the facility for storage and needed to ensure the new rack it was going to install was effective, safe, and would process orders more efficiently than the old facility.

After outsourcing much of its materials storage to keep up with demand, Brightstar decided it had to reorganize and do it quickly. So quickly, in fact, that deadlines became the key sticking point in choosing the recipient of the contract. The speed at which the installation could be completed and the customer service provided in the process proved to be what landed Atlantic the job. Yet as Atlantic's sales

“Noted for being the largest Hispanic-owned business in the U.S. the organization first carved its niche in the industry distributing mobile phones throughout Latin America's largest wireless device markets.”







there. The layout was improper because they were forced to keep adding additional space as they grew," Jimenez said.

The growth spurt Brightstar experienced was just one tentacle on the squid this complicated installation had turned into. Minimizing delays created from the construction permit process, an abundance of project planners, and redesigning the floor plan at the last minute to accommodate some fire department requirements were just some of the unexpected delays that ratcheted the tight schedule tighter. When Atlantic installed the Interlake Mecalux selective rack and incorporated a pick module and protector guardrails, an inspector stipulated that Brightstar couldn't secure its rack to the walls with ties because the walls were fire-graded.

"They didn't want us to touch the walls," Jessica Jimenez said with a barely perceptible shake of the head. "Not even with fire-graded caulking or anything. We tied the [single] racks to the top of the roof joists with cables. We had never seen that before, that was new to us. But if the building inspector says that's what I need to provide, that's what I provide."

lead Jessica Jimenez explained, it wasn't because her company offered the fastest timeframe. "Our competitors sometimes promise the customers something that they're not going to deliver," Jimenez said, adding that Atlantic secured the deal by assessing the job and giving Brightstar a more realistic completion timeframe than others grappling for the contract. Atlantic compelled Brightstar to call their competitor's bluff on their timeframe. And it worked.

CUSTOM SOLUTIONS. "We work under an acronym of MORE," Brightstar Facility & Security Manager Dan Lovallo said, referring to the four-letter word found throughout the facility. "More is Manufacturing,

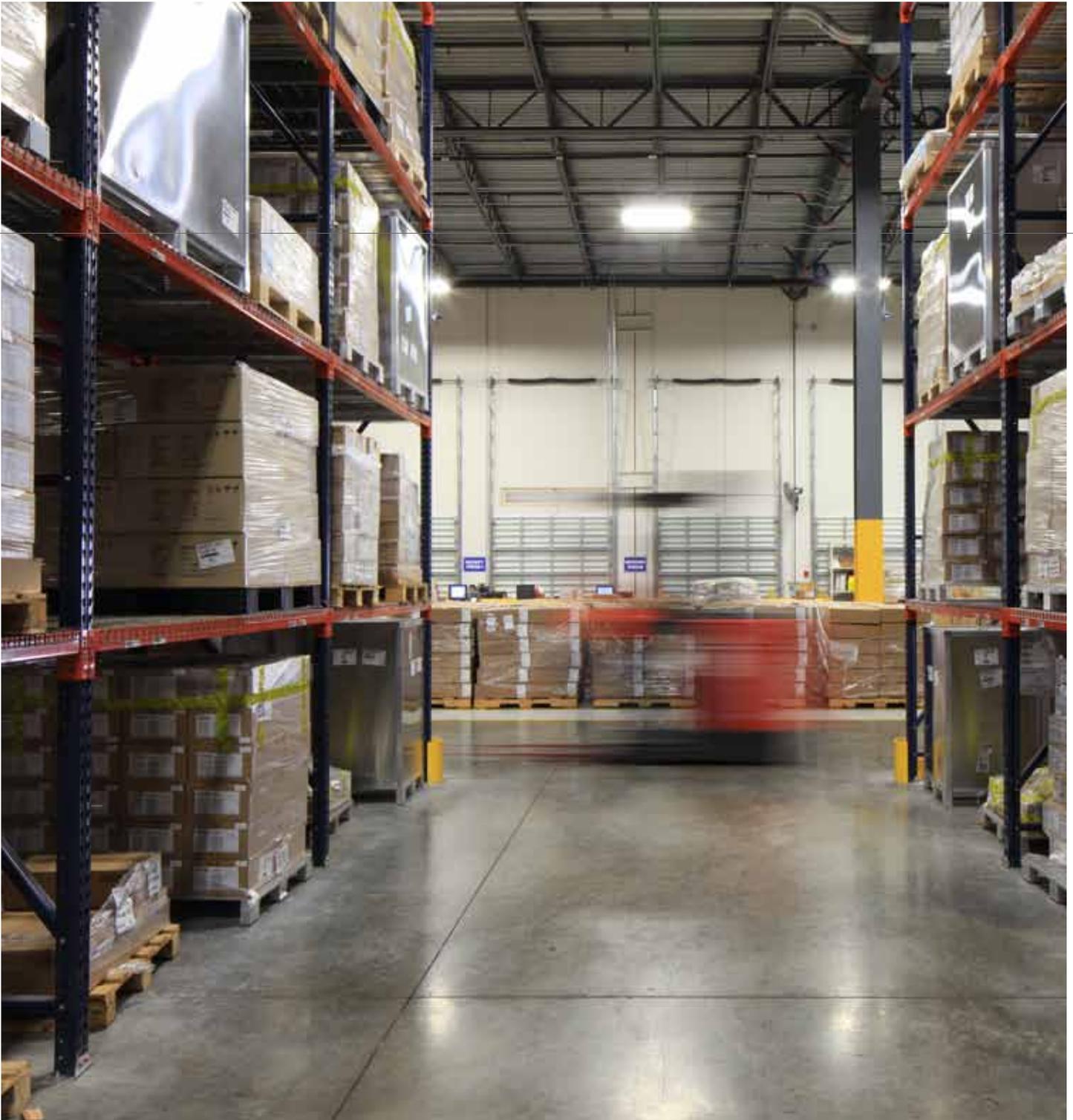
Operations, Retail and Enterprise. We provide services in all of those areas and to a wide variety of customers."

"More" might also be the word that best describes why Brightstar needed to relocate in the first place. Atlantic equipped Brightstar's new warehouse, then completed a full teardown of the old warehouse one mile away. Waiting for Brightstar's Miami operation in the new building was a large amount of 24-foot selective rack, an important upgrade from the piecemeal configuration Brightstar had in the old Miami facility up until that point.

"They were small and then started growing, so they had all types of different racking in

With Brightstar's lean move-in deadline melting away, Jimenez herself drove to Brightstar's new warehouse to meet with the inspector and guaranteed him that her crew would have the rack hitched to the ceiling by the next day. The inspector signed off, returning later to ensure she had followed through on her word. She had. Jimenez had her crew there overnight affixing cables to the roof.

"Still, it was a fairly smooth project," Jimenez said. "Brightstar is organized, planned very well and involved everyone in the project. We were organized too. We had to be." 🧠



Perhaps the most difficult aspect of the installation was conforming to the unique requirements, such as maintaining a safe distance from the fire rated walls.

Technical Details

Number of bays: 220
Beam specs: 8 ft.
Number of beam levels: 5
Height of top shelf: 20 ft.
Number of aisles: 10
Aisle width: 12 ft.

Tunnel unit size: N/A
Pallet positions: 2,200
Pallet size: 42" x 48"
Area racked: 20,000 sq. ft.
Year installed: 2010



Seismic Spike

A rash of natural disasters and the development of Big Box Stores have boosted the demand for seismic resistant construction

In the United States, one of the major changes in warehouse seismic safety regulations has been the rising use of steel selective racks in areas accessible to the public. Since first being widely introduced about 25 years ago, the number of “big box” stores like Home Depot, Costco, Sam’s Club or Lowe’s has increased dramatically. Such stores, where products are displayed using storage racks in public areas - “warehouse style” - have further forced changes in seismic requirements. During an earthquake,

occupant safety in these stores depends on the structural performance of the building and on the stability of the shelves and their contents. Seismic motions can cause racks to collapse, overturn, or goods can spill or topple off if racks are not properly designed, installed, maintained and loaded. The Occupational Safety and Health Administration (OSHA) mandated that warehouse employees be trained for safety procedures, but these measures are hard to implement in a facility open to general consumers. Therefore, the prod-

uct on display must be secured to a degree that will keep everyone safe if the ground starts shaking.

Seismic force levels, an estimate of the largest possible earthquake in a given location based on geological calculations, were only considered in certain earthquake-prone locations. But major revisions to the International Building Code (IBC) have changed the requirements, which now mandate that every construction project, including warehouses, must include and

meet a seismic design category (structural and non-structural elements designed to prevent damage and loss of life in case of an earthquake), even those locations that have not required seismic installations in the past. The reason to fully protect all zones throughout the U.S is that areas considered less prone to earthquakes (low probability, high consequence) have not been built to resist seismic movement and are far less protected from disaster.

The need to build stronger, more stable structures has become painfully evident recently. In 2010, first Haiti then Chile were battered by magnitude 7 and 8.8 earthquakes respectively and in 2011 Japan by a magnitude 9. In the case of Japan, the triple strike of a magnitude 9 quake, ensuing tsunamis and nuclear plant malfunction, resulted in unimaginable destruction, in spite of the stringent seismic codes established. But the other two countries reflect the different outcomes that solid seismic codes can produce. The difference in destruction was not as much related to the intensity of the seismic movement, as it was to the durability of the structures these countries were able to build

In Chile, where they suffered the largest magnitude earthquake ever recorded in 1960 (a 9.5 magnitude), they have had stringent regulations and resources to implement them for years. Haiti, ranked no.149 in the UN's Human Development Index, did not have the infrastructure or financial means to prepare for that magnitude of seismic movement and counted its dead in the hundreds of thousands and the homeless in the millions, after the quake. So, even though the Haiti quake was less intense than the one in Chile, its lack of seismic resistant structures resulted in larger economic loss and death toll.

These developments have made the need to build seismic resistant structures more real than ever, starting first with its examina-

tion of seismic code applications. Although there are disaster elements beyond our control (when, where, how strong), stricter building codes for both external (buildings) and internal (non-structural) spaces in a facility's architectural designs, could mean the difference between life and death.

Nelson Campos, general manager for Mecalux in Chile believes the material handling industry has changed quite a bit in recent years. "Clients have become much more willing to comply with the seismic regulations since the last earthquake," Campos said. "They used to want to go with the most economical alternative, but now they try and find the safest option."

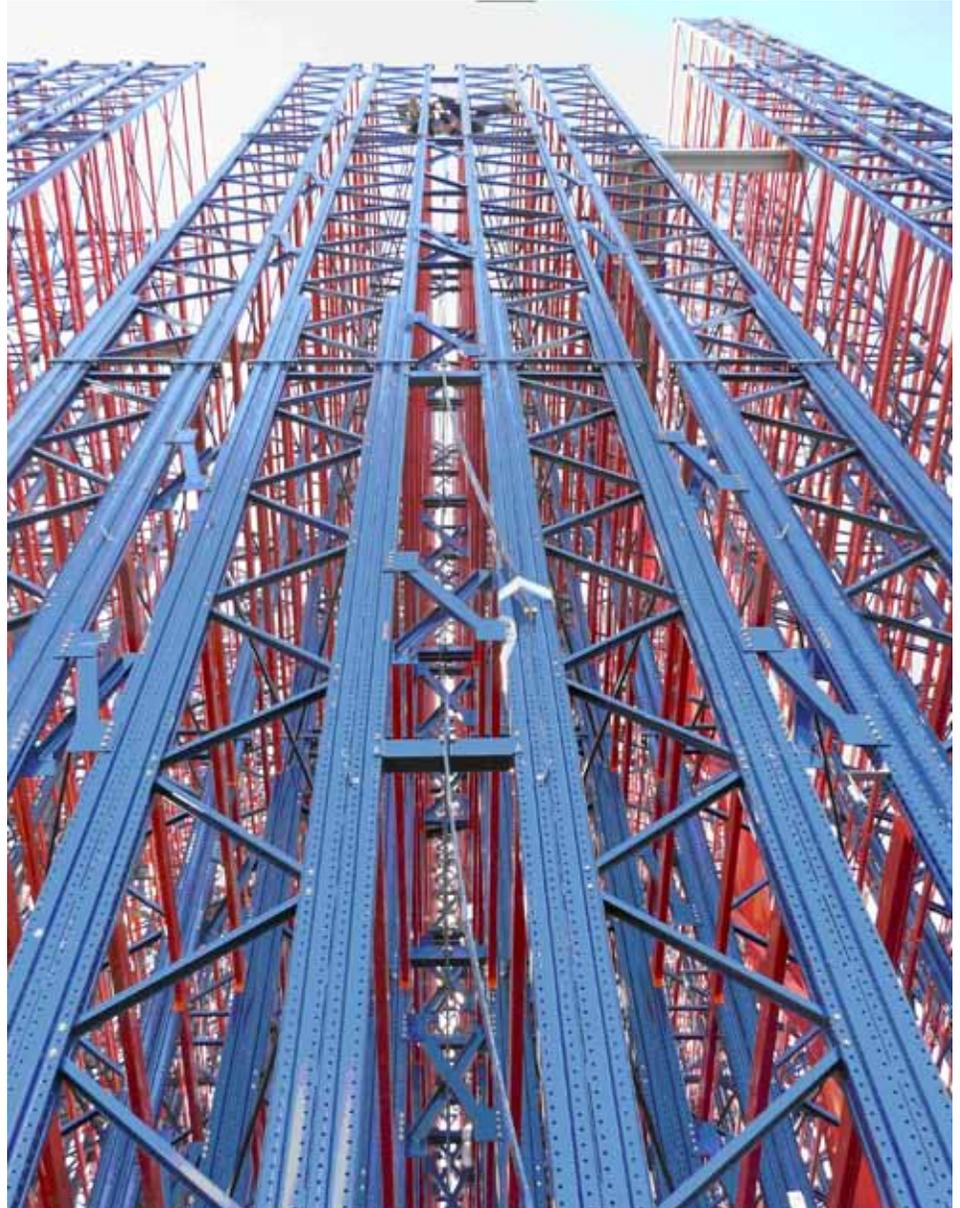
Manufacturers such as Interlake Mecalux strive for the highest level of safety when designing a seismic resistant facility and take many elements into consideration. To assess storage rack earthquake performance, it is important to determine the ground motions that occurred at the site, the design capacity of the rack, the actual loading of the rack, rack design details and any other extenuating conditions that would affect rack performance when an earthquake occurs. These factors include the magnitude of earthquake, the depth of the earthquake below the ground's surface, the distance the site is from the fault that generated the earthquake and the soil conditions at the site.

Interlake Mecalux engineer Greg Hajdus, pointed out that each seismic design is different depending on the client, the stored product, weight, dimensions, rack elevation and, most importantly, the location of the warehouse. "We have to have a specific zip code or an actual address in California to determine the considerations for the seismic design," explained Hajdus about the first step in the blueprint process. Larger beams or columns, larger base plates and more anchorage to secure the rack beams are some of the adjustments

“Clients have become much more willing to comply with the seismic regulations since the last earthquake, they used to want to go with the most economical alternative, but now they try and find the safest option.”

- Nelson Campos

Quake Superior: The seismically enhanced double-triple weld rack showcases the diagonal frame design that helps absorb the force of seismic tremors.



that are made. Also seismic bracing patterns are heavier and more condensed.

Through the systematic analysis of each project and based on the recommendations of the specific regulations of the sector, Interlake Mecalux provides the necessary solutions for its products to guarantee viability and functionality even in the most demanding seismic conditions.

The procedures currently used to compute seismic loads in rack vary depending upon whether the prevailing requirements are from the IBC (International building codes),

the National Earthquake Hazards Reduction Program (NEHRP) recommended provisions or the RMI (Rack Manufacturer's Institute) standard. In some cases, there is more than one acceptable method of calculating seismic loads, but all final plans have to be signed, stamped and sealed by a seismic engineer.

With all these seismic safety measures in place and a constant desire to improve, we are now safer than ever, even when shopping at a "big box store" for 30 pounds of chicken and 40 bags of potato chips. 

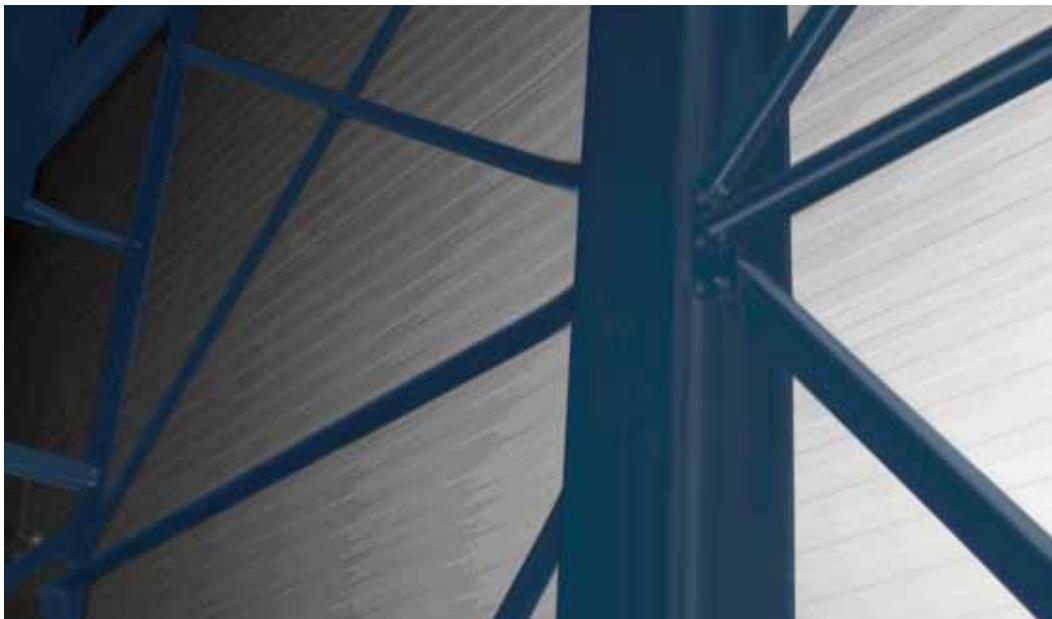


Anchor plates of larger dimensions and width provide greater resistance to traction.

*Beams designed to withstand Flex-compression.
Special diagonal frame design diffuses
seismic occurrences.*



*Double-triple weld end
connectors prevent
global and localized
failure of the frame.*

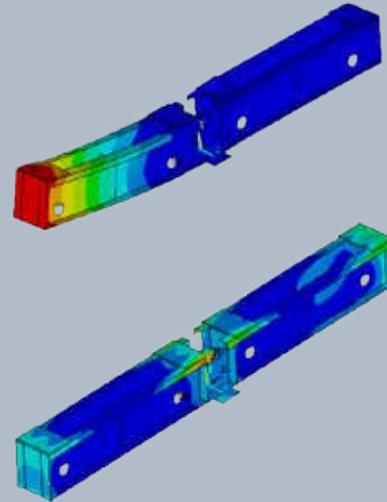


*Special bracing system,
horizontal and vertical,
mounted upward from the
floor throughout the entire
frame. This dissipates the
seismic energy generated by
earthquakes.*

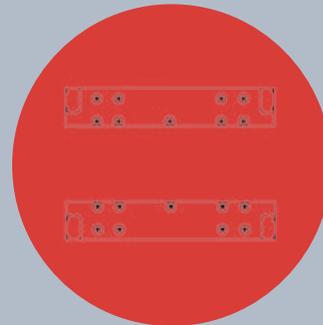
Seismic Resistance At Interlake Mecalux

All storage products in automated warehouses and special systems take seismic occurrences into consideration. Below are some examples of the tremor-resistant engineering used in Mecalux products to reinforce its steel shelving.

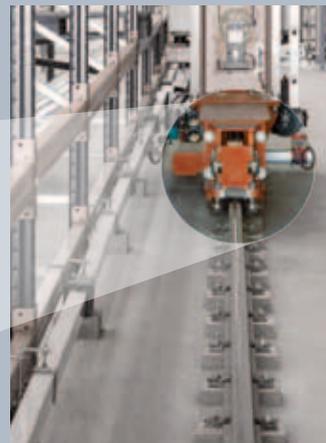
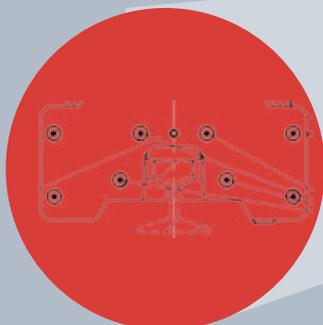
In specialized installations like Movirack, the mobile bases are designed around the probability of overturn during an earthquake, and utilize a stabilizing device to prevent components from tipping over. The extra thick plates are welded to the mobile bases over which the palletized shelving is installed, guaranteeing the mobile bases will not capsize. Mobile base without anti-tipping device (left), mobile base with anti-tipping device (right).



In the Clasimat Basic system, the anchorage of the machine is distributed according to the calculated probable maximum intensity of ground shift. Figure 2. shows the placement of seismic resistant anchors in the Clasimat Basic in a Seismic Zone 4.



In Unit Load automated warehouses, the stacker cranes also have stabilizing devices that prevent them from overturning. Figure 2. Placement of seismic resistant anchors in the Clasimat Basic in a Seismic Zone 4.



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The Weakest Link

As quakes, floods and epic meltdowns still rock Japan, companies around the globe re-examine supply chain diversification

More than four months after two natural disasters (and one unnatural disaster) rocked Japan, businesses are still experiencing massive slow-downs in their procurement of goods imported from the area. With everything from cars to computer chips facing big delays, U.S. investors with a toe (or deeper still, an ankle or leg) dipped in the iron and steel manufacturing industry, fear yesterday's delays will be tomorrow's profit loss. It has been this fear that has again illuminated the debate of the best way businesses can diversify their supply chain.

Why Diversify. In the last decade, numerous pandemics have walloped the logistics field, from China's SARS outbreak, to tsunamis in Indonesia and Japan, the September 11 attacks in New York, and even the recent tornado that thumped



across the Southeast United States. According to Bierce & Kenerson, P.C., a business and technology law firm specializing in outsourcing and commercial transactions, in events such as these, 40 percent of both workforce and end-users with ties to these disaster zones risk grinding to a standstill. Remaining flexible during a choke in supplier production is the best and sometimes only way to avoid the 40 percent halt. Preparing a supply chain to be flexible for any challenge the market bears is a multi-pronged strategy not only to subvert breaks in the chain, but also to weigh options between delivery speed and cost. Although disaster can cripple an unprepared company, it isn't as common a problem as shortages at supplier facilities. Companies may need to tap into its chain diversity if their main supplier is overloaded, a seasonal bump in demand requires a quicker turnaround on delivery and an order is tardy, or if the company itself is running behind on orders. Multi-

sourcing one's supply chain is not a new idea, and despite the assurance that disasters will eventually strike, many companies remain undecided on the best way to divide and hedge their suppliers.

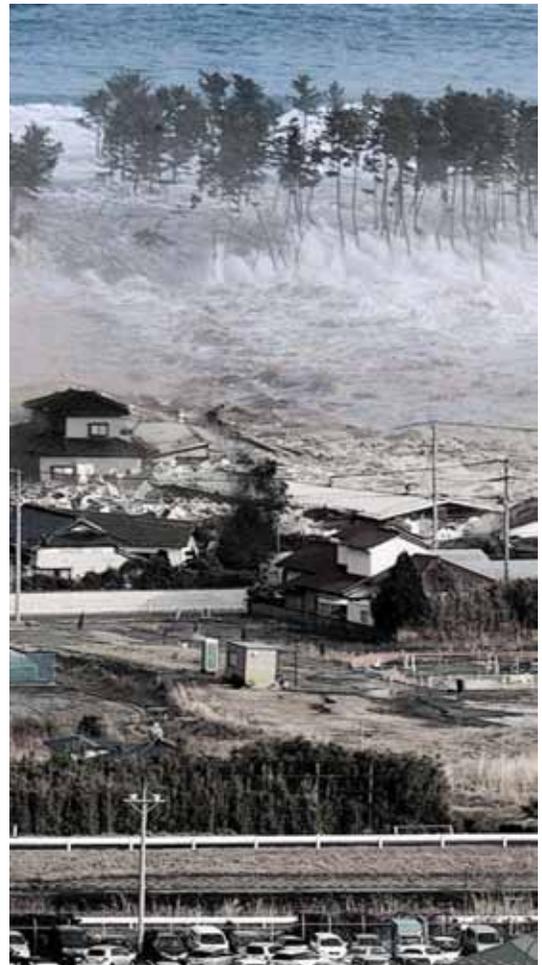
Method Motivation. An abundance of suppliers does not necessarily signify supply chain diversity. It is the role each of these suppliers play and the geographic proximity in which they play it that determines the effectiveness of such variance. Within each supply chain, a well-diversified company will have multiple suppliers providing them the same or similar goods in areas disassociated from one another on the map, so as to ensure a regional disaster such as inclement weather doesn't hit a company's plan A, plan B and plan C all at once. Legacy suppliers often remain the primary source of goods even after diversification; otherwise it makes little sense for them to have been a legacy supplier

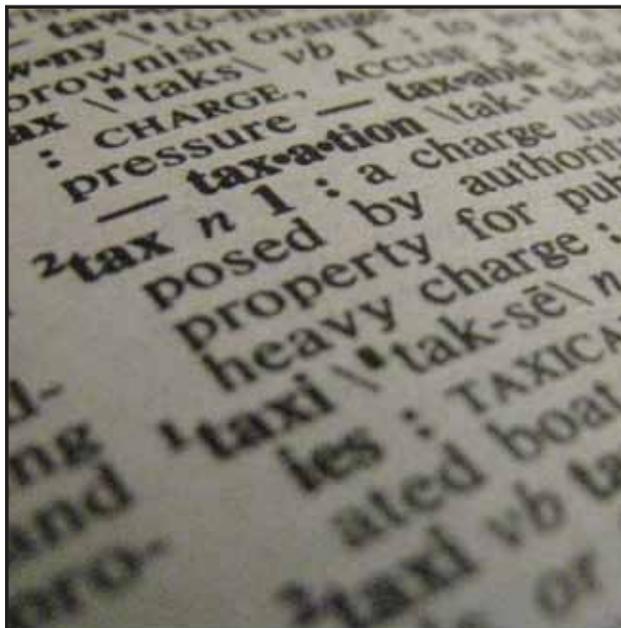
in the first place. Realistically, legacy suppliers fill that role due to proximity. A metal fastener, for example, may cost a relatively similar price from manufacturer to manufacturer, but the distance those fasteners travel and the freight costs that accompany them is most likely where the cost differential lies. While some companies see multi-sourcing only as an emergency failsafe in case the legacy supplier runs dry, other companies see an opportunity to stoke the embers of competition between similar suppliers in order to barter the best deal. In both cases, diverging a supply chain effectively relies upon utilizing service centers in different electric grids and transportation systems; syncing but separating telecommunications networks and virtualizing each server into a “cloud.” Obviously, a logistical restructuring costs money and risks negative disruption in the supplies already in place. But not, ultimately, what companies stand to lose if production stops running. Otherwise, diversification may cause duplicated efforts, extra costs, and non-cooperation that the price savings may not be able to justify.

Force Majeure. In addition to maintaining profit margins during disruptions in the supply chain, there is a precedent of legal responsibility set as well. Events like the ones that ripped through Japan in the spring are often considered outside the range of what a company can control and therefore safe from non-performance contract disputes. However, if a business could have reasonably mitigated or overcome the disruption by effectively implementing a continuity plan and failed to do so, that company may expose itself to legal action.

The Japanese earthquake, tsunami and nuclear disasters have ricocheted around the globe and have subsequently forced manufacturing plants to stall production; and from this stoppage, exposure and fracture of the weakest links in the supply chain. Slow-downs in these situations are to be expected, but for the companies reliant upon the uninterrupted manufacturing of facilities in this area, failing to plan for the worst is like waiting to take the elevator in a building going up in flames. There is hope among the rubble and promise for the future as long as the supplies are split. [V](#)

“Multi-sourcing one’s supply chain is not a new idea, and despite the assurance that disasters will eventually strike, many companies remain undecided on the best way to divide and hedge their suppliers.”





New Tax Law to Provide Customers with Huge Incentives

Tax initiatives provide deductible expenses that benefit customers if used before 2012

2011 will give businesses a much needed shot in the arm. In accordance with a new tax law, customers who acquire warehouse storage systems and shelving, and claim them as a capital expense, can be entitled to a depreciation of 100 percent. If these purchases are installed and in use by December 31, this means reducing tax payments by the customer to the IRS.

Under the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 tax law, 100 percent of the federal tax deduction may be taken up front in 2011. This would be in lieu of smaller annual deductions spread out over the life of the product. In 2012, the federal tax deduction will go down to 50 percent.

There are two significant benefits of 100 percent bonus depreciation:

1 It is not limited in amount: this incentive is applicable to projects of all sizes. This incentive could potentially provide a tax savings of one third the cost (depending on your corporate tax rate).

2 It can create a net operating loss to be carried back to prior years and result in a tax refund: if the purchase of the warehouse system causes a loss to the customer in 2011, that loss can be used to offset previous years' profits. This would make it possible to obtain a refund from the IRS, and

customers with a net operating loss can carry forward the loss to offset future income taxes to the IRS.

To understand how this deduction would apply, here is a specific example:

2011. \$10,000 shelving capital purchase. The IRS allows a 100 percent deduction in 2011.

That \$10,000 at the corporate tax rate of 35 percent saves the customer \$3,500 paid to the IRS in 2011. \$10,000 purchase price, less \$3,500 saved in taxes, leaves an indirect cost of only \$6,500!

2012. \$10,000 shelving capital purchase. The IRS allows only a 50 percent deduction.

That 50 percent (\$5,000) at the corporate tax rate of 35 percent saves the customer \$1,750 in taxes paid to the IRS. The balance of the \$5,000 deduction is spread out over seven years, the life of the asset per the IRS MACRS schedule. (This depreciation schedule is also subject to other bonus depreciation rules.) To get the most out of this tax initiative, please consult your tax professional for specifics related to your company.

The bottom line is that your bottom line improves if you purchase in 2011. [N](#)

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Open Roads Pilot program allows drivers clear path between the U.S and Mexico

President Barack Obama and Mexican President Felipe Calderón met in March to negotiate a solution to the border discrepancy affecting commercial transportation flow between both countries. The controversy started when stipulations, made between the trucking industries of both countries in the 1994 North American Free Trade Agreement (NAFTA), were not implemented by the U.S. After a period of unrest, both presidents agreed that the solution needs to be based on a program of reciprocity, safety and efficiency of the system.

The conflict was set in motion when NAFTA granted Mexican truck drivers access to U.S highways with minimum restrictions. The United States felt that the Mexican truck fleet was not held to the same safety standards as U.S trucks and decided to impose restrictions on the circulation of Mexican haulers within U.S. borders. A federal policy was put in place that required Mexican trucks to unload their cargo into warehouses within 25 miles from the border, and reload them onto U.S. trucks for final delivery. Mexico decided this was a violation of NAFTA and, in retaliation, taxed the U.S. on anything they brought over the border to cover its losses.

On April 8, the U.S Department of Transportation released the details of a gradual long-haul, cross-border trucking program between the United States and Mexico. The Federal Motor Carrier Safety Administration (FMCSA) was charged with developing

the program and came up with a plan that prioritizes safety, while satisfying the United States' international obligations, as established by NAFTA. It also builds upon the progress announced by Obama and Calderón in March.

The goal of this program is to test and demonstrate the ability of U.S and Mexican motor carriers to operate safely in the United States and Mexico, beyond the municipalities and commercial zones along the border. This program will be implemented over a three-year span, and it will eventually allow Mexican carriers to take their loads from Tijuana to Seattle or U.S drivers to haul their goods from Chicago to Mexico D.F. without unloading and reloading the merchandise at a middle point. It is a reciprocal program and both countries will have to comply with all applicable laws and regulations from the other country, including safety, immigration, vehicle registration and fuel taxation.

The delay in opening U.S markets to Mexican truckers costs American consumers \$200-\$400 million annually because of higher transportation expenditures, according to the National Center for Policy Analysis. The savings in shipping costs for companies that transport products across the border will be significant, which will translate into lower prices for the end consumer. This will have an obvious positive impact in the economy of both countries.

For companies like Interlake Mecalux, with branches on both sides of the border, the positive effects will be doubly warranted. 



QRC: The Evolutionary Bar Code

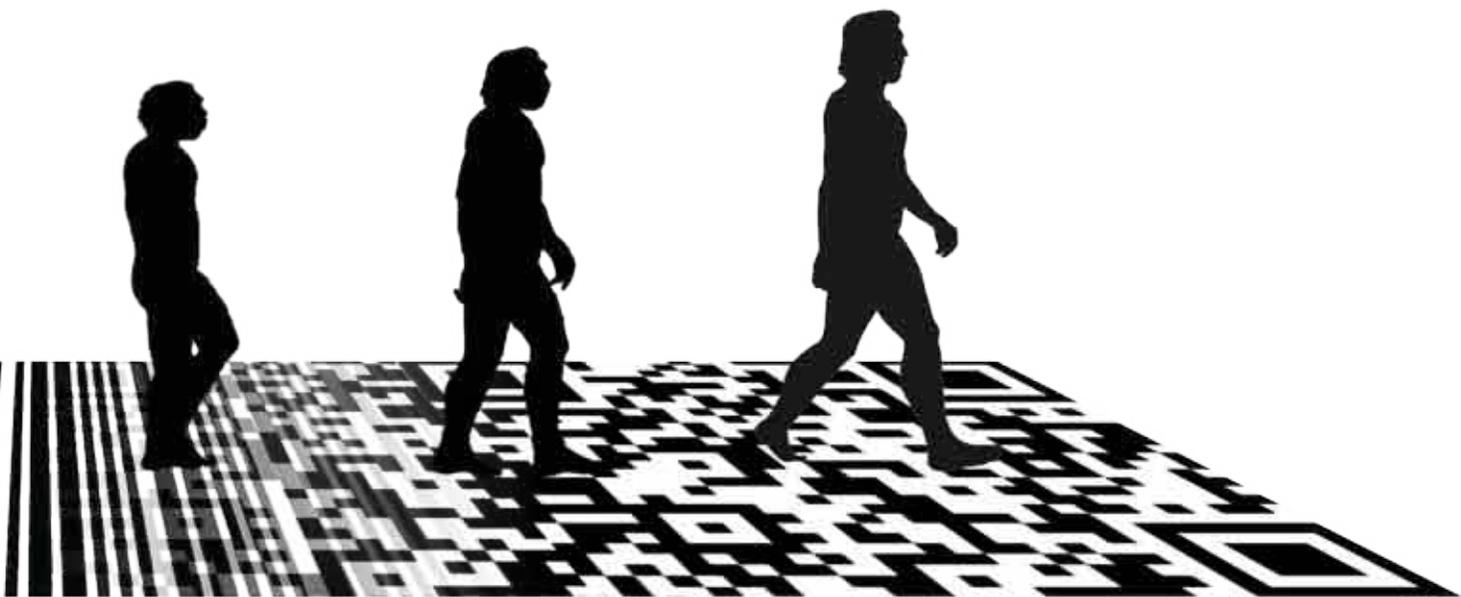
These are bizarre times for quick response codes (QRCs), those digital pattern blocks found in corners of retail ads resembling ancient Aztec symbols. QRCs are everywhere, but few recognize their use and even fewer recognize their potential to recast the material handling industry's preferred method of scanning and tracking.

Like the more recognizable Universal Product Code (UPC) or bar code, QRCs are scannable images that hold information. Unlike the more recognizable UPC, the information available in a QRC is more robust. With a UPC scanner or smart phone app, users get a 20-digit product ID number. In a larger system network, that number might provide a shipment name, price or some other simple detail. Anyone in the industry will vouch for simple being preferred, but simple UPCs – in comparison to the shifting trend toward heftier quick response codes – also hint at being crude.

QRCs not only store more digits and text than UPCs, but can also store URLs directing users to entirely new destinations.

So far, those destinations have been limited to consumer coupons at Banana Republic or Best Buy (QRCs are used primarily as marketing materials for retail stores), but it wasn't always that way. Developed by the Japanese in 1994, quick response codes were initially used as an advanced way for vehicle manufacturers to track parts. U.S. acceptance in the industry has been slow to develop because doing so would require replacing the UPC barcode scanning systems almost universally. Businesses making the swap would also be tasked with developing a destination for the advanced QRC scans to take users.

What good is sending scanned information to a URL that doesn't exist? Along with the installation costs of an entirely new scanning system and the time it would take to train each supply chain



From manufacturing tracking, to commercial ads and back again, quick response codes are grasping their full logistical potential

member how to utilize the new technology, the QR code's relative obscurity in the U.S. has also kept it from becoming standardized. With numerous variations on that block-based code, without standardization, multiple QRC scanners are necessary to ensure each code is readable. The laser reading capabilities of normal bar code scanners don't share such a finicky nature, especially considering the heightened risk of damage that accompanies 2-D codes. Dave Gordon, the senior business development manager at DL Label Inc., a company specializing in UPCs, pointed out that whereas QR codes are images that are scanned as an entire entity and can become corrupted if a portion of the code is damaged, traditional barcodes are not quite as fragile. "A 1-D bar code is more forgiving because, as it is read from left to right, even if there is damage to the bar code, all you need to do is re-aim the laser so that it is focused in the area that is not broken."

Many links in the supply chain rely on manually entering information

copied from scanned documents. For the cost of supplying truckers with smart phones or imaging scanners, information has the potential to get entered sooner, more often and with more accuracy, by providing QRCs with embedded URLs on truck bills, then having the drivers scan the code, access the embedded site and enter in a few simple pieces of information onto a proof of delivery. The end result would be a faster information delivery method, with a more trackable timeline of delivery destinations.

Bar codes work. They have for decades and most companies are hard-pressed to fix an unbroken system. But there is efficiency to be gained by the robust, omni-directional quick response codes.

As companies grow in efficiency and the demand for immediate accounting of deliveries tightens, the use of UPCs might prove to be a mud too gummy to escape. The largely untapped QRC resource may have the legs to step out of the ooze. [M](#)



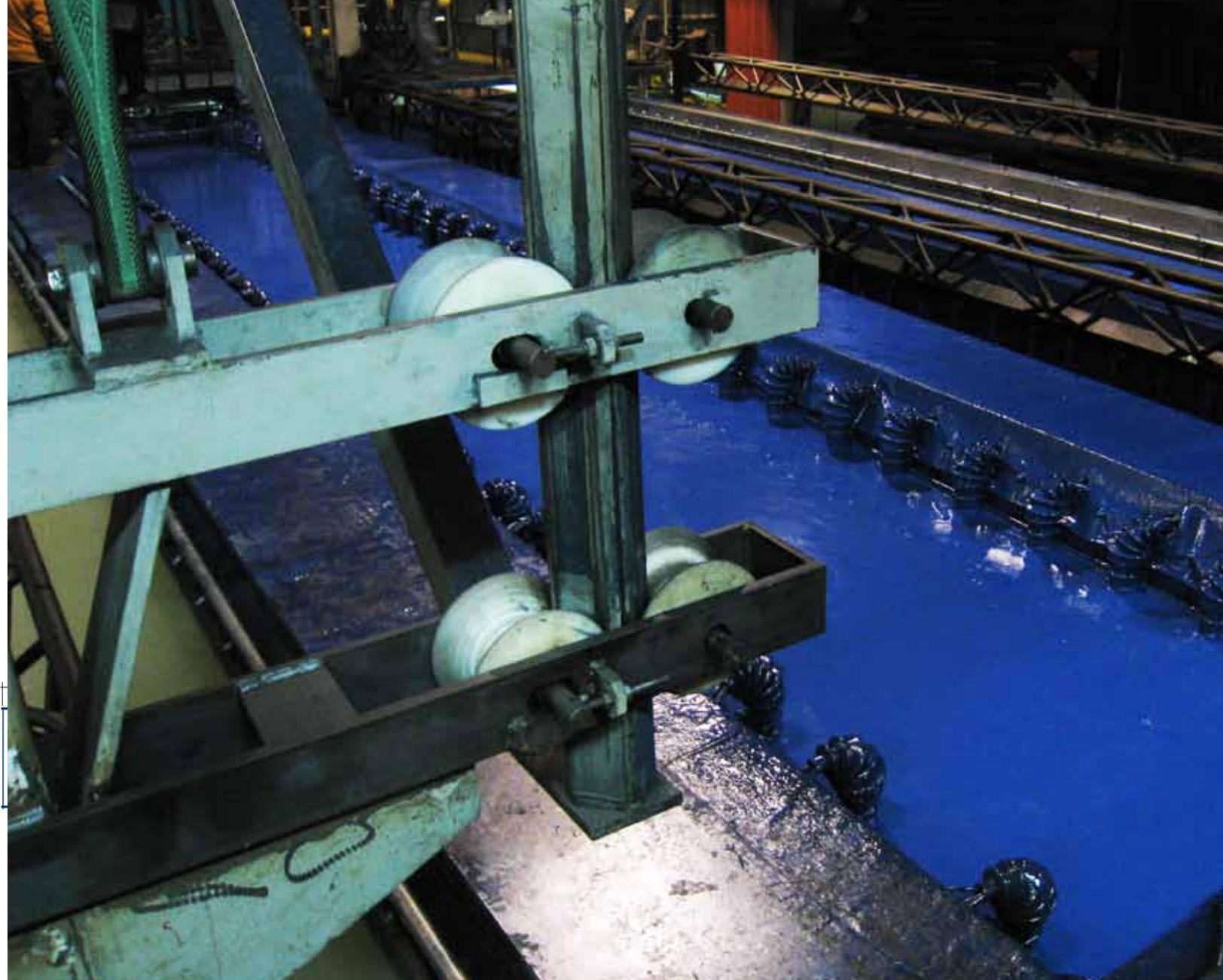
Painting to Protect

The right coating can save products and the environment: Three methods that paint a greener picture

Storage warehouses are tough settings for rack components. Heat, cold, humidity and other environmental agents can result in corrosion and oxidation of shelving materials. Constant movement of stock in and out of racks can also damage them. To ensure long lasting protection of its products, Interlake Mecalux uses the most advanced methods of paint coating. The result is an attractive product that is resistant to harmful agents and that will withstand normal wear and tear of warehouse operations.

Protecting the environment from the harmful effects of paint pollutants is also a concern for the company. The ISO (International Organization for Standardization), the world's largest developer and publisher of International Standards, awarded Interlake Mecalux the ISO 14001 which provides a framework for a holistic, strategic approach to the organization's environmental policy, plans and actions.

Interlake Mecalux uses cathaphoresis, hydro-soluble paint and powder coating to guarantee a high quality paint job in its



Cataphoresis baths in the Interlake Mecalux Pontiac, IL plant.

products, which produce smaller amounts of volatile organic compounds (VOCs) than in other coating methods, ensuring a more ecological alternative to traditional painting methods.

Cataphoresis is a painting process based on electro-chemical technology. It relies on cathodic painting of metal surfaces immersed in a special preparation bath with the voltage turned on at the same time.

In the bath, consisting of about 75 percent demineralized water, 20 percent constant particles (resins and pigment) and about 5 percent compounds, painted objects are immersed and constant current voltage applied. Mutual attraction between the painted pieces and the electrodes immersed at

the sides of the bath causes a strong and precise coverage of the whole surface of the elements. The created coating is subject first to rinsing then drying. Interlake Mecalux produces its frames in either green or blue using this method of coating.

Advantages of cataphoresis:

- Anti-corrosion protection of rolled plates
- Same layer thickness everywhere on the painted element
- Good protection against mechanical damage
- Coverage of hidden areas in objects of unique shapes
- Safe to the environment due to working in a closed system
- Low emission of volatile organic substances (VOCs) containing harmful particles



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the ISO 14001 which provides a framework for a holistic, strategic approach to the organization’s environmental policy, plans and actions.”

- Optimum fire resistance (ignition temperature above 520°F

2 Powder Coating Interlake Mecalux first began powder finishing in 2002. Powder coating offers a wide variety of hues, making it easier to custom paint different parts in any specified color with ease.

Powder coating is an advanced method of painting used for a wide range of materials and products. The powder used for the process is a mixture of finely ground particles of pigment and resin. After its application, the surfaces are heated and the particles fuse into a smooth coating. The result is a uniform, durable, high-quality and attractive finish that releases negligible amounts of VOCs into the atmosphere, since it contains no solvents.

Advantages of Powder coating:

- Available in a large variety of stock colors, metallics and textures

- Negligible emission of VOCs

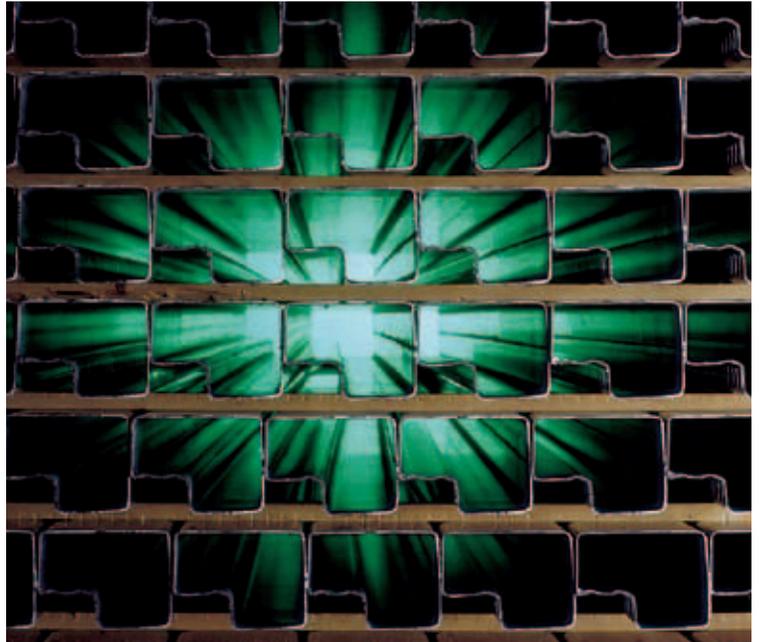
- Durable, high-quality finish

- Unused or oversprayed powder can be recovered, so waste is minimal

3 Hydro-Soluble Water-based coatings can be used in all segments of industrial series production as well as in machine and equipment construction. Excellent adhesion on steel, non-ferrous metals and synthetic materials offers an outstanding protection against corrosion. The high quality application property offers fast drying and color stability. The lack of solvents also makes this an ecological painting method with low emissions of VOCs. Interlake Mecalux has recently started using red in its products through this method of coating. 

Cold Hard Cash vs. Greenhouse Gas

As the fight between industry and ecology rages on, both U.S. steel and the environment absorb the hits



On the morning of April 7, thousands of steel plant laborers were hopeful the Energy Tax Prevention Act would ride the momentum passed on through Congress and use it to barrel through the Senate.

Four days later, the White House batted away Big Steel's hope for change, leaving its employees and groups like the American Iron and Steel Institute and the Steel Manufacturer's Association fearful of the industry's economic future.

Had the bill passed through the Senate, it would have halted the Environmental Protection Agency's ability to regulate greenhouse gas emissions from stationary sources (manufacturing plants, for example, as opposed to a moving pollutant like, a diesel truck), an outcome the White House said in an official statement would "increase the nation's dependence on oil and other fossil fuels" while contradicting the scientific consensus on climate change. It also would have increased manufacturing jobs, according to the AISI, and signaled a renewed support of U.S. manufacturing.

As it stands, the EPA will continue its efforts started in January to reduce greenhouse gas (GHG) emissions in stationary sources, a noble goal, but one the industry said is a burden unnecessarily placed on them because of the sloppiness of other manufacturing industries. The U.S. market has dropped its total GHG emissions by 35 percent over the last two decades without the governance of the EPA. In fact, among the major steel-producing countries around the globe, the U.S. has seen the largest

decrease in the amount of greenhouse gases it has emitted since 1990, a stance supported by the U.S. Department of Energy. In March, the governmental body validated the industry's claim to be among the most energy efficient in the world, going so far as to exonerate U.S. steel for having "almost fully achieved the energy efficiency and carbon emissions reductions that can be obtained using today's best available technologies." Other than South Korea, no other country produces lower amounts of carbon dioxide per steel ton. The EPA disagreed with the Dept. of Energy's assessment that Big Steel was nearly flawless, articulating energy reductions of 27 percent still possible industry-wide.

"Without breakthrough technology development," AISI President Thomas J. Gibson added, "the U.S. steel industry cannot make similar efficiency gains into the future, yet that is exactly what the EPA is mandating that we do."

The industry's fears don't end at higher operating costs or relying on technologies that don't exist. Even if the U.S. was able to maintain its workforce while spending the money necessary to comply with the EPA's regulations, they are still looking at a massive disadvantage in operation overhead as compared to China—a disadvantage akin to wearing Oxfords in a 100-yard dash.

"The EPA regulations will make it less competitive to make steel in the U.S., where we have the cleanest steel industry in the world, instead pushing steel production offshore to higher-emitting nations," AISI president and chief executive officer Thomas J. Gibson said.



Last October, the U.S. launched an investigation on a number of China's trade practices that have resulted in an unprecedented growth of the country's steel industry, despite lagging commercial demands. The intervention manifested through subsidies provided by the Chinese government is in violation of its market reform commitments agreed upon after joining the World Trade Organization in 2001. It's like Barry Bonds gaining 50 pounds of muscle over the winter and claiming not to have changed his off-season regimen. The growth is unnatural.

With China's steel industry so heavily subsidized by its government, it isn't as reliant upon market forces as other countries fending for themselves. Right now, those other countries are boy scouts selling candy bars door-to-door to raise funds; while Chinese steel's wealthy parents bought up the whole supply without it leaving the house.

Sixty-seven senatorial "yes" votes were required for the bill to pass, only 64 materialized. While some see the relatively close vote as a hopeful harbinger for future manufacturing support, the reality for the immediate future is more plant closings and a production clash conceding China the higher ground. 🇺🇸

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- Thomas J. Gibson

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**Philadelphia,
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Structural selective and pushback installation in 250,000 square foot space for industrial paper supply and janitorial products, Penn Jersey Paper Co. Operational in May 2011.

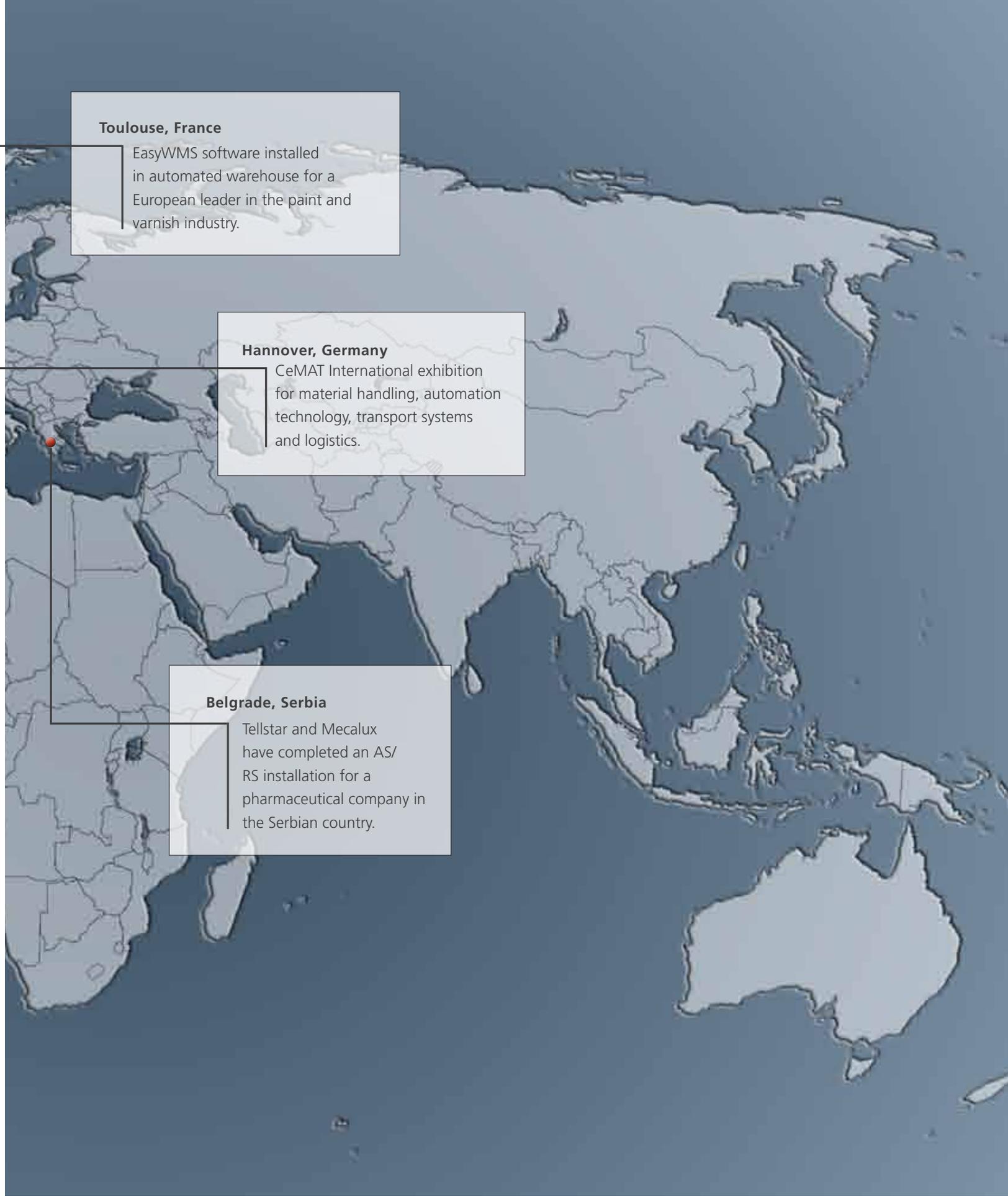
Merida, Mexico

New office will open soon, covering Yucatan, Campeche, Tabasco and Chiapas.

Brazil

Our Country Focus this issue. See page 72.



A world map with a light blue background and dark blue outlines for continents and countries. Three callout boxes are connected to the map by thin black lines. The first callout points to Toulouse, France. The second callout points to Hannover, Germany. The third callout points to Belgrade, Serbia. A small red dot is visible on the map in the Atlantic Ocean, west of Europe.

Toulouse, France

EasyWMS software installed in automated warehouse for a European leader in the paint and varnish industry.

Hannover, Germany

CeMAT International exhibition for material handling, automation technology, transport systems and logistics.

Belgrade, Serbia

Tellstar and Mecalux have completed an AS/RS installation for a pharmaceutical company in the Serbian country.



Country Spotlight: Brazil

Adapting storage solutions for a booming economy

The last decade has ushered in a period of reinvention for Brazil. South America's largest country has slowly been shaking off its troubled past of social and financial instability and has become the poster child for economic resilience. While powerhouses like the United States and Europe have been reeling with a

cumbersome economic recovery from the global financial downturn, Brazil has steadily ascended into becoming the eighth-largest economy in the world. In this kind of environment, Mecalux has also thrived in one of the world's healthiest emerging economies.

The history of Mecalux in Brazil begins in 2005, when it acquired Esmena and incor-



The 290,500 square foot production facility in Sao Paulo is paving the way to success for Mecalux in South America.



porated its 290,500 square foot production plant in Sao Paulo. On Brazilian soil, the company has continued to drive warehouse management and storage solutions to meet the challenges of a booming economy, becoming one of the fastest growing industry leaders in the South American region. From leading multinational companies such as BASF to burgeoning local enterprises such as Portonave, Mecalux has been at the forefront of crafting storage management solutions that best facilitate both international and national business initiatives. Mecalux estimates that South America will account for more than 25 percent of its total turnover in 2011.

Brazil's revamped image as a serious world economic contender—coupled with its jovial and festive character—has garnered significant attention from international event organizers. Winning the bids for the FIFA World

Cup in 2014 and the 2016 Summer Olympics in Rio de Janeiro represents a sizeable investment in the country's infrastructure. As the country braces itself for the surge of business and job expansion brought on by these international sporting events, Mecalux is looking to play a pivotal role in supporting all the industries that will accommodate the needs of the event participants.

For the first time in its history, the world's leading trade fair for intralogistics, CeMAT, recently took place in South America, making Sao Paulo its launching pad. For Mecalux, this event was the ideal setting to further solidify its credibility as a leader in material handling and logistics solutions, albeit as a trendsetter and innovator. 30 percent of the company's showcase at CeMAT revolved around its automated storage and retrieval systems. This platform provided a twofold opportunity: to

engage a new kind of client seeking to adopt automated systems and to acquaint clients familiar with the company's line of rack products with its innovative technological output.

As the country adjusts to its newfound status as a strategic source for expansion at an international and national level, Mecalux is seizing the opportunity to venture out into lesser-known territory. The small and medium enterprise sector is currently clearing its own path in the Brazilian economic landscape and is at the brink of a major development. Seeking to capitalize on this sector's potential, Mecalux is looking to lead its transition from small and medium-scale operations to large-scale ones by providing integral intralogistics support. As the breadth of Brazil's achievements continue to broaden at all levels, Mecalux is proud to be fostering an environment conducive to worldwide success. 



Showroom In Barcelona





The expansion of the Mecalux showroom in Barcelona continues with the development of its new exhibit, Mecalux 5. It showcases all the prototypes that are being developed by the Department of Investigation and Development that will see the light and be active in the next five years. Mecalux 5 is a room of knowledge, with tables and big screen televisions. The screens show the digital process of the prototype, its state of development, calculations and other interesting facts. Two more showrooms will be available at the end of 2011 in Chicago and Mexico D.F.





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Upcoming Events

EasyWMS Webinars offer a 30-minute preview of the EasyWMS software online. Customers are given the opportunity to see the software and ask questions.

Partnership Courses are seminars or classes developed and hosted by organizations endorsed or supported by the Mecalux Group.

Pick Module Seminars are two-day, in-depth training sessions on pick module design, benefits and applications.

Product Schools provide our distributors in-depth, real-life application training for our complete product offering. Training

sessions are taught by our sales and engineering teams with presentations from Engineering, Customer Service and Marketing. Distributors have the opportunity to see and feel our products, ask questions and receive sales tools.

Traveling Showcases provide localized training for distributors who may not have the opportunity to attend our Product School. Scheduled for multiple segments over one full day, these education sessions provide detailed training similar to the Product Schools with bonus training on a specific product line or application.



● Tradeshows

PACKEX. *Toronto, ON, Canada. June 21-23*

Organized and produced by the Packaging Association of Canada (PAC), this year's PACKEX Conference will cover the most timely and in-demand topics for Packaging, Food Process, Material Handling and Logistics.

MidPack. *Chicago, IL. September 20 – 22*

Find new equipment technology and materials at lower costs, reduce waste and increase efficiencies. The latest in: bags, containers, contract services, custom automation, equipment machinery and machinery components, materials, packages, package design and printing, robotics, supplies and software will be on display.

Visit Interlake Mecalux in booth #1622 for a variety of warehouse solutions.



● Product Schools, Seminars, and Webinars

June 21, EasyWMS Webinar

July 5, EasyWMS Webinar

July 14, Traveling Showcase
Atlanta, Georgia

July 18-21, Partnership Course
(Waterbotics)
River Grove, Illinois

Visit triton.edu for more information

August 11, Traveling Showcase
Dallas, Texas

August 16-18, Product School
Naperville, Illinois

September 15, Traveling Showcase
San Diego, California

September 20, EasyWMS Webinar



Picking the Successful Brain

Pick Module seminar doubles in scope thanks to attendees' bolstered interest

Nothing excites Interlake Mecalux more than the opportunity to showcase the innovation and versatility of its products. As part of its ongoing efforts, the company looks to further invest in its instructional initiatives with the launch of the Pick Module Seminars in April. The primary objective of these seminars is to provide real-world applications, where the use of pick modules enhance business, and identify the ways in which they are ideal for high-volume distribution center operations. Here is a recap of the inaugural seminar:



WHO: April's event provided the opportunity for participants to engage a panel of company engineers in a Q&A regarding the applications and benefits of implementing pick modules.

WHAT: The one-day event introduced participants to the pick module design and functions by members of the Interlake Mecalux training team.

WHERE: The inaugural seminar took place at the company's office in Naperville, IL.

WHEN: Fortunately, there will be other opportunities for interested parties to discover the company's line of pick modules. Due to the growing interest, the seminar will be expanded into a two-day event. The first day will be devoted to pick modules, while the second will focus primarily on automated systems. The next scheduled Pick Module Seminar will take place October 25 in Naperville.

FEEDBACK: Among the chief concerns by attendees was how pick modules can be integrated into seismically engineered warehouse installations. [M](#)

Top: A mini-load AS/RS can be integrated in a pick module to increase efficiency. Below: Multi-level pick module with catwalks and conveyor.

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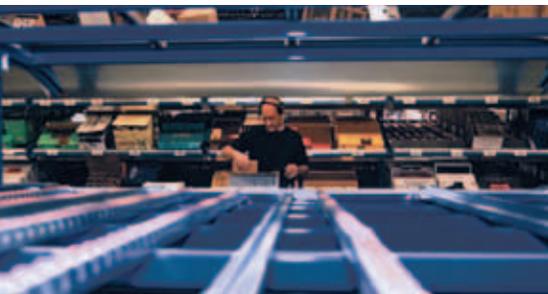
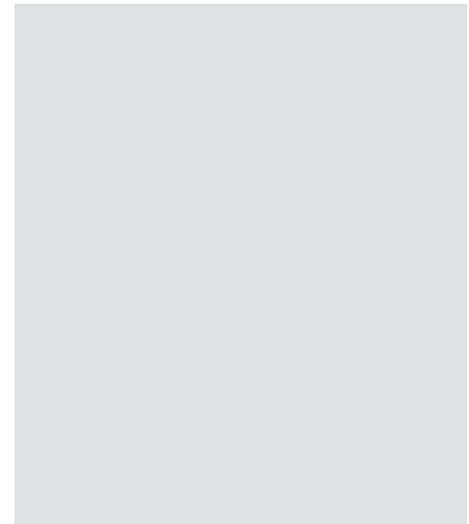
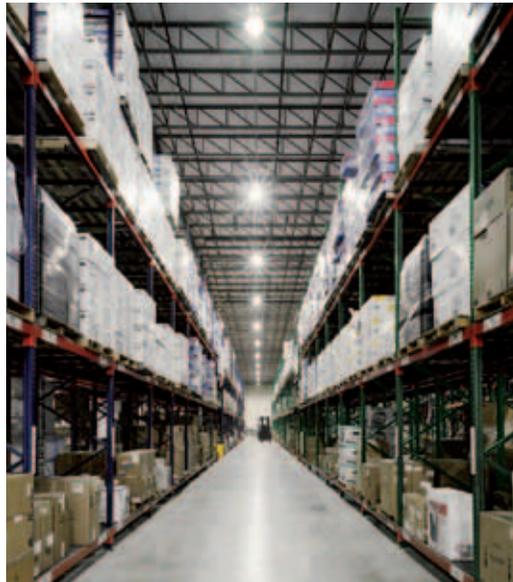
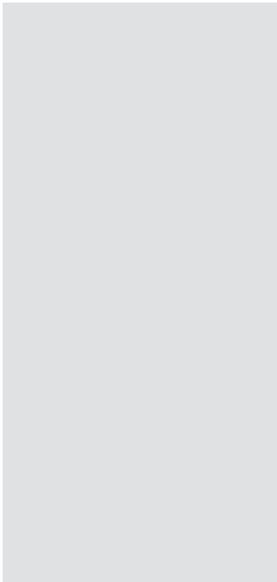




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