

The Only Way is Up

Automated high-bay storage cuts costs, improves safety.

Working in a warehouse is tough. It takes physical effort and can involve hazardous work shifting heavy and unwieldy warehouse goods. The metalworking industry is certainly no exception. More and more companies are therefore facing the same problem: hard competition and cost pressure, while finding it increasingly difficult to attract properly qualified staff.

If your warehousing is meeting its limits of space and staffing levels, automated high-bay storage could be just the right solution. With double benefits: stacker cranes on rails automatically load and unload high racks of shelves

up to 105 feet. These stacker cranes enable ergonomic warehousing and picking, sometimes allowing for one-man operation. It means you can save on staff or redeploy them to more profitable positions. Not only does working in the warehouse get easier, it is safer too. There is less risk of injury because handling of steel bars and sheets using a crane or forklift is reduced to a minimum. This increased safety in the workplace ultimately also has a positive impact on annual workers compensation insurance costs.

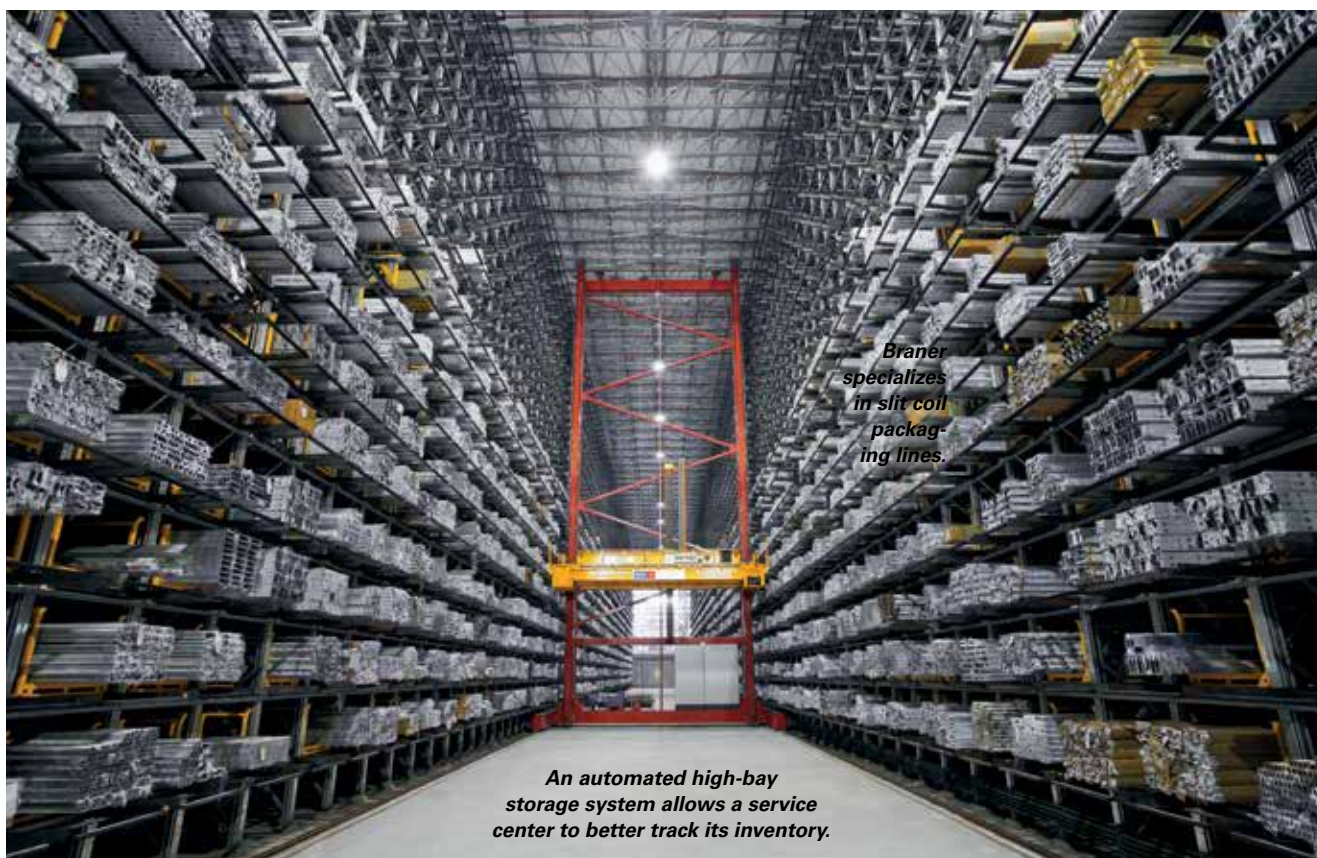
Another cost-saving advantage is the reduction of transport damage, which occurs significantly less often by using stacker cranes rather than manual

loading and unloading.

Another equally interesting aspect of an automated high-bay warehouse system is the option to continually monitor what's in the warehouse: an electronic warehouse management system keeps track of warehouse movements and current warehouse stocks and enables an optimal distribution of goods on the shelves. It is crucial to consider the compatibility and upgrades across the entire life cycle of the high-bay warehousing.

Tailored solutions beat off-the-shelf products

The benefits of a fully or partially automated high-bay warehouse are



Braner specializes in slit coil packaging lines.

An automated high-bay storage system allows a service center to better track its inventory.

clear: a well-thought-out warehousing concept means savings on personnel costs plus efficient logistics and reduced transport damage over many years, making it the reliable core of your materials management – while taking up considerably less space.

With a project of this order of magnitude, however, a number of factors should be considered to allow the interactions between the various parameters to be assessed and calculated. These include the amount of available space and the stock turnover volumes, lead

will implement it. Ongoing maintenance by a close service network, the quick replacement of parts where necessary and compatible software solutions that keep pace with the times should also be a given over the years and decades. ■

Fehr Warehouse Systems
Founded in Switzerland, Fehr Warehouse Systems has a branch in Charlotte, N.C. It provides tailored long goods storage solutions from a single source. For more information, visit www.fehr-usa.com.

“By capturing and analyzing data in a single location, business intelligence tools can then easily identify both trends and exceptions.”

times and expected economic developments in the years ahead.

Tailored planning according to your requirements based on detailed process analyses can prevent bad investments and ensure that the system is optimally designed for its entire life cycle. Computer-aided simulation of the predicted material flow creates clarity and allows you to run through various scenarios with ease.

This requires a partner with many years of expertise in the sector and broad specialist know-how that can offer all solutions, from planning and simulation through to implementation and ongoing maintenance, all from a single source. This is the only way to guarantee a satisfactory overall result with planning and cost efficiency.

Tip: Given an average use of 30-plus years, you should consider the entire life cycle of your high-bay warehousing system when selecting who



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Transfer Cars Bridge Gaps Between Bays

Multiple-bay warehouse facilities can be connected by self-propelled cars.



Braner's Cross-Bay Transfer Car has a propane gas engine to eliminate the need for charging.

sometimes be a challenge.

Transfer cars, self-propelled railcars that travel perpendicular from one crane bay to another bay, provide an efficient means for transferring materials between crane bays.

Braner/Loopco Cross-Bay Transfer Cars have load capacities up to 120 tons. They are designed to transport heavy coil, sheet and plate between crane bays across a building. A propane gas engine that provides power for unlimited travel distance eliminates need for electrical power cables and battery charging stations.

Home to metal distributors and coil processors is commonly a large multiple bay industrial building where raw materials such as coil, sheet and plate are transported from a raw material storage area to a materials processing area to a finished goods area via over-head cranes. Raw material can often be stored in one crane bay, while processing equipment and finished goods may be located in other parallel crane bays in the building. Overhead cranes efficiently handle materials within the boundaries of a single crane bay, but transferring heavy materials from one crane bay to another can

A pushbutton start energizes the travel control and the car begins its journey. Multiple V-saddles allow up to four coils to be transported, and multiple sheet and plate stacks to 20 feet long are transported on a flat deck.

Unlimited-travel, propane-engine Cross-Bay Transfer Cars can be operated by hand-held wireless controls or provided with fully automatic travel and presence-sensing safety apparatus. ■

“Overhead cranes efficiently handle materials within the boundaries of a single crane bay, but transferring heavy materials from one crane bay to another can sometimes be a challenge.”

Braner/Loopco, Schiller Park, Ill., manufactures coil processing, packaging and coil transfer cars. For more information, visit www.braner.com.

Resource Effectiveness Key to Proper Flow

Handling and storage efficiencies are a crucial part of production.

Metals industries are evolving with the rapid advancement of technology and communication systems. Metals processing and manufacturing industries are pressured to increase capacity, production speed, precision, flexibility and efficiency to compete globally, meet customer demands and endure market volatility.

Service centers and others in the metal supply chain need to approach metal flow optimization introspectively. Metal flow requires businesses to focus on resource effectiveness to truly get the most out of the operation.

Efficient material handling processes and storage methods are critical to production performance. Significant opportunities are presented when inventory and work-in progress items are organized and accessible, floorspace is freed up, and less time is spent retrieving material.

Uninterrupted production and predictability yield better production planning, tighter inventory control and shorter lead-times. All of that delivers better bottom-line results.

Steel Storage Systems offers storage and handling systems to facilitate metal flow. Our racks and conveyors increase density, save time, and compliment processing equipment. In

“Uninterrupted production and predictability yield better production planning, tighter inventory control and shorter lead-times.”

In addition, we design and manufacture custom handling systems tailored to your application. ■

An infeed and outfeed conveyor system with load skids.



Steel Storage Systems, Commerce City, Colo., designs, manufactures and installs customized material handling equipment and systems for a wide array of applications. For more information, visit www.steelstorage.com.

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TUBE PACKAGING
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Automating Pallet Wrapping Boosts Safety

Manual wrapping of metal products puts workers at risk of punctures, lacerations, strains and worse.



A TAB Wrapper Tornado can wrap a pallet without the forklift driver leaving the seat.

“As automation helps reduce injury risk at various steps in metals production and distribution, the number of injuries in the packaging and shipping departments becomes more visible and problematic.”

Reportable workplace injuries in packaging and shipping at metal production and distribution facilities commonly average \$2,000 per incident in direct costs alone, according to an informal survey of fab shop owners and others involved in the metals industry. Many of these injuries come from punctures, abrasions and lacerations to the arms due to contact with sharp, metal parts and splintered pallets. Other injuries come from acute and chronic back conditions. Yet all of them occur when workers manually wrap pallet loads in plastic shrink-wrap to ready their metal parts and products for shipping and storage.

One of the most common manual wrapping methods involves a lift truck driver raising a pallet loaded with metal parts while two other workers wrap the plastic film over, under and around the pallet and parts by hand. They pass the film roll back and forth in hopes of securing the parts to the pallet while also hoping nothing

falls off the pallet — raised just above their heads. It is not uncommon for a pallet load to top 2,000 pounds and any load shifting during the wrapping process could cause a potentially deadly imbalance. Wrapping large-, round- or odd-shaped parts this way presents even greater challenges.

Since it is inherently difficult to safely and effectively secure the parts to the pallet using this manual wrapping method, workers often use extra plastic film to make sure the load stays in place. Sometimes it works. In other cases, workers under wrap the load, thinking it is secure when it really is not. This can allow the load to shift when placed in storage racks, leading to accidents upon removal. Despite the inherent safety risks, this approach has been the standard in many plants for years. Load shifting while in transit also invites product damage, rejected orders, and costly returns and redos.

As automation helps reduce injury risk at various steps in metals production and distribution, the number

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TAB Industries manufactures the TAB Wrapper Tornado line of automated orbital wrapping machines in its Reading, Pa. headquarters. For more information, visit www.tabwrapper.com.

A Look at Lifter Attributes

The type of metal being moved dictates the lifter you need.

Lifting systems should be designed to meet the specific needs of the type of metal your operation is handling. The requirements for sheet and plate differ from what you need if your company works with pipe and tube products.

Sheet & Plate Lifters:

Operator-centric, effective and efficient designs of these magnetic lifting systems allow one person to safely and effectively move and load sheets onto cutting tables, shear beds and other fabrication equipment.

The product can be designed to meet exacting application specification requirements. These permanent magnets require a simple burst of shop air to release the sheets and plates.

Other worthwhile attributes of a sheet and plate lifter include: designs available to handle practically any size and thickness of steel sheet; excellent thin-sheet lifting capabilities; reliability of permanent magnet with the on/off capabilities of an electromagnet; failsafe design (no battery backup required); will hold load during power outage or system air loss; capable of clearing a cutting table in a single pass; among others.

Tube Lifters

These lifters are designed to assist in stacking, destacking, loading and unloading for a variety of tube and pipe

applications. This is a permanent magnet that requires a simple burst of shop air to release the row of tube or pipe.

In the result of a loss of shop air, the tube lifter is designed to remain in a "failure safe" mode, without

Other features include: the ability to destack nested tubing; can work on round, square and custom-shaped tubing; reduce cycle times in many tube-handling applications; and spreader system for mounting magnets.



A Tube Lifter from Industrial Magnetics can handle any shaped tubing product.

the need for a battery backup system. Simply put, the magnet will not drop the tube or pipe, ensuring safer working conditions. The tube lifter is ideal for hydroforming, roll-forming, packing, cutting, or tube and pipe fabrication applications.

Industrial Magnetics Inc.
Since 1961, Industrial Magnetics Inc., Boyne City, Mich., has been providing permanent and electromagnetic solutions to meet the exact needs of any application. For more information, visit www.magnetics.com.

Palletizers and Depalletizers

Designed to increase production and reduce product damage, magnetic palletizers and depalletizers provide a safe and efficient method of transferring any items that are nested or en masse.

Powerful magnetic transfer heads securely move products from accumulators to the shipping containers, without the need for additional holding devices. Both palletizers and depalletizers are designed with a pneumatic release, which makes them perfect for automated processes. ■

Don't Waste Slitting Line's Time on Packaging

Banding, stacking of slit coils can be handled separately, allowing the line to resume operation.

With the shortage of skilled labor, companies are looking for ways to increase productivity while reducing personnel requirements. When it comes to slitters, a coil packaging system is an essential part of the operation. You can have an efficient high-speed slitter only to have it sit idle while the coils are banded and removed.

A well-designed banding line gives you the ability to band, sort and store coils efficiently. However, it is important that the line has the speed and capabilities required to match the output of your particular slitter. Red Bud Industries offers a number of unique solutions to meet today's toughest challenges.

Removing slit coils from the recoiler can be time consuming. Typically, OD bands are applied to the coils while they are on the recoiler. However, the line cannot be restarted

“Typically, OD bands are applied to the coils while they are on the recoiler. However, the line cannot be restarted again until the coils are removed.”

again until the coils are removed.

One solution is to add a dual-mandrel recoiler. Once the coils have been slit, the unit can be rotated 180 degrees and the line quickly restarted. While the new coils are being slit, OD bands can be applied to the slit coils and they can be removed.

Another option is to add hold-downs to the exit coil car and turnstile. This allows the slit coils to be removed from the

recoiler and placed on the turnstile arms without OD bands. Once on the turnstile, the coil's OD bands can be applied. While this is typically a manual operation, fully automatic OD banders are available that will perform this operation without assistance.

An automatic downlayer removes the coils individually from the turnstile. The unit automatically lifts each coil and re-orientates it from a vertical to a horizontal position. Once each

coil is in the horizontal position, it is automatically conveyed to the next open conveyor. Systems can be configured with either a semi or a fully-automatic ID bander, depending on the throughput and level of automation required. Once the initial ID band is applied, the coil is automatically repositioned so the next ID band can be added. Once bands are applied, the coil is automatically indexed to the next conveyor.

A coil stacker is used to remove and stack coils after the ID bands have been added. The unit can pick up one or multiple stacked coils before moving them to the

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Red Bud Industries, Red Bud, Ill., manufactures processing equipment and material handling systems for coil lines. For more information, visit www.redbudindustries.com.

Building a Smarter Crane

Smart-crane technology improves safety workflow.

Overhead cranes are essential assets for metal distribution – making breakdowns and accidents detrimental to business. Thanks to the latest automation, smart crane technology can help you avoid some of those problems, while streamlining workflow and extending the life of your equipment. Here's how the latest automation packages stand to benefit your operation.

Injury and Accident Prevention

There are several types of effective automation add-ons designed to protect your investment and your employees, and anti-collision technology is the most popular and least expensive.

At Zenar Corporation, we see it requested for almost every crane produced as a standard precaution against crane and facility damage. Using either lasers or radio frequency, anti-collision prevents the crane from coming into contact with other cranes or walls. It's an effective fail-safe for avoiding worst-case-scenarios and extensive damage. While lasers are the easiest to implement, radio frequency adds the extra safeguard against materials blocking the laser.

No-fly zone automation is the second most popular add-on, particularly for cranes also using semi-automatic positioning, where the crane needs to complete functions on its own without running into anything. Predetermined no-fly zones keep the crane from flying over certain areas where other equipment or shelving is permanently stationed. When paired with anti-collision technology, a crane can respond in real time to the objects in its environment, while automatically avoiding no-fly zones wherever it travels.

Another important part of crane safety is preventing the load from excessive swaying. Whether a crane is running on a predetermined track or driven manually by an operator, sway control limits load sway by using the bridge and trolley to automatically compensate for excessive shifting of the load. This helps to prevent accidents that occur from materials swinging into people and objects, while keeping the crane running at optimal speeds.



A coil tracking application uses the position of the crane given by the positioning sensors to keep track of coils, even as they cool, eliminating the requirement for pen-and-paper tracking.

Troubleshooting and Maintenance

In addition to preventing workplace disasters, smart technology can be used to optimize workflow and increase efficiency.

With smart features like positioning assistance and semi-automatic positioning, cranes are able to quickly and precisely perform under the guidance of sensors while taking the shortest path to their pre-programmed position. During processes with limited visibility or little room for error, positioning assistance and semi-automatic positioning are game changers for keeping an operation moving with consistency.

When combined with warehouse management automation, cranes can also map the location of each of your materials, preventing errors in tracking and organizing inventory. Together, these automation add-ons save time and money otherwise spent troubleshooting.

Not only can smart technology streamline maintenance, it can also increase the longevity of your crane. With shock-load prevention and Anti-Skew technology, sensors and control systems monitor hoist speed, wheel positioning and load force to keep the crane traveling smoothly. ■

Zenar Corporation,
Oak Creek, Wis., provides automation to cranes of any brand at any time. For more information, visit www.zenarcrane.com.

Proper ‘Hand’ Care for Cranes

Three steps to follow when adding a BTH device.

Your below-the-hook lifting devices can be considered the “hands” of your operation. You might have great metal processing machines, but they cannot produce your product or value-added service unless the master coils, plates, structural pieces, sheet bundles and burned/cut parts can be efficiently and safely gripped, lifted, and set into and moved out of your line.

Below-the-Hook lifters in a metal service center commonly include:

- Coil lifters (C-hooks, manually adjustable coil lifters, motorized coil grabs, slit coil I.D. lifters)
- Sheet/plate lifters (manual or motorized)
- Lifting magnets
- Vacuum lifters
- Specialty devices (for beam/plate flipping or cleaning out slitting line looping pits)

Any of these devices can significantly impact the design and functionality of

“The BTH lifter manufacturer and the crane OEM need to collaborate during the early-design stage to ensure a seamless lifting system.”

the overhead crane it attaches to. Here are some recommendations:

1. Consult first with a manufacturer of BTH lifters.

At a minimum, the net weight of the lifter needs to be added to your heaviest load to arrive at the crane’s required lifting capacity. The lifter’s function and physical envelope (length, width, height) are important to know when establishing the crane hook end-

approaches, maximum lifting height and total lift needed.

An electrically powered motorized lifter with numerous motion interlock sensors adds another layer of complexity to the crane’s electrical system design...from the type of motion buttons on the crane operator’s station to the physical location of motor control enclosures and means of getting electrical power to the lifter.

Once the BTH lifter specification is defined, information about lifter net weight, envelope dimensions, power supply, type/size/location of lifter motor controls and operator controls, and number/size of electrical wires needed can be passed on to the crane manufacturer or service provider.

2. Consider buying a package.

You might think that you will save money by purchasing a BTH lifter separately from a new crane. Think again. A complex electrically powered lifter is really an extension of the crane. The BTH lifter manufacturer and the crane OEM need to collaborate during the early-design stage to ensure a seamless lifting system. Operation, maintenance and spare parts information will be combined in one set of documents. Operator training and early operational snags can be handled through a single point-of-contact.

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Bushman, Menomonee Falls, Wis., is a leading designer and manufacturer of below-the-hook lifting devices and other floor-based material handling machines. For more information, visit www.bushman.com.



It's recommended to purchase a BTH lifter at the same time you purchase a crane. (Photo courtesy Bushman)

Proper Sheet Handling Makes a Difference

Quick and accurate sorting, stacking and discharging of sheet products keeps line moving.

How the sheets are handled at the exit end of a cut-to-length or press feed line makes all the difference in the world. The finished sheets need to be sorted, stacked and discharged, and new pallets need to be inserted. For maximum productivity, all this needs to be done accurately, quickly and safely.

ALCOS designs unique sheet handling and pallet loading systems to increase cut-to-length and press feed line efficiency.

The ALCOS Dual Station Vacuum Stacker can handle all shapes of aluminium or steel blanks.

Since this vacuum stacker has two stacking stations, it operates continuously. While one station is collecting, stacking, tamping and counting blanks, the other station is on standby, ready to seamlessly receive blanks from the vacuum conveyor as soon as the blank count is complete on the first station.

Left- and right-handed blanks can

also be separated automatically, utilizing both vacuum stacker stations simultaneously.

ALCOS also offers Air Float Stackers, Automatic Drop Stackers and Automatic Indexing Sheet Stackers. These stackers can come with a single stacking position or dual stacking positions for increased productivity with continuous operation.



Proper handling of sheets at the end of a line is crucial to productivity.

“ ALCOS's new Automatic Skid Loader is available to preload up to 10 skids for automatic loading. ”

ALCOS's new Automatic Skid Loader is available to preload up to 10 skids for automatic loading. The com-

pany's Automatic Pallet Positioning System allows the operator to safely and accurately position the next pallet into the stacker with the push of a button.

Handling the finished stacks is also critical. End or Side Discharge Conveyor Systems are available to remove the stacks and provide locations for manual or automatic packaging and storage. A Shuttle Car system can also

be used to discharge the completed stacks to the front or the rear of the stacker, providing a continuous operation. Integrated scales are used to obtain accurate stack weights.

ALCOS also offers runout conveyor systems for surface inspection and dimensional verification of the sheets prior to entering the stacker. ■

ALCOS, Newmarket, Ontario, builds processing equipment and packaging lines for coil processing operations. For more information, visit www.alcos.com.

Challenges and Solutions in Material Flow

Sawing inefficiencies can be caused by issues with handling metal.

Metal distribution companies face stiff competition in today's economy and are constantly asking for ways to cut costs and increase profitability. Most notably, the request is centered on efficiency and reduction of process time to meet deliveries and make a profit at the same time.

Often, metal service center managers ask specifically how they can speed up their band sawing process to increase productivity and efficiency in their plants. In many cases, it is not only the saw choice or the need to improve the sawing function at all, but a matter of wasted time in moving material into and out of the sawing operation.

Focused time-study assessments and analysis over years of evaluating sawing operations in various types of facilities has led to the realization that a more comprehensive approach to the sawing process, one that utilizes a "sawing system" design concept, is required. This concept, along with new innovative control engineering, has improved the output of the sawing process exponentially.

Even if a 50 percent reduction in sawing time is achieved, this will only reduce the overall sawing efficiency/output by 20 percent at best. So, efficiencies must be sought out in other areas of the operation.

In one such study it was discovered that a customer had lost \$3,132 during just one 10-hour shift. The majority of that loss was attributed to wasted time preparing for the next cut, leaving the saw idle during the material handling process that required the use of a shared crane to load and unload the band saw. Material handling is often overlooked as the culprit,

“ Even if a 50 percent reduction in sawing time is achieved, this will only reduce the overall sawing efficiency/output by 20 percent at best. So, efficiencies must be sought out in other areas of the operation. ”

and when it is recognized as the major contributor to process time, remedies can be integrated into the sawing system to greatly improve efficiencies.

Solutions involving material handling components have been created to improve efficiencies by employing the "Sawing System" approach rather than a focus on individual components. The ability to move material through the primary sawing operation and into secondary and even tertiary processes, is creating more efficiencies with increased material flow. As mechanical improvements to these features have improved, design improvements in the controls of the material handling components combined with an "integrated" sawing system approach have become a focus.

Not every business has the budget, or need, for a fully automated material handling system. Components such as cross-transfers, powered roller tables, or side loaders might be overkill for a small operation, but there are still many budget-minded material handling features that can make a huge difference in the bottom line, improving output with less long-term production cost. The ROI has

to be taken into account when an engineering department takes on any project.

In addition to more efficient material flow and the increases in productivity, customers are also demanding sawing systems that provide more internal management control of the sawing process. HE&M Saw began utilizing new PLC touch-screen technology with in-house programming to develop intuitive controls for both the saws and material handling systems. In addition to the advanced control technology, 'non-contact' material measuring devices utilize the latest sensor and motion control technology for accurate and time saving material measuring which further improves efficiencies.

Service center management is continually looking for ways to monitor their equipment and receive feedback in formats that are easy to evaluate and are actually useable for decision making. With upcoming control technology, HE&M Control Engineers are developing controls that will use feedback devices to provide a wide range of machine and process monitoring including predictive maintenance information. This new "Smart Saw Connect" design is in development and the upcoming software associated with Smart Saw Connect will be compatible with MTConnect, the non-proprietary manufacturing technical standard designed so that data can be exchanged between software applications and equipment on the shop floor. ■

HE&M Saw, Pryor Creek, Okla., has been manufacturing band saws and band saw technology for more than 50 years. For more information, visit www.hemsaw.com.

How to Relieve the CTL Line Bottlenecks

Increase your stretch leveling or CTL line production with packing and strapping automation.

Most CTL lines suffer from a bottleneck in production at the exit of the line due to different customer requirements for packaging of CTL sheets or plates. These customer-driven requirements can be quite extensive and labor intensive for the line operators. End customers today are requesting smaller stacks and more frequent deliveries to manage their cash flow more effectively. This puts additional pressure on the line operator due to the increase in the number of packaged stacks the line must produce.

Requirements from the end customer might include the following:

- Strapping of the sheets both longitudinal and width directions.
- Strapping of dunnage to the sheets both longitudinal and width directions.
- Protective wrapping of paper or plastic.
- Stacks with or without wooden skids.
- Corner protectors
- Shrink wrap

The following automated stacking and packaging features can improve throughput efficiency:

- Storage of packs via roller and chain type conveyors.
- Ability to discharge scrap pieces without manual lifting.
- Automated insertion of corner protectors can be included.
- Pack Lifter – This is used to elevate a stack of sheets that have exited the stacker. Once elevated the package can be easily wrapped.
- Wrapping Systems - Longitudinal wrapping can be manual or automated; width wrapping can be automated via



an orbital wrapper.

- Automatic Dunnage Retrieval from an organized pack by robot or by a dunnage cartridge system.
- Automatic Dunnage Insertion under the stack of sheets.
- Automatic Strapping of the dunnage to the stack of sheets.
- Automatic Building of a master stack of sheets via an automated sheet lifter and/or gantry crane.

Once the master stack of sheets is built, the sheets are deposited onto the floor for removal by the main overhead crane and put into the storage area.

Cloud-based data storage/tracking system including package-specific details, machine status, faults or stoppages, and production levels. Over time this system can provide information on areas of improvement to further increase production, or help the owner identify the packaging costs to improve

the management of as sold costs.

The automated packaging of sheets or plates can be custom-engineered to suit the line operation requirements. Using these automated features, lines have increased output up to 30 percent, allowing the owner to reduce manpower and increase productivity.

Skilled labor shortages are another factor in today's market for which an automated system can help solve. For example, if the owner can move the labor previously used in the packaging area to run an additional shift on the line, the plant can increase the production levels even more. ■

Athader SL is part of the Bradbury Group of companies and produces slitting, CTL and packaging lines for both slit coils and CTL sheets/plates. For more information, call 620-345-6394 or visit www.athader.com.

Automation Pallet Wrapping - TAB Industries *(continued from page 40)*

of injuries in the packaging and shipping departments becomes more visible and problematic. It is easy to see why a growing number of owners and executives responsible for providing a safe workplace in the metals industry have become increasingly concerned with packaging and shipping and are considering how automation may play a role in improving the situation.

Many are investigating automated pallet wrapping machines to replace the manual method. Horizontal turntable wrapping machines are often considered, but since they wrap the parts to themselves without securing the parts to the pallet, these machines do not adequately solve the problem. Orbital wrapping machines that wrap the plastic film with a vertical orientation, by contrast, are earning substantial attention. One such system developed by a metal fabri-

cation shop owner, automatically wraps the plastic film 360 degrees around and under the pallet to attach the load to its pallet and keep it securely in place for transport or storage.

Called the TAB Wrapper Tornado, this orbital wrapper allows the forklift operator to manage the entire wrapping process by wireless remote control without leaving the seat. Instead of requiring workers to wrap the pallet while stooping under a heavy load, the operator simply drives up to the machine until the pallet enters the wrapping ring, then presses the start button. The TAB Wrapper Tornado then automatically wraps layers of plastic film around the palletized load, securing the parts as a sturdy, unitized, weather-resistant load ready for transport to the customer, to another stage in-plant or for storage. This approach requires only one person

instead of three and virtually eliminates human contact with the parts, pallets and plastic film along with the potential for injury. It also wraps each pallet load in less than a minute versus five minutes or more per pallet load when wrapping by hand.

Given the recent advances in automated wrapping machinery, isn't allowing workers to continue incurring painful injuries by manual wrapping methods irresponsible management? Consider that in an actual mock OSHA inspection, the professional safety consultant from OSHA'S Safety & Health Achievement Recognition Program cited the TAB Wrapper Tornado for transforming one of the most dangerous jobs in a metals plant into one of the safest jobs. Companies using this approach have eliminated the injuries that used to occur during manual wrapping. ■

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Packaging - Red Bud Industries

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next position. Stacks can be moved to multiple positions along the length of the unit. A sortation table can also be used to stage stacks of slit coils prior to their being packaged and removed or to separate multiple jobs run from the same master coil. Six- and eight-position tables are available. An integrated skid pusher is used to push stacks off of the sorter and on to a skid conveyor.

Rotary skid conveyors can be used to assist with coil/skid packaging. After banding wider slit coils, the table can be used in conjunction with an integrated coil upender to return them to their vertical orientation. Packaging lines can also be used in conjunction with semi or fully automatic stretch wrapping systems. Full perimeter floor mounted guarding with safety interlocks are also standard. ■

Handcare for Cranes - Bushman (continued from page 44)

If you are sold on the BTH lifter brand that you worked with to develop the lifter specs, you can specify that brand to the crane OEM. Then your selection is narrowed to choosing a crane OEM and not having to worry about what BTH lifter they are providing.

However, if you are adding a new BTH lifter to an existing crane, the crane may need modifications so that the lifter can operate with it. Consider working with the crane OEM or a reputable crane service provider to lead the way. This is especially important when applying an electrically-powered lifter.

3. Inspect the BTH Lifter with the crane.

As providers of a small segment of industrial equipment, most BTH lifter manufacturers do not have full-time field service technicians and inspectors. ■

However, many reputable crane service organizations can perform basic inspections of BTH lifters.

Safety standards for BTH lifting devices are developed and published by the ASME B30 committee, as are similar standards for overhead and gantry cranes. Frequent and periodic inspections described in the standards for BTH lifters and cranes can and should be performed on the same schedules.

Therefore, it is recommended that inspections of BTH lifters be included in the scope of the crane inspection, if not already done so.

Unlike the crane, if a BTH lifter needs an extremely detailed inspection or a major overhaul, it can usually be returned to the OEM or other reputable lifter manufacturer to perform the work rather than attempt a complex field-repair. ■

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