Making Light Work
Ergonomic Equipment Maximizes Productivity, Reduces Fatigue

Aerial Lift Debuts

Industrial Tires Program
Helping Hands

Safety, the economy, and an aging workforce are among factors improving demand for workstation cranes and other ergonomic lifting equipment.

By Myra Pinkham

Myra Pinkham is a New York-based writer and editor with nearly 30 years of experience writing about the North American and international manufacturing markets, both from an equipment and raw materials perspective, for various industrial trade publications.

A combination of the push for ergonomics in the U.S. manufacturing sector and the slow—but sure improvement in economic activity has helped to bolster demand for investment in workstation cranes and other ergonomic lifting equipment.

While the market for workstation cranes and other ergonomic lifting equipment had been really depressed a few years ago, Brian Stephens, senior product manager for Terex Material Handling North America, Solon, Ohio, says it is now back at, or exceeding, pre-recessionary levels. In fact, with the market becoming more aware of the available equipment and how they can offer companies greater flexibility, he says demand for workstation cranes has jumped 20% to 25% in the past year.

While some others place the growth at somewhat slower rates, the overall consensus view clearly is that demand for these types of lifting equipment are growing at greater rates than standard overhead cranes.

Demand for ergonomic lifting equipment demand in general was actually somewhat slow in the first half of last year, according to Jeff McNeil, marketing manager for Gorbel Inc., Fishers, N.Y., although it started to pick up in the second half of the year. "We are still not seeing a phenomenal growth rate, but with our customers becoming more aware of their advantages there has been and will continue to be slow, steady year on year growth rates of approximately 5% to 10% both this year and next year," he says.

Al Izzo, general manager for Daltec Inc., Bloomingdale, Ill., says that while actual orders for his ergonomic material handling equipment has been fairly steady year on year, he has seen about a 5% increase in proposal levels.

Matt Fordline, senior applications engineer and products manager for Schmalz Inc., Raleigh, N.C., a maker of ergonomic vacuum lift-assist devices, says that while in general material handling equipment is set to grow by approximately 7.7% this year and 8.7% next year, he believes that ergonomic equipment will see even a greater rate of growth.

Some of the drivers for workstation cranes and other ergonomic lifting equipment are very similar to those for standard lifting equipment. Stephens observes that demand for standard overhead cranes tend to follow the general cycle of the economy, with a slight lag and a bump in demand when companies invest in new or expanded facilities.
TRENDS & TECHNOLOGY

Pent-up demand

"A year ago, many companies were skittish about spending money on any equipment with questions about sequestration, the debt ceiling and the federal budget," McNiel says. It isn't that the projects that they funded didn't make sense, that they wouldn't have a high return on investment, he says. But still due to the uncertainty in the marketplace many of these projects were put on hold. As they were still seen to be worthwhile they weren't canceled, but just delayed or paused," he adds.

Business sentiment, however, is starting to get better. The New York-based Conference Board's consumer confidence index has edged up 82.5 points in March, up from 78.3 points in February with indications that consumer confidence will continue to grow with the group's expectations index increasing to 82.3 points from 78.3 points.

There also have been some other positive economic leading indicators, including a 5.8% year-on-year increase in the Federal Reserve's industrial production index and the manufacturing purchasing managers' index of the Institute of Supply Management was at its highest level so far this year at 53.6% in March, including nine month or month increases in its new orders, production and order backlog indices. In addition, there appears to be less of the political bickering and gridlock in Congress.

"Now that some of the uncertainty in the marketplace has been removed, even companies who hit the pause button last year are now willing to spend more on capital investments," McNiel says. In fact, Fortune observes that industry-wide material handling is set to grow approximately 7.7% this year and 8.7% next year.

This is not just because of improved economic conditions. McNiel says as usual much of the push for investment in lifting equipment in general can be traced to manufacturing process changes. "We are seeing push for more lean manufacturing initiatives, more flexibility in production processes and a desire to spend more on production rates," he adds.

The push to promote demand for workcrane cranes and other ergonomics lifting equipment are now, and likely will continue to increase, see greater growth rates than standard equipment.

"Wireless ergonomics has already been an important consideration for U.S. manufacturers for about 20 to 25 years," Jim Galante, executive director of business development for Southworth Products Corp., Pittsfield, Mass., says that for much of that time it was just seen as "a nice thing to do," but really not much more, unlike other areas of the world, such as Europe and Australia, where it was considered a "big deal."

He says that was evidenced by the fact that many domestic manufacturers felt "the sky would fall down" in 2000 when the Occupational Health and Safety Administration (OSHA) announced it was issuing an ergonomic program standard that would have included "action triggers" for jobs that were identified as having sufficient ergonomic risks of workers performing certain tasks developing musculoskeletal disorders of the upper extremities, back, and lower extremities.

In fact, in mid-2001 Congress passed legislation to repeal the standard, which then-President George W. Bush called "unduly burdensome and overly broad regulation" (that) "would cost both large and small employers billions of dollars and penalized employers with overwhelmingly convoluted compliance." This is the only instance that Congress successfully used the Congressional Review Act to block a federal regulation.

More recently, however, ergonomics and safety have become much more important to major customers, Stephens says. "If a company has the desire and means to invest in new or upgraded equipment, why not buy equipment that will be more beneficial for their workers," he explains.

Stephens says the value of having equipment that doesn't cause harm to employees has been marginalized in the current business environment of rising health care costs. Also, he says it shows workers that the company is investing in them, which could motivate operators to do a better job for their company. "Safety is the No. 1 reason for the investment, but workers are often more productive as well."

Older and fatter

In particular two factors have really turned things around—the aging of the U.S. manufacturing workforce and the increased number of obese workers. Galante says fewer workers are retiring at age 65 than used to at a time when younger people are interested in working in the manufacturing sector, especially in jobs that acquire heavy physical labor.

He says that as recent as in 1990 there was no state in the United States that reported having greater than 4% of its population being obese, but that now 33 states have more than 20% of the population being obese.

"That is a big deal, as on average obese workers have 13 times more lost workdays than those who have what is considered to be a healthy body mass index (BMI). Also, obese workers also not only file twice as many Workers Compensation claims, but the cost of those claims are usually six to eight times higher than those who are at a healthy weight."

"All of this makes ergonomics being seen in all capital letters and in bright lights—it makes ergonomic equipment that much more important," he says. "As both age and obesity affect the ability of the worker to move loads without getting hurt, throughout the manufacturing sector there has been a heightened awareness about safety, according to Kelin. "No one is immune to that from the biggest OEM to a small mom and pop machine shop. Customers
TRENDS & TECHNOLOGY

Pent-up demand

"A year ago, many companies were skittish about spending money on any lifting equipment with questions about sequestration, the debt ceiling, and the federal budget," McNiel says. It isn’t that the projects that they fancied didn’t make sense, that they wouldn’t have a high return on investment, he says. But still due to the uncertainty in the marketplace, many of those projects were put on hold. As they were still seen to be worthwhile, they weren’t canceled, but just delayed or paused," he adds.

Business sentiment, however, is starting to get better. The New York-based Conference Board’s consumer confidence index has edged up to 82.5 points in March, up from 78.3 points in February with indications that consumer confidence will continue to grow with the group’s expectations index increasing to 80.3 points from 76.3 points.

There also have been some positive economic leading indicators, including a 5.8%-per-year on year increase in the Federal Reserve’s industrial production index and the manufacturing purchasing managers’ index of the Institute of Supply Management was at its highest level so far this year at 53.7% in March, including nine month or more increases in its new orders, production and order backlog indices. In addition, there appears to be less of the political bickering and gridlock in Congress.

"Now that some of the uncertainty in the marketplace has been removed, even companies who hit the pause button last year are now willing to spend more on capital investments," McNiel says. In fact, Foroni observes that industry-wide material handling is set to grow approximately 7.7% this year and 8.7% next year.

"This is not just because of improved economic conditions," McNiel says. As usual much of the push for investment in lifting equipment in general can be traced to manufacturing process changes. "We are seeing push for more lean manufacturing initiatives, more flexibility in production processes and a desire to speed up production rates," he adds.

In particular two factors are really pushing things around—the aging of the U.S. manufacturing workforce and the increased number of crane workers. Galante says fewer workers are retiring at age 65 than used to a time when younger people were interested in working in the manufacturing sector, especially in jobs that acquire heavy physical labor.

He says that a recent as in 1990 there was no state in the United States that required having greater than 1% of its population being obese, but that has flip-flopped with no states having reported having less than 30% of their population being obese.

"That is a big deal, as on average obese workers have 13 times more lost workdays than those who have what is considered to be a healthy body mass index (BMI). Also, obese workers also not only file twice as many Workers’ Compensation claims, but the cost of those claims are usually six to eight times higher than those who are at a healthy weight." All of this makes ergonomics being seen in all capital letters and in bright lights—it makes ergonomic equipment that much more important," he adds in both age and obesity affect the ability of the worker to move loads without getting hurt.

Throughout the manufacturing sector there has been a heightened awareness about safety, according to Kelm. "No one is immune to that from the biggest OEM to a small mom and pop shop machine.

Ergonomics has already been an important consideration for U.S. manufacturers for about 20 to 25 years, Jim Galante, director of business development for Southworth Products Corp., Fitchburg, Mass, says that for much of that time it was just seen as a "nice thing to do," but really not much more, unlike other areas of the world, such as Europe and Australia, where it was considered a "big deal."

He says that was evidenced by the fact that many domestic manufacturers felt "the sky would fall down" in 2000 when the Occupational Health and Safety Administration (OSHA) announced it was issuing an ergonomic program standard that would have included "action triggers" for jobs that were identified as having sufficient ergonomic risks of workers performing certain tasks developing musculoskeletal disorders of the upper extremities, back, and lower extremities.

In fact, in mid-2001 Congress passed legislation to repeal the standard, which then President George W. Bush called "an unduly burdensome and overly broad regulation ... (that) would cost both large and small employers billions of dollars and presented employees with overwhelming compliance challenges." This is the only instance that Congress successfully used the Congressional Review Act to block a federal regulation.

More recently, however, ergonomics and safety have become much more important to end-users, Stephens says. "If a company has the desire and means to invest in new or upgraded equipment, why not buy equipment that will be more beneficial for their workers," he explains.

Stephens says the value of having equipment that doesn’t cause harm to employees has been magnified in the current business environment of rising healthcare costs. Also, he says it shows workers that the company is investing in them, which could motivate operators to do a better job for their company. "Safety is the No. 1 reason for the investment, but workers are often more productive as well." Older and fatter

In particular two factors have really turned things around—the aging of the U.S. manufacturing workforce and the increased number of crane workers. Galante says fewer workers are retiring at age 65 than used to a time when younger people were interested in working in the manufacturing sector, especially in jobs that acquire heavy physical labor.

He says that a recent as in 1990 there was no state in the United States that required having greater than 1% of its population being obese, but that has flip-flopped with no states having reported having less than 30% of their population being obese.

"That is a big deal, as on average obese workers have 13 times more lost workdays than those who have what is considered to be a healthy body mass index (BMI). Also, obese workers also not only file twice as many Workers’ Compensation claims, but the cost of those claims are usually six to eight times higher than those who are at a healthy weight." All of this makes ergonomics being seen in all capital letters and in bright lights—it makes ergonomic equipment that much more important," he adds in both age and obesity affect the ability of the worker to move loads without getting hurt.

Throughout the manufacturing sector there has been a heightened awareness about safety, according to Kelm. "No one is immune to that from the biggest OEM to a small mom and pop shop machine. Customers

One example is the spending up of production flows. When that happens, it is much more difficult for companies to expect workers to do as much manually as they had done in the past without jeopardizing their safety.

Continued demand for workstation cranes and other ergonomic lifting equipment depends on a number of factors—not just economic growth. But even though workstations remain as closely tied to the general economy, they still reflect the ability of companies to make capital investments, Stephens adds.

The push-pull action of workstation cranes is designed to help workers lift relatively heavy loads of up to 2 tons more easily. Stephens says, that unlike overhead cranes, nine out of 10 workstation cranes are added to existing facilities.

Stephens explains there are two basic types of workstation cranes—rigid, or fixed bridge cranes and articulating bridge cranes. Fixed bridge cranes tend to require more force to move the load, while articulated bridge cranes are easier to operate and more easily aid the operator to move loads back and forth.

They could be used instead of an overhead crane, or even a forklift, as they have a free-standing floor mount, or to provide a safer alternative for moving loads. workers lifted usually by mechanical help previously.

Stephens says that among the advantages of workstation cranes is that they can be set up in a smaller area than overhead cranes and do not require that building infrastructure to support the load being lifted and moved. Also, they allow companies to utilize a crane for the types of loads that they had previously a lift or, for loads of 50 to 100 lbs., those workers that had previously moved manually.

Safety drivers

Michael Kelm, ergonomics business leader at Ingemark-Ratliff Inc., Annandale, N.J., notes that the recent increase in demand for workstation and jib cranes in North America has been growing more or less in step with the accelerated focus upon ergonomics as a proactive safety parameter.

"It’s not only the need to pick something up with some type of assist equipment, but can the task be done without additional strain to the operator?" Delmon’s law explains.

The most advanced wireless load monitoring technology available

Data Control • Accumulation • Center of Gravity

PC data logging

Serial

In stock in the USA ready to ship

Trusted worldwide for critical lifts since 1977

D-9, D-10, D-20, D-30, 20-20mA slave display

Tel Free: (661) 930-3000 • Tel: (661) 642-3034
www.straightpoint.com • sales@straightpoint.com

MAY-JUNE 2014.indd 1 15/05/14 3:23 PM

23
are looking at safety records when they pick a business partner," he says. "When companies make capital investments, continuous improvement in safety is tremendously important."  

That is true for a wide array of types of equipment, Galante says. It is not only for workstations but also adjustable workstations, platform trucks, cranes, vacuum-assist devices, platform trucks, carts, floating technologies, and intelligent mobile devices. He says any of these can make the ergonomics of a task better.

"Each company needs to carefully evaluate what the best product is for each application," he says, adding that it is possible that they could need different equipment for different parts of the facility. He says one unbiased resource is Ergonomic Assist Systems and Equipment (EASE) Council of the MHI.

"It's not only the need to pick something up with your arm, your wrist, your elbow, but where the ability to pick it up down is critical," the council asserts. "For example, if the vertical movement of the product to be handled is greater than 20 in., duplicate controls are needed so the operator does not bend unnaturally."

Galante says that one of the features that has been prevalent to prevent back injuries related to the positioning of the items that must be lifted or moved around. "In the past, workers put positioners or other lifting equipment under the product pallet. But now it has been recognized that reaching far out in front is probably worse for the worker than back bending," he explains. "Because of that you see more turntables being used as a huge component of ergonomic lifting solutions. These turntables are either used on the positioners or on powered lift tables."

McNeill says closed loop crane have been very popular as its reeled shape helps to keep it out. Another advantage is the shape of its null formed trucks and wheels, which help the crane to run smoother. It allows the worker to take on a 2,000-lb. load while using only about 20 lbs. of force or less," he says.

"Greater articulation, therefore less rolling resistance, in general is very desirable," Kilm says. "If the equipment makes it easier for the operator to pick up and put down loads, that is great, but it is important to minimize rolling resistance as well as that minimizes the impact upon the operator."

Automatic productivity

While these kinds of lifting equipment are being used more or less across the board in the manufacturing industry, some market sectors have been more receptive than others. Kilm says that the automotive industry has been one forerunner for ergonomic solutions, including workstations. "Automakers and their suppliers have a big emphasis on increasing the safety of their workers and are looking to be proactive before there are any problems," he says. In fact, he says they use computer modeling of the proper ergonomic posture of their human operators as part of their safety assessments.

The use of ergonomic lifting equipment has also been found to be very helpful in cabinet making, especially to big cabinets weighing up to 500 lbs. Schenck's Furniture says, especially given that this equipment is specifically designed to be used by different body sizes and shapes, giving anyone the ability of moving heavy loads.

"We have seen a new growth in the food and beverage industry, especially with the increase in the popularity of craft brewers, who have been using ergonomic lifting equipment for both handling at the end of their production line and for palletizing, the food for shipment. Use by manufacturers of components for the aerospace industry and suppliers to the energy sector has also been quite strong," McNeill says.

However, according to Galante, the wholesale and retail industries, which is the second largest employment sector in the United States, has been somewhat slow at employing ergonomic equipment in the work environment. "It's still that small concern about their workers' safety, but they operate on very low profit margins," he explains. "So investment in ergonomic equipment, especially to this sector, is a very hard sell without a return on investment in less than six months."

All indications are that 2014 will be another growth year, although that could be followed by some leveling of the growth rate in 2015, Staberg says, predicting about 11 percent growth this year followed by 5% to 8% growth next year. "It is common for growth to level off after a big pickup in demand," he explains.

Also fueling this growth is the development of new equipment: "Equipment makers need to redesign the equipment they developed on the past 20 to 30 years to better accommodate the increasingly aging and obese workforce," Galante says, as those workers, in general, have less upper body strength and less agility and mobility than workers in the past.
are looking at safety records when they pick a business partner," he says. "When companies make capital investments, continuous improvement in safety is tremendously important."

That is true for a wide array of types of equipment, Galante says. It is not only for forklifts or cranes, but also for adjustable work elevation platforms, hoists, conveyors, virtual reality simulators, palletizers, circuit breakers, vacuum assist devices, platform trucks, carts, floating technologies, and intelligent robotic devices. He says any of these can make the ergonomics of a task better.

"Each company needs to carefully evaluate what the best product is for each application," he says, adding that it is possible that they could need different equipment for different parts of their facility. He says one unbiased resource is Ergonomic Assist Systems and Equipment (EASE) Council of the MHI.

"It's not only the need to pick something up with some type of assist equipment, but whether the task can be done without additional strain to the operators," Kane asserts. "For example, if the vertical movement of the product to be handled is greater than 20 in., duplicate controls are needed so the operator does not bend unnaturally."

Galante says that one of the features that he has been prevalent to prevent back injuries related to the positioning of the items that must be lifted or moved. In the past, workers put positions or other lifting equipment under the product pallet. But now it has been recognized that reaching far out in front is probably worse for the worker than back bending," he explains. "Because of that you see more turns being used as a huge component of ergonomic lifting solutions. These turntables are either used on the positioning or on powered lift tables.

McNeil says closed loop cranes have been very popular as its tracked shape helps to keep that out. Another advantage is the shape of its rail-formed trucks and wheels, which help the crane to run smoother. "It allows the worker to take on a 2,000-lb. load while using only about 20 lbs. of force or less," he says.

"Greater articulation, therefore less rolling resistance, in general is very desirable," Kane says. "If the equipment makes it easier for the operator to pick up and put down loads, that is great, but it is important to minimize rolling resistance as well, as that maximizes the impact upon the operator."

Automotive productivity

While these kinds of lifting equipment are being used more or less across the board in the manufacturing industry, some market sectors have been more receptive than others. Kane says that the automotive industry has been one forerunner for ergonomics solutions, including workcrane cranes. "Automakers and their suppliers have a big emphasis on increasing the safety of their workers and are looking to be proactive before there are any problems," he says. In fact, he says they use computer modeling of the proper ergonomic patterns of their human operators as part of their safety assessments.

The use of ergonomic lifting equipment has also been found to be very helpful in cabinet making, especially to flip large cabinets weighing 400 to 500 lbs. Schmidt Equipment specializes in equipment that is specifically designed to be used by different body types and shapes, giving anyone the ability of moving heavy loads.

He says that there has been some growth in the food and beverage industry, especially with the growth in popularity of craft brewer, which have been using ergonomic lifting equipment for bar handling at the end of their production lines and for palliating the bars for shipment.

Use by manufacturers of components for the aerospace industry and suppliers to the energy sector has also been quite strong, McNeil says. However, according to Galante, the wholesale and retail industries, which is the second largest employment sector in the United States, has been somewhat slow at employing ergonomic equipment in their work environments. "It seems that people concerned about their workers' safety, but they operate on very low profit margins," he explains. "So investment in ergonomic equipment, especially to this sector, is very hard sell without a return on investment in less than six months."

All indications are that 2014 will be another growth year, although that could be followed by some leveling of the growth rate in 2015, Stephens says, predicting about 11 percent growth this year followed by 5% to 8% growth next year. "It is common for growth to level off after a big pickup in demand," he explains.

Also fueling this growth is the development of new equipment: "Equipment makers need to redesign the equipment they developed over the past 20 to 30 years to better accommodate the increasingly aging and obese workforces," Galante says. As those workers, in general, have less upper body strength and less agility and reachability than workers in the past. [End]