

Evolution

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Automation Results in Increased Storage Efficiency and Productivity for Wausau Supply

Wausau Supply, a major wholesaler of manufactured lumber, required a more efficient means of storing bundles of lumber of various widths and lengths in their warehouse. Their old storage method relied on a fork truck to place and remove bundles from predetermined stacks. The stacks of lumber had to be spaced far enough apart to allow the trucks to maneuver between them. The wide aisles required for fork truck travel resulted in a great deal of wasted floor space. That's where Total Tool Supply and Electromotive Systems came in! Wausau Supply's Vice President, Joe Jordan, contacted Total Tool Supply, a crane manufacturer, to design and build a system to improve their storage and retrieval process. Electromotive Systems' Engineered Systems Group was asked by Total Tool Supply to design the automation for the system.

A System Solution

Total Tool Supply studied the material handling process at Wausau Supply and worked together with Electromotive Systems to design a fully automated overhead bridge crane system to move the bundles of lumber. "Our objectives were to eliminate the need for fork trucks and reduce the amount of floor space required for storage, thereby improving Wausau Supply's storage and retrieval efficiency," says Keith Diekmann, Crane and Hoist Project Manager at Total Tool Supply. The result is a 10-ton bridge crane system designed with dual trolleys, each with a hoist and two-fork grab. The forks move underneath the load to lift it. Electromotive IMPULSE®•VG+ Series 2 adjustable frequency drives control the hoists and are furnished with Electromotive's Hoist Synchronization Software. The trolleys are controlled by Electromotive IMPULSE®•G+ Series 2 adjustable frequency drives, and are synchronized by lasers fed to a PLC, which compares the relative position of each trolley.

The bridge is controlled by two Electromotive IMPULSE®•G+ Series 2 drives running two bridge motors, which are controlled by an Electromotive SCS Swing Control System. Electromotive's SCS Swing Control System significantly limits load swing when moving lumber from one position to another. In addition, lasers are also used to provide the relative position of each bridge end truck to the PLC, which compares their positions and adjusts the motor speeds to compensate for skew.

"Our storage capacity has doubled, and we are able to retrieve lumber much more efficiently through the use of our new overhead bridge crane system"

Operation is Simple

Total Tool Supply and Electromotive Systems designed Wausau Supply's overhead bridge crane system for maximum control and performance through the use of an Electromotive PulseStar®•610 Remote Radio Control, with an Electromotive SBP2® Pendant Pushbutton Station for manual back-up.



The crane works in both manual and auto-dispatch modes. In manual mode, the hoists, trolleys, and forks have the ability to act individually or can be synchronized with each other. In auto-dispatch mode, the operator moves the forks under the load and lifts it off the pile. The dispatch location is then selected and the dispatch button pushed. The synchronized hoists then rise, the bridge moves with both anti-swing and anti-skew on, the synchronized trolleys position over the stack of lumber, and the hoists lower the load to a predetermined elevation.

After the crane is positioned over its specified location, the operator takes manual control and lowers the remaining distance. Wausau Supply finds the auto-dispatching function of the crane to be very useful, as their operators have the ability to dispatch between the train unload area, the stored stacks of lumber, the loading area, and a saw, which was placed under the crane to shorten the bundles as needed.

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Continued Automation Results in Increased Storage Efficiency



Increased Storage Capacity and Retrieval Efficiency

By eliminating the need for fork trucks to pass through the aisles, the bundles of lumber can be placed closer together, reducing the amount of floor space needed for storage. "Our storage capacity has doubled, and we are able to retrieve lumber much more efficiently through the use of our new overhead bridge crane system," remarks Joe Jordan of Wausau Supply. "Our productivity has improved tremendously."

According to Dan Beilfuss, Manager of Systems Engineering at Electromotive, many customers have found that automating their storage and retrieval process results in increased efficiency and better utilization of space. The complete automation of Wausau Supply's overhead bridge crane system is just one example of the innovative engineering solutions the Engineered Systems Group at Electromotive Systems can provide. This group is dedicated to helping customers achieve maximum performance from their material handling equipment. They help customers identify, select and implement the best mix of motion control technologies and leading-edge product offerings available for their specific application.

Electromotive's Engineered Systems Group has more than 90 combined years of experience in the Material Handling Industry. They've designed and implemented automated systems for both traditional Crane & Hoist applications, as well as other application areas such as conveyors, automated guided vehicles, electrified monorails, tank line processing/dipping applications, transfer cars, and mobile storage racks, as well as semi-automated storage/retrieval systems, like Wausau Supply's.

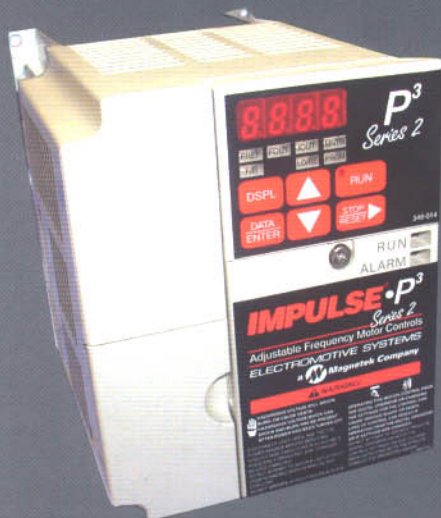
The Engineered Systems Group will serve your application needs from start to finish through:

- Project evaluation
- Applications solutions
- Engineering design
- System manufacture
- Project management
- Field start-up and test



To find out more about how automation can improve your company's productivity, call your Electromotive Systems representative or the Engineered Systems Sales Department at Electromotive today.

Introducing: IMPULSE®•P³ Series 2



Electromotive Systems introduces the new IMPULSE•P³ Series 2 Crane Control. This more compact*, cost-effective control comes standard with dual software, giving you maximum versatility! In its standard, factory default setting, programming and operation of the new IMPULSE•P³ Series 2 are identical to the original IMPULSE•P³, so there's no operator learning curve. However, with the adjustment of a single parameter, the new IMPULSE•P³ Series 2 with dual programming now offers you the versatility of some of the advanced control and safety features found on our IMPULSE•G+ Series 2 drives!

Electromotive Systems' new IMPULSE•P³ Series 2 also has an expanded horsepower range (from ¼ up to 10hp). And, rest assured, we designed the new IMPULSE•P³ Series 2 with the same superior reliability as the original!

Call your Electromotive Sales Representative or our Controls Sales Department today for more information!

*Up to 50% smaller than the original IMPULSE•P³.

For more information on the IMPULSE•P³ Series 2 and all our IMPULSE products, please contact our Control Sales Department at 1-800-288-8178, or request #125 on your reply card to receive more information.