



CASE STUDY  
**MATERIAL  
HANDLING  
SYSTEMS**

## Lifting Performance and Safety with Overhead Cranes

Moving heavy objects has never been as safe and efficient as it is today thanks to the engineering excellence of Material Handling Systems (MHS). MHS of Florida has been designing, manufacturing, and installing overhead cranes for more than 45 years, and their goal has been to bring their customers the industry's most advanced capabilities at the best price point.

### Finding an affordable way to stop the sway

When a heavy load is moving horizontally, it eventually has to stop. So imagine a sudden stop with a bucket of red-hot molten steel. Although the crane may stop, the bucket's momentum will cause it to sway back and forth like a pendulum.

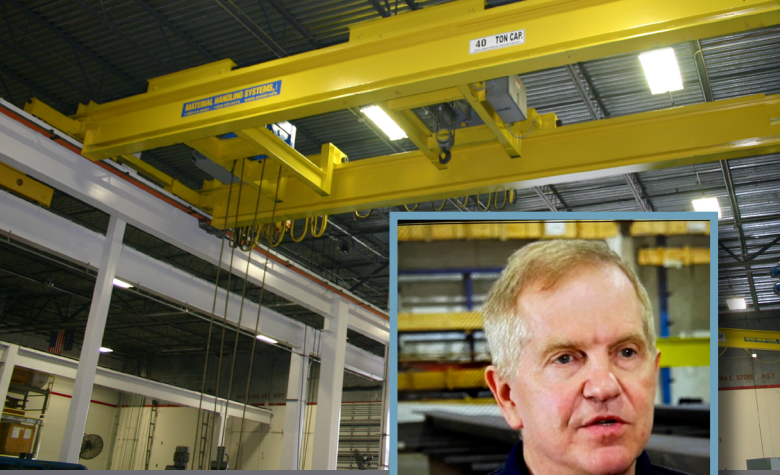
Not good. Not safe. Not efficient.

While waiting for the pendulum to come to a stop, productivity comes to a stop as well. And having a worker try to manually stop the pendulum is a serious accident waiting to happen.

MHS customers were looking for an affordable anti-sway solution, but cost had frequently been a major barrier. The only anti-sway technology available was a terrifically expensive system that



The FR-E800 from Mitsubishi Electric gives the operator more control over speed.



*“With this anti-sway capability we can now go after new applications for our cranes – new opportunities that were never available before. We’re doing more business now than we can handle, and growing our workforce to keep the growth going.”*

Ron Fontes, President and CEO  
– Material Handling Systems

### **Go faster. Stop faster. Sway less.**

The answer was the Mitsubishi Electric FR-E800 series VFD. This highly affordable variable frequency drive offers built-in anti-sway technology, as well as vibration suppression control, fast torque build-up, and load-based speed control.

With the FR-E800, the operator can press and hold a button, which continues to ramp up the variable speed until the operator indicates otherwise. This two-step infinite speed device gives the operator more control over speed.

Thanks to this new capability, the swinging of an object is suppressed at the time of stopping, even without the operator’s input or adjustment. The control cuts down the takt time and facilitates efficient operation because there’s no need to wait for the load to settle. And no temptation for a worker to try and stop a sway as they may have in the past. It all adds up to a major lift in productivity—as much as a 5% improvement in a busy operation.

### **Superior service and support make all the difference**

Before standardizing on Mitsubishi Electric, MHS had been using VFDs from another vendor. Initially, the supplier was responsive to service requests. But when product problems began to mount, the support seemed to evaporate.

According to MHS president and CEO, Ron Fontes, “We would call them and wouldn’t hear back for a week. And when we did reach them and told them the product was

employed laser sensors. These systems required special expertise and took too much time to install. But for several years it was the only game in town.

That changed when MHS spoke with their VFD supplier, HPE Automation, a Diamond Elite Partner of Mitsubishi Electric Automation. HPE consulted with Mitsubishi Electric and they were able to offer MHS an affordable technology to stop the sway at 10% of the cost of a laser system.

Using a VFD for crane applications improves production throughput and prolongs equipment life. With the FR-E800, users improve their load control and save on maintenance costs.



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– Chris Rhodes, Product Marketing Engineer  
Mitsubishi Electric

failing, the supplier said, ‘The product is fine. You must be doing something wrong.’ They didn’t even come and check it out.”

### **New capabilities, new applications, new opportunities**

Henry Manson, MHS Vice President of Sales and Growth added, “When we turned to HPE Automation and Mitsubishi Electric Automation, we went from no support to an army of experts. It was a total game changer. They not only backed the products, which were superior – they worked with us to develop and install the anti-sway technology.”

In short, the new team of suppliers designed a better system, added new features, and, as a result, enabled MHS to broaden their product offering.

### **A strong team means a strong future**

MHS is now set to have a banner year, thanks to their new capabilities. And they can go forward with full confidence that they’ll have the best in service, support, and innovations from Mitsubishi Electric and HPE.



Learn more about MHS  
[www.mhscrane.com](http://www.mhscrane.com)

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### **AUTOMATION SOLUTION INGREDIENTS**

- **FR-E800 VFD**

### **NEXT STEPS**

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**Automating  
the World**