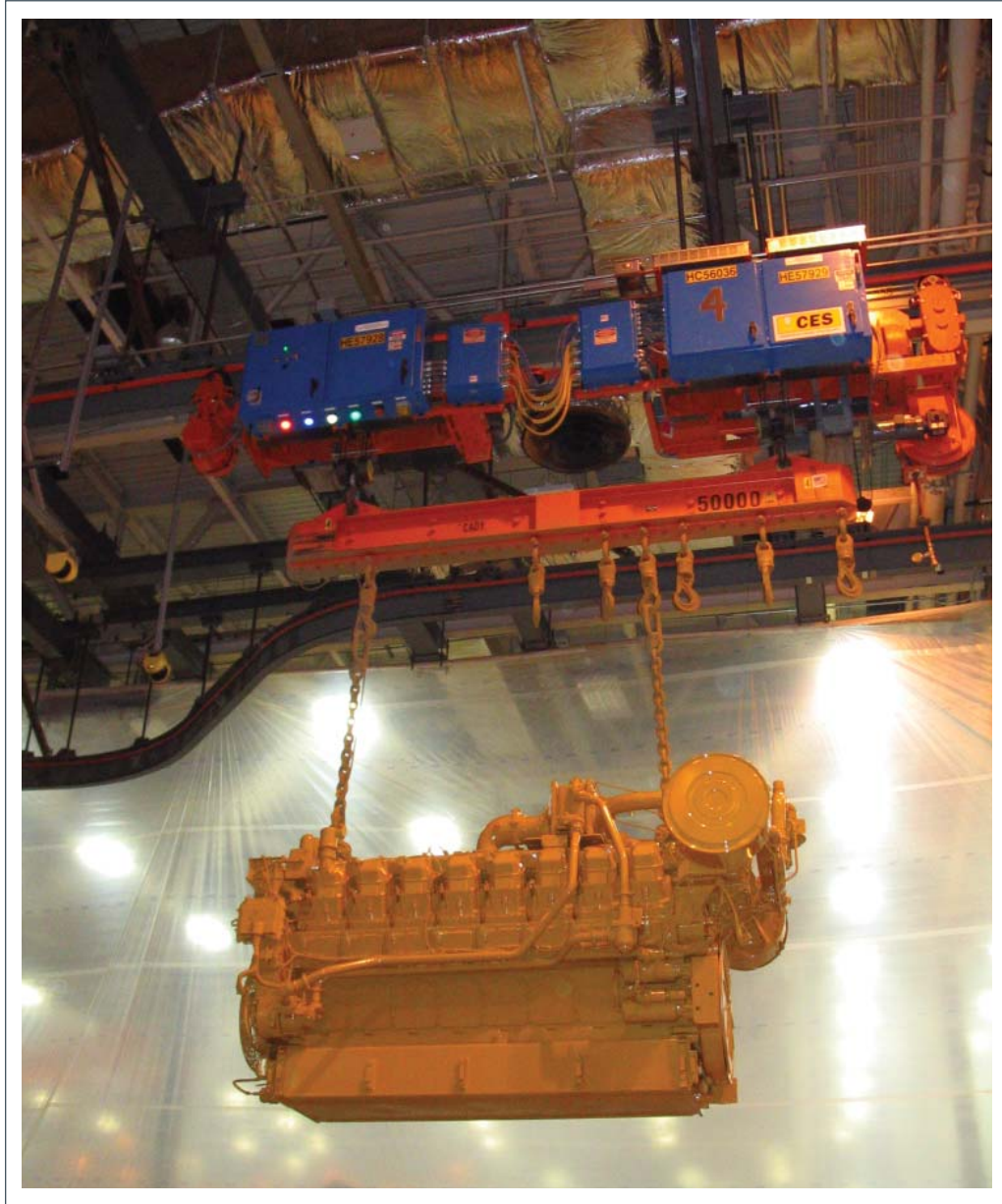


# Engineered Control Systems For Material Handling Applications



**MAGNETEK**  
MATERIAL HANDLING

**ELECTROMOTIVE SYSTEMS  
TELEMOTIVE  
ENRANGE  
MONDEL**

# OPTIMIZE MATERIAL HANDLING SYSTEM PERFORMANCE WITH INNOVATIVE CONTROL ENGINEERING AND TECHNOLOGY

The Engineered Systems Group at Magnetek Material Handling is dedicated to helping our customers achieve maximum performance from their material handling equipment. We help our customers identify, select, and implement the best mix of motion control technologies and leading-edge product offerings available for their specific application.



Our automation experts provide solutions that directly impact your bottom line.

## We can help you:

- Improve production efficiency and material flow
- Increase manufacturing throughput
- Increase uptime
- Improve product quality
- Enhance overhead equipment performance and reliability
- Reduce maintenance costs
- Improve operator safety
- Reduce parts/stock damage
- Use labor more efficiently
- Reduce labor costs
- Add system flexibility for future enhancements
- Improve positioning and inventory accuracy
- Decrease cycle time
- Integrate system diagnostics
- Increase storage capacity
- Reduce floor space
- Increase uptime

With over 100 years of combined experience, the Engineered Systems Group has the expertise to serve your application needs from start to finish by providing:

- **Project Evaluation** - Magnetek works with crane OEMs and end users to identify processes that will benefit from automation and develop solutions to improve material handling performance.
- **Project Management** - We provide a key point of contact for your projects — working as the interface between the customer, end user (external), and engineering and manufacturing (internal).
- **Engineering Design** - Our team of engineers will design innovative controls and control devices that will regulate the automated systems. Each of our technical experts has advanced knowledge in a specialized area and extensive experience in creating and developing custom software to meet the application's needs.
- **System Manufacturing and Testing** - Each system is built and tested by certified engineers and product testers in Magnetek's ISO 9001:2000 certified, 63,000 sq. ft. manufacturing facility.
- **Field Start-up, Testing, Training and Support** - Our Systems Engineers are fully trained in field start-up, operator training, and system support to provide a turnkey approach to design, manufacturing, testing, installation, and start-up.
- **Customer Training and Maintenance Support** - All of our products are backed by the industry's best warranty and service policy. Our highly trained team of service technicians offers superior aftermarket support where and when you need it. They're always on call—available to you 24/7, 365 days per year. We offer on-site technical support, emergency crane control replacement, and on-site and in-house training programs.



## APPLICATION EXPERTISE

Magnetek helps you identify, select and implement the best and most cost-effective mix of motion control technologies and leading edge product offerings to meet your application needs and provide future flexibility for your material handling systems.

We have extensive experience working with:

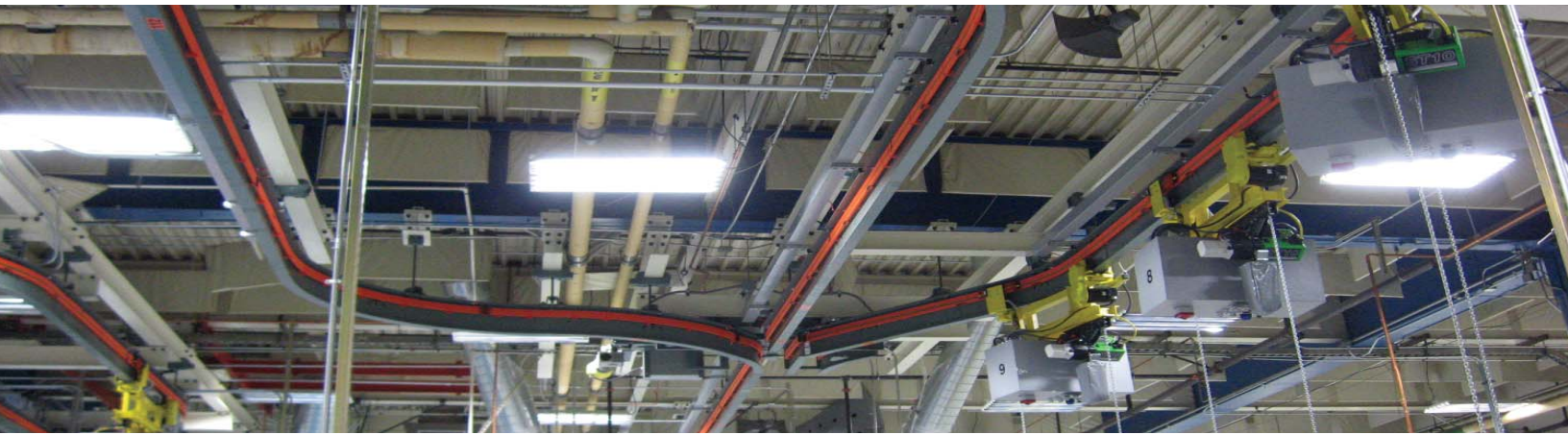
- Overhead/underhung cranes
- AISE mill duty cranes
- CMAA class "F" cranes
- AS/RS stacker cranes
- Aluminum, copper and steel coil handling cranes
- Bucket cranes
- Conveyors
- Monorail systems
- Transfer cars
- AGVs
- Dockside cranes
- Storage systems
- Tankhouse cranes
- Waste handling cranes

Other specialty applications include:

- Anti-Skew Control
  - Bridge tracking
- Anti-Swing Control
  - Reduces load swing
- Bucket Software
  - For wire rope bucket application
- Synchronized Hoist Control
  - Master/Slave hoist coordination
- Synchronized Trolley Control
  - Master/Slave trolley coordination
- Line Speed Matching
  - Crane to conveyor tracking
- Collision Avoidance
  - Crane to crane/equipment

Industries served include:

- Sheet Steel
- Hot Metal
- Lumber
- Automotive
- Paper
- Sugar
- Cement
- Textile
- Film Processing
- Converting
- Refuse
- Aerospace
- Marine Terminal
- Foundries



## ENGINEERING DESIGN AND PLC/PC PROGRAM DEVELOPMENT

A team of engineers trained and experienced in circuit design, packaging of equipment, PLC, PC and HMI program development will design your engineered system per the application requirements. Our applications include:

### COORDINATED MOTION CONTROL

- Coordination of crane/monorail operation
- Coordination of crane/conveyor operation
- Coordination of monorail/conveyor operation
- X-Y-Z axis control

### SYSTEM COMMUNICATIONS

- Festoon systems
- Busbar communication systems
- Wireless communication control
  - Radio-based
  - Infrared-based
- Communication protocols (Controlnet, Devicenet, DH+, Ethernet/IP, Modbus, Modbus Plus, Profibus, etc.)
- Vendor/end-user communication interface

### COLLISION AVOIDANCE CONTROL

- Zone control
- Infrared solutions
- Laser-based solutions
- Restricted area control

### POSITIONING SYSTEMS

- Laser
- Proximity sensor
- Photoelectric sensor
- Limit switch
- Conductor bar zoning
- Code rail

### STATUS, DIAGNOSTICS AND UPPER LEVEL CONTROL

- HMI systems
- PC-based operator systems
- Digital line displays
- Remote monitoring
- Fault tracking
- Supervisory control
- Inventory control
- Bar code interface
- RFID interface

### Automated Waste-to-Energy Bridge Crane

Two automated refuse handling grapple cranes operate together on the same runway. The cranes are used to mix garbage in a large pit and feed three furnace hoppers. The resulting end product is power generation.



**MAGNETEK**  
MATERIAL HANDLING

**ELECTROMOTIVE SYSTEMS  
TELEMOTIVE  
ENRANGE  
MONDEL**

N49 W13650 Campbell Drive  
Menomonee Falls, WI 53051  
Toll-Free Phone 800.288.8178  
Toll-Free Fax 800.298.3503  
Phone 262.783.3500  
Fax 262.783.3510  
sales@magnetek.com

[WWW.MAGNETEKMH.COM](http://WWW.MAGNETEKMH.COM)

Pub No. Engineered\_Systems

© Magnetek, Inc. 2010



### Automated Mill Roll Handling System

Two fully automated bridge cranes and two automated transfer cars transport rolls of film between production and storage. Industrial PCs and PLCs perform the complete system integration, while color touch screen HMIs are used for data entry, status reporting, and interfacing with the end user's inventory management system.

### PLC Controlled Dockside Gantry Crane

This ship to shore gantry crane unloads sugar cane from large ships and transports it to a building conveyor system. The entire operation is PLC controlled and is set up to wirelessly communicate the weight of the load to the end user's production capacity management system.

