

Solutions for a Connected Mill

Crane Automation

Benefits

Increasing productivity and safety can be a concern in a mill environment. Maximizing machine and human performance, connecting disparate systems and meeting safety regulations can add to that challenge. Rockwell Automation consultants can take your concerns and apply a solution that supports your operational goals.

Our solution benefits can:

- Increase efficiency and productivity across your operation with one common framework
- Pre-programmed automated processes can be more efficient than manual human processes
- Deliver better performance with remote access to alerts, performance indicators and real-time mobility
- Increase safety of the human worker in harsh environments by limiting exposure to hazardous materials and machines
- Save wear and tear of repetitive processes on people versus machines
- Improve inventory management by integrating with a warehouse management system
- Hold up to harsh environments for long-lasting uninterrupted service



Optimize Productivity and Safety with Crane Automation

Are you tasked with managing the productivity and safety of your metals plant or steel mill? The harsh environment and repetitive nature of many of these industry functions often takes a toll on both worker and machine. Adopting a Crane Automation Solution to address safety and material handling concerns is a good first step and we'd like to help you get there.

We know that finding a Crane Automation Solution can be overwhelming, expensive, and take a long time. But, we've also seen the resulting benefits it can create via improvements in safety, reliability, and productivity that outweigh these obstacles. Also, keeping workers safe is a top priority in heavy industries like metals. We think that collaborating on a Crane Automation Solution with technology partners can help you create the modern connected mill you desire.

Our Crane and Hoist Automation Solutions feature an integrated system using ControlLogix® PLCs and PowerFlex® drives. Our specialists design and engineer each crane solution for your specific application based on proven results. Our solution is scalable for semi or fully automated cranes, fully tested and validated, and includes advanced features such as anti-sway, skew control, and user-friendly operator controls.

We have helped companies in your industry with specific application solutions and we can remove some of the pressure of identifying the best options for your mill.

Crane Automation Supports Automated Storage and Retrieval Systems

An inefficient and unorganized storage area wastes time and money while compromising safety and productivity. Developing material handling processes can help alleviate a multitude of headaches. For example, your storage area may include unidentified, misplaced, damaged or overstock coils, slabs, or ingots. To realize an efficient production facility, many mills adopt an Automated Storage and Retrieval System (ASRS).

Optimizing your product storage seems overwhelming, but the benefits outweigh the risks. An important part of steel product storage is crane automation. Our Crane Automation Solution is composed of both hardware and software that work together to give you plant-wide visibility into your ASRS. When you have this visibility in real-time, you know where every product is always.

If you have a high throughput mill, you know the importance of timely information and scheduling. Our crane solution can monitor multiple lines and operate 24/7 with limited manual intervention. With an integrated control system and precision programming, crane positioning accuracy allows you to store coils directly onto transfer cars or in storage bays requiring high-density storage. The requirements of your mill may be different, but with any Crane Automation Solution, the outcome is a more efficient and productive environment.



Benefits of an Automated ASRS

Improved Moving, Tracking and Shipping

- Tracks products in the storage area, in transit, or those products manually moved
- Facilitates process lineups and shipping schedules
- Supports multiple rule-based algorithms
- Allows manual intervention
- Performs best case analysis

Optimized Storage and Material Handling

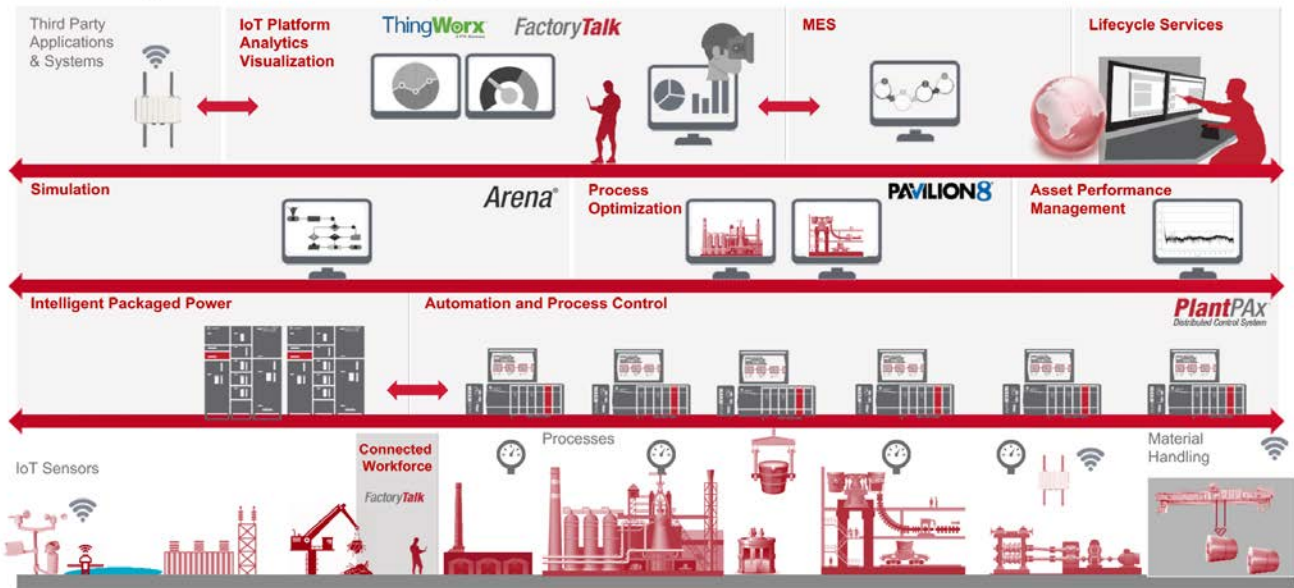
- Supports high-density storage
- Analyzes next destination
- Supports multiple stacking levels
- Maintains viewable storage area maps
- Supports automated, manned and mobile equipment
- Determines most efficient equipment to move coil
- Distributes material handling equipment workloads
- Uses equipment cycle times to project move times
- Recognizes equipment availability

Custom User Interface and Compatibility

- Graphical screens depicting storage areas and material handling equipment status
- Diagnostic screens
- Manual entry screens
- Alarms and events
- Historical reports and logs
- Interlocks with coil conveyors, AGVs, coil cars, and so on.
- Interface to automated or manned cranes, process line computers, and business production planning and scheduling systems

The Connected Mill Architecture

Converging IoT and IIoT technologies



Architecture of a Connected Mill

A connected mill is created from the convergence of information technology (IT) and operations technology (OT) systems into one network infrastructure. The infrastructure allows for seamless connectivity and information sharing across your mill operation. Our integrated solutions for the steel and metals industries allow complete visibility from plant floor to the enterprise level.

The core of our solution is our distributed control system that is scalable to your needs. It can run process, discrete, power monitoring, drives, and safety applications within the same control visualization environment to provide a unified system across your entire mill.

Our connected mill solutions address data management and production intelligence at every level. From process and equipment optimization to manufacturing execution systems, our simulation software is able to mimic a business process before it is executed.

Such solutions can extend across your entire mill. It doesn't need to be a complete overhaul of existing systems. We can see what you have and suggest specific upgrades. Once we have a foundation built, you can reap the benefits of a connected mill with the data it provides. Real-time visualization of your mill enables you to make smart business decisions that affect your bottom line.

For more information, contact your local sales office or [distributor](#).

Learn more about our [Metals Industry solutions](#).

Allen-Bradley, ControlLogix, PowerFlex, and Rockwell Software are trademarks of Rockwell Automation, Inc. Trademarks not belonging to Rockwell Automation are property of their respective companies.

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleeftaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846