

Industry 4.0: Goodbye Basic Automation, Hello Intelligent Operations

The Traditional Model

Over the decades, Steel companies have taken two principle approaches to buying and selling steel:

- Produce large volumes of steel until the sales department finds a buyer;
- Purchase large volumes of steel at attractive price points and stockpile until the sales department find a buyer;

The requirements of today's steel consumer are diversifying though; customers are buying highly customized steel for specialized applications across a wide array of changing technologies and industries. This new market and consumer require a leaner, quicker way, to move steel. Much technological advancement has been made into the ability to produce diverse and specialized steel, however very little has been done to advance technology in the storage / yards / inventory elements of our businesses. Historically, as needs change and storage levels rise and fall, labor has been the answer to moving product quicker out of the door, but in this age of labor shortages this is quickly falling out of favor. As a result, the steel industry is now rapidly adopting automation within the inventory portions of facilities. However, automation for the sake of automation, or to simply reduce labor requirements, falls way short of technology's current capabilities and often fails to meet the bottom line.

So, what's the answer?

With the diversification of steel properties and applications, product ranges are becoming more diverse – requiring us to hold stock in a wide array of products and requiring us to be smarter about the way we store steel. Moreover, it is becoming unfeasible to hold this additional capital in inventory as the customer is not willing to pay for this convenience. Thus, it is no longer sufficient to simply automate inventory movements - we have to be smarter about how we store steel and we have to be smarter about how we move steel within all areas of our businesses, whether raw materials, work-in-progress, or finished goods.

That's where Industry 4.0 comes in: Industry 4.0 is not just a buzz word; it's a coming together of all our systems, processes, and data to be smarter about how we do business. It is the implementation of end to end integration, smarter data driven decisions, faster / optimized processes, and automation – not as the solution, but as a vehicle for the solution.

There is an opportunity to be smarter, leaner, and quicker to market and *these* are the ROI drivers of tomorrow's steel producer, distributor, or processor. However, this involves a connectivity of things and leveraging existing and new technologies which the steel industry is yet to adopt:

- Automated inventory tracking;
- Inventory space optimization through automation;
- AI driven production and shipping forecasting;
- Intelligent production planning systems;

- Increased throughput through optimized inventory moves that pre-surface, pre-dig, and consolidate inventory that will be required downstream;
- Insights into changing market needs through Big Data and Predictive Analytics;
- Energy based planning and dispatch;

All of these things, working together, offer an ability to diversify our product ranges, increase our speed to market, and decrease our inventory space while maintaining our price points and increasing our margins.



The challenge? Disruption.

We challenge our customers not to look at automation as a means to reduce labor costs, but as an opportunity to be disruptive, to be interconnected, to optimize the storage space, to minimize the non-value added costs, to maximize the speed of inventory through your processes and ultimately increase the speed and diversity to market.

Gone are the days of searching for steel coils, slabs, billets, bars, tubes, pipes, sheets, etc. through multiple yards, warehouses, bays. Gone are the days of large Excel spreadsheets trying to plan our sales, processes, or maintenance. Gone are the days of manually creating production plans and then sending the operator to feed the line. All of these things should be connected. All of these things should be optimized, smarter, leaner, faster.

We are ready for Industry 4.0, are you?

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