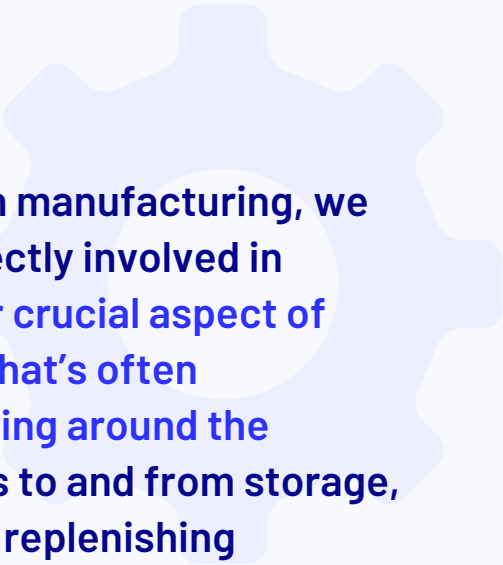




*Warehouse Robots on the
Factory Floor*

4 WAYS TO OPTIMIZE YOUR MANUFACTURING FACILITY WITH MATERIAL-HANDLING AUTOMATION



When we think of automation in manufacturing, we usually focus on the robots directly involved in production. But there's another crucial aspect of optimizing factory operations that's often overlooked: everything happening around the assembly line. Moving materials to and from storage, staging them for the next step, replenishing supplies, and prepping for the next shift – all of these “in-between” processes play a major role in overall workflow efficiency.

Yet, many manufacturers miss the opportunity to automate these menial material-handling tasks.

Here's a quick guide on how you can leverage the same systems that are revolutionizing e-commerce and logistics facilities to boost productivity, reduce errors, and maximize efficiency in your manufacturing facility – not by further automating the production line itself, but by optimizing everything around it.




Tool Room & Spare Parts Management

Efficiently managing tools and spare parts is crucial for minimizing production downtime. Advanced Automated Storage and Retrieval Systems (ASRS) automatically manage a wide variety of inventory – handling totes, boxes, trays, bulk items, pallets, and more – without manual labor, so you can ensure the right tools or parts are available when needed, reducing search time and improving overall inventory management.

This precision helps maintain production schedules and decreases downtime due to missing or misplaced items.



Fast, accurate access to tools and parts




Reduced search time and improved tool availability

Kitting for Production Preparation

In complex production environments that require kitting – aka the gathering and organizing of parts needed for assembly – ASRS solutions enable you to automatically pick, store, and reintroduce kits into the production line when required. This allows for just-in-time assembly, optimizing production cycles and reducing waste. Instead of manually building and storing kits, the automated storage system prepares and delivers the kits directly to the operator, streamlining the process.

With kits ready to go, you can accelerate assembly, reduce worker fatigue, and virtually eliminate human error.



Accurate and efficient kitting



Faster production cycles and reduced assembly errors



Line-Side Replenishment

To keep production lines running smoothly, consistent replenishment of materials is essential. Automated material-handling systems like ASRS can be set up to deliver parts directly to your production line, ensuring that necessary items arrive just in time. Robotic line-side replenishment prevents over- and understocking, improves productivity, and maintains a continuous production flow.

By integrating with supply chain operations, these systems also enhance inventory visibility and improve responsiveness to demand changes.

✓ On-demand material replenishment

✓ Continuous production without interruptions



Buffering & Staging

Buffering helps manufacturers stage work-in-progress items for the next phase of production. In an ASRS, flexible storage configurations can hold both raw materials and partially completed products in containers of various sizes – or no container at all. By optimizing material flow, these systems reduce wait times and ensure that the right items are available at the right time for the next process step.

Buffering with automated storage technology can also improve space utilization thanks to its ultra-dense design, reducing your inventory storage footprint by up to 75%.

✓ Organized staging for efficient workflow

✓ Minimized delays and smoother transitions between processes

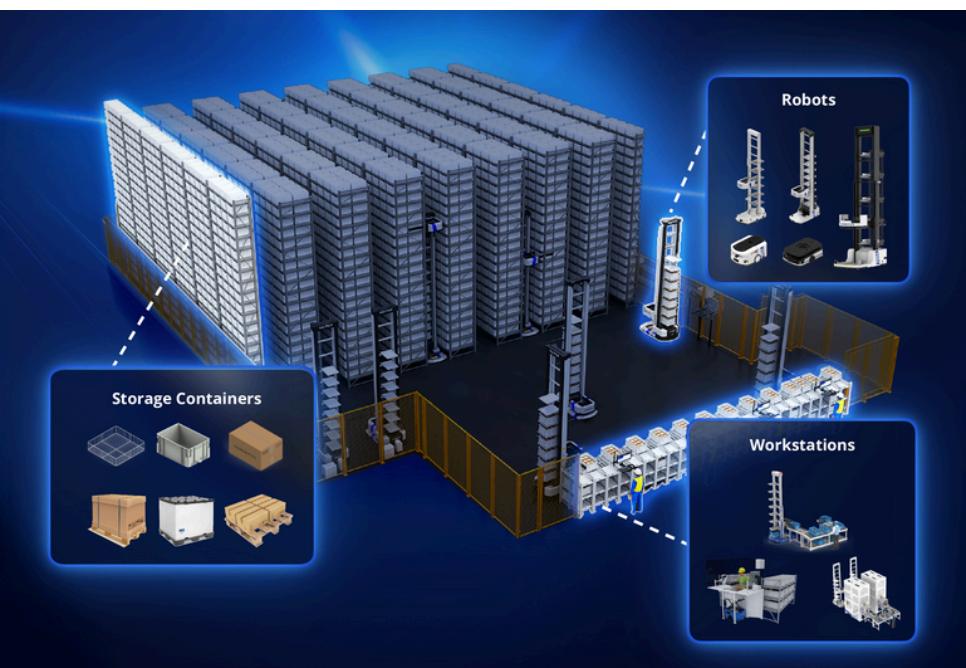
HaiPick Systems: The Future-Ready Approach to Automated Storage & Material Handling

The family of HaiPick Systems are advanced Automated Storage and Retrieval Systems (ASRS) that streamline inventory management and materials fulfillment while supporting evolving operational demands and business growth.

Built on a modular framework, these robotic material-handling systems automatically store, retrieve, and deliver both contained and non-contained items with high efficiency, high throughput, and 99%+ accuracy.

Whether you need to handle totes, bins, trays, bulk items, pallets – the list goes on – HaiPick Systems offer a flexible and scalable solution to meet your growing business needs. The modular design allows easy reconfiguration, expansion, or even relocation, making them future-proof for long-term success.

- ✓ Fast, accurate delivery of materials, tools and spare parts
- ✓ Continuous production without interruptions
- ✓ A cost-effective, flexible solution to boost efficiency by optimizing material handling



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