

How-to Guide

12 Manufacturing Warehouse Tips





Improve warehouse processes

There are always ways to improve a warehouse and it's important to review processes regularly to identify these areas. For manufacturing warehouses to achieve success, grow sustainably, and meet customer requirements, operators must maintain accurate inventory control, avoid bottlenecks, and deliver goods with speed and precision. It is critical to incorporate modern trends, test new technologies, and implement best practices.

Gathering information from our years of experience working with manufacturing companies, we compiled 12 best practice tips for manufacturers to improve warehouse processes in the production environment. When reading these tips, consider how they can benefit your warehouse and solve ongoing challenges.

#1 Organize your SKUs

What types of inventory do you store and what area of the warehouse are they needed in? Raw materials, components, assembly kits, tools, semi-finished goods, goods ready for shipment – they are all used throughout your warehouse. Can you always find them in the right location without long search or walking times?

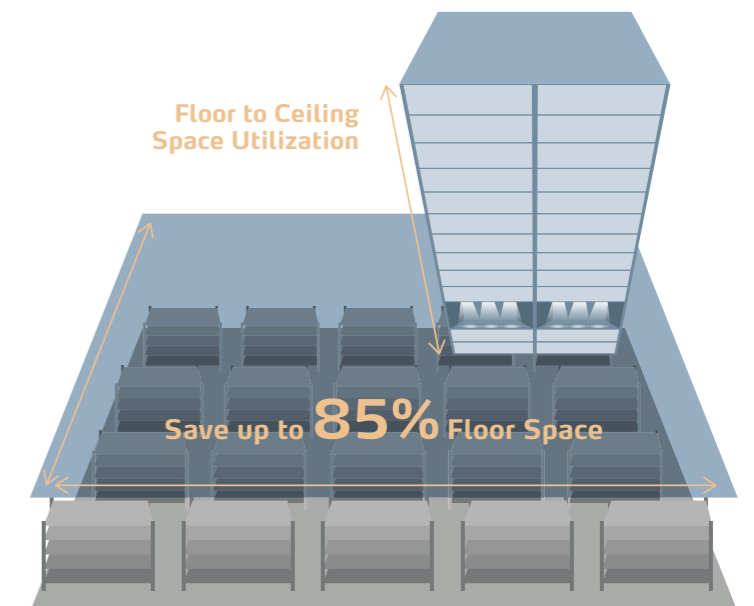
Create a list and write down what is needed where. It's really important to organize SKUs by size or pick velocity. Think about the different dimensions of your SKUs - what do you have? What should be kept together in one storage system? How often do you need the different SKUs - categorize them from fast to slow movers.

Once you have an overview of the dimensions and pick velocity of your SKUs and in which areas you need them, think about the most efficient process. Consider which storage system or combination of storage systems fulfills your specific needs.

#2 Save valuable floor space

Don't waste valuable floor space. Once it is clear which goods you need in which production steps and warehouse areas, review the space required for storing them. You don't want to waste valuable space by keeping raw materials or semi-finished goods in aisles.

Instead, keep your warehouse organized and make room for expansion. Free up space to enlarge your production area or add an area for quality control checks. Automated storage solutions take up to 85% less space than static shelving and provide up to 99% accuracy rates, while reducing search and walking times.





#3 Implement efficient & ergonomic storage for heavy parts & pallets

Storing heavy and bulky parts or goods on pallets does not have to require additional labor. Think about implementing automated storage solutions for those parts and tools. Various options, such as an integrated crane combined with an automatic full tray extraction, are available to easily lift loads exceeding 20 kilograms.

If you are still using manual and labor-intensive steps to move and retrieve heavy parts or pallets, think about automation.

#4 Eliminate bottlenecks

Tools, spare parts, production components, and raw materials are essential to keep production processes running smoothly. Don't cause bottlenecks simply because you can't provide tools or materials when needed.

Combine your storage system with an interface to a tool management software to always have inventory information easily accessible – which tools are available and which need maintenance?

A smart warehouse management system (WMS), enables a permanent inventory overview. Activate notifications from the system when minimum stock level is reached. This early warning notification allows enough time to receive parts before they are needed.

Reduce the time taken to access components by using accurate retrieval and pick-to-light technology. Long search or walking distances to find and provide inventory is unnecessary and can easily be avoided.

#5 Speed up manufacturing with automated kitting

Add a process step to sort, organize and pre-assemble parts into kits. This will help you to save valuable labor time and reduces search times – increasing overall productivity and efficiency..

Using an automated storage and retrieval solution to store assembly kits creates a high-density and space-saving solution. Employees pick parts and assemble them to kits before they re-store them in the storage system until it is time to provide them for production.

When storing assembly kits, you can easily manage the storage and retrieval of them with pick-to-light technology. This ensures they are retrieved and put into inventory correctly, so they are ready for fast retrieval the moment they are needed.

#6 Integrate a buffer storage for semi-finished goods & assembly kits

Improve production planning and supply by providing space-saving buffer storage for semi-finished goods or assembly kits. Certain production steps need buffer systems when they include a wait or hold step (e.g., waiting for paint to dry) or their material handling process requires reserve inventory to absorb expected variations in demand.

Also, you need to store assembly kits, before you supply them just-in-time. How can this be managed most efficiently? Integrating an automated production buffer before or after certain production steps enables you to store and retrieve the respective goods in a minimum footprint while staying transparent about what is stored and what is missing to complete the next production step.

Don't forget to remove inconveniently stored goods from the assembly area by implementing a buffer storage upstream of the assembly process.

#7 Ensure secure storage for all parts

When thinking about which storage system is the right one for your warehouse, you should also think about security. It is not only about having all components or tools in the right place, but also about protecting those in their storage location.

Do you want to protect your goods from dust and damage? When choosing a storage system with a closed structure, goods are perfectly protected against dust and dirt and not prone to loss of value. Check which fire protection systems are available before you choose a storage system. Systems that can extinguish fires residue-free and detect fires early on can prevent major damages.

Make sure that only people with access rights can store and retrieve goods. Closed systems and access limitations will help avoid theft or unauthorized access to certain parts. Automated storage systems allow restricted access to specific stored goods as needed.



#8 Pick parts fast & accurately

Are long walking and search times or inaccurate and slow picking some of your challenges? If yes, you should review your processes.

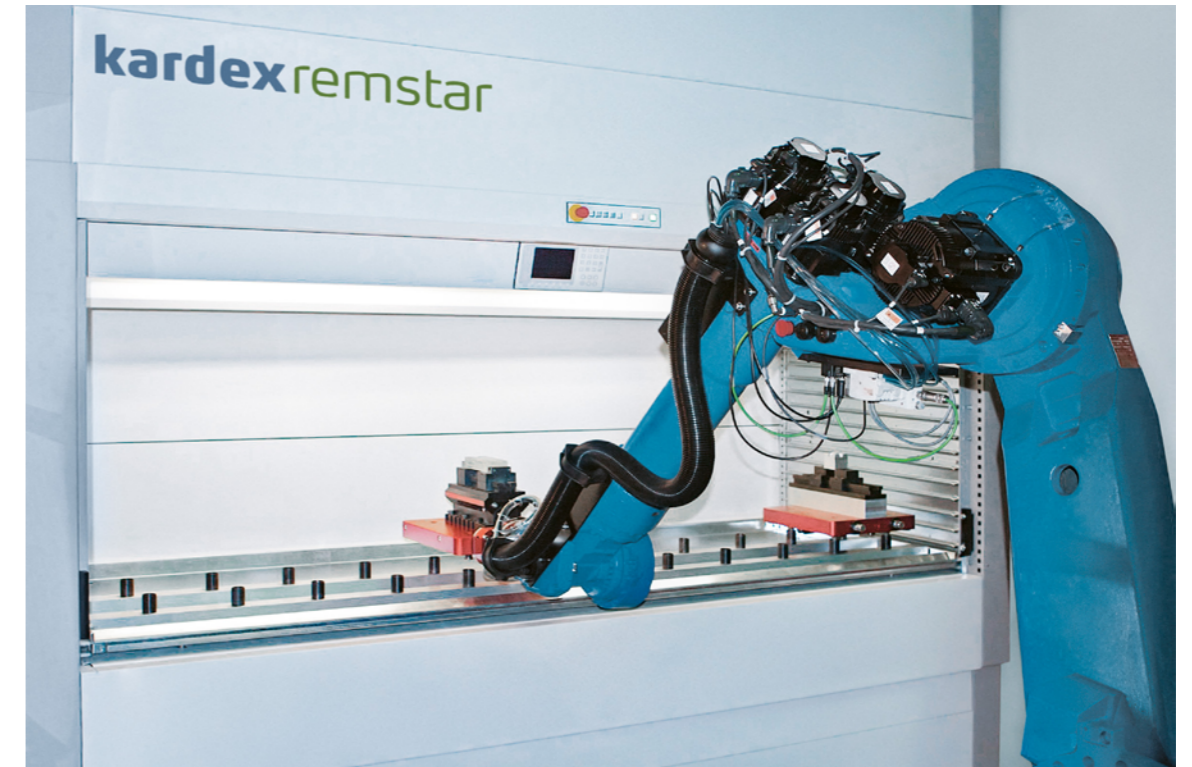
Review automated solutions for storage and retrieval to improve your picking performance. Implementing the right picking strategies along with pick-to-light technology will significantly increase performance.

#9 Integrate a WMS for fast & reliable material flow

Control your material flow with an intelligent warehouse management system (WMS). Stored goods often travel long distances, leaving lots of time for errors along the way before they end up in the right place.

Implement a WMS that confirms when incoming goods arrive in the receiving area, sends them for quality control, and stores them in the right storage location. A WMS enables a straightforward movement for semi-finished goods between various production areas, supports a proper interim storage, and provides just-in-time retrieval of components needed for assembly.

A smart WMS optimizes internal transport by enabling automatic retrieval and transport (e.g., via conveyor technology) to the correct assembly station or production step and providing needed goods just-in-time while allowing complete traceability for all warehouse movements.



#10 Investigate the implementation of robotics & conveyor systems

It is also time to think about including robotics, Automated guided vehicles (AGVs) and conveyor technology to further support, facilitate, and accelerate material flow and picking processes.

Automated solutions easily integrate with conveyor technology or AGVs to further improve throughput and automatically deliver goods just-in-time for production or shipping.

Robotics easily pick from automated storage systems and support depalletizing (e.g., in the incoming goods area), order picking, and palletizing (e.g., in the shipping area). They ensure fast and precise work and use smart 3D recognition to identify even the smallest packages. Review your processes and investigate which smart technologies can further improve your facility.

#11 Consolidate orders in the shipping area

Review your shipping area. Do you have smooth operations in place? Do you need to consolidate many parts before shipping?

Automated solutions enable a space-saving, organized storage area for parts ready for packing or shipment to wait until an order is complete and it's time to dispatch. Automated material flow (e.g., via conveyor systems) from storage locations to packing stations help match or marry up items picked from different areas or zones of the warehouse and save time and labor resources. They reduce access times and improve internal transport.

#12 Create an ergonomic work environment

Equally as important as smooth processes and organized storage locations are ergonomic working conditions. Unergonomic workplaces require operators to climb stairs, reach shelves, or lift heavy parts. This often results in injuries and employee dissatisfaction.

To minimize the exertion injuries associated with manual material handling processes, a variety of automated goods-to-person storage and retrieval systems exist that deliver goods to the "Golden Zone".

Review your processes. By using automated storage solutions, you will simplify daily workloads. This will not only result in happier staff, but also accelerated and more efficient processes.



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