



The warehouse  
automation blueprint.

**TOYOTA**

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MATERIAL HANDLING



It is estimated that by 2025, 50,000 warehouses across the globe will utilise automation, capturing the gains provided by that new dimension of productivity. Be it the automation of commonplace load handling or enhancing the wider operations setting for businesses, automation is here to add value across the board.



This adoption is being driven by the flexibility and efficiency gains that automation offers. With increasing market volatility, driver shortages, customer expectations and trends such as next-day or same-day delivery, the need for agility on the warehouse floor is paramount. With advances in technology and the possibility of reducing operational costs, automation is the next step for guaranteeing efficient logistics flow.



Automation is a way of avoiding waste, ensuring there is a seamless flow of both goods and data at all times. But how is this actually captured?



## Integrated automation for the warehouse floor.

Enabling step-by-step automation to enhance efficiency and productivity on the warehouse floor is provided through utilising the right machinery for the job. On the market today, businesses can benefit from various automated vehicles, such as automated warehouse trucks, automated tow trains, automated carts and semi-automated shuttles.

These vehicles can replace the conventional mechanised automation that, more often than not, requires a significant upfront investment and allows for minor infrastructure changes once installed. Once used, you can optimise space, capture asset flexibility and reconfigure operations - all-important advantages ready for a business considering automation to gain.

Some businesses may feel they are in the correct position to automate their material handling but are not yet fully convinced they need it. The flow of material through a site owes itself to logical consideration and through answering the right questions, a business may find itself in need of automation.

We have developed this checklist with those businesses in mind to get to the point where common functions can be identified as configurable modules for repetitive use. This is what warehouse automation is aimed at, separating the unique from the repetitive and optimising across the board.

**Use this resource to discover whether your business might benefit from warehouse automation.**



## The questions to ask before considering automation.

Logistics is experiencing a renaissance due to automation, capturing efficiency gains and reducing the operational costs traditionally associated with warehouse management. However, this does not mean automation is the answer to everything. Every logistics flow, every warehouse setup, every supply chain is different. What works for one, may not work for another.

The key is determining where unnecessary processes can be eliminated, adding value to the points that need it, ensuring a workforce is complemented by automation in all the places that matter.

**Before considering implementing automation, ask yourself the following questions.**

## Are warehouse-driven delays a common issue?

Without the right processes or machinery, problems with inventory tracking, picking, receiving and putaway can regularly halt the flow of materials through a warehouse. For example, raw materials may not be received properly, causing delays as employees search for the right products.

Automated vehicles can be programmed to ensure material flow is not affected by human error, ensuring the transported goods reach their destination and do not upset other logistic processes.

## Do everyday workflows include a vast amount of manual, repetitive tasks?

Manual, repetitive tasks take time and effort to complete. For a workforce, they can seem endless and result in not focusing on bigger picture tasks that might be more important.

Through onboarding automated guided vehicles (AGVs) within a warehouse setting, warehouse managers and logistics teams can rest assured the step-by-step flow of materials can continue uninterrupted and focus on other vital tasks that require their expertise.

## Is output directly affected by limitations within the workforce?

Human errors can be commonplace. Sometimes they are small issues that are not genuinely felt by the wider business. Other times, they are big, causing obvious delays or decreasing productivity levels. Whatever the cause may be, human error within warehouse logistics can and will happen.

While there is no foolproof way of guaranteeing no problems will occur, logistics teams can limit risk by introducing automation. The mix of software and hardware is an easily controlled, visible way of tracking inventory and making sure it keeps moving.

## Are inventory counts regularly affected by inaccuracies?

With the volatile global business environment and the high expectations of customers and clients, it is no longer viable to carry out manual inventory tracking. Improvements in warehouse management, such as integrated inventory management, mean visibility over inventory is easily accessed, reducing the amount of counting inaccuracies that can lead to misplaced stock.

## Do you use a Warehouse Management System (WMS)?

Sitting at the manufacturing and supply chain centre is a WMS, working to track inventory, manage labour and implement transportation management.

With the right automation systems, businesses can experience a truly integrated, real-time warehouse management system to ensure lean logistics and continuous flow are uninterrupted. The right WMS guarantees maximum value added to operations and the optimisation of current processes.

## Do you find there is either insufficient or surplus labour on-site?

Too little or too much on-site labour is a problem. With too little, businesses find themselves stretched and unable to fulfil projects on time. With too much, inaccuracies may be more common and unmanaged employees will likely cause more delays.

In general, businesses are finding the boom in e-commerce is compounding labour challenges that are being felt, with shipment volumes growing and customers demanding much faster delivery times.

The potential of automation lies in supporting on-site staff, taking those time-intensive and repetitive tasks away and completing them with both precision and speed. Overall, automation helps meet common warehouse challenges, stimulating continuous improvement and better consensus building, decision-making and teamwork.

**Questions like these are expected within the warehouse setting. If you have found yourself answering 'yes' to most of these questions, then it is more than likely that some form of automation could benefit your warehouse management.**

The question now is, how do you determine which is the right automation provider to work with?





## The questions to ask when selecting a provider.

If the previous section has you considering the efficacy of automation, you will also need to determine what kind of automation solutions provider your business would most likely benefit from working with.

**The following questions will help you decide what kind of organisation that is.**

## Does the provider have a proven track record of supplying quality automation solutions?

Identify whether a provider has a long history of providing superior quality machinery within various industries. Ask yourself:

- ✓ Are their products well-reviewed?
- ✓ Do they have much experience?
- ✓ Do they operate globally or locally?
- ✓ Do they satisfy several warehouse-related needs?

## Can the provider offer evidence or case studies of successful automation projects?

The right automation provider will display their history of success, delivering AGVs and enhancements to warehouse and logistic management systems.

For example, if you would like to discover how Toyota Material Handling UK has provided automation solutions for a wide variety of companies across the UK and beyond, [visit our website](#).

## Does the provider offer ongoing support and maintenance?

An automation provider should supply quality products and [quality service packages](#), complete with service plans that maintain trucks and AGVs, helping get the most out of those assets and keep logistics operations moving.

Regular maintenance prevents downtime and substantial repair costs with skilled technicians that can accurately fix any technical issues that may occur. These services should be scalable, with the ability to be tailored to a specific business — no matter the industry or size.

## Is there the potential for a complete end-to-end service?

Depending on the needs of your business, the vendor should be able to provide a full service, from concept up to delivery and maintenance. This should include:

- ✓ The maximum level of performance
- ✓ A comprehensive parts and labour plan
- ✓ Breakdown cover
- ✓ Preventative maintenance
- ✓ Thorough examinations to ensure truck compliance

## Can the provider deliver in a timeframe that suits your needs?

The right provider will offer a transparent timeframe for servicing and delivery, with no hidden costs. Look for the vendor who can guarantee a quick turnaround on project delivery, with local specialists on hand to make sure automation can be implemented quickly and accurately.

Additionally, servicing and maintenance should also be delivered quickly. Here at Toyota Material Handling UK, we guarantee a four-hour response time and the delivery of any needed parts within 24 hours.





**Answering these questions enables businesses like yours to better determine what kind of automation solutions provider they would potentially work with.**

To conclude, you should always look for a provider who can guarantee respect and trust.

# Solutions from Toyota.

Here at Toyota Material Handling, we have over 100 years of combined experience in delivering the highest quality material handling solutions on the market today, each developed with innovation in mind.

Our automated material handling solutions work to automate [various sections and processes within a warehouse, such as:](#)

- Block stacking 
- Light item handling 
- High-level storage 
- High-density storage 

Our dedicated material handling experts can help automate to eliminate 'muda' — the Japanese word for waste - creating a streamlined process that can be applied for multiple real-world applications.

## Put-away.

The transportation of pallets from inbound areas to put-away areas [can easily be automated](#) using stacker trucks, low-lifter trucks, counterbalanced trucks or reach trucks.

## Replenishment.

Maintaining a consistent flow of material means guaranteeing efficient replenishment. Our vehicles, such as automated towing trucks or stacker trucks, guarantee the refilling of parts and smooth and safe pallet transfer.

## Point-to-point transport.

Distribution centres house multiple pallets transported from inbound to outbound in processes known as 'cross-docking'. Our AGVs take care of the transportation of goods between conveyors or floor buffers, for example.

## Empty pallet handling.

Empty pallets are common in both warehouses and manufacturing sites. Automated vehicles can take pallets from assembly or kitting stations to pallet dispensers or bring them to production areas to load finished goods. This can be done automatically or on-demand.

## Finished goods to outbound.

When products are ready for delivery, automated vehicles will pick up the goods at the final stations. If wrapping is required, those vehicles will take the items to the wrapping station and then the outbound area.



# Why Toyota?

From consistent innovation to research and development, from quality service to real accessibility, Toyota Material Handling is one of the leading providers of trucks and automation. We are here to enable you to make the most out of your equipment, warehouses or manufacturing facilities and your entire business overall.

Our trucks provide peace of mind for business owners, logistics teams and warehouse managers. Each one is extensively tested and serviced by our experts throughout their lifetime, guaranteeing quality from concept to delivery.

It is not simply about hitting targets, but it is about working in line with the five values we uphold in our day-to-day operations, what we call '[The Toyota Way](#)'. We are here to help you journey towards your business' true north by offering respect, efficiency, zero waste and quality in everything we do.

If this resource has piqued your interest or resonated with any of the considerations you are experiencing and you would like to learn more, get in touch with Toyota Material Handling UK today.



# Helping you do what you do best — book a consultation today.

Toyota Material Handling is the world's number one in developing and producing innovative, high-quality material handling solutions. We are here to ensure you get the most out of your equipment and warehouse configuration — from the shop floor to the site infrastructure.

If you have more questions about warehouse automation or automated vehicles, talk to one of our experienced specialists.

**For guaranteed quality, reliability and respect, contact us today.**

[CONTACT US](#)

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