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# Maximising Warehouse Efficiency

→ Strategies for today's warehousing challenges


# From storage to strategy

The e-commerce boom, coupled with an increasingly complex and vulnerable global supply chain, has transformed warehouses from storage facilities into critical logistics hubs.

This shift brings new challenges for logistics and warehouse managers, who must ensure fast and accurate order fulfilment while managing fluctuating demand patterns, supply chain disruptions and expanding inventories.

At the same time, there is added pressure to keep expenses low amid rising costs.

**$501b**

Globally, it's estimated that companies spend around €300 billion (AUD **$501 billion**) annually on warehousing, either managed in-house or through third-party logistics (3PL) providers[i]. This is expected to rise over the next 5 years, including in Australia[ii].

With so much at stake, many companies are seeking ways to optimise efficiencies in receiving, sorting, storing, picking, packing and shipping.

In this white paper, we highlight a range of strategies for getting the most out of your warehouse solution, from systems and processes to equipment and layout.

## Shifting Demands, New Challenges

The rise in e-commerce is driving warehouses to become more agile, responsive and strategic to effectively address emerging challenges[iii].

### These include:

**Meeting customer expectations:** Customers expect faster and more accurate deliveries, which requires seamless coordination across warehouse operations.

**Fluctuating demand:** Warehouses need to predict and prepare for variability in order volumes, including the ability to forecast trends and scale operations.

**Expanding inventory:** Increased order volumes and risk mitigation is driving some industries to store more inventory, which can lead to overcrowding, picking and storing inefficiencies, and fulfilment delays.

**Outdated systems and processes:** Many warehouses still rely on manual processes or legacy systems that are inefficient, inaccurate or not specialised for the new complexities that warehouses are facing.

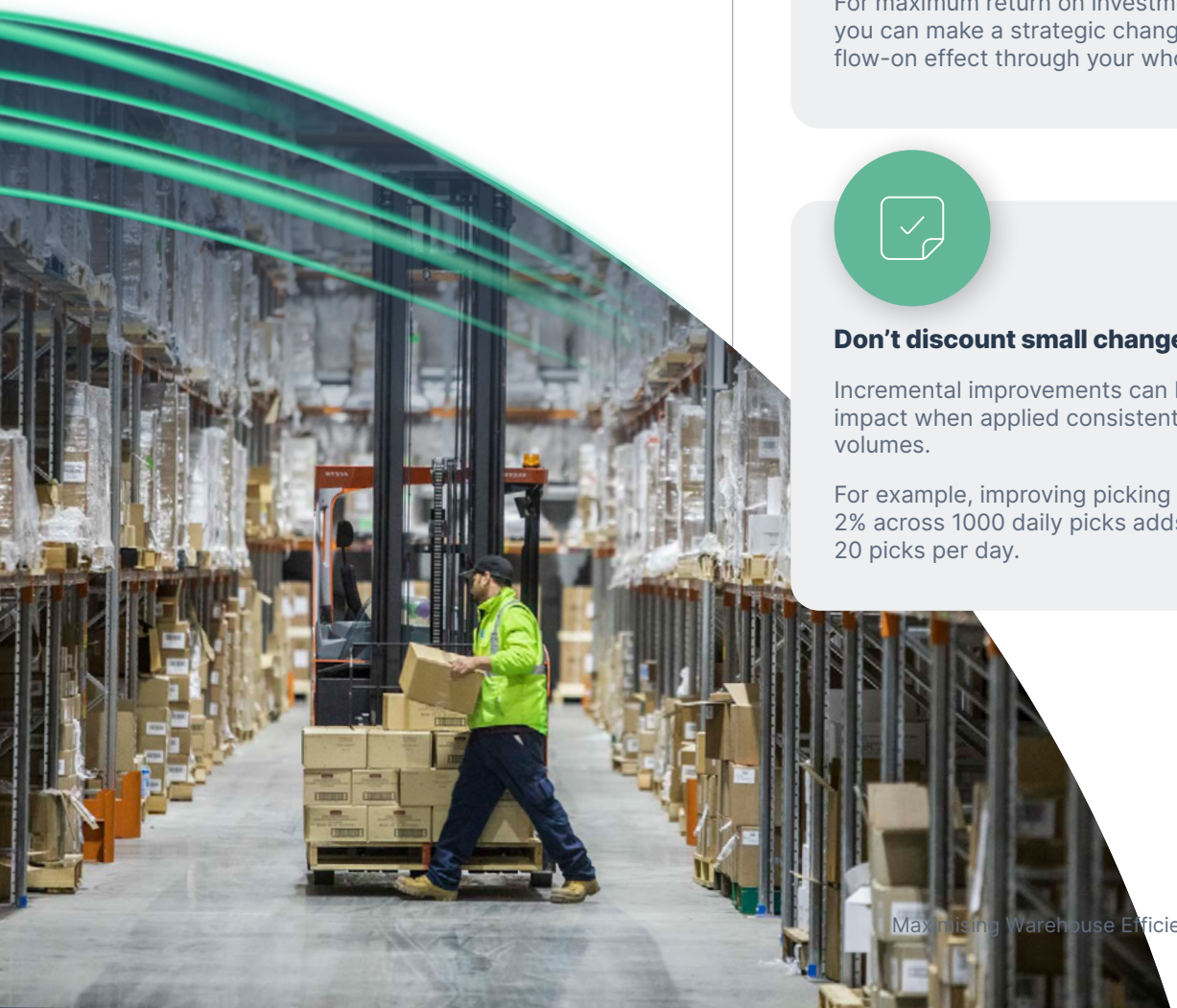
# Opportunities abound

At the heart of these challenges lies the need for greater warehouse efficiency – getting the best output with the least amount of effort and resources.

This can yield significant benefits including:

- reduced costs
- improved customer satisfaction
- increased productivity
- better risk mitigation
- scalable growth
- competitive advantage[iv]

So where should logistics and warehouse managers start looking to improve efficiency?



### Take a bird's eye view

To pinpoint sources of inefficiency, it can be beneficial to zoom out and look at how your warehouse is performing as an entire operation.

Where are delays or bottlenecks occurring? Are you seeing unusually high error rates or costs in a particular area? Are routes and processes longer or more complex than necessary?

### Seek systematic improvements

Modern warehousing offers numerous levers of change to enhance operations – from the physical space, to systems and processes, to resource management. However, that doesn't mean you need to tackle everything at once.

For maximum return on investment, look at where you can make a strategic change that will have a flow-on effect through your whole operation.

### Don't discount small changes

Incremental improvements can have a significant impact when applied consistently over large volumes.

For example, improving picking speed by a mere 2% across 1000 daily picks adds up to an extra 20 picks per day.

# Strategies to maximise warehouse efficiency

No matter the size or type of your warehouse, there are always actions you can take to improve how it operates.

Here, we explore the efficiency opportunities that can be found within warehouse layout and use of space, as well as systems, processes and technology.

## Optimising warehouse space

The ideal warehouse stores the highest volume of inventory possible and facilitates movement of the inventory with maximum efficiency[v].

Here is how to maximise your warehouse space.

### Start with a clean and organised space

Clutter and disorganisation can lead to delays, bottlenecks, increased costs and workplace injuries[v] so it's worth taking the time to assess the different areas of your warehouse.

Is there adequate space to receive new inventory? Is the picking path free from obstacles? Are staff able to locate equipment quickly and easily?

### Extract more mileage from your square footage

- Consider how you can add more density to your storage, making use of potentially wasted vertical space or reducing aisle width.
- Strategies include double-deep racking, satellite racking, vertical lift modules and adding a mezzanine floor[iv].

### Enhance warehouse design

Plan the layout based on how quickly products need to move through the space. For example, place high-demand items and perishable goods closer to packing and shipping areas to minimise travel time for pickers.

Zoning strategies, where similar items are grouped together, can also streamline the picking process[v].

### Consider cross-docking

Warehouses that process high-volume, fast-moving goods can bypass storage altogether by transferring incoming goods directly to shipping.

This can not only expedite order fulfilment but also reduce storage costs[iv].

# Streamlining through systems

Effective inventory control remains one of the most critical — and complex — challenges for warehouse operations.

Insufficient stock can lead to delays and lost sales, while excess inventory ties up working capital, increases storage costs, and raises the risk of obsolescence.

Striking the right balance requires systems that provide real-time visibility, accurate forecasting, and seamless integration across the supply chain.

### Enterprise Resource Planning (ERP) systems

ERPs like NetSuite, SAP Business One and Microsoft Dynamics 365 give businesses a single platform to manage core functions – from finance and HR to supply chain and warehouse operations.

### Warehouse Management Systems (WMS)

A WMS provides more advanced features to help you actively manage inventory. Tools like Cin7, DEAR Systems, Fishbowl, and Manhattan Associates allow you to monitor real-time stock levels, optimise pick/pack workflows, automate replenishment, and identify slow-moving items. This enables better fulfilment and leaner inventory, thereby improving service levels and protecting cash flow.

Many businesses start with an ERP, then add a WMS or standalone inventory control tool as their needs grow. Increasingly, they're choosing cloud-based platforms for their ease of integration, real-time data access, and lower upfront infrastructure costs. These systems also make it easier to connect inventory data with accounting, e-commerce and CRM platforms, creating a more agile and responsive operation.

Ultimately, the goal is to achieve greater visibility and control over inventory, enabling faster decision-making, improved responsiveness, and more efficient use of working capital.

# Refining routine processes

Enhancing existing processes is the low-hanging fruit of warehouse optimisation, often generating extra revenue with little to no extra cost.

Here are some ideas to get you started.

### Optimise picking routes

Choosing picking routes that minimise walking, or batch picking orders that have similar items, can increase productivity. An advanced WMS can use algorithms to generate optimal picking paths, but this can also be done manually.

### Combine tasks

Minimise empty travel time through interleaving, where multiple tasks like picking, replenishing and cycle counting are combined into a single trip.

### Streamline printing

If you currently allocate staff to manually pre-print labels from a central location, consider investing in mobile printers that can generate labels during picking, or moving to an automated label printing system.

For maximum efficiency gains look to how you can optimise macro processes like returns management, quality control and shipping.


# Levelling up your technology

Incrementally upgrading technology may be more realistic for improving efficiency than jumping straight to the latest innovations.

Here are three examples where updates can bring efficiency gains.

## 1 Scanning technologies

For warehouses using manual picking slips, upgrading to radio frequency identification (RFID) scanners can save considerable time, reduce human error and, according to the RFID Lab at Auburn University, raise SKU-level inventory accuracy from an average of 63% to 95%[vii].

## 2 Forklift batteries

Switching from lead-acid to lithium-ion batteries reduces downtime with quick top up charges rather than the full 8-hour charge needed for lead-acid batteries.

## 3 Picking systems

Upgrading to a voice picking system can boost efficiency by eliminating manual errors and increasing productivity as workers stay mobile without pausing to read or input data.

# Preparing for the next wave of warehouse optimisation

Over the next 5 – 10 years, warehouse efficiency will be primarily driven by advanced technologies.

**For example:**

**Artificial intelligence** to identify trends, forecast demand and improve decision-making.

**The Internet of Things** for real-time inventory management.

**Wearable tech** like smart glasses for enhanced productivity.

**Drones** that can stocktake and locate items in large warehouses.

**Automation** is poised to have the biggest impact on warehousing in the near future.

## The future of automation

$54.6b

By 2030, the warehouse automation market is predicted to be worth **$54.6 billion**[v], with robots, autonomous vehicles and other automated systems handling many manual and repetitive tasks such as picking, packing, sorting and moving goods[ix].

With increased automation, warehouses can expect benefits such as increased efficiency, reduced labour costs, and improved accuracy, while freeing up human workers for more complex tasks.

Retail giants like Amazon, adidas, Coles and Woolworths are already moving towards automated warehouses, but the transition has been slower across the broader sector.

It's estimated that 4 in 5 warehouses don't have any automation[x]. However, adoption is expected over the next 5 years as the benefits become more evident, warehouses become 'smarter' and more integrated, and new financing solutions are introduced, like robot leasing (robots-as-a-service)[x].

While your warehouse may not be ready to take the leap into automation right away, it's important to be aware of what is ahead and to start planning for the future.

# Getting started with warehouse automation

Even if full-scale automation feels out of reach, there are incremental steps warehouses can take today. Here are some common entry points and technologies gaining traction:

### 1 Pick-to-light and put-to-light systems

These systems guide workers using visual cues, increasing speed and reducing picking errors without the need for robotics. They're often a first step before more complex automation.

### 2 Autonomous Mobile Robots (AMRs)

Unlike traditional AGVs (Automated Guided Vehicles), AMRs navigate flexibly through the warehouse using sensors and cameras. They're ideal for transporting goods between zones and can be scaled up over time.

### 3 Automated storage and retrieval systems (AS/RS)

These are high-density systems that automatically place and retrieve items, saving space and improving throughput. They're especially beneficial for temperature-controlled or high-value inventory.

### 4 Robotic picking arms

Used for repetitive picking tasks, robotic arms are now more affordable and can be integrated with vision systems to handle a wide variety of SKUs.

### 5 Warehouse Execution Software (WES)

A WES coordinates and optimises the flow of orders, people, and machines. It can be introduced before physical automation to improve efficiency and identify gaps.

### 6 Robots-as-a-Service (RaaS)(AS/RS)

This emerging model allows businesses to lease automation hardware on a subscription basis — lowering the capital investment barrier and allowing flexibility as needs evolve.

## Developing a workforce strategy

As these technologies are introduced, it's important to consider not just operational benefits, but also workforce impacts.

While some manual roles will change or disappear, automation also opens up opportunities, especially in supervision, data analysis, equipment maintenance, and workflow coordination.

Many businesses are already evolving their workforce strategy, with a focus on:

- **Reskilling and upskilling** team members to move into more technical or value-adding roles
- **Improving safety** by reducing exposure to repetitive or hazardous tasks; and
- **Retaining talent** by offering more engaging, future-focused roles within the warehouse environment.

Businesses leading in this space are pairing automation with upskilling programs and clear communication to bring their people along the journey.

# Key takeaways

Warehouses are more critical to logistics than ever, pushing managers to deliver faster, more accurate service while controlling costs and navigating disruptions.

Optimising operations through better space use, upgraded technology and automation boosts efficiency, profitability and risk management.

Even small changes can significantly improve the bottom line, making investments in continuous improvement worthwhile for long-term productivity and performance.

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For a complimentary analysis of your existing warehousing and logistics solution, visit **efmlogistics.com.au/contact**

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