

Value-driven warehouse automation

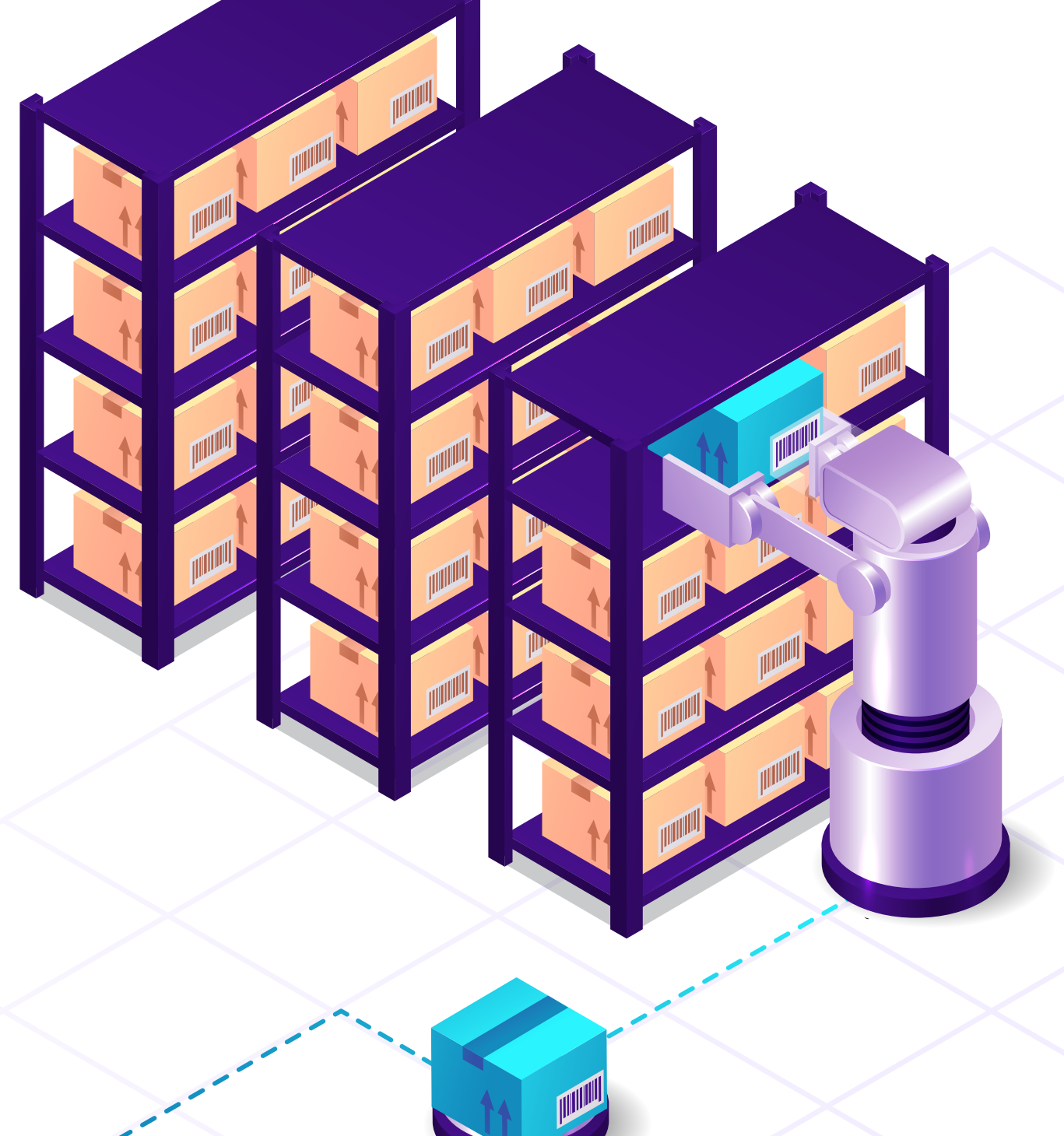
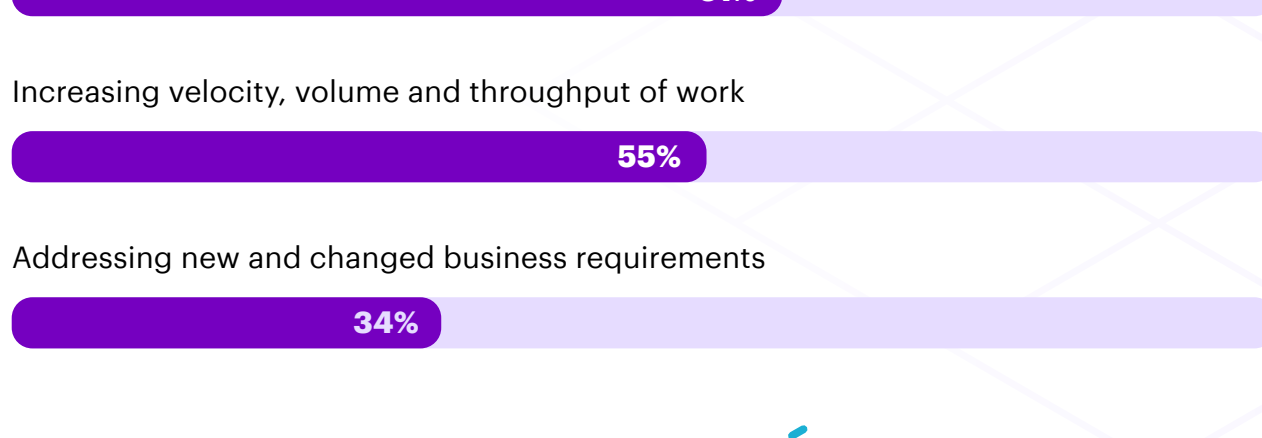
Investment in warehouse automation is now essential

BETWEEN 2015 AND 2019:

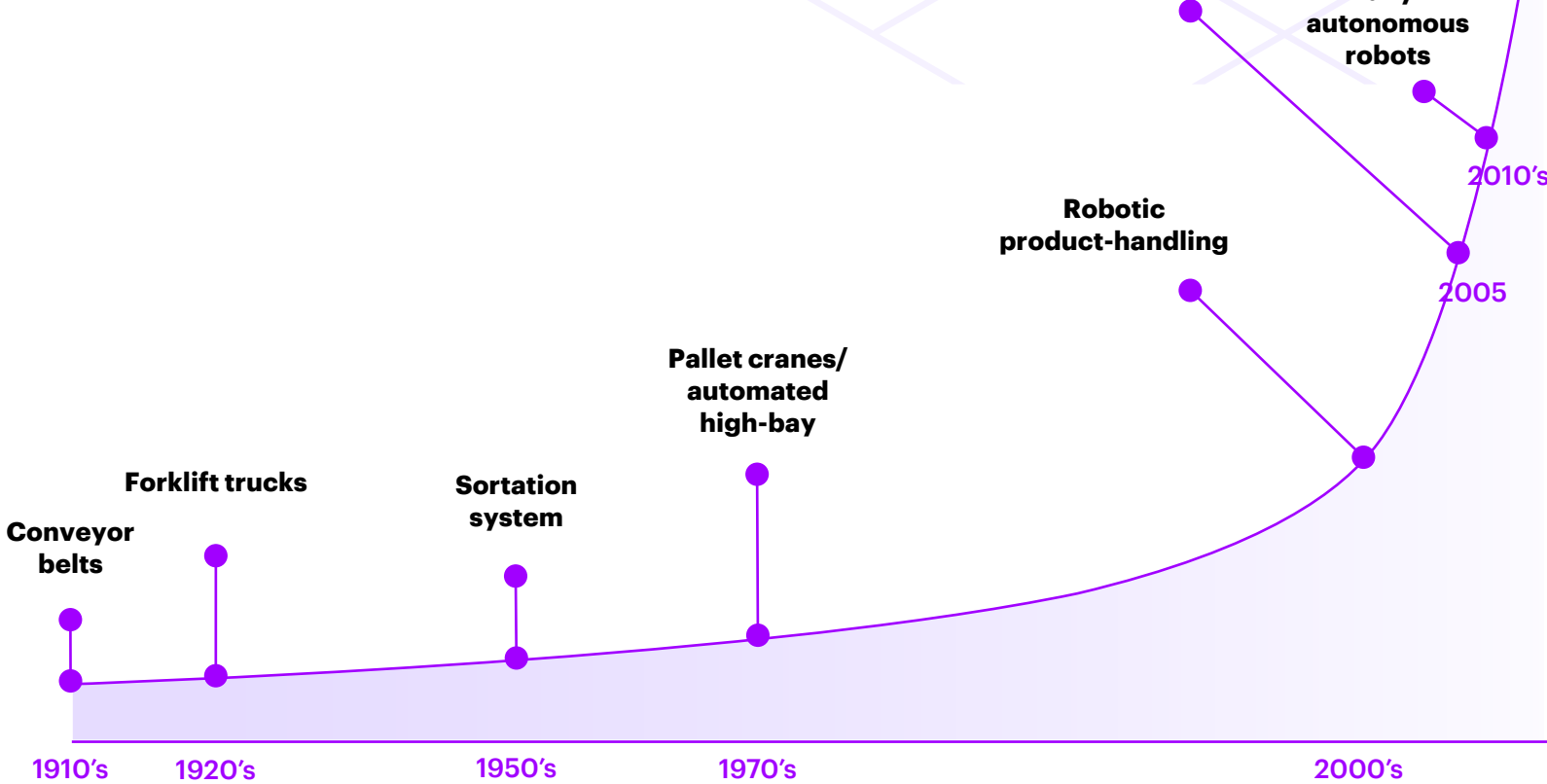
Rapid growth of ecommerce + 'lot size one' production demands
= \$11 billion
 average investment annually into warehouse automation

IN 2020

COVID-19 amplified both labor shortages and the pressure on global logistics networks, spurring even more investment into warehouse automation



Autonomous warehouse systems are on the rise



Mousetrap: Companies are struggling to build the right solutions

Distracted by the latest shiny objects, companies choose technologies irrespective of the needs of their warehouses or the types of operations at play, resulting in point solutions.

To justify returns, they apply technologies that are familiar and deliver quick wins, but fail to achieve the scalability required to drive strategic returns. As a result, the full potential of human and machine collaboration remains untapped.

"We haven't really cracked the puzzle of integrating machines and humans in our warehouses. The perception battle continues."

Senior Executive, South Asian retail chain

Step 1: Align around a broader vision

Re-evaluate the role and function each warehouse is expected to play as part of the supply chain

FUNDAMENTAL QUESTIONS:

- Does our warehouse strategy align to the value our business aims to deliver?
- Is the warehouse strategically located?
- Have I evaluated the rent vs buy vs lease options?
- Have I evaluated the warehouse processes and flows to eliminate unnecessary movements?
- Is the set-up scalable?
- Do I need as-a-service or buy options when it comes to my technology choices?

"What happens generally is that companies fail to understand the principle 'eliminate before you automate', meaning to eliminate waste instead of automating it."

Jed Cowell, Director - Global Warehousing, Cummins

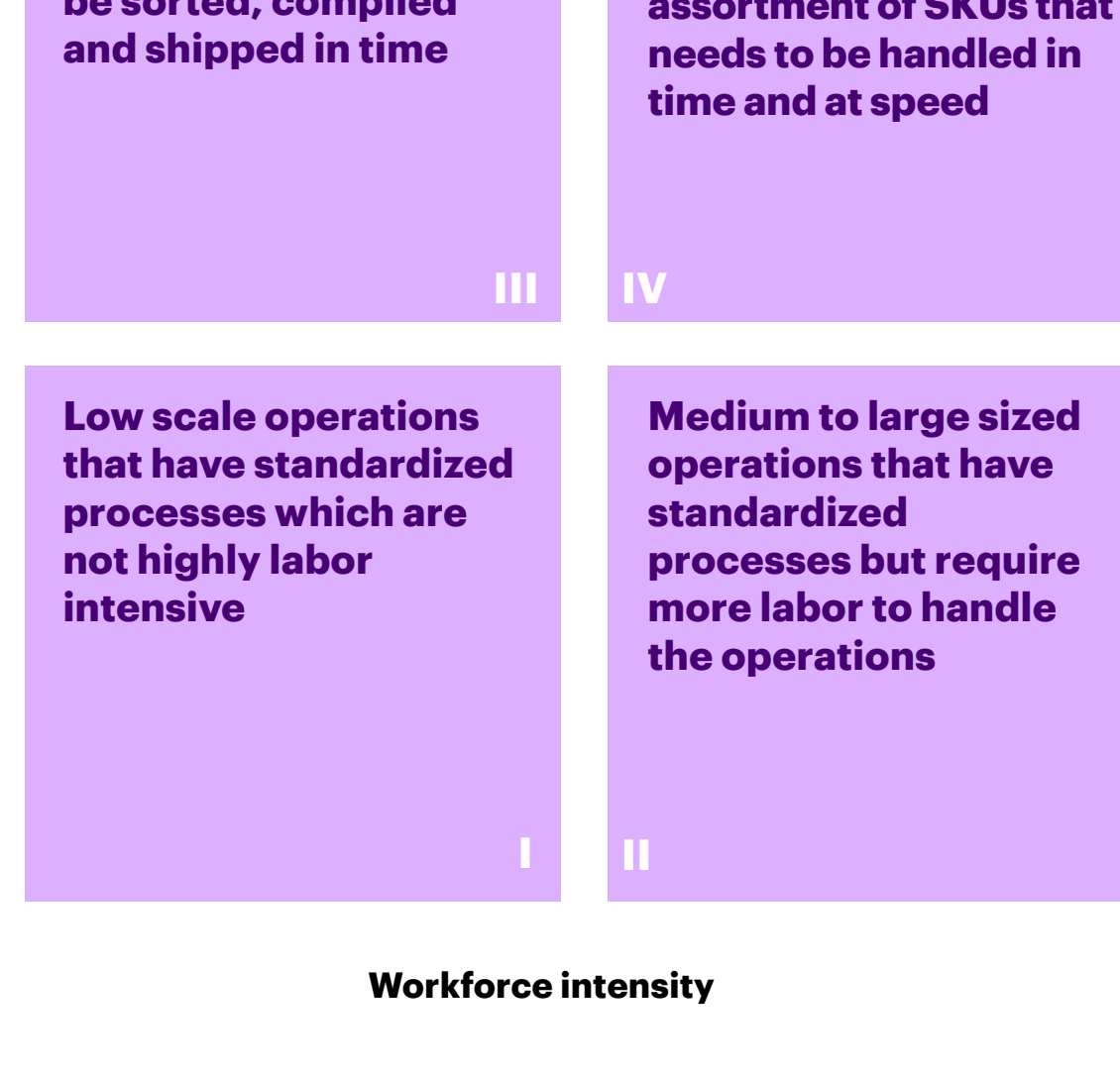
Step 2: Avoid one-size-fits-all solutions

Categorize warehouses based on the complexity of operations and labor intensity requirements to identify the right technology solutions.

Identifying which quadrant a warehouse's operations sit in is a critical step towards identifying the right technology solutions.

"If you have a small building that's got 120 people doing repetitive tasks, you can quickly redeploy your people and adjust the ebbs and flows. It's hard to justify automation typically, except for maybe an occasional cobot. But in bigger sites, like a one million square foot building, you have a lot of common movements, and an automated solution might be able to help you there."

Brad Poller, Warehousing Program Manager, Cummins



Step 3: Measure all that matters

Identify and include the less obvious but vital returns when calculating ROI.

Executives must include less obvious, non-traditional metrics when calculating ROI to deliver a more 'balanced' view of value.

"For automation and robotics initiatives, showing ROI to Chief Financial Officers has been a challenge because one of the key performance indicators (KPIs) looked at is labor cost reduction in terms of headcount. Big picture or other efficiency measurement KPIs are not looked at or are missing."

Warehouse Executive, multinational medical device manufacturer

Step 4: Build digital architecture for end-to-end connectivity

Integrate and combine technologies to facilitate impactful automation and autonomy.

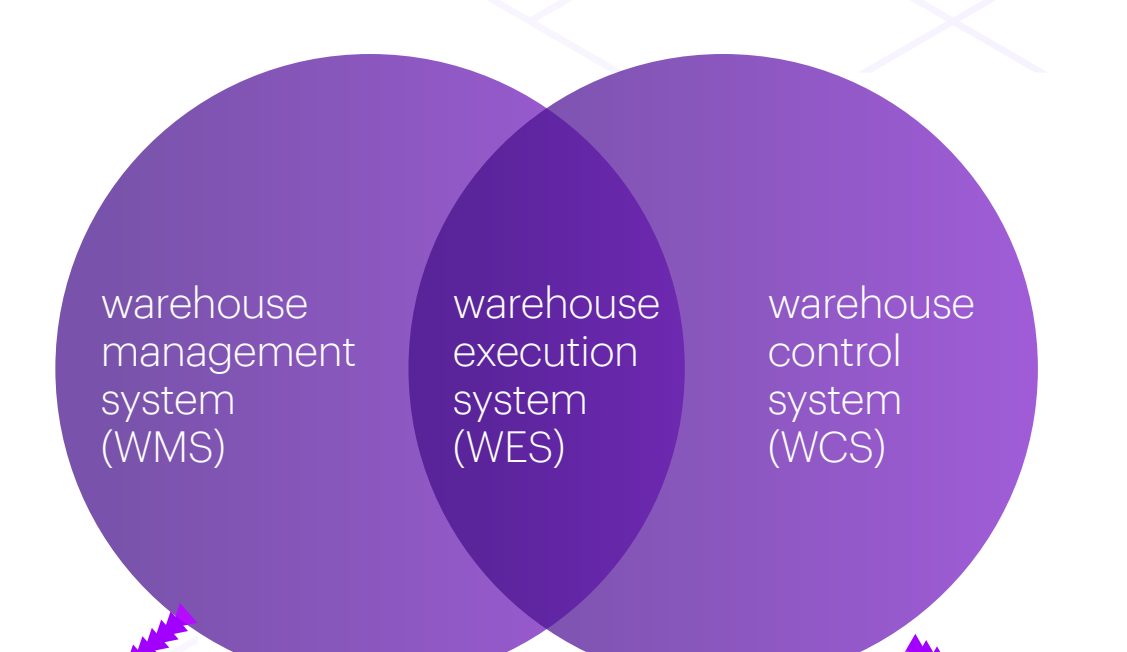


DEPLOY INTELLIGENT TECHNOLOGIES TO GENERATE INSIGHTS FOR REAL-TIME DECISION MAKING

data analytics, machine learning, or artificial intelligence

- computer vision systems
- virtual agents
- autonomous vehicles
- natural language processors

BUILD A SMART CORE CAPABLE OF AUTONOMOUS RESPONSE CAPABILITIES



warehouse management system (WMS), warehouse execution system (WES), warehouse control system (WCS)

DESIGN WAREHOUSE SOLUTIONS TO MAXIMIZE HUMAN AND MACHINE COLLABORATION



"We've got machines that obviously pick the right items for you, we've got machines that weigh the things for you. It just makes everything a lot faster and you're more productive. Without them it would be much slower and we wouldn't make as much money. I definitely need it."

Lynda, Warehouse Worker, UK

"Automation technologies have the advantage of consistently providing high level of quality and reliability. Focus automation on the items that are highly controlled and standardized and then use humans where you need specialization, flexibility, and perhaps a little bit more thinking than a robot is capable of. That way, you don't have to use humans as robots and take away thinking from them."

Prof. Benjamin Bierwirth, Frankfurt University of Applied Sciences

Painting a bigger picture

old approaches towards deploying new technology solutions will not deliver the desired levels of return. It's time for a greater strategic shift. The value is clearly already there to be unlocked. Follow the new approach to warehouse automation to unlock untapped, unprecedented gains.

