



KONICA MINOLTA

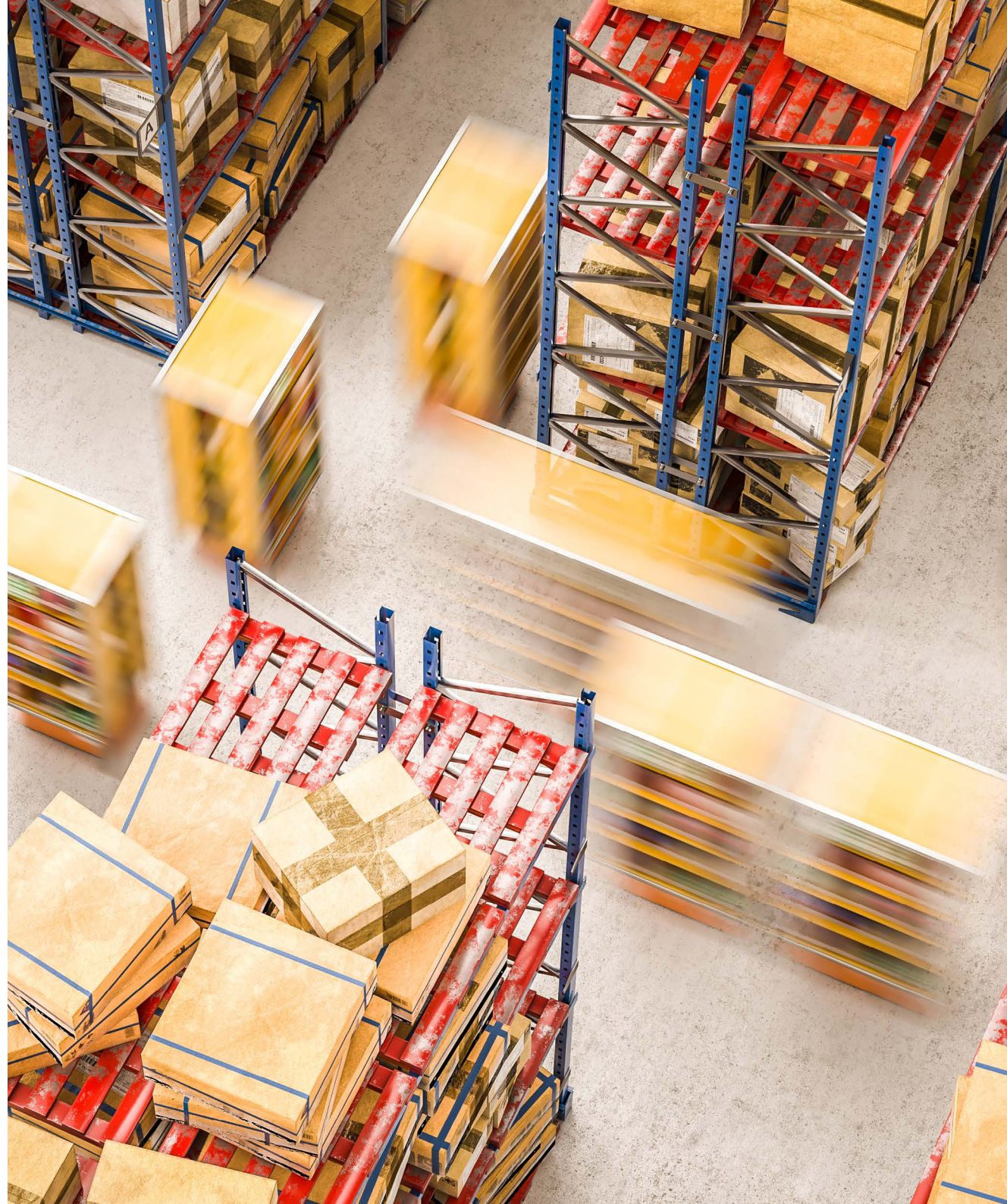
THE AUTOMATION OF INTRALOGISTICS IN AUSTRALIA

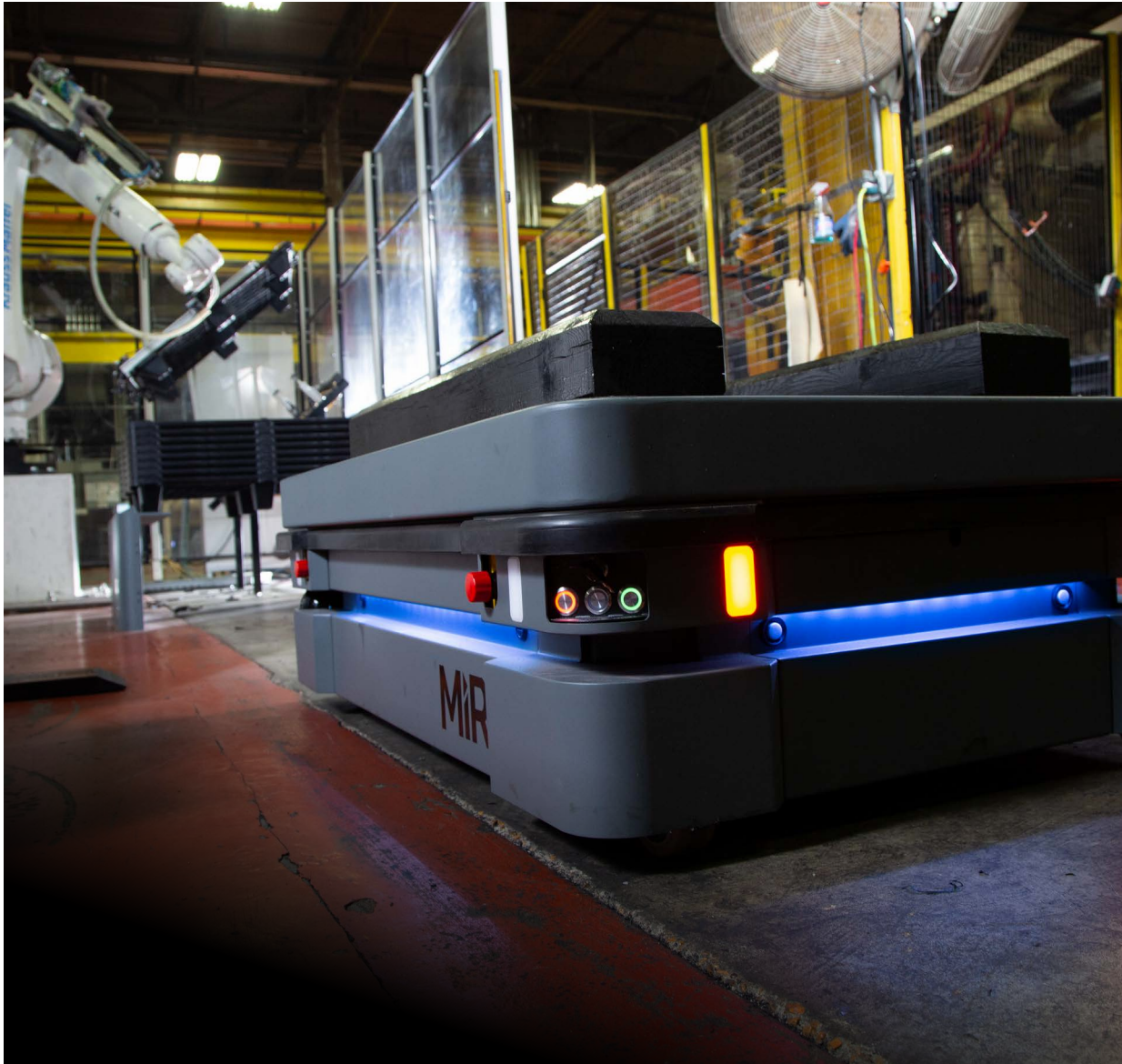




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Foreword

2020 is the year that efficient and scalable intralogistics, which is the optimisation, integration, automation, and management of the logistical flow of information and material goods, has been revealed as essential to our way of life.

The pressure on supply chains and increased demand on delivery infrastructure exposed by COVID-19 is likely to evolve into a more permanent shift in consumer and commercial behaviours. This once-in-a-lifetime event has only served to compound the evolution seen through the 2010's; increasing e-commerce and on-demand consumer attitudes.

There are few industries that can claim to be as automated as the logistics and warehousing sector. Konica Minolta's research indicates that 62 per cent of respondents will consider implementing autonomous mobile robots; a statistic that puts the industry in great stead to take advantage of the post-pandemic business landscape.

It is into this environment that we are pleased to release our inaugural report: *The automation of intralogistics in Australia*. In this report you will find what we believe is the first and only comprehensive report on the trends, priorities, needs and opportunities in the intralogistics space in Australia.

We hope you find the content within informative and useful.

We believe that there's never been a better time to innovate and the next decade brings even greater opportunity for this sector. Those that succeed will be underpinned by innovation, automation and the normalisation of technology-driven supply chain solutions.

Martin Keetels

National manager – robotics and innovation



Introduction

Long dominated by forklifts, conveyors and automated guided vehicles (AGVs), autonomous mobile robots (AMRs) are a significant innovation in the intralogistics sector. AMRs offer efficiency, safety and cost benefits relative to their predecessors.

The recent pandemic has brought entire sections of the Australian economy to a halt. Factory closures,

increased demand for critical items and production suspensions have been experienced, disrupting global supply chains and leading to shortages of critical goods and services.

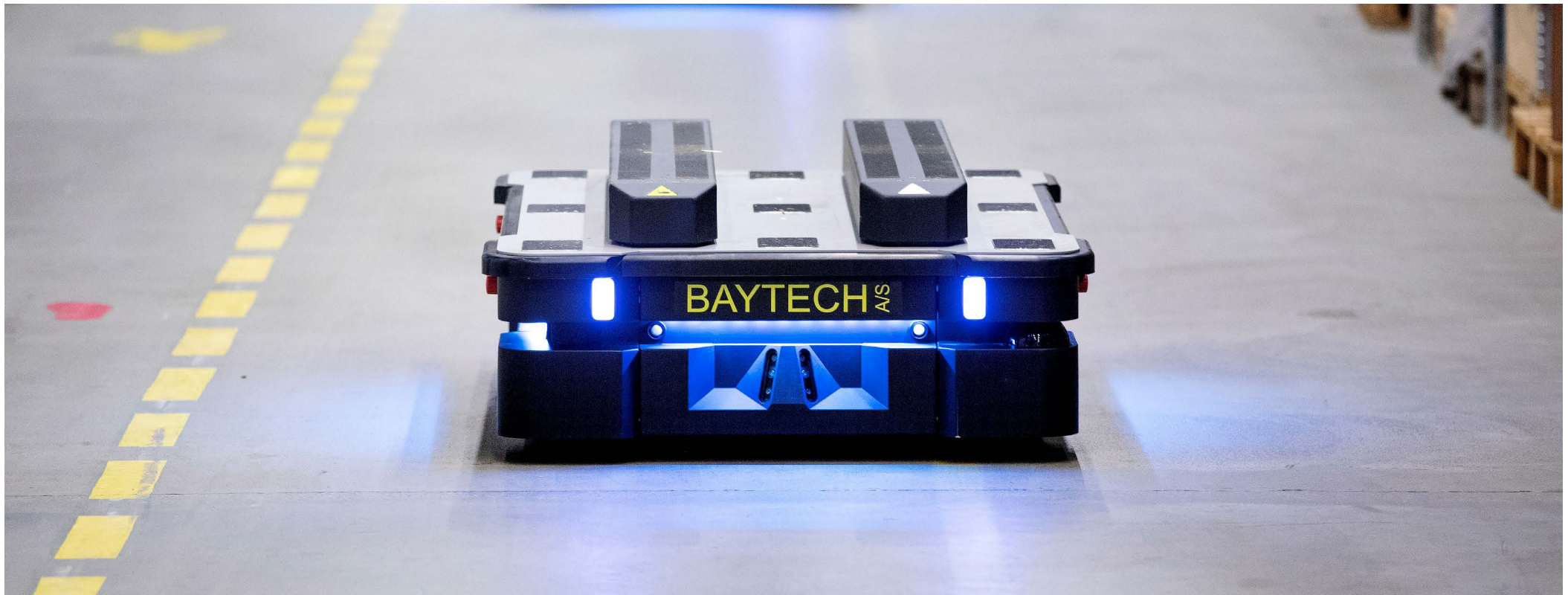
Many organisations have taken significant steps towards reshoring supply to reduce their exposure to offshore vulnerabilities. Business continuity will

become a key requirement in any future intralogistics solution scoped and acquired. It is envisioned that COVID-19 will be the impetus for rapid growth in AMR adoption in the Australian market.

This report examines the intralogistics industry in Australia. It has a particular focus on the impact that the implementation of AMRs will have on the

Australian market through analysing survey data recorded after the COVID-19 outbreak, providing insights from senior executives, managers and intralogistics workers.

Three key areas of priority have emerged from this research: safety, productivity and customer satisfaction.





Australian intralogistics industry post COVID-19

As we began our research into the intralogistics landscape in Australia the global pandemic hit. This unprecedented occurrence has changed the course of business globally and our research has straddled the beginning and middle of COVID-19. According to Roy Morgan, almost 60 per cent of Australian businesses have been affected negatively by the COVID-19 outbreak, with hospitality and retail sectors bearing the brunt.¹

However, supply chain and logistics workers have been classified as key workers demonstrating what a pivotal role the industry plays in keeping Australia going. Our research indicates that intralogistics will be a focus for businesses in the coming months, towards Australia's recovery from the economic downturn.

Our respondents indicated that intralogistics automation is still a primary consideration despite the impact, with 59 per cent of warehousing and logistics organisations considering implementing AMR's pre-pandemic and 64 per cent

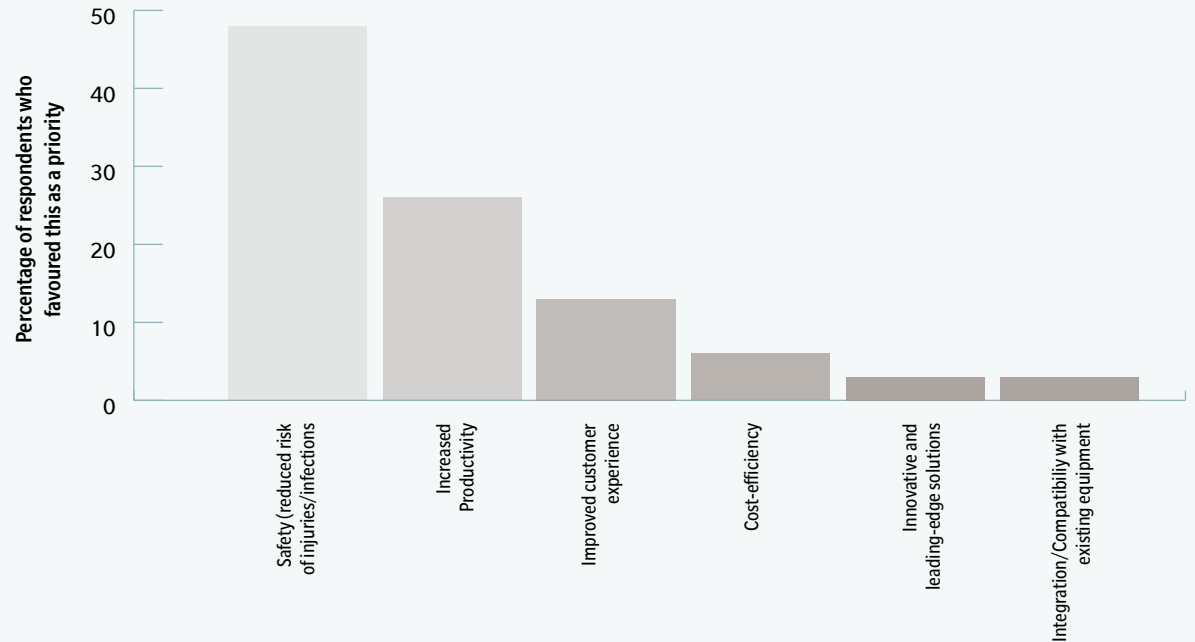
of the same respondents rethinking automation in their warehousing due to the pandemic.

The imperative to drive productivity and efficiency has only been heightened in the pandemic environment: 20 per cent of those surveyed said they are certain that they will make investments in new technology in the coming 12 months.

COVID-19 has also driven the need for contactless technology in workplaces across Australia. Intralogistics relies heavily on human proximity and as a new health and safety consideration, social distancing is a top priority in business. Collaborative robotics, like AMRs, can reduce peer-to-peer contact.

While Australia is still facing an unprecedented and unpredictable business environment, warehousing and logistics will form the backbone which Australia will rely on through this challenging time.

WHAT IS IMPORTANT TO YOU WHEN IMPLEMENTING AMR'S?



AMR solutions increase the efficiency of operations, automating up to 46 per cent of routine tasks, freeing up staff to focus on more valuable projects.

¹ <http://www.roymorgan.com/findings/8328-impact-of-coronavirus-march-2020-202003160441>

Safety: continuing and enhancing best practice

Manual handling injuries in the workplace cost Australia \$28 billion per year¹ as many intralogistics workers carry out tasks that involve driving forklifts, lifting, carrying, pushing and pulling throughout the day.

In 2017-18, the most common mechanism of injury that resulted in serious claims were body stressing (36%), falls, trips and slips of a person (23%) and being hit by moving objects 16%.²

Based on Australian Bureau of Statistics data (ABS 2020), labourers and machinery operators are by far the most impacted groups of workers.³

Removing the need for human intervention in transporting goods around warehouses is a key driver in reducing the health and safety risks, and improving safety records. AMRs are uniquely placed to remove two types of workplace risks: body stressing associated with pushing, pulling and lifting and the risk of being hit by a moving object.

AMRs' prime function in intralogistics environments is to move objects. They significantly lessen the risk of common body stressing injuries. Furthermore, they reduce the risks of being hit by moving objects such as forklifts. This is because AMRs come with a suite of highly advanced safety technology to minimise human risk associated with forklift accidents.

Major group	No. of serious claims	Proportion of serious claims	Incidence rate
Labourers	27,140	25%	24.1
Machinery operators and drivers	15,280	14%	20.3

¹ <https://www.peoplesense.com.au/news/article/27062018-240/manual-handling-injuries-in-the-workplace-cost-australia-28b-per-year>

² https://www.safeworkaustralia.gov.au/system/files/documents/2001/australian-workers-compensation-statistics-2017-18_1.pdf

³ <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/BE46FE1E08544041CA2584A8000E788E?opendocument>



There is an average of 15,280 serious claims in Australia for machinery operators and 6.6 weeks average time lost to serious injury.⁴

⁴ www.safeworkaustralia.gov.au/system/files/documents/2001/australian-workers-compensation-statistics-2017-18_1.pdf



Productivity: driving the next level of a productive workforce

As pressure and demand on the Australian logistics sector increases, many businesses find themselves dealing with shrinking margins and changing regulations. For this reason, productivity is vital for survival.

It is estimated that 25–46 per cent of current work activities in Australia could be automated over the next 10 years.¹ Demand for technology skills, higher cognitive skills, social skills and emotional skills will increase further, while the

need for people to perform physical and routine tasks is forecast to decline.

Due to the rise of online shopping and changing consumer behaviours, companies have tremendous growth opportunities and those who have deployed AMRs have seen benefits through significant productivity improvements. According to the Robotics Industry Association, more than 70 per cent of users noted double-digit key performance indicator

(KPI) improvements from increased capacity, productivity, efficiency, operational speed, customer service, inventory turnover and reduced operating costs.²

The adoption of automation technologies, including AMRs, is an avenue to increase competitiveness in a volatile business environment. Currently, 85 per cent of Australian business leaders find keeping pace with changing market demands challenging.³

Through automation warehouse and logistics organisations can alleviate the pressure to meet these changing demands by ensuring they have a flexible, scalable, and productivity-increasing solution in place.

70 per cent of logistics and operations managers say increasing productivity is their top priority in 2020.

¹ <https://www.mckinsey.com/featured-insights/future-of-work/australias-automation-opportunity-reigniting-productivity-and-inclusive-income-growth#>

² https://www.robotics.org/content-detail.cfm/Industrial-Robotics-Industry-Insights/Autonomous-Mobile-Robots-Push-Robot-Boundaries/content_id/8099

³ <https://www.mobile-industrial-robots.com/en/insights/report/>



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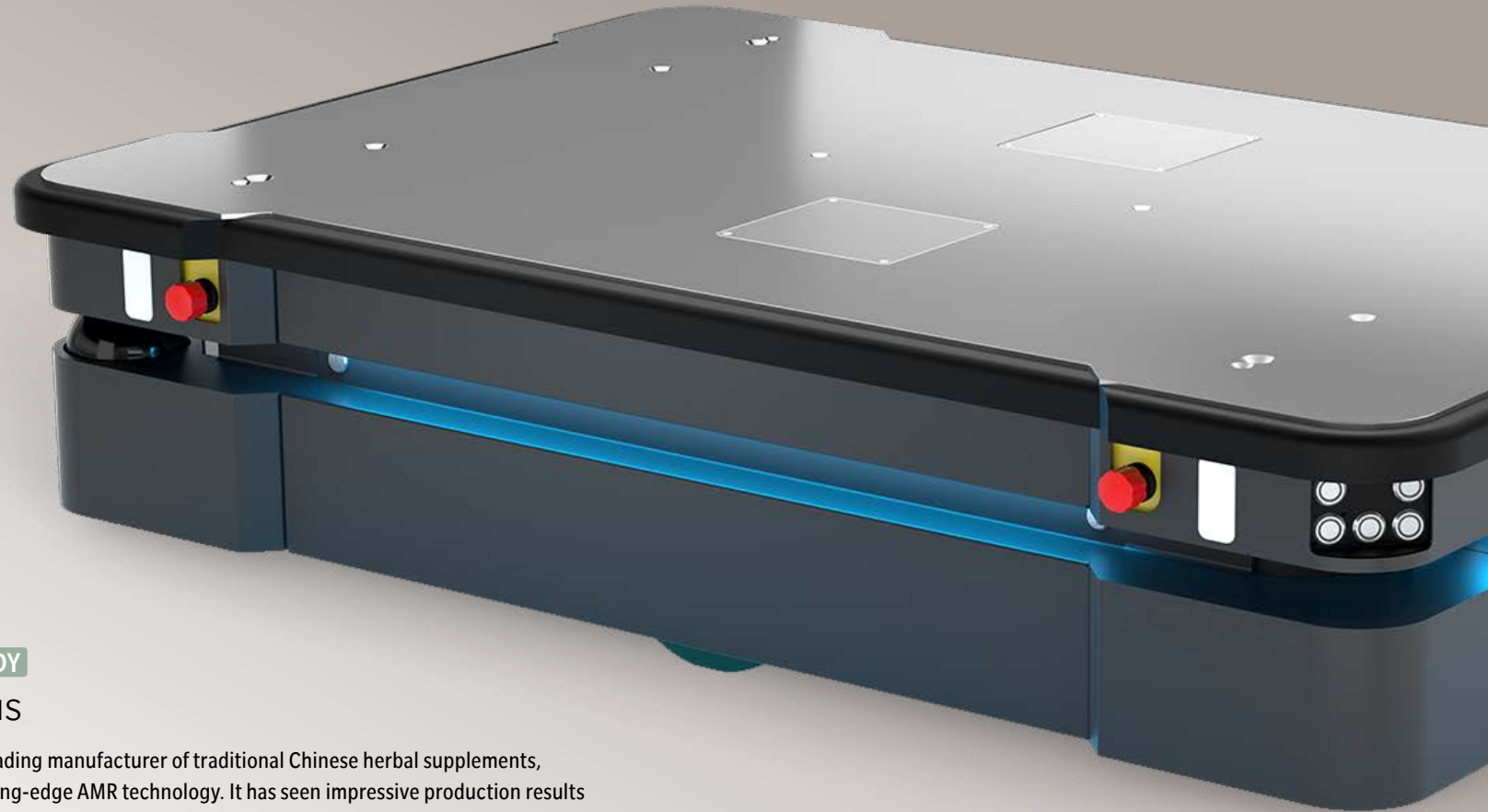
55.6 per cent of senior executives surveyed said customer experience was their number one priority

Improving customer experience

The expectations of customers, consumers and businesses have evolved over the past decade, and it is envisioned this trend will continue. With next day and same day delivery becoming the expectation, customer satisfaction has become a key differentiator for logistics operators. Those who can deliver faster, and more accurately are set to prosper.

The gap between warehouse and customer is shrinking year by year as these demands become the norm in customer expectations.

A more automated warehouse reduces human errors and improves reaction and despatch time, leading to greater customer satisfaction.



CASE STUDY

Infinitus

Infinitus, a leading manufacturer of traditional Chinese herbal supplements, adopted cutting-edge AMR technology. It has seen impressive production results since the implementation of three MiR robots in its production plant.

The challenge

Reliance on human labour to transport materials was limiting productivity. Infinitus knew it had to automate to stay competitive. It initially wanted to install AGVs, but that quickly halted due to the length of time required to lay guidance tracks.

Outcome:

Since implementing the MiR robots, Infinitus has significantly reduced the need for manual labour, freeing up personnel for more advanced technical work such as material inspection. This let Infinitus use talent more effectively and empowered its personnel to engage in work that creates more value. In addition, production levels rocketed.



The future warehouse in Australia

An increasing demand for autonomous automation is driving productivity and efficiency changes in Australian warehouses. Our research highlighted that within the next two years 50 per cent of those surveyed are looking to implement AMR technology.

70 per cent of those working in the warehouse and logistics sector believe increasing productivity is their priority in 2020 and 60 per cent confirm there is a dedicated budget for implementing AMRs in their organisations this year.

Globally the market trend is shifting towards the development of AMRs. According to Interact Analysis, the AMR market is set to grow 10-fold from \$300 million in 2017 to \$3 billion by 2022 on a global scale (2018).

This all supports a significant shift in how the future warehouse will look, and less reliance on AGV's with 50 per cent of respondents considering implementing AMRs versus 33 per cent considering AGVs.

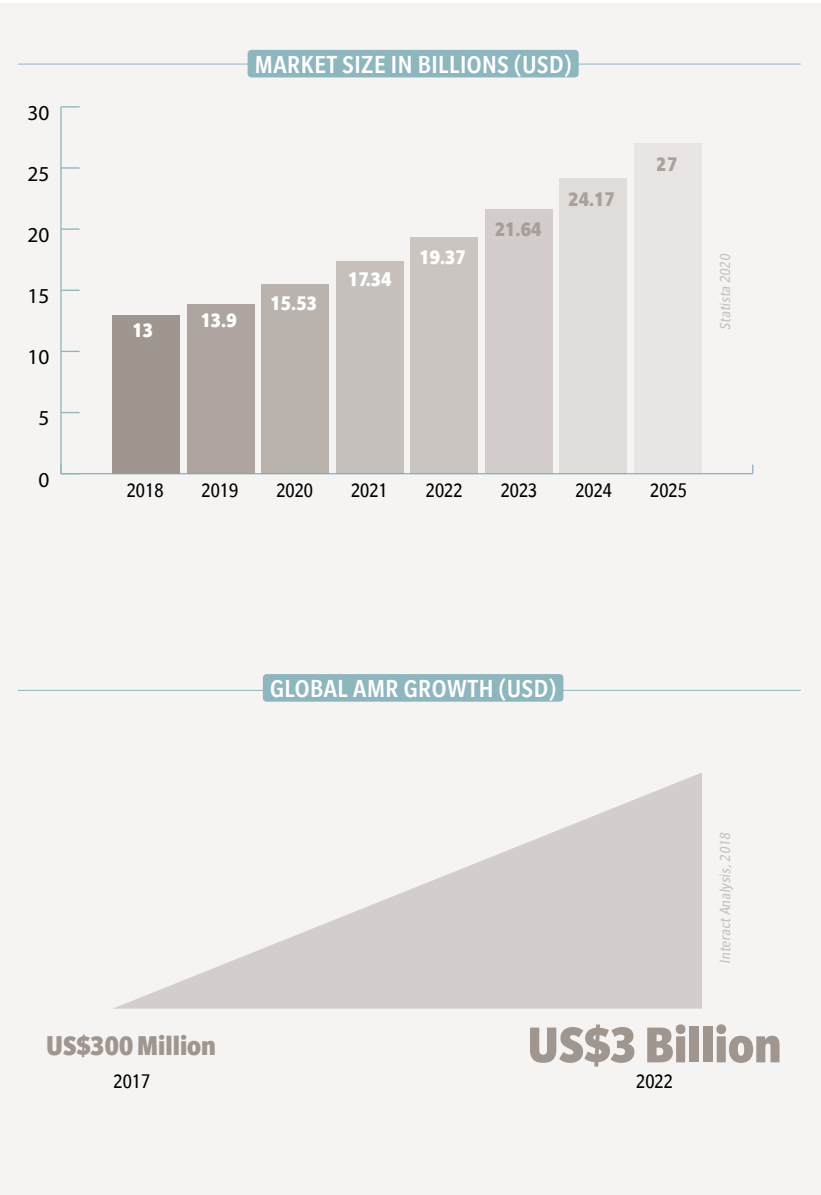
This gradual evolution from forklifts and AGV to AMR is set to continue through the next five years.

With almost half of senior executives surveyed actively rethinking automation to cope with future challenges instead of merely reacting to global disruptions, companies are investing in automation technologies in order to achieve a competitive edge and future-proof their business.

The logistics and warehousing landscape is set to look very different in the coming decade with AMRs and humans working collaboratively in a warehouse environment.



43.8 per cent of respondents are currently using AMRs. In the next two years, 50 per cent of respondents are considering implementing AMRs.





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About Konica Minolta Australia

Konica Minolta Business Solutions Australia (Konica Minolta) is an integrated innovation and technology company. Tracing its origins back to 1873, Konica Minolta has supported the communities in which it has operated through three separate centuries. Today, Konica Minolta provides a range of services to the Australian market including managed print services, industrial print, production print, document management, 3D

Printing and autonomous mobile robots (autonomous mobile robots).

Konica Minolta is proudly a “company that cares”. Its contribution to Australian society was recognised in 2018 when it won the Australian Human Rights Commission’s Human Rights Award for Business for “human-centred policies” including ridding its supply chain of slavery and promoting human rights and equality.

Konica Minolta began its association with Mobile Industrial Robots (MiR) of Denmark in 2016. It is a partner and distributor of Mobile Industrial Robots (MiR) in Singapore, Hong Kong, Malaysia and Australian markets. Over the past five years, the Konica Minolta robotics team has leveraged its international experience deploying autonomous mobile robots to the benefit of its customer base.



AUTONOMOUS MOBILE ROBOTS

Key findings

US\$3B

GLOBAL AMR MARKET IS SET TO GROW EXPONENTIALLY TO US\$3 BILLION BY 2022



AMR IS A NEW BLUE OCEAN IN AUSTRALIA. MANY GLOBAL PLAYERS ARE PRIMED TO ENTER THE AUSTRALIAN MARKET.



TOP 3 CONSIDERATIONS FOR IMPLEMENTING AMRs IN THE WORKPLACE ARE:
1. SAFETY 2. PRODUCTIVITY 3. EFFICIENCY



TOP 3 SECTORS IN AUSTRALIA WITH BIGGEST POTENTIAL TO ADOPT AMRs ARE:
1. LOGISTICS & WAREHOUSING 2. MANUFACTURING 3. RETAIL



MANUAL HANDLING INJURIES IN THE WORKPLACE COST AUSTRALIA \$28 BILLION PER YEAR



THE MARKET IS TRANSITIONING FROM AGVs TO AMRs IN AUSTRALIA AND GLOBALLY

66.7%

OF SENIOR EXECUTIVES RANKED DRIVING EFFICIENCY AS NUMBER ONE PRIORITY IN 2020, FOLLOWED BY IMPROVING CUSTOMER EXPERIENCE (55.6%) AND COST SAVINGS (44.4%).



ALMOST HALF OF SENIOR EXECUTIVES ARE RETHINKING AUTOMATION AS A PRIORITY IN WORKPLACES DUE TO COVID-19