2024 Industry Whitepaper

Freight, Logistics & Warehousing

A look into the landscape facing technology executives and the trends to watch in 2024.

TZU&CO
AN EXPERIENCE DIGITAL COMPANY

Tzu & Co. is an integrated marketing CX firm with a backbone in research and data. Helping organisations make their next marketing and MarTech decision with confidence.

experience digital

Experience Digital is a technology services and consulting company, with over a decade of proven experience modernising established businesses, integrating complex business-critical systems and enabling emerging technology.

Introduction

Freight, logistics and warehousing is the backbone of Australia's economy. An efficient, sustainable and cost-effective industry enables the nation to remain competitive in global markets and to deliver more value domestically to businesses and consumers.

The industry is at a crossroads, facing significant challenges but also poised for considerable growth. For every obstacle such as labour shortages, sustainability and environmental concerns and the constant threat of cybercrime, there's a new opportunity to modernise and evolve. Intelligent Transport Systems, blockchain in logistics, IoT, cloud computing and new cybersecurity measures are surfacing to reshape supply chains in Australia.

This report combines Tzu & Co's market research faculty with Experience Digital's proven capabilities enabling technological advancement for Freight, logistics and warehousing industries. It aims to provide both a look into the trends and challenges faced today and on the horizon and Experience Digital's perspective as to where and how AI specifically can be leveraged to unlock substantial innovation.

Table of Contents

Market Synopsis

Perspective

MARKET SYNOPSIS

01

1. Market Synopsis - Freight & Logistics

1.1 Freight and Logistics Industry in Australia – Trends and Challenges

The Freight and Logistics (F&L) industry in Australia is a vital component of the national economy, facilitating domestic and international trade. This report provides an overview of the current trends, growth, and challenges within the industry, drawing upon the latest insights and data.

The Australian F&L industry is at a crossroads, facing significant challenges but also poised for considerable growth. By embracing technological innovation, investing in sustainable practices, and adapting to evolving market dynamics, the industry can continue to play a critical role in supporting Australia's economy and meeting the needs of businesses and consumers alike. Its ability to adapt to changing consumer expectations, manage operational costs effectively, and mitigate cybersecurity risks will determine its long-term success and resilience.

1.2 Industry Overview and Growth

The Australian freight and logistics industry has been characterised by significant growth and transformation. With a market size estimated at over $144 billion in 2024, it is expected to reach over $173 billion by 2029, growing at a compound annual growth rate of 3.9% during the forecast period. This growth is driven by several factors, including the rise of e-commerce, advancements in technology, and evolving consumer expectations. 1

In the Australia Freight and Logistics Market, the Freight Transport segment accounts for the largest share by logistics function while the Warehousing and Storage segment accounts for the fastest growing in 2024. 1

Value of freight and logistics market by function, Australia, 2017-2029

- **Freight Transport**
- **Other Services**
- **Courier, Express and Parcel**
- **Warehousing and Storage**
- **Freight Forwarding**
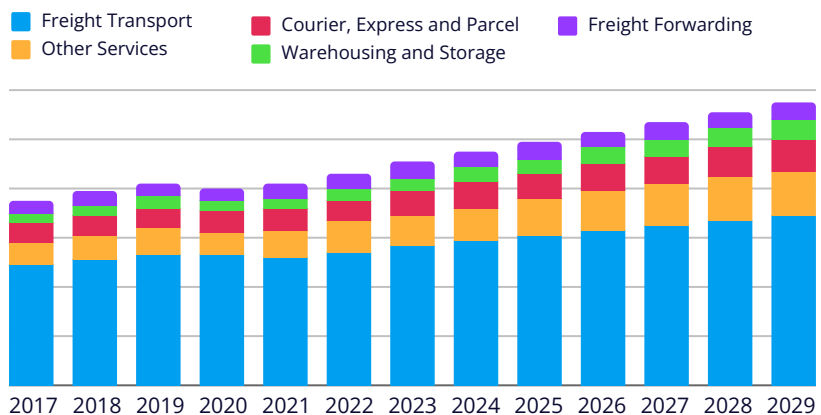
Source: Mordor Intelligence

E-commerce, in particular, has been a significant driver of change in the industry. Australia's e-commerce penetration rate has stabilised at around 12.7%, amounting to $53 billion over the past 12 months. This shift towards online shopping has increased the demand for efficient logistics and freight services to ensure timely deliveries. 2

Road freight demand is leading the industry, followed by rail freight, supported by infrastructure development. Land transportation accounts for more than 80% of freight transportation in Australia, with railways transporting the majority of bulk goods. 1

Road Freight Transport in Australia

Road freight transport is the largest employing sub-sector in the transport and logistics sector with a revenue of $65.1 billion comprised of 58,978 businesses with 181,000 employees).

$65.1 billion	58,978	181,000
Revenue	Businesses	Employees

There are no companies with over 5.0% market share in the Road Freight Transport industry. However, the industry's two largest players, Toll Group and Linfox, are vertically integrated logistics firms with significant market power. 11

Government initiatives, and capacity expansion investments coupled with increasing sea freight import export are driving growth in the country. Enhancing port connectivity is key to Australian trade with the Port of Melbourne, the Port of Sydney, and the Port of Brisbane being top ports. The Australian Infrastructure Plan aims to drive economic growth with an investment of $363 billion in pipelines. 1

The Australian Government remains resolutely dedicated to a robust 10-year infrastructure pipeline valued at $184 billion, focusing on delivering land transport projects that hold national significance and contribute to shaping the nation's future. The 2023-24 budget represents a stride forward in establishing an infrastructure investment pipeline integral to nation-building endeavours. This initiative forms the bedrock for constructing a sustainable and credible lineup of projects, selected based on diverse economic and societal goals, encompassing regional connectivity, quality of life enhancement, and safety enhancement. As a result, the overall sector value is expected to grow during the forecast period. 1
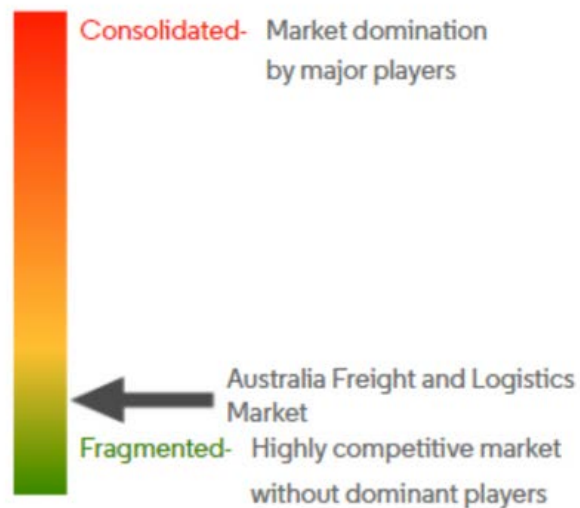
Top Australia Freight and Logistics companies based on the 2023 & 2024 market 3

Aurizon Holdings Limited
Deutsche Post DHL Group
FedEx
Linfox Pty Ltd
Qube Holdings Ltd
Centurion Transport
DB Schenker
DSV A/S (De Sammensluttede Vognmænd af Air and Sea)
K&S Corporation Limited
Kuehne + Nagel
LINX Cargo Care Group
Toll Group

These companies are integral to the Australian freight and logistics market, offering a wide range of services including domestic and international freight transport, logistics solutions, warehousing, and distribution services. The list showcases the diversity within Australia's logistics sector, covering companies that specialise in road, rail, air, and sea freight.

Market Concentration

Consolidated- Market domination by major players

Australia Freight and Logistics Market

Fragmented- Highly competitive market without dominant players

Source: Mordor Intelligence

1.3 Industry Trends and Innovations

The industry is continuously growing with the following innovations aimed at enhancing efficiency, sustainability, and resilience:

Intelligent Transport Systems (ITS): The integration of ITS in Australia is enhancing dynamic speed zones, active lane management, traveller information systems, and e-tolling. The global ITS market is expected to grow significantly, indicating a push for smarter, more efficient transportation solutions. [4]

Technology Adoption: The use of technology is optimising logistics operations and improving supply chain visibility.

- **Blockchain in Logistics:** By creating an immutable ledger of activities, blockchain technology aims to enhance efficiency and security across the supply chain. This technology helps prevent fraud and clerical errors, offering a more transparent and reliable logistics process. [5]

- **Internet of Things (IoT)** technology is becoming increasingly prevalent in logistics, enabling real-time tracking and data exchange across devices. This connectivity supports efficient shipment tracking, data collection, and overall operational improvement. [5]

- **Cloud Computing:** The logistics software market is seeing increased adoption of cloud-based systems, allowing for scalability, reduced logistics costs, and enhanced data security. This technology supports remote access and collaboration, essential for modern logistics operations. [5]

Cybersecurity Measures: As the industry becomes increasingly digitised, cybersecurity risks have surged, prompting companies to adopt more rigorous systems and processes to fend off attacks. The Australian Cyber Security Centre is playing a crucial role in preparing F&L companies for potential cyber threats through targeted exercises. [6]

With the increasing importance of cyber resiliency, businesses are investing in creating a more secure and innovative supply chain. [7]

Infrastructure Investment: Significant investments in infrastructure, such as the Australian Infrastructure Plan's commitment of over $363 billion, aim to bolster the industry's capacity and efficiency. [1]

On-demand Warehousing: This innovation provides shippers with flexible, short-term warehousing solutions, allowing for more efficient use of space and resources. During the pandemic, on-demand warehousing gained significant interest, indicating its potential for future growth and innovation within the logistics sector. [5]

Shifting Customer Expectations: The demand for faster delivery, including same-day services, has grown significantly. To meet these expectations, companies are considering the establishment of smaller, strategically located warehouses and diversifying delivery options through third-party contractors. [8]

1.4 Challenges Facing The Industry

Despite its growth, the F&L industry in Australia faces several challenges. Despite these challenges, the industry is poised for growth, with innovations in technology and sustainability expected to drive progress. The focus on electric vehicles, sustainable logistics practices, and the adoption of advanced cybersecurity measures are among the key factors that will shape the future of the F&L industry in Australia.

1. Rising Fuel Costs: Tightening global oil markets and a weakening Australian dollar have led to increased fuel prices, with diesel prices rising by 40.1% in 2021-2022 alone. This surge in fuel costs directly impacts operational expenses for F&L companies.[1] Companies are exploring various strategies to manage these costs, including surcharges and optimising delivery routes. [8]

2. Economic Slowdown: A slowdown in the global economy, particularly in the second half of 2023, has led to a deceleration in industry growth. This slowdown is attributed to subdued economic performance in key markets like the US and China, as well as the impact of worldwide monetary policy tightening. [10]

3. Increasing Pressures in Global and Domestic Supply Chain: There is a growing demand for space as retailers and wholesalers look to mitigate inventory risk. However, goods movement in and out of Australian ports is slowing due to congested shipping freight access and routes. [7]

4. Natural Disasters: Events like flooding across NSW and Victoria have disrupted supply chains, highlighting the vulnerability of the industry to environmental factors. [6]

5. Cybersecurity Risks: With the increasing digitisation of the F&L sector, cybersecurity has become a paramount concern. The industry has seen a rise in data breaches and cyberattacks, necessitating a more rigorous approach to safeguarding digital infrastructure. [6]

6. Rising Warehousing Costs: The cost of building or renting warehouse space has surged, driven by increased supply and material costs. This has pushed companies towards seeking more cost-effective solutions, such as automated warehousing. [6]

7. Sustainability and Environmental Impact: There is a growing demand from consumers for sustainable delivery options. This includes the adoption of electric vehicles and the establishment of parcel collection-point networks to reduce carbon emissions. [6]

02

2. General warehousing and cold storage deep dive

2.1 Industry Revenue and Growth [11]

In 2023, the general warehousing and cold storage sector is projected to generate a revenue of $6.9 billion, marking a compound annual growth rate of 2.3% since 2018. This thriving industry comprises 1,938 businesses and employs 19,788 individuals.

The surge in demand for general warehousing and cold storage services from a variety of downstream markets has been a significant driver of industry growth in recent years. Warehousing facilities have evolved into intricate distribution and information hubs, linking the entire supply chain of a product and enabling just-in-time stock supply. Manufacturers, retailers, and wholesalers have adapted their supply chains to this trend, holding less stock on hand and outsourcing their warehousing needs. This shift towards third-party warehousing has stimulated demand for warehousing services, prompting operators to invest in new value-added services and technology systems.

The escalating demand for non-temperature-controlled warehouses can be attributed to the boom in online retailing and the trend of outsourcing warehousing activities. The pharmaceutical sector, in particular, is generating a demand for temperature-controlled facilities. In January 2023 alone, Australia imported pharmaceutical products worth over $1.8 billion.

In recent years, the rise in business inventory levels has bolstered industry revenue growth. The trend towards business process outsourcing has also contributed to the success of warehousing and cold storage facilities.

The geographical distribution of industry establishments closely mirrors the national population distribution and economic activity. Warehouses and cold storage facilities are typically located near light manufacturing sites, port areas, and intermodal hubs with easy access to main arterial roads.

Competition among general warehousing and cold storage operators is fierce, with cost, reliability, and service being the primary differentiators. Given the high degree of similarity in many industry services, pricing competition is particularly intense.

2.2 Industry Trends and Innovations [11]

Growing inventory volumes and the rising trend of outsourcing have significantly boosted revenue growth.

General warehousing facilities account for 64.7% of industry revenue, while cold storage facilities contribute 18.5%, and bonded warehousing facilities make up the remaining 16.8%.

|	
General	64.7%
Cold Storage	18.5%
Bonded	16.8%
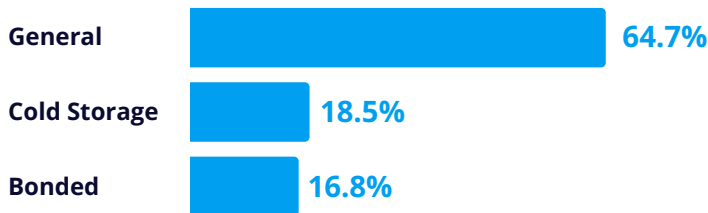
Growth of E-commerce is driving growth

The rise of e-commerce is a significant driver for the cold chain logistics market in Australia, with an increased demand for perishable goods, food products, and pharmaceuticals. E-commerce spending reached record highs in 2022, indicating a growing need for efficient cold storage and logistics solutions to cater to online shopping demands. [12]

The industry is highly fragmented with many smaller operators

The General Warehousing and Cold Storage industry is highly fragmented, with approximately 94.2% of enterprises being either owner-operators or employing fewer than 20 personnel. The industry's market share concentration in Australia is low, with the top four companies generating less than 40% of industry revenue. The average concentration in the Transport, Postal and Warehousing sector in Australia is 43%.

Key External drivers

- Business inventories
- Demand from business process outsourcing
- Total merchandise imports and exports
- Demand from online shopping
- Licensing and regulation - Warehouse operators must adhere to various licencing and varying regulations depending on the type of goods stored. Bonded warehouses and firms that store dangerous goods come under particularly stringent regulations.
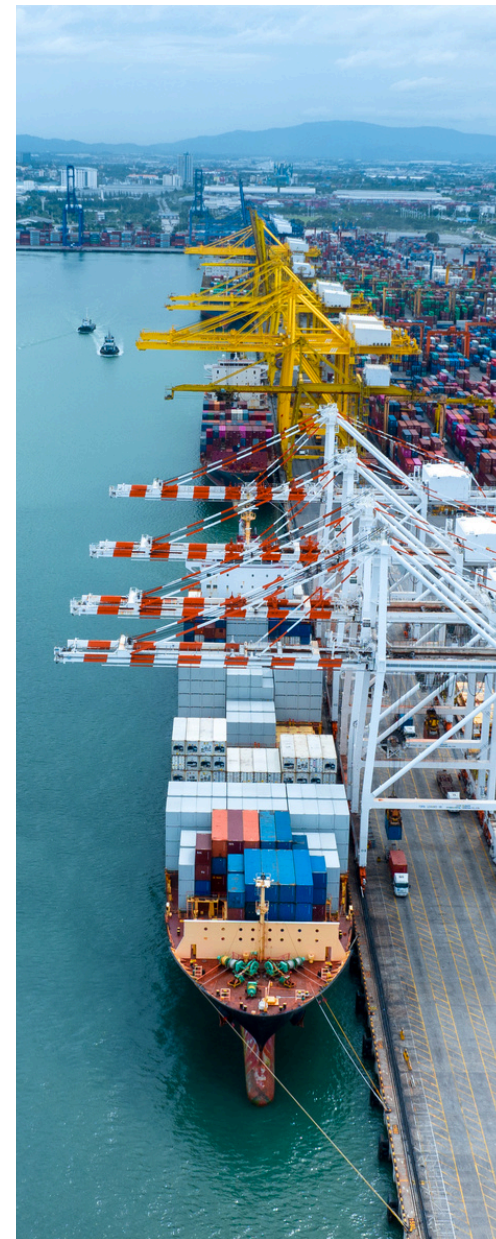
2.3 Challenges Facing the Sector

Despite being the fastest growing sub sector within F&L there are still many multifaceted challenges that impact various aspects of the sector, from logistics and shipping to regulatory compliance and environmental concerns. Addressing these challenges requires a multifaceted approach, including strategic planning, leveraging technology for logistics optimisation, establishing local partnerships, and adhering to regulatory standards. Moreover, adopting sustainable practices and addressing labour shortages through training and automation will be crucial for the sector's growth and sustainability.

The industry's expansion is set to fuel competition: Anticipated robust revenue growth is likely to attract new entrants to the industry in the coming years, thereby intensifying competition. However, larger logistics firms are poised to acquire smaller warehouses that find it challenging to compete, which may limit the growth in the number of enterprises. The industry has experienced a squeeze on profitability due to escalating price-based competition. However, some operators have managed to increase their margins by offering more value-added services. Competition among general warehousing and cold storage operators is primarily based on cost, reliability, and service. The high degree of similarity in many industry services has led to fierce pricing competition.11

Fragmented market: The Australian cold chain logistics market is fragmented, with a mix of large international players and local companies. This diversity creates a competitive landscape but also presents challenges for new entrants trying to establish a foothold in the market.12

Increased shipping costs and efficient delivery scheduling: The vast geography of Australia poses logistical challenges, including higher shipping costs and the need for efficient delivery scheduling to ensure timely deliveries without incurring excessive costs.13

Seasonal demand fluctuations: Seasonal variations significantly affect demand, requiring efficient inventory management and resource allocation to handle fluctuations. These include managing overstock during peak seasons and avoiding understocking to prevent missed sales opportunities.13

Strict regulatory compliance: Navigating Australia's complex web of regulations and compliance standards, including consumer rights, product safety, data privacy, and customs and import regulations, is crucial for operating in the e-commerce warehouse sector.13

Labour shortages: The sector also faces challenges in recruiting and retaining skilled labour, exacerbated by the COVID-19 pandemic. Labour shortages can lead to operational disruptions and affect order fulfilment efficiency.13

Sustainability and environmental concerns: With a global focus on sustainability, there is increasing pressure on e-commerce in Australia to adopt eco-friendly practices. This includes finding sustainable packaging materials and addressing carbon emissions from goods transportation.13

PERSPECTIVE

AI holds the promise of driving substantial innovation.

By Adam Bosnjakovic, CTO at Experience Digital

Introduction

The industry has been slow to adopt technological advancements, but imagining a scenario where it embraces innovation, technology adoption becomes crucial in leveraging AI to optimise logistics operations. By analysing data, including route planning, vehicle utilisation, and supply chain visibility, AI-driven machine learning algorithms can enhance demand forecasting, aiding companies in more efficient resource allocation.

AI holds the promise of driving substantial innovation and efficiency enhancements within Australia's freight and logistics sector. It offers companies the opportunity to tackle challenges, seize advantages, and foster sustainable growth in the long run. However, beyond technology adoption, what steps can be taken to effectively enable AI implementation?

Enabling AI

Intelligent Transport Systems (ITS) stand ready to significantly enhance operational effectiveness by analysing extensive data collected from diverse sensors and devices already being used as standardised ways to facilitate supply chain. This analysis optimises traffic flow, manages dynamic speed zones, and enhances overall transportation efficiency.

Concurrently, leveraging IoT devices for real-time tracking and monitoring of freight shipments empowers proactive decision-making and efficient resource management. AI algorithms, drawing insights from IoT data, further optimise logistics processes, enhance asset utilisation, and bolster overall operational performance.

And, as algorithms dive into extensive data stored in the cloud, they create valuable insights and recommendations. This empowers companies to make informed, data-driven decisions and adapt swiftly to evolving market dynamics. Given the computational demands of AI and data analysis, the rapid adoption of cloud services in this dynamic landscape emerges as a pivotal driver in facilitating AI implementation.

But how do these advancements translate into tangible outcomes?

Experience Digital
- **Data Professionals**
- **Integration Experts**
- **ERP Platform Specialists**

Outcomes

Optimising on-demand warehousing solutions involves analysing demand patterns, inventory levels, and resource availability to dynamically allocate warehouse space and resources. AI algorithms drive optimisation in warehouse operations, enhancing inventory management, and improving overall efficiency in responding to fluctuating demand.

Simultaneously, with a focus on sustainability initiatives within the freight and logistics sector, AI optimises route planning, vehicle routing, and resource allocation to minimise environmental impact. By reducing fuel consumption, lowering emissions, and enhancing overall sustainability performance, AI optimisation algorithms contribute to fostering a greener, more efficient industry.

Integration with blockchain technology not only enhances transparency and efficiency but also reinforces cybersecurity measures within the supply chain. By leveraging advanced analytics, AI can scrutinise blockchain data to uncover patterns, anomalies, and potential security threats. This holistic approach fosters a secure and resilient supply chain ecosystem by simultaneously enhancing transparency, efficiency, and cybersecurity defenses.

Through this interconnected approach, AI-driven blockchain integration and cybersecurity measures work to fortify the freight and logistics sector, ensuring the integrity, security, and reliability of digital operations in Australia.

ESG presents a significant challenge in the Transport and Logistics sector. Prioritising actions such as minimising carbon emissions, improving fuel efficiency, and ensuring transparency, integrating AI technologies becomes essential. This will not only enhance CX but contribute to reducing our environmental footprint.

Andrew Ryan

Director of Operations at Open 4

References

1. https://www.mordorintelligence.com/industry-reports/freight-logistics-market-in-australia

2. https://www.cbre.com.au/insights/figures/figures-australia-industrial-and-logistics-2q23

3. https://www.mordorintelligence.com/industry-reports/freight-logistics-market-in-australia/companies

4. https://www.ncs.co/en-au/knowledge-centre/the-key-trends-driving-the-Australian-transport-and-logistics-market-today/

5. https://getcircuit.com/teams/blog/logistics-industry-innovations

6. https://www.forbes.com.au/news/leadership/what-challenges-does-the-logistics-industry-face-in-2023/

7. https://www.jll.com.au/en/trends-and-insights/research/australian-logistics-and-industrial-market-overview-q4-2023

8. https://www.domeshelter.com.au/common-uses/lv-hv-workshops/transport-logistics-industry-2023-challenges/

9. https://mhdsupplychain.com.au/2022/12/07/key-transport-logistics-trends-in-australia-to-watch-out-for-in-2023/

10. https://group.atradius.com/publications/industry-trends/transportation-logistics-industry-trends-2023.html

11. https://www.ibisworld.com/au/transportation-sector/

12. https://www.mordorintelligence.com/industry-reports/australia-cold-chain-logistics-market

13. https://golocad.com/blog/e-com

EXPERIENCE DIGITAL

Transforming your technology for tomorrow

About Us

Experience Digital is an integrated, end-to-end technology services and consultancy, with over a decade of proven experience modernising established businesses, integrating complex business-critical systems and **enabling emerging technology and ideas.**

We know the industry

AWH

QANTAS FREIGHT

OPEN4
TURNKEY FF&E

HARRIS FARM
MARKETS

Our Services

Data Strategy & AI Readiness
We help you build a data architecture, ready for the future. Secure, scalable and strategically aligned to the overarching IT and business direction.

Integrations
We provide Systems & Data Integrations to bring together complex, siloed and disparate environments, to achieve a client's desired outcome. Seamless connections, clean transformations & centralised access.

ERP Platform Specialists
We help your Finance, Operations, Supply Chain and entire business run more efficiently and effectively, from strategy to implementation, complex integrations and support.