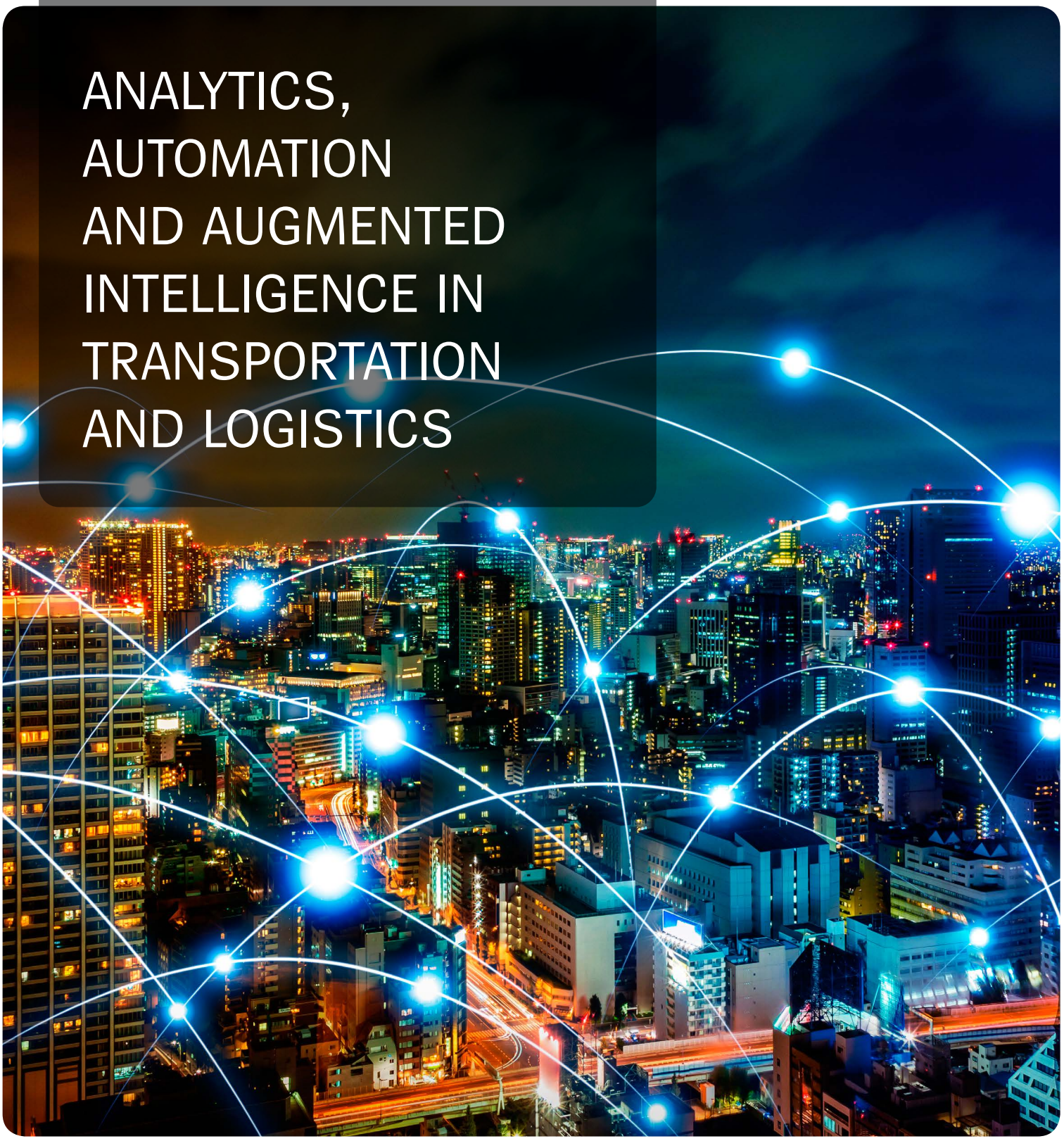
ANALYTICS, AUTOMATION AND AUGMENTED INTELLIGENCE IN TRANSPORTATION AND LOGISTICS



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The transportation and logistics landscape suffered from global disruption due to COVID-19, as suppliers and vendors struggled with closures, employment challenges, and more. An increasingly robust commitment to analytics, automation, and augmented intelligence could have smoothed the way, but unfortunately supply chains have been slow to fully embrace end-to-end planning and implementation.

The pandemic crisis revealed glaring inefficiencies in how many logistic companies operate, emphasising the need to accelerate business processes and reduce costs. To achieve these goals, logistics leaders must move beyond the Internet of Things (IoT) and embrace change at an infrastructural level.

Transportation and Logistics: The Backbone of the Global Economy

The ability of logistics companies to facilitate quick, cost-effective delivery of products from point to point is crucial not just from a reputational standpoint, but for profitability. Bottlenecks in the supply chain can cripple revenues and destroy consumer trust.

The growing adoption of transportation management system (TMS) applications and other advanced transportation technologies are capable of offering superior efficiency and cost savings. However, they are not stand-alone solutions. Unless the correct infrastructure and IT system management (ITSM) standards are implemented, attempts to raise the bar across the industry will be inconsistent.

Advanced Technologies Can Transform Transportation and Logistics

Over the past decade, major advances in augmented intelligence, analytics, and automation have continuously transformed how logistics companies operate. As legacy systems and manual processes are supplanted by more advanced TMS technologies, companies are increasingly focused on ensuring their digital transformation delivers clear benefits.

According to Gartner, supply chain leaders already perceive technology as a competitive advantage with long-term value[1], but a staggering 80% of organisations are slow to adopt new supply chain applications and technologies. A report from the University of Sydney Business School reveals that while retailers, in particular, are overwhelmingly convinced of the benefits of data-driven supply chains[2], barriers to deployment have significantly slowed adoption.

Obstacles include:

- Reluctance to share key data
- Challenges associated with data security
- Unfamiliarity with or distrust of new technology
- Data science related skills gaps within the retail company
- Organisational issues
- Failure to align goals and processes with partners

Logistic companies that implement analytics to create denser routes, automation to speed warehouse to truck operations, and augmented intelligence to predict everything from distributor demand to fleet maintenance can successfully transform[3], according to McKinsey. Organisations that cannot build cohesive end-to-end solutions will fail.

Modern ITMS solutions underpin companies' ability to build competitive advantages, differentiate themselves from competitors, and stay ahead of market disruptions and trends. Internal goals focus on generating and utilising real-time data garnered by deep visibility into the supply chain. External goals commit to delivering products and services to the customer faster and at greater convenience than the competition.

Increase visibility over transported goods

Integrate information technology (IT), operational technology (OT) and data analytics to monitor transportation vehicles in real-time. This can be accomplished with a combination of advanced TSM applications, geo-tracking, and IoT connected devices that relay critical information leading to more accurate delivery estimates. The addition of augmented intelligence allows traffic delays to be avoided, inclement weather to be factored into travel time, and the most efficient route identified for constant course correction.

Reduce the impact of human error

Automation, augmented intelligence, and data analytics can all be leveraged in the quest for comprehensive risk management. Replacing manual processes with automated ones can prevent human error (the cause of nearly a quarter of all downtime in manufacturing), helping to eliminate costly transportation delays, wasted resources and undelivered products.

Integrating artificial intelligence (AI) and machine learning (ML) into your operations allows manual or paper-based tasks to be minimised, reducing errors and freeing staff for more complex, higher revenue-generating processes. Robotic process automation (RPA) can facilitate logistics customer invoicing and transport planning needs.

Improve cost control and operational agility

By combining OT and data analytics, your organisation can receive early warnings about vehicle and equipment failures. Implementing IoT-connected sensors can enable predictive maintenance, which in turn, can deliver impressive cost savings. According to research from Deloitte, predictive maintenance can reduce maintenance planning time by 20-50%, increase equipment availability and uptime by 10-20%, and drop costs of overall maintenance[4] by 5-10%.

Deloitte further notes that cost reduction and/or revenue increases are the primary drivers of IoT adoption, and supply chain industries including transportation and logistics are top drivers for end-to-end adoption[5] of advanced technologies, including AI-powered data analytics and automation.

Developing and deploying augmented intelligence programs can help your organisation to plan out new transportation strategies and travel routes for greater cost efficiency. Benefits include reducing freight costs, transit times, fuel usage and other overhead expenses, with the side benefits of improving the agility of key operations and enhancing customer satisfaction.

PricewaterhouseCoopers (PwC) Australia cites, organisations that have committed to the development and deployment of digital capabilities are capable of transforming linear supply chains into ecosystems.[6] These “Digital Champions” can achieve annual savings of 6.8% in supply chain costs, while gaining a 7.7% revenue increase.

Enhance supply chain cybersecurity

According to Australia’s Cyber Security Strategy 2020, which is a comprehensive update to the 2016 Strategy, the Australian Government is funding a $1.35 billion Cyber Enhanced Situational Awareness and Response (CESAR) package. The report identifies transport as one of the top 14 industries most affected by cybercrime.[7]

IoT connectivity and other technologies may offer more efficient logistics functionality, but they also introduce new security vulnerabilities. A single data breach can cause costly unplanned downtime and loss of revenue, as well as reputational damage and lessening of public trust. AI and data analytics can be used to enhance

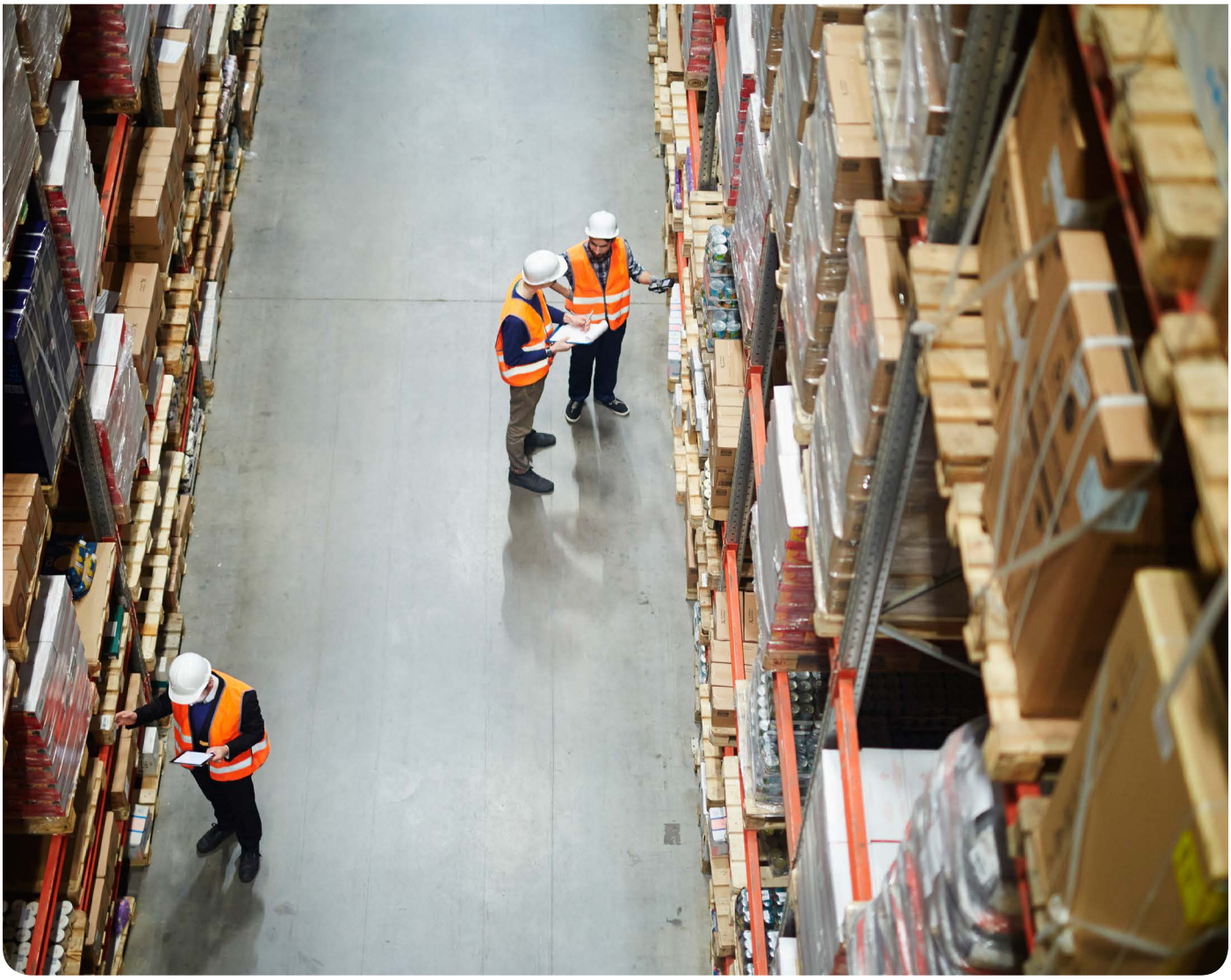
cybersecurity, enabling high-level anomaly detection and threat identification applications to provide a protective shield for key business systems and processes.

Support logistic resiliency

In a recent Gartner survey, only one out of five of respondents claimed they already have a highly resilient logistics network with good visibility. An overwhelming majority don't possess the agility to react to sudden changes in the industry, and can't quickly shift sourcing, manufacturing and distribution activities[8] to accommodate shifts. However, more than half say increasing resiliency is a priority, and expect to become highly resilient in the next 24 to 36 months.

Step into the Future of Transportation and Logistics with Unisys

Logistics companies have traditionally underinvested in IT and OT, leaving holes in security and limiting their ability to grow and transform. Introducing analytics, automation, and augmented intelligence provides your company with the tools you need to grow. When you partner with Unisys, you also gain the systems you need to pivot your digital transformation efforts to meet ever-evolving customer and workplace needs while improving resiliency.



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