



COLLAPSE OR REVOLUTION

How a smart supply chain can deliver for postal



The postal industry is out of time.

A decade-long freefall in letter volumes has pushed it to the edge, and its survival now hinges on becoming the provider of choice in a booming e-commerce era.

But will it be enough?

Executive Summary

The postal sector at a crossroads

The postal industry is facing a defining moment. With declining letter volumes, and outdated infrastructure buckling under the pressure of soaring parcel demands, the supply chain is the new differentiator, commanding attention in boardrooms worldwide. No longer siloed or relegated to the background, innovative postal leaders are embracing automation, intelligence, and advanced network design to revolutionize not only their operations, but their products, pricing models, and customer experience.

“We’re seeing a global shift, Australia Post is reducing letter delivery frequency, Royal Mail is challenging six-day service mandates, and PostNord will stop delivering letters altogether by the end of 2025. The Universal Service Obligation is being redefined to reflect a parcel-first future,” Bob Black, TMX Transform.

Imagine:

- **AI & Automation:** Smart sorting centers powered by real-time, data-driven intelligence, instead of static forecasting.
- **Last-Mile Reinvention:** Out-of-home solutions are no longer a backup; but a strategic imperative.
- **Network Design as a Competitive Edge:** Forward-thinking postal operators reimagining their physical footprint for efficiency, speed, and reliability.
- **Digital Simulation:** Where operators can model changes before implementation, fine-tuning operations without service disruption.
- **Static Reporting to Real-Time Action:** Legacy systems that evolve into dynamic decision-making engines.
- **True Strategic Partnership:** Where postal providers step beyond last-mile execution, and into total operational alignment.

This whitepaper is a practical roadmap for postal leaders looking to future-proof their supply chains. With insights from **TMX Transform non-executive board director & former Australia Post group chief operating officer Bob Black**; **TMX global executive director supply chain Tom Fitz-Walter**; **TMX strategic advisor, former AGL Australia chief executive officer & former Australia Post chief customer officer Christine Corbett**; **TMX director of supply chain Jamie Dixon**; **TMX strategic advisor, former Australia Post group general manager strategy & simplification Ben Franz**; and **TMX director of supply chain Max Reynolds**, we explore the strategies, pioneers, and technologies, that can redefine an industry that touches every home and business worldwide.

Bob Black – TMX Transform

“Smart organizations are moving from static planning to systems that update constantly by the second, by the hour, by the day. It’s not just about one part of the supply chain – it’s about creating an end-to-end view that’s holistic, dynamic, and gives you solutions rather than just data.”



Bob Black



Tom Fitz-Walter



Jamie Dixon



Ben Franz



Max Reynolds



Christine Corbett

Introduction:

The imperative in postal

E-commerce has forced postal organizations to reinvent their business models in the face of existential threat. Legacy practices like static forecasts, pre and multiple sorting, and rigid shifts hinder competitiveness in the e-commerce era.

TMX Transform has witnessed firsthand, through partnerships with **Australia Post, New Zealand Post, Singapore Post, Royal Mail**, and other global freight services, how intelligent supply chains are evolving.



Breaking through postal bottlenecks: key challenges

The postal industry faces operational gridlock, rising last-mile costs, and networks built predominantly for letters – not parcels. To stay ahead, postal services must change to give their customers the productivity, performance, and reliability they expect.



Ben Franzi – TMX Transform

“Last-mile delivery is facing increasing challenges as congestion, environmental concerns, and safety regulations restrict truck and vehicle access to urban areas. Cities such as London have introduced congestion charges, further complicating the equation. At the same time, **parcel volume is expected to double over the next five to seven years, particularly in countries with lower e-commerce penetration – adding even more pressure to an already strained last-mile network.**”

Operational Bottlenecks

- **Sorting struggles:** Legacy sorting systems aren't built for today's parcel complexity, slowing down processing.
- **Outdated infrastructure:** Data flows in, reports come out – but without real-time insights, decision-making stays static.
- **Labor pressures:** A shrinking and aging workforce and rising costs demand smarter automation and efficiency.

Last-mile pressures

- **Skyrocketing costs:** “The last-mile makes up about 70% of the delivery cost, and it's only increasing in price,” Ben Franzi, TMX Transform.
- **Urban gridlock:** Dense cityscapes and limited access points are turning last-mile logistics into a bottleneck.
- **Customer expectations:** Consumers demand speed, flexibility, reliability, and transparency. Anything less risks losing business. However, “there is tension between achieving speed, reliability, and cost. Consumers need choice, but in many cases must choose between speed and price. There's a trade-off,” Bob Black, TMX Transform.

Network constraints

- **Facility mismatch:** Postal infrastructure was built for letters, not the e-commerce explosion.
- **Siloed systems:** Rigid, channel-based operations create inefficiencies instead of seamless delivery.
- **Frozen networks, dynamic demand:** Fixed routes and an inflexible workforce can't keep up with fluctuating volumes.

These challenges are not just inconveniences – they block profitability and customer satisfaction. Postal and parcel services must rethink sorting, embrace flexible last-mile models, and transition from rigid networks to smart, data-driven ecosystems designed for the realities of modern commerce.



Three Pillars of Postal Success



1. Network Redesign

2. Last-Mile Optimization

3. Automation & AI

1. Network Redesign

Start by locating facilities at the “center of gravity” where demand is highest. By analyzing delivery patterns and optimizing facility locations, postal organizations can consolidate multiple facilities and transform fragmented networks (such as multiple postal centers spread across a city) into consolidated, technology-enabled facilities that improve efficiency.

“By working out your center of gravity, you can position yourself to be more competitive with the right people, processes, equipment, and technology to enable efficient operations. Ideally, future facilities will integrate multiple operations into one intelligent scalable hub,” Jamie Dixon, TMX Transform.

This approach considers the supporting infrastructure of vehicles, technology systems, and operational processes, as well as the physical footprint. By redesigning network flows, organizations can reduce stem time (travel to delivery zones) and maximize delivery time.



A comprehensive approach to network planning

Network planning begins with understanding what you're trying to achieve before implementing new technology.

The most successful postal transformations follow a deliberate sequence:

1. Determine the role of each facility (node) within the broader network;
2. Assess the scale of automation that suits each specific function;
3. Consider organizational readiness and maturity for automation adoption; and
4. Implement fit-for-purpose solutions that balance innovation with practical realities.



Tom Fitz-Walter – TMX Transform

“The question is: what does your network look like? You need to design both the network and its nodes with a specific function in mind. Then, you can assess the level of automation required to achieve that function effectively. It might be enabling a significantly higher product flow through the node to ensure on-time delivery to customers.”

An optimized network delivers products faster, with better accuracy, and at a lower cost, Tom says. A key driver of this is strategic transformation, enabling operational automation. “We’re seeing a 15% YoY cost reduction once implemented – but this isn’t just about saving money. In postal, it’s about survival through growth. If you can’t move volume, you’ll lose customers, full stop. Smarter network design shouldn’t be a cost-cutting measure; it’s a customer retention strategy. This is an investment in resilience because your workforce *will* change. The question isn’t *if*, it’s *when*, and you need to be ready.”



2. Last-mile optimization

Rethink traditional delivery models based on fixed routes, separate delivery, and collection functions. By implementing sophisticated route optimization, postal organizations can achieve “drop and collection density” – the interleaving of deliveries and collections.

Imagine one truck handling both pickups and deliveries at the same time – that’s interleaving. It is a powerful concept, but as Jamie points out, no postal company in the world has mastered it yet. The barriers are steep: outdated infrastructure, rapid technological advancements, legacy ways of working, and related operational constraints. Achieving this requires moving beyond static “petals” (fixed delivery areas) into dynamic “free zones”, where advanced routing algorithms determine optimal paths based on all orders in the system. While this marks a major shift in operational thinking, this approach can achieve dramatic gains in efficiency and a stronger customer experience.

Ben Franzi – TMX Transform

Success in optimization, however, lies in finding the right balance. “Five key factors drive last-mile costs: van loading and sort time, vehicle type, stem time, drop density, and drop time. Optimizing your fleet for these elements doesn’t always require a multifunctional approach – it’s about striking the right balance. A single facility may mean longer stem times for drivers, while local distribution centers reduce stem but add sorting complexity. Additionally, more last-mile locations serviced, equals more middle mile costs. Success lies in finding the optimal trade-off.”

Out-of-home solutions: from fallback to first choice

What started as a backup for missed deliveries has increased in popularity, especially in Europe. InPost has rapidly expanded, with over 82,000 locations in its out-of-home network, of which automated parcel machines (APMs) make up 57% of these points. In 2024 alone, they deployed 11,500 new machines. Similarly, Royal Mail is expanding beyond post offices, adding 5,000 Collect+ locations and over 1,000 parcel lockers to boost convenience and customer choice. It’s also trialling a new solar-powered postbox, where customers simply scan a parcel’s barcode to drop it into an automated drawer—streamlining the send-off process.



Bob Black – TMX Transform

“This isn’t just about out-of-home delivery. It’s about third-party accessibility. People are actively choosing to collect parcels outside their homes, not because they have to, but because they want to.”

These networks offer advantages beyond convenience:

- **For consumers:** Consolidated pickups mean collecting multiple items from one location, often at better prices.
- **For postal operators:** Optimized delivery routes and reduced last-mile costs.
- **For retailers:** A competitive edge through providing different options for the customer.

However, while postal operators remain the dominant players in to-home delivery, they must develop their out-of-home delivery options to offer consumers convenience and preference. With 115,000 postboxes across the UK, within half a mile of 98% of addresses, there's untapped potential to transform them into the nation's most extensive parcel drop-off network.

Bob Black – TMX Transform

"Some delivery providers offer significantly more out-of-home drop-off/pick-up options than others. While many operators utilize the post office networks, often these function as separate entities, with differences in ownership and strategic priorities. When it comes to parcel lockers, adoption remains low for many players when compared to others like InPost and Amazon.

By offering incentives to consumers, such as cheaper pricing, faster delivery, and easy check out, whilst also managing messaging such as 'environmentally friendly' and 'convenient', those leading in this space can drive volume where they want to – it's a win/win. This makes postal operators the challengers, not leaders, in the out-of-home space."

Breaking down the last-mile barriers

Modern postal networks are becoming fluid, adaptive systems, where parcels move based on changing consumer preferences and network capacity. Missed deliveries can automatically redirect to parcel lockers, returns can be processed anywhere, and real-time inventory visibility enables optimal routing.

But it requires real-time tracking, integrated inventory management, dynamic carrier allocation, and flexible last-mile options. The future isn't just about choosing between home delivery or lockers – it's about building an interconnected ecosystem. For example, Royal Mail has equipped 850,000 of its York transport containers with Bluetooth-powered digital tags, providing real-time updates on location, temperature, and humidity, enabling a live digital map of container movements.

The initiative aims to boost operational efficiency, reduce wasted journeys, and cut carbon emissions. They plan to extend this technology to individual parcels. This system improves the last-mile by ensuring timely, accurate deliveries through enhanced route planning, reduced delays, and increased visibility of parcels reaching local delivery offices.



Jamie Dixon – TMX Transform

"Creating a fluid, interconnected ecosystem requires an understanding of your customer experience. Then you can work back and decide what technology can help you do this – with full control and convenience for your customer in mind. The network of the future is technology-driven. Postal authorities must work out how to switch delivery to be customer-driven, this comes down to understanding your customer needs, using AI to help you understand the past, and then applying it to the future."



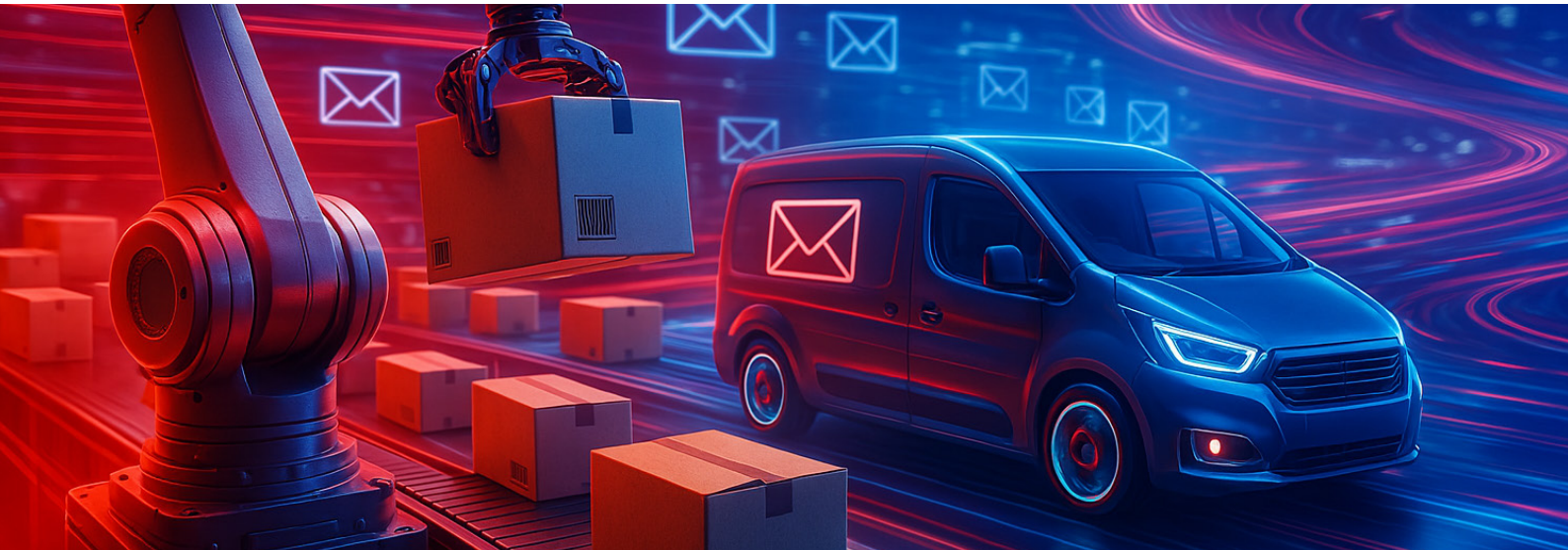
3. Automation & AI

Many organizations approach automation backward – starting with technology rather than purpose. Any solution needs to answer these questions:

- What problems are you solving?
- What function does this node serve in your network?
- What customer promise are you trying to fulfill?

“If you’re a business that’s always used manual labor, suddenly shifting to a fully automated operation is a fundamental change – and many organizations aren’t ready for that leap, even when they have the support to invest. The real question is not ‘why don’t we have robots?’ but ‘what problem are we actually trying to solve?’ For example, introducing automation might not save you money, but it might put you back in the game for enhanced e-commerce and to fulfill customer demand,” Tom Fitz-Walter, TMX Transform.

When done right, automation and artificial intelligence can accelerate postal and parcel operations, enabling better customer experience and operational longevity.




The business case for automation

Reinvention is underway. Labor shortages and rising costs have fast-tracked automation, with robotic sorting and autonomous deliveries becoming more appealing. But transformation also unlocks growth, efficiency, and competitive edge.



Max Reynolds – TMX Transform

“Automation comes in many forms and can be deployed at varying degrees. For example, bulk movements and point-to-point transfers of product can be fully automated using Automated Guided Vehicle’s, Autonomous Mobile Robots, monorails or simple conveyors, eliminating the need for low-value manual effort. Alternatively, deployment of supporting automation can help to better enable human operators and boost efficiency. Take put-to-light systems – where a location lights up to show where to place an item – this removes the need to read labels or handheld devices and can significantly cut down task cycle times.”



These gains in efficiency enable reinvestment in other areas.

“Greater efficiency gives you the opportunity to invest in the core parts of your business that you want to grow,” Bob Black, TMX Transform.

Additionally, customer expectations have changed, as has their willingness to pay for better services. Meeting those expectations requires more agile, intelligent systems.

“While consumer expectations keep rising, we’re also seeing a greater willingness to pay for premium service. Giving customers the option to choose a delivery window, rather than simply pushing for speed, can help to avoid failed deliveries. But that flexibility relies on the ability to hold or buffer items until they’re ready to go.

It’s why we’re now seeing automation, traditionally used in warehouses and distribution centers, being deployed in last-mile environments. This tech doesn’t just enable timed deliveries, it also improves delivery sequencing, so vans can be loaded in the exact order parcels need to be delivered,” Max Reynolds, TMX Transform.

Finally, workforce planning is undergoing major transformation. Traditional models are reactive and often inaccurate, but predictive analytics are rewriting that playbook. Workforce planning has long been a guessing game, hiring seasonal employees only to find you need twenty more or half as many the next week. But with real-time demand forecasting and predictive analytics, businesses can dynamically adjust staffing to match actual needs, eliminating waste. As Max explains, “in some cases, automation can provide opportunities to gain labor efficiencies of greater than fifty percent when implementing a well-

considered and fit-for-purpose solution, while also reducing manual handling risk and increasing operational resilience”.

From prediction to precision: how AI reshapes operations

While postal services have improved their data capabilities, many still rely on traditional forecasting methods that project from historical trends or revenue targets. AI-driven analytics can revolutionize this by processing entire customer databases, identifying sector-specific growth trends, predicting market shifts, and enabling real-time adjustments – transforming postal forecasting into a dynamic, data-driven advantage.

“AI isn’t specific to just one part of the supply chain. It needs to integrate across the entire process from manufacturers and their suppliers through to final delivery,” Bob Black, TMX Transform.

From theory to practice: While AI’s potential is clear, implementation remains in its early stages. Companies on the front foot are pioneering integrated lifecycle approaches that can reduce supply chain cycles by hundreds of days, enable high demand prediction, and transform inventory and transport management.

Who is leading the charge in AI investment?

Amazon has committed over USD\$100 billion in capital expenditure by 2025, focusing on AI-driven logistics, robotics, and automation. Since acquiring Kiva Systems for USD\$775 million in 2012, Amazon has integrated robotics into its fulfillment centers, cutting USD\$1.6 billion in logistics costs and reducing CO₂ emissions by one million tons.

DHL Express (Asia Pacific) introduced DHLBot, an AI-powered sorting system that processes over 1,000 parcels per hour with 99% accuracy, improving operational efficiency by 40%. The initiative aligns with Deutsche Post DHL Group's €2 billion (USD\$2.1 billion) Strategy 2025 investment in automation, robotics, and data analytics.

Meanwhile, Evri (UK) has launched a £1 million (USD\$1.2 million) AI strategy to analyze delivery photo data, verify secure parcel placement, and cross-check geo-locations to detect fraud, enhancing its ParcelVision real-time monitoring system.

In Sweden, PostNord recently completed a six-month AI robotic arm pilot at its Rosersberg terminal, where the AI system sorts small parcels at twice the speed of human workers. With the pilot's success, PostNord is evaluating how to scale AI robotics across more of its terminals.

These examples show the global shift toward AI-powered postal and logistics operations, with major industry players investing in automation, real-time data analysis, and machine learning to drive speed, accuracy, and cost efficiency in an increasingly e-commerce-driven world.



The simulation advantage: predict, adapt, deliver

In the postal industry, a matter of minutes is the difference between meeting delivery promises or losing customer trust. Simulation technology is an industry game-changer, allowing postal networks to test, refine, and perfect operations before making real-world changes.

From guesswork to precision

With simulation, postal services can model and optimize their entire network without disrupting live operations. Imagine gearing up for peak season:

- **Create** a virtual replica of the entire network;
- **Test** different staffing, routing, and resource strategies;
- **Pinpoint** bottlenecks before they cause delays;
- **Optimize** solutions before real-world implementation;
- **Adjust** in real-time during execution.

“If you took the whole end-to-end supply chain and asked, ‘what would a perfect transaction look like?’ simulation is the tool to find the answer, then figure out how to implement it,” Bob Black, TMX Transform.

Simulation informs decisions by documenting processes, exploring scenarios, mitigating costly risks, and enhancing performance. The objective is to define system limits, identify key levers and sensitivities, test dependencies, and assess risks. This delivers a flexible, modular, and scalable solution.

Accurate simulation demands strategic precision and a phased process:



TMX clients across varied industries have benefited from simulation, unlocking powerful insights. Simulations have visualized end-to-end network flows, assessed the impacts of supply chain changes in a digital environment, and identified capacity constraints. Models have also informed sequenced initiatives to improve operational efficiency, tested vendor capability against complex requirements, and in some cases, demonstrated solution infeasibility due to operational gaps. Some outcomes have predicted multi-million-dollar savings in annual operating costs and increased long-term profitability.

From static to dynamic: The future of postal systems

Modern postal operations demand fluid, intelligent systems that can:

- Process multiple scenarios **simultaneously**;
- Adapt to **real-time** demand shifts;
- Enable **predictive** planning and proactive decision-making;
- Power **instant** operational adjustments;
- Connect **seamlessly** across the supply chain.

The future is self-adjusting logistics. Demand change triggers instant updates across transport, warehousing, and labor management, creating a ripple effect that keeps the entire supply chain in sync, minute-by-minute.

Simulation isn't just an upgrade – it's the key to postal networks that think, adapt, and deliver faster than ever before.



Postal providers are no longer just logistics partners, they're brand ambassadors. To deliver an experience that positively reflects a retailer's brand, providers must align with a retailer's values, promises, and customer expectations. That means delivering on time, every time, with the precision and consistency that builds trust. It's not just about performance - it's about how the postal provider amplifies, not detracts from, the customer experience.



Christine Corbett – TMX Transform

"Postal providers are an extension of the retailer's brand, so alignment, certainty, and consistency are non-negotiable. Deliver exactly what's promised. If the promise is five days, the customer expects five – not four, not six. That precision builds trust. And behind the scenes, a reliable delivery partner should actively support upstream operations, helping retailers streamline fulfillment and improve resourcing efficiency."

Customer loyalty is won or lost at the doorstep. The delivery experience is often the most visible and memorable touchpoint in the retail journey. Therefore, postal providers influence loyalty through transparency, reliability, and strategic insight. To support this, leading providers offer more than just tracking, they provide real-time visibility, location intelligence, and data-driven planning tools – to both the retailer and the end customer. With the cost of delivery rising, retailers face the “who pays?” dilemma, absorbing costs or passing them onto their customers. Postal services must help retailers navigate this challenge through smarter fulfilment, customer education, and collaborative cost strategies.

In a hyper-competitive delivery landscape, to stay indispensable, postal services must evolve from transactional carriers into strategic partners, owning their role across the full supply chain. It means working with retailers on where value is created (or lost) and stepping beyond last-mile execution into total operational alignment.

“As the most visible part of the supply chain, postal providers are often the easiest to blame, but they can’t afford to be the scapegoat. To stay trusted, they must deeply understand their role and integrate more broadly across the value chain. It’s not just about delivery; it’s about becoming a true strategic partner, bringing transparency to hidden costs, working with retailers to reshape offerings around certainty, and ensuring delivery options that meet customer needs,” Christine Corbett, TMX Transform.

The time to lead is **now**



Postal transformation is not a future ambition, it is today’s competitive advantage.

In a sector redefined by surging e-commerce demand, AI breakthroughs, and the rise of customer-controlled delivery, the supply chain is the ultimate lever for growth, relevance, and resilience.

Postal authorities are uniquely positioned to own this space. With significant reach across businesses and households, and the scale to drive systemic change, the opportunity is theirs to take. Unlocking this transformation requires more than automation – it demands customer-centric network design, enabled by real-time intelligence and dynamic decision-making. That means using AI and simulation to shape the future.

Those already implementing intelligent supply chains are cutting lead times by hundreds of days, increasing fulfilment speed, and shifting from reactive to predictive operations. This is the moment to harness the full power of the Intelligent Supply Chain - to connect, to deliver, and to lead. Because the real question is not *if* the industry will transform - it’s *who* will lead it.

Are you headed for collapse, or poised for a smart supply chain revolution?

TMX's role

as a transformation partner

The future of postal services belongs to those who innovate, adapt, and lead.

Jamie Dixon – TMX Transform

“We use best-in-class route optimization and simulation tools to help postal organizations achieve better delivery and collection density. It’s about making the automation work for you, not the other way around. First determine what type of business you’re going to be, then select the technology to suit that vision.”

At TMX Transform, we don’t just consult on supply chains – we’ve been in your shoes. Our global team of over 200 experts brings hands-on experience across varying industries and disciplines. This diversity of background enhances our capability, broadens our perspective, and sharpens our ability to deliver truly transformative results.

We combine deep industry insight with proprietary tools, such as advanced simulation models, 3D visualization through the TMX Metaverse, and our extensive TMX Database, allowing us to design and implement supply chains that are smarter, faster, and built for tomorrow.

From strategy to execution, TMX is your end-to-end partner in unlocking efficiency, resilience, and competitive edge through the power of the intelligent supply chain.

Smart Supply Chain Checklist



Tick each box to confirm you're on the path to transformation

- ☐ My network is designed around parcel volume, not legacy letter delivery.
- ☐ I leverage real-time data and AI to make dynamic, adaptive decisions.
- ☐ Each facility has a defined function and fit-for-purpose automation strategy.
- ☐ I've explored interleaving, route optimization, and out-of-home options in the last-mile.
- ☐ Automation is solving real problems – not just adding complexity.
- ☐ We use simulation tools to test scenarios before real-world execution.
- ☐ Our workforce model empowers proactive, insight-driven roles.
- ☐ We track the impact of transformation through measurable business outcomes.
- ☐ I have a strategic partner and roadmap to lead – not follow – the industry.