AI AND THE FUTURE OF FULFILMENT

From promise to delivery

A report from Scurri for retail operations
and fulfilment managers

⠿ Scurri

EXECUTIVE SUMMARY

In fulfilment, the window for debating whether to implement AI has shut. The conversation now is about how quickly and effectively it can be scaled. For some retailers, AI is already the engine enabling operations to keep pace with rapidly rising consumer expectations. This shift will help operations managers move from experimentation to building resilience so they can stay competitive in a margin-tight retail market.

This report explores how AI is transforming fulfilment from end to end, and how operations leaders can use it to regain control, build resilience, and deliver competitive advantage in an increasingly complex retail landscape.

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Consumers are already well ahead of many retailers in adopting AI and they are not waiting for operations to catch up. **38% of UK consumers use AI** in their online shopping journeys, with Millennials and younger cohorts leading adoption.

Their **expectations** are **uncompromising**; fulfilment must be **faster**, **more reliable** and **more transparent**, and crucially they will not pay more for it. **44%** explicitly reject paying extra for AI-enabled speed.

60%

Expect AI to improve delivery updates

57%

Expect AI to improve order allocation

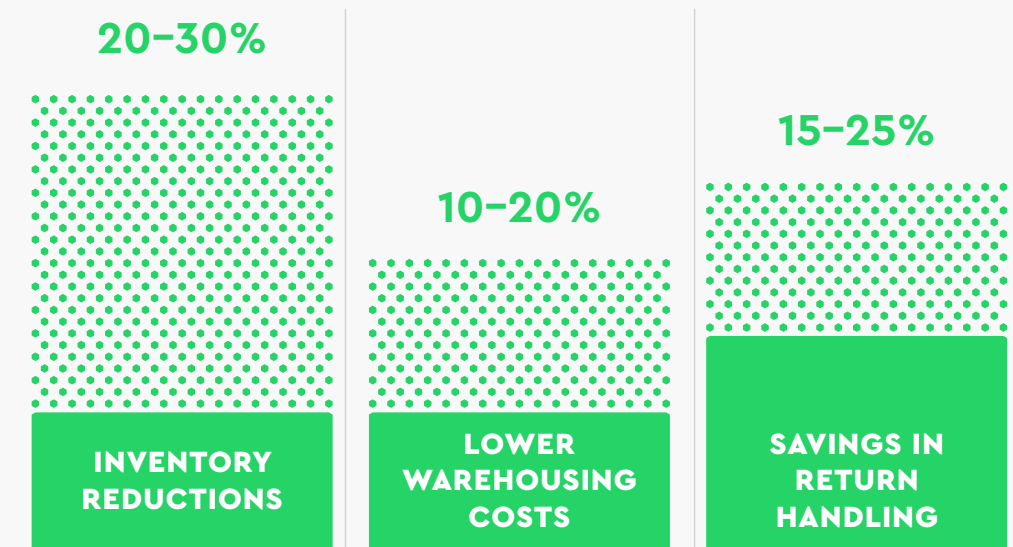**59%**

Expect AI to be deployed in peak-period fulfilment

Consumers want faster fulfilment as standard and more control over their delivery

The operational upside of meeting these expectations is significant and proven across industries.

Benchmarks from McKinsey, DHL, Unilever and others show that **AI can bring efficiency** and **resilience**.

OPERATIONAL UPSIDE

20–30%
10–20%
15–25%

INVENTORY REDUCTIONS
LOWER WAREHOUSING COSTS
SAVINGS IN RETURN HANDLING

50% Up to 50% fewer delivery delays when AI is applied across forecasting, warehousing, carrier management and last-mile delivery

40% Capacity gains in automated fulfilment

64% Emissions reductions in supply chains

FORECASTING IMPROVES DRAMATICALLY WHEN AI IS APPLIED.

McKinsey data shows errors can fall **20–50%**, delivering:

£	Up to 65% fewer lost sales
🏭	5–10% lower warehousing costs
✓	25–40% savings in admin costs

A TRUST BOTTLENECK

Social commerce adds urgency. Channels like TikTok Shop and Instagram have created a powerful new discovery to purchase pathway, but fulfilment has become a trust bottleneck. 72% of shoppers believe AI is the key to solving fulfilment pain points in social commerce.

AI IN FULFILMENT IS ABOUT TRUST AND EXECUTION.

OUR POSITION

"At Scurri, we see AI not as a buzzword, but as an operational enabler that must work invisibly to deliver real results. The evidence is clear that consumers now expect AI to support fulfilment, but they are not willing to pay more for it. That places a premium on making AI practical, cost-neutral and effective across the supply chain, from forecasting to final mile.

Our position is that AI in fulfilment is about trust and execution. It's about ensuring retailers can meet rising consumer expectations while protecting margins and strengthening the customer proposition. In this report, we aim to highlight how the industry can move forward together and share best practice."
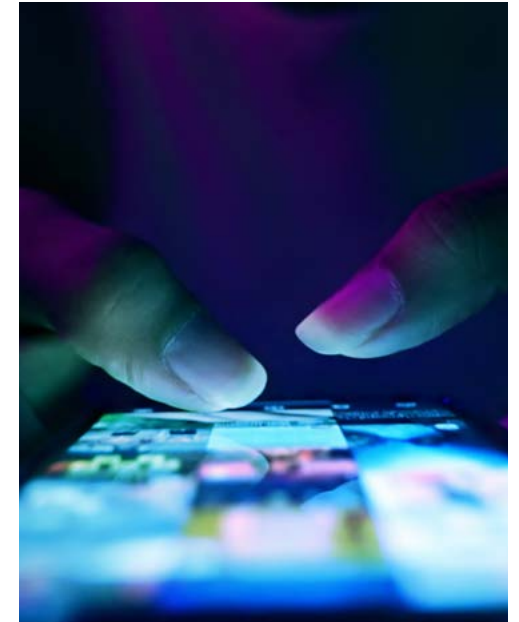
Rory O'Connor, CEO

: Scurri

The **marketing conversation** around AI has been dominated by how consumers use it for **discovery**, product **selection** or hunting for **deals**.

But for operations managers, the real challenge is what happens behind the scenes. Every AI-driven promise at the front end must be delivered operationally faster, cheaper and without friction.

KEY CONSUMER SIGNALS

45%
Expect AI to transform their shopping in the coming year.
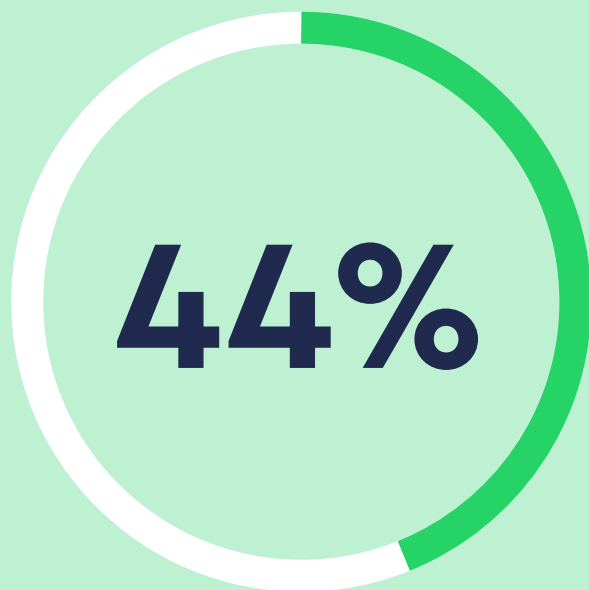
59%
Expect retailers to use AI during peak periods (e.g., Black Friday, Christmas).

54%
Expect improved post-purchase communication via AI.

50%
Would prefer AI-automated returns.

44%

COST-NEUTRAL EXPECTATIONS

44% object to paying more for faster delivery, even if AI-enabled

49%

HUMAN STILL MATTERS FOR MORE COMPLEX ISSUES

49% prefer human customer service for complex issue resolution

72%
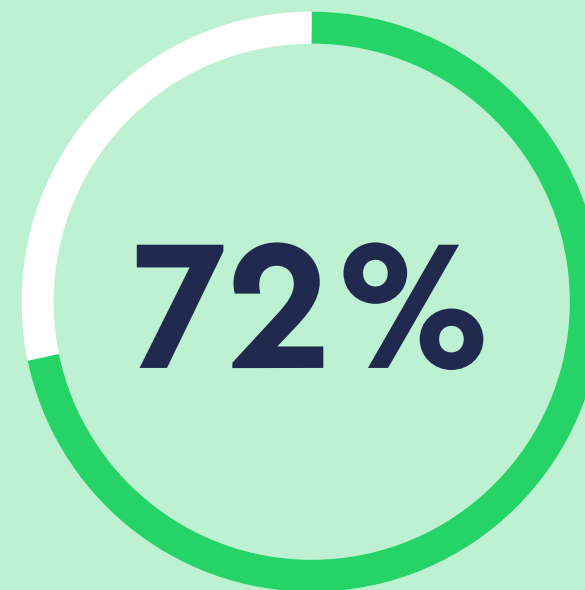
SOCIAL COMMERCE IS A FULFILMENT RISK ZONE

72% trust AI to shore it up; 57% expect AI-managed logistics from social channels

TAKEAWAY

Consumer-facing AI is raising a bar that only backend fulfilment can clear. If operations lag, the entire brand promise collapses.

AI is not a single solution but a **stack of applications** spanning demand forecasting, warehouse automation, carrier management, returns and sustainability.

🔍	**DEMAND FORECASTING**
🏭	**WAREHOUSE AUTOMATION**
🚚	**CARRIER MANAGEMENT**
🍃	**RETURNS AND SUSTAINABILITY**

DEMAND FORECASTING AND STOCK PLACEMENT

- Even a **1% improvement** in forecasting may save **~$1.4 million** annually in overstock costs.

- **AI** inventory **optimisation** already delivers **20–30%** stock reductions and **5–20%** logistics cost savings.

OPERATIONAL BENEFITS

- Fewer stockouts, **less capital tied up**, improved resilience during social commerce surges.

AI and the future of fulfilment – From promise to delivery

DEMAND FORECASTING

WAREHOUSE AUTOMATION

CARRIER MANAGEMENT

RETURNS AND SUSTAINABILITY

WAREHOUSE AUTOMATION

- DHL's AI-powered sorting tool, DHLBot, achieves **40% greater efficiency**, sorting over 1,000 parcels/hour with **99% accuracy**.

- Unilever's AI-driven supply chain boosted sorting capacity **40%** while cutting emissions **64%**.

OPERATIONAL BENEFITS

- Higher throughput, **lower mis-picks** and reduced damage.

DEMAND FORECASTING

WAREHOUSE AUTOMATION

CARRIER MANAGEMENT

RETURNS AND SUSTAINABILITY

CARRIER MANAGEMENT

- Last-mile AI predicts volume with up to **95% accuracy**, optimises stop orders, boosts fuel efficiency.

- Cargo e-bikes in Germany have delivered parcels 60% faster with **near-zero emissions**.

- UPS saved **10 million gallons** of fuel and 22,000 tons CO_2 annually simply by optimising left-turns.

OPERATIONAL BENEFITS

- Lower costs, greener credentials and improved customer satisfaction. **60%** of consumers want **real-time tracking**; **51%** expect proactive **AI updates**.

DEMAND FORECASTING

WAREHOUSE AUTOMATION

CARRIER MANAGEMENT

RETURNS AND SUSTAINABILITY

RETURNS AND SUSTAINABILITY

- **50%** of shoppers want **AI-managed returns**; **41%** say it makes them more likely to repurchase.

- Predictive **AI reduces** cost per return by **15–25%** and accelerates resale/refurbishment loops.

PROACTIVE ISSUE RESOLUTION

- AI **flags anomalies** (lost parcels, delayed pick-ups) before escalation.

However, while **45%** of consumers welcome AI resolving issues, **49%** still want human support for complex issues. **Hybrid AI + human** is the ideal solution.

AI AND SUSTAINABILITY

- AI routing **slashes emissions** while saving cost.
- DHL's green routing proves **eco-benefits** can come with ROI.
- Unilever saw **64% emission reduction** through AI supply chain optimisation.

OPERATIONAL BENEFITS

- Stronger **ESG positioning** without increasing costs, crucial in the face of regulation and consumer scrutiny.

Social platforms have become powerful demand engines but they expose fulfilment weaknesses. Consumers love discovery but mistrust delivery. 72% believe AI can fix social commerce fulfilment and 57% want AI to manage the logistics for social orders.

For instance, TikTok Shop UK reduced delivery times from 7 to 3 days through AI logistics partnerships, significantly improving GMV.

The opportunity for Operations is to build trust and differentiation by making fulfilment the strong point in social commerce, not the failure point.

TO DO THIS, OPERATIONAL LEADERS CAN:

Use AI to forecast demand in real time, aligning inventory closer to where social-driven spikes occur.

Automate order orchestration, ensuring the fastest and most cost-effective routing across warehouses, stores and delivery partners.

Integrate fulfilment directly with social platforms, so consumers see accurate stock availability, delivery promises, and tracking updates inside the app.

Enhance transparency with AI-driven tracking and communication, giving shoppers proactive updates on delays, substitutions and delivery windows.

Offer differentiated fulfilment experiences, such as same-day delivery, flexible returns or eco-friendly shipping options, to turn logistics into a loyalty driver.

By operationalising AI in these ways, fulfilment becomes not just reliable but a source of competitive advantage in the high-velocity, trust-sensitive world of social commerce.

If forecasting and warehousing are the engines of fulfilment, delivery and post-purchase are the brand's shop window. This is where consumers most directly feel the impact of AI in the speed, transparency and reliability of their orders.

CONSUMER EXPECTATIONS ARE CLEAR

54%

Expect improved post-purchase communication via AI.

60%

Want AI to power real-time tracking and updates.

50%

Would prefer AI-automated returns, signalling that post-purchase is as important as pre-purchase.

AI'S ROLE IN DELIVERY

- **Dynamic carrier allocation** ensures parcels move through the right carrier for that order at that point in time based on logic.

- Predictive **ETA models** cut failed deliveries by anticipating warehouse issues, weather and consumer availability.

- AI-driven **micro-fulfilment** (such as dynamic local inventory pooling) shortens last-mile distance and emissions.

- AI-powered **chatbots for operations managers** enable teams to query delivery options in real time (e.g. 100k shipments to Italy) and instantly receive the **optimal carrier mix** and cost/service trade-off, with the solution automatically implemented into workflows.

OPERATIONAL BENEFITS

- **Reduced delivery failures** and costly re-deliveries.

- Faster time-to-consumer with **lower last-mile costs**.

- Greater **agility in scaling** or rerouting volumes during demand spikes.

- Improved **decision-making speed** for Ops teams through AI-assisted planning.

AI'S ROLE IN POST-PURCHASE

- Proactive **anomaly detection** alerts consumers to issues before they escalate.

- Generative AI enables **personalised**, **contextualised communications** at scale, making updates reassuring rather than frustrating.

- AI-enabled **returns go beyond automation**, they use predictive and optimisation models to minimise cost and maximise recovery value. For example:

  - **Anticipating return volumes** and reasons before they happen (e.g. sizing, damaged goods).

  - Automatically **selecting the most cost-efficient** and sustainable **return route** (to store, to warehouse or directly to resale/refurbishment partner).

  - Issuing **instant refunds** or **credits when risk is low**, protecting loyalty while reducing friction.

  - Consolidating **multiple returns into fewer shipments** to cut cost and emissions.

  - **Prioritising resale**, **repair** or **recycling** pathways to keep products out of landfill.

- With **41%** of consumers saying AI-managed returns make them **more likely to repurchase**, this stage is as critical to customer experience as delivery itself.

OPERATIONAL BENEFITS

- **Lower support costs** through proactive communication and reduced inbound queries.

- **Shorter returns cycle** times and faster inventory recovery.

- Stronger consumer **trust and loyalty**, driving repeat purchases.

- **Clearer visibility** into post-purchase pain points, enabling continuous process improvement.

AI'S FOR INTEGRATION AND ORCHESTRATION

- **Intelligent middleware** accelerates platform integrations and API management, allowing retailers to connect social commerce platforms, carriers, warehouses and customer service tools without long IT cycles.

- AI can monitor API performance in real time, **auto-correcting errors and rerouting** requests to ensure that order data, inventory status and tracking updates flow seamlessly across systems.

- This creates a frictionless digital backbone where every handoff, from click to delivery to return, is **orchestrated without delay or data loss**, directly improving customer confidence.

OPERATIONAL IMPACT

- **Lower cost to serve** through reduced failed deliveries and faster returns cycles.

- Stronger brand trust – consumers notice when **post-purchase is effortless**.

- Competitive edge in social commerce, where fulfilment trust is weakest and AI can close the gap by **freeing up** existing **resource on low value tasks** to focus on higher value efforts.
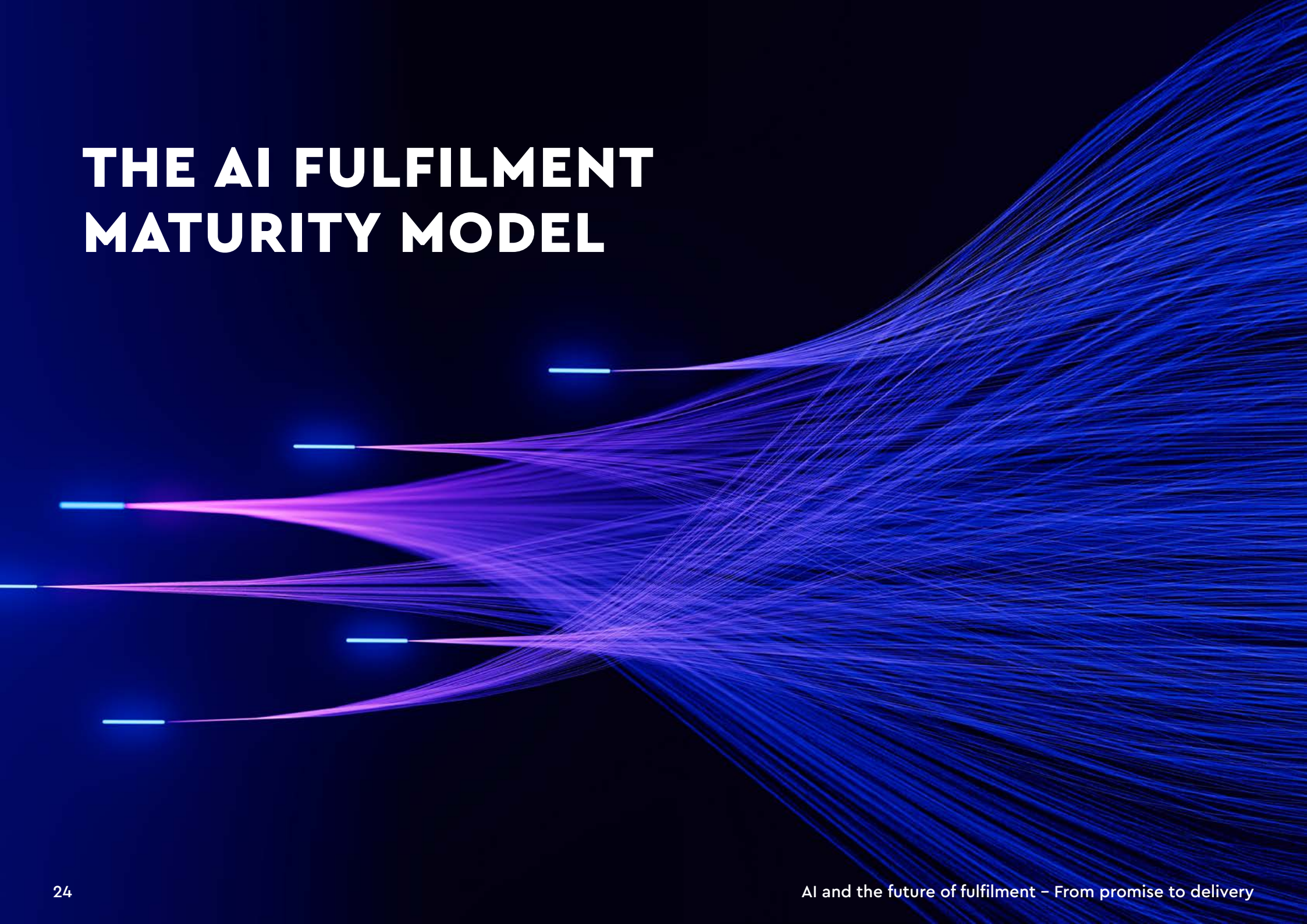

TAKEAWAY

AI in delivery and post-purchase isn't an add-on. It's the consumer's litmus test for whether AI really delivers. If there is failure here, the upstream efficiency gains will be invisible. Success means fulfilment becomes a brand asset rather than a cost centre.
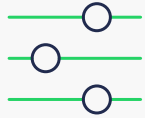
THE AI FULFILMENT MATURITY MODEL
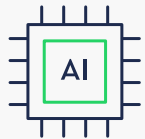
THE AI FULFILMENT MATURITY MODEL

01

STAGE 1: MANUAL AND REACTIVE
- **Delivery:** Static carrier selection, manual routing, limited tracking.
- **Post-purchase:** Generic emails, slow customer service, reactive returns.

02

STAGE 2: ISOLATED AI TOOLS
- **Delivery:** AI pilots in route optimisation or carrier allocation; basic predictive ETAs.
- **Post-purchase:** Chatbots for FAQs; simple anomaly alerts (e.g., parcel delays).

03

STAGE 3: CONNECTED AI OPERATIONS
- **Delivery:** End-to-end optimisation where forecasting feeds into carrier management, dynamic re-routing, and real-time proactive notifications.
- **Post-purchase:** Predictive returns orchestration, personalised AI-generated communication, proactive issue resolution before escalation.

04

STAGE 4: AUTONOMOUS FULFILMENT
- **Delivery:** AI continuously selects carriers, optimises last mile fleets and manages sustainability outcomes with minimal human intervention.
- **Post-purchase:** Fully automated, self-service returns and refunds; AI resolves most delivery issues instantly, with human escalation only when necessary.

TAKEAWAY

Delivery and post-purchase are where consumers most feel AI. Moving from reactive communication to predictive, then autonomous post-purchase, is the ultimate measure of AI maturity and the frontline of brand trust.

RECOMMENDATIONS FOR RETAIL OPERATIONS MANAGERS

- **Start with demand forecasting** – gains in accuracy cascade across the supply chain.

- **Automate warehouses** – achieve 10–20% higher throughput and fewer errors.

- **Embrace AI-driven last mile** – cut cost and emissions while raising service.

- **Scale predictive returns** – reclaim margin and reduce handling costs.

- **Embed sustainable routing** – meet ESG and financial goals simultaneously.

- **Pilot AI for social commerce fulfilment** – move early where trust is weakest.

MEASURE WITH CLARITY:

ON-TIME DELIVERY RATE

COST TO SERVE PER PARCEL

FORECAST ACCURACY

RETURN COST PER UNIT

SUSTAINABILITY KPIs (E.G., CO$_2$E PER PARCEL)

TAKEAWAY

With AI, fulfilment determines competitiveness. The retailers that treat AI as an operational necessity will be the ones who control margins, win consumer trust and build resilience in a rapidly changing retail landscape.

## AI-ENABLED FULFILMENT IS PART OF FUTURE RETAIL COMPETITIVENESS

The consumer adoption of AI for certain tasks has been rapid, uneven and uncompromising. Shoppers expect smarter delivery, real-time visibility and effortless returns, but they will not pay more for them. This gives a clear message to operations leaders – AI must deliver service excellence and efficiency simultaneously, or retailers will lose both customers and margin.

The evidence is already overwhelming. AI has proven its ability to reduce inventory by up to 30%, cut warehousing costs by 10–20% and slash returns handling costs by up to 25%. Leaders like DHL, Unilever and UPS are demonstrating that AI in routing, automation and sustainability are already delivering measurable gains today. And in new demand channels such as TikTok Shop and Instagram, AI is not just

helpful but essential to fixing the gaps in fulfilment where trust is low.

For operations managers, the question is how quickly you can move up the maturity curve, from manual and reactive processes, through isolated AI tools to fully integrated, autonomous fulfilment. Those who act early will turn AI into a competitive advantage, combining cost reduction, margin growth and consumer trust. Those who delay risk being left behind in a marketplace where consumers are already using AI themselves.

The objective therefore is clear; start with forecasting, scale automation, fix the last mile and use connected AI to make sustainability operationally viable. Each step builds resilience and drives down cost-to-serve.

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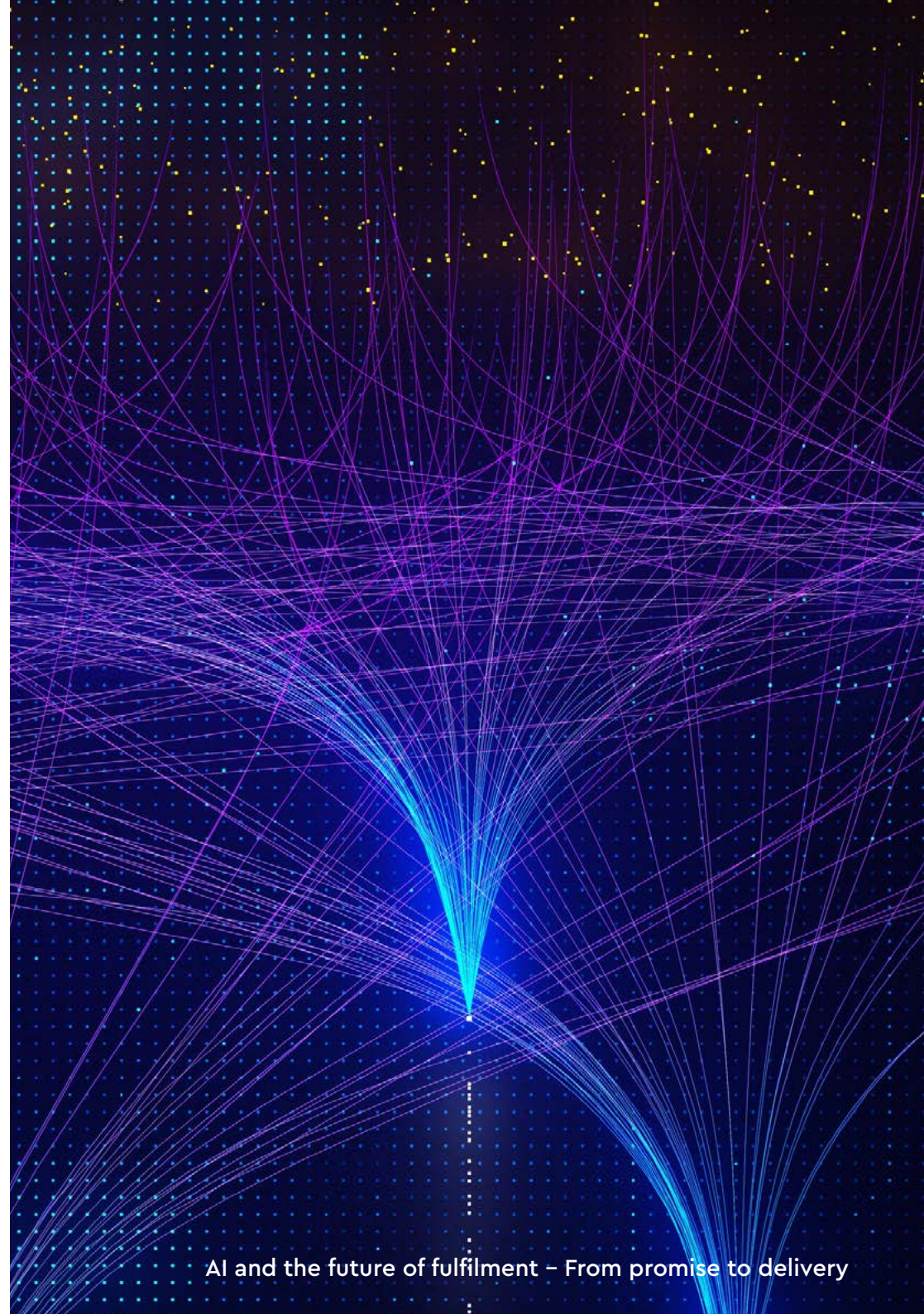
How to move up the AI fulfilment maturity curve

AUDIT YOUR CURRENT FULFILMENT MATURITY

- ☐ Are you still manual and reactive, or already testing point AI tools?
- ☐ Map where AI is already in use and where gaps remain.

PRIORITISE DEMAND FORECASTING

- ☐ Even a 1% improvement can save millions in overstock/stockout costs.
- ☐ Benchmark forecast accuracy against industry best practice (20–50% error reduction).

AUTOMATE WAREHOUSE OPERATIONS

- ☐ Pilot AI slotting, picking and packing tools to boost throughput by 10–20%.
- ☐ Track error rates and labour productivity as core KPIs.

OPTIMISE LAST MILE WITH AI

- ☐ Introduce dynamic carrier allocation and route planning.
- ☐ Set targets for lower failed deliveries, reduced emissions and higher on-time rates.
- ☐ Use AI for third party platform and carrier API integrations.

TACKLE RETURNS AS AN OPPORTUNITY, NOT A COST

- ☐ Use AI to predict, automate and route returns more efficiently.
- ☐ Measure cost-per-return and recovery rate on resale/refurbishment.
- ☐ Use AI at the purchase stage to detect anomalies such as size deviation from previous order history.

INTEGRATE AI INTO SUSTAINABILITY STRATEGY

- ☐ Deploy AI-optimised delivery slots and greener fleet routing.
- ☐ Report on CO_2e per parcel to align with ESG goals.

EXPERIMENT IN SOCIAL COMMERCE FULFILMENT

- ☐ Use AI to bring trust and reliability to TikTok, Instagram and emerging channels.
- ☐ Make fulfilment a competitive differentiator where trust is low.
- ☐ Use AI to detect the "fastest delivery option" at that point in time and prioritise speed for social commerce orders.

BUILD A GOVERNANCE MODEL FOR AI

- ☐ Balance automation with human oversight.
- ☐ Ensure transparency in how AI is used and how data is managed.

AI and the future of fulfilment – From promise to delivery
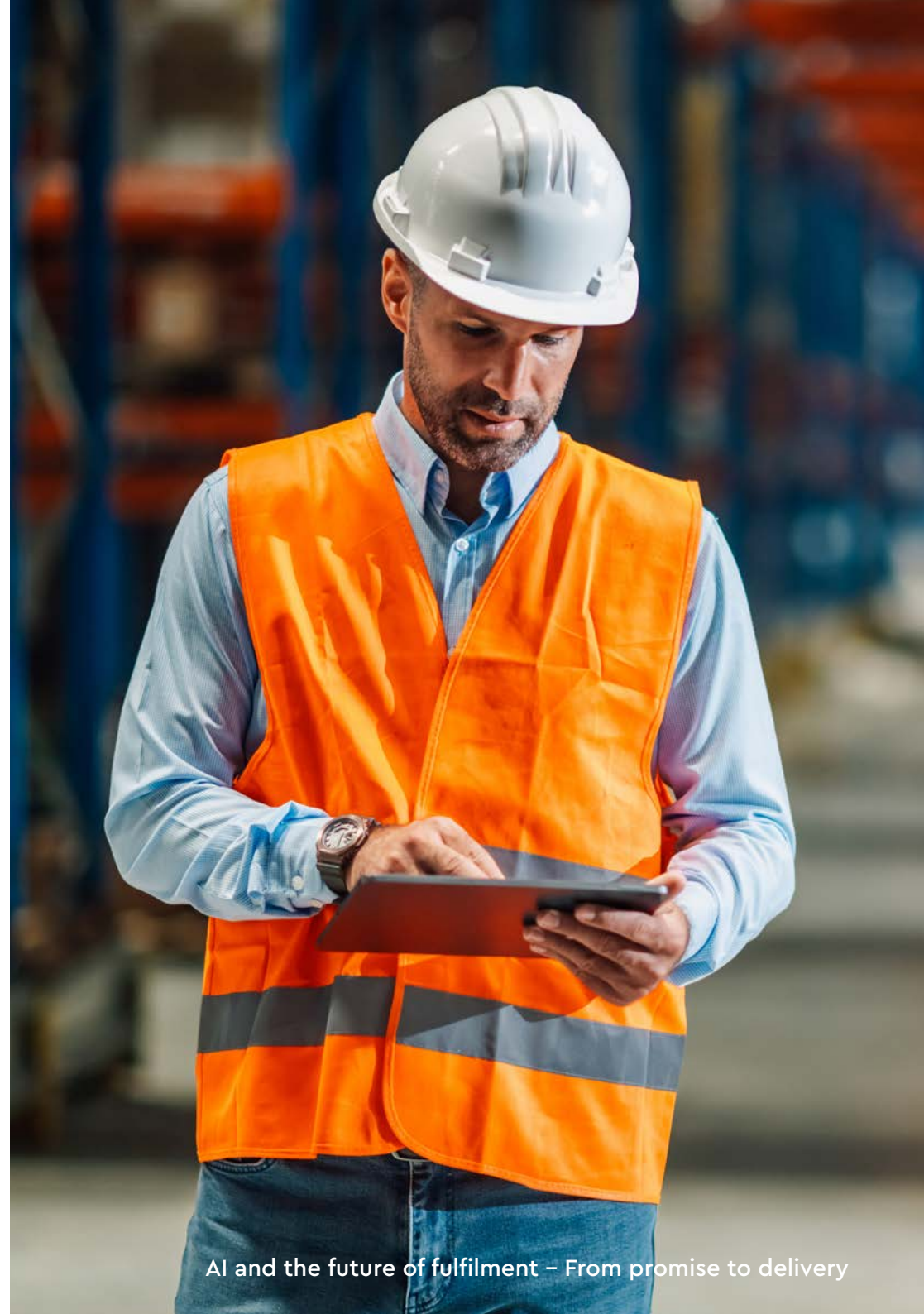
To move from pilots to scaled execution, operations managers need the right tools in place.

Based on current best practice, the following technical solutions can accelerate adoption:

AI-enabled ERP and supply chain platforms – embed AI in core planning, forecasting, and stock placement to drive accuracy and resilience.

AI-driven warehouse automation tools – slotting, picking, packing and robotics guided by demand forecasts, reducing errors and increasing throughput.

Sustainability optimisation engines – apply AI to delivery slotting, route planning and fleet management to balance speed, cost and emissions.

Smart returns orchestration platforms – use AI to predict, consolidate and route returns for maximum recovery value at minimum cost.
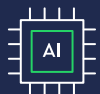
AI middleware for API and platform integration – speed up onboarding of new carriers, 3PLs and social commerce channels with automated error detection and self-healing data flows.

AI-powered carrier management platforms – dynamically allocate shipments across carriers, optimise cross-border routing and benchmark carrier performance in real time.

Generative AI digital assistants – support both operations teams (e.g. querying '100k shipments to Italy: which carrier?') and consumers (e.g. proactive post-purchase updates).

AI customer communication platforms – personalise delivery notifications, anomaly alerts and return instructions, making post-purchase effortless and brand-positive.

Move up the fulfilment maturity curve with Scurri

Scan to book a consultation
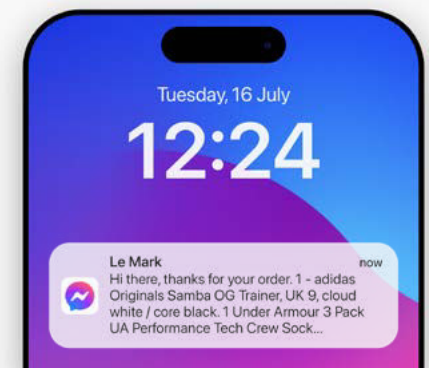

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