AI in Action: Driving Efficiency Across the Value Chain in 2025

Practical, proven ways to cut costs, drive efficiency, and scale without massive capital expenditure. Real-world SME case studies, logistics route optimization, and operational automations.

Generative AI will add up to $100 billion in annual value by 2030

Artificial intelligence is no longer just for big tech firms.

From maple syrup producers in Quebec to logistics providers across the country, SMEs are already putting AI to work to streamline operations, cut costs, and innovate.

Mapping artificial intelligence to your primary business activities

AI functionally transforms every stage of the business value chain, turning manual bottlenecks into automated insights.

INBOUND LOGISTICS

Moving from manual spreadsheets to algorithmic inventory planning

Company: SpecialKids
Industry: Adaptive Apparel (United Kingdom)

The Bottleneck: Replenishment run from spreadsheets led to errors, stockouts, and excess inventory across hundreds of SKUs.

The AI Tool: Inventory Planner by Sage (demand forecasts factoring supplier lead times, seasonality, and promotions).

The ROI:
Efficiency: Saved >20 hours per month.
Cost: Overstock cut by ~33%.
Productivity: Stockouts reduced by 77%.

INBOUND LOGISTICS

Replacing manual labor with real-time sensor monitoring

Company: Rural Maple Syrup Producer
Industry: Agriculture (Québec, Canada)

The Bottleneck: Daily manual checks across 4 square miles of sugar bush to track sap pressure and tank levels.

The AI Tool: 30 smart sensors installed with Cisco and IPConsul for real-time tracking.

The ROI:

- **Early Detection:** Sensors flag clogs before production disrupts.
- **Labor Saved:** Eliminated the need for workers to travel long distances daily.
- **Scalability:** Allowed expansion of operations without extra staffing.

OPERATIONS

Delivering expert-level consistency and precision on the shop floor

Case 1: RoboFab (Pipe Fabrication, Alberta)

Tool: Novarc's Spool Welding Robot (AI computer vision).

ROI: Reduced failure/repair rates from 3-5% down to under 1%. Output reached 400 inches of pipe diameter per day. Reduced production costs by 20%.

Case 2: Patates Dolbec (Potato Production, Québec)

Tool: Vooban AI-powered optical sorting algorithm.

ROI: Sorting accuracy improved from 70% to 95%. Overall sorting error rate dropped from 20% to 5%. Replaced injury-prone manual visual inspection.

OPERATIONS

Automating administrative overhead and complex workforce scheduling

Case 1: Fernand Bégin (Auto Recycling, Québec)

Tool: Vooban digital analytics and custom web apps.

ROI: Manual-entry errors cut by 90%. Overall process efficiency improved by 20%. Labor costs reduced by 15%.

Case 2: Bien Chez Soi (Home Care Service, Québec)

Tool: AlayaCare AI-powered Visit Optimizer.

ROI: Reduced scheduling time by 68% (84 hours to 30 hours/week). Cut vacant visits by 42%. Handled a 10% increase in total visit volume with the same workforce.

OUTBOUND LOGISTICS

Deploying telemetry and AI cameras to protect fleets and optimize routes

Case 1: 3 Men Movers (Moving Services, Texas)

Tool: AI-powered in-cab cameras and smart routing software.

ROI: Accident rates dropped 4.5% in three months. Distracted-driving system achieved 91% accuracy, stopping 80% of dangerous incidents.

Case 2: Metro Compactor Service (Waste Equipment, Brampton)

Tool: iSMART telemetry cloud dashboard (monitoring fullness and fault codes).

ROI: Cut hauling trips by up to 50%. Resolved simple faults remotely, reducing service visits by 17%. Avoided two unnecessary $250-$500 'truck rolls' pays back the hardware.

OUTBOUND LOGISTICS

Scaling fulfillment speed and accuracy during rapid business growth

Company: American Tall

Industry: Direct-to-consumer apparel (Mississauga, Canada)

The Bottleneck: Scaling fulfillment infrastructure to meet surging online order volume.

The AI Tool: ShipHero warehouse management system with multi-item batch picking and barcode scanning.

The ROI:

Scalability: Handled 400% growth in orders in under two years.

Accuracy: Mis-shipments cut by ~50%.

Throughput: Two people now pick 300+ orders per day (vs. ~80 previously), a ~275% efficiency increase.

OUTBOUND LOGISTICS

Conquering the last-mile delivery bottleneck in 2025

With increasing supply chain complexity and demand for real-time decision-making, mastering the last mile is the key to profitability and customer satisfaction.

1. Estimating accurate service times at every stop.
2. Predicting precise driver ETAs amid dynamic traffic.
3. Processing vast amounts of real-time performance data to make swift logistical decisions.

OUTBOUND LOGISTICS

How AI transforms static planning into dynamic route optimization

Inputs (Real-Time Data Integration)

APIs pull live traffic feeds, vehicle capacities, delivery windows, and historical patterns.

AI Engine

Machine learning algorithms and predictive analytics continuously process the data.

Outputs (Actionable Routing)

Dynamic Rerouting: Adjusting on the fly for accidents or closures.

Resource Optimization: Maximizing vehicle use and matching driver schedules.

Automated Notifications: Pushing live ETA transparency directly to the end-customer.

OUTBOUND LOGISTICS

Training machine learning models to predict exact service times and ETAs

Predicting Service Times	Forecasting Driver ETAs
Traditional: Manual estimation, historical averages, static assumptions.	**Traditional:** Static schedules derailed by unexpected congestion.
AI Solution: Models analyze historical data, product details, and delivery volumes to generate real-time predictions for new stops.	**AI Solution:** ML-powered forecasting dynamically adjusts arrival times based on live traffic and route conditions.
Outcome: Reduced missed windows, fewer late deliveries, optimized driver schedules.	**Outcome:** Higher customer trust, fewer failed deliveries, proactive transparency.

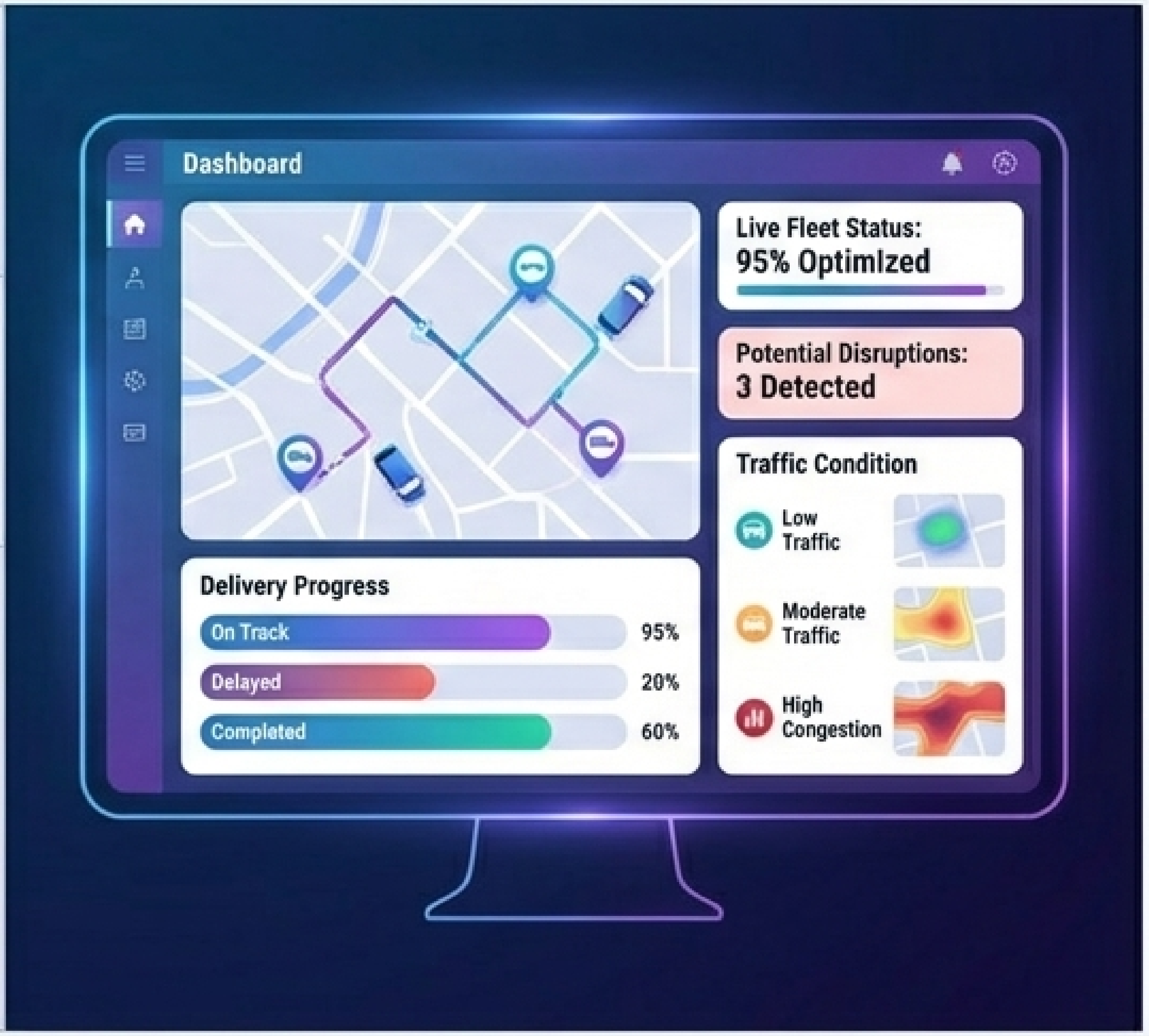
OUTBOUND LOGISTICS

Transforming live fleet data into intelligent logistics decisions

The Challenge: Logistics teams are overwhelmed by vast amounts of raw, real-time data, leading to suboptimal decision-making and lost efficiency.

The AI Solution: AI-driven analytics detect patterns, predict potential disruptions, and recommend adjustments before problems arise.

The ROI:
- Faster, data-driven decisions that optimize routes dynamically.
- Lower operational costs through maximized resource utilization.
- Tailored strategies adapting to fixed, dynamic, or hybrid delivery models.



MARKETING & SALES

Driving higher average order values through personalized product discovery

Case 1: Freedom Furniture (Home Furnishings, Australia)

Tool: Coveo AI-driven search, autosuggest, and behavioral recommendations.

ROI: Scaled catalog from 10k to 45k items. Sessions using search grew 15%. Average order value rose 5.5% YoY for search users.

Baseball Cards

Case 2: JENNY BIRD (Jewelry e-commerce, Toronto)

Tool: Nosto's AI-powered Post-Purchase Upsell (replaced 20 manual funnels).

ROI: AOV rises by 58% (~$130 extra) when an upsell is accepted. Net sales increased by 8.5% with no extra checkout friction.

MARKETING & SALES

Using machine learning to match customer needs and protect ad spend

Case 1: Three Ships Beauty (Skincare, Toronto)

Tool: Tangent AI-powered skin analysis quiz (analyzes 150+ attributes from a selfie).

ROI: Customer onboarding shrank to a **1–minute flow**. Quiz takers are **3.5x** more likely to purchase.

Case 2: Mistplay (Mobile Gaming, Montréal)

Tool: AppsFlyer ML attribution and fraud-prevention paired with AI recommendation engine.

ROI: Saved over **$470,000** in wasted ad spending by detecting fraudulent installs, freeing budget for actual growth.

MARKETING & SALES

Scaling content and code output without hiring external developers

The Technique: 'Vibe Coding' — Describing a desired software change in plain language to an AI, which generates functional code snippets for instant integration.

Case 1: Rebecca Beach (Digital Products, Texas)

Application: Generative AI for creative content and vibe coding for lightweight apps.

ROI: Production collapsed from weeks to **under 20 minutes**. **Doubled income to $20k/month** as a solo operator.

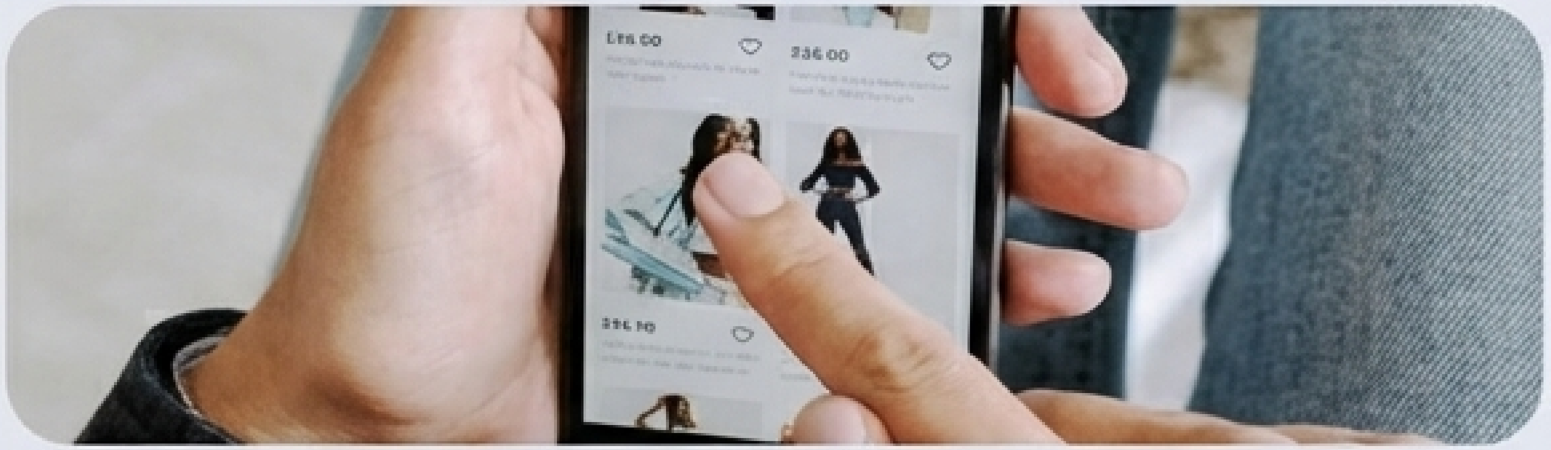
Case 2: Otto's Grotto (Sticker Brand, Indiana)

Application: AI drafts keyword tags/captions and generates Shopify theme code snippets.

ROI: Doubled revenue in 2024. Added wholesale features and scaled output without extra hours or staff.

CUSTOMER SERVICE

Delivering real-time, boutique-level customer service at scale



Case 1: Ad Hoc Atelier (Fashion Marketplace, Italy)

Tool: Tidio live chat with embedded product page chatbots.

ROI: Answered sizing questions in real-time. Cart abandonment fell from 83% to 73%. conversion increased from 0.35% to 0.9%.

Case 2: Wood Wood Toys (Independent Retailer, Ontario)

Tool: Shopify Inbox with lightweight segmentation and automated forms.

ROI: When a conversation happens, they 'win a sale eight out of 10 times.' Allowed a 1-2 team to fulfilll every order within 24 hours.

The Next Evolution: From passive tools to active Agentic AI

Data → Analytics → Autonomous Action

What is Agentic AI?: Moving beyond systems that simply analyze data, toward specialized AI agents that execute multi-step workflows autonomously.

Advanced Reporting	Process Automation	Contextual Engagement
AI-powered natural language interfaces allow operations and executive teams to generate in-depth insights without data analytics expertise.	Automating routine logistics tasks and administrative workflows to empower human operators.	Providing end-customers with real-time, conversational access to delivery data.

The 3-Step Playbook for SME AI Integration

1 2 3

1. Assess Current Operations

- Identify distinct pain points (e.g., missed delivery windows, stockouts, scheduling overload).

- Collect baseline data on times, costs, and performance.

2. Select the Right Solution

- Prioritize platforms offering real-time data analytics and seamless API integration.

- Ensure the tool adapts specifically to your regional regulations and service models.

3. Pilot and Refine

- Do not flip a single, massive switch. Start with a small-scale pilot.

- Use real-world performance data to continuously refine models for maximum accuracy.

The Great Equalizer: Smarter operations are within reach

The Takeaway: Artificial intelligence is not a futuristic luxury—it is an accessible, necessary layer of modern business infrastructure. By embedding AI into the value chain, businesses of any size can streamline dispatch, cut costs, and win the market.

Take the Next Step: Partner with providers at the forefront of innovation. Connect with Descartes experts to tailor a last-mile delivery solution, or explore the Future Skills Centre research for deeper insights on overcoming SME adoption barriers.