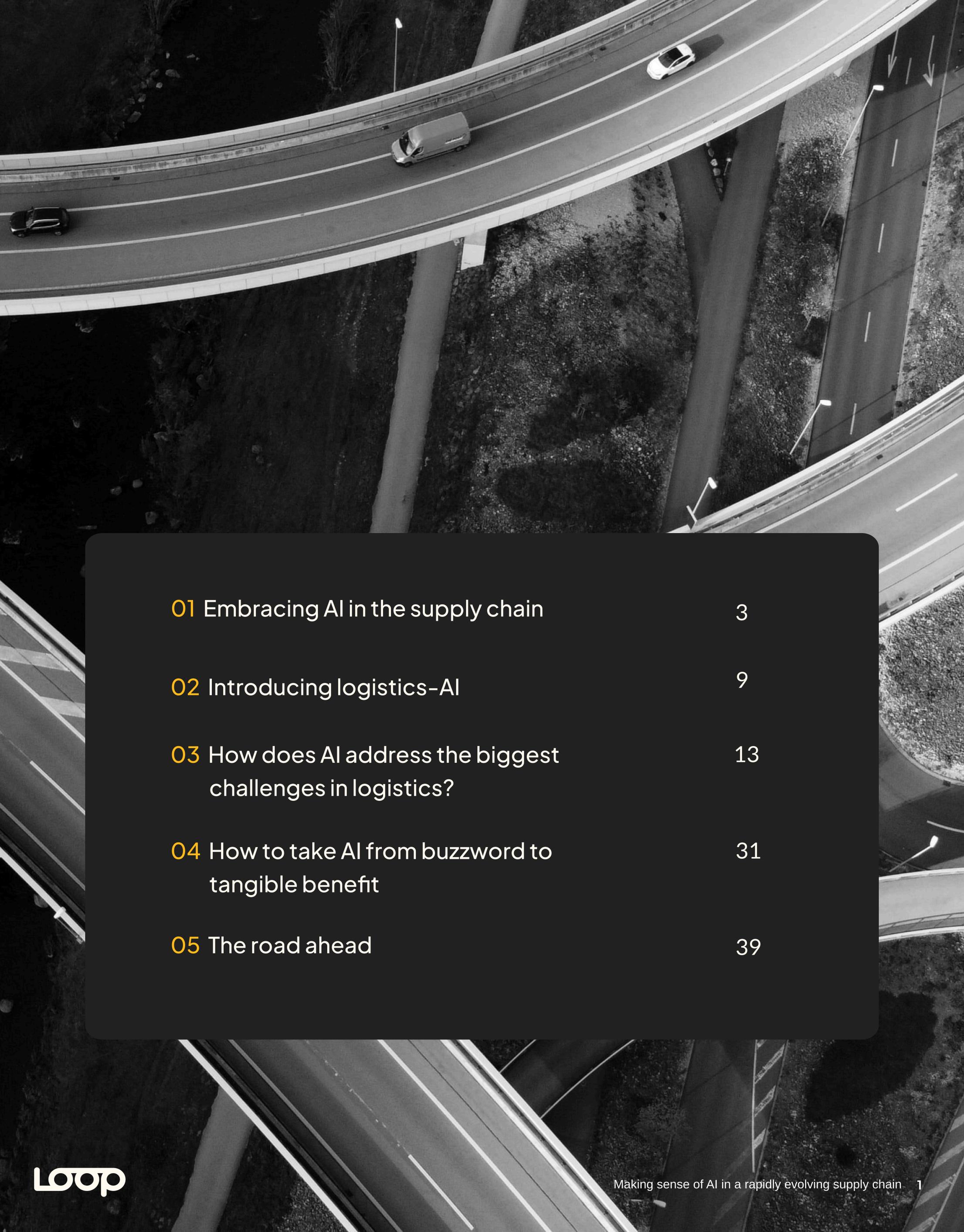


MAKING SENSE OF AI

IN A RAPIDLY
EVOLVING SUPPLY CHAIN

LOOP



01 Embracing AI in the supply chain	3
02 Introducing logistics-AI	9
03 How does AI address the biggest challenges in logistics?	13
04 How to take AI from buzzword to tangible benefit	31
05 The road ahead	39





01

Embracing AI in the supply chain

The logistics industry is in the midst of a major shake-up, driven by the rapid evolution of AI. As nearshoring, shifting customer expectations, regulatory changes, and a soft freight market weigh on businesses, many leaders are turning to AI to manage these headwinds.

But there is a lot of noise and buzzwords. For owners and operators looking to choose the right technology, it's essential to understand the technology and build a framework for bringing on the right partner.

Despite AI being the “toast of the town” of the 2020s (sorry, blockchain), AI is not a cure-all... even though it can feel like magic at times. Instead, it’s targeted medicine: You need to understand your problem in order to apply the right kind of AI to fix it.

This whitepaper explores how AI is revolutionizing supply chains by addressing their unique pain points and challenges. We will delve into the different applications of AI today, highlight the challenges it is solving, and provide a detailed framework on how to bring on the right solution.

Supply chains and AI run on data

The supply chain has a data problem

Supply chains are drowning in data and it’s a mess—unstructured, fragmented, and disconnected. Legacy systems and outdated processes only make things worse. You’ve got rigid, siloed software—or no software at all—while people are executing manual workflows (think spreadsheets with payment schedules and uploading a photo of a bill of lading into your TMS). This creates inefficiencies, traps insights, and locks up liquidity that no one can afford.



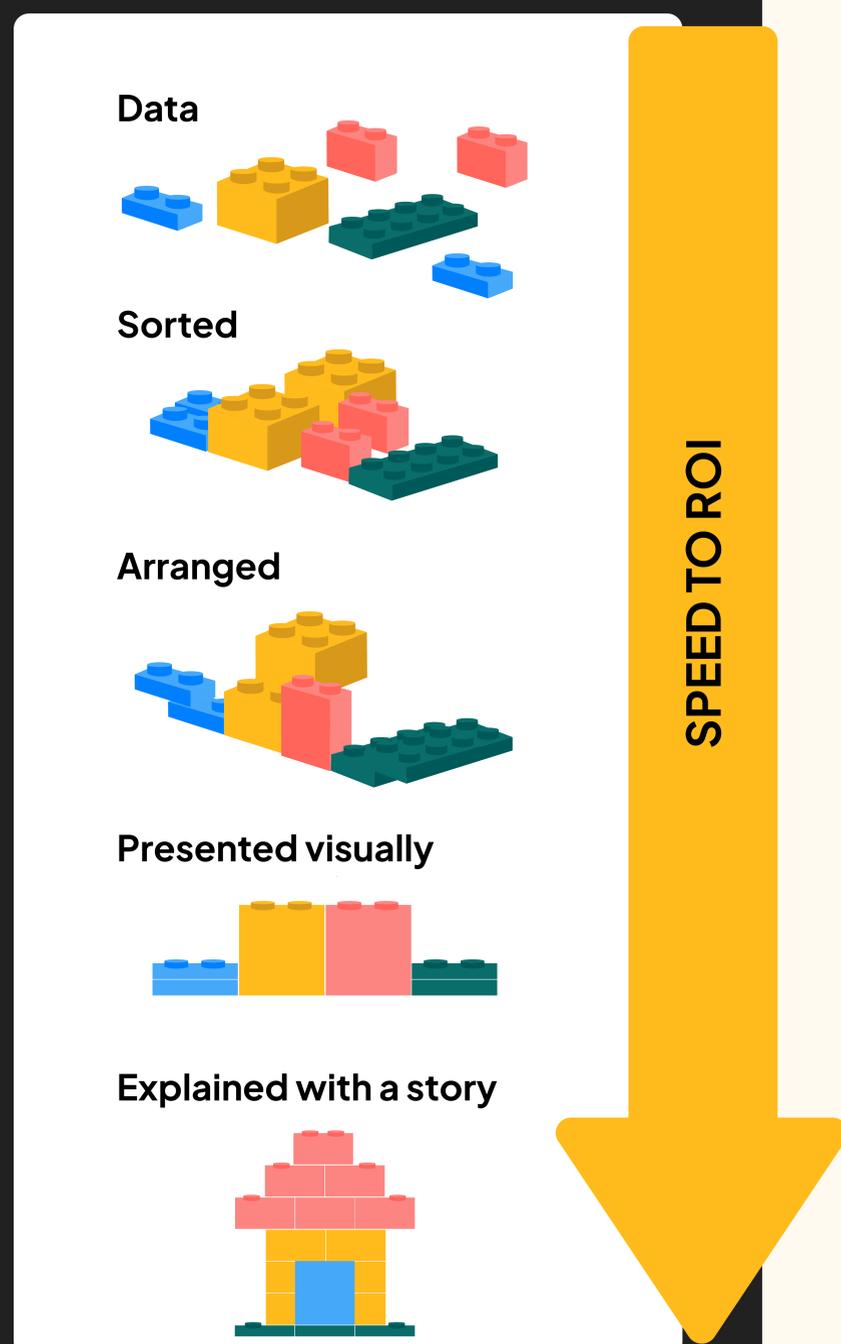
Why AI is the solution

AI might seem like just another buzzword, but when it's applied to the right problem, it can be a game changer. At its core, AI takes in large amounts of data (inputs) and finds patterns (algorithms) to deliver an outcome (outputs).

AI thrives on messy, unstructured data. In fact, the more data, the better. In a world where manual processes, outdated tech, and inaccessible data are dragging you down, AI can accelerate your digital transformation so you can boost efficiency, cut costs, and uncover opportunities.

Data starts as a chaotic pile—unstructured and overwhelming. The first step is sorting it, grouping like with like. Then, it's arranged into a more usable format, making sense of the relationships and connections. Next, it's presented clearly, turning numbers into insights. Finally, it's explained with context, giving meaning so you can make informed decisions that drive real ROI.

AI takes you through this journey at a speed that manual processes simply can't match, delivering insights that are not just actionable, but transformative. As Kevin Donnelly, COO & President at Paravel, emphasizes, moving through these stages means you're not just processing data—you're unlocking its full potential for your business.





Applying AI across the supply chain

Logistics companies have long lagged in the digital transformation because of the industry's unique hurdles—distributed networks, fragmented partners, complex partner agreements, limited tech, stretched resources, tight margins, etc. AI tackles these challenges head-on with three core components:

- **Enhanced data:** AI turns messy, disjointed data into clear metrics and actionable insights. Better visibility means better decisions and more control.
- **Autonomous execution:** AI-driven automation reduces manual work, streamlines operations and reduces errors. Better accuracy and tighter timelines mean better outcomes.
- **Cross-network insights:** AI helps you see the bigger picture, weighing costs against customer service and vendor relationships, boosting resilience, and fueling sustainable growth. Better clarity and compliance across your internal team and external partners means the ability to optimize inside and outside of your org.

The best AI solutions don't just improve your performance—they push your partners' performance to the next level. Because it is dynamic by nature, AI enables you to be proactive instead of just reacting to problems as they arise.



The supply chain unfortunately is not set ever. As soon as you think you have your supply chain baked, something happens... which is why an adaptive approach with AI is so important. It's building agility into automation to meet your needs.

PARAVEL

Kevin Donnelly
COO & President, Paravel

The impact on key business metrics

AI delivers more usable data, streamlined execution, and deeper insights that drive real impact on your bottom line.

- **Revenue:** AI doesn't just help you trim costs; it can unlock new revenue streams by enhancing operational efficiency and revealing growth opportunities that might otherwise go unnoticed.
- **Cost:** Think of all those manual, time-consuming tasks your teams do; they're all prone to mistakes. AI not only improves accuracy but also sharpens your team's decision-making. This eliminates unnecessary losses, reduces operational costs, and frees up resources for more strategic investments.
- **Risk:** Disruptions can be costly, but with AI's ability to analyze and predict risks, you gain the foresight needed to avoid setbacks before they impact your bottom line.
- **Efficiency:** AI streamlines complex workflows, enabling your team to focus on high-impact activities, ultimately boosting productivity and ensuring your business stays ahead in a competitive market.

In an environment marked by volatility and rapid change, AI is more crucial than ever. Let's unpack how to unlock its potential to accelerate growth and secure long-term success.





GRUBER LAW OFFICES
ONE CALL...
THAT'S ALL

02

Introducing logistics-AI

AI has been around for decades, but awareness of its benefits and adoption across businesses has grown in the last several years. It notably entered the mainstream with the launch of OpenAI's ChatGPT. When many people hear "AI," they think of ChatGPT or the large language model (LLM) that is powered by GPT-4.

Different applications of AI in the supply chain

ChatGPT and other open-source foundation models are examples of general-purpose AI, which are designed for broad use. Their strength — breadth — can also be a drawback when it comes to business uses. General-purpose AI draws on many sources of information that are determined by the provider, so companies cannot control the data quality.

This is why it can cover a wide breadth of questions, but the answers aren't always correct. Without clear boundaries or checks, general-purpose AI has a higher likelihood of 'hallucinating' or producing inaccurate answers because its context isn't bounded. This makes these models poorly suited for enterprise applications, which require precision. Error-prone AI tends not to be a fit for mission-critical workflows, like accounting, or extremely domain-specific tasks, like stakeholder contract analysis.

Yet these generic (and battle-tested) foundation models often work just fine for low-complexity, high-volume use cases. For example, if you're building a chatbot to interact with your carriers, an industry-agnostic vendor trained on internal documentation is probably up for the job.

Other AI tools are use case-specific but not industry-specific. For example, a workforce recruiting tool could handle hospital staffing as well as staffing in your warehouse.

But these tools do not work well for highly specific and complex work, like standardizing all carrier data or calculating the right fuel surcharge for a given shipment. General-purpose AI is a blunt tool that would miss the nuances of the terms, contracts, and conditions of supply chain shipments and financial transactions.

This is where logistics-AI —which is trained on and tailor-made for supply chain data and use cases—comes in.

General purpose/ domain-agnostic AI: AI systems designed for a wide range of applications and tasks

Pros: Broad application, great at simple tasks like creating images or answering basic questions

Cons: Less effective for specialized tasks; prone to generating incorrect information (hallucinations)

Example: ChatGPT – great at helping answer questions, writing essays, learning about subjects, and ideating, but not suited for organizing your logistics processes

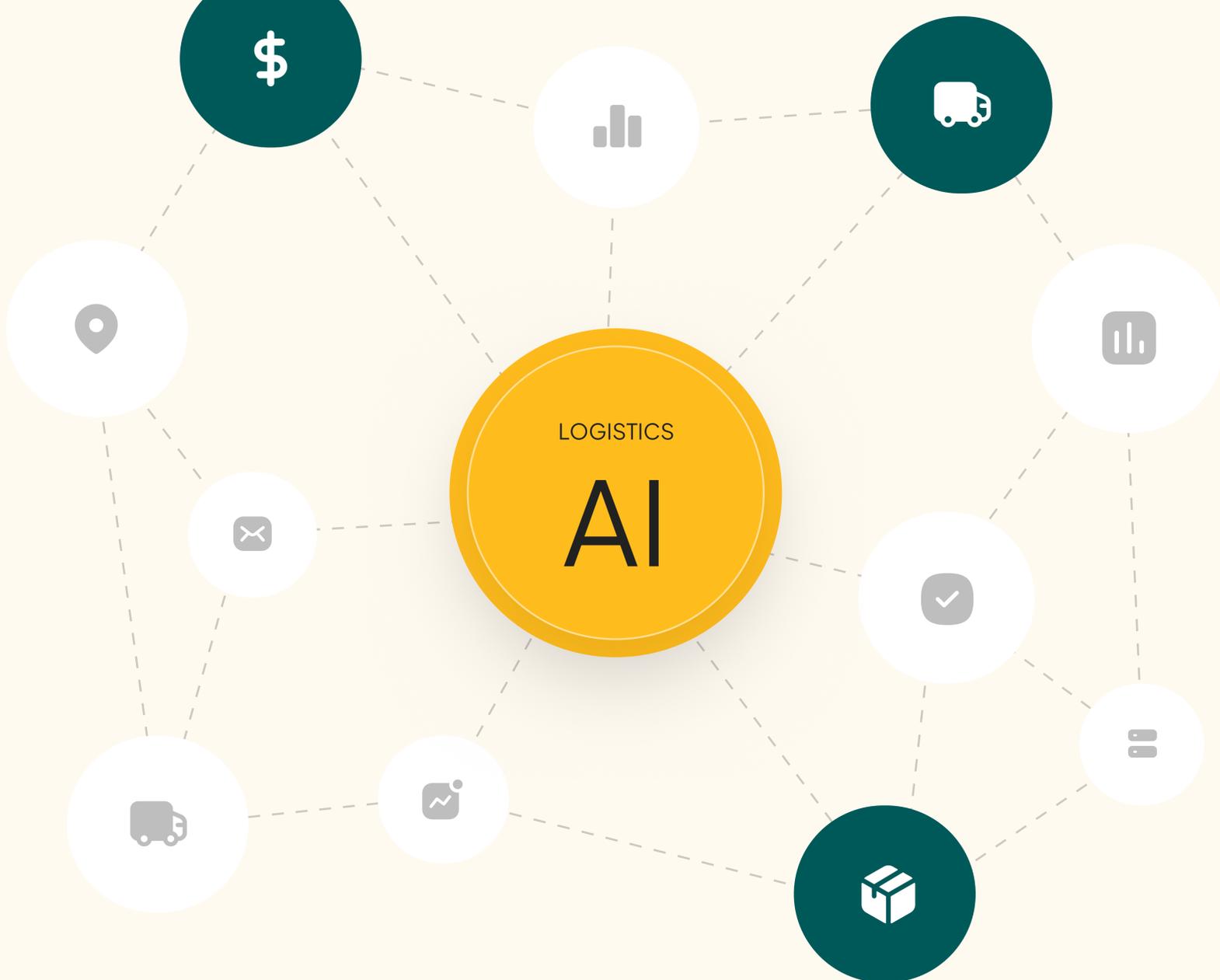
Specialized/domain-specific AI: AI systems tailored for specific tasks or industries

Pros: Great at very specific tasks, quick to deliver value in its lane, minimal errors within its scope

Cons: Not suitable for broad applications, can only be used for its intended use case

Example: Logistics-AI: Excellent at supply chain optimization, but could not help you write a letter to your grandma or help you navigate the Game of Thrones family tree





03

How does AI address the biggest challenges in logistics?

While logistics-AI can solve many problems, it is crucial for companies to use AI for efficiency, productivity, cost management, and growth. By leveraging the right solution, you can overcome resource constraints, enhance operational control, and achieve comprehensive visibility. This will enable you to succeed in a turbulent and dynamic supply chain.

How do models come to accurate answers that solve real problems?

It all comes down to the data you use and how you train your models. During the model training process, it is given loads of example scenarios of data inputs and outputs. This develops its ability to discern correct decisions from incorrect ones.

To further improve a model's accuracy, it is common to have a "human in the loop." This human is a domain expert and the model tracks the inputs and outputs of this expert performing the work. This in turn trains the model to recreate – and learn from – those decisions over time. Models are trained on close-ended questions to gather focused data. For example, "Given these inputs, what was the result?" Non-domain specific models often make use of a human in the loop as well, but they typically rely on low-cost, novice labor.

Yet models are only as good as the training data. The data that Loop's logistics-AI trains on are held to the highest standards of accuracy by using the 'wisdom of crowds' concept. This theory holds that crowds are collectively smarter than individuals when it comes to problem-solving, decision-making, innovating, and predicting. That's because crowds can offset individual biases.

For example, when looking for the invoice number on an invoice, the AI will contextualize all the reference numbers on that page before making a final decision on the correct number. It might make a mistake or two at first, but as the model is trained on more data, it will learn patterns across reference numbers, increasing accuracy. This means it will be able to understand the context and nuances of different data relationships. See our [Example | Contextual learning](#) to dig deeper.

Example | Contextual learning

A logistics-AI model is trained on invoices and shipment docs for a company that ships with Carrier A, Carrier B, & Carrier C between Memphis & Bells, TN.

Initially, the AI is trained to learn that the invoice number is explicitly the number closest to the phrase “invoice number” or “invoice #” based on docs from Carrier A. For Carrier B, it learns that a different but similar phrase, “freight bill #” is the correct associated key for an invoice number. With more examples, it learns that invoices from Carriers C don’t use “invoice number” or “invoice #” but that the invoice number is the number in the top right corner of the invoice.

The AI can distinguish between these different representations of an invoice number (“invoice number,” “invoice #,” “freight bill”, top right corner number) because it understands the context of the invoice number and other reference numbers that might be on an invoice.

As the model trains on more data, it not only improves at identifying all representations of invoice numbers but also begins to understand the relationships between other reference numbers on the document. For example, it will see that every time something is shipped from Bells, the “Account #” is BL334. Whereas when a shipment goes out from Memphis, the “Acct Num” is MP568.

It doesn’t stop there. It will learn patterns in how each carrier operates. It will see that all invoices to Bells Account # BL334 are from Carrier A with Carrier ID “012.” Whereas Memphis gets invoices from Carrier B (013) or C (014).

So when the AI sees an invoice with Bells as the origin, it knows to look for “invoice number” or “invoice #” to find the invoice number. It looks for “Account #BL334” and it expects to see Carrier A. It knows this because of the historical data it is trained on and the context of that data.



This is one of thousands of examples that make logistics-AI so powerful. But the real power of logistics-AI is that it is not limited to the use cases it explicitly learns. Once the model is accurately outputting answers to a given use case (“given these inputs, what was the result?”), then it can start to apply this logic to other situations. This is called contextual learning, and it is why the time-to-value for platforms powered by logistics-AI can be mere weeks, not months or years.

Continuous learning and improvement

The beauty of a well-trained model is that it never stops learning. Models are continuously improving because they are constantly contextualizing their inputs and outputs. This means the more a model is used, the more accurate and honed to your business it gets over time.

It becomes better at answering questions it has never directly been trained on because it can use other context clues to come to a reasonable conclusion. (Not unlike how humans learn!)

Example | Continuous learning

Loop’s logistics-AI model, trained to extract data from invoices, can eventually extract 99.5% of your data with 99.5% accuracy, because it’s been given thousands of examples, either through training data or ‘observing’ humans-in-the-loop.

In fact, it’s likely that the same model, when given a BOL (bill of lading), will be able to extract that data with 80% accuracy without ever having encountered a BOL before. It will understand the context of supply chain documents’ data and context (addresses, line items, costs, etc.). With a great logistics-AI model, it will take only a few dozen examples of BOLs to get to 100% accuracy. Those iterations will teach it the nuances of BOLs, rather than the foundations of what makes up a supply chain document.

This is why domain training models matter so much depending on the tasks at hand. If you’re looking for an AI to help improve inefficient, complex processes, find one that’s been pre-trained on those processes. Otherwise, you’re in for a long journey of training a model from scratch.

80%

initial model accuracy

95%

consensus model accuracy

4 wks

for Loop to learn a new task

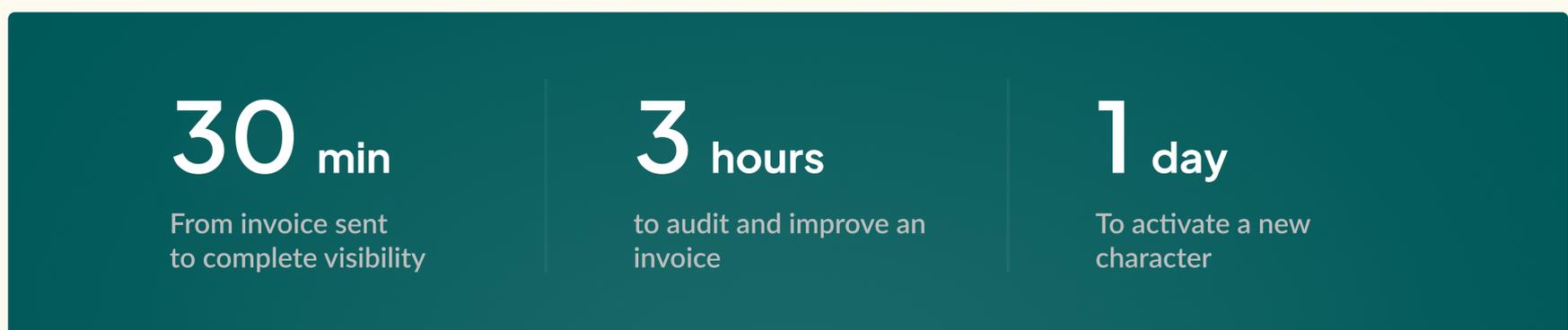
Top challenges logistics-AI solves today in the supply chain

There are numerous ways logistics-AI can be applied to the supply chain. Three of the most critical challenges in today's market are:

- **Paper problem** - the supply chain is filled with disconnected data (paper documents, rigid software systems, etc.) that hurts decision quality
- **People problem** - the supply chain is filled with manual work that people can no longer handle with increasing scale
- **Profit problem** - the supply chain's complexity means it's hard to get a complete view of the drivers that impact your profit

Logistics-AI has core functionality that solves these problems:

- Making hard to access data usable
- Automating tedious manual workflows
- Standardizing unstructured data to power insights



Let's dig into how this functionality can solve challenges in managing your transportation costs. We will use our own logistics-AI as an example, because Loop created the first LLM that was built for the supply chain.

Collecting hard-to-access data

To make great decisions about how you spend your money, you need great visibility in your supply chain and spend data. But how do you get it when the supply chain is filled with complex documents that are spread across disconnected systems? A blurry photo of a packing list? Standard. A handwritten lumber receipt? Par for the course.

Collecting and managing these manually is a nightmare for people, but it's a breeze for AI. Here's how Loop does it.

Ingestion. Logistics-AI should be able to centralize all your shipment and spend data in any format (CSV, JSON, JPG, JPEG, PDF, PNG) and from any source (EDI, API, email, etc.).

Classification. Once Loop has your document, it will be classified using Large Language Learning Models (LLMs) and computer vision models to understand the document's data and its context.

For example, Loop will classify a carrier packet, and then classify the individual pages (Invoice, POD, BOL). Then, the individual documents will have separate areas classified, e.g. address details and reference numbers.



Fast express trucking

123 MAIN ST, CHICAGO, IL
12345-1345

Customer

BILL TO

ACME JEANS

1234 OAK STREET, TOPEKA,
KS 12345

INVOICE

DATE

08/11/2024

INVOICE #

OG 2548

Invoice #

PO NO.	TERMS	DUE DATE
12345678	NET 30	09/11/2024



Extracting

CLOTHES WAREHOUSE (ACQUIN, TX ON 08/25/2024)

FUEL SURCHARGE -	1.00	1,200.00	1,200.00
UNLOADING CHARGE (DENIM WAREHOUSE)	1.00	653.00	653.00
UNLOADING CHARGE (JEANS BARN)	1.00	180.50	180.50
UNLOADING CHARGE (DENIM DEPO)	1.00	190.00	190.00

Lumper

Invoiced

We appreciate your prompt payment

Total: **\$4,563.50**

Payments: **\$0.00**

Balance Due: **\$4,563.50**

Phone #

123-456-7890

Email

acmejeans@mail.com

Extraction. Loop then extracts required data points from documents using multiple models. In the scenarios where the majority of the models have different outputs from the same input, a Loop supply chain expert intervenes to select the right answer, and that data is used to train the model.

Contextualization. Logistics-AI can be trained to understand the context and nuances between different data points on a document. Go back to our [Example | Contextual learning](#) if you need more clarification.

Standardization. The supply chain is full of countless ways to write, define, and describe the same thing. Line-haul can look like a full paragraph or simply just say “pork.” Accessorials like “fuel surcharge” can appear as “fuel,” “FL Sur,” “FS,” and more. This variance makes comparing apples to apples tough... unless you have logistics-AI.

Automating tedious, manual work

Once Loop's logistics-AI makes your data usable, it can start to execute core workflows. Here are a few examples of what that looks like in practice:

Linking across data. This is where our platform reviews all of the reference numbers in a shipment (as you know, there are many) and the metadata on the documents to link each point to a given shipment.

The screenshot displays the Loop platform interface for Shipment 0927162. The interface is divided into two main sections: Shipment and Billing.

Shipment 0927162

Exceptions

FAST EXPRESS TRUCKING
FTL for [Acme Jeans](#)

ACME JEANS
1234 OAK STREET, TOPEKA, KS 66546

FANCY WAREHOUSE
1234 WOOD STREET, CHICAGO, IL 60007

Picked up Jul 12, 2024
Delivered Jul 12, 2024

Reference numbers

Invoice number 456098 PO number 002345 Customer reference number AC8965

Carrier artifact checks
Last updated Jul 15, 2024, 1:07 PM

- ✓ Load number on shipment record matches Bill of Lading
- ✓ Load number on shipment record matches Invoice
- ✓ Proof of delivery is present

Billing Billing Complete

Pay to: **FAST TRUCKING** \$762.00
AP Invoice 123863
✓ Invoice artifacts 2

Linked job FTL · FAST TRUCKING
Payment due Jul 20, 2024
Review status Fully Approved

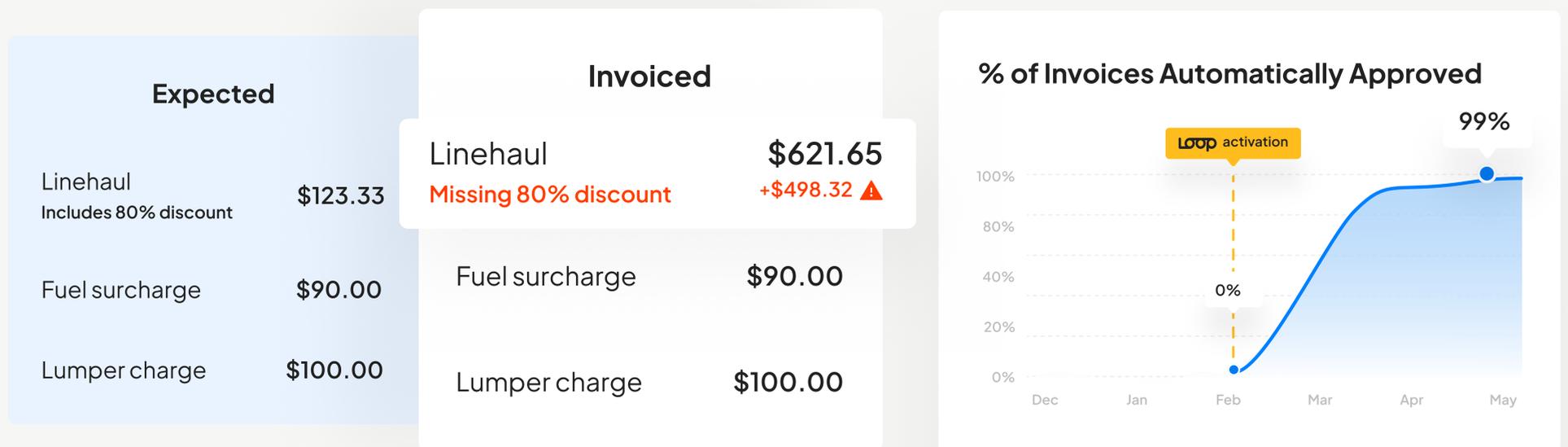
Line item	Invoiced	To approve
Uncategorized	\$762.00	\$762.00
Total	\$762.00	\$762.00

This gives you a complete view of your shipment and all of its data.

AP invoice auditing. Loop frees you from the grind of manual audits. Here are our six audit steps that Loop's logistics-AI executes:

1. Manage documents and data: Collect, extract, link all shipment and spend data
2. Audit freight documents: Ensure you have every supporting document required to audit an invoice and that they are accurate/compliant.
3. Create rate engines: Digitize contracts and rate tables or leverage your TMS to automatically audit invoice rates.
4. Run line-haul + transportation rate audit: Validate that your invoice has the correct rates whether it's contracted pricing, dynamic or spot rate pricing.
5. Execute accessorial audit: Check that your invoice has the correct accessories and associated discounts
6. Conduct service audit: Ensure your invoice has the correct services and associated discounts.
 - a. Approve invoice: Give the green light to set up payment
 - b. Flag exception: Flag issue with explainability to expedite resolution

The best part is that all of this audit data is then added to your complete supply chain and spend data.



Unlocking visibility and insights

Having a unified and centralized view of your operational and finance data is critical in Supply Chain 3.0¹. Without a complete picture, you can't improve or optimize your team's performance.

If you're not optimizing your team's performance, then you won't be able to succeed in Supply Chain 4.0 when companies start to optimize outcomes with their stakeholders. This is when AI will truly unlock the power of the supply chain's network of networks.

To get a unified and centralized view, it's more than just cleaning up messy data. It's about analyzing that data to unlock real value. Loop's AI takes raw data and turns it into clear, actionable insights that help you make better decisions.

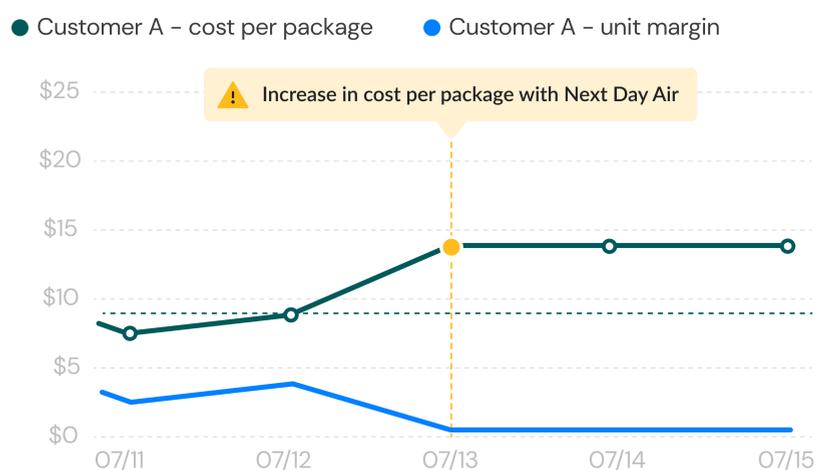
1: <https://www.loop.com/asset/guide-supply-chain-evolution>



Efficiency is gained between the interaction of your trading partners (customers and carriers)

Ken Beyer, CEO of Transportation Insight & Nolan Transportation Group told [Freightwaves](#).

P&L per Order



Loop's structured and standardized data allows you to:

- **Monitor metrics:** Monitor your network, carrier, and team performance.
- **Scenario plan:** Test different scenarios to see how you can improve outcomes.
- **Uncover insights:** Drill down into crucial metrics like what is your cost to serve a customer² so you can improve decision quality and understand how it varies based on the products they order.

This level of data granularity, access, and connectivity is a must in the supply chain of 2024 and beyond.

The value logistics-AI solves unlocks

Once you have logistics-AI, then what? We consistently see massive improvements in three core business functions:

- Improving cost management
- Identifying savings opportunities
- Improving productivity and efficiency

Improve cost management

Cost management is a top priority for every supply chain stakeholder (even consumers). Successful cost management requires granular data, great decisions, and actionable insights.

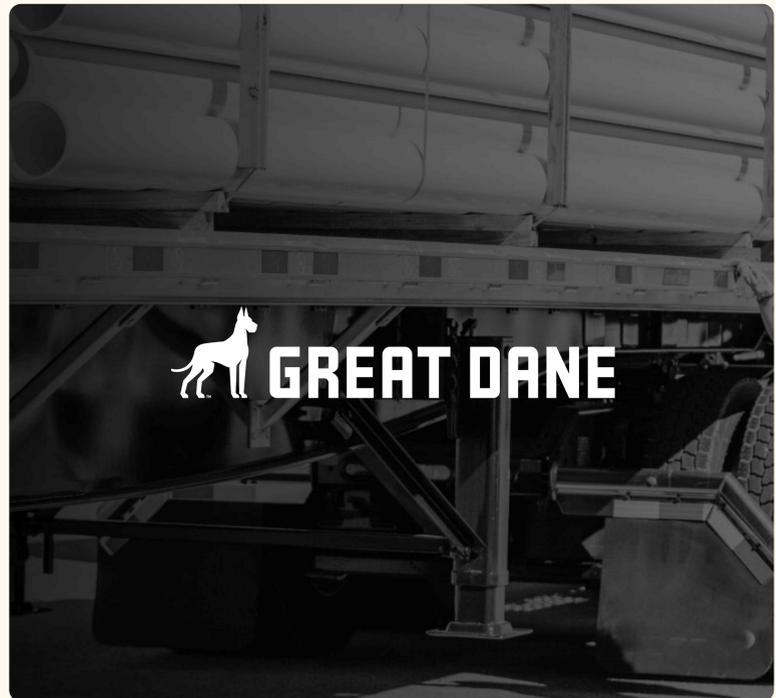
2: <https://www.loop.com/asset/understanding-your-cost-to-serve-go-from-chaos-to-clarity>



Logistics-AI also enables this with three core capabilities:

Centralized analytics: AI provides complete visibility into costs and operational performance by unifying and standardizing all spend data.

Great Dane³, a trailer manufacturer, had no visibility on their transportation spend because their data was trapped on paper invoices and shipment documents. When they activated Loop, they gained complete cost visibility and control. Now AI executes 98% of their audits in two hours with 100% financial accuracy, which means they can offer quick pay to their carriers at a 1.5% discount. This boosts working capital for Great Dane and their carriers; a win-win.



Invoice management and audit accuracy: AI improves auditing accuracy by automatically detecting errors in carrier invoices.

GILLIG⁵, a bus and parts manufacturer, used Loop's logistics-AI to automate their AP workflows from invoice and document management to audit and pay. They reduced invoice issues from 20% to sub 1%, identified \$70,000 in incorrect charges and invoice issues, boosting team efficiency by \$63,000.



Cost accounting: AI can allocate costs across multiple segments (product, shipment, customer, facility, lane, carrier, etc.) so teams can find ways to diminish their cost-to-serve with great cost data and analysis.

A rubber manufacturer charged every customer 8% for freight, masking variations in actual costs. Loop's solution revealed freight costs ranged from 6% to 20%, showing undercharges and overcharges. With Loop's cost analysis, the manufacturer now accurately charges for shipping, optimizing profits and ensuring fair pricing

3: <https://www.loop.com/customer-story/great-dane>

4: <https://www.loop.com/asset/webinar-boost-working-capital-in-a-more-collaborative-supply-chain>

5: <https://www.loop.com/customer-story/gillig>

Identify savings opportunities

AI helps identify profitable opportunities by analyzing shipment and invoice data. It unlocks insights at various levels, from invoice line items all the way up to network optimizations, allowing shippers to find cost savings opportunities.

Shipper insights



Invoice level: Logistics-AI can review all of your line-items with a fine-tooth comb so you can catch inaccurate charges and also understand themes across your charges, i.e., do you have one facility that keeps getting hit with a reweight charge? Perhaps your scale needs to be recalibrated.



Contract level: AI can help you aggregate insights across all invoices from one carrier so you can track your carrier performance and your spend with them. This empowers you to focus on the right things during a contract negotiation. For instance, with just aLoop found that Paravel didn't have discounted rates on +60% of their most costly accessories. If they negotiated even small discounts, they could get approximately \$500,000 in annual savings.



Network level: By standardizing data across your network, you are finally able to scenario plan across your carriers and facilities to optimize your performance and spend. For one pharma company, Loop's scenario planning uncovered \$2.4 million in optimization opportunities by reallocating volume and service levels between FedEx and UPS. Annualized, this represented a \$9.6 million savings.

3PL insights



Load level: AI can analyze the cost-to-serve of your loads across your customer portfolio. This helps you understand the different costs across lanes, carriers, and expected accessorials, so you only offer customers rates that don't eat into your margins.



Customer level: Logistics-AI data helps you uncover insights into where your customers are wasting spend. These insights will elevate you from a vendor to a consultant, where you can help them lower their costs so they book more business with you.



Carrier level: AI helps you track how well your carrier network complies with your and your shippers' invoicing requirements, addressing billing and payment bottlenecks. This visibility enables you to improve carrier compliance so you can remove friction and decrease execution time.

To see logistics-AI in action, check out the Loadsmart case study on page 29.

Improve productivity

Productivity and efficiency are more critical than ever in an inflationary, post-zero interest rate policy (ZIRP), and post-pandemic environment. Productivity is about making the most of your team, while efficiency means doing more with less.

Companies often struggle with manual workflows and outdated technologies, leading to disconnected or incomplete data. Poor data quality increases the risk of fraud, financial non-compliance, and significant missed opportunities.

These inefficiencies not only slow down financial operations, but they also drive up costs. This underscores the need for AI solutions to eliminate friction and automate tedious work.

According to J.P. Morgan Payments Innovation team research, legacy workflows cost companies significantly:

80%

of invoices are manually keyed into finance systems.

50 days

is the average time it takes to clear a payment due to manual processes.

60%

of invoices are still paper documents.

12%

of AR and AP employees' time is spent handling paper documents.

AI can significantly streamline these processes by automating tasks across AR, AP, transportation, and operations. In the era of AI, it's harder than ever to get people excited about tedious number-crunching and data entry work. And when you offload time-consuming and tedious tasks, you unlock more productivity and strategic work for your team

“

Loop has turned my team from processors to analysts.

Jeff Toman
Great Dane Finance Executive



loadsmart **Boosting working capital with automation**

Loadsmart, a leading logistics provider, faced financial and operational problems as they scaled. Manual work caused frequent errors and delays that hurt their working capital. Overpayments and inefficiencies drained resources and strained cash flow.

The challenge:

Handling thousands of documents manually was a time-consuming and error-prone process. Each line item had to be reviewed manually which meant mistakes and missed insights. Payments often touched four teams and took an average of 50 days to clear which tied up working capital and resources. They needed a way to automate and streamline these processes.

The solution:

Loadsmart's partnership with Loop has optimized their Days Sales Outstanding through AI and automation. Loop's logistics-AI centralizes, standardizes, and links Loadsmart's load data and documents into a single platform. Then, Loop's powerful workflows run AP and AR automation, simplifying a historically manual process. 80% of Loadsmart's AP invoices are now audited and paid with no touch in under two hours in Loop.



Loop's AI-driven workflows helped to streamline our AP processes. As a result, we've reduced BPO costs by 60% and also found \$1.3M in discrepancies, enabling us to reinvest in growth and innovation.

- Jane Lacerda Cavalcante, Loadsmart's Sr Product Manager

The "Perfect Payment":

Loop's AI made it possible to process invoices almost instantly. When both carriers and shippers use Loadsmart's API and automated invoicing, the whole process—from document retrieval to invoice approval—takes just 13 minutes. This makes payments faster and more accurate, strengthening relationships with carriers and shippers.

13min

from invoice received to invoice paid

By working with Loop, Loadsmart moved from Supply Chain 2.0 to 3.0. Jane sums it up well:



With Loop, we've turned our back-office from a manual mess into an efficient, automated system. It saves us time and money and makes our finances healthier.

- Financial Ops



80%

of AP invoices audited and paid no touch

60%

reduction in outsource resource costs

\$1.3M

in invoice issues identified

1 day

to invoice, down from 7 days before Loop



04

How to take AI from buzzword to tangible benefit

If you're considering adding AI tech to your business, you need to start with these four questions:

1. What is the most important problem to solve?

Clearly identify the issue at hand. Whether it's inefficient processes or inaccurate data, know what you're aiming to fix.

2. Do you have the means (people, technical resources, budget, etc.) to prioritize this problem now?

Evaluate your resources. Do you have the right team, buy-in, infrastructure, and budget?

3. What is the cost of doing nothing?

Consider the consequences of inaction. Are inefficiencies or missed opportunities costing more than the investment in AI?

4. What is your expected gain of doing something?

Define the benefits. What improvements will AI bring to your operations or customer experience?



Problem prioritization

Matt Sheffield, Senior Manager of Supply Chain Finance, Data and Analysis at Redbubble, prioritizes problems by getting together everyone who is 'sticking fingers in the dam' to address challenges. Then they evaluate each challenge by the following dimensions:

1. What has the most pressure?
2. What is the downstream impact of solving the problem? If they solve it, will it alleviate other problems?
3. How can we solve it? If solving the problem is aligned with their business model and mission, they build the solution internally. If it's not, they bring on a software provider.

Once you've answered these key questions and feel confident in your decision, our framework is here to guide you through selecting, integrating, and maximizing the impact of AI in your business.

PARAVEL

Scaling without the growing pains

The challenge:

Paravel was growing so fast it had to constantly change to keep up with demand. Without enough coordination between the sales and operations teams, the company continued to come up against inventory shortages and fulfillment problems. With such a lean team, manual processes were slowing everything down.

The solution:

1. Triage and strategize: They assessed their financial, customer, and operational performance. Their first priority was getting sales and operations on the same page so inventory could meet demand.
2. Stabilize and iterate: Paravel continually improved their processes, systems, and structure to cut waste before turning their attention to automation.
3. Automate and optimize: While growing 20-30% annually, Paravel knew they needed true automation to grow without scaling headcount linearly.

After assessing their needs, Paravel teamed up with Loop to improve and automate their transportation cost management.

"We needed tools that allow us to take out additional costs without giving up service. We do spot audits, but even two to three hours a week wasn't enough. That's where Loop's value really clicked for us"

Kevin Donnelly, Paravel COO & President

The value:

With Loop's AI and data, Paravel gets better insight into their cost per product, network performance, and channel profitability. Now, they can optimize their outcomes.



Framework: Activating new technologies

Choosing the right AI tools requires a strategic approach to ensure they solve your problem and meet your business's specific needs.

Here are the core four stages you need to activate a new technology effectively:

- **Strategy:** How can champions present the business case for new technology?
- **Buying process:** What's a good framework for selecting a new technology and assessing impact?
- **Transformation:** How do you ensure a successful implementation and transformation?
- **Provider:** How do you pick the right vendor?

Strategy: How can champions present the business case for new technology?

To secure buy-in, it's important to demonstrate how AI supports your business goals and can deliver clear impact while considering resource constraints:

Identify business objectives and consider resource constraints: Start by clearly defining the specific problems AI will solve.

Define expected impact: Map out KPIs that should improve. If you're trying to improve your efficiency, you'll want to hit on two or three key metrics that show you're succeeding.

Set the scope: Consider your resource constraints—people, technical resources, budget — to appropriately phase your project to have quick wins. Define the key metrics you'll use to measure impact at each phase.

Buying process: What's a good framework for selecting a new technology and assessing impact?

Finding the right AI tool can feel daunting. That's why it's essential to do your research to compare vendors on how they can best serve your needs:

Research and company: Begin by researching various AI solutions that say they can solve your challenges. Compare their capabilities, support, scalability, flexibility, and integrations.

Data quality and accuracy: Ask about what data they use to train their model and deliver their results. Focus on data quality, accuracy, and the level of human input required. Don't forget, best-in-class training standards will have some 'human in the loop' to help train.

Cybersecurity practices: Ensure that this software won't be a risk to your company. Ask about their security controls and standards, like SOC 2 Type II.

Right technology: Determine if you need a general-purpose or specialized model. If it is specialized, understand what data it is trained on and who finetunes the model. See below for the questions to ask.

Ask these 10 questions of your AI providers



Function - accuracy, explainability, and transparency:

To see if an AI model works as promised, you need to look under the hood. These questions will help you assess its accuracy, explainability, and transparency.

1. How does your AI arrive at its conclusions?
2. Can you explain the reasoning behind a specific output?
3. Can you identify and address biases in your training data?
4. How do you define accuracy?
5. How do you prevent hallucinations?



Growth - learning, adaptability, and innovation:

Now that we understand how the AI works, let's explore its growth potential. It's not just about today's needs—it's about whether the AI can evolve with your business. These questions will help you see if it's ready to adapt and grow with you.

1. How does your AI learn and improve over time?
2. What data do you use to train your models?
3. How quickly do your models learn new concepts?
4. How much prompt engineering do you use?
5. Who on your team is actively improving your AI?

Time to value: Look for opportunities to see initial impact quickly—whether through a demo, proof of value, or rapid deployment. How fast can you implement, onboard, and activate?

At Paravel, Donnelly says he uses Carter’s 10 C’s framework to vet vendors, ensuring they meet key criteria like competency, capacity, and commitment, while also assessing their control over processes, financial stability (cash), and cost-effectiveness. He also prioritizes consistency in service, a strong cultural fit, clear communication, and solid crisis management capabilities to ensure a long-term, successful partnership.

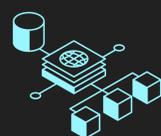
People, processes, and technology

In the buying process, you need to constantly assess the impact of a partner and technology on core components.



People:

- **Determine who is impacted:** What teams need to be involved? How many people are needed for the implementation? How many will have their workflow change?
- **Map current and future state of work:** Understand how workflows will change post-implementation.



Processes:

- **Assess the complexity of the task:** Once you’ve looked at your processes, assess their complexity to understand what technology you need.
 - **General vs. contextual:** If your outputs need domain context from your inputs, you need domain-specific AI.
 - **Mission critical vs. standard ops:** How important is it that outcomes are always accurate? This should guide you on whether you need general-purpose or specialized AI.
 - **Plan for quick time to value:** Look for teams that will support you in your onboarding and beyond. It’s a good indicator they’re invested in your long-term success.



Technology & systems

- **Integration:** Find solutions that integrate seamlessly with your existing infrastructure and software so you don’t create silos.
- **Security:** Ensure security meets your standards. For example, Paravel always ensures a vendor meets their compliance requirements, so they mitigate future risks.

Successfully implementing AI in your business requires a well-structured plan that sets the stage for long-term success. It should be a continuation and evolution of all the great work you did in your buying process. Here's how to ensure a smooth transition:

Plan for change management: Getting buy-in from all necessary stakeholders is crucial. Everyone involved needs to understand the value AI brings to streamline change and reduce resistance. Effective communication about the benefits of AI and how it will improve daily operations can help ease this transition.

Set scope: In the buying process, it's crucial that you clearly define the scope of your new technology. Post-purchase, revisit this plan and set realistic goals.

Define phases: Initial implementations should be planned with future iterations in mind. Plan your stages and then stack the implementation, onboarding, and education in a way that builds momentum.

Choosing the right AI solution is about more than just selecting a technology; it's about finding a team that will grow with you and support your strategic goals. Here's how to make the right choice:

Pick a partner, not a vendor: Select a provider who understands your business challenges and shares your vision for the future. This alignment is crucial for fostering innovation and ensuring that your partner will innovate with you.

Prioritize support: Bring on a team that is going to treat you as a top priority throughout your partnership and deliver white-glove support.

Assess viability: There are *a lot* of companies that are pitching AI solutions. Assess their long-term viability by looking at their growth, existing customers, and financial viability (investors, financial performance, etc.).



05

The road ahead

AI offers numerous benefits for supply chain companies, including improved productivity, cost management, and the ability to identify growth opportunities. By leveraging AI, your organization can gain a competitive edge and drive significant operational efficiencies.

However, thriving in today's interconnected supply chain requires AI solutions specifically designed for the unique challenges of logistics. Logistics-AI provides the precision, contextual understanding, and scalability necessary to optimize operations and achieve sustainable success in a complex market.

Get started with one of our experts today.
loop.com/contact | hello@loop.com

