

# The fleet automation revolution

How AI and automation impacts every aspect of fleet management





### IoT promised the world. Fleet automation delivers it.



IoT promised to make fleets more productive by providing unprecedented operational visibility. But for years, it hasn't delivered. Fleets have had to pour time and money into IoT's intensive data management requirements. At the end of the day, the math hasn't added up.

Thanks to AI and automation, that has changed. Fleets no longer have to hire extra employees to understand what their IoT is telling them. New software does the job quickly and affordably, managing huge streams of data without any human guidance.

Other industries have already started transitioning to AI and automation. According to Gartner, by 2019 <u>37% of enterprises</u> had deployed AI. As the transition picks up speed, AI adoption in the supply chain market is expected to grow at a <u>CAGR of 45.3%</u> until 2027.

Fleets that adopt AI and automation will do more work with fewer resources. Because they'll have made their fleets faster and leaner, lagging competitors will have a hard time catching up.

To understand how fleet automation works, it's important to get a feel for the extent to which it will automate businesses. This book will start at the beginning – moving goods from point A to point B.

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#### Part 1

## End-to-end workflow automation

Automate every job from beginning to end.



Fleets have been much slower to automate than many adjacent industries. Factories, for example, have been almost entirely automated for decades. Chain store checkout lines have been automated for years. Ports move more goods using far fewer workers than they did twenty years ago.

Why have fleets been behind the curve? Not complexity – moving shipments isn't as technically complex as building computer chips or processing credit cards. The difference is simple: Randomness.

No matter how complex a product is, putting it together always follows the exact same set of steps. It doesn't matter if it's raining, if traffic outside a factory is slow, or what a customer's mood might be. Every single quarter, every single day, every single shift, the process will be exactly the same. An extremely predictable workflow is easy to automate.

Transportation is on the other end of the predictability spectrum. Every hour is full of random differences that have made the shift to automation much more difficult. Rain causes an accident and last-mile deliveries get delayed. Long-term construction slows a freeway and trucks need to be rerouted for months. A moody customer leaves work early and a scheduled shipment can't be delivered. Randomness causes workflow chaos.

Advanced automation technologies have solved the problem of automating randomness. It starts with the customer's order.

### Step 1 Orders



Organizing orders – especially last-minute emergency shipments – means sorting through a lot of changing data.

When putting these kinds of orders together, managers need to take into account a number of variables: How long will it take the shipment to reach its destinations? What nearby drivers can make that trip without pushing their HOS hours into the red? Which trucks aren't currently on the road, don't have engine problems, and aren't assigned to later deliveries?

Then there's the paperwork: pairing shipping documents to vehicles, assets, and destinations. These processes eat up hours of administrative time – and eat into personnel budgets.

Fleet automation will find the answer to all of these questions and do all of the paperwork. Some steps in the process are already available: Driver job assignments, document pairing, and more are available for fleets that add automation software to their operation.

## Step 2 Trips



Businesses waiting for the driverless vehicle have been regularly disappointed. Silicon Valley prognosticators continue to promise it's just around the corner while the wait keeps getting longer.

What these disappointed businesses might not realize is how much of the driving process has already been automated. When shipments are on the road, many automations can help them arrive at their destinations faster, safer, and cheaper.

The two most effective automations prevent reckless driving and FMCSA fines. Managers used to have to dedicate huge amounts of time to safety and regulation coaching while getting little in return. No matter how many spot checks a manager might conduct, no matter how many hours of coaching they might perform, they could only monitor staff for a fraction of a percent of the time drivers spent behind the wheel.

Today, that's no longer a concern. Automation software can both monitor and coach drivers whenever they're on the road. Technologies like mobile apps and dashcams don't just recognize and document when drivers speed, look at phones, or break HOS regulations – AI voice assistants also speak up and tell drivers what they should be doing.

For fleets, this translates to safer trips, fewer fines, less liability risk, and fewer hours devoted to management and coaching. It's where automation has already delivered on its promises: Companies do less work while achieving better outcomes.

## Step 3 **Deliveries**



Of all the random events that fleet managers have to overcome, the least predictable are customers. The best are friendly professionals who run efficient loading docks. The worst are prickly and rude. In order to stay in business, fleets have to satisfy both.

Automation makes best-in-class customer service easy to provide to every customer. A customer who used to bother managers with constant demands for updates and unjustified complaints can now be satisfied with the click of a button.

The delivery automation applicable to the widest number of scenarios is live ETA. No matter the industry or the shipment, every customer will enjoy receiving an SMS or email that shows them exactly when they can expect their delivery to arrive.

Other useful automations help managers quickly get to the bottom of complaints. They prove whether employees failed to do their job or if customers are trying to pull a fast one. For businesses that are managing complex relationships with partners, automation software smooths relationships and heightens efficiencies.

Many of the technologies that automate every step in the transportation workflow, from orders to trips to deliveries, are already available. As they're perfected and more are developed, tomorrow's deliveries will be done faster and more safely, while costing less and using fewer resources.

#### Part 2

## Comprehensive operations automation

Automate the background operations that keep your fleet running smoothly.



Moving goods from point A to point B is only half the battle. Every bit of randomness that makes deliveries difficult impacts the background operations that keep fleets running. For example, it's obvious that an unexpected storm can snarl traffic and cause late deliveries. But that storm will also have many other, less apparent impacts.

If traffic is backed up, drivers are on the road longer. This makes it more difficult to get back to home lots without violating HOS requirements. It also makes it more likely that drivers will work past normal hours and receive overtime pay. What was just a bit of unexpected rain becomes a headache for fleet managers and accountants.

If the roads are slick, drivers are more likely to face dangerous conditions. This means both safety managers and mechanics might have to respond to anything from a bent fender to a serious accident. Now, the storm has made everyone's work week busier.

Fleet automation doesn't stop after a shipment reaches its destination. Everything from maintenance to security to office and jobsite management are also increasingly automated.

## Step 1 Maintenance



The lifeblood of a fleet are its vehicles. When they stop moving, everything stops. Fortunately, maintenance is one of the areas in which automation has made the greatest strides.

Temperamental engines can start the day running smoothly and end the day smoking on the side of the road. No matter how many mechanics a fleet can afford, there's no way to check every vehicle every day.

Automation, however, can do something even better – it checks every engine throughout every trip, from the moment the ignition is turned on to the second it's turned off. Automating maintenance is like having a mechanic below the hood of every vehicle, 24/7 – and it's available now.

While the mechanic's shop itself hasn't been automated, automation software does help mechanics better understand and respond to the condition of their fleets. Centralized records, accessible via mobile and desktop devices, make it easy for drivers and mechanics to share information. Engine monitoring AI sends SMS and text alerts the moment vehicles need repair.

What all of this adds up to is a more informed and efficiently run maintenance team that uses fewer resources. Engine monitoring AI, drivers, and mechanics are all connected to the same all-inone platform, making it easy to respond to small problems before they become big problems.

## Step 2 Security



Shipments aren't any easier to monitor than engines. No matter how many security personnel a fleet has, they can't keep an eye on every vehicle through every mile of every delivery. Meanwhile, cargo theft costs companies <u>\$15 to \$35</u> <u>billion</u>. The moment security turns a blind eye is the moment thieves strike.

That's why automation is so crucial. Although no human is capable of watching assets 24 hours a day, technology is. And automated security keeps fleets in the loop, so staff can respond before thieves get away with goods.

While many fleet technology providers have created concealed tracking devices that allow security to find assets after they've been stolen, only one has created a device that sends fleets SMS or email messages the moment <u>a trailer's cargo doors are</u> <u>opened</u>. It's like having a container cargo seal that calls your security team the second it's broken – and it's a must-have for any security-conscious fleet.

#### Step 3

## **Job sites**



It's not just shipments that are at risk of being stolen. Every fleet has warehouses, parking lots, and other jobsites that are full of millions of dollars of assets – and unlike on-the-move deliveries, those sites are sitting ducks.

This is one of the many operational concerns that are automated away with geofences. By creating a digital boundary on a map (a process as intuitive as the drawing app on any child's phone), security personnel can see exactly what entered and exited jobsites and when. More crucially, they can create custom alerts for especially important assets. The moment a million-dollar asset is moved, security will be able to respond.

Geofences don't just automate security monitoring. They also allow safety personnel to create specific rules for each jobsite, then monitor which vehicles break those rules. They track detention time, so managers can learn which loading docks are holding their vehicles in unreasonably long lines. As fleet automation picks up speed, more and more jobsite management tasks will be automated.

## Step 4 Back office



The back office links every aspect of fleet maintenance, from executives to managers to drivers. Any speed bump that slows the path to progress will be felt here. The more time back office teams have to dedicate to administrative tasks, the more revenue is drained from businesses.

One of the primary ways that automation reduces back office friction is by integrating multiple systems into the same platform. Back office staff spend a large percentage of their days moving data from one software application to another. It's time-consuming work that can be eliminated with <u>open API</u>.

Because fleet automation links all aspects of fleet management together, processes that used to involve multiple employees will be streamlined to a single touch. For example, drivers will be able to log their hours on phones, which will then go straight to payroll software. Any aberrations will be found by AI that's taught to recognize signs of payroll theft. Again and again, automation will accelerate processes while eliminating human error. It's a faster, smarter, and cheaper way to run fleets.

## Al & Automation: An economy-wide transformation

Across the economy, businesses that are early AI adopters are starting to surpass their peers. According to <u>a survey from</u> <u>McKinsey & Company</u>, an elite set of "respondents coming from a variety of industries attribute 20 percent or more of their organizations' earnings before interest and taxes (EBIT) to AI... This could create a wider divide between AI leaders and the majority of companies still struggling to capitalize on the technology."

Fleets are no exception. With fleet automation, managers will do more work with fewer resources. AI will monitor their vehicles, assets, equipment, employees, jobsites, and more. The moment that AI can't solve a problem, it will send an automated message to the team member who needs to know.

Al will also analyze big picture priorities. By constantly tracking a hyper-detailed stream of data, it will identify new processes and strategies that cut revenues and maximize profits.

The AI revolution is here. Do work faster, cheaper, and more efficiently with fleet automation.

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