



THE SUPPLY CHAIN LEADER'S PLAYBOOK:

Using New Yard Logistics Technology to Solve Old Supply Chain Challenges

The Cost of a Non-Optimized Yard

The supply chain landscape is rapidly evolving, and the yard remains a critical, yet often overlooked, component. Complex inefficiencies go unnoticed in each yard, resulting in **billions of dollars in fees, millions of dollars in misplaced and spoiled inventory, and thousands of hours of lost productivity** every year.

The culprit? Lack of investment and no system to efficiently manage tasks. With as many as **92%**¹ of all yards lacking any type of technological enablement, and the colossal **\$95 billion**² in losses due to inefficient blind handoffs each year, there's so much untapped potential across every supply chain to shore up operations and reclaim precious supply chain budget.

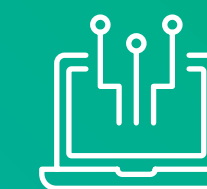
Leading supply chains have discovered the secret to reining in hidden inefficiencies in their

operations: a **yard management system (YMS)**.

These systems integrate with the existing supply chain technology stack and yard hardware to create a dependable, exception-focused platform to optimize operations.

The YMS space is about to hit a major technological inflection point: next generation hardware and integrations. Preparing your business to take advantage of new technologies and breakthrough capabilities in the yard has never been more important.

Curious about how to get started? This guide will help you understand the impact of new technology in the yard.



92%

of yards lack digitalization



\$95B

is lost each year due to inefficiencies



The Foundation: A Good YMS

At the heart of your yard operations sits a **YMS**. Its job is to comprehend your on-the-ground operations and breathe sense, efficiency, and effortless coordination into its mission to help move goods faster, reduce fees, and avoid lost trailers and inventory.

Why choose a standalone system instead of a bundled YMS (i.e., a YMS from a WMS or TMS)?

Your yard is an incredibly unique part of your supply chain. It's the stepping stone between two very distinct processes: the movement of goods in your transportation network and the storage and fulfillment of goods within your warehouse. It requires its own perspective, resources, support system, and technology roadmap.

What makes a best-of-breed YMS?

The best YMSs are characterized by scalability, flexibility, and a fantastic user experience across all your yard roles. Whether it be a spotter doing yard audits or a gate guard performing check-ins, a good YMS should be able to give them an environment to work in that supports and automates their workload.

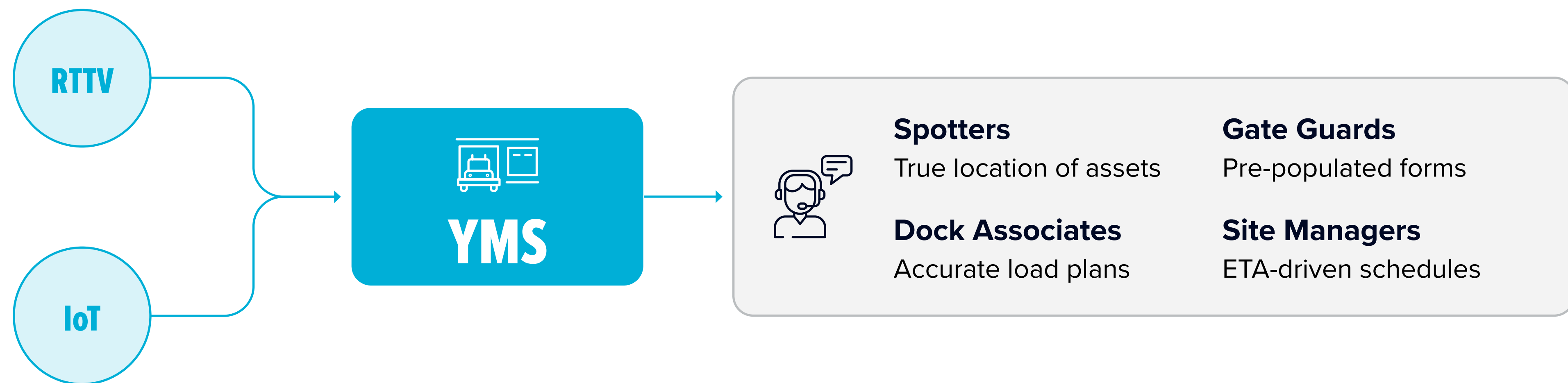
Why is it important to use one that integrates with a real-time visibility platform (RTTVP)?

With so many yard functions impacted by the performance of your supply chain, including appointment scheduling and dock setting, having advanced notice of exceptions can greatly reduce their impact.

How a YMS Fits in

Your YMS is critical in directing your teams toward the most efficient, cost-effective outcomes across multiple roles in your supply chain. The best YMS solutions act as the link and brain between your network, IoT, and hardware investments and your personnel to help make decision-making simpler.

Think of it as your yard optimization engine—it's there to augment and support teams, giving them an environment that makes their workload more predictable and productive.

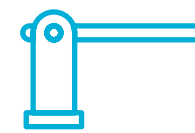
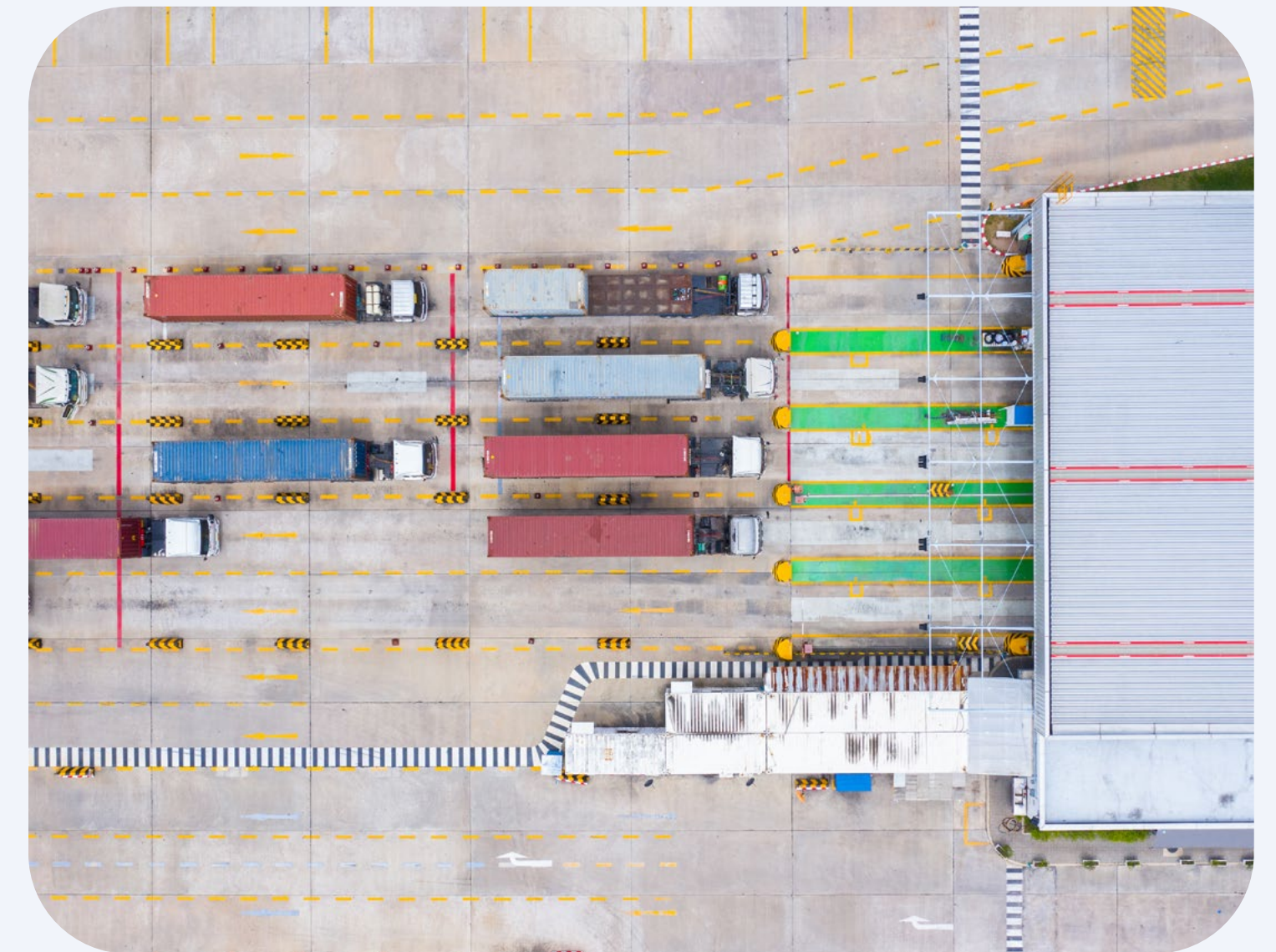


The Next Wave of Yard Logistics Optimization Technology

Technology integrations, IoT devices and hardware **make supply chain workers' lives easier** with new innovations that boost accuracy and efficiency. The yard has been **slowly** catching up, from using RFID tags to quickly locate trailers on-site, to safer and smoother trailer parking with dock locks. But it's still **behind the tech game** compared to what's happening inside the warehouse.

That's all about to change. **Fresh thinking** in the yard logistics space brings cutting-edge tech to the yard, adding automation and accuracy-enhancing features to daily operations.

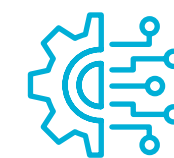
Companies can cut costs and reduce waste by tapping into these advanced solutions:



AUTONOMOUS
GATES



AUTOMATIC
CALENDARS



RTTV
INTEGRATIONS



INVENTORY
INTEGRATIONS



COMPUTER
VISION



AUTONOMOUS &
ELECTRIC TRUCKS

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Reduce Gate Queues and Increase Check-in Accuracy



Common Problems

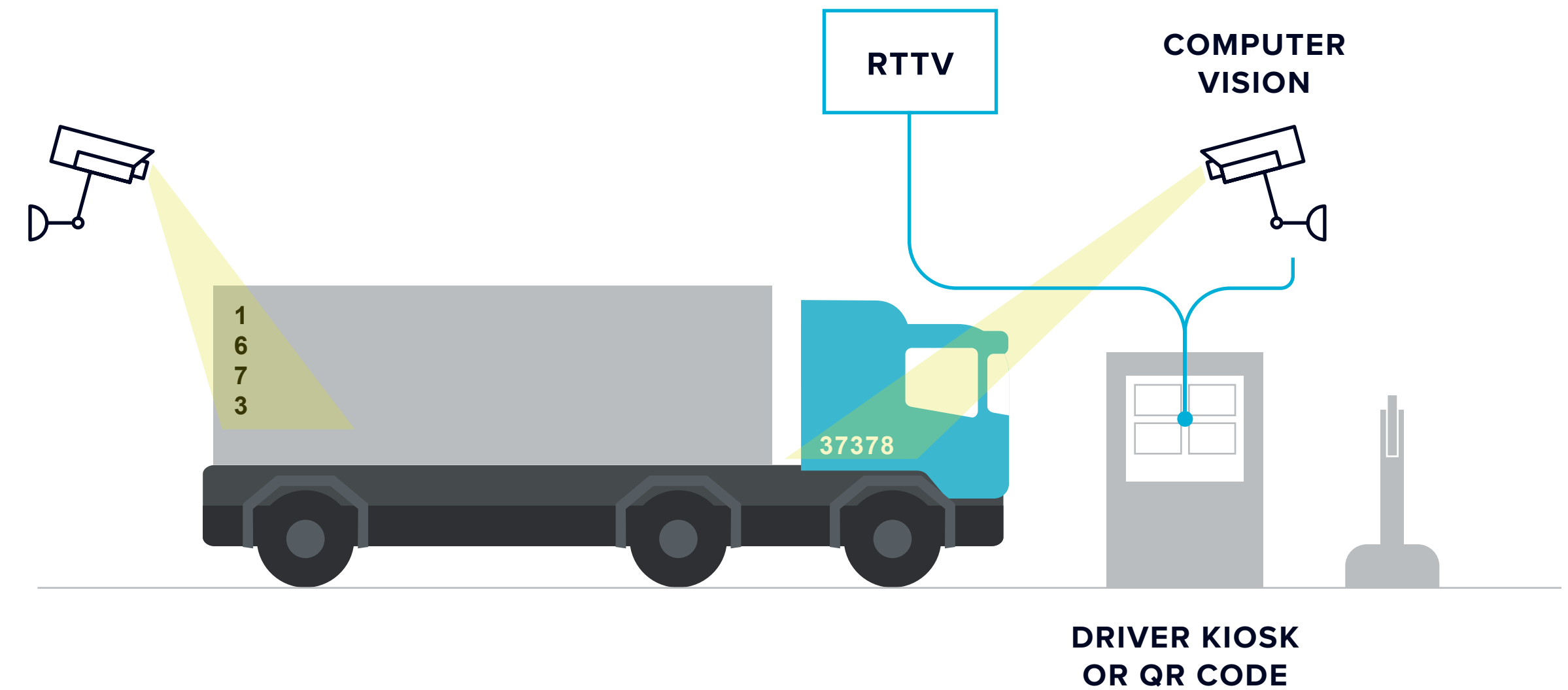
When you assess your current gate operations, does your team experience any of the following challenges?

- ☐ Long lines at your gate contribute to dissatisfied drivers and high detention fees
- ☐ The need to staff and manage gate personnel
- ☐ Guards stuck at their post processing check-ins via laptop
- ☐ Inaccurate check-in forms due to manual inputs of data
- ☐ Lack of formalized check-in process
- ☐ No ability for drivers to self-check in

GATE OPERATIONS

New Technology Enhancements

Your gate may be due for an upgrade. A combination of computer vision, RTTV integrations, and driver self-service tools can allow you to redeploy site labor, reduce check-in time, improve carrier disputes, and improve data accuracy.



Expected Impact

Gate automation is a crucial play for supply chain leaders looking to increase efficiency and productivity, while reducing idle time and frustration across their employees. This also brings a litany of new benefits, including reduced carbon dioxide emissions on-site and becoming a shipper-of-choice.

 TRUCK QUEUES	 SELF SERVICE
 TIME ON-SITE	 ACCURACY AT CHECK-IN



ROLE IMPACT: GATE GUARDS

With a flexible YMS, you can decouple the guard from the kiosk, automate data entry, or re-assign guards to other tasks. With varying levels of automation, from pre-populated data to full autonomy, gate operations can be smoother and more accurate, reducing check-in and check-out bottlenecks and slashing operating costs and detention fees.

A man with a beard and dark hair, wearing a grey button-down shirt, is sitting at a desk and working on a silver laptop. He is looking at the screen with a focused expression. The background shows a blurred office environment with wooden shelves and a potted plant. A bright green curved shape is on the left side of the image.

Eliminate Site Schedule Maintenance

Common Problems

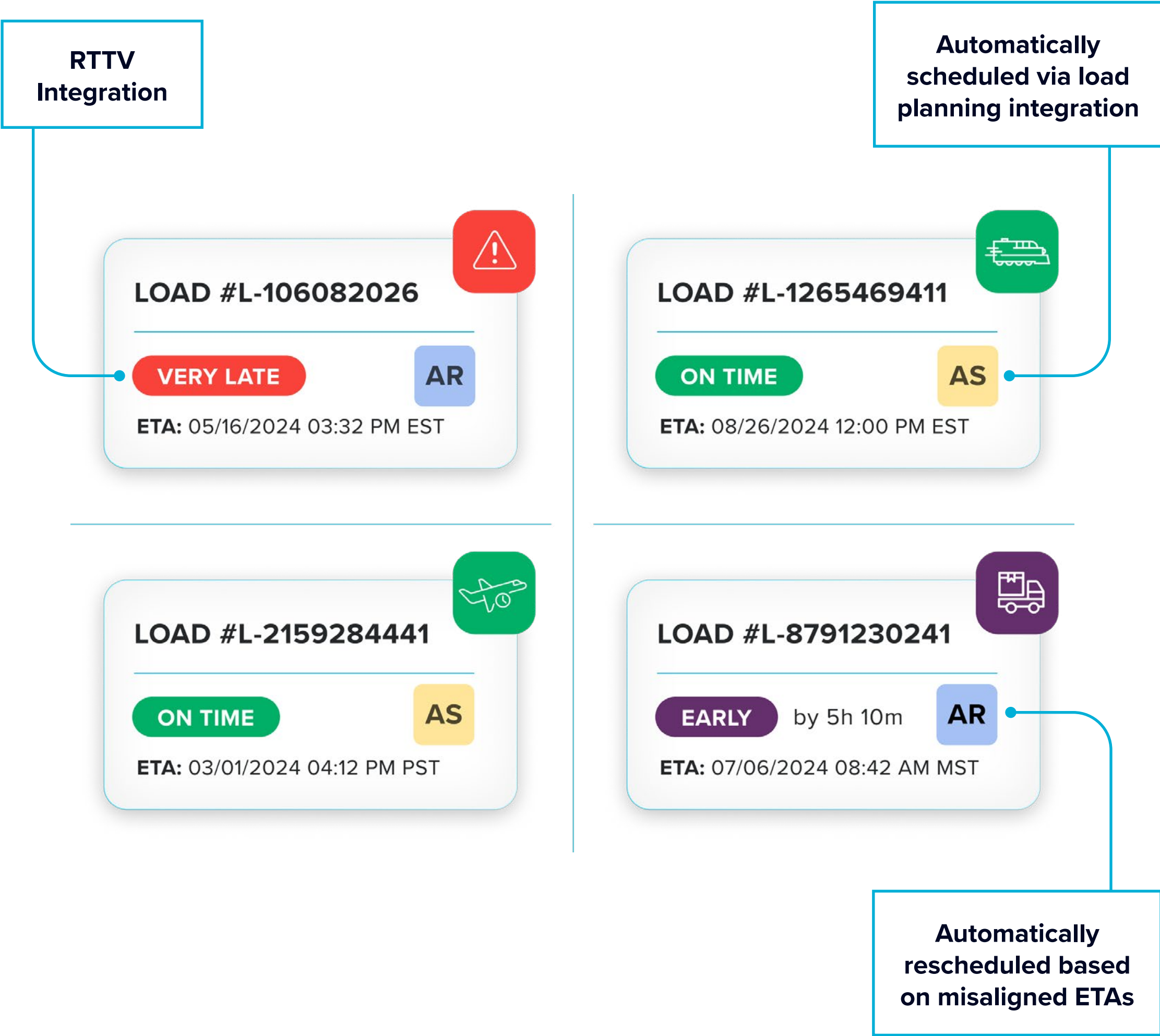
When you assess your site scheduling processes, does your team experience any of the following challenges?

- ☐ Accessing multiple systems and sending multiple emails to schedule appointments
- ☐ Late or early arrivals without any forewarning to site staff
- ☐ The constant shuffling of appointment schedules to accommodate new ETAs
- ☐ Manual scheduling and rescheduling of appointment times

SITE SCHEDULES

New Technology Enhancements

Your site schedules should be the definitive truth about your facility. If teams can't trust them because they are continually outdated, it does little to enable them. Integrating site schedules with real-time supply chain visibility and instituting automation for scheduling and rescheduling makes calendar management effortless and trustworthy.



Expected Impact

Creating dynamic site schedules that incorporate load planning integrations, ETAs, and automation builds a reliable system teams can depend on for their daily tasks. With less surprises and more accurate calendars, teams are empowered to work confidently knowing that their current task is the right one, avoiding downtime and costly resets.

 LATE OR EARLY ARRIVALS	 CARRIER SATISFACTION WITH LOWER INVOLVEMENT
 TIME SPENT MANAGING CALENDARS	 FREQUENCY OF DOCK RESETS AND RESTOCKS



ROLE IMPACT: DOCK ASSOCIATES & SITE MANAGERS

Save up to 8 hours of manual calendar planning and maintenance weekly by automating scheduling and rescheduling. By integrating load planning platforms and ETAs from your RTTV, sites can automatically create and maintain schedules based on real-world activity while reducing manual tasks.

An aerial photograph of a large truck detention yard. Numerous semi-trailers are parked in neat, parallel rows on a paved surface. The trailers are mostly white, with some red and blue ones visible. The yard is bordered by a large industrial building with a blue roof on the left and various stacks of materials and other vehicles on the right. The text "Detention Fee Management" is overlaid in the center in a large, white, sans-serif font.

Detention Fee Management

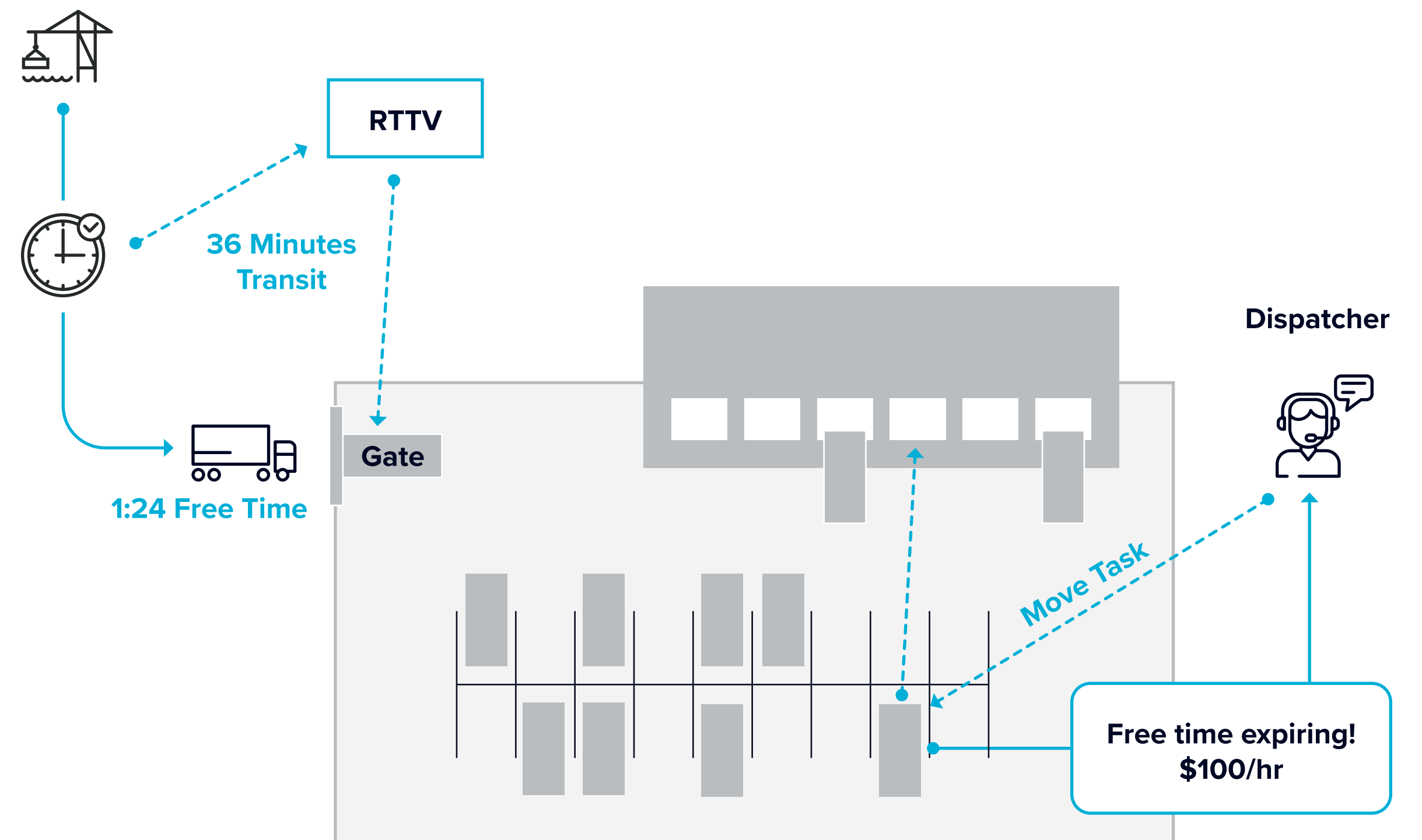
Common Problems

Does your team experience any of the following challenges when you assess your network integration?

- ☐ Consistently high detention fees without the ability to track the true time left before fees begin
- ☐ Irreconcilable charges due to inability to track actual time of possession of a trailer
- ☐ No system to alert teams to trailers about to enter detention
- ☐ Lack of reporting across your network to benchmark and drive continuous improvement
- ☐ No visibility to carrier appointments to remove empty containers

New Technology Enhancements

Detention fees are often difficult to accurately predict. While many companies institute a first-in-first-out (also known as FIFO) method to manage trailers, optimizing detention fee management can put you back in control of prioritizing what freight to work on while giving you better control over fees.



Expected Impact

Reining in on all types of detention fees is a great way to soften the expenses of yard operations. With billions of dollars in predictable fees incurred each year across thousands of yards, there’s ample opportunity to recoup lost supply chain budget and win back control over how you prioritize your freight.



ROLE IMPACT: SITE MANAGERS

Gain visibility to detention fees incurred and take advantage of new ways to continually root them out. Site Managers can now move away from old first-in-first-out processes and weigh the trade-off between detention and business needs with visibility to the potential impact of inaction.

IMPACT IN ACTION: KIMBERLY-CLARK

By leveraging FourKites Dynamic Yard to fully digitize its yard orchestration, Kimberly-Clark was able to reduce detention fees by **52%** — a **\$448,000 savings** — and reduce the number of trailers entering detention by **20%**. Even more exciting, Kimberly-Clark achieved these impressive results in just 30 days.

“We can set up the shipping coordinators to know when a trailer is in need of immediate attention with alerts that allow them to be more proactive in avoiding detention altogether.”

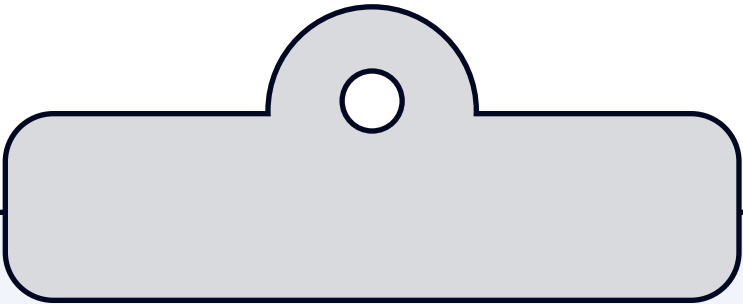
TAYLOR ROTELLA, STRATEGY AND ANALYTICS MANAGER 



Inventory Processing Optimization

Common Problems

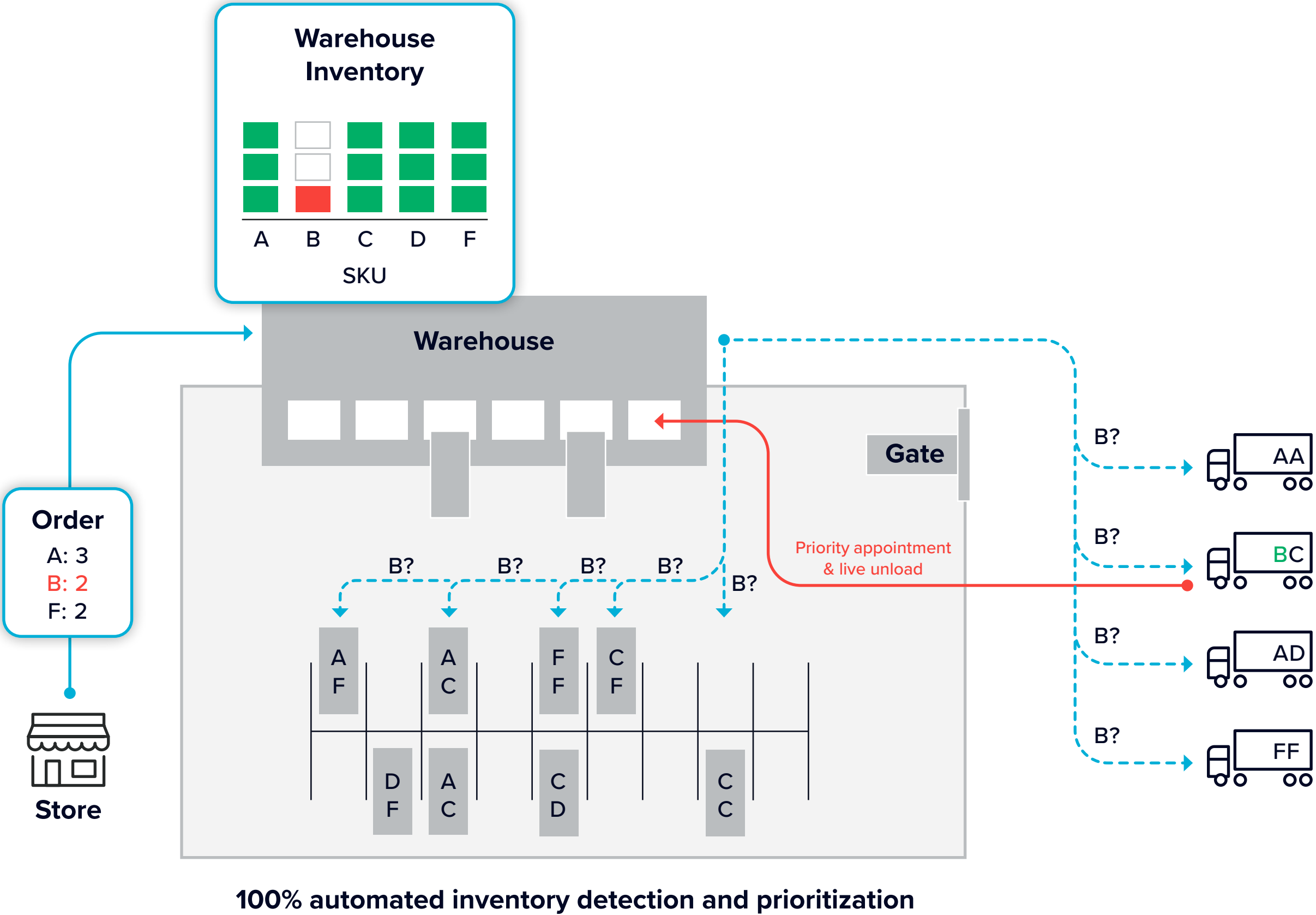
Does your team experience any of the following issues with optimizing inventory processing?



- ☐ Stockouts at stores and distribution centers
- ☐ Poor OTIF compliance and frequently short-filled orders
- ☐ Inability to locate trailers with high-priority contents
- ☐ Difficulty prioritizing time slots for trailers with “hot items”
- ☐ Teams overburdened with manual processes
- ☐ Issues with monitoring accurate ETAs for inbound SKUs

New Technology Enhancements

Once inventory enters your supply chain, it becomes increasingly difficult to track and manage accurately. When you need to access a specific item in the yard or on an inbound trailer, it can be nearly impossible to quickly have teams prioritize what needs to be managed. Integrating your YMS and site schedule with a system that tracks potential stockouts and automatically prioritizes hot loads puts teams back in control over inventory.



Expected Impact

Better inventory control means no more lost sales, higher on-shelf availability, fewer expedites, and happier customers. Full automation takes the analysis and guesswork out of decision-making, ensuring an insight is immediately acted upon as soon as it's identified.



ROLE IMPACT: INVENTORY PLANNERS

Take multiple steps out of analyzing inventory ETAs and tracking the contents of each trailer across the supply chain and within the yard. Inventory planners can focus on strategy and let the platform determine priority to help avoid stockouts.

IMPACT IN ACTION: CRACKER BARREL

“Due to the seasonality of our business, the yard gets really, really congested. For all the major holidays, we’re bringing in inventory and then inventory is quickly going out. In years past, we were operating exclusively off of Excel worksheets... sometimes even on a pen and paper on a clipboard. **Now, with FourKites Dynamic Yard, we have that next-level visibility**, that next-level functionality within the supply chain to be able to say, ‘Hey, this trailer is here now. It’s got this product on it. It’s priority and needs to be unloaded right away.’”

MATTHEW MCDANIEL, MANAGER – LOGISTICS



An aerial photograph of a large industrial yard, likely a truck depot or distribution center. The yard is filled with numerous semi-trailers parked in neat rows. Some trailers are white, while others are blue or yellow. The yard is bordered by a road and some greenery. The text "Reduce Lost Trailers and Inventory On-Site" is overlaid on the image in a large, white, sans-serif font.

**Reduce Lost Trailers and
Inventory On-Site**

Common Problems

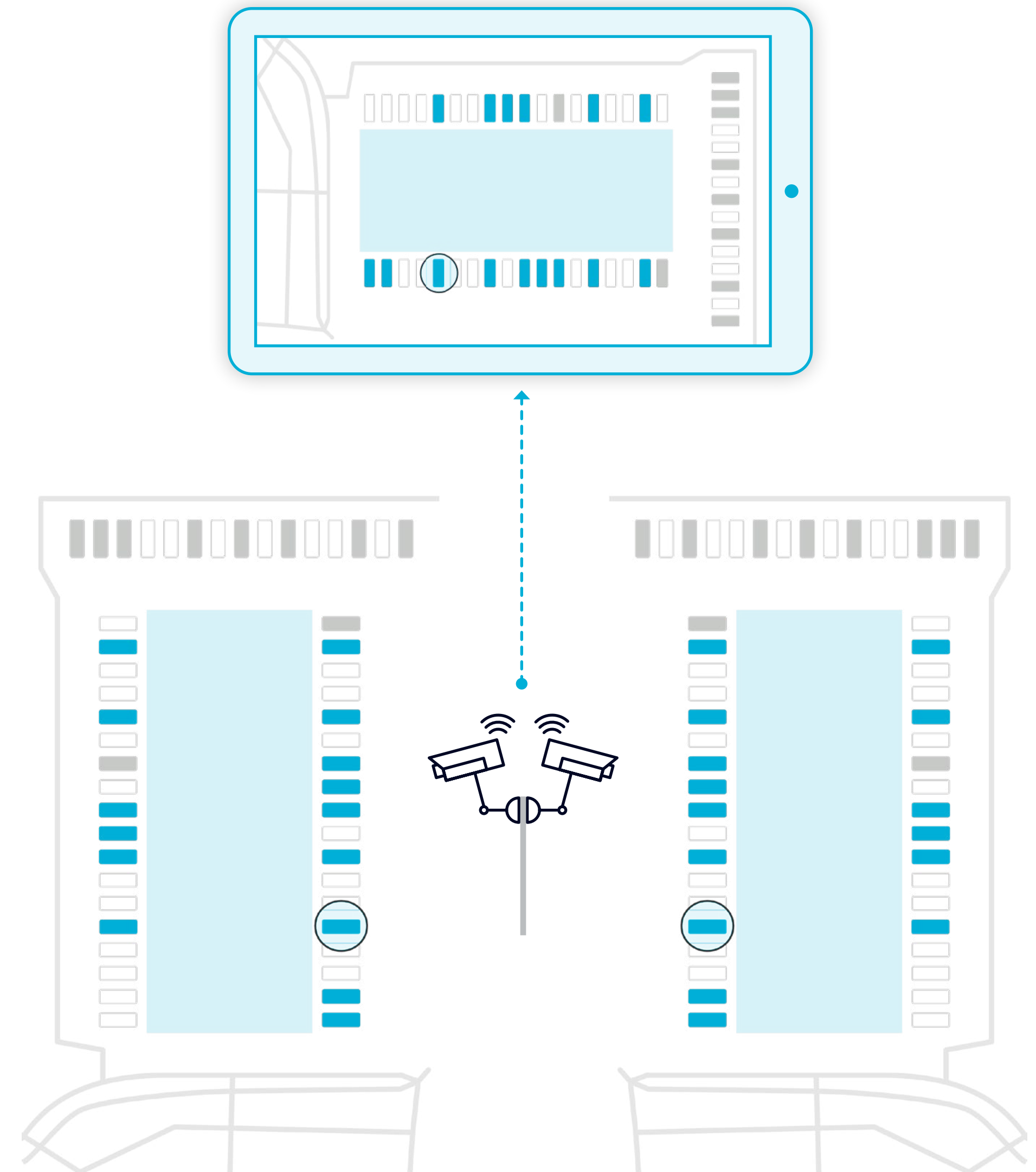
When you assess your site trailer tracking capabilities, does your team experience any of the following challenges?

- ☐ Inaccurate trailer locations creating excess task time
- ☐ Slow check-in times with manual entry of trailer and truck information
- ☐ High spotter costs due to time-draining yard audits
- ☐ Lack of visibility to trailer pools against carrier contracts and the number of parked trailers

TRAILER ACCURACY

New Technology Enhancements

Your yard audit is a time-consuming and inaccurate process that often creates costly errors and fuels the confusion across your site. While RFID tags have helped remedy this to an extent, new computer vision capabilities can continually update the location of trailers on-site without needing a spotter to do a yard inspection.



Expected Impact

Camera vision technology is the most accurate way to track the real-time status of each asset across your yard operations without the need for individual RFID tags. With detailed, accurate and up-to-date yard maps, teams can reduce the time it takes to complete tasks and reduce lost inventory.

▼ **YARD AUDITS AND SPOTTER HOURS**

▲ **TRAILER LOCATION ACCURACY**

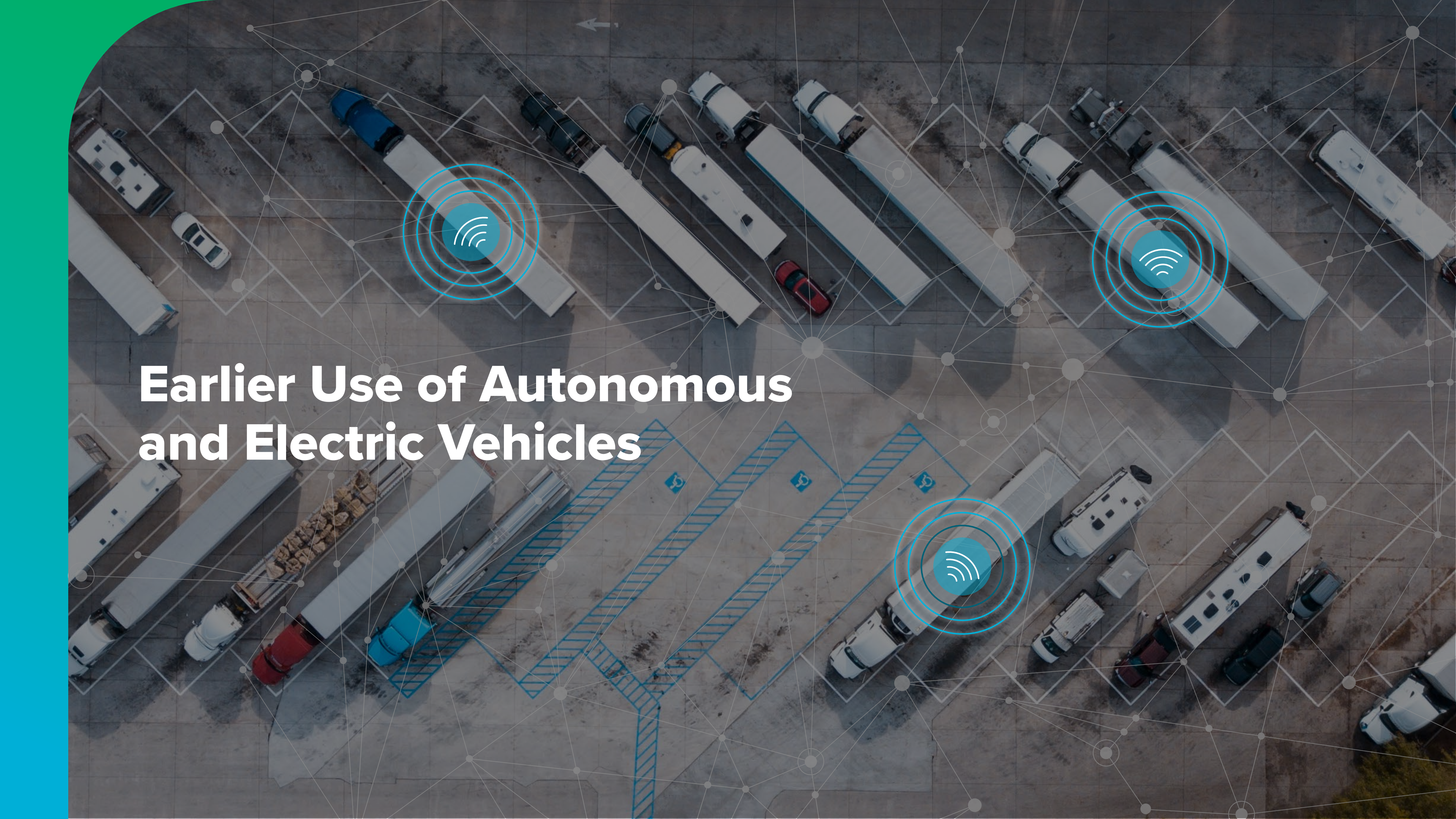
▼ **CARBON DIOXIDE EMISSIONS**

▲ **LOST OR MISPLACED INVENTORY ON-SITE**



ROLE IMPACT: SPOTTERS & DOCK ASSOCIATES

From RFID devices to computer vision towers, yard audits are now more accurate and current with virtually no manual effort. With less time spent locating trailers and more time servicing them, dock associates have the capacity to handle more loads in a day.



Earlier Use of Autonomous and Electric Vehicles

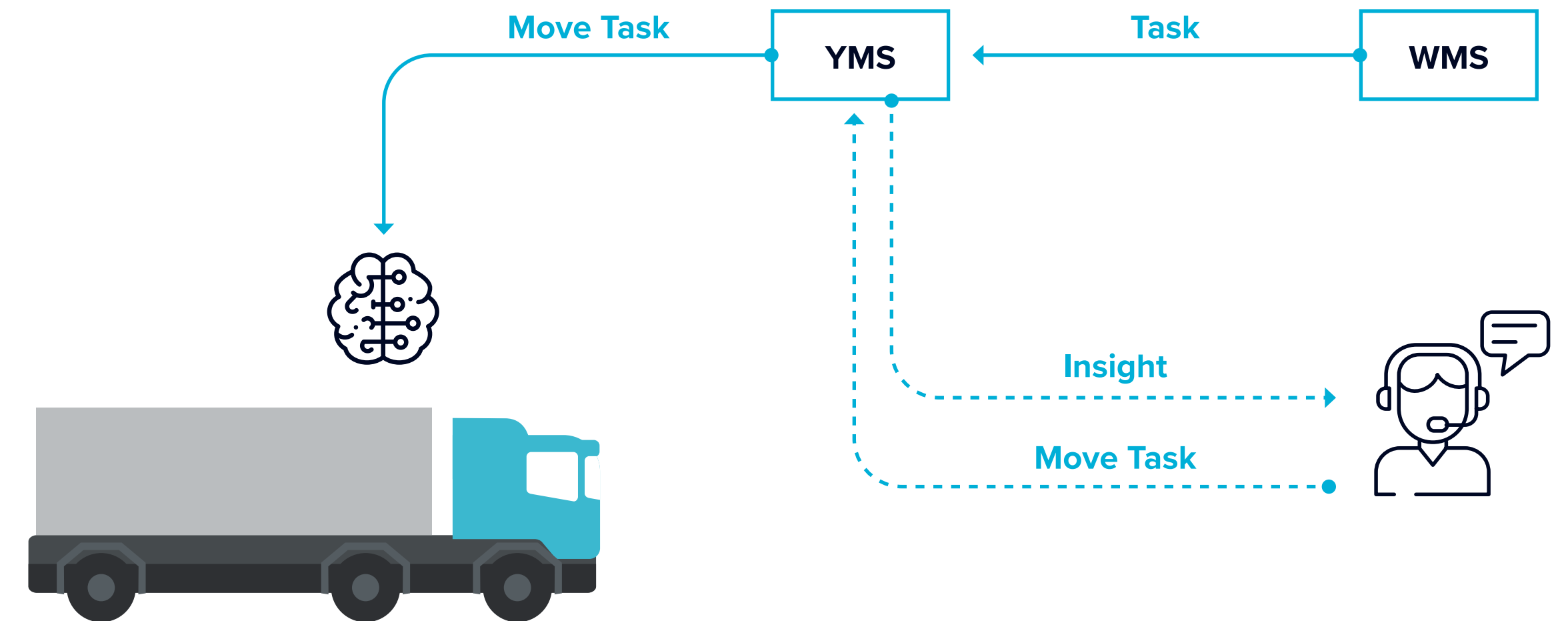
Common Problems

When you assess your autonomous and electric truck strategy, does your team experience any of the following challenges?

- ☐ Lack of system architecture to direct autonomous vehicles
- ☐ Continued delaying of investment due to complexities
- ☐ Concerns over integrating autonomous operations with existing yard processes
- ☐ Uncertainty about future-proofing technology investments for evolving autonomy standards

New Technology Enhancements

Autonomous and electric capacity within the yard unlocks a new level of efficiency, safety, and sustainability for your company by removing the yard spotter role from your operations. The issue? The brain of your operations needs to be powered by an intelligent, automated, and real-time YMS to keep your systems running.



Expected Impact

Autonomous trucks are here, and it’s important to have your systems ready to interoperate with them sooner, rather than later. With efficiency gains across spotters, dock associates and warehouse workers, the mandate is clear: your business will need to figure out how to best manage autonomous trucks in the yard with a YMS.

 SPOTTER EXPENSES AND INSURANCE	 ACCURACY AND EFFICIENCY
 CARBON DIOXIDE EMISSIONS	 LATENCY BETWEEN REQUEST AND ACTION



ROLE IMPACT: DISPATCH & DOCK ASSOCIATES

Integrations between WMS, YMS, dock associates, and autonomous yard trucks significantly improve the effective capacity of the dock by reducing idle time and inaccurate moves. With real-time tracking and coordination, dock associates can efficiently manage the flow of trailers, minimizing delays and maximizing throughput.

YardWorks

FourKites didn't just revolutionize supply chain visibility—it redefined the entire industry's expectations for how supply chains can work. Over the last five years, FourKites has applied this same visionary approach to create a new standard for managing yard logistics. YardWorks is FourKites' continued commitment to leading innovation in collaboration with Fortune 50 companies and next-generation technology providers to shorten the adoption curve and deliver unprecedented site efficiency for the most complex supply chains.

Starting with Dynamic Yard®, the industry's leading YMS, and Appointment Manager, the fastest-growing site calendar management tool on the market, FourKites continues to invest in YardWorks by expanding its use of emerging hardware, IoT, autonomous vehicle technology, seamless integrations and partnerships to automate, personalize and optimize facility management. With YardWorks, shippers gain access to next-generation technology and breakthrough use cases sooner and with greater success, spanning computer vision yard audits and autonomous gates to autonomous vehicles and fully automated calendars.

Through YardWorks, FourKites eliminates the guesswork from assessing new hardware and software integrations, creating seamless solutions focused on your unique use cases. With ongoing investment, rapid co-innovation alongside our Fortune 500 customers and strategic partnerships, YardWorks is always ahead of new challenges and emerging technologies, ensuring your yard remains at the leading edge of innovation.

With hundreds of facilities under management since the launch of Dynamic Yard and Appointment Manager in 2019, YardWorks is poised to continue disrupting facility operations with the same relentless drive for innovation and change that made FourKites the real-time supply chain visibility industry leader.

[Join FourKites as it continues to pioneer the future of yard logistics optimization.](#)

“I’ve engaged with the FourKites team and they have a fundamental, deep interest in the problems that we have. It’s tough to find that. Your business is dynamic—you need a part that’s dynamic too.”



TOM FRANCE

VP of Distribution, Logistics &
Transportation
Trane

Conclusion

The yard is no longer a static space; it's a dynamic ecosystem ripe for transformation. By embracing the power of cutting-edge yard management system technology, supply chain leaders can unlock a world of efficiency, accuracy, and a new competitive advantage.

The time to act is now—get on board with these innovative solutions or risk being left behind in an increasingly digital-first landscape.

Need help modernizing your yard operations? FourKites is here to help. Founded as an industry disruptor, its RTTV-integrated YMS, Dynamic Yard, is transforming the YMS space. Take advantage of new ROI-driving capabilities faster, embrace new technologies, and depend on FourKites to help instill automation that creates savings and efficiencies across your yard network.

For more information, visit us at www.fourkites.com or email us at hello@fourkites.com