



## **Smart Trailer Data:** *An Untapped Resource*

**OVERVIEW**

Executive Summary 2

Defining the Problem 3

Why Do Carriers Use Smart Trailers? 4

Challenges in Operationalizing Telematics Data 7

Conclusion 7

Expert Commentary 8



## EXECUTIVE SUMMARY

Survey data shows that very few trucking carriers fully leverage smart trailer data. Many fleets have no trailers with GPS-based monitoring systems, and those that do still have a mix of connected and unconnected trailers. Even fleets operating with 100% smart trailers do not take advantage of everything that the telematics devices offer.

The opportunity is vast, but trucking carriers face many challenges when it comes to using the technology to make data-driven decisions. Financial and human

resources and organizational culture for trucking carriers can be barriers to operationalizing telematics data.

For those who do not have the internal resources and expertise to turn this data into actionable insights, perhaps the best way to leverage the data streams from smart trailers is by collaborating with a solutions partner who can interpret this data and use it to help inform business decisions, saving companies time and money in the process.

# DEFINING THE PROBLEM

Trucking carriers operate trailer pools—a ratio of trailers to trucks greater than 1:1—for two primary reasons. Trailer pools can offer customers greater flexibility in loading and unloading as well as additional storage space. They can also optimize drivers' hours of service with drop-and-hook freight.

However, managing a large, complex set of assets in addition to a carrier's power units introduces complexity. To understand how much capital to commit to a trailer pool—or how many trailers in excess of its tractor count the carrier needs—the carrier must measure asset utilization for both its trailers and its power units.

When trailers are left unattended at shipper facilities or in the carrier's yard, the physical condition of the trailers can deteriorate. Tires, brakes, electrical connections and doors can be damaged in ways that are not immediately visible to the carrier. Even determining the geographical location of the trailer can be an issue, and many trailers are lost or stolen every year. According to a study by Sensitech during the second quarter of 2018, 157 cargo thefts were reported during that time, and these included the theft of 120 semi-tractors and 155 semi-trailers.

To address these issues, telematics providers entered the space and equipped trailers with

an impressive array of sensors that can yield thousands of data points every hour, featuring readings on everything from GPS location and temperature to tire pressure and door status.

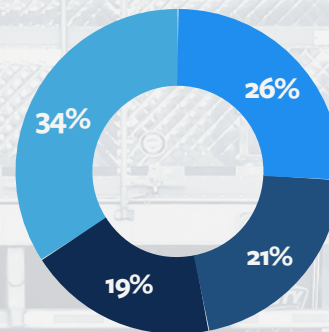
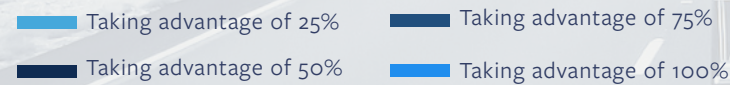
The problem is that trailer telematics data is mostly under-utilized by trucking carriers. In a recent survey conducted by FreightWaves and Spireon, just 26% of carriers said they took advantage of everything that their GPS-enabled smart trailers had to offer, while 34% said they took advantage of about a quarter of what the smart trailer had to offer.

The reason for the underutilization of this data is that most trucking carriers do not have the software licenses or data professionals to ingest, analyze and act upon the tsunami of smart trailer data washing over their operations centers. As a result, more trailers are purchased, more trailers are lost, and more trailers are operating in sub-optimal conditions than are necessary, dragging down trucking carriers' return on invested capital.

## CHART 1

**Do you feel you take advantage of all your GPS smart trailer has to offer?**

Company reported...





The bottom line is that trucking carriers need more than trailer data feeds: They need to be able to digest the data that is provided and use that data to drive business decisions in order for the technology to truly pay off. For those who do not have the skills and resources internally, this may require analytics and business intelligence partners who can transform data into actionable insights and provide prescriptive recommendations for how to use them.

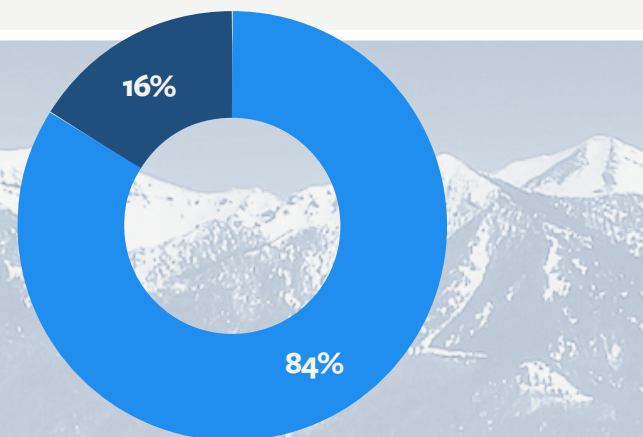
## WHY DO CARRIERS USE SMART TRAILERS?

Spireon and FreightWaves conducted a survey of 223 trucking carriers about their use of smart trailer technology and the data they provide. More than 75% of the respondents ran dry van, refrigerated or flatbed equipment, and 84% of the carriers surveyed reported using trailers from more than one manufacturer.

Some important themes emerged from the survey data. Trailer failures represent a serious problem for carriers' businesses, yet nearly half of all respondents do not use any GPS-based monitoring systems.

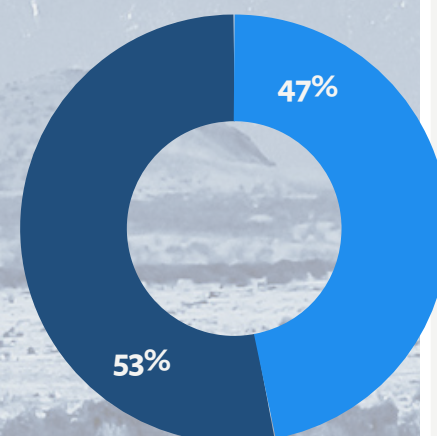
### CHART 2

Does your company use trailers from more than one manufacturer?



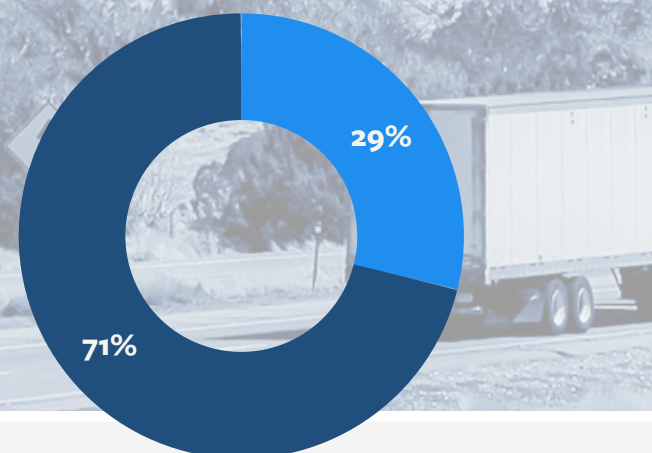
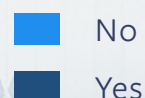
### CHART 3

Do you supplement your trailer fleet by leasing/renting trailers?



### CHART 4

Does your leasing provider give you the option to GPS track those trailers?





Carriers who supplement their assets with leased trailers were more likely to have a higher proportion of trailers equipped with GPS-based monitoring systems, even though carriers who own their trailers face the most risk from trailer failures.

Just over half of the trucking carriers surveyed—53%—use leased trailers in addition to their own, and 71% of those said their leasing provider offered the option of GPS tracking on the trailers (see charts 3 and 4 on page 4). Of the carriers who own all of their trailers, 64% did not use GPS tracking

on any trailers compared to 43% of all survey respondents. Of the carriers who own all of their trailers, only 16% said that all of them were equipped with GPS tracking technology.

But even the carriers who use GPS-based monitoring systems on their trailers are only scratching the surface of the data those trailers generate. More than half, 53%, of the carriers with smart trailers use half or less of their trailers' functionality, according to the survey data. And more than a third, 34%, said they took advantage of 25% or less of what their trailers had to offer (see chart 1 on page 3).

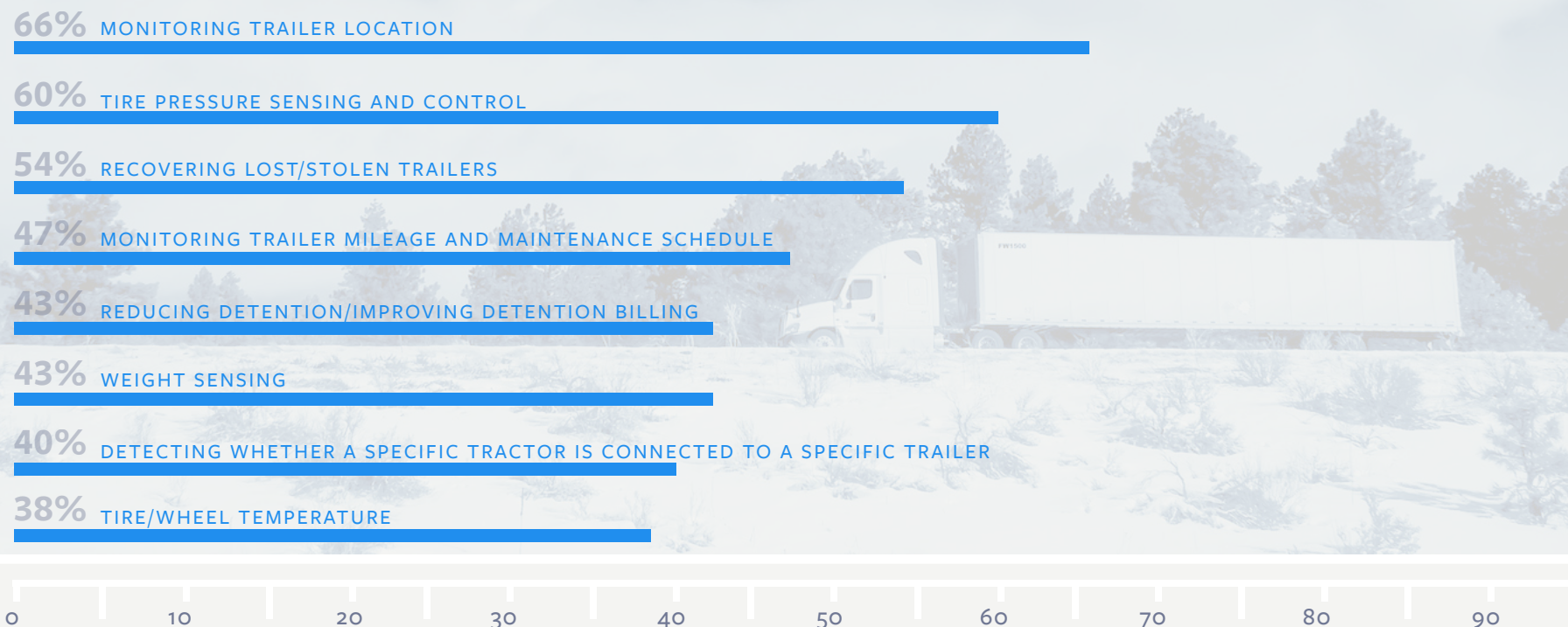
Why do carriers use smart trailers? At least 50% of the carriers surveyed said they implemented three core use cases: monitoring carrier location, tire pressure sensing and control, and recovering lost/stolen trailers. At least 40% of the carriers surveyed said they implemented an additional four use cases: monitoring trailer mileage and maintenance schedules, reducing detention or improving detention billing, weight sensing, and detecting whether a specific trailer is connected to a specific tractor (see chart 5 on page 6).



## CHART 5

### What benefits of smart trailer systems would positively impact your fleet?

(Top eight responses.)



In our view, some core use cases could positively impact trucking carriers' return on invested capital but today remain underutilized, even by the carriers who operate smart trailers. Fewer than 40% of carriers with smart trailers monitor tire temperature, integrate trailer data into a

TMS, capture photos or videos of cargo, or use telematics devices to measure cargo load and available capacity in the trailer.

These use cases represent opportunities for trucking carriers to further leverage smart trailer data in order to prevent

unscheduled maintenance events, balance trailer pool networks and optimize capacity utilization. All of these use cases can have a direct positive impact on return on invested capital.

# CHALLENGES IN OPERATIONALIZING TELEMATICS DATA

Modern trucking carriers are awash in data, including everything from customer scorecarding, fuel efficiency, hours of service utilization and trucking spot market data to internal metrics covering maintenance and driver recruiting costs. Telematics devices in particular have contributed to the glut of available data without increasing the ability of trucking operators to use it to improve their decision-making and run their businesses more efficiently.

There are several barriers to effectively operationalizing telematics data. One of the primary barriers is that carriers are investing in telematics to make their operations more efficient by adding headcount to collect, interpret and act upon the data, which can counteract the cost savings for some organizations. Depending on the level of granularity required for the analysis, it may

make more sense for carriers to partner with an organization that specializes in this area.

Secondly, cultural and organizational challenges to making data-driven decisions permeate every level of most trucking carrier organizations. Operators make decisions based on relationships and experience, tending to use data for post-hoc justifications of decisions they have already made or beliefs they already hold.

Overcoming these challenges will largely require overcoming a legacy mentality to drive new thinking about how decisions should be made to drive the business forward. It will also require the proper tools and skill set—either through hiring talent internally or connecting with the right partners externally—in order to make the most of the data that is available, derive intelligence from it and use those insights to inform decisions for the business.

## CONCLUSION

Smart trailer technology presents a great deal of opportunity within the industry for businesses to achieve cost savings and better results, but technology and data cannot demonstrate value on their own. In order to prove effective, companies must be able to show ROI for their investments, and this requires an investment in the resources to be able to convert the data into actionable insights—whether internal or external.

For those who do not have the internal resources and expertise to turn this data into actionable insights, solutions partners who are skilled in interpreting data and using it to help inform business decisions can fill this gap and save companies time and money in the process.

While an initial mindset shift may be required to change carriers' processes and systems, over time they will be able to reap the benefits that result from making decisions based on real-time data and continue to unlock value in their organizations.



# EXPERT COMMENTARY

## What Is Intelligent Trailer Management?

As a leader for trailer tech innovation, Spireon partnered with FreightWaves to conduct this survey to get valuable insights into how effectively trailer fleets are not just adopting, but also consuming the trailer intelligence that's available today.

When Spireon first introduced its trailer solution in 2011, FleetLocate broke ground as the industry's first rich data and actionable intelligence tool that elevated telematics beyond simple trailer tracking to true trailer management. Today's movement toward the "smart trailer" opens the door to exciting opportunities to leverage artificial intelligence, machine learning and predictive analytics to make fleets smarter than ever. But we must remain laser-focused on the fact that carriers need a way to easily translate this ocean of information into something that directly improves operations, reduces cost and generates meaningful ROI. As this report shows, even fleets operating with 100% smart trailers do not take advantage of everything the technology offers. As an industry,

now is the time to take control and start making data-driven decisions. To this end, Spireon has introduced Intelligent Trailer Management (ITM).

Building upon Spireon's award-winning trailer management solutions, ITM brings a new generation of intelligent tools to carriers, helping to leverage the right data and provide actionable intelligence.

"Today the term 'smart trailer' is broad, blurry and leaves carriers unsure of how an investment in such systems would generate a clear return," said Roni Taylor, Senior Vice President of Strategy and Business Development at Spireon. "This is why we have developed Intelligent Trailer Management—a newly enhanced trailer platform that makes it easy for carriers to gather and use data to reduce cost and increase utilization."

Spireon knows that a vast influx of data events can be overwhelming for fleet managers to process, so ITM equips fleets with the tools to organize and analyze the data that means the most, improves fleet operational efficiency and generates true ROI.

Larry Hall, Executive Vice President of Sales and Marketing for Premier Trailer Leasing, anticipates where ITM is headed. "We look out into the future where the data derived from these systems eventually becomes predictive through heuristics—ways to help humans crunch this information. So instead of saying, 'Hey, you've got 18,000 miles on this trailer, so at 25,000, you should do a maintenance inspection,' it can say, 'Hey, we have sensed how many times the brakes have been applied, and not only the application of the brakes, but the pressure on the pedal.' And that information is analyzed to predict how it will affect the brake shoes, so we know that within the next 60 days, we're going to need a brake job, or a wheel end, or more closely check the tire tread depth," Hall said.

"Proactively handling potential issues is going to be the biggest benefit, and it's all about keeping your drivers driving, turning revenue and earning miles—not dead miles," Hall said.