



# Actionable Strategies to Enhance Logistical Efficiency

Technologies and Best Practices to Help Improve Logistics

WHITE PAPER

# Identify Problem Areas

Fleets have a number of operating costs that tend to fluctuate over time. In aggregate, the American Transportation Research Institute (ATRI), estimated a marginal cost of \$1.65 per mile in 2019 when factoring in all costs ranging from fuel, insurance premiums, driver wages and benefits<sup>1</sup>.

**Table 8: Average Marginal Costs per Mile, 2011-2019**

Motor Carrier Costs	2011	2012	2013	2014	2015	2016	2017	2018	2019
<i>Vehicle-based</i>									
Fuel Costs	\$ 0.590	\$ 0.641	\$ 0.645	\$ 0.583	\$ 0.403	\$ 0.336	\$ 0.368	\$ 0.433	\$ 0.396
Truck/Trailer Lease or Purchase Payments	\$ 0.189	\$ 0.174	\$ 0.163	\$ 0.215	\$ 0.230	\$ 0.255	\$ 0.264	\$ 0.265	\$ 0.259
Repair & Maintenance	\$ 0.152	\$ 0.138	\$ 0.148	\$ 0.158	\$ 0.156	\$ 0.166	\$ 0.167	\$ 0.171	\$ 0.143
Truck Insurance Premiums	\$ 0.067	\$ 0.063	\$ 0.064	\$ 0.071	\$ 0.074	\$ 0.075	\$ 0.075	\$ 0.084	\$ 0.068
Permits and Licenses	\$ 0.038	\$ 0.022	\$ 0.026	\$ 0.019	\$ 0.019	\$ 0.022	\$ 0.023	\$ 0.024	\$ 0.023
Tires	\$ 0.042	\$ 0.044	\$ 0.041	\$ 0.044	\$ 0.043	\$ 0.035	\$ 0.038	\$ 0.038	\$ 0.036
Tolls	\$ 0.017	\$ 0.019	\$ 0.011	\$ 0.023	\$ 0.020	\$ 0.024	\$ 0.027	\$ 0.030	\$ 0.034
<i>Driver-based</i>									
Driver Wages	\$ 0.460	\$ 0.417	\$ 0.440	\$ 0.462	\$ 0.499	\$ 0.523	\$ 0.557	\$ 0.596	\$ 0.533
Driver Benefits	\$ 0.151	\$ 0.116	\$ 0.129	\$ 0.129	\$ 0.131	\$ 0.155	\$ 0.172	\$ 0.180	\$ 0.160
<b>TOTAL</b>	<b>\$ 1.706</b>	<b>\$ 1.633</b>	<b>\$ 1.676</b>	<b>\$ 1.703</b>	<b>\$ 1.575</b>	<b>\$ 1.592</b>	<b>\$ 1.691</b>	<b>\$ 1.821</b>	<b>\$ 1.652</b>

*Cost breakdown for the trucking industry. Source: ATRI*

Fleets have no control over some of these costs, such as permits, licenses and tolls that are set by state and federal governments. In other cases, there is a fixed cost per unit (e.g., gallon of fuel or mile driven) or costs that vary based on different factors (e.g., insurance premiums). In many of these instances, efficiency gains can help drive down total costs.

Let's take a look at some common sources of high costs and inefficiencies.

<sup>1</sup> American Transportation Research Institute  
<https://truckingresearch.org/2020/11/24/atris-newest-operationalcosts-of-trucking-details-decreases-in-industry-costs/>

## Dwell & Detention Time

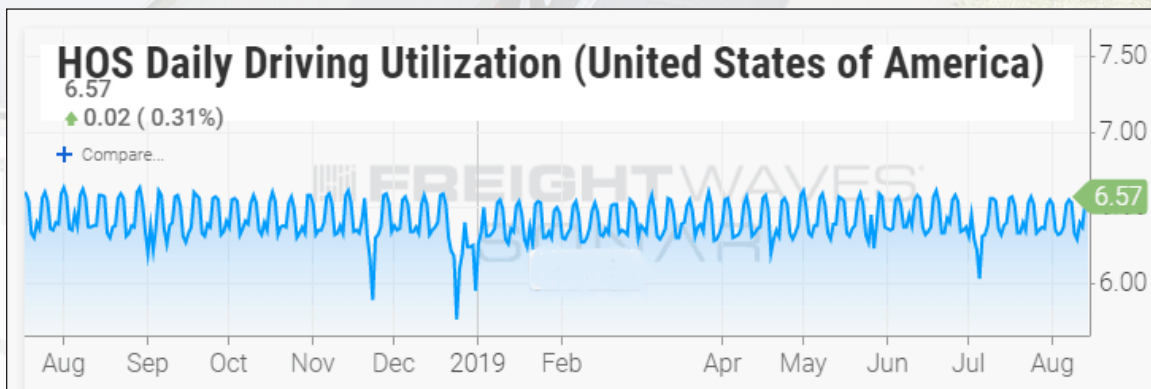
Dwell time, or detention time, is a common source of frustration for the trucking industry. Drivers waiting for their trailer to be loaded or unloaded are incurring both labor costs and fuel costs if the engine is idling. According to Convoy, the average dwell time for pickups and deliveries of live loads stood at two hours and ten minutes in 2020<sup>2</sup>.

Detention time, a major component of dwell time, costs drivers and carriers over \$1 billion each year and may even be associated with increased crash risk, according to the Department of Transportation<sup>3</sup>. Despite frequent complaints from drivers, shippers and receivers aren't typically aware or overly concerned by these costs or risk factors, since they're difficult to measure and hard to challenge without evidence.

Dwell time can even impact the ability for carriers and drivers to meet federal hours-of-services (HOS) regulations that limit on-duty hours. Electronic logging devices (ELDs) have automated tracking of Driver hours and provide other additional benefits, however, they have also made it easier than ever to get caught for HOS violations that can impact safety ratings or involve financial penalties for the driver and motor carrier.

## Driver Utilization & Performance

Federal HOS regulations dictate how many hours drivers may drive before taking a 30-minute break or calling it a day. According to SONOR, the average driver spends only 6.5 hours of their 11-hour driving clock on the road, hurting both fleets and drivers that get paid more when they are actually driving rather than sitting idle<sup>4</sup>. Reasons for under-utilized drivers could be due to not enough freight, poor scheduling, equipment problems or loading issues at the dock



<sup>2</sup> Logistics Management  
([https://www.logisticsmgmt.com/article/convoys\\_debut\\_freight\\_insights\\_report\\_offers\\_up\\_wealth\\_of\\_applicable\\_data\\_f](https://www.logisticsmgmt.com/article/convoys_debut_freight_insights_report_offers_up_wealth_of_applicable_data_f))

<sup>3</sup> American Transportation Research Institute  
(<https://truckingresearch.org/wp-content/uploads/2019/09/ATRIDetention-Impacts-09-2019.pdf>)

<sup>4</sup> Freight Waves  
(<https://www.freightwaves.com/news/driver-productivity-and-freight-capacity-in-hours-of-service-spotlight>)

In addition to limited driver utilization, the trucking industry is facing an unprecedented driver shortage. According to the *Commercial Carrier Journal*, the trucking industry had about 80,000 fewer available drivers in 2020 compared to 2019 while the CDL Drug & Alcohol Clearing House removed 40,000 drivers between January and December of last year due to failed drug test results<sup>5</sup>.

Driver performance is also an important part of an efficient trucking operation. For example, every mile per hour increase in speed has a 0.14 miles per gallon (MPG) penalty in fuel consumption. Of course, unsafe driving can also result in costly lawsuits while damaged products can result in costly insurance claims.

## Safety & Liability

Nuclear verdicts have become alarmingly common in the trucking industry, which has resulted in sharply higher insurance premiums. Between 2010 and 2018, the ATRI found that

**the average verdict size for a truck-related incident rose 51.7% per year with nearly 300 awards worth over \$1 million between 2014 and 2019.**

Of course, a single nuclear verdict is enough to put many small fleets out of business, but they also result in higher costs across the industry. At least one carrier publicly reported an increase in a single year's insurance rates of more than 100%, from \$340,000 to \$700,000 per year, which pushed it out of business and led to 50 employees losing their jobs.

The industry has pushed for tort reforms to solve these issues. In particular, the ATRI and other industry groups insist that there should be rules to prevent money-grabs from trial lawyers while still compensating victims for their losses. These efforts could take years to materialize, which means that fleets may need to take other precautions in the meantime.

<sup>5</sup> CCJ

(<https://www.ccjdigital.com/business/article/14940101/driver-shortage-to-keep-capacity-tight-in-2021-andbeyond>)

## Asset Utilization & Performance

Fleets have an average asset utilization of around 50%, which means that they're paying to lease or maintain assets that aren't generating revenue<sup>6</sup>. While most companies only pay attention to conspicuous expenses that are billed, such as fuel, the financial impact of low asset utilization is just as real and can have a much bigger true cost.

Asset utilization depends on a number of different factors, including how often trucks are on the road while not full, how many stops trucks make en route, the duration of each stop, the time of day that trucks travel, the number of containers and chassis available, and the number of drivers employed to meet delivery requirements.

Leased or rental trailers are also a significant line item for many fleets, which makes utilization an important way to boost profitability. If a trailer is sitting in a lot unused, it's costing the business money to lease and/or maintain without generating any revenue. A certain amount of slack capacity is necessary to avoid bottlenecks, but excess capacity can be very costly.

### What's Next?

In the next section, we will look at what investments in efficiency provide the greatest return on investment and where to start with implementing efficiency gains.

<sup>6</sup> Fleet Owner

(<https://www.fleetowner.com/fleet-management/article/21695038/improving-fleet-utilization-getting-to-100>)

# Cutting Down on Dwell Time

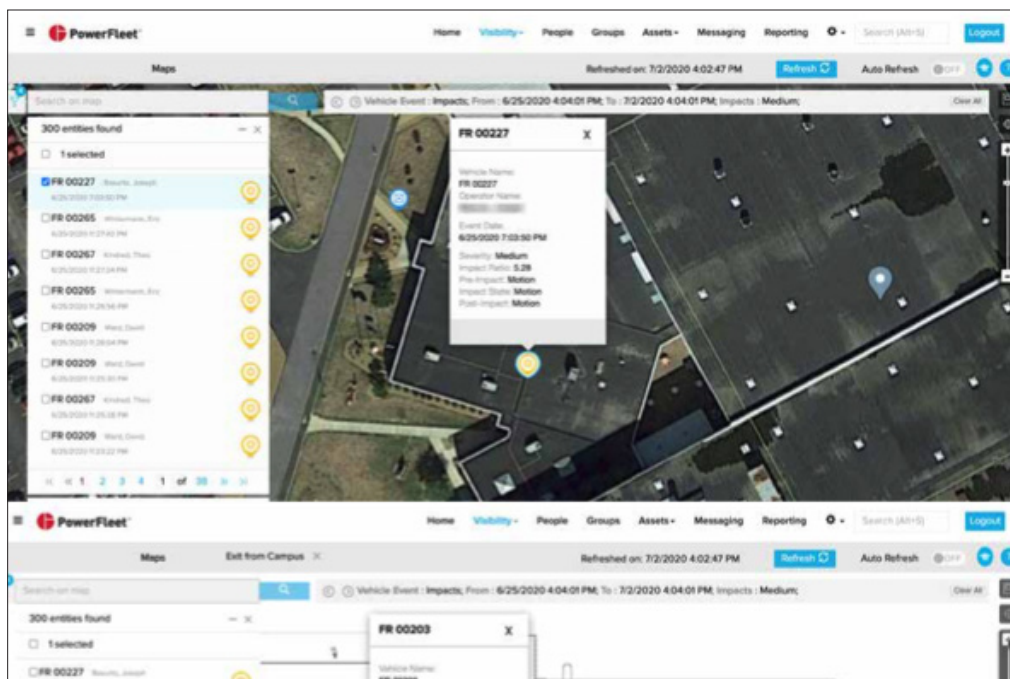
Dwell time is a large and growing problem for many fleets, but accurate and up-to-date data is an effective way to reduce it. Without the right data in hand, it's impossible to know the location and severity of dwell time problems. A combination of the right data and policies can make a huge impact in reducing dwell times and improving efficiency.

Let's take a look at how to implement these measures in practice.

## Track the Right Data

Telematics solutions make it easy to access real-time data for all fleet assets, regardless of their location across North America. These data points can help carriers determine the impact of dwell time on their fleet, as well as support the implementation of policies to reduce it (e.g., prove to a shipper or receiver that a truck was waiting on-site for a period of time).

For example, PowerFleet's trailer tracking solutions as well as its LV-9000 ELD-compliant solution provides real-time insights into dwell times while meeting HOS and other requirements. Managers can access data from these devices across their fleets through an easy-to-use dashboard that provides critical analytics.



PowerFleet's analytics solutions. Source: PowerFleet

## Some key metrics to track include:

- *Appointment Rate = Number of Loads / Number of Appointments*
- *Compliance Rate = Non-Compliant Loads / Total Loads*
- *Delay Rate = Delayed Arrivals / Total Arrivals*
- *Average Delay = Total Delay Time per Period / Number of Loads per Period*

In addition to tracking high-level metrics, telematics solutions can provide real-time data to shippers or receivers, including an accurate arrival time and cargo type. Telematics solutions for fork trucks and other heavy machine equipment can help cargo handlers target the right equipment, identify its current location, alert qualified operators and optimize utilization in the yard to prepare ahead of time to load or unload and cut down on dwell time.

## Implementing Policies

The root cause of most dwell time issues is a lack of communication that leads to inaccurate schedules and missed appointments. Shippers, receivers and carriers share responsibility for these issues, but there are some best practices that can incentivize all parties to keep a tight schedule and minimize these kinds of disruptions.

For truckload carriers, drop trailers are one of the most common ways to reduce dwell times by enabling drivers to simply unhitch their trailers and move on. By keeping loaded trailers available and organized, these systems can virtually eliminate dwell time and keep products moving quickly, which is a win-win situation for drivers, carriers and shippers.

When live loads are necessary, appointment solutions can go a long way in keeping everyone on the same page. Shippers and receivers can stagger pick up times to keep their staff focused and reduce dwell times. Extended hours, such as weekends, can also help reduce congestion and make it easier to stick to a regular schedule.

Detention fees are another way to incentivize shippers and receivers to be on-time. With telematics solutions providing the evidence, fleets can introduce fees of \$50 to \$70+ per hour of excess detention time. These fees can be used to compensate drivers for their wasted time, as well as cover the opportunity costs of the assets.

## What's Next?

In the next section, we will look at how to improve driver metrics in order to improve safety, reduce costs and increase asset utilization.

# *Improve Driver Metrics*

Drivers are the lifeblood of any trucking business and have a significant impact on efficiency. The best drivers are cognizant of fuel efficiency, diligently follow rules, intelligently handle challenges and have mechanical knowledge to take care of equipment. Fleets must also optimize driver utilization to ensure everyone is contributing as much as possible to the bottom line.

Let's take a look at some ways to improve key driver metrics.



## **Driver Recruitment & Retention**

Driver recruitment is essential to maintain a sufficient workforce and asset utilization. With 39% of owner-operators and 26% of company drivers using word of mouth to find driving jobs, referral programs are one of the most effective (and low-cost) ways to recruit new drivers. Cash incentives or paid vacation for referrals from existing drivers are often the best methods.

Of course, driver retention is even more important than recruitment since a revolving door is both costly and inefficient. Strong driver feedback loops, supported by telematics solutions, are one of the best ways to support drivers. These might include extended onboarding programs, anonymous feedback tools and ride-along programs with supervisors or dispatchers.

When drivers are experiencing issues, positive reinforcement is a better way to encourage improvement than introducing penalties that can cause turnover. Telematics solutions make it easy to collect data on the road and support initiatives like safe driving bonuses that can encourage good driving behavior while monitoring bad behaviors.



## Driver Behavior Optimization

The best drivers are cognizant of fuel efficiency, diligently follow rules, intelligently handle challenges and have mechanical knowledge to take care of equipment. On the other hand, bad drivers can be a source of significant liability and higher operating costs. Fleets should implement measures to optimize driver behaviors and minimize these costs.

Driver recruitment and training practices are key to weeding out bad drivers and minimizing the risk of mistakes on the road, but fleets should go a step further by incentivizing good driving behaviors. In addition, fleets should keep an eye on real-time fuel economy averages in order to identify anomalies that could be due to bad driving or other factors.

Telematics solutions can help collect valuable on the road data, including speed, sudden braking and rapid acceleration, to incentivize good driving and penalize bad driving. For instance, a fleet owner may introduce an incentive program that rewards drivers with an extra per-mile bonus for good driving and retrains bad drivers that have too many violations.



*PowerFleet's LV-9000 In-Cab ELD solution. Source: PowerFleet*

For example, PowerFleet's **LV-9000** provides duration of cruise control, duration of high torque, duration of high speeding events, number of harsh braking events, duration of high acceleration, idle time and other invaluable data points. In addition, in-cab video capabilities can help fleets ensure safe driving behaviors while defending against claims of driver inattentiveness that can lead to costly 'nuclear' verdicts.

## Enhance Driver Utilization

A good first step for improving driver utilization is keeping up to date with FMCSA regulations, including exemptions for short-hauls and split-sleeper-berths, to maximize efficiency on the road. Drivers aware of these regulations can maximize their driving time and revenue as well as help carriers maximize their efficiency. Modern logistics solutions can provide fleet owners full visibility into both their yard and different assets spread out across North America. Armed with this real-time information, they can optimize dispatching, ensure that drivers can quickly find and access available trailers, are taking the most efficient routes, and fill trailers as much as possible during their routes.

Reducing dwell time can minimize time at loading docks. As discussed earlier, telematics solutions can help measure dwell and detention times in order to penalize shippers and receivers and minimize these times. Less time spent at the loading dock translates to more time spent on the road, generating revenue for both driver and carrier.

Telematics solutions can also help management to measure drivers' hours per driver per week to spot any patterns when a driver gets less than 5 hours of driving in a day. By tracking this data point, fleets can start to get to the root cause of why a driver is under-utilized and put a plan together to address the problem.

## What's Next?

In the next section, we will look at how to reduce risks on the road in order to minimize the chances of a nuclear verdict and keep insurance premiums low.

# ***Reducing Risks on the Road***

Nuclear verdicts and rising insurance premiums are putting pressure on fleets of all sizes to improve safety on the road. Fortunately, telematics solutions are making it easier than ever to encourage safe driving and address concerns when they do occur.

Let's take a look at how fleets can reduce costs by reducing risks on the road.



## **Reducing Risky Behavior**

Drivers are ultimately responsible for their own safety and the safety of everyone else on the road around them. Driver fatigue, distracted driving, driving under the influence or inexperience can all cause safety incidents on the road. The right technologies can help detect risky driving behaviors early on and address them before they lead to safety incidents.

Fleets should start with documented training that occurs after a new hire. If an incident occurs on the road, fleets should have a retraining policy and disciplinary measures in place. The documentation of these programs is critical to demonstrating in court that the business places a strong emphasis on safety and hasn't cut corners.

Safe driving recognition programs, as discussed earlier, can also help promote good driving behaviors by offering rewards for avoiding accidents or citations. These rewards could include additional cents per mile or other tangible and meaningful cash or product-based rewards, as well as paid vacation days or other things drivers see as valuable. In-cab telematics and cameras can provide the data to support these types of programs.

## Proactive Maintenance

Malfunctioning equipment is another source of safety issues that is often overlooked. Overheated brakes, engine problems or dislodged trailer parts can all become costly liabilities if they impact safety on the road. A proactive maintenance program is key to minimizing these issues and ensuring the safety of everyone on the road.

Telematics solutions, like the PowerFleet LV-9000, can track engine hours and fault codes. Fleets should consider implementing maintenance programs that are based on the number of engine hours for tractors and mileage for trailers in order to proactively avoid any problems on the road. Fault codes can also provide real-time alerts when issues do occur, which alerts drivers to the problem and enables dispatchers to communicate with other parties that may be relying on a shipment.

In addition, drivers should be trained to regularly inspect their vehicle and trailer prior to departure to ensure that there are no issues. These things might include checking the brakes, tires, lights, engine health and other factors that could influence safety on the road.

## Compliance & Documentation

Many federal and state regulations are designed to promote driver safety. For example, HOS regulations are designed to minimize driver fatigue by ensuring drivers take breaks on the road and limiting the number of hours that they can drive each day. These metrics are tracked and enforced using ELDs that are present in the cab of vehicles.

Telematics solutions that are built-in to ELDs can help identify erratic driving on the road, as well as ensure that there's documentation of compliance. ELDs also help reduce the amount of manual paperwork necessary and reduce stress for drivers that don't have to spend a lot of their billable time filling out logs and other paperwork.

Dashboard cameras can also help document safety on the road. If a driver isn't at fault, dash cam footage can be used to prove that another driver was responsible for an accident. With the rise in nuclear verdicts, these technologies are quickly becoming invaluable for fleets to reduce their risk and insurance premiums over time.

## What's Next?

In the next section, we will look at how to optimize asset utilization to improve efficiency and profitability across the fleet.

# Optimizing Asset Performance

Fleets have an average asset utilization of around 50%, which means that they're paying to lease or maintain assets that aren't generating revenue<sup>7</sup>. While most companies only pay attention to conspicuous expenses that are billed, such as fuel, the financial impact of low asset utilization is just as real and can have a much bigger true cost.

Let's take a look at how to improve asset performance and profitability.

## Improving Asset Utilization

Managing assets on-site and in-transit has historically been a challenge for fleet owners. Without modern technologies, these companies relied on driver check-ins to understand the location of assets and simply hoped that the cargo arrived intact. The lack of coordination with shippers and receivers also resulted in a lot of downtime. Telematics solutions have changed the game by providing real-time insights into the location of trailers, chassis, and containers (e.g., trailer pool accuracy), the status of these assets (e.g., sensors and cameras that can detect if a door is open/closed or if a trailer is loaded or unloaded), the environmental conditions for cargo (e.g., the temperature of reefers) and other factors.

For example, PowerFleet's LV-Series Logistics solutions provide an analytics platform that provides a long term view into asset utilization trends across your fleet. The cloud-based software also provides multiple customizable fleet categorizations to enhance owner understanding of how sub-fleet assets are being used by individual facilities.

These data points can help fleets improve asset utilization by identifying unused containers, trailers or chassis in locations throughout North America and maximizing their use within the contractual constraints for customers. The result is fewer unused assets and no more lost chassis, trailers, or containers that need to be written off.

In addition, these capabilities can help support the use of intermodal transportation. Fleet owners don't have to guess where containers are during intermodal transport with instant insights. By knowing the exact arrival times of these assets, carriers can maximize efficiency and avoid having idle assets or drivers across the fleet.

<sup>7</sup> Fleet Owner

(<https://www.fleetowner.com/fleet-management/article/21695038/improving-fleet-utilizationgetting-to-100>)



Reefer data points. Source: PowerFleet

## Ensuring Cargo Health & Security

Cargo health and security in transit has become increasingly important. For example, the pharmaceutical and produce industries require strict temperature controls and regulations. Environmental monitors in trailers or containers can help ensure that temperatures maintain consistency and prove that cargo was delivered in the same state that it was picked up.

For example, PowerFleet's LV-400 automatically records refrigeration unit engine hours and fault codes to schedule preventive maintenance and ensure accurate temperature management at all times. Managers and dispatchers can also make changes to the reefer unit from remote locations regardless of hooked or unhooked status.

In addition to environmental sensors that can track temperature, humidity and other factors, freight cameras can help prove the status of cargo. These cameras can help alert carriers when cargo has shifted in transit and proactively alert receivers if any issues occur. They can also help prove the condition of cargo in the event of a customer claim.

Door sensors can also help improve security. Carriers can receive an alert every time a door is opened or closed while tracking the exact location of trailers or containers in transit. If an asset is stolen, it can be quickly recovered while providing evidence to customers or law enforcement.

## Looking Ahead

In the next section, we will look at how to implement telematics solutions across a fleet.

# ***Putting It Into Action***

The idea of telematics solutions is compelling to almost everyone, but putting the technology into action is typically the hard part. While the technology itself is straightforward to install and use, coordinating the installation process and training drivers, dispatchers and business teams to use the devices, sensors and resulting data can be a challenge.

Let's take a look at what's involved with implementing these technologies and realizing these improvements.

## **Install the Technology**

Appoint a point person for the organization to coordinate everything that needs to be done and interface with the solutions provider. By having a single point of contact, the installation process will go a lot smoother because both internal and external people involved with the project will have a single point of contact.

Next, take an inventory of the organization's assets and determine what type of solutions to use in them. In many cases, organizations start by adding new technology onto a handful of assets as a pilot project before scaling up to cover all assets. Or organizations might start with only a certain type of device, such as temperature monitoring sensors in reefers.

Then, select a solutions provider and discuss the budget and timeline for both installation and service. Oftentimes, solutions providers can provide an outline of the total costs and may even offer options to install components. At the same time, discuss the project with stakeholders and allocate budget based on these discussions.

Finally, create a plan that takes into consideration the time it takes to install the solutions and both the asset availability and solution provider's schedule. A phased rollout is used to minimize fleet downtime and ensure that there aren't any issues as the solutions are installed, which also makes the transition less stressful.

## Plan for the Data

Most telematics solutions require some human interaction to operate. Drivers, dispatchers, managers or other stakeholders should be trained on how to use the device and/or software. At the same time, organizations should be sure to add these elements into their existing driver training and standard operating procedures (SOPs) to ensure that they are done.

Business teams must be brought up-to-speed on how to access the data generated from these devices and sensors. Many solutions providers provide a platform that contains key performance indicators and other data points that can be used as a basis for making data-driven decisions or performance reviews. In addition, the ability to integrate this data into other transportation management systems (TMS) or enterprise resource platforms (ERPs) should be taken into account for better coordination and holistic views.

Business leaders should incorporate these data points into their decision-making processes and ensure that they're realizing the full value. In addition, new programs or procedures may be developed that leverage the data, such as driver incentive programs based on safe driving or penalties for excessive detention times among shippers or receivers.



## Start Small & Scale Up

Most fleets start small with telematics and scale up over time. For example, they may focus on installation with a standard telematics platform and get business teams up to date on the data. After establishing a baseline, fleets may decide to add additional sensor capabilities for enhanced situational awareness.

The good news is that telematics solutions are typically easy to scale. With the same software interface, businesses can access an unlimited amount of information from devices and sensors. Many of these sensors are affordable and easy to install, which makes them highly scalable across even large fleets. The key is usually changing human behaviors to use them.

## What's Next?

In the next section, we will look at some different PowerFleet solutions that can help you realize the benefits of telematics in your business.



# How PowerFleet Can Help

PowerFleet is a global leader in telematics solutions for logistics and supply chain industries. Given the depth and breadth of our experience, we are well-equipped to help companies both large and small realize the benefits of telematics in their businesses, having seen even the most nuanced challenges.

Let's take a look at PowerFleet's technology solutions and how they can help address common problems and produce significant return on investment.

## In-Cab

PowerFleet's **LV-9000** is an advanced onboard touchscreen computer that enables complex driver workflows, minute-by-minute updates and a continuous connection to send and receive job orders, trip data, text messages, GPS position data, fuel consumption analysis and more.

PowerFleet's Vista (<https://www.powerfleet.com/solutions/vista/>) delivers real-time high-definition video, from road and driver facing cameras, to bolster safety programs, help exonerate drivers, prevent accidents, increase security, and lower insurance. These tools help improve driver productivity and efficiency, reduce hours of service compliance issues, improve customer service and manage and reduce fleet maintenance costs while an in-cab camera can help identify unsafe behaviors and defend drivers.

## Dry Van Trailers

PowerFleet's **LV-Series solutions for dry van trailers** include products with best-in-class power management via supercapacitors with primary batteries, dual-power source with rechargeable batteries and solar panels or tethered power for long service life and to have optimal visibility of assets and cargo. These tools make it easy to see idle and dwell times, understand asset turns, trailer pools, yard checks, and enable advanced analytics.

## Reefers

PowerFleet's **LV-Series solutions for refrigerated trailers** integrate with all major refrigeration unit brands and sensors to allow complete remote control. These trailer tracking tools are independent of the trailer to ensure constant operation and provide a powerful dashboard with easy-to-read reports that detail temperature, humidity, fuel levels, location status and other metrics to ensure FSMA compliance for sensitive shipments.

## Chassis

PowerFleet's **LV-Series solutions for chassis** put a stop to billing disputes with comprehensive, reliable data on billing start and stop times, as well as advanced sensors that alert fleet owners when a container is mounted and dismounted from the chassis.

## Containers

PowerFleet's **LV-Series for containers** provides full visibility for containers from the moment they're moved from the yard to the instant they reach their final destination. These real-time insights make it possible to increase container utilization and reduce transit cycle times, which can have a significant impact on the bottom line of any fleet.

## Cargo

PowerFleet's **LV-Series for cargo** provides high-resolution images, door sensors and cargo-area environmental sensors designed to provide true freight visibility. It's easy to obtain root cause analysis for insurance claims that include location and visual proof—invaluable tools for defending against claims of damage during transit.

## Getting Started

PowerFleet can help you with everything from evaluating the technologies that provide the highest return on investment to planning out how to deploy these technologies to your fleet. Contact us today or find a local sales representative to help you increase your fleet's efficiency.



***Strong Track Record.  
Field-Proven Technology.  
World Class Client Support.***

PowerFleet® Inc. (NASDAQ: PWFL; TASE: PWFL) is a global leader and provider of wireless IoT and M2M solutions for securing, controlling, tracking, and managing high-value enterprise assets. We have more than 25 years experience in logistics telematics with more than 600,000 mobile subscribers, spanning assets such as tractor trailers, chassis, reefers, containers, trucks, vehicles, forklifts. Our patented technologies address the needs of organizations to monitor and analyze their assets to increase efficiency and productivity, reduce costs, and improve profitability.

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