

THE FUTURE OF TRAILER TELEMATICS:

Going Beyond Track & Trace



Contents

- 3 — Introduction
- 3 — Understanding Trailer Telematics
- 4 — Advanced Features of Trailer Telematics
- 5 — Integrating Trailer Telematics with
Fleet Management Systems
- 8 — Future Trends in Trailer Telematics
- 9 — Implementing Trailer Telematics:
Best Practices and Considerations
- 10 — Conclusion

Introduction

The transportation industry is rapidly evolving to meet the demands of businesses and consumers in today's fast-paced world. Where analytics give fleet managers more valuable insights into their fleets, advanced telematics offer a deeper look at nearly every facet of every trailer. When this powerful data collection is combined with thoughtful analysis, you get straightforward, actionable insights that can give you the power to make much more informed decisions.

Understanding Trailer Telematics

Definition and Components

Trailer telematics, at its core, involves the utilization of various technologies to collect and transmit data from trailers. These technologies include GPS tracking systems, sensors, wireless communication modules, and data analytics software platforms—but they're advancing to offer greater and wider sets of solutions by the day. By combining these components, trailer telematics enables fleet managers to gain valuable insights into their trailers' location, status, and performance.

Benefits of Trailer Telematics

ENHANCING FLEET VISIBILITY AND ASSET TRACKING

Trailer telematics provides real-time visibility into the location and status of trailers. Fleet managers can track their trailers' movements, monitor their idle times, and ensure efficient utilization of assets. This visibility allows for better planning and optimization of resources, leading to improved operational efficiency.

IMPROVING OPERATIONAL EFFICIENCY AND PRODUCTIVITY

With trailer telematics, fleet managers can proactively monitor trailer conditions and identify maintenance needs. By addressing maintenance issues promptly, they can reduce downtime and prevent costly breakdowns. Additionally, telematics data can be used to optimize routes, reduce fuel consumption, and streamline dispatch and routing operations, leading to increased productivity and cost savings.

ENHANCING DRIVER SAFETY AND REDUCING ACCIDENTS

Telematics systems equipped with driver behavior monitoring features can provide insights into driver performance, such as speeding, harsh braking, and cornering. By identifying risky driving behaviors, fleet managers can implement targeted training programs and interventions to improve driver safety, reduce accidents, and minimize insurance costs.

OPTIMIZING MAINTENANCE AND REDUCING DOWNTIME

Trailer telematics enables proactive maintenance by monitoring critical parameters such as brake wear, tire conditions, mileage, and weight. With this data, fleet managers can schedule maintenance and repairs based on actual usage and conditions, reducing unplanned breakdowns and minimizing downtime.

Advanced Features of Trailer Telematics

Real-Time Location Tracking

One of the core features of trailer telematics is real-time location tracking. Through GPS-based tracking systems, fleet managers can pinpoint the exact location of their trailers at any given time. This information is crucial for efficient dispatching, route optimization, and monitoring of trailer movements.

Moreover, telematics systems often offer geofencing capabilities, allowing fleet managers to set virtual boundaries for their trailers. When a trailer enters or exits a predefined geofenced area, alerts can be triggered, providing valuable insights into trailer movements and enhancing security measures.

Remote Diagnostics and Condition Monitoring

Trailer telematics systems are equipped with sensors that collect data on various parameters such as temperature, humidity, tire pressure, and engine performance. This data is transmitted in real-time to a central platform, where fleet managers can remotely monitor the condition of their trailers.

By leveraging remote diagnostics and condition monitoring, fleet managers can proactively detect and address potential issues before they escalate. For example, if a temperature-sensitive trailer's cooling system malfunctions, an alert can be sent to the fleet manager, allowing them to take immediate action to prevent spoilage of goods.

Trailer Utilization and Asset Management

Effective asset management is crucial for optimizing resources and minimizing costs. Trailer telematics provides detailed insights into trailer utilization, allowing fleet managers to track metrics such as idle time, loaded vs. unloaded time, and turnaround time.



The Road Ready Command Center

Getting more from your telematics doesn't necessarily require more work on your part — especially when you're working with Road Ready. At our Road Ready Command Center, located in the Clariance Technologies Headquarters in Southfield, Michigan, we have a full team of dedicated consultants who can monitor all of your data and keep you updated before an issue arises. With their know-how, they're able to see and understand things before they happen, all while offering suggestions and recommendations based on what they learn.

Trailer Utilization and Asset Management (Cont'd)

By analyzing these utilization metrics, fleet managers can identify underutilized trailers and make informed decisions regarding their fleet size and allocation. This analysis enables efficient resource planning, reduces unnecessary expenses, and maximizes the utilization of trailers.

Integrating Trailer Telematics with Fleet Management Systems

Streamlining Dispatch and Routing

Trailer telematics systems can be seamlessly integrated with fleet management systems, providing a holistic view of operations. By combining telematics data with real-time traffic information, weather conditions, and customer demands, fleet managers can optimize dispatch and routing decisions. Integration allows for automated dispatching based on trailer availability, location, and driver assignments. By streamlining these processes, fleet managers can reduce manual effort, improve response times, and ensure efficient utilization of trailers.

Data Integration and Analysis

The true power of trailer telematics lies in the ability to collect and analyze vast amounts of data. By integrating telematics data with other fleet management tools such as transportation management systems (TMS) and enterprise resource planning (ERP) systems, fleet managers can gain valuable insights to drive decision-making.

Data analytics platforms enable fleet managers to perform detailed analysis, identify patterns, and generate actionable insights. For example, analyzing historical data can help identify areas of improvement, optimize routes, and make data-driven decisions regarding maintenance and asset allocation.

Enhancing Driver Communication and Safety

Trailer telematics facilitates real-time communication between drivers and dispatchers, leading to improved operational efficiency and driver safety. Dispatchers can send instructions directly to drivers' mobile devices, reducing the need for manual communication and minimizing errors.

Furthermore, telematics systems can monitor driver behavior, such as harsh braking or speeding. This data can be used to provide targeted training programs and coaching to drivers, promoting safer driving practices and reducing the risk of accidents.

Road Ready, Powered by Fus1on

Road Ready delivers a wealth of data, thanks to advanced sensors that are easy to install in your fleet of trailers. What takes it to the next level, though, is what's behind the scenes. Getting and understanding your data has never been easier, or clearer, thanks to Fus1on. Fus1on is a cloud-based data platform from Clarience.

Fus1on gathers all of the data from your Road Ready sensors and puts it in straightforward metrics that are easy to understand. With Fus1on, you get alerts delivered right to your mobile device, so you're always in-the-know regarding your fleet.

Fus1on by Clarience Technologies is a revolutionary data platform that is designed to integrate an unlimited number of data sources. What makes it unique is not only its ability to "listen" — made possible through its digital ear that can read virtually any type of data — but also how it ingests and catalogs what it takes in. Through contextualization, every piece of data is tagged with markers that show any other data in close proximity. This allows Fus1on to let you easily see one complete set of related data from a variety of feeds.

From one dashboard, you can see any amount of data you want, including:

- GPS Tracking
- Lights Out Detection
- Cargo Weight
- Door Sensor
- Tire Temperature
- Wheel-End Health
- Brake Health
- Many more

With data at your fingertips, you can make more informed decisions, understand how your fleet is performing compared to the industry at large, and keep your trailers on the road.

Road Ready's Advanced Trailer Analytics

We know there are specific things we're very good at. For one, we know the trucking industry, which means once we have the data in our hands, we're able to help make it clear for you—and help you make better business decisions.

To build our system of sensors, we leveraged our knowledge of the industry—and the knowledge of 12 industry partners as well. So with our MCU, not only do you get our insight, you get that of 12 leaders who know the industry as well as anyone.

All of the assets we've built together inform seven fleet health metrics. These health metrics allow you to monitor aspects such as:

- Lights Out Detection System
- Cargo Management
- Brake & Tire Health
- Wheel End Health
- And Weight Management

When combining the data provided by these solutions with expert analysis from our team of consultants in the Road Ready Command Center, you get powerful, straightforward insights that you can act on—quickly.

Because of our partnerships, we're able to access deep expert knowledge on very specific aspects of your fleet. All of these analytics mean you're able to make decisions before things happen—being proactive rather than reactive. This applies to everything from avoiding catastrophic wheel end failure to better planning maintenance for trailers to keep them functioning efficiently on the road.

Our prestigious partners include:

- | | |
|---------------------|--|
| — Air Weigh | — PSI (Pressure Systems International) |
| — ConMet Digital | — Rightweigh |
| — Continental | — SAF Holland |
| — Hendrickson | — SKF |
| — Hyundai Translead | — Stemco |
| — Meritor | |

Future Trends in Trailer Telematics

Internet of Things (IoT) Integration

The integration of trailer telematics with the Internet of Things (IoT) holds tremendous potential for the transportation industry. IoT devices can be utilized to capture and transmit data from various sources, such as cargo sensors, trailer doors, and tire pressure monitoring systems.

By leveraging IoT integration, fleet managers can enhance connectivity, enable predictive maintenance, and enable intelligent routing. For example, cargo sensors combined with telematics data can provide real-time insights into the condition and security of goods during transit.

Artificial Intelligence and Machine Learning

Artificial intelligence (AI) and machine learning (ML) algorithms can analyze telematics data to uncover patterns, predict maintenance needs, and optimize operations. AI-powered algorithms can detect anomalies in data, such as sudden changes in temperature or abnormal tire pressure readings, indicating potential issues.

ML models can learn from historical data to predict maintenance requirements, enabling fleet managers to schedule proactive maintenance and minimize unplanned breakdowns. Additionally, AI algorithms can optimize routing based on real-time traffic conditions, weather forecasts, and historical patterns, ensuring efficient and timely deliveries.

The Future is Coming

The future of fleet management doesn't begin and end at telematics. Things will continue to change, advance, and adjust everything we think we know about the industry.

Autonomous vehicles are becoming more and more of an everyday reality—and it likely won't be long before we're seeing autonomous trucks as well. The thing is, autonomous trucks only do so much good without an autonomous trailer as well.

A smart trailer is able to provide you with data about the load as well as the outside as well—all before the trailer ever hits the road. This helps avoid major hiccups and keep trailers on the road more frequently.

With our extensive set of sensors, we're already well on our way. And with Fus1on, our cloud-based platform, it's much easier to get important information quickly. It's all there, inside and out, in one easy-to-use and easy-to-understand dashboard.

The future is coming, and the further ahead you are with telematics, the more prepared you'll be when big changes happen. If you're cautious, let Road Ready show you just how easy telematics can be.

Autonomous and Electric Trailer Technology

The transportation industry is witnessing the rise of autonomous and electric trailer technology. Autonomous trailers equipped with telematics systems can navigate independently, optimizing routes and reducing human intervention.

Moreover, the integration of electric trailers with telematics systems can provide insights into energy consumption, battery life, and charging requirements. This data enables fleet managers to plan routes that maximize the utilization of electric trailers and minimize charging downtime.

Implementing Trailer Telematics: Best Practices and Considerations

Choosing the Right Telematics Solution

When selecting a trailer telematics solution, it is essential to consider key features and functionalities that align with your specific business needs. Look for systems that offer comprehensive real-time tracking, robust analytics capabilities, and seamless integration with existing fleet management systems.

Scalability is another crucial factor to consider. Ensure that the telematics solution can accommodate your future growth and evolving needs. Look for providers with a track record of continuous innovation and a commitment to staying ahead of the technology curve.

Ensuring Data Security and Privacy

As trailer telematics involves the collection and transmission of sensitive data, it is paramount to prioritize data security and privacy. Choose telematics solutions that employ robust encryption protocols to safeguard data during transmission and storage.

Additionally, ensure that the telematics provider complies with relevant data protection regulations, such as the General Data Protection Regulation (GDPR). Protecting your customers' and drivers' data not only ensures compliance but also fosters trust and credibility.

Training and Adoption Strategies

Introducing trailer telematics into your organization requires proper training and change management strategies. Provide comprehensive training to drivers and staff on using the telematics system effectively. Emphasize the benefits of the technology and address any concerns or resistance that may arise during the implementation process.

Develop a change management plan that includes clear communication channels, continuous support, and feedback loops. Encourage a culture of embracing new technologies and highlight the positive impact that trailer telematics can have on operational efficiency, safety, and overall business success.

Conclusion

Trailer telematics is revolutionizing the transportation industry, offering fleet managers unprecedented visibility, control, and operational efficiency. By leveraging real-time data, advanced analytics, and integration with fleet management systems, trailer telematics empowers businesses to optimize their resources, enhance driver safety, and streamline operations.

Solutions that incorporate expert knowledge of specific trailer functions, like Road Ready's partnerships do, allows you to get very specific insights that open up a world of possibilities for your fleet management planning. This kind of data is incredibly powerful and can help you make changes that save time, money, and make more informed decisions.

As the transportation industry continues to evolve, embracing advanced trailer telematics will be a key differentiator for businesses seeking to stay ahead of the competition. By exploring the potential of advanced trailer telematics and implementing best practices, organizations can unlock a new era of efficiency, safety, and success in the ever-evolving transportation landscape.

Let's Get Started

If you're eager to get your fleet Road Ready, then let's start the conversation. Contact us to learn more about our best-in-class sensor options, easy to use software, simple pricing options, or to schedule a demo. We make trailer telematics simple, so you can maximize revenue by keeping your fleet trailers on the road.

— [Schedule a Demo](#)