



EROAD



SAFETY IN THE DIGITAL ERA

A Handbook on Transportation Fleet Technology

For transportation businesses, safety is key to long-term success. As the world grows more digitally interconnected and data driven, new solutions are emerging that empower motor carriers to take fleet safety to a whole new level.

The transportation industry has made great strides toward improving safety for commercial drivers and motorists. Now, technology is helping carriers reduce risk even more.

And, there is a significant ROI for work done to enhance safety protocols in the transportation industry. One study found that dedicating 2.5% of project costs to safety measures can yield an increase in profits of up to 7%.



According to one study, overall profit can rise by as much as **7% when safety procedures account for 2.5% of the project expenditure**

Fleet management technology helps improve safety and offers additional benefits in performance, operations, and cost reduction while addressing many safety difficulties and concerns.

Fleet technology fits under the umbrella term of telematics, a term that is defined as “the integration of telecommunications networks in vehicles as for collecting data on performance.”

These technologies give fleet managers the actionable insights they need for:

- **Increasing vehicle usage and efficiency**
- **Optimizing existing assets**
- **Assessing, tracking, and improving driver behaviors**
- **Adhering to compliance requirements**
- **Enhancing the customer experience**



1. Assets

For many transportation fleets, protecting expensive assets like large machinery and project materials is a top priority. Many hazards, including theft, accidents, unauthorized usage, and maintenance problems, are present in this industry and can cause major financial losses and disruptions to operations.

Protecting these assets needs to be a major focus, especially in light of the fact that cargo theft has increased by almost 57% since 2023. Since theft results in losses of over \$32 million annually, this is a significant risk for many transportation businesses.

Incorporating fleet technology into operations can help transportation businesses obtain real-time information, enhance security protocols, and maximize asset management—all of which can boost profitability while improving utilization and maintenance.



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Basics of Asset Tracking

Asset tracking technology is one of the most important fleet solutions available to businesses. Asset tracking technology comprises many components that come together to form a unified system that may be tailored to a business' unique needs and challenges.

Asset tracking goes beyond just knowing where your assets are; this technology can also be used for locating lost or stolen assets and even deter theft or misuse.

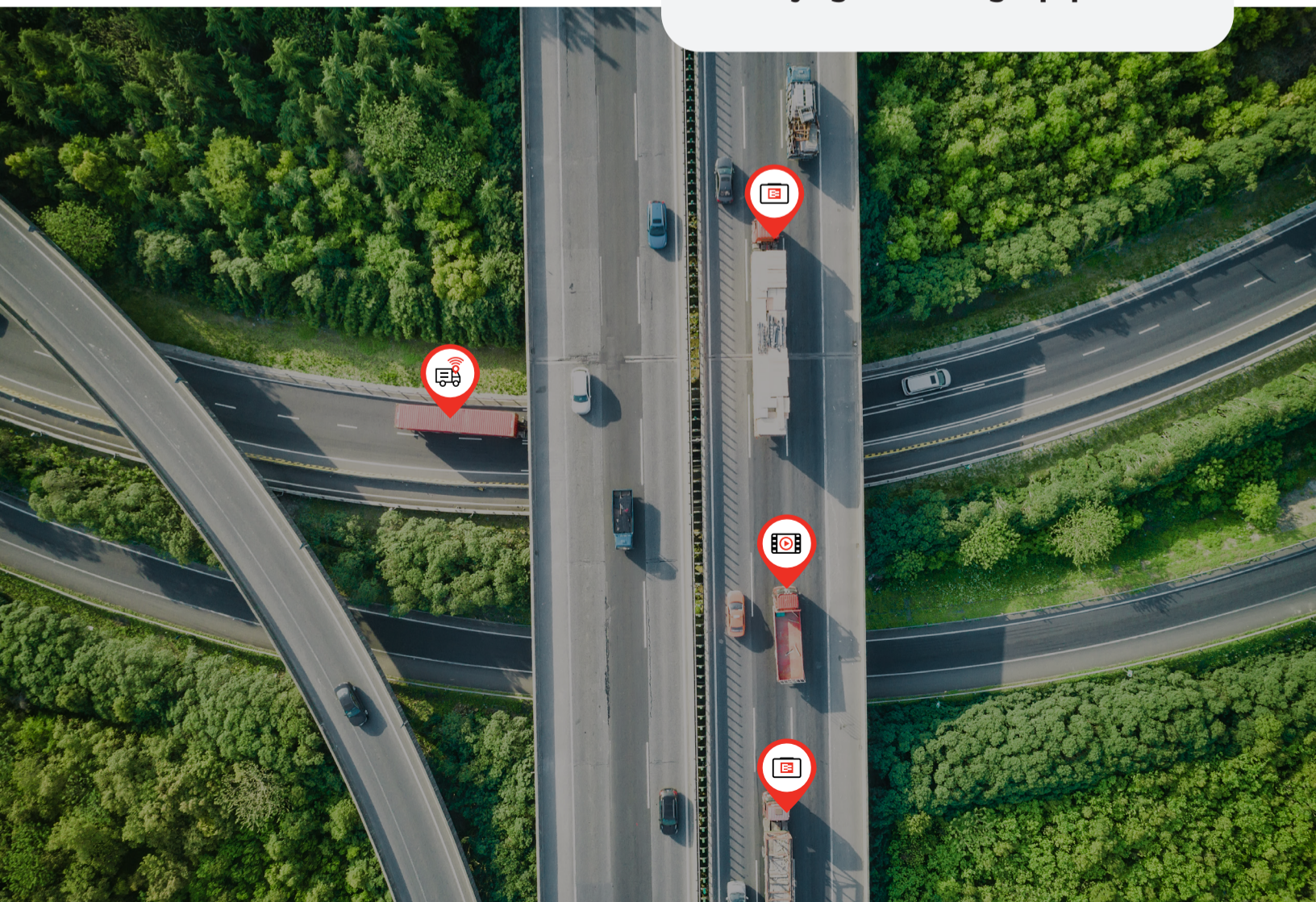
Most systems include GPS trackers which are installed onto vehicles or specific assets, such as:

- **Tools**
- **Dry vans and reefer trailers**
- **Heavy equipment**

These tech-forward asset systems help to combat the safety challenges that transportation fleets face by providing instant access to key data points.

Key Challenges Solved by Telematics

- **Locating lost or stolen assets**
- **Detering asset misuse by employees**
- **Keeping updated tracking information on location of loads**
- **Facilitating resource allocation**
- **Aligning asset usage with overall management, goals, and budget**
- **Minimizing expenses linked to buying and leasing equipment**



EROAD Solutions

EROAD provides asset tracking solutions that are perfect for fleet management, including integrated IoT sensors that are specifically tailored to transportation assets.

EROAD provides a single platform with unique benefits, such as:

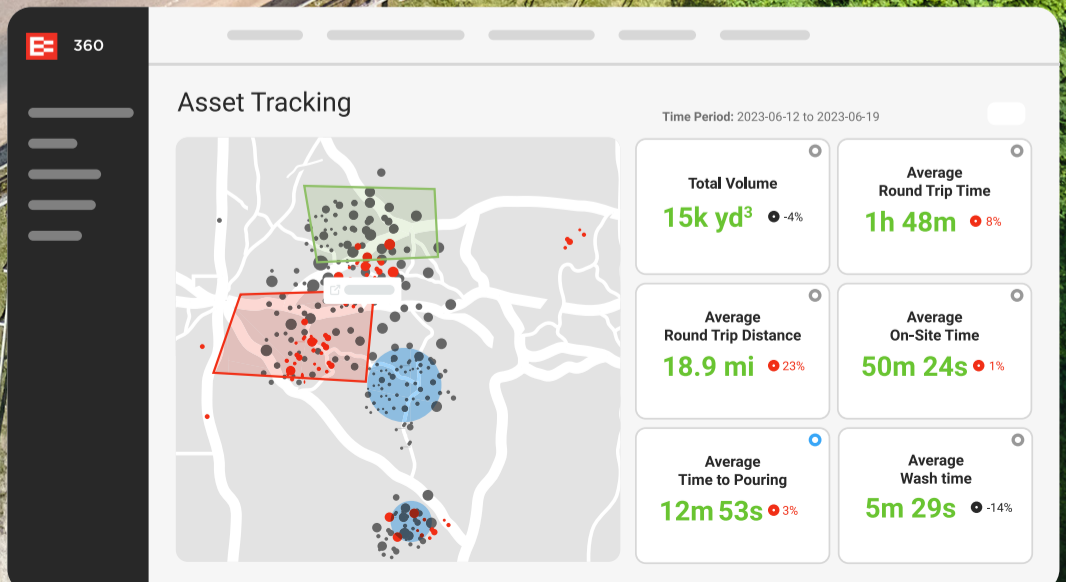
- **A durable and easy-to-install system**
- **Integrated IoT sensors to unlock data insights**
- **Sensors that provide contextual data for real-time and historical insights into daily operations**
- **Integrated 4G-LTE cellular gateways for continuous connection**
- **Instant data delivery to the cloud for real-time updates on the location of all assets**

The asset tracking solutions provided by EROAD provide a strong toolkit for improving the security and safety of transportation assets. With the use of innovative technologies like GPS tracking and real-time monitoring, fleet managers can now see and manage their valued assets with unparalleled clarity and control.



Asset Tracker

POWERED BY



2. Drivers

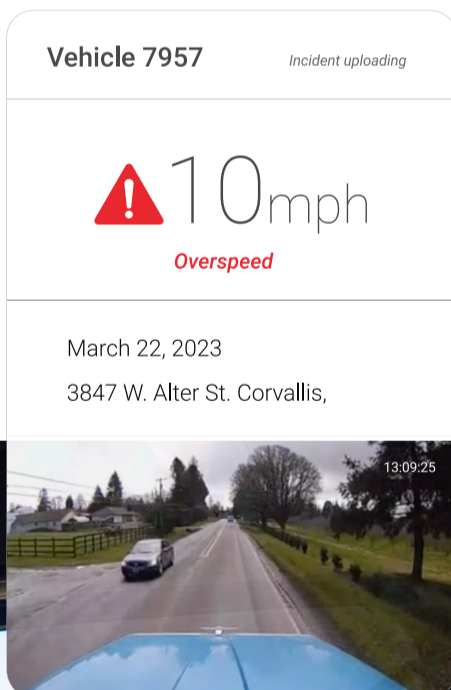
In the fast-paced landscape of modern transportation, ensuring the safety of drivers has never been more critical. According to the [National Highway Traffic Safety Administration's latest report](#), the number of vehicle accidents involving commercial trucks has increased by 17% over the past few years.

Further, there is the financial cost to consider if a driver is involved in an accident. The average cost of a single incident of an on-site injury is \$74,000.

There are also additional charges that the company may be liable for, such as:

- **Medical bills**
- **Costs related to the damage to materials, equipment, or property**
- **Litigation fees**
- **Regulatory fines**
- **Hiring additional workers**
- **Increased insurance and liability cost**

Technologies that monitor driver behavior facilitate better coaching programs, helping carriers develop stronger safety cultures.



The number of vehicle accidents involving commercial trucks has **increased by 17% over the past few years.**



The average cost of a single incident of an **on-site injury is \$74,000**

Basics of Driver Behavior Monitoring and Scoring

Driver behavior monitoring and scoring systems are indispensable fleet technology tools that utilize a network of sensors and data sources to track various aspects of a driver's performance related to both safety and efficiency.

These solutions support safer driving habits by alerting managers to issues such as:

- **Changes in acceleration**
- **Harsh cornering**
- **Adherence to speed limits**
- **Sudden braking**

These technologies, which monitor and score driver behavior, offer a proactive approach to risk mitigation, guaranteeing both the safety of drivers and the integrity of operations.

Key Challenges Solved by Telematics

- **Real-time location monitoring of drivers**
- **Tracking records of duty service (RODS) or hours of service (HOS)**
- **Ensuring drivers are complying with FMCSA (Federal Motor Carrier Safety Administration) guidelines for having an ELD (electronic logging device)**
- **Reducing insurance costs and avoiding penalties for safety violations from accidents or speeding tickets**
- **Confirming that all drivers are up to date on safety regulation training and certification**

EROAD Solutions

Building on EROAD's proud legacy of innovative fleet solutions, the EROAD Clarity Edge AI Dashcam is the next evolution in video telematics.

Enhance driver and fleet safety with [EROAD's Clarity Edge AI Dashcam](#).



99.3% of driver behavior events detected by EROAD Clarity Edge would have gone undetected by standard dashcams or telematics.

(Source: EROAD Customer Trials)

Boost driver performance and minimize risks with detailed behavior analysis and reliable video insights.

- **3-in-1 safety tech:**
Combines Road AI, Driver AI, and Fatigue AI to detect and prevent risky driving, fatigued driving, and distractions
- **Comprehensive fleet insights:**
Real-time behavior data for smarter coaching and risk reduction
- **Proactive driver coaching:**
Easy-to-use portal for targeted feedback and habit improvement
- **Smart event tagging:**
AI flags risks instantly, simplifying analysis and action
- **Customizable alerts:**
Real-time in-cab warnings to boost safety without distractions

By using AI-powered insights to reduce risks and enhance performance, The [Clarity Edge AI Dashcam](#) is the ultimate tool for increasing safety, efficiency, and visibility throughout your whole fleet.

Clarity Edge: AI-powered fleet visibility for greater safety and savings



Prioritize driver safety

Real-time alerts empower drivers to improve behavior.



Streamline safety management

Auto-tagged videos save time and target risks.



Optimize operational efficiency

Identify patterns to reduce fuel use and costs.

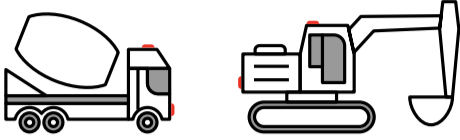


Mitigate financial risk

High-quality footage streamlines claims and protects your business.

3. Vehicles

Purchasing or leasing vehicles is a major capital expense for motor carriers.



Average cost of a new semi-truck
\$70,000 - \$150,000

Average cost of a semi-truck trailer
\$15,000 - \$77,000

Operating costs of a single truck- More than
\$45,000 annually

Apart from the cost of the equipment itself, vehicles are costly to maintain and repair. According to the American Transportation Research Institute (ATRI), between 8% and 10% of a fleet's average marginal cost goes toward maintenance and repairs.

Motor carriers can reduce the likelihood of breakdowns, improve overall performance, and extend operational lifespan through proactive maintenance. Further, regular maintenance and upkeep practices contribute to better fuel efficiency and compliance with safety regulations, promoting a safer work environment.

Basics of Vehicle Health and Preventative Maintenance

Vehicle health and preventative maintenance in the transportation industry encompass a range of fundamental practices:

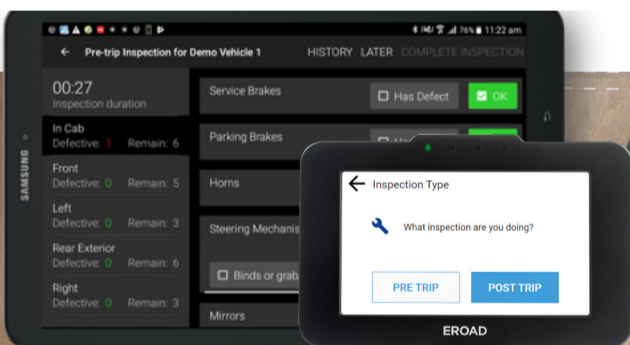
- **Scheduling regular inspection and lubrication of moving parts**
- **Addressing issues with the vehicle's electrical system**
- **Keeping up with routine oil changes, tire rotations, and filter replacements**

However, adhering to the basics is not enough; serious issues can go undetected until a critical failure occurs, requiring costly repairs. Monitoring trends around these issues and developing a maintenance schedule for your vehicles is critical to improving the safety and longevity of the fleet.

Another way to improve the safety, compliance, and efficiency of your vehicles is by using DVIR, or Driver Vehicle Inspection Reports, configured specifically for your fleet. These electronic checklists allow drivers to:

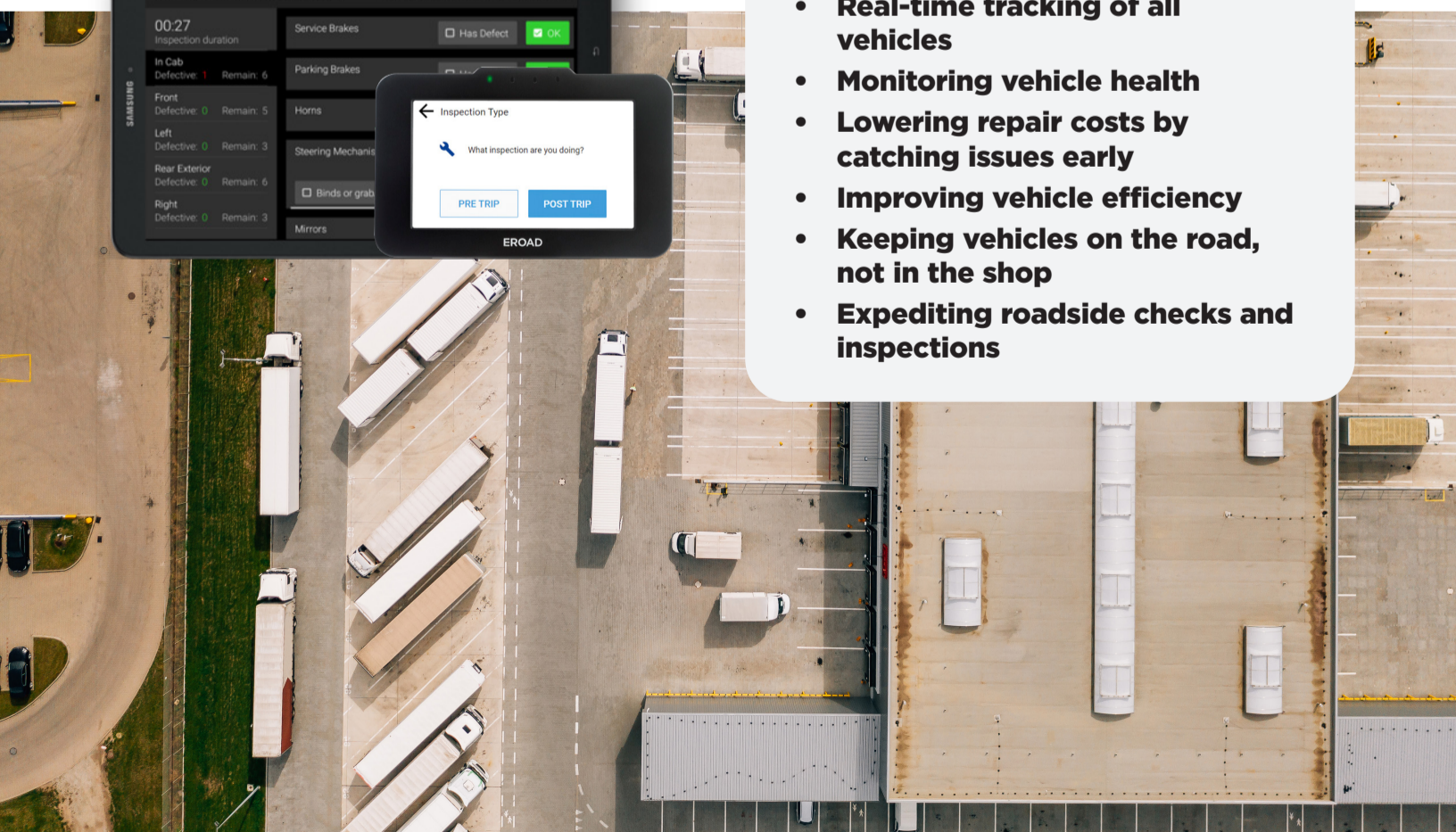
- **Perform pre-and post-trip checks on their vehicles**
- **Record any issues that arise to immediately notify the maintenance team**
- **Instantly see what repairs are required or which systems need a tune-up**

Mechanics can then log onto the system to see all past repairs, current issues, and validate that the repair took place correctly, completing the circle of responsibility and ensuring that your vehicles are kept to the highest safety standards.



Key Challenges Solved by Telematics

- **Real-time tracking of all vehicles**
- **Monitoring vehicle health**
- **Lowering repair costs by catching issues early**
- **Improving vehicle efficiency**
- **Keeping vehicles on the road, not in the shop**
- **Expediting roadside checks and inspections**



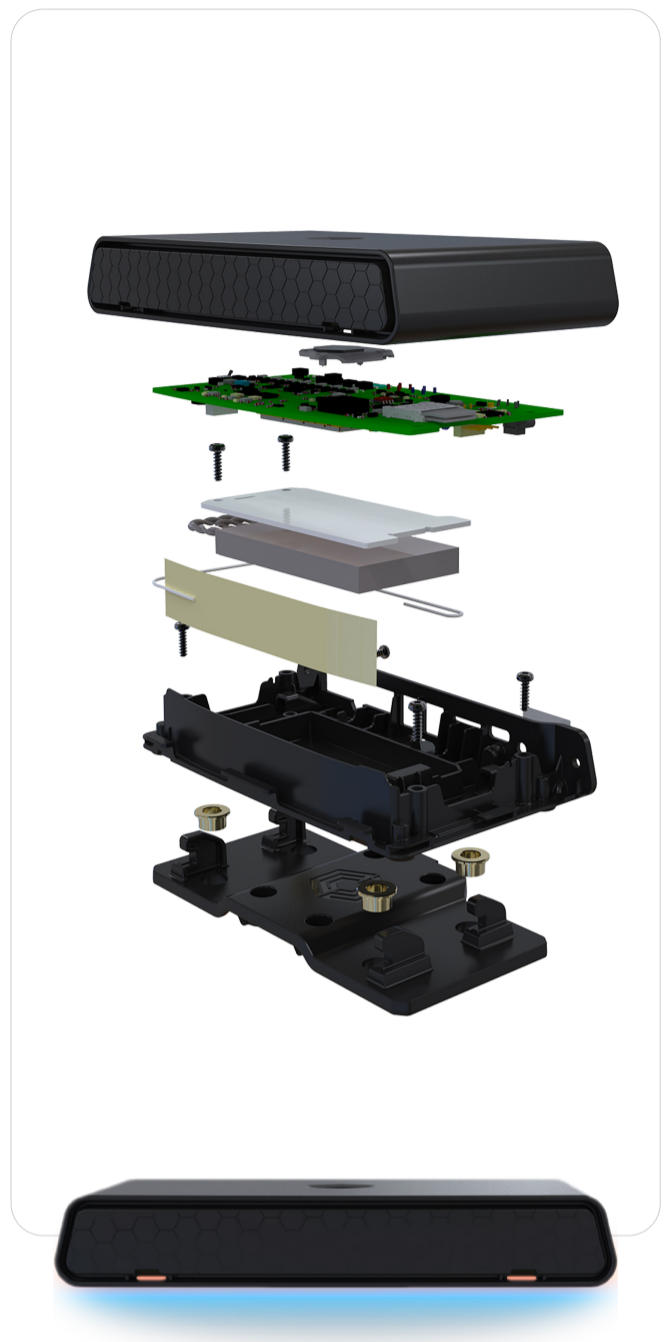
EROAD Solutions

[EROAD's CoreHub](#) is the primary enterprise-grade solution for effective fleet management, converting vehicle activity into actionable insights on a single platform. The CoreHub solution sits discreetly inside the cab and collects data directly from the engine management system and other connected devices and sensors to transform your vehicle into an IoT hub.

CoreHub powers "Drive", an app that can be used on Android-based devices. Drive includes features designed for transportation fleets, including:

- **Job ticketing**
- **Job-specific workflows**
- **DVIR**
- **Hands-free in-app messaging**
- **GPS navigation**
- **ELD**

Another option that is great for smaller to medium-sized fleets is the EHUBO ELD. This ELD makes compliance easier as it is extremely user-friendly and intuitive, offering outstanding connectivity and data accuracy. It also comes with a companion mobile app that lets drivers complete ELD responsibilities both inside and outside of the driver's seat. EHUBO is a tough in-cab device that is tethered and links to the engine control module (ECM) to provide you with the compliance you require immediately.



In Conclusion

As we navigate the evolving landscape of transportation technology, it becomes increasingly crucial to embrace innovative solutions. It is abundantly clear that the integration of telematics in the transportation industry has proven to be a transformative force in enhancing the safety of vehicles, drivers, and equipment with visibility across your entire fleet.

EROAD stands at the forefront of this revolution by offering tailored safety telematics solutions that are future-proof and scalable – helping to transform your business today and tomorrow. The invaluable insights derived from EROAD's telematics contribute to informed decision-making, fostering a culture of safety and accountability.

We are here to help empower transformation within your business and move you toward a technology-powered future. With EROAD, you can enable proactive job delivery and efficient maintenance through real-time data, diminish potential risks, and ensure a safer working environment.

To delve deeper into how EROAD can empower your fleet with innovative safety measures, we invite you to [learn more about our solutions](#). Contact us today to discover how EROAD is reshaping the future of transport and see which of our solutions are ideal for your specific fleet management needs.

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Contact us today to discover how EROAD is helping to transform the transportation industry and see which of our solutions are ideal for your specific fleet management needs.

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