



PRESS RELEASE

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Tread Wear Indicator: A game-changer for Safer & Sustainable driving

Tires are one of the most critical components of a vehicle, directly influencing safety, fuel efficiency, and environmental impact. Yet, despite their importance, many drivers unknowingly operate their vehicles with dangerously worn tires, increasing the risk of accidents and higher emissions. Tread Wear Indicator (TWI) is a smart, software-based solution that enables real-time monitoring of tire wear, helping drivers, fleet managers, and automotive manufacturers proactively address tire-related issues before they become a danger.

As the automotive industry shifts toward data-driven vehicle maintenance, TWI represents a significant leap forward in enhancing road safety, improving vehicle performance, and advancing sustainability efforts.

The risks of driving with worn tires

Many drivers fail to recognize the risks of worn-out tires until it's too late. A tire's tread depth directly affects its ability to grip the road, disperse water, and maintain control in various driving conditions. When tires wear down, several dangerous consequences emerge:

- Increased braking distance

As tread depth decreases, a vehicle's stopping power is significantly reduced.

In wet conditions, worn tires can increase braking distances by over 50%, making sudden stops much riskier.

- Higher risk of hydroplaning & poor handling

The grooves in a tire are designed to channel water away from the contact patch, ensuring good traction. Once tread depth drops below safe levels, water cannot be displaced efficiently, leading to hydroplaning and loss of control.

- Environmental impact: Microplastic pollution & unnecessary waste

Tire particles account for a significant portion of microplastic pollution, harming ecosystems and water sources.

By replacing tires too late (safety risk) or too early (unnecessary waste), inefficient use of resources worsens environmental effects.

A smarter approach to tire maintenance with TWI

Instead of relying on manual tire checks or pre-set mileage-based service intervals, Tread Wear Indicator (TWI) enables continuous monitoring of tire wear using sensor data already present in modern vehicles. This software-based solution ensures that drivers and fleet managers can take action before a tire becomes a safety risk, leading to multiple advantages:

- Replacing tires at the right time

No more guessing when to change tires—TWI accurately tracks wear and provides real-time notifications. Ensures tires are changed only when necessary, avoiding premature replacements.

- Optimized tire lifespan & performance

By monitoring wear patterns, drivers can adjust driving habits and optimize tire rotation schedules to extend tire life. Reduces maintenance costs and improves long-term vehicle performance.

- Cost savings for fleet operators & drivers

Fleet managers can track tire conditions across entire vehicle fleets, ensuring timely replacements and avoiding costly downtime. Prevents unexpected failures that lead to expensive emergency replacements.

- Enhanced road safety

Ensures that drivers are alerted before tire wear becomes a critical safety issue. Supports safer driving decisions, especially in adverse weather conditions.

Why tire health matters for automotive manufacturers

With the increasing digitization of vehicles, OEMs (Original Equipment Manufacturers) are looking for smart solutions that improve vehicle safety and reduce operational costs. TWI provides a unique opportunity for automakers to enhance their offerings with intelligent tire monitoring.

- Stronger safety & performance ratings

Vehicles equipped with TWI can improve their overall safety score, increasing attractiveness to consumers. OEMs can highlight proactive safety features that differentiate them from competitors.

- A new way to engage customers

Real-time tire monitoring opens new opportunities for service and maintenance partnerships. Automakers can send timed service offers, ensuring that customers visit brand-affiliated workshops instead of third-party service providers.

- Sustainability & compliance with regulations

Helps automakers align with environmental regulations by promoting responsible tire usage. Reduces unnecessary tire waste, supporting corporate sustainability commitments.

- A step towards future-proof vehicle maintenance

As oil changes become obsolete in electric vehicles, tire health is becoming the primary focus of vehicle maintenance. TWI ensures EV owners and fleet operators have the tools needed to maximize efficiency and safety.

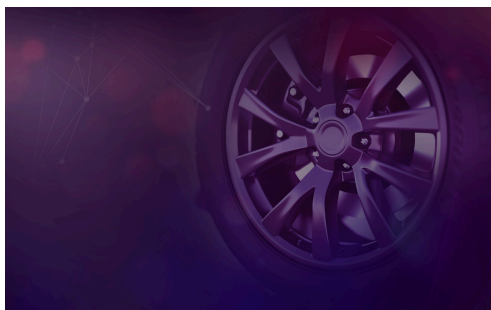
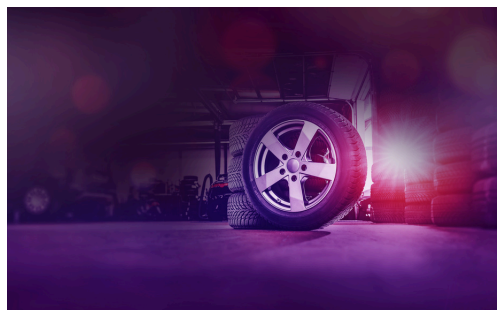
The future of tire monitoring is here

NIRA Dynamics' Tread Wear Indicator transforms how drivers, fleets, and automakers approach tire maintenance. By integrating real-time tire health monitoring, the industry is moving toward a smarter, safer, and more sustainable future.

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