US Automotive Diagnostics Market to Nearly Triple by 2034, Driven by Connected Cars and Stricter Emission Standards

US Automotive Diagnostics Market is set to grow from USD 3.8 bn in 2024 to USD 8.9 billion by 2034, driven by stricter emission rules, connected car technologie

VANCOUVER, BC, CANADA, August 19, 2025 /EINPresswire.com/ -- The US Automotive Diagnostics Market is set for strong growth over the next decade, with revenues expected to rise from USD 3.8 billion in 2024 to USD 8.9 billion by 2034, reflecting a healthy CAGR of 8.9%.

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This growth is fueled by rising vehicle complexity, stricter emission rules, and consumer demand for safer, smarter, and more connected cars. The shift toward electric vehicles (EVs) and advanced diagnostic technologies is reshaping the market landscape.

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Key Market Highlights

Largest Segment – On-Board Diagnostics (OBD):
OBD systems remain the backbone of automotive diagnostics due to government mandates for emissions and safety compliance. The segment is projected to more than double in size by 2034.

Fastest-Growing Segment – Remote Diagnostics:
Remote solutions, enabled by IoT and telematics, are the fastest-growing area with a 10.5% CAGR. These systems allow real-time monitoring and predictive maintenance, helping reduce repair costs and downtime.

Technology Trends:
Integration of AI, machine learning, and cloud-based platforms is transforming the sector. Cloud

diagnostics alone is expected to grow from USD 0.8 billion in 2024 to USD 2.1 billion by 2034, as more vehicles adopt data-driven solutions.

Regional Leadership:
The US leads the North American market, supported by strong manufacturing, technology innovation, and regulatory reforms. Growth opportunities are especially high in the Midwest and Southern states.

Market Drivers

1. Technological Advancements:
The adoption of IoT and telematics grew by 35% in 2023 (McKinsey), showing a clear shift toward connected vehicle ecosystems. AI-powered diagnostics are reducing fault detection time and improving accuracy.

2. Regulatory Pressure:
The US Environmental Protection Agency (EPA) and California's strict emission rules are pushing automakers to adopt advanced diagnostic systems. These rules ensure vehicles remain compliant with evolving safety and emissions standards.

3. Growth of Electric Vehicles (EVs):
EV sales in the US rose by 40% in 2023 (IEA). Their complex powertrains require specialized diagnostic tools, further boosting demand.

4. Industry Innovation:
Companies like Bosch, Continental AG, and Snap-on Incorporated are investing in R&D, cloud-based platforms, and partnerships to stay ahead in this fast-changing sector.

Market Challenges

Data Privacy Concerns:
About 62% of US consumers worry about how their vehicle data is used (NIST survey). This could slow the adoption of connected diagnostics.

High Costs:
Advanced diagnostic systems require heavy investment. Telematics systems can cost between USD 500 and USD 1,500 per vehicle, creating barriers for smaller repair shops.

Regulatory Complexity:
Varying federal and state-level rules make compliance costly for manufacturers and service providers.

Lack of Standardization:

Different diagnostic protocols across automakers complicate repair work and increase inefficiencies.

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Segmentation Insights

By Product Type:

On-Board Diagnostics (OBD): USD 1.5B (2024) ⯈ USD 3.2B (2034), CAGR 7.8%.
Remote Diagnostics: Fastest growth at 10.5% CAGR.
Cloud-Based Diagnostics: USD 0.8B ⯈ USD 2.1B by 2034.

By Application:

Emissions Testing: Largest application, USD 1.2B (2024) ⯈ USD 2.5B (2034), CAGR 7.5%.
Predictive Maintenance: Fastest-growing at 11.2% CAGR, helping reduce breakdowns and extend vehicle lifespan.
Safety & Security: USD 0.9B ⯈ USD 2.0B, CAGR 8.4%.

By End User:

Automotive OEMs: Largest users, USD 1.8B ⯈ USD 4.0B, CAGR 8.2%.
Independent Repair Shops: Fastest-growing at 9.8% CAGR, as they adopt advanced tools.
Dealerships: USD 0.9B ⯈ USD 2.1B, CAGR 8.6%.

By Technology:

IoT & Telematics: USD 1.6B ⯈ USD 3.5B, CAGR 8.1%.
AI & Machine Learning: Fastest-growing at 10.9% CAGR.
Cloud Computing: USD 0.7B ⯈ USD 1.8B, CAGR 9.4%.

By Distribution Channel:

Offline: Largest channel, USD 2.5B ⯈ USD 5.5B, CAGR 8.0%.
Online: Fastest-growing at 10.2% CAGR, supported by e-commerce and digital diagnostic platforms.

US Automotive Diagnostics Competitive Strategies & Notable Developments

Top 10 Companies
Bosch

Continental AG
Snap-on Incorporated
Denso Corporation
Delphi Technologies
Actia Group
Softing AG
KPIT Technologies
Vector Informatik
Siemens AG

Strategy

Top players in the US Automotive Diagnostics Market are competing through strategies such as SaaS offerings, bundling of diagnostic tools with software solutions, and vertical integration to enhance their market position. Bosch, for instance, holds a significant market share due to its comprehensive product portfolio and strategic partnerships with automotive OEMs. Continental AG is focusing on innovation and R&D to develop advanced diagnostic solutions that meet regulatory standards and consumer expectations.

US Automotive Diagnostics Market Segmentation

By Product Type
On-Board Diagnostics (OBD)
Remote Diagnostics
Cloud-Based Diagnostics
Others

By Application
Emissions Testing
Safety and Security
Predictive Maintenance
Others

By End User
Automotive OEMs
Independent Repair Shops
Dealerships
Others

By Technology
IoT and Telematics
AI and Machine Learning
Cloud Computing

Others

By Distribution Channel
Online
Offline

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