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V2X in Automotive Market – Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Communication Type (V2C, V2G, V2P, V2I, V2V, V2D), By Connectivity Type (DSRC Connectivity and Cellular Connectivity), By Offering Type (Hardware and Software), By Technology Type (Emergency Vehicle Notification, Automated Driver Assistance, Passenger Information System, Line of Sight and Others), By Propulsion Type (ICE Vehicles and Electric Vehicles), By Region & Competition, 2021-2031F

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Abstracts

The Global V2X in Automotive Market is projected to expand from USD 1.92 Billion in 2025 to USD 12.41 Billion by 2031, representing a 36.48% compound annual growth rate. Vehicle to Everything, or V2X, is a communication technology that allows automobiles to share uninterrupted data with other cars, pedestrians, and nearby infrastructure, thereby enhancing road safety and traffic management. This market's expansion is fundamentally driven by a growing need to decrease traffic accidents and an increasing regulatory push toward smart transportation networks. These underlying drivers create a stable foundation for growth, independent of fluctuating technological trends. Furthermore, according to SAE International in 2025, more than 50 percent of surveyed consumers stated that safety was their main priority for V2X features.

Even with robust demand, the market's expansion encounters notable obstacles. A primary barrier to widespread implementation is the absence of uniform communication

protocols and the lack of interoperability among various vehicle manufacturers and local infrastructure systems. This fragmentation makes establishing cohesive networks highly complicated, consequently slowing down commercial introduction and diminishing the overall effectiveness of the system.

Market Driver

Strict government rules and mandatory vehicle safety requirements act as the primary catalysts for the Global V2X in Automotive Market. Policymakers are establishing extensive legal guidelines and operational criteria to guarantee the secure implementation of smart transportation networks. By officially defining spectrum allocations, these regulations offer manufacturers the stability required to fund compatible hardware. As stated in an April 2026 article titled 'V2X Vehicle to Everything Solutions' by the Southwest Research Institute, Vehicle to Vehicle communication is expected to decrease accidents by 13 percent. Consequently, federal agencies rigorously enforce uniform connected mobility applications to achieve these safety improvements. Such requirements demand significant investment; the 5G Automotive Association reported in 2025 that the estimated cost for rolling out Cellular Vehicle to Everything infrastructure across the United States reached $6.5 billion.

The swift rollout of 5G networks alongside Cellular V2X technologies is accelerating the integration of real-time communication within the automotive industry. 5G telecommunications deliver the crucial low latency and high bandwidth needed for immediate data sharing among cars and traffic management systems. This advancement enables vital functions such as cooperative collision prevention and automated toll collection. A September 2025 article from Horizon Connect, 'Cellular V2X Direct Future of Vehicle Communication', highlighted that more than 90 Chinese cities backed Cellular V2X infrastructure via active roadside units. This massive modernization of networks illustrates how seamless connectivity directly drives the worldwide commercial advancement of intelligent automotive technologies.

Market Challenge

The lack of uniform communication protocols and seamless interoperability between automakers and local infrastructure acts as a major hurdle for the Global V2X in Automotive Market. Because various car brands and regional governments rely on incompatible communication frameworks, establishing a unified network becomes extremely complicated. Such fragmentation prevents vehicles from smoothly sharing vital information with one another and their environment. As a result, commercial

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rollouts face significant delays as companies struggle to harmonize their proprietary technologies with diverse infrastructure demands.

This technological divide directly results in sluggish adoption rates and lower market confidence. When interoperability is restricted, the broader ecosystem becomes less effective, leading to hesitant investments from stakeholders. In 2025, the Intelligent Transportation Society of America estimated that the nationwide deployment cost for V2X systems amounted to 6.5 billion dollars. In the absence of universal standards, the efforts to integrate these systems consume a large portion of this capital instead of supporting market expansion. This financial obstacle directly limits the scalability of V2X applications and curbs anticipated market growth.

Market Trends

Integrating Multi Access Edge Computing into V2X architectures resolves the latency issues typically found in centralized cloud systems. Edge computing shortens the data transmission path by embedding computing resources directly into local infrastructure, such as 5G base stations and roadside units. This decentralized framework enables the swift data processing needed for functions like automatic braking. As highlighted in Horizon Connect's June 2025 article, 'How MEC Enhances Real Time Vehicle Communication', a delay of just 50 milliseconds can undermine safety notifications, making ultra-low latency edge processing essential. This integration directly facilitates reliable deployments for collision avoidance.

The growth of Vehicle to Pedestrian technology expands the market's reach beyond standard vehicle-to-vehicle applications. This development creates direct wireless links between automobiles and the smartphones or wearable devices of pedestrians to share real-time location data. By utilizing predictive analytics and prompt warnings, these networks assist in preventing crosswalk accidents and enhancing urban mobility. An August 2025 piece by ICT News, titled 'What is a Vehicle to Pedestrian (V2P)? Learn How It Works and Its Functions', notes that systems facilitating these safety interactions operate on the 5.9 GHz frequency band over short distances. This dedicated spectrum guarantees dependable danger alerts, stimulating commercial funding for pedestrian-centric automotive innovations.

Key Market Players

Qualcomm Incorporated

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Robert Bosch GmbH

Continental AG

NXP Semiconductors N.V.

Denso Corporation

Harman International Industries, Incorporated

Hyundai Mobis Co., Ltd.

ZF Friedrichshafen AG

Autotalks Ltd.

Infineon Technologies AG

Report Scope

In this report, the Global V2X in Automotive Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

V2X in Automotive Market, By Communication Type

V2C

V2G

V2P

V2I

V2V

V2D

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- South America
  - Brazil
  - Argentina
  - Colombia
- Middle East & Africa
  - South Africa
  - Saudi Arabia

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UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global V2X in Automotive Market.

Available Customizations:

Global V2X in Automotive Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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