

Vehicle-to-Everything Infrastructure Market Forecasts to 2034 – Global Analysis By Infrastructure Type (Roadside Units (RSUs), Onboard Units (OBUs), Communication Networks, Cloud & Edge Platforms, Centralized Traffic Management Systems, Cybersecurity Infrastructure and Spectrum Management Systems), Application and By Geography

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Abstracts

According to Statistics MRC, the Global Vehicle-to-Everything Infrastructure Market is accounted for \$1.4 billion in 2026 and is expected to reach \$22.3 billion by 2034 growing at a CAGR of 41.8% during the forecast period. Vehicle-to-Everything (V2X) infrastructure represents a connected ecosystem that allows vehicles to communicate seamlessly with nearby entities including other vehicles, roadside systems, pedestrians, and cloud-based platforms. Using technologies such as short-range wireless communication and cellular connectivity, it enhances safety, optimizes traffic flow, and supports autonomous vehicle operations. This infrastructure enables instant data sharing for alerts, signal synchronization, and intelligent decision-making. Increasing investments from governments and industry stakeholders in smart mobility solutions are accelerating V2X deployment. It plays a crucial role in minimizing road incidents, enhancing transportation efficiency, and facilitating the growth of connected and self-driving vehicle networks worldwide.

According to the U.S. Department of Transportation (USDOT, 2021), pilot programs in New York City and Tampa demonstrated that V2X infrastructure reduced intersection crashes by up to 20%, validating its role in national safety programs.

Market Dynamics:**Driver:**

Growing demand for road safety

Increasing awareness of road safety and the need to reduce accidents is strongly boosting the Vehicle-to-Everything (V2X) infrastructure market. Authorities across the globe are investing in intelligent communication networks that support real-time warnings and accident prevention. V2X systems enable continuous data exchange between vehicles and their environment, allowing timely responses to potential hazards. This reduces reliance on human judgment and minimizes errors that often lead to collisions. With rapid urbanization and higher vehicle density, the importance of advanced safety technologies is rising, driving the expansion and implementation of V2X infrastructure in modern transportation systems globally.

Restraint:

High deployment and infrastructure costs

The substantial expenses involved in implementing Vehicle-to-Everything (V2X) infrastructure significantly limit market expansion. Building communication systems, modernizing existing road networks, and installing advanced technologies demand considerable financial resources. Both public authorities and private organizations often struggle with budget limitations, which delays widespread deployment. Furthermore, continuous maintenance and periodic upgrades add to the overall cost burden. This issue is more pronounced in developing economies where funding for advanced transportation solutions is scarce. Consequently, although V2X offers long-term advantages, the high upfront and recurring costs restrict its adoption and slow the growth of infrastructure development across global markets.

Opportunity:

Expansion of smart cities

The growing adoption of smart city initiatives offers substantial growth prospects for the V2X infrastructure market. Cities are increasingly incorporating advanced transportation technologies to enhance urban mobility, safety, and environmental sustainability. V2X

systems facilitate interaction between vehicles and infrastructure elements like signals, parking facilities, and monitoring systems, improving overall efficiency. This connectivity helps optimize traffic flow and resource management. With rising government investments in smart urban development, the need for sophisticated communication systems is expanding. Consequently, V2X infrastructure providers have strong opportunities to introduce scalable and innovative solutions that support the evolution of intelligent and connected urban ecosystems globally.

Threat:

Rapid technological obsolescence

Fast-paced technological evolution presents a major challenge for the V2X infrastructure market, as existing systems may become outdated quickly. Ongoing developments in communication standards and software solutions demand regular updates to ensure efficiency and compatibility. Companies that invest in current technologies risk losing value if systems become obsolete prematurely. This situation creates hesitation among investors and limits long-term planning. Furthermore, the requirement for continuous upgrades adds to operational expenses and complexity. As innovation progresses rapidly, keeping V2X infrastructure current becomes increasingly difficult, potentially hindering adoption rates and impacting the long-term stability and growth of the market worldwide.

Covid-19 Impact:

The COVID-19 outbreak created both challenges and opportunities for the V2X infrastructure market. In the early stages, restrictions and disrupted supply chains led to delays in deployment and reduced funding for transportation projects. The slowdown in vehicle manufacturing further impacted technology adoption. Despite these setbacks, the crisis accelerated the shift toward digital and contactless mobility solutions. Authorities recognized the value of advanced transportation systems in ensuring efficiency and resilience. As economies recovered, investment levels improved, supporting renewed interest in connected vehicle technologies. The emphasis on automation and real-time communication contributed to the steady expansion of V2X infrastructure after the pandemic worldwide.

The communication networks segment is expected to be the largest during the forecast period

The communication networks segment is expected to account for the largest market share during the forecast period because they serve as the core enabler of connectivity across the entire ecosystem. By facilitating continuous data transmission between vehicles, roadside systems, and cloud platforms, these networks ensure smooth and real-time interactions. Technologies such as cellular and dedicated short-range communication play a vital role in maintaining system efficiency and responsiveness. Their extensive adoption and ongoing technological improvements strengthen their position in the market. Since all other infrastructure components rely on strong communication capabilities, this segment remains dominant, forming the essential backbone of V2X deployment worldwide.

The vehicle-to-grid (V2G) segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the vehicle-to-grid (V2G) segment is predicted to witness the highest growth rate, driven by the rising connection between electric vehicles and power networks. This technology allows energy to flow in both directions, enabling vehicles to return stored electricity to the grid during peak demand. It enhances grid efficiency, supports renewable energy usage, and improves overall energy management. The increasing penetration of electric vehicles and advancements in smart grid infrastructure are boosting the adoption of V2G systems. With a strong focus on sustainable energy solutions, this segment is gaining momentum and expanding rapidly within the V2X landscape.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, supported by its early adoption of advanced vehicle connectivity technologies. The region is characterized by robust communication systems, strong policy support, and continuous investment in intelligent transportation solutions. Major automotive manufacturers and technology firms play a significant role in advancing V2X deployment. Ongoing research initiatives and real-world pilot programs contribute to rapid technological progress. Growing emphasis on road safety and the expansion of autonomous vehicle development further strengthen the region's position.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, driven by increasing urban development and strong investment in advanced

mobility solutions. Regional governments are prioritizing smart transportation systems to manage traffic challenges and enhance safety. The rising use of connected and electric vehicles is boosting the need for V2X technologies. Moreover, the expansion of high-speed communication networks like 5G and active involvement of key industry players are supporting rapid implementation. With a growing focus on digitalization and smart city initiatives, the region offers significant opportunities, enabling accelerated growth of V2X infrastructure across multiple countries.

Key players in the market

Some of the key players in Vehicle-to-Everything Infrastructure Market include Qualcomm, Continental AG, Kapsch TrafficCom, Yunex Traffic, Commsignia, Robert Bosch GmbH, Denso Corporation, NXP Semiconductors, Autotalks, Cohda Wireless, Savari Inc., Aptiv, Infineon Technologies AG, LG Innotek, Cisco Systems, AT&T, Nokia and Genvict Technologies.

Key Developments:

In December 2025, Denso Corporation announced that it signed a joint development agreement with MediaTek Inc., a leading semiconductor design company, to accelerate the development of next-generation automotive system-on-chips. As automotive systems become increasingly intelligent and spur advancements in autonomous driving and vehicle connectivity, the importance of automotive SoCs as high-performance computing platforms capable of executing complex processing tasks continues to grow.

In October 2025, Continental AG has reached a deal with former managers that will see their insurance pay damages between 40 million and 50 million euros (\$46.7 million-\$58.3 million) in connection with the diesel scandal. The deal with insurers, subject to shareholder approval, covers only some of the total damages of 300 million euros.

In June 2025, Qualcomm Incorporated announced that it has reached an agreement with Alphawave IP Group plc regarding the terms and conditions of a recommended acquisition by Aqua Acquisition Sub LLC, an indirect wholly-owned subsidiary of Qualcomm Incorporated, for the entire issued and to be issued ordinary share capital of Alphawave Semi at an implied enterprise value of approximately US\$2.4 billion.

Infrastructure Types Covered:

Roadside Units (RSUs)

Onboard Units (OBUs)

Communication Networks

Cloud & Edge Platforms

Centralized Traffic Management Systems

Cybersecurity Infrastructure

Spectrum Management Systems

Applications Covered:

Vehicle-to-Vehicle (V2V)

Vehicle-to-Infrastructure (V2I)

Vehicle-to-Pedestrian (V2P)

Vehicle-to-Network (V2N)

Vehicle-to-Grid (V2G)

Vehicle-to-Device (V2D)

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

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