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Autonomous Mobility Infrastructure Software Market Forecasts to 2032 – Global Analysis By Product Type (Traffic Management Software, Mapping & Localization Software and Fleet Orchestration Software), Component, Technology, Application, End User, and By Geography

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Abstracts

According to Stratistics MRC, the Global Autonomous Mobility Infrastructure Software Market is accounted for $19.8 billion in 2025 and is expected to reach $38.5 billion by 2032 growing at a CAGR of 10% during the forecast period. Autonomous Mobility Infrastructure Software enables the coordination, control, and optimization of self-driving vehicles within urban environments. It includes traffic management platforms, HD mapping engines, fleet orchestration tools, and real-time localization systems. These software layers interface with autonomous vehicles to manage intersections, reroute traffic, and ensure safe navigation. They are foundational to smart city ecosystems, supporting Mobility-as-a-Service (MaaS), autonomous shuttles, and connected infrastructure for scalable, safe autonomous transport.

According to StartUs Insights, the rise of V2X (Vehicle-to-Everything) communication is catalyzing demand for edge-computing software that manages real-time data exchange between self-driving fleets and smart roadside units.

Market Dynamics:

Driver:

Expansion of autonomous transport ecosystems

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Expansion of autonomous transport ecosystems is a primary driver for the autonomous mobility infrastructure software market, as cities and mobility providers invest in connected, self-driving transport networks. Increasing deployment of autonomous shuttles, robotaxis, and intelligent traffic systems requires advanced software for coordination, simulation, and real-time decision-making. Governments and private operators are prioritizing digital mobility platforms to improve traffic efficiency, reduce congestion, and enhance road safety. Growing investments in smart city and intelligent transportation initiatives further accelerate market growth.

Restraint:

Interoperability across legacy infrastructure

Interoperability across legacy infrastructure remains a key restraint, as existing traffic management systems often operate on fragmented and outdated platforms. Integrating autonomous mobility software with conventional road infrastructure, signaling systems, and data standards increases implementation complexity. High customization requirements and integration costs can delay deployment timelines. Limited standardization across regions further complicates seamless software adoption, constraining scalability and slowing market penetration, particularly in cities with aging transport infrastructure.

Opportunity:

V2X-enabled traffic orchestration platforms

V2X-enabled traffic orchestration platforms represent a significant growth opportunity within the autonomous mobility infrastructure software market. Vehicle-to-everything communication enables real-time data exchange between vehicles, infrastructure, and traffic control systems. This capability supports adaptive traffic signaling, collision avoidance, and optimized routing. Rising adoption of connected vehicles and 5G networks enhances V2X feasibility. Cities aiming to reduce congestion and emissions increasingly view V2X-based software as a strategic mobility investment.

Threat:

Regulatory uncertainty across regions

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Regulatory uncertainty across regions poses a major threat to market expansion. Autonomous mobility software deployment is heavily influenced by evolving safety standards, data privacy laws, and liability frameworks. Inconsistent regulations across countries and municipalities create uncertainty for technology providers and investors. Delays in policy approvals and pilot authorizations can slow commercialization. These regulatory risks may limit cross-border scalability and impact long-term adoption of autonomous mobility infrastructure solutions.

Covid-19 Impact:

The COVID-19 pandemic temporarily slowed infrastructure investments due to budget reallocations and delayed smart city projects. However, it also highlighted the need for contactless, automated transport systems and resilient mobility planning. Reduced traffic during lockdowns enabled cities to pilot digital traffic management and autonomous mobility solutions. Post-pandemic recovery strategies increasingly emphasize intelligent transportation systems, supporting renewed demand for autonomous mobility infrastructure software.

The traffic management software segment is expected to be the largest during the forecast period

The traffic management software segment is expected to account for the largest market share during the forecast period, due to its central role in coordinating autonomous and conventional traffic flows. These solutions enable real-time monitoring, congestion mitigation, and adaptive signal control. Increasing urbanization and traffic density drive demand for intelligent traffic optimization. Integration with autonomous vehicle systems and city command centers further strengthens adoption, making traffic management software the dominant revenue contributor.

The software platforms segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the software platforms segment is predicted to witness the highest growth rate, propelled by increasing demand for scalable, cloud-based mobility solutions. These platforms support analytics, simulation, and system-wide orchestration without extensive hardware upgrades. Flexibility, interoperability, and rapid deployment capabilities make platform-based solutions attractive to cities and mobility operators. Advancements in AI, edge computing, and digital twins further accelerate growth across global markets.

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Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share, attributed to rapid urbanization and large-scale smart mobility investments in China, Japan, South Korea, and Singapore. Governments actively support autonomous vehicle testing and intelligent transportation systems. High population density and congestion challenges drive demand for advanced mobility software, positioning Asia Pacific as the leading regional market.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR associated with strong autonomous vehicle innovation and supportive regulatory sandboxes. Significant investments by technology companies and city authorities in smart infrastructure accelerate adoption. Advanced digital ecosystems, early AV deployment, and emphasis on traffic safety and efficiency contribute to rapid regional market growth.

Key players in the market

Some of the key players in Autonomous Mobility Infrastructure Software Market include Waymo LLC, Cruise LLC, Aurora Innovation, Mobileye (Intel), NVIDIA Corporation, Siemens Mobility, Cisco Systems, PTV Group, INRIX, TomTom N.V., HERE Technologies, Uber ATG (acquired), Argo AI (defunct but historically notable), Valeo, Hitachi Ltd., and Huawei Technologies.

Key Developments:

In January 2025, Waymo broadened its autonomous ride-hailing operations in Los Angeles, integrating advanced traffic management APIs. This upgrade improved fleet coordination, reduced passenger wait times, and demonstrated scalable urban deployment of autonomous mobility infrastructure.

In December 2025, Cruise partnered with Honda in Japan to deploy autonomous mobility software. The collaboration focused on optimizing urban traffic flow, enhancing safety compliance, and advancing smart city integration for next-generation autonomous transportation ecosystems.

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In November 2025, Aurora launched its Aurora Driver 3.0 platform, delivering enhanced real-time localization and mapping. The system targeted autonomous freight logistics, improving route accuracy, operational efficiency, and reliability for long-haul autonomous trucking solutions.

Product Types Covered:

- Traffic Management Software
- Mapping & Localization Software
- Fleet Orchestration Software

Components Covered:

- Software Platforms
- AI Algorithms
- Data Management Modules
- API & Integration Layers

Technologies Covered:

- Artificial Intelligence
- Computer Vision
- V2X Communication
- Cloud & Edge Computing

Applications Covered:

- Autonomous Public Transport

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- Robotaxi Operations
- Smart Intersections
- Autonomous Logistics
- Other Applications

End Users Covered:

- Municipal Transportation Authorities
- Smart City Agencies
- Autonomous Vehicle Operators
- Urban Infrastructure Developers
- Traffic Management Solution Providers
- Other End Users

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany

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- UK
- Italy
- France
- Spain
- Rest of Europe

Asia Pacific

- Japan
- China
- India
- Australia
- New Zealand
- South Korea
- Rest of Asia Pacific

South America

- Argentina
- Brazil
- Chile
- Rest of South America

Middle East & Africa

- Saudi Arabia

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UAE

Qatar

South Africa

Rest of Middle East & 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 2024, 2025, 2026, 2028, and 2032
- 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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Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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