

# **V2X Cybersecurity Market Outlook 2026-2034: Market Share, and Growth Analysis By Connectivity (Cellular, DSRC), By Communication (Vehicle-to-Vehicle (V2V), Vehicle-to-Infrastructure (V2I), Vehicle-to-Pedestrian (V2P), Vehicle-to-Grid (V2G)), By Vehicle, By Security Framework, By Form, By Propulsion, By Security**

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## **Abstracts**

The V2X Cybersecurity Market is valued at USD 2.75 million in 2025 and is projected to grow at a CAGR of 24.2% to reach USD 19.34 million by 2034.

### V2X Cybersecurity Market

The V2X cybersecurity market protects safety-critical communications between vehicles and everything around them - other vehicles (V2V), infrastructure (V2I), pedestrians/devices (V2P), grid and cloud (V2G/V2C). As DSRC/IEEE 802.11p deployments coexist with C-V2X LTE-V2X and 5G NR-V2X, the security stack spans secure boot and hardware roots of trust in ECUs; credential provisioning and pseudonymous certificates; signed/verified messages (BSM/CAM/DENM/SPAT/MAP); misbehavior detection and revocation; secure OTA; and cyber-resilient roadside infrastructure and edge/MEC. Buyers - OEMs, Tier-1s, road authorities, RSU operators, mobile carriers, and city/state DOTs - seek end-to-end assurance from in-vehicle gateways to trust service backends and fielded RSUs. Drivers include growing ADAS/V2X penetration, smart-road programs, liability and safety expectations, and regulatory baselines (ISO/SAE 21434, UNECE R155/R156, ETSI ITS security profiles). Technology roadmaps emphasize scalable public key infrastructure (SCMS/CCMS) with privacy-preserving pseudonym rotation, real-time certificate revocation distribution, and cross-border interoperability; in-vehicle intrusion detection and policy enforcement;

tamper-resistant HSMs/TPMs; secure time and PNT spoofing defenses; and analytics to fuse V2X anomalies with telematics and SOC workflows. As 5G NR-V2X enables cooperative perception and intent sharing, latency budgets shrink and threats expand to include session hijack, Sybil/replay, jamming, and poisoned sensor fusion. Commercial models evolve from point components to managed trust services and lifecycle programs that span provisioning, monitoring, incident response, and compliance evidence for 10–15-year vehicle lives. Differentiation centers on cryptographic agility (including post-quantum readiness), interoperability across stacks and geographies, revocation speed at scale, OTA safety, and integration with telecom and roadway operators. The market is moving from pilot corridors to nation-scale rollouts where cybersecurity is inseparable from functional safety and public trust.

### V2X Cybersecurity Market Key Insights

Identity and trust at scale. Pseudonymous certificates, short-lived credentials, and policy-driven rotation limit tracking while preserving accountability. Winning platforms automate enrollment, renewal, and CRL/OCSP distribution across mixed DSRC/C-V2X fleets.

From ECU hardening to system defense. Secure boot, measured attestation, SBOM, and HSM-backed keys anchor the vehicle; gateway firewalls, IDS/IPS, and rate-limiting protect V2X stacks from malformed frames and fuzzing in the wild.

Misbehavior detection becomes operational. Onboard and cloud analytics flag Sybil, replay, and inconsistent kinematics; cross-fleet correlation and reputation models accelerate revocation without spamming the ecosystem with false positives.

Edge and RSU security matter. RSUs run signed images, FIPS-grade key storage, and zero-touch provisioning; backhaul is protected with MTLS and network segmentation. Field tamper evidence and secure logging are procurement gates.

Secure OTA with safety guardrails. Code signing, staged rollout, and rollback logic update V2X stacks, radio firmware, and trust anchors without bricking vehicles or interrupting safety services.

Time and PNT resilience. GNSS spoofing/jamming defenses, authenticated time

(e.g., PTP with security), and plausibility checks protect timestamp-critical CAM/BSM semantics and signal phase/timing messages.

5G NR-V2X raises the bar. Sidelink security, MEC trust, and exposure of network events to the SOC enable cooperative perception; cross-domain policy (IdP, SIM/eSIM, app certs) prevents token/session abuse.

Standards and regulation drive convergence. Alignment to ISO/SAE 21434, UNECE R155/R156, ETSI TS 103 097, and regional SCMS/CCMS policies shapes product roadmaps and certification paths.

Crypto agility and PQ readiness. Long vehicle lifecycles demand algorithms and key lengths that survive deprecation; hybrid ECDSA+PQC pilots and upgradeable trust anchors reduce future re-homologation risk.

From products to managed services. Managed trust, certificate ops, misbehavior analytics, and security monitoring (with SLAs) lower total cost and fill skills gaps for cities, road operators, and OEMs.

## V2X Cybersecurity Market Regional Analysis

### North America

Mixed DSRC heritage and growing C-V2X corridors drive dual-stack security with SCMS integration, rapid CRL distribution, and RSU hardening. State DOTs and city programs demand interoperable PKI, secure OTA, and SOC integrations across multiple vendors. 5G rollouts and freight corridors emphasize MEC security and cross-state credential governance; litigation and insurance pressures elevate audit-ready evidence and incident workflows.

### Europe

eIDAS-aligned trust services, ETSI ITS security profiles, and cross-border roaming steer CCMS adoption. OEMs emphasize privacy-preserving pseudonym schemes, PQC roadmaps, and lifecycle documentation for UNECE compliance. Urban C-ITS and cooperative automated driving pilots require RSU tamper resistance, signed SPAT/MAP distribution, and GDPR-compliant telemetry handling; public tenders weigh sovereignty and open interfaces.

## Asia-Pacific

China scales C-V2X with national trust frameworks and city-level V2X infrastructure; Japan/Korea focus on quality, spectrum coexistence, and disaster-resilient communications. Rapid 5G/edge build-outs favor integrated telco-OEM security, while super-app ecosystems push payments/identity convergence in connected services. Cost-sensitive deployments seek modular PKI services, rugged RSUs, and local certification/testing capacity.

## Middle East & Africa

Smart-city and corridor megaprojects embed V2X security from inception with sovereign cloud, Arabic/local language tooling, and harsh-environment RSUs. Government buyers prioritize turnkey trust services, FIPS-grade key protection, and clear incident playbooks. Logistics, oil & gas, and public safety use cases emphasize jamming resilience and secure fleet orchestration across long distances.

## South & Central America

Pilot corridors expand around metro areas and trade routes, with emphasis on affordable, standards-compliant C-V2X security and managed trust. Connectivity variability necessitates tolerant CRL distribution and offline-safe RSU operation. Procurement favors vendors with local partners, bilingual tooling, and clear upgrade paths to 5G NR-V2X and PQC without forklift changes.

## V2X Cybersecurity Market Segmentation

### By Connectivity

Cellular

DSRC

### By Communication

Vehicle-to-Vehicle (V2V)

Vehicle-to-Infrastructure (V2I)

Vehicle-to-Pedestrian (V2P)

Vehicle-to-Grid (V2G)

#### By Vehicle

Passenger Cars

Commercial Vehicles

#### By Security Framework

PKI

Embedded

#### By Form

In-Vehicle

External Cloud Services

#### By Propulsion

Internal Combustion Engines

Electric Vehicles

#### By Security

Endpoint Security

Software Security

Cloud Security

Key Market players

NXP Semiconductors, Qualcomm, BlackBerry (QNX/Cylance), ESCRYPT (Bosch), Argus Cyber Security (Continental), Karamba Security, GuardKnox, Upstream Security, AUTOCRYPT, Irdeto, VicOne (Trend Micro), Cybellum (LG), C2A Security, Trend Micro, Infineon Technologies

V2X Cybersecurity Market Analytics

The report employs rigorous tools, including Porter's Five Forces, value chain mapping, and scenario-based modelling, to assess supply–demand dynamics. Cross-sector influences from parent, derived, and substitute markets are evaluated to identify risks and opportunities. Trade and pricing analytics provide an up-to-date view of international flows, including leading exporters, importers, and regional price trends. Macroeconomic indicators, policy frameworks such as carbon pricing and energy security strategies, and evolving consumer behaviour are considered in forecasting scenarios. Recent deal flows, partnerships, and technology innovations are incorporated to assess their impact on future market performance.

V2X Cybersecurity Market Competitive Intelligence

The competitive landscape is mapped through OG Analysis' proprietary frameworks, profiling leading companies with details on business models, product portfolios, financial performance, and strategic initiatives. Key developments such as mergers & acquisitions, technology collaborations, investment inflows, and regional expansions are analyzed for their competitive impact. The report also identifies emerging players and innovative startups contributing to market disruption. Regional insights highlight the most promising investment destinations, regulatory landscapes, and evolving partnerships across energy and industrial corridors.

Countries Covered

North America — V2X Cybersecurity market data and outlook to 2034

United States

Canada

Mexico

#### Europe — V2X Cybersecurity market data and outlook to 2034

Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

#### Asia-Pacific — V2X Cybersecurity market data and outlook to 2034

China

Japan

India

South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — V2X Cybersecurity market data and outlook to 2034

Saudi Arabia

South Africa

Iran

UAE

Egypt

South and Central America — V2X Cybersecurity market data and outlook to 2034

Brazil

Argentina

Chile

Peru

\* We can include data and analysis of additional countries on demand.

## Research Methodology

This study combines primary inputs from industry experts across the V2X Cybersecurity value chain with secondary data from associations, government publications, trade databases, and company disclosures. Proprietary modeling techniques, including data triangulation, statistical correlation, and scenario planning, are applied to deliver reliable market sizing and forecasting.

## Key Questions Addressed

What is the current and forecast market size of the V2X Cybersecurity industry at global, regional, and country levels?

Which types, applications, and technologies present the highest growth potential?

How are supply chains adapting to geopolitical and economic shocks?

What role do policy frameworks, trade flows, and sustainability targets play in shaping demand?

Who are the leading players, and how are their strategies evolving in the face of global uncertainty?

Which regional “hotspots” and customer segments will outpace the market, and what go-to-market and partnership models best support entry and expansion?

Where are the most investable opportunities—across technology roadmaps, sustainability-linked innovation, and M&A—and what is the best segment to invest over the next 3–5 years?

## Your Key Takeaways from the V2X Cybersecurity Market Report

Global V2X Cybersecurity market size and growth projections (CAGR), 2024-2034

Impact of Russia-Ukraine, Israel-Palestine, and Hamas conflicts on V2X Cybersecurity trade, costs, and supply chains

V2X Cybersecurity market size, share, and outlook across 5 regions and 27 countries, 2023-2034

V2X Cybersecurity market size, CAGR, and market share of key products, applications, and end-user verticals, 2023-2034

Short- and long-term V2X Cybersecurity market trends, drivers, restraints, and opportunities

Porter's Five Forces analysis, technological developments, and V2X Cybersecurity supply chain analysis

V2X Cybersecurity trade analysis, V2X Cybersecurity market price analysis, and V2X Cybersecurity supply/demand dynamics

Profiles of 5 leading companies—overview, key strategies, financials, and products

Latest V2X Cybersecurity market news and developments

### Additional Support

With the purchase of this report, you will receive

An updated PDF report and an MS Excel data workbook containing all market tables and figures for easy analysis.

7-day post-sale analyst support for clarifications and in-scope supplementary data, ensuring the deliverable aligns precisely with your requirements.

Complimentary report update to incorporate the latest available data and the impact of recent market developments.

\* The updated report will be delivered within 3 working days

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