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Telematics Systems-on-Chips Market Forecasts to 2032 – Global Analysis By Processing Core (ARM-based, x86-based, RISC-V based), Node Size (>20 nm, 20–10 nm,

Abstracts

According to Stratistics MRC, the Global Telematics Systems-on-Chips Market is accounted for $5.6 billion in 2025 and is expected to reach $11.6 billion by 2032 growing at a CAGR of 10.9% during the forecast period. Telematics Systems-on-Chips integrates advanced semiconductor platforms combining computing, communication, and positioning technologies to power connected vehicle ecosystems. These SoCs enable real-time navigation, infotainment, vehicle-to-everything (V2X) communication, and fleet management solutions. Driven by the rise of autonomous vehicles, electric mobility, and connected logistics, the market is expanding rapidly. OEMs and service providers are increasingly adopting SoCs to deliver efficient, scalable, and secure telematics solutions. With accelerating demand for intelligent transport systems, this market is becoming pivotal in shaping the future of automotive connectivity worldwide.

Market Dynamics:

Driver:

Demand for Enhanced Processing Power

The relentless consumer and regulatory push for smarter, more connected vehicles is the primary catalyst for the need for enhanced processing power in Telematics SoCs. Modern telematics units are no longer just for navigation; they are the hub for real-time data analytics, advanced driver-assistance systems (ADAS), and V2X communication. This requires SoCs with immense computational capabilities to process data from multiple sensors and cameras simultaneously without latency. Consequently, semiconductor companies are prioritizing the development of high-performance, multi-core processors to meet these rigorous demands, directly fueling market growth

Restraint:

High Development Costs

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Developing a system-on-chip involves complex architecture, licensing of proprietary IP cores, and expensive fabrication processes at cutting-edge semiconductor nodes. Moreover, achieving automotive-grade certification for reliability and longevity adds another layer of cost. These soaring expenses can deter smaller players and strain the R&D budgets of even established companies, potentially slowing the pace of innovation and consolidation in the market as only the well-funded competitors can keep pace.

Opportunity:

Growth of Autonomous and Connected Vehicles

The accelerating global rollout of autonomous and connected vehicle platforms unlocks a substantial growth avenue for Telematics SoC manufacturers. These vehicles rely on telematics systems as their communication nervous system, requiring SoCs that can handle massive data throughput for real-time mapping, sensor fusion, and vehicle-to-everything (V2X) interactions. This evolution from basic telematics to critical autonomous driving functions creates a need for more sophisticated, secure, and powerful chips. Companies that can deliver integrated solutions meeting the stringent safety standards of autonomous driving are positioned to capture a significant and lucrative share of this emerging market.

Threat:

Intellectual Property (IP) Security Risks

As Telematics SoCs become more complex and interconnected, they face escalating threats from cybersecurity breaches and intellectual property theft. These chips contain valuable proprietary designs and process sensitive vehicle and user data, making them attractive targets for malicious actors. A successful hack could lead to unauthorized access to vehicle systems, privacy violations, or the theft of costly R&D investments. Moreover, such security failures can severely damage a brand's reputation and erode consumer trust in connected car technologies, potentially leading to slowed adoption rates and increased liability for manufacturers.

Covid-19 Impact:

The pandemic initially disrupted the Telematics SoC market through factory closures and severe supply chain bottlenecks, halting production and delaying vehicle

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manufacturing. However, the crisis also accelerated the long-term trend towards digitalization and connectivity. The heightened focus on contactless services and fleet management to ensure business continuity stimulated demand for telematics solutions post the initial lockdowns. This created a V-shaped recovery, where the market not only rebounded but entered a new phase of growth, as industries recognized the critical role of reliable connectivity in a resilient operational model.

The ARM-based architecture segment is expected to be the largest during the forecast period

The ARM-based architecture segment is expected to account for the largest market share during the forecast period attributed to its exceptional balance of performance and energy efficiency, a critical requirement for the always-on nature of telematics units in vehicles. Furthermore, ARM's established ecosystem and licensing model provide a scalable and cost-effective foundation for semiconductor companies to build upon, reducing time-to-market. Its widespread adoption across the mobile and embedded industries has created a vast repository of software and developer expertise, making it the de facto choice for automakers and Tier-1 suppliers seeking reliable and versatile processing solutions for their connected car portfolios.

The safety and security integration segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the safety and security integration segment is predicted to witness the highest growth rate driven by the automotive industry's transition towards higher levels of autonomy, where functional safety is non-negotiable. Stringent regulations and consumer awareness are forcing automakers to integrate robust hardware-based security features directly into the SoC silicon to protect against cyberattacks. Additionally, achieving certifications like ISO 26262 for functional safety requires dedicated security subsystems, which are now becoming a standard component in modern Telematics SoCs. This convergence of regulatory pressure and technological necessity makes safety and security integration the fastest-growing critical function within the chip design.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share anchored by the presence of major automotive OEMs and a strong technology sector that is an early adopter of advanced telematics and connected car

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services. High consumer disposable income in the region fuels demand for premium vehicles equipped with sophisticated infotainment and ADAS features, all of which rely on advanced Telematics SoCs. Moreover, supportive government regulations promoting vehicle safety and the well-established infrastructure for testing autonomous vehicles create a conducive environment for the deployment and innovation of next-generation telematics systems, solidifying the region's dominant position.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR propelled by the explosive expansion of its automotive production and sales, particularly in China, Japan, and South Korea. This region is a global hub for semiconductor manufacturing and electronics, ensuring a robust supply chain for key components. Furthermore, rising urbanization, increasing investments in smart city infrastructure, and growing governmental mandates for vehicle tracking and safety are creating massive demand for telematics systems. The burgeoning middle class's appetite for connected features in new vehicles provides a vast, untapped market for Telematics SoC vendors, driving exceptional growth.

Key players in the market

Some of the key players in Telematics Systems-on-Chips Market include Qualcomm, NXP Semiconductors, Renesas Electronics, Infineon Technologies, STMicroelectronics, MediaTek, Texas Instruments, NVIDIA, Broadcom, Mobileye, Robert Bosch, Continental, HARMAN, u-blox, Quectel, and Sierra Wireless.

Key Developments:

In September 2025, Qualcomm partnered with BMW to unveil the Snapdragon Ride Pilot, an advanced AI-enabled automated driving system in the BMW iX3, supporting hands-free driving on highways and smart parking, validated in over 60 countries.

In April 2025, Texas Instruments (TI) introduced a new portfolio of automotive lidar, clock and radar chips to help automakers transform vehicle safety by bringing more autonomous features to a wider range of cars. TI's new LMH13000, the industry's first integrated high-speed lidar laser driver, delivers ultra-fast rise time to improve real-time decision-making. The industry's first automotive BAW-based clocks, the CDC6C-Q1 oscillator and LMK3H0102-Q1 and LMK3C0105-Q1 clock generators, improve advanced driver assistance system (ADAS) reliability. Addressing evolving ADAS

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needs, TI's new AWR2944P mmWave radar sensor offers advanced front and corner radar capabilities.

In June 2025, Broadcom is now shipping its Tomahawk 6 switch chip, offering 102.4 terabits per second of bandwidth on a single chip. That’s double the capacity of any current Ethernet switch and is aimed squarely at powering larger, more complex AI networks. Built to handle both scale-up and scale-out network designs, Tomahawk 6 supports 100G and 200G SerDes and co-packaged optics, giving cloud providers and hyperscalers flexible options when connecting clusters of over a million processing units. It also introduces new routing features that help networks respond to congestion and failure in real time critical for AI training and inference tasks.

Node Sizes Covered:

>20 nm (Legacy Nodes)

20 nm %- %10 nm (Mainstream Nodes)

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