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Automotive AI Market by Offerings (Compute, Memory, Software), Level of Autonomy (L1, L2, L3, L4, L5), Technology (Deep Learning, ML, Computer Vision, Context-aware Computing, NLP), Application (ADAS, Infotainment, Telematics) - Global Forecast to 2030

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Abstracts

The automotive AI market is projected to expand from USD 18.83 billion in 2025 to USD 38.45 billion by 2030, registering a CAGR of 15.3%. The market is being propelled by the emerging trend of autonomous vehicles, which rely heavily on AI for perception, navigation, and real-time decision-making. As the industry moves toward higher levels of autonomy, the demand for intelligent systems continues to rise. Simultaneously, the growing volume of in-vehicle data generated from sensors, cameras, and connected systems is fueling the need for AI-driven analytics to enhance safety, efficiency, and personalization.

“Hardware segment projected to record highest CAGR during forecast period”

The hardware segment is expected to grow at a high rate in the automotive AI market due to the increasing integration of advanced sensors, AI accelerators, and high-performance computing chips required to power autonomous driving systems and intelligent vehicle features. As vehicles evolve into data-intensive platforms, there is a rising need for robust hardware infrastructure, such as GPUs, ASICs, FPGAs, and edge AI chips, to process real-time data from cameras, LiDAR, radar, and ultrasonic sensors. Moreover, the transition toward software-defined vehicles is pushing automakers to adopt powerful domain controllers and centralized computing architectures.

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“Computer vision technology to hold significant market share in 2025”

Computer vision holds a significant share in the overall automotive AI market due to its indispensable role in enabling real-time environmental perception, which is critical for both autonomous driving and advanced driver assistance systems (ADAS). The technology powers essential functionalities such as lane detection, pedestrian recognition, traffic sign identification, and obstacle avoidance by analyzing visual data from cameras and sensors. As vehicles become more intelligent and safety regulations tighten globally, OEMs and Tier 1 suppliers are prioritizing investments in robust computer vision systems to enhance vehicle awareness and decision-making capabilities.

“Europe to be second-largest market for automotive AI in 2025”

Europe accounts for the second-largest share of the global automotive AI market owing to its strong automotive manufacturing base, stringent safety and emissions regulations, and early adoption of advanced driver assistance and autonomous driving technologies. Countries like Germany, France, and the UK are home to leading OEMs and Tier-1 suppliers that are aggressively integrating AI into vehicle platforms to enhance driver safety, energy efficiency, and in-cabin experience. The region’s focus on premium, electric, and software-defined vehicles is creating a high demand for AI-driven functionalities.

Extensive primary interviews were conducted with key industry experts in the automotive AI market space to determine and verify the market size for various segments and subsegments gathered through secondary research. The breakdown of primary participants for the report is shown below.

The study contains insights from various industry experts, from component suppliers to Tier 1 companies and OEMs. The break-up of the primaries is as follows:

By Company Type: Tier 1–50%, Tier 2–30%, and Tier 3–20%

By Designation: C-level Executives–40%, Directors–30%, and Others–30%

By Region: Asia Pacific–40%, Europe–30%, North America–20%, and RoW–10%

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The automotive AI market is dominated by a few globally established players, such as Tesla (US), NVIDIA Corporation (US), Mobileye (Israel), Qualcomm Technologies, Inc. (US), Advanced Micro Devices, Inc. (US), Alphabet Inc. (US), Aptiv (Switzerland), Micron Technology, Inc. (US), Microsoft (US), IBM (US), Nauto (US), Aurora Operations, Inc. (US), Wayve (UK), Nuro, Inc. (US), Pony.ai (China), HELM.AI (US), Tactile Mobility (Israel), DeepRoute.ai (China), Cognata (Israel), Nullmax (US), comma ai (US), Motional, Inc. (US), Oxa Autonomy Limited (UK), Imagry Autonomous Driving Software Company (US), and Applied Intuition, Inc. (US).

The study includes an in-depth competitive analysis of these key players in the automotive AI market, with their company profiles, recent developments, and key market strategies.

Research Coverage:

The report segments the automotive AI market based on offering (hardware, software), architecture (von neumann architecture, neuromorphic architecture), level of autonomy (L1, L2, L3, L4, L5), technology (deep learning, machine learning, computer vision, context-aware computing, natural language processing), and application (autonomous driving (AD)/advanced driver assistance systems (ADAS), infotainment systems, vehicle telematics, others). It also discusses the market's drivers, restraints, opportunities, and challenges. It gives a detailed view of the market across four main regions (North America, Europe, Asia Pacific, and RoW). The report includes an ecosystem analysis of key players.

Key Benefits of Buying the Report:

Analysis of key drivers (Growing adoption of ADAS technology by OEMS, Rising demand for enhanced user experience and convenience features, Emerging trend of autonomous vehicles, growing volume of in-vehicle data), restraints (Increase in overall cost of vehicles, Threat to vehicle-related cybersecurity, Inability to identify human signals), opportunities (Increasing demand for premium vehicles, Growing need for sensor fusion, High potential of in-car payments), challenges (Limited real-world testing and validation frameworks, AI model explainability and trust issues)

Service Development/Innovation: Detailed insights on upcoming technologies, research and development activities, and new product launches in the automotive AI market

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Market Development: Comprehensive information about lucrative markets through the analysis of the automotive AI market across varied regions

Market Diversification: Exhaustive information about new products and services, untapped geographies, recent developments, and investments in the automotive AI market

Competitive Assessment: In-depth assessment of market shares, growth strategies, and product offerings of leading players, such as Tesla (US), NVIDIA Corporation (US), Mobileye (Israel), Qualcomm Technologies, Inc. (US), Advanced Micro Devices, Inc. (US), Alphabet Inc. (US), Aptiv (Switzerland), Micron Technology, Inc. (US), Microsoft (US), IBM (US), Nauto (US), Aurora Operations, Inc. (US), Wayve (UK), Nuro, Inc. (US), and Pony.ai (China), among others

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List Of Tables

LIST OF TABLES

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List Of Figures

LIST OF FIGURES

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