

Embedded AI Market by Offering (Hardware, Software, Services), Data Type (Numerical Data, Categorical Data, Image & Video Data), Vertical (Automotive, Manufacturing, Healthcare & Life Sciences, Telecom), and Region - Global Forecast to 2028

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Abstracts

The Embedded AI market is projected to grow from USD 9.4 billion in 2023 to USD 18.0 billion by 2028 at a compound annual growth rate (CAGR) of 14.0% during the forecast period. The market is anticipated to grow due to the growing demand for intelligent and autonomous systems for a personalized experience and increasing advancements in AI and ML technologies for better and smart decisions.

By offering the hardware segment to hold the largest market size during the forecast period

The hardware segment of the embedded AI market is growing rapidly due to the increasing demand for AI-powered devices and applications. Embedded AI hardware plays a critical role in the market by providing the necessary computing power and specialized capabilities to support AI applications directly on embedded systems. Embedded AI hardware can be customized and integrated into specific embedded systems, ensuring seamless compatibility and efficient utilization of resources. This allows hardware vendors and system designers to tailor the AI hardware to meet the specific requirements of the target application, achieving optimal performance and functionality.

By vertical, the healthcare and life sciences segment to have the highest CAGR during the forecast period

Across the healthcare and life science sector, embedded AI is used in medical devices and equipment for diagnostics, patient monitoring, personalized medicine, and data analysis. AI algorithms embedded in medical devices help in the early detection of diseases, decision support for clinicians, and remote patient monitoring. Embedded AI adoption in the healthcare and life sciences industry has grown rapidly, driven by the potential to improve patient outcomes, enhance efficiency, and enable personalized medicine.

North America to witness fastest growing market size during the forecast period

North America is experiencing significant technological growth in the Embedded AI market, driven by various factors shaping the landscape of intelligent and connected devices. Embedded AI adoption in North America is gaining momentum across industries, driven by technological advancements, the rise of IoT, a supportive ecosystem, and increasing awareness of its benefits. The region is witnessing a proliferation of intelligent edge devices and innovative applications that leverage Embedded AI, contributing to the transformation of various

Breakdown of primaries

In-depth interviews were conducted with Chief Executive Officers (CEOs), innovation and technology directors, system integrators, and executives from various key organizations operating in the social media management market.

By Company: Tier I: 38%, Tier II: 50%, and Tier III: 12%

By Designation: C-Level Executives: 35%, D-Level Executives: 40%, and Managers: 25%

By Region: North America: 40%, Asia Pacific: 20%, Europe: 30%, and Middle East Africa: 5% and Latin America: 5%

The report includes the study of key players offering embedded AI solutions. It profiles major vendors in the Embedded AI market. The major players in the Embedded AI market include Google (US), IBM (US), Microsoft (US), AWS (US), NVIDIA (US), Intel (US), Qualcomm (US), Arm (UK), AMD (US), MediaTek (Taiwan), Oracle (US), Salesforce (US), NXP (Netherlands), Lattice (Oregon), Octonion (Switzerland), NeuroPace (US), Siemens (Germany), HPE (US), LUIS Technology (Germany), Code

Time Technologies (Canada), HiSilicon (China), VectorBlox (Canada), Au-Zone Technologies (Canada), STMicroelectronics (Switzerland), SenseTime (Hong Kong), Edge Impulse (US), Perceive (US), Eta Compute (US), SensiML (US), Syntiant (US), Graphcore (UK), and SiMa.ai (US).

Research coverage

The research study for the Embedded AI market involved extensive secondary sources, directories, journals, and paid databases. Primary sources were mainly industry experts from the core and related industries, preferred embedded AI providers, third-party service providers, consulting service providers, end users, and other commercial enterprises. In-depth interviews were conducted with various primary respondents, including key industry participants and subject matter experts, to obtain and verify critical qualitative and quantitative information, and assess the market's prospects.

Key Benefits of Buying the Report

The report would provide the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall Embedded AI market and its subsegments. It would help stakeholders understand the competitive landscape and gain more insights better to position their business and plan suitable go-to-market strategies. It also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

Analysis of key drivers (Growing demand for intelligent and autonomous systems for a personalized experience, increasing advancements in AI and ML technologies for better and smart decisions, the proliferation of connected devices and IoT ecosystem for effective communications, rising usage of embedded AI for industry-specific applications), restraints (Concerns related to data privacy and security, shortage of skilled and talented workforce), opportunities (Rise in demand for more powerful and energy-efficient processors to effectively handle complex AI algorithms, integration with cloud-based AI services for better scalability), and challenges (Inadequate computational resources and model optimization, high infrastructure costs with lower ROI).

Product Development/Innovation: Detailed insights on upcoming technologies,

research & development activities, and new product & service launches in the Embedded AI market

Market Development: Comprehensive information about lucrative markets – the report analyses the Embedded AI market across varied regions

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

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players such as Google (US), IBM (US), Microsoft (US), AWS (US), NVIDIA (US), Intel (US), Qualcomm (US), Arm (UK), AMD (US), MediaTek (Taiwan), Oracle (US), among others in the Embedded AI market strategies. The report also helps stakeholders understand the pulse of the Embedded AI market and provides them with information on key market drivers, restraints, challenges, and opportunities.

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8.4.4 FRAUD DETECTION & PREVENTION

8.4.4.1 Embedded AI to detect fraud in real time and provide comprehensive view of customer activities

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8.5.1 PREDICTIVE MAINTENANCE

8.5.1.1 Embedded AI to aid in predictive maintenance by analyzing data and enabling proactive and timely maintenance actions

8.5.2 WASTE MANAGEMENT

8.5.2.1 Embedded AI to help avoid unplanned downtime and prevent waste generated by faulty machinery

8.5.3 AUTOMATION & ROBOTICS

8.5.3.1 Embedded AI to aid robots in analyzing data, making decisions, executing tasks faster, and reducing human error

8.5.4 QUALITY CONTROL & INSPECTION

8.5.4.1 AI technology to enhance quality control and inspection processes

8.5.5 PRODUCT DESIGN & OPTIMIZATION

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8.7.1.1 Embedded AI to help monitor real-time data and minimize travel time and fuel consumption

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8.7.2.1 Need to improve operational efficiency and analyze historical data and market trends to drive demand for embedded AI in inventory management

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8.7.3.1 Embedded AI to optimize routes, make real-time adjustments, and reduce fuel consumption

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8.7.4.1 Embedded AI to facilitate real-time monitoring of freight shipments and improve operational efficiency

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8.8.1 MEDICAL DIAGNOSIS

8.8.1.1 Embedded AI to analyze vast amounts of patient data and aid in accurate diagnosis and treatment planning

8.8.2 DRUG DISCOVERY

8.8.2.1 Embedded AI to accelerate and optimize drug discovery and analyze vast amounts of drugs to identify potential drug targets

8.8.3 PERSONALIZED MEDICINE

8.8.3.1 Embedded AI to interpret genomic data, predict disease risk, and provide personalized diagnostic recommendations

8.8.4 REMOTE PATIENT MONITORING

8.8.4.1 RPM empowered by embedded AI to monitor patients' health conditions and collect real-time data

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8.9.1.1 Embedded AI to transform content creation, provide innovative tools, and improve quality, efficiency, and personalization of media experiences

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8.9.2.1 Embedded AI to automate content analytics by analyzing and comprehending extensive volumes of media content

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8.10.1.1 Embedded AI to analyze network traffic patterns in real time, reduce latency, and improve network responsiveness

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8.10.2.1 Embedded AI to process and understand unstructured data and monitor network traffic and identify abnormal patterns

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9.3.4.1 Acquisitions and partnerships between major companies to develop intelligent devices to propel demand for embedded AI

9.3.5 FRANCE

9.3.5.1 Focus of STMicroelectronics on developing cutting-edge embedded AI solutions to drive market

9.3.6 ITALY

9.3.6.1 Integration of edge computing and AI capabilities and rising demand from healthcare sector to drive market

9.3.7 SPAIN

9.3.7.1 Establishment of BSC as European AI-on-demand platform to drive market

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9.4.5.1 Deployment of AI in diverse sectors and presence of companies and startups specialized in embedded AI to drive market

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9.4.6.1 Focus on developing cutting-edge AI solutions and attracting investments to drive demand for embedded AI

9.4.7 SOUTH KOREA

9.4.7.1 Significant strides in AI research, development, and deployment and focus of companies on developing AI devices to drive market

9.4.8 ASEAN COUNTRIES

9.4.8.1 Growing digital transformation efforts, expanding technology infrastructure, and increasing demand for AI-enabled applications to drive market

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9.5.3.1 Government initiatives to promote advancement of technology and innovation to drive demand for embedded AI

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9.5.4.1 Supportive government regulations and investment in technology to boost demand for embedded AI

9.5.5 SOUTH AFRICA

9.5.5.1 Need for real-time data analysis, reduced latency, and enhanced data privacy to propel demand for embedded AI

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*Details on Business overview, Products/Solutions/Services offered, Recent Developments, MNM view might not be captured in case of unlisted companies.

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