Embedded Systems Market Anticipated to Garner $163.2 billion by 2030, at 6.5% CAGR | Key Dynamics & Business Strategies

Rise in investment made by government agencies in next-generation electric vehicles (EV) and automotive & defense sectors to drive the growth of the market.

WILMINGTON, DELAWARE , UNITED STATES, February 19, 2024 /EINPresswire.com/ -- According to a new report published by Allied Market Research, titled, Embedded Systems Market Size, Share, Competitive Landscape and Trend Analysis Report by Component (Hardware, Software), by Application (Automotive, Consumer Electronics, Industrial, Aerospace and Defense, Others): Global Opportunity Analysis and Industry Forecast, 2021-2031

Global embedded systems industry generated $89.1 billion in 2021, and is estimated to reach $163.2 billion by 2031, witnessing a CAGR of 6.5% from 2022 to 2031.

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Rise in investment made by government agencies in next-generation electric vehicles (EV) and automotive & defense sectors to drive the growth of embedded systems market. Surge in investment made by prime players in emerging economies to boost the global market trends. Rise in penetration of 5G network across various sectors and increase in use of 5G devices in embedded systems will open new growth avenues for the global market. Growing security concerns related to embedded devices will put brakes on the global market growth.

An embedded system is a physical computer system with integrated software that uses a semiconductor microprocessor to carry out a particular task as a stand-alone or large-scale system. The central component of embedded systems is an integrated circuit designed to advance compute activities and processes in real-time. Embedded systems can be simple to use through simply linked peripherals to complicated connected microcontrollers, from no UI to realistic graphical UI. They can be constructed at any level of deep collaboration, depending on their duties. Currently, embedded systems have been increasingly used in consumer electronics and electric vehicles. Embedded systems engineer are revolutionizing the embedded system design process and altering the way data centers are managed. These chips allow critical tasks to be transferred from software to hardware in order to save power, which is critical for power-sensitive embedded systems applications.

The following variables significantly influence the growth of the global embedded systems industry which is, rise in the number of embedded systems-related research and development initiatives, as well as the demand for ADAS in EV and hybrid vehicles. Additionally, the market opportunity is anticipated to be driven by the demand for multicore CPUs in military applications. The market's expansion is, however, hampered by the rising vulnerability of embedded systems to security flaws and cyberattacks. The advent of 5G, the development of embedded devices based on 5G, and the widespread use of embedded systems in smart homes, on the other hand, are anticipated to present prospective growth opportunities for the global embedded systems market during the forecast period.

The global digital twin market is analyzed across application, component, and region.
Based on application, the consumer electronics segment held the major market share in 2021, holding nearly two-fifths of the global embedded systems market share, and is expected to maintain its leadership status during the forecast period. The increased demand for consumer electronics devices such smartphones, laptops, handheld gaming consoles, smart TVs, and others running on Android, Linux, and other operating systems is expected to boost the expansion of the embedded system industry during the forecast period. The development of the Internet of Things (IoT), artificial intelligence (AI), and the potential development of emerging economies are further factors contributing to the market expansion making it as a largest segment in embedded systems market. However, the automotive segment, is expected to cite the fastest CAGR of 10.0% during the forecast timeline. The redesign of the automotive sector is largely being driven by embedded technology. These systems are utilized by the ADAS technology found in hybrid and electric automobiles. The embedded system industry has expanded because of the rise in demand for electric and hybrid vehicles brought on by public awareness of the environment's declining condition. Thus it is anticipated to witness automotive segment as a fastest growing segment during the forecast period.

On the basis of component, the hardware segment held the largest market share in 2021, accounting for more than two-third of the global embedded systems market share, and is expected to maintain its leadership status during the forecast period. However, the hardware segment, is expected to cite the highest CAGR of 7.3% during the forecast period. The report also includes segments such as software. Increase in an embedded system in cloud connectivity, improved security tools, real-time visualizations, lower power consumption, and deep learning solutions are some of the key market trends observed during the forecast period. In addition, the embedded system is expected to continue growing rapidly, driven in large part by the internet of things. Expanding IoT applications, such as wearables, drones, smart homes, smart buildings, video surveillance, 3D printers and smart transportation, are expected to fuel the embedded market. Thus, it is anticipated to witness a fastest growing and largest segment during the forecast period.

Region-wise, the North American region held the major market share in 2021, grabbing more than two-fifths of the global embedded systems market share. However the Asia-Pacific market is slated to dominate the global market share during the forecast period. The embedded systems market in Asia-Pacific is expected to be largest segment in sectors like automotive, industrial, and others. A developing trend in the area is the "Internet of Cars," which promotes more connectivity using technologically advanced cars which use sophisticated embedded systems.

The rising demand for eco-friendly technologies and vehicle security in nations like India, China, and Japan is attributable to the rising desire for advanced embedded systems Nevertheless, the European region is expected to cite the fastest CAGR of 8.7% during the forecast period. Embedded Systems is anticipated to see a surge in applications such as Internet of Things (IoT), drone deliveries, smart factories, and others, in Europe. Furthermore, smart wearables, embedded OS in automotive and other applications continuously require highly advanced and compact embedded systems which further boosts the demand for embedded systems in the market, Therefore, it is anticipated to be the fastest growing segment during the forecast period. The report also analyses other regions such as LAMEA.

The key players profiled in the report include Advantech, Analog Devices, Cypress semiconductors, Infineon Technologies, Intel Corporation, Microchip Technology , NXP Semiconductors, Qualcomm Incorporated, Renesas Electronics, STMicroelectronics and Texas Instruments, Inc. Market players have adopted various strategies such as product launch, collaboration, partnership, joint venture, and acquisition to expand their foothold in the global embedded systems market.

Key Benefits for Stakeholders:
□□ This study comprises analytical depiction of the digital twin market size along with the current trends and future estimations to depict the imminent investment pockets.
□□ The overall digital twin market analysis is determined to understand the profitable trends to gain a stronger foothold.
□□ The report presents information related to key drivers, restraints, and opportunities with a detailed impact analysis.
□□ The current market forecast is quantitatively analyzed from 2021 to 2030 to benchmark the financial competency
□□ Porter's five forces analysis illustrates the potency of the buyers and suppliers in the market.
□□ The report includes the market share of key vendors and digital twin market trends.

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