

Asia Pacific Embedded Non-Volatile Memory Market Forecast to 2030 - Regional Analysis - by Product (eFlash, eE2PROM, FRAM, and Others) and Application (Consumer Electronics, Automotive, Robotics, and Others)

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Abstracts

The Asia Pacific embedded non-volatile memory market was valued at US\$ 292.06 million in 2022 and is expected to reach US\$ 1,621.79 million by 2030; it is estimated to grow at a CAGR of 23.9% from 2022-2030.

Increasing Demand in Low-Power IoT Modules Boosts Asia Pacific Embedded Non-Volatile Memory Market

Technological giants worldwide are highly focused on research and development of new technologies. IoT is positioned at the core of the next-gen software technologies in the embedded non-volatile memory market. Embedded non-volatile memory has a wide range of applications in the IoT sector. They are used to collect and store data to help users perform future decision-making activities. An embedded non-volatile memory is capable of supporting low-power IoT modules. The growing shipment of IoT modules is fueling the embedded non-volatile memory market. For instance, in the first quarter of 2023, companies such as Telit Cinterion, Quectel, and Fibocom increased the shipment of low-power NB-IoT and LTE-M (Cat-M) modules. Embedded non-volatile memory supports IoT modules by saving additional space and cost by reducing the need for on- and off-chip to regulate the voltage of the modules. IoT modules are most commonly used in IoT edge or endpoint devices for solving challenges related to ultra-low power operation and shrinking size. IoT modules can connect to the cloud, exchange data packets, and download firmware in batches while operating independently. These modules require high energy and power to perform operations, which increases the

demand for embedded non-volatile memory among users. Furthermore, the growing demand for ultra-low power consumption IoT modules encourages market players to develop new innovative embedded non-volatile memory that requires low power to perform operations. For instance, in June 2022, STMicroelectronics launched the Electrically Erasable Programmable Read-Only Memory (EEPROM) series. The EEPROM series is a new high-density, all-in-one embedded non-volatile memory family that supports embedded systems and tiny IoT modules to operate effectively in low-power energy. The EEPROM series offers several benefits to the user, including efficient data logging, fast upload/download, and ultra-low power for enhancing module efficiency while minimizing power dissipation. The extensive adoption of IoT is fueling the market growth. For instance, according to the Cisco Visual Networking Index, in 2022, there were more than 28 billion network devices enabled with embedded systems and powered by IoT. The network devices help users improve connectivity and security and reduce additional operational costs for the business. The integration of embedded systems with IoT devices and platforms is enabling new applications and services in areas such as smart homes, smart cities, and industrial IoT. Also, the expansion of smart cities and smart home projects is anticipated to increase the demand for embedded non-volatile memory in IoT-based embedded systems, thereby providing opportunities for the market growth.

Asia Pacific Embedded Non-Volatile Memory Market Overview

The embedded non-volatile memory market in APAC is segmented into China, India, Australia, Japan, South Korea, and the Rest of APAC. Vast industrialization, low labor cost, favorable economic policies, positive economic development, and an increase in foreign direct investments (FDIs) and foreign institutional investments (FIIs), among others, contribute to the growth of the APAC embedded non-volatile memory market. Taiwan and China are the leading semiconductor manufacturing countries in APAC. The governments of emerging economies have been taking strategic initiatives, such as Made in China 2025 and make in India, to promote the growth of the domestic manufacturing sectors for making the respective countries capable of meeting the native demands and exporting surplus goods. Moreover, the rising GDP per capita in developing countries, such as India and China, leads to a large client base for high-tech consumer electronics such as smart wearables, appliances, electric vehicles, and smartphones. Many Asian economies are characterized by the mass production of electronic components or devices required for consumer electronics, telecommunication devices, automotive components, and other industrial machinery. As per the Ericsson Mobility Report, their mobile connections in APAC are expected to rise from ~4 billion to 4.6 billion by the end of 2021. An increase in the adoption of smartphones and other

advanced internet-enabled devices is anticipated to boost the demand for embedded non-volatile memory in APAC. Moreover, APAC is the biggest consumer of smartphones, as ~732 million units were bought by consumers in 2019. The telecommunication sector is witnessing strong growth in Asia Pacific mainly due to the positive outlook toward introducing 5G networks and the strong presence of 4G networks. According to Ericsson's mobility report, Western and Northeast Asia would account for 66% share of the total 5G adoption by 2026, while Southeast Asia and Oceania would hold 32% share by 2026; the rest of the shares would be held by the LTE (4G) technology. The region has a robust automotive sector, which is followed by the growing automotive manufacturing industry in countries such as India and South Korea. Countries such as China, India, South Korea, and Japan are among the leading vehicle manufacturing countries worldwide. For instance, India produced 3,394,446 vehicles, of which 2,938,653 were sold in 2020. Also, in 2020, China was the largest vehicle-producing country globally; it produced 25,225,242 vehicles in 2020, of which 25,311,069 were sold. Moreover, the governments in this region are undertaking various initiatives to support the automotive industry's growth. For instance, in 2019, the government of India announced its plan to set up research and development centers worth US\$ 388.5 million to enable the automotive sector to meet global standards.

Asia Pacific Embedded Non-Volatile Memory Market Revenue and Forecast to 2030 (US\$ Million)

Asia Pacific Embedded Non-Volatile Memory Market Segmentation

The Asia Pacific embedded non-volatile memory market is segmented based on product, application, and country. Based on product, the Asia Pacific embedded non-volatile memory market is categorized into eFlash, eE2PROM, FRAM, and others. The eFlash segment held the largest market share in 2022.

In terms of application, the Asia Pacific embedded non-volatile memory market is categorized into consumer electronics, automotive, robotics, and others. The others segment held the largest market share in 2022.

Based on country, the Asia Pacific embedded non-volatile memory market is segmented into China, Japan, South Korea, India, Australia, and the Rest of Asia Pacific. China dominated the Asia Pacific embedded non-volatile memory market share in 2022.

Microchip Technology Inc, Tower Semiconductor, GlobalFoundries Inc, eMemory

Technology Inc, Texas Instruments Inc, Hua Hong Semiconductor Ltd, Taiwan Semiconductor Manufacturing Co Ltd, United Microelectronics Corp, Semiconductor Manufacturing International Corp, and Synopsys Inc are some of the leading companies operating in the Asia Pacific embedded non-volatile memory market.

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