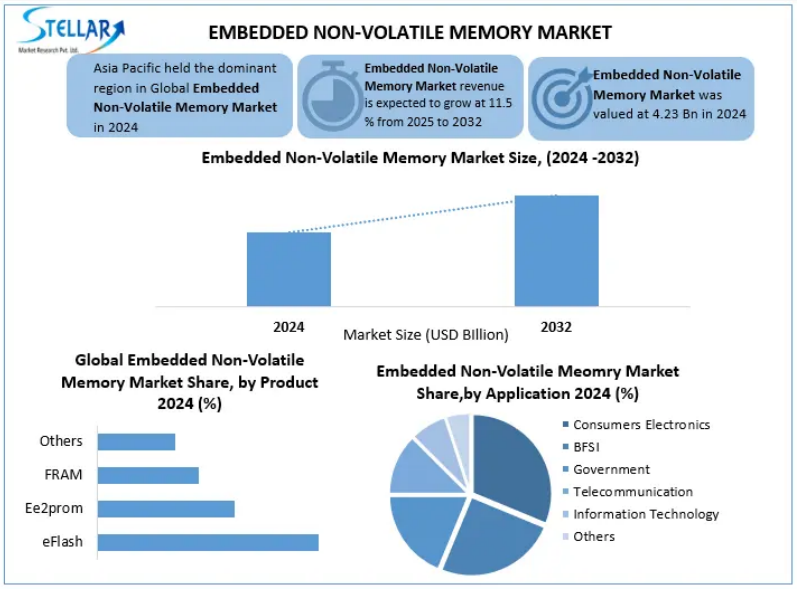
Embedded Non-Volatile Memory Market to Reach USD 10.11 Bn by 2032, CAGR 11.5% Driven by AI, IoT, EV & Automotive

Embedded non-volatile Market was valued at approximately USD 4.23 Bn in 2024. It is projected to reach around USD 10.11 Bn by 2032, exhibiting a CAGR of 11.5%.



Embedded Non-Volatile Memory Market

WILMINGTON, DE, UNITED STATES, October 10, 2025 /EINPresswire.com/ -- Discover the Embedded Non-Volatile Memory (eNVM) market, set to grow from USD 4.23 Bn in 2024 to 10.11 Bn by 2032 at a CAGR of 11.5%, driven by AI, IoT, EV, automotive, ReRAM, MRAM, and eFlash innovations.

Embedded Non-Volatile Memory Market Overview:

Embedded Non-Volatile Memory Market is booming, fueled by EVs, autonomous vehicles, AI, IoT, and 5G. TSMC (eFlash), Samsung (MRAM), and GlobalFoundries (low-power solutions) lead innovation, while ReRAM and MRAM deliver faster, durable, low-power memory. Asia-Pacific dominates production and adoption, backed by initiatives like China's "Made in China 2025," as North America and Europe focus on R&D and high-reliability eNVM, driving the next generation of automotive, AI, and IoT electronics.

> Embedded Non-Volatile Memory (eNVM) market is set to surge, driven by AI, IoT, EVs, and 5G, with MRAM, ReRAM, and eFlash powering next-gen automotive and smart device innovations."
>
> *Navneet Kaur*

How Embedded Non-Volatile Memory is Supercharging EVs and Smart Automotive Electronics

Embedded Non-Volatile Memory (eNVM) market is surging as electric and autonomous vehicles

demand high-speed, durable memory for infotainment, ADAS, engine control, and connectivity. eNVM ensures firmware, configuration data, and security keys remain intact even under extreme conditions, while over-the-air updates enhance performance and safety. As the automotive industry accelerates toward EVs and smart vehicles, robust, low-power, high-density eNVM is powering the next generation of connected automotive electronics.

Global Embedded Non-Volatile Memory Market Segments Covered	
By Product Type	eFlash eE2PROM FRAM Others
By Wafer Size	<100 mm >100 mm
By Application	BFSI Government Consumer Electronics Telecommunication Information Technology Others
By Region	**North America-** United States, Canada, and Mexico **Europe** – UK, France, Germany, Italy, Spain, Sweden, Russia, and Rest of Europe **Asia Pacific** – China, South Korea, Japan, India, Australia, Indonesia, Philippines, Malaysia, Vietnam, Thailand, Rest of APAC **Middle East and Africa** - South Africa, GCC, Egypt, Nigeria, Rest of the Middle East and Africa **South America** – Brazil, Argentina, Rest of South America

Embedded Non-Volatile Memory Market Segment

 Access the full Research Description at:
https://www.stellarmr.com/report/req_sample/embedded-non-volatile-memory-market/2837

ReRAM and eNVM:

Driving the Embedded Non-Volatile Memory Market for Connected EVs and Advanced BMS

Embedded Non-Volatile Memory (eNVM) market is transforming EV Battery Management Systems (BMS), as ReRAM technology delivers high-speed, low-power, and ultra-durable memory for real-time voltage, temperature, and charge cycle logging without degradation. Its 40nm+ automotive compatibility enables compact, resilient BMS integration, securing critical firmware, configuration, and safety data. As electric vehicles demand smarter battery analytics, ReRAM-based eNVM combines speed, reliability, and energy efficiency, powering the next generation of connected, high-performance EVs.

Embedded Non-Volatile Memory Market in Turmoil:

How Trade Wars Are Shaping eNVM Innovation and Supply Chains

Embedded Non-Volatile Memory (eNVM) market is under pressure as U.S.-China trade restrictions and export controls disrupt supply chains and limit advanced eFlash production. Chinese manufacturers must rely on mature nodes for automotive and industrial applications, while global OEMs navigate uncertainty by diversifying production to Southeast Asia and India. These challenges threaten innovation, efficiency, and market stability, but companies adopting flexible supply strategies and cross-regional partnerships can mitigate risks and seize emerging eNVM opportunities.

eFlash Dominates the Embedded Non-Volatile Memory Market as IoT and 5G Adoption Explodes

Embedded Non-Volatile Memory (eNVM) market is led by eFlash for its high density, scalability, and cost-effectiveness in automotive, IoT, and smart devices. FRAM offers high write endurance, while RRAM and MRAM show emerging potential. >100 mm wafers dominate production for high-volume, advanced-node memory, and consumer electronics drive adoption through smartphones, wearables, and AI-powered IoT devices. With 5G and IoT growth, the eNVM market is set for rapid innovation and expansion across high-performance embedded memory applications.

Key Trends in Embedded Non-Volatile Memory: MRAM, ReRAM, and Application-Specific eNVM Driving AI, IoT, and Automotive Innovation

Emerging Memory Technologies: MRAM and ReRAM outpace eFlash with faster speeds, lower latency, and higher endurance for AI, IoT, and smart devices.

Application-Specific Architectures: Customized eNVM designs are rising to deliver optimal performance and seamless integration for automotive, industrial automation, and IoT applications.

Key Development: GlobalFoundries Expands Embedded Non-Volatile Memory Portfolio with Renesas' CBRAM Acquisition

Feb 9, 2023 – GlobalFoundries acquired Renesas' CBRAM, a low-power eNVM solution for IoT, smart devices, and industrial applications.

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Asia-Pacific Dominates Global Embedded Non-Volatile Memory Market: TSMC, Samsung & SK Hynix Drive IoT, AI, EV, and eNVM Innovation

Asia-Pacific Leads the Embedded Non-Volatile Memory Market: APAC dominates global eNVM growth, driven by a robust semiconductor ecosystem, surging demand for consumer electronics, automotive, IoT, AI, and EVs, and strong government support like China's "Made in China 2025". Giants like TSMC, Samsung, and SK Hynix spearhead flash, MRAM, and ReRAM innovation, cementing the region as the undisputed leader in advanced embedded memory solutions.

eNVM Market Breakthroughs: Samsung, TSMC & GlobalFoundries Lead AI, IoT, and Automotive Memory Innovation Amid Geopolitical Shifts

The eNVM market is led by TSMC (eFlash), Samsung (MRAM), and GlobalFoundries (low-power solutions), with Microchip and Infineon dominating niche FRAM/ReRAM segments. Cutting-edge advances like Samsung's 14nm eMRAM and TSMC's 40nm ReRAM are redefining AI, IoT, and

automotive MCUs, while startups like CrossBar challenge incumbents. Geopolitical tensions and U.S.-China trade restrictions are reshaping regional supply chains and innovation, fueling the next wave of high-performance embedded memory solutions.

Key Players in the Embedded Non-Volatile Memory Market

North America

Intel Corporation (USA)
Micron Technology (USA)
Microchip Technology (USA)
Texas Instruments (USA)
GlobalFoundries (USA)
Crossbar Inc. (USA)

Europe

Infineon Technologies (Germany)
NXP Semiconductors (Netherlands)
STMicroelectronics (Switzerland)
CEA-Leti (France)

Asia-Pacific

TSMC (Taiwan)
Samsung Electronics (South Korea)
SK Hynix (South Korea)
Renesas Electronics (Japan)
Kioxia (Japan)
SMIC (China)
Yangtze Memory Technologies (China)
GigaDevice Semiconductor (China)
United Microelectronics Corporation (Singapore)
Tata Electronics (India)

Middle East & Africa

Tower Semiconductor (Israel)
G42 (UAE)

Analyst Perspective:

Embedded Non-Volatile Memory (eNVM) market is booming as EVs, autonomous vehicles, AI, IoT,

and 5G devices demand high-density, low-power, durable memory. TSMC, Samsung, and GlobalFoundries lead, while ReRAM and MRAM outpace eFlash with faster speeds and higher endurance. Key moves like GlobalFoundries' 2023 Renesas CBRAM acquisition expand smart device and industrial IoT solutions. Asia-Pacific dominates, driven by TSMC, Samsung, SK Hynix, government support, and China's "Made in China 2025", while North America and Europe focus on R&D and niche high-reliability eNVM.

FAQ

Q1: What is driving the growth of the Embedded Non-Volatile Memory market?
A1: Growth is fueled by AI, IoT, EVs, autonomous vehicles, 5G, and demand for high-speed, durable eFlash, MRAM, and ReRAM memory.

Q2: Which regions dominate the Embedded Non-Volatile Memory market?
A2: Asia-Pacific leads due to TSMC, Samsung, SK Hynix, strong semiconductor ecosystems, and government support like China's "Made in China 2025."

Q3: Who are the key players in the Embedded Non-Volatile Memory market?
A3: Major players include TSMC, Samsung, GlobalFoundries, Intel, Micron, Infineon, Microchip, and emerging startups like CrossBar.

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professionals from several industries. Some of the industries we cover include medical devices, pharmaceutical manufacturers, science and engineering, electronic components, industrial equipment, technology and communication, cars and automobiles, chemical products and substances, general merchandise, beverages, personal care, and automated systems. To mention a few, we provide market-verified industry estimations, technical trend analysis, crucial market research, strategic advice, competition analysis, production and demand analysis, and client impact studies.

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