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Global In-memory Computing Chips Supply, Demand and Key Producers, 2026-2032

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Abstracts

The global In-memory Computing Chips market size is expected to reach $ 42322 million by 2032, rising at a market growth of 109.7% CAGR during the forecast period (2026-2032).
In-Memory Computing Chips are computing devices that perform calculations directly within memory arrays or in very close proximity to them, rather than moving data back and forth between separate memory and processing units. By integrating computation into memory, these chips significantly reduce data movement, which lowers power consumption, decreases latency, and alleviates memory bandwidth limitations inherent in traditional von Neumann architectures. In-memory computing chips are particularly well suited for AI and machine-learning workloads dominated by matrix and vector operations, and are typically implemented using SRAM, DRAM, or emerging non-volatile memory technologies, making them a promising solution for energy-efficient edge AI and next-generation computing systems. The downstream market for In-Memory Computing Chips is currently application-driven and highly selective, with adoption concentrated in scenarios where power efficiency, low latency, and memory bandwidth limitations are critical. Key downstream users include edge AI device manufacturers, robotics OEMs, smart cameras, industrial automation vendors, and IoT system integrators, who deploy CIM chips mainly for AI inference, pattern recognition, and real-time signal processing. In data-center environments, CIM solutions are still in exploratory or pilot stages, typically used for specific workloads rather than general-purpose acceleration. Overall, downstream demand is characterized by customized designs, small-to-medium volume orders, and close co-development between chip vendors and system makers, with broader adoption expected as performance stability, precision control, and software toolchains mature.
The In-Memory Computing (IMC) chip market is at an early but accelerating commercialization stage, driven by the growing need to overcome power consumption

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and memory-bandwidth bottlenecks in AI workloads. Demand is primarily coming from edge AI devices, intelligent sensors, robotics, and low-power inference applications, where energy efficiency and real-time response are more critical than peak general-purpose performance. The supply side is still fragmented, led by startups, research spin-offs, and pilot projects from memory and semiconductor companies, with products mainly appearing as prototypes, test chips, or application-specific accelerators rather than mass-market processors. While conventional GPUs, NPUs, and ASICs remain dominant, IMC chips are increasingly viewed as a complementary architecture for power-constrained scenarios, and broader adoption is expected as manufacturing maturity, accuracy control, and software ecosystems improve toward the late 2020s.
This report studies the global In-memory Computing Chips demand, key companies, and key regions.
This report is a detailed and comprehensive analysis of the world market for In-memory Computing Chips, and provides market size (US$ million) and Year-over-Year (YoY) growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of In-memory Computing Chips that contribute to its increasing demand across many markets.

Highlights and key features of the study

Global In-memory Computing Chips total market, 2021-2032, (USD Million)
Global In-memory Computing Chips total market by region & country, CAGR, 2021-2032, (USD Million)
U.S. VS China: In-memory Computing Chips total market, key domestic companies, and share, (USD Million)
Global In-memory Computing Chips revenue by player, revenue and market share 2021-2026, (USD Million)
Global In-memory Computing Chips total market by Type, CAGR, 2021-2032, (USD Million)
Global In-memory Computing Chips total market by Application, CAGR, 2021-2032, (USD Million)
This report profiles major players in the global In-memory Computing Chips market based on the following parameters - company overview, revenue, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Samsung, SK Hynix, Syntiant, D-Matrix, Mythic, Graphcore, EnCharge AI, Axelera AI, Hangzhou Zhicun (Witmem) Technology, Suzhou Yizhu Intelligent Technology, etc.
This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.
Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the world In-memory Computing Chips market

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Detailed Segmentation:
Each section contains quantitative market data including market by value (US$ Millions), by player, by regions, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.
Global In-memory Computing Chips Market, By Region:

United States

China

Europe

Japan

South Korea

ASEAN

India

Rest of World

Global In-memory Computing Chips Market, Segmentation by Type:

In-memory Processing (PIM)

In-memory Computation (CIM)

Global In-memory Computing Chips Market, Segmentation by Storage Media:

DRAM

SRAM

Others

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Global In-memory Computing Chips Market, Segmentation by Calculation Method:

Analog CIM

Digital CIM

Global In-memory Computing Chips Market, Segmentation by Application:

Small Computing Power

Large Computing Power

Companies Profiled:

Samsung

SK Hynix

Syntiant

D-Matrix

Mythic

Graphcore

EnCharge AI

Axelera AI

Hangzhou Zhicun (Witmem) Technology

Suzhou Yizhu Intelligent Technology

Shenzhen Reexen Technology

Beijing Houmo Technology

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AistarTek

Beijing Pingxin Technology

Key Questions Answered

1. How big is the global In-memory Computing Chips market?
2. What is the demand of the global In-memory Computing Chips market?
3. What is the year over year growth of the global In-memory Computing Chips market?
4. What is the total value of the global In-memory Computing Chips market?
5. Who are the Major Players in the global In-memory Computing Chips market?
6. What are the growth factors driving the market demand?

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