

NAND Flash Memory - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The NAND Flash Memory Market size is estimated at USD 55.73 billion in 2025, and is expected to reach USD 72.60 billion by 2030, at a CAGR of 5.43% during the forecast period (2025-2030).

With the rise of PCs and smartphones, NAND flash consumption is dramatically increasing, much of which is attributed to the growth of the average capacity of smartphones. This is expected to drive the demand for NAND flash packaging, thus influencing the demand for memory packaging.

Key Highlights

- The growth of the market depends on several factors, including the growing investments in fabrication facilities, the market growth through edge storage, and the growing need for high-density storage to support smartphone applications.
- The rising demand for 3D NAND has created an opportunity for supply chain members such as chip makers, equipment manufacturers, and material suppliers. This is driving investments in 3D NAND fabrication facilities.
- Other consumer products such as tablets and cameras, along with industrial equipment and sensors, automotive systems, and medical devices, rely upon flash memory, which is integrated alongside their processors, and stores both data and the code they execute. As demand for massive data processing for artificial intelligence and machine learning applications grows, the trend for flash-based storage will continue to evolve.
- The electronics device sector was anticipated to be impacted significantly by the COVID-19 outbreak, as China is one of the major suppliers of raw materials and finished products. The industry faced a reduction in production, disruption in the supply chain, and price fluctuations. The sales of prominent electronic companies were affected during the period. The travel restriction on both people and products hampered the market's growth in the short run.
- Production of China-based NAND flash vendors was not severely affected by the outbreak of novel COVID-19. This is because the

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plants are highly automated, have relatively low demands for manpower, and operators are also stocked up with raw materials before the Chinese Lunar New Year. Foundry output was delivered to customers in China because semiconductor fabrication plants hold national special licenses. These allow them to ship their products throughout domestic China, even with cities under quarantine.

NAND Flash Memory Key Market Trends

The Smartphone Segment is Expected to Witness Significant Growth

- Flash memory storage has become an essential component of smartphones. The NAND flash demand has been growing exponentially, primarily driven by the growth of the average capacity of smartphones.
- NAND flash memory in smartphones can significantly enhance the performance of web browsing, email loading, games, and even social network sites such as Facebook. With the increasing adoption of smartphones, companies are adding extra features and applications to differentiate their products from other manufacturers.
- For instance, manufacturers are integrating features such as gesture control, fingerprint scanners, and GPS into the devices. This is boosting the demand for NAND flash memory, which is used as code storage media for smartphones.
- With 5G wireless communication on its way, the use of smartphones would increase multifold, increasing the need for the latest models to raise the bar continuously. For instance, according to the Ericsson Mobility report, in the North American region, 5G subscriptions are expected to account for 55% of mobile subscriptions by the end of 2024.

Asia-Pacific to Hold a Significant Market Share

- Asia-Pacific is one of the biggest markets for NAND flash memories across the world. The region has a very high demand from almost all end-user applications, primarily led by the demand for smartphones in multiple developing countries in the region, such as China, India, and Indonesia.
- Also, there is high activity from the semiconductor fabrication facilities in countries like China, Korea, and Singapore. An immense amount of capital is directed into the Chinese market by several multinational memory manufacturers, especially boosted by the country's government initiatives, such as Made in China 2025.
- The country's ambitious goal is to reach USD 305 billion in semiconductor output by 2030 and meet at least 80% of the domestic demand for semiconductors, which is expected to draw more investments into the country over the forecast period.
- Multiple new companies in China, such as Yangtze River Storage Technology, Fujian Jin Hua, Hua Li, and Hefei Chang Xin Memory, are expected to invest heavily in the region. These companies are also expected to double their equipment investments.
- Owing to such development in multiple countries, various competitors in the region are intensifying their efforts for expansion.

NAND Flash Memory Competitive Landscape

The NAND flash memory market is consolidated dominated by major vendors, such as Intel, Micron Technology, Samsung Electronics, SanDisk, SK Hynix, and Toshiba. As the entry barriers in the market are high, the entry of new players is difficult. The existing vendors in the market are investing heavily in the R&D of new and innovative products.

- October 2023 - Samsung Electronics Co. announced that it will mass produce 300-layer NAND flash memory chips for the first

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time in the world in early 2024, advancing the production timeline by one year compared to SK hynix Inc. which was the first to develop 321-layer NAND memory.

- June 2023 - SK hynix Inc. has announced today that it has started mass production of its 238-layer 4D NAND Flash memory, and will begin supplying the 238-layer NAND product for smartphones, and expand the technology across its product portfolio such as PCIe 5.0* SSDs and high-capacity server SSDs going forward.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

Table of Contents:

1 INTRODUCTION

1.1 Study Assumptions and Market Definition

1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET INSIGHTS

4.1 Market Overview

4.2 Industry Attractiveness - Porter's Five Forces Analysis

4.2.1 Bargaining Power of Suppliers

4.2.2 Bargaining Power of Buyers

4.2.3 Threat of New Entrants

4.2.4 Threat of Substitutes

4.2.5 Intensity of Competitive Rivalry

4.3 Industry Value Chain Analysis

4.4 Assessment of Impact of COVID-19 on the Industry

5 MARKET DYNAMICS

5.1 Market Drivers

5.1.1 Increasing Demand for Data Centers

5.1.2 Increasing Proliferation of 5G and IOT Devices

5.2 Market Restraints

5.2.1 Reliability Issues

6 MARKET SEGMENTATION

6.1 Type

6.1.1 SLC (One-Bit Per Cell)

6.1.2 MLC (Two-Bit Per Cell)

6.1.3 TLC (Three-Bit Per Cell)

6.1.4 QLC (Quad Level Cell)

6.2 Structure

6.2.1 2D Structure

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- 6.2.2 3D Structure
- 6.3 Application
 - 6.3.1 Smartphone
 - 6.3.2 SSD
 - 6.3.3 Memory Card
 - 6.3.4 Tablet
 - 6.3.5 Other Applications
- 6.4 Geography
 - 6.4.1 North America
 - 6.4.2 Europe
 - 6.4.3 Asia Pacific
 - 6.4.4 Latin America
 - 6.4.5 Middle-East and Africa

7 COMPETITIVE LANDSCAPE

- 7.1 Company Profiles
 - 7.1.1 Samsung Electronics Co. Ltd
 - 7.1.2 KIOXIA Corporation
 - 7.1.3 Micron Technology Inc.
 - 7.1.4 SK Hynix Inc.
 - 7.1.5 Intel Corporation
 - 7.1.6 Yangtze Memory Technologies
 - 7.1.7 SanDisk Corp. (Western Digital Technologies Inc.)
 - 7.1.8 Powerchip Technology Corporation
 - 7.1.9 Cypress Semiconductor Corporation

8 VENDOR MARKET POSITIONING

9 INVESTMENT ANALYSIS

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