

Global AI ASIC Chips Market Research Report 2024(Status and Outlook)

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Abstracts

Report Overview

Artificial Intelligence Application-Specific Integrated Circuit (ASIC) chips are specialized hardware components designed to accelerate AI workloads such as machine learning and deep learning algorithms. These chips are optimized for specific AI tasks, offering higher performance and energy efficiency compared to general-purpose processors. The market for AI ASIC chips is a crucial segment within the broader semiconductor industry, driven by the increasing demand for AI-powered applications across various sectors.

The current market size for AI ASIC chips in 2023 is estimated at approximately USD 2.5 billion. This figure reflects the growing adoption of AI technologies in industries like healthcare, automotive, finance, and others. Looking ahead, the market is projected to experience a Compound Annual Growth Rate (CAGR) of 25.67% from 2024 to 2032. This robust growth is fueled by factors such as the proliferation of AI-driven solutions, the need for faster and more efficient computing capabilities, and the rise of edge computing applications.

Several key growth drivers are propelling the market for AI ASIC chips. Firstly, the increasing complexity of AI models and algorithms necessitates specialized hardware for efficient processing. Secondly, the demand for real-time inference and low-latency applications is pushing organizations to invest in AI-specific hardware solutions. Additionally, the expansion of AI applications in autonomous vehicles, smart devices, and data centers is driving the adoption of AI ASIC chips to meet performance requirements.

One prominent trend in the market for AI ASIC chips is the development of more energy-efficient and high-performance chip architectures. Companies are focusing on designing chips that offer superior computational power while minimizing power consumption, catering to the needs of energy-sensitive applications. Another trend is the integration of AI ASIC chips into edge devices to enable on-device processing and reduce reliance on cloud infrastructure, enhancing data privacy and operational efficiency.

Furthermore, the market is witnessing a trend towards customization and co-design of AI ASIC chips with specific AI algorithms and applications. This approach allows for optimized performance and efficiency tailored to the unique requirements of different use cases. Companies are also exploring advanced packaging technologies and heterogeneous integration to enhance chip performance and functionality.

In terms of regional market distribution, leading markets for AI ASIC chips include North America, Asia Pacific, and Europe. North America dominates the market due to the presence of major AI chip manufacturers, leading tech companies, and a strong ecosystem supporting AI innovation. Asia Pacific is experiencing significant growth driven by the rapid adoption of AI technologies in countries like China, Japan, and South Korea. Europe is also a key market with a focus on AI research and development, particularly in industries such as automotive and healthcare.

Key challenges facing the market for AI ASIC chips include the complexity of designing and manufacturing specialized hardware, the need for continuous innovation to keep pace with evolving AI algorithms, and the competition from alternative computing architectures such as GPUs and FPGAs. Overcoming these challenges will require sustained investment in research and development, collaboration across the semiconductor ecosystem, and a focus on addressing specific industry requirements.

In conclusion, the market for AI ASIC chips is poised for significant growth driven by the increasing demand for AI-powered solutions across industries. Companies that can innovate in chip design, optimize performance and energy efficiency, and cater to diverse application needs will be well-positioned to capitalize on this expanding market opportunity.

This report provides a deep insight into the global AI ASIC Chips market covering all its essential aspects. This ranges from a macro overview of the market to micro details of the market size, competitive landscape, development trend, niche market, key market drivers and challenges, SWOT analysis, value chain analysis, etc.

The analysis helps the reader to shape the competition within the industries and strategies for the competitive environment to enhance the potential profit. Furthermore, it provides a simple framework for evaluating and accessing the position of the business organization. The report structure also focuses on the competitive landscape of the Global AI ASIC Chips Market, this report introduces in detail the market share, market performance, product situation, operation situation, etc. of the main players, which helps the readers in the industry to identify the main competitors and deeply understand the competition pattern of the market.

In a word, this report is a must-read for industry players, investors, researchers, consultants, business strategists, and all those who have any kind of stake or are planning to foray into the AI ASIC Chips market in any manner.

Global AI ASIC Chips Market: Market Segmentation Analysis

The research report includes specific segments by region (country), manufacturers, Type, and Application. Market segmentation creates subsets of a market based on product type, end-user or application, Geographic, and other factors. By understanding the market segments, the decision-maker can leverage this targeting in the product, sales, and marketing strategies. Market segments can power your product development cycles by informing how you create product offerings for different segments.

Key Company

Intel

AMD

Huawei

Graphcore

Mythic

Nvidia

Alphabet

Apple

Qualcomm

Market Segmentation (by Type)

Inference Accelerators

Training Accelerators

Edge AI Chips

Spiking Neural Network Chips

Quantum AI Chips

Hybrid AI Chips

Market Segmentation (by Application)

AI Training

AI Service

Geographic Segmentation

North America (USA, Canada, Mexico)

Europe (Germany, UK, France, Russia, Italy, Rest of Europe)

Asia-Pacific (China, Japan, South Korea, India, Southeast Asia, Rest of Asia-Pacific)

South America (Brazil, Argentina, Columbia, Rest of South America)

The Middle East and Africa (Saudi Arabia, UAE, Egypt, Nigeria, South Africa, Rest of MEA)

Key Benefits of This Market Research:

- Industry drivers, restraints, and opportunities covered in the study
- Neutral perspective on the market performance
- Recent industry trends and developments
- Competitive landscape & strategies of key players
- Potential & niche segments and regions exhibiting promising growth covered
- Historical, current, and projected market size, in terms of value
- In-depth analysis of the AI ASIC Chips Market
- Overview of the regional outlook of the AI ASIC Chips Market:

Key Reasons to Buy this Report:

- Access to date statistics compiled by our researchers. These provide you with historical and forecast data, which is analyzed to tell you why your market is set to change
- This enables you to anticipate market changes to remain ahead of your competitors
- You will be able to copy data from the Excel spreadsheet straight into your marketing plans, business presentations, or other strategic documents
- The concise analysis, clear graph, and table format will enable you to pinpoint the information you require quickly
- Provision of market value (USD Billion) data for each segment and sub-segment
- Indicates the region and segment that is expected to witness the fastest growth as well as to dominate the market

Analysis by geography highlighting the consumption of the product/service in the region as well as indicating the factors that are affecting the market within each region

Competitive landscape which incorporates the market ranking of the major players, along with new service/product launches, partnerships, business expansions, and acquisitions in the past five years of companies profiled

Extensive company profiles comprising of company overview, company insights, product benchmarking, and SWOT analysis for the major market players

The current as well as the future market outlook of the industry concerning recent developments which involve growth opportunities and drivers as well as challenges and restraints of both emerging as well as developed regions

Includes in-depth analysis of the market from various perspectives through Porter's five forces analysis

Provides insight into the market through Value Chain

Market dynamics scenario, along with growth opportunities of the market in the years to come

6-month post-sales analyst support

Customization of the Report

In case of any queries or customization requirements, please connect with our sales team, who will ensure that your requirements are met.

Chapter Outline

Chapter 1 mainly introduces the statistical scope of the report, market division standards, and market research methods.

Chapter 2 is an executive summary of different market segments (by region, product type, application, etc), including the market size of each market segment, future development potential, and so on. It offers a high-level view of the current state of the AI

ASIC Chips Market and its likely evolution in the short to mid-term, and long term.

Chapter 3 makes a detailed analysis of the market's competitive landscape of the market and provides the market share, capacity, output, price, latest development plan, merger, and acquisition information of the main manufacturers in the market.

Chapter 4 is the analysis of the whole market industrial chain, including the upstream and downstream of the industry, as well as Porter's five forces analysis.

Chapter 5 introduces the latest developments of the market, the driving factors and restrictive factors of the market, the challenges and risks faced by manufacturers in the industry, and the analysis of relevant policies in the industry.

Chapter 6 provides the analysis of various market segments according to product types, covering the market size and development potential of each market segment, to help readers find the blue ocean market in different market segments.

Chapter 7 provides the analysis of various market segments according to application, covering the market size and development potential of each market segment, to help readers find the blue ocean market in different downstream markets.

Chapter 8 provides a quantitative analysis of the market size and development potential of each region and its main countries and introduces the market development, future development prospects, market space, and capacity of each country in the world.

Chapter 9 introduces the basic situation of the main companies in the market in detail, including product sales revenue, sales volume, price, gross profit margin, market share, product introduction, recent development, etc.

Chapter 10 provides a quantitative analysis of the market size and development potential of each region in the next five years.

Chapter 11 provides a quantitative analysis of the market size and development potential of each market segment (product type and application) in the next five years.

Chapter 12 is the main points and conclusions of the report.

Contents

1 RESEARCH METHODOLOGY AND STATISTICAL SCOPE

1.1 Market Definition and Statistical Scope of AI ASIC Chips

1.2 Key Market Segments

1.2.1 AI ASIC Chips Segment by Type

1.2.2 AI ASIC Chips Segment by Application

1.3 Methodology & Sources of Information

1.3.1 Research Methodology

1.3.2 Research Process

1.3.3 Market Breakdown and Data Triangulation

1.3.4 Base Year

1.3.5 Report Assumptions & Caveats

2 AI ASIC CHIPS MARKET OVERVIEW

2.1 Global Market Overview

2.1.1 Global AI ASIC Chips Market Size (M USD) Estimates and Forecasts (2019-2032)

2.1.2 Global AI ASIC Chips Sales Estimates and Forecasts (2019-2032)

2.2 Market Segment Executive Summary

2.3 Global Market Size by Region

2.4 Macroeconomic Analysis

3 AI ASIC CHIPS MARKET COMPETITIVE LANDSCAPE

3.1 Global AI ASIC Chips Sales by Manufacturers (2019-2024)

3.2 Global AI ASIC Chips Revenue Market Share by Manufacturers (2019-2024)

3.3 AI ASIC Chips Market Share by Company Type (Tier 1, Tier 2, and Tier 3)

3.4 Global AI ASIC Chips Average Price by Manufacturers (2019-2024)

3.5 Manufacturers AI ASIC Chips Sales Sites, Area Served, Product Type

3.6 AI ASIC Chips Market Competitive Situation and Trends

3.6.1 AI ASIC Chips Market Concentration Rate

3.6.2 Global 5 and 10 Largest AI ASIC Chips Players Market Share by Revenue

3.6.3 Mergers & Acquisitions, Expansion

4 AI ASIC CHIPS INDUSTRY CHAIN ANALYSIS

- 4.1 AI ASIC Chips Industry Chain Analysis
- 4.2 Market Overview of Key Raw Materials
- 4.3 Midstream Market Analysis
- 4.4 Downstream Customer Analysis

5 THE DEVELOPMENT AND DYNAMICS OF AI ASIC CHIPS MARKET

- 5.1 Key Development Trends
- 5.2 Driving Factors
- 5.3 Market Challenges
- 5.4 Market Restraints
- 5.5 Industry News
 - 5.5.1 New Product Developments
 - 5.5.2 Mergers & Acquisitions
 - 5.5.3 Expansions
 - 5.5.4 Collaboration/Supply Contracts
- 5.6 Industry Policies

6 AI ASIC CHIPS MARKET SEGMENTATION BY TYPE

- 6.1 Evaluation Matrix of Segment Market Development Potential (Type)
- 6.2 Global AI ASIC Chips Sales Market Share by Type (2019-2024)
- 6.3 Global AI ASIC Chips Market Size Market Share by Type (2019-2024)
- 6.4 Global AI ASIC Chips Price by Type (2019-2024)

7 AI ASIC CHIPS MARKET SEGMENTATION BY APPLICATION

- 7.1 Evaluation Matrix of Segment Market Development Potential (Application)
- 7.2 Global AI ASIC Chips Market Sales by Application (2019-2024)
- 7.3 Global AI ASIC Chips Market Size (M USD) by Application (2019-2024)
- 7.4 Global AI ASIC Chips Sales Growth Rate by Application (2019-2024)

8 AI ASIC CHIPS MARKET SALES BY REGION

- 8.1 Global AI ASIC Chips Sales by Region
 - 8.1.1 Global AI ASIC Chips Sales by Region
 - 8.1.2 Global AI ASIC Chips Sales Market Share by Region
- 8.2 Global AI ASIC Chips Market Size by Region
 - 8.2.1 Global AI ASIC Chips Market Size by Region

8.2.2 Global AI ASIC Chips Market Size Market Share by Region

8.3 North America

8.3.1 North America AI ASIC Chips Sales by Country

8.3.2 North America AI ASIC Chips Market Size by Country

8.3.3 U.S. Market Overview

8.3.4 Canada Market Overview

8.3.5 Mexico Market Overview

8.4 Europe

8.4.1 Europe AI ASIC Chips Sales by Country

8.4.2 Europe AI ASIC Chips Market Size by Country

8.4.3 Germany Market Overview

8.4.4 France Market Overview

8.4.5 U.K. Market Overview

8.4.6 Italy Market Overview

8.4.7 Russia Market Overview

8.5 Asia Pacific

8.5.1 Asia Pacific AI ASIC Chips Sales by Region

8.5.2 China

8.5.3 Japan

8.5.4 South Korea

8.5.5 India

8.5.6 Southeast Asia

8.6 Asia Pacific

8.6.1 Asia Pacific AI ASIC Chips Market Size by Region

8.6.2 Asia Pacific AI ASIC Chips Market Size by Region

8.6.3 China

8.6.4 Japan

8.6.5 South Korea

8.6.6 India

8.6.7 Southeast Asia

8.7 South America

8.7.1 South America AI ASIC Chips Sales by Country

8.7.2 South America AI ASIC Chips Market Size by Country

8.7.3 Brazil

8.7.4 Argentina

8.7.5 Columbia

8.8 Middle East and Africa

8.8.1 Middle East and Africa AI ASIC Chips Sales by Region

8.8.2 Middle East and Africa AI ASIC Chips Market Size by Region

8.8.3 Saudi Arabia

8.8.4 UAE

8.8.5 Egypt

8.8.6 Nigeria

8.8.7 South Africa

9 AI ASIC CHIPS MARKET PRODUCTION BY REGION

9.1 Global Production of AI ASIC Chips by Region (2019-2024)

9.2 Global AI ASIC Chips Revenue Market Share by Region (2019-2024)

9.3 Global AI ASIC Chips Production, Revenue, Price and Gross Margin (2019-2024)

9.4 North America AI ASIC Chips Production

9.4.1 North America AI ASIC Chips Production Growth Rate (2019-2024)

9.4.2 North America AI ASIC Chips Production, Revenue, Price and Gross Margin (2019-2024)

9.5 Europe AI ASIC Chips Production

9.5.1 Europe AI ASIC Chips Production Growth Rate (2019-2024)

9.5.2 Europe AI ASIC Chips Production, Revenue, Price and Gross Margin (2019-2024)

9.6 Japan AI ASIC Chips Production (2019-2024)

9.6.1 Japan AI ASIC Chips Production Growth Rate (2019-2024)

9.6.2 Japan AI ASIC Chips Production, Revenue, Price and Gross Margin (2019-2024)

9.7 China AI ASIC Chips Production (2019-2024)

9.7.1 China AI ASIC Chips Production Growth Rate (2019-2024)

9.7.2 China AI ASIC Chips Production, Revenue, Price and Gross Margin (2019-2024)

10 KEY COMPANIES PROFILE

10.1 Intel

10.1.1 Intel AI ASIC Chips Basic Information

10.1.2 Intel AI ASIC Chips Product Overview

10.1.3 Intel AI ASIC Chips Product Market Performance

10.1.4 Intel Business Overview

10.1.5 Intel AI ASIC Chips SWOT Analysis

10.1.6 Intel Recent Developments

10.2 AMD

10.2.1 AMD AI ASIC Chips Basic Information

10.2.2 AMD AI ASIC Chips Product Overview

10.2.3 AMD AI ASIC Chips Product Market Performance

- 10.2.4 AMD Business Overview
- 10.2.5 AMD AI ASIC Chips SWOT Analysis
- 10.2.6 AMD Recent Developments

10.3 Huawei

- 10.3.1 Huawei AI ASIC Chips Basic Information
- 10.3.2 Huawei AI ASIC Chips Product Overview
- 10.3.3 Huawei AI ASIC Chips Product Market Performance
- 10.3.4 Huawei AI ASIC Chips SWOT Analysis
- 10.3.5 Huawei Business Overview
- 10.3.6 Huawei Recent Developments

10.4 Graphcore

- 10.4.1 Graphcore AI ASIC Chips Basic Information
- 10.4.2 Graphcore AI ASIC Chips Product Overview
- 10.4.3 Graphcore AI ASIC Chips Product Market Performance
- 10.4.4 Graphcore Business Overview
- 10.4.5 Graphcore Recent Developments

10.5 Mythic

- 10.5.1 Mythic AI ASIC Chips Basic Information
- 10.5.2 Mythic AI ASIC Chips Product Overview
- 10.5.3 Mythic AI ASIC Chips Product Market Performance
- 10.5.4 Mythic Business Overview
- 10.5.5 Mythic Recent Developments

10.6 Nvidia

- 10.6.1 Nvidia AI ASIC Chips Basic Information
- 10.6.2 Nvidia AI ASIC Chips Product Overview
- 10.6.3 Nvidia AI ASIC Chips Product Market Performance
- 10.6.4 Nvidia Business Overview
- 10.6.5 Nvidia Recent Developments

10.7 Alphabet

- 10.7.1 Alphabet AI ASIC Chips Basic Information
- 10.7.2 Alphabet AI ASIC Chips Product Overview
- 10.7.3 Alphabet AI ASIC Chips Product Market Performance
- 10.7.4 Alphabet Business Overview
- 10.7.5 Alphabet Recent Developments

10.8 Apple

- 10.8.1 Apple AI ASIC Chips Basic Information
- 10.8.2 Apple AI ASIC Chips Product Overview
- 10.8.3 Apple AI ASIC Chips Product Market Performance
- 10.8.4 Apple Business Overview

10.8.5 Apple Recent Developments

10.9 Qualcomm

10.9.1 Qualcomm AI ASIC Chips Basic Information

10.9.2 Qualcomm AI ASIC Chips Product Overview

10.9.3 Qualcomm AI ASIC Chips Product Market Performance

10.9.4 Qualcomm Business Overview

10.9.5 Qualcomm Recent Developments

11 AI ASIC CHIPS MARKET FORECAST BY REGION

11.1 Global AI ASIC Chips Market Size Forecast

11.2 Global AI ASIC Chips Market Forecast by Region

11.2.1 North America Market Size Forecast by Country

11.2.2 Europe AI ASIC Chips Market Size Forecast by Country

11.2.3 Asia Pacific AI ASIC Chips Market Size Forecast by Region

11.2.4 South America AI ASIC Chips Market Size Forecast by Country

11.2.5 Middle East and Africa Forecasted Sales of AI ASIC Chips by Country

12 FORECAST MARKET BY TYPE AND BY APPLICATION (2025-2032)

12.1 Global AI ASIC Chips Market Forecast by Type (2025-2032)

12.1.1 Global Forecasted Sales of AI ASIC Chips by Type (2025-2032)

12.1.2 Global AI ASIC Chips Market Size Forecast by Type (2025-2032)

12.1.3 Global Forecasted Price of AI ASIC Chips by Type (2025-2032)

12.2 Global AI ASIC Chips Market Forecast by Application (2025-2032)

12.2.1 Global AI ASIC Chips Sales (K Units) Forecast by Application

12.2.2 Global AI ASIC Chips Market Size (M USD) Forecast by Application
(2025-2032)

13 CONCLUSION AND KEY FINDINGS

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