

Application Specific Integrated Circuit Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028

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Report description:

The global application specific integrated circuit market size reached US\$ 15.3 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 21.4 Billion by 2028, exhibiting a growth rate (CAGR) of 5.8% during 2022-2028. The growing utilization of various smart electronic devices, rising popularity of smartwatches, and increasing cloud computing activities represent some of the key factors driving the market.

An application-specific integrated circuit (ASIC) refers to a specialized integrated chip created for performing specific operations in an electronic device. It is segregated into three distinct categories, such as full custom, semi-custom, and platform ASIC, which is designed and created from a defined set of methodologies, intellectual properties, and a well-defined design of silicon. It is a system-on-chip (SoC) setup and integrated with microprocessors and memory blocks, such as random-access memory (RAM), read-only memory (ROM), and flash memory. It is compact in nature, has higher operational speed and performance capabilities, and requires minimum power to operate. It is designed by following a series of steps, including design entry, logic synthesis, system partitioning, pre-layout simulation, floor planning, placement, routing, and ultimately post-layout simulation. It is incorporated into microcontrollers that are compact integrated circuits designed to govern a specific operation in an embedded system. It is also used for manufacturing Bitcoin miners, which are chips built into specially designed motherboards and power supplies and can execute the algorithm of only a single cryptocurrency.

Application Specific Integrated Circuit Market Trends:

At present, the increasing demand for ASIC, as it makes a better component for sophisticated larger systems, represents one of the significant factors supporting the growth of the market. Besides this, rising utilization of various smart electronic devices, such as smartphones, tablets, laptops, digital cameras, televisions, and gaming consoles, is propelling the growth of the market. In addition, the growing popularity of smartwatches that can be connected to smartphones for real-time tracking of various aspects, such as step count, sleep cycle, heart rate, calorie intake, and calories burnt, is offering a favorable market outlook. Apart from

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this, the increasing miniaturization of semiconductors to manufacture more lightweight, compact, and functional portable devices is contributing to the growth of the market. Additionally, the rising adoption of mechatronics across industrial and automotive applications, along with the increasing demand for ASIC in various consumer electronics and telecommunication equipment, is supporting the growth of the market. Moreover, the rising employment of various consistent technological systems to avoid numerous electronic system failure instances is strengthening the growth of the market. Furthermore, the increasing cloud computing activities to improve operational efficiency is bolstering the growth of the market.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global application specific integrated circuit market report, along with forecasts at the global, regional and country level from 2023-2028. Our report has categorized the market based on product type and application.

Product Type Insights:

- Full Custom ASIC
- Semi-Custom ASIC (Cell Based)
- Semi-Custom ASIC (Array Based)
- Programmable ASIC

The report has provided a detailed breakup and analysis of the application specific integrated circuit market based on the product type. This includes full custom ASIC, semi-custom ASIC (cell based), semi-custom ASIC (array based), and programmable ASIC. According to the report, semi-custom ASIC (cell based) represented the largest segment.

Application Insights:

- Telecommunication
- Automotive
- Consumer Electronics
- Others

A detailed breakup and analysis of the application specific integrated circuit market based on the application has also been provided in the report. This includes telecommunication, automotive, consumer electronics, and others. According to the report, consumer electronics accounted for the largest market share.

Regional Insights:

- North America
 - United States
 - Canada
- Asia-Pacific
 - China
 - Japan
 - India
 - South Korea
 - Australia
 - Indonesia
 - Others

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Europe
Germany
France
United Kingdom
Italy
Spain
Russia
Others
Latin America
Brazil
Mexico
Others
Middle East and Africa

The report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, North America (the United States and Canada) was the largest market for application specific integrated circuit. Some of the factors driving the North America application specific integrated circuit market included the growing technological advancements, rising cloud computing activities, increasing demand for electronic devices, etc.

Competitive Landscape:

The report has also provided a comprehensive analysis of the competitive landscape in the global application specific integrated circuit market. Competitive analysis such as market structure, market share by key players, player positioning, top winning strategies, competitive dashboard, and company evaluation quadrant has been covered in the report. Also, detailed profiles of all major companies have been provided. Some of the companies covered include Analog Devices Inc., Infineon Technologies AG, Intel Corporation, Maxim Integrated Products Inc., NXP Semiconductors N.V, ON Semiconductor, Qualcomm Incorporated, Renesas Electronics Corporation, STMicroelectronics N.V, Texas Instruments Incorporated, etc. Kindly note that this only represents a partial list of companies, and the complete list has been provided in the report.

Key Questions Answered in This Report:

How has the global application specific integrated circuit market performed so far, and how will it perform in the coming years?
What are the drivers, restraints, and opportunities in the global application specific integrated circuit market?
What is the impact of each driver, restraint, and opportunity on the global application specific integrated circuit market?
What are the key regional markets?
Which countries represent the most attractive application specific integrated circuit market?
What is the breakup of the market based on the product type?
Which is the most attractive product type in the application specific integrated circuit market?
What is the breakup of the market based on the application?
Which is the most attractive application in the application specific integrated circuit market?
What is the competitive structure of the global application specific integrated circuit market?
Who are the key players/companies in the global application specific integrated circuit market?

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