+357 96 030922
info@marketpublishers.com

System-on-Chip Market Forecasts to 2032 – Global Analysis By Type (Digital SoCs, Mixed-Signal SoCs, Analog SoCs and RF/Connectivity SoCs), Core Count (Single-core, Dual-core, Quad-core, Octa-core and Multi-core), Architecture, Application, End User and By Geography

https://marketpublishers.com/r/SD82BC87E5D4EN.html
Date: August 2025
Pages: 200
Price: US$ 4,150.00 (Single User License)
ID: SD82BC87E5D4EN

Abstracts

According to Stratistics MRC, the Global System-on-Chip Market is accounted for $223.06 billion in 2025 and is expected to reach $437.45 billion by 2032 growing at a CAGR of 10.1% during the forecast period. The integrated circuit that houses all of the necessary parts of a computer or electronic system on a single chip is called a System-on-Chip (SoC). A central processing unit (CPU), memory, input/output ports, and auxiliary parts like graphics processing units (GPUs), digital signal processors (DSPs), and wireless communication modules are usually included. Compact, power-efficient, and application-specific, SoCs are perfect for embedded systems, mobile devices, and Internet of Things (IoT) gadgets. In comparison to conventional multi-chip solutions, SoCs minimize space requirements, improve performance, and lower costs by combining multiple functions into a single chip.

According to the Semiconductor Industry Association (SIA)—a key trade association that represents U.S. companies responsible for roughly 80% of America's semiconductor production—global semiconductor revenue reached $627.6 billion in 2024, including $167.7 billion in the first quarter of 2025, and $57.0 billion in April 2025, reflecting an increase of 2.5%.

Market Dynamics:

+357 96 030922
info@marketpublishers.com

Driver:

Increase in smartphones and other mobile devices

One of the main factors propelling the SoC market is the exponential rise in smartphones and mobile computing devices. Customers are calling for more potent, feature-rich, multitasking, energy-efficient, and small devices. By combining the CPU, GPU, modem, memory controller, and occasionally AI engines onto a single chip, SoCs satisfy these requirements while lowering size and power consumption. Thinner phones with faster performance and longer battery life are made possible by this integration. Moreover, SoCs with integrated 5G modems are also being developed as 5G adoption picks up speed worldwide, further solidifying their importance in mobile technologies.

Restraint:

High fabrication costs and initial investment

Large upfront expenditures in R&D, design tools, IP licensing, and foundry access are required for SoC development. The fabrication of SoCs at advanced nodes (such as 5 nm and 3 nm) requires very costly semiconductor fabrication processes; the construction and operation of fabrication plants (fabs) can cost billions of dollars. Only a small number of businesses worldwide, including TSMC, Samsung, and Intel, are able to mass-produce sophisticated SoCs. The high capital expenditure serves as a major barrier to entry for new or smaller players. Furthermore, a single design flaw may require an expensive and time-consuming re-spin of the entire chip, resulting in a huge cost of failure or rework.

Opportunity:

Growth in biomedical devices and healthcare

Enhanced by the COVID-19 pandemic, the global demand for wearable monitoring, remote healthcare, and diagnostic devices has opened up new avenues for SoC integration in medical technology. Mobile diagnostic kits, smart insulin pumps, wearable medical devices, and connected ECG/EKG monitors all need secure and effective on-chip communication and computation. Through the integration of sensors, data processing, wireless communication, and security features into a single unit, SoCs offer a dependable and small solution. Additionally, a further factor driving demand for SoCs with medical-grade safety and processing capabilities is the use of AI in healthcare for

+357 96 030922
info@marketpublishers.com

tasks like imaging analysis and predictive diagnostics.

Threat:

Reliance on a small group of foundries

A small number of companies, most notably TSMC and Samsung Foundry, control a large portion of the manufacturing of advanced SoCs, especially those that use 5 nm and 3 nm process nodes. Because of this concentrated reliance, any interruption in these foundries—whether brought on by capacity limitations, natural disasters, political unrest, or equipment shortages—may have an impact on the production of SoC worldwide. The shortage of chips in 2020–2022 demonstrated how downstream industries like consumer electronics, automobiles, and smartphones can be seriously crippled by reliance on a small number of fabs. Moreover, chip designers' bargaining power and price competitiveness are restricted by this monopoly-like structure, raising the possibility of supply-side bottlenecks.

Covid-19 Impact:

Due to factory closures and labor shortages, particularly in major manufacturing hubs like China, Taiwan, and Southeast Asia, the COVID-19 pandemic initially disrupted global supply chains, semiconductor fabrication, and logistics. This had a multifaceted effect on the System-on-Chip (SoC) market. Due to these disruptions, there was a severe shortage of chips, which impacted the availability of SoCs in a variety of industries, including consumer electronics, smartphones, automobiles, and industrial devices. Global digital transformation was also sped up by the pandemic, which raised demand for SoC-powered gadgets like laptops, smartphones, IoT sensors, medical wearables, and cloud infrastructure parts. Additionally, price volatility resulted from this spike in demand and supply shortages, underscoring the strategic significance of domestic semiconductor capabilities.

The digital SoCs segment is expected to be the largest during the forecast period

The digital SoCs segment is expected to account for the largest market share during the forecast period. The extensive use of digital SoCs in consumer electronics like wearables, laptops, tablets, smartphones, and high-performance computing systems is what is causing this dominance. Digital SoCs allow for powerful processing, energy efficiency, and small device designs by combining necessary parts like CPUs, GPUs, memory controllers, and increasingly AI accelerators onto a single chip. Furthermore,

+357 96 030922
info@marketpublishers.com

digital SoCs continue to dominate the market by supporting a wide range of real-time and compute-intensive applications across industries, despite the growing demand for faster processing, 5G-enabled devices, AI at the edge, and smart applications.

The automotive and transportation segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the automotive and transportation segment is predicted to witness the highest growth rate because of the growing use of cutting-edge electronics in automobiles, particularly in connected cars, autonomous driving systems, and electric vehicles. Applications like infotainment, battery management, vehicle-to-everything (V2X) communication, and advanced driver assistance systems (ADAS) depend on SoCs to enable real-time processing. High-performance, energy-efficient SoCs are becoming more and more in demand as automakers move toward centralized computing and software-defined vehicle architectures. Additionally, manufacturers are being forced to embrace smart technologies that rely on SoC-based solutions due to regulatory requirements for vehicle safety and emission standards.

Region with largest share:

During the forecast period, the Asia-Pacific region is expected to hold the largest market share, driven by the area's leadership in the production of consumer electronics and semiconductors, as well as the expanding use of cutting-edge technologies in a variety of industries. Major chip foundries, electronics behemoths, and a strong supply chain ecosystem that facilitates large-scale SoC development and deployment are located in nations like China, South Korea, Taiwan, and Japan. SoC consumption is further increased in the region by the robust demand for smartphones, 5G infrastructure, electric vehicles, and Internet of Things devices. Furthermore, domestic SoC design and manufacturing are also being accelerated by government initiatives like India's 'Make in India' program and China's push for semiconductor self-reliance.

Region with highest CAGR:

Over the forecast period, the North American region is anticipated to exhibit the highest CAGR. The region's leadership in advanced semiconductor design, the high demand for devices with AI and ML integrated, and the growing uptake of edge computing, driverless cars and 5G infrastructures are all contributing factors to this growth. Growing investments under government programs like the U.S. CHIPS and Science Act, along with the presence of significant tech firms and chip designers like AMD, NVIDIA,

+357 96 030922
info@marketpublishers.com

Qualcomm, and Intel, are speeding up innovation and domestic manufacturing. Moreover, rapid SoC adoption across a variety of industries is also being fueled by the growth of cloud data centers, defense-grade electronics, and electric and autonomous vehicle programs.

Key players in the market

Some of the key players in System-on-Chip Market include Broadcom Inc., Intel Corporation, Huawei Technologies Co. Ltd., Microchip Technology Inc, Advanced Micro Devices Inc., NXP Semiconductors NV, MediaTek Inc., Infineon Technologies AG, Toshiba Corporation, STMicroelectronics NV, Apple, Inc., NVIDIA Corporation, Texas Instruments Incorporated, Samsung Electronics Co. Ltd., Qualcomm Incorporated, Renesas Electronics Corporation and Taiwan Semiconductor Manufacturing Co., Ltd.

Key Developments:

In July 2025, Microchip Technology announces that under a new partnership agreement with Delta Electronics, Inc. the companies will collaborate to use Microchip's mSiC™ products and technology in Delta's designs. The synergies between the companies aim to accelerate the development of innovative SiC solutions, energy-saving products and systems that enable a more sustainable future.

In April 2025, Intel Corporation announced that it has entered into a definitive agreement to sell 51% of its Altera business to Silver Lake, a global leader in technology investing. The transaction, which values Altera at $8.75 billion, establishes Altera's operational independence and makes it the largest pure-play FPGA semiconductor solutions company.

In November 2024, Broadcom Inc. and Telia Company announced the expansion of their longtime partnership with a new multi-year agreement, which will see Telia further modernize and transform its telco and cloud infrastructure with the VMware product portfolio. Telia, a Nordic and Baltic telecommunications leader and Nordic media house, will continue its network and IT cloud journey with both VMware Telco Cloud Platform and VMware Cloud Foundation as the basis of its modern cloud platform.

Types Covered:

Digital SoCs

+357 96 030922
info@marketpublishers.com

Mixed-Signal SoCs

Analog SoCs

RF/Connectivity SoCs

Core Counts Covered:

Single-core

Dual-core

Quad-core

Octa-core

Multi-core

Architectures Covered:

ARM

x86

RISC-V

MIPS

Other Architectures

Applications Covered:

Home Appliances

Smartphones & Portable Electronic Devices

+357 96 030922
info@marketpublishers.com

ADAS System

Medical Devices

RF Devices

Power Electronics

Wired & Wireless Communication Devices

Other Applications

End Users Covered:

Consumer Electronics

Automotive and Transportation

IT & Telecommunication

Aerospace & Defense

Healthcare

Power & Utility

Other End Users

Regions Covered:

North America

US

Canada

Mexico

+357 96 030922
info@marketpublishers.com

- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific
  - Japan
  - China
  - India
  - Australia
  - New Zealand
  - South Korea
  - Rest of Asia Pacific
- South America
  - Argentina
  - Brazil
  - Chile

+357 96 030922
info@marketpublishers.com

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:
- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

+357 96 030922
info@marketpublishers.com

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

+357 96 030922
info@marketpublishers.com

Contents

+357 96 030922
info@marketpublishers.com

5 GLOBAL SYSTEM-ON-CHIP MARKET, BY TYPE

5.1 Introduction
5.2 Digital SoCs
5.3 Mixed-Signal SoCs
5.4 Analog SoCs
5.5 RF/Connectivity SoCs

6 GLOBAL SYSTEM-ON-CHIP MARKET, BY CORE COUNT

6.1 Introduction
6.2 Single-core
6.3 Dual-core
6.4 Quad-core
6.5 Octa-core
6.6 Multi-core

7 GLOBAL SYSTEM-ON-CHIP MARKET, BY ARCHITECTURE

7.1 Introduction
7.2 ARM
7.3 x86
7.4 RISC-V
7.5 MIPS
7.6 Other Architectures

8 GLOBAL SYSTEM-ON-CHIP MARKET, BY APPLICATION

8.1 Introduction
8.2 Home Appliances
8.3 Smartphones & Portable Electronic Devices
8.4 ADAS System
8.5 Medical Devices
8.6 RF Devices
8.7 Power Electronics
8.8 Wired & Wireless Communication Devices
8.9 Other Applications

9 GLOBAL SYSTEM-ON-CHIP MARKET, BY END USER

+357 96 030922
info@marketpublishers.com

10 GLOBAL SYSTEM-ON-CHIP MARKET, BY GEOGRAPHY

+357 96 030922
info@marketpublishers.com

11 KEY DEVELOPMENTS

12 COMPANY PROFILING

+357 96 030922
info@marketpublishers.com

List Of Tables

LIST OF TABLES

+357 96 030922
info@marketpublishers.com

Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

+357 96 030922
info@marketpublishers.com

I would like to order

Product name: System-on-Chip Market Forecasts to 2032 – Global Analysis By Type (Digital SoCs, Mixed-Signal SoCs, Analog SoCs and RF/Connectivity SoCs), Core Count (Single-core, Dual-core, Quad-core, Octa-core and Multi-core), Architecture, Application, End User and By Geography

Product link: https://marketpublishers.com/r/SD82BC87E5D4EN.html

Price: US$ 4,150.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:
info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page https://marketpublishers.com/r/SD82BC87E5D4EN.html