

# Digital Signal Processors (DSP) Market Size Set To Cross USD 121.79 billion by 2031, Powered by Advanced Chips

Digital Signal Processors Market Share, Trends, Growth Drivers and Regional Analysis, Global Forecast 2031

AUSTIN, TEXAS, UNITED STATES, June 21, 2024 /EINPresswire.com/ -- Digital Signal Processors Market Outlook

The Digital Signal Processors Market Size according to the SNS Insider report, is poised for significant growth with projected market size USD 121.79 billion by 2031. This reflecting a CAGR DIGITAL SIGNAL PROCESSORS MARKET

Smart grid technology represents a groundbreaking advancement in the field of electrical infrastructure, offering a comprehensive solution to the evolving requirements of modern energy systems.

USD 121.79 BILLION BY 2031

USD 73.5 BILLION IN 2023

DRIVERS

• DSP chip excessive use in the consumer electronics industry.

• The automobile industry's growing demand for digital signal processors.

KEY PLAYERS

TOSHIBA BROADCOM

DSP Market Size and Growth Report

of 6.5% from 2024 to 2031, building upon a 2023 market value of USD 73.5 billion.

Continuous advancements in DSP technology are leading to more powerful and efficient chips. This enables them to handle complex tasks and integrate seamlessly into modern devices.

The ever-growing demand for multimedia applications such as high-definition video streaming and sophisticated gaming experiences fuels the need for robust signal processing capabilities that DSPs provide. The proliferation of connected devices in the IoT ecosystem necessitates efficient data processing at the edge. DSPs are perfectly suited for this role due to their ability to handle real-time signal processing with low power consumption. A few established players dominate the moderately competitive DSP market including Texas Instruments, Intel, Analog Devices and Infineon Technologies. with constant innovation and technological advancements, new companies are emerging to compete in this dynamic market. Looking ahead the increasing demand for high-performance power-efficient communication systems coupled with the integration of Artificial Intelligence (AI) and machine learning into signal processing tasks will be key trends shaping the future of the DSP market. Beyond core functionalities Digital Signal Processors are revolutionizing various industries. In automobiles they power features like ADAS and entertainment systems and their role will be even more crucial for future autonomous vehicles. Consumer electronics like smartphones and TVs leverage DSPs for superior audio/video quality and noise cancellation. The healthcare sector is also embracing DSPs in medical imaging,

diagnostics and hearing aids to enhance signal processing and provide accurate medical data.

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The Digital Signal Processors market is a growing sector with a wide range of applications across various industries. These specialized chips play a critical role in manipulating digital signals, making them essential for tasks like audio and video processing, communication systems, and control systems. The Digital Signal Processors market encompasses a broad scope including telecommunications, automotive, consumer electronics, healthcare and industrial automation. With its vast applications the DSP market has witnessed significant growth in recent years and is expected to continue expanding.

# **Recent Developments**

-In March 2024, Marvell unveils Nova 2, the world's first 1.6 terabit per second optical chip for Al and high-performance computing. This chip doubles data center bandwidth capacity, paving the way for faster cloud services and Al applications.

-In April 2024, Microchip bulked up its automotive tech by acquiring VSI. This deal adds ASA Motion Link technology to their existing offerings, strengthening their position in the booming ADAS and digital car dashboards market. The acquisition allows them to develop next-generation, software-defined vehicles that follow industry standards.

North America leads the DSP market due to its strong semiconductor industry and major players like Texas Instruments. The US, Canada and Mexico are key contributors to this regional dominance.

The Asia Pacific region is expected to be the fastest growing market for DSPs. This is because more and more people are buying smart home devices and electronics like smartphones and TVs. With features like voice assistants and high-resolution displays, these devices need powerful DSPs to work properly. As more people in Asia Pacific adopt these technologies, the demand for DSPs will keep rising.

Key Players Included in this Research Study are:

- Broadcom Corporation
- Analog Devices
- Qualcomm
- Toshiba Corp
- Samsung Electronics
- Xilinx
- NXP Semiconductor
- Altera Corporation
- Renesas Electronics Corporation

- Texas Instruments

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Key Market Segments of Digital Signal Processors (DSP)

#### BY TYPE

- -Programmable (FPGA & PLD) DSP IC
- -Application-Specific DSP IC
- -General-Purpose DSP IC

By Type: General-purpose DSP is dominant segment holding the largest market share in the digital signal process Market. These versatile chips hold the biggest market share due to their adaptability. Unlike application-specific DSPs designed for one task, general-purpose DSPs can handle a broad spectrum of jobs. This flexibility makes them ideal for various industries, from audio and video processing in consumer electronics to telecommunications and industrial automation. A prime example is Qualcomm's Snapdragon DSP. Found in smartphones and tablets it tackles a wide range of tasks like video/audio processing, image recognition, and even speech recognition.

## BY APPLICATION

- -Speech Processing and Recognition
- -Digital Image Processing
- -Audio and Video Compression
- -Audio Signal Processing
- -Radar Applications
- -Others

By Application: The Digital Signal Processor market is driven by the dominance of audio and video compression. This segment growing due to the ever-increasing demand for high-quality audio and video across various industries. From media and entertainment to broadcasting and even gaming, DSPs are essential for real-time processing tasks. In broadcasting, for instance DSPs handle compression, encoding and decoding of audio and video signals.

#### BY DESIGN ARCHITECTURE

- -Embedded DSP
- -Standard DSP

#### BY INDUSTRY

- -Military and Defense
- -Consumer Electronics
- -Healthcare
- -Telecommunication

- -Automotive
- -others

## **Key Takeaways**

- -The DSP market is growing due to advancements in chip technology, demand for multimedia applications, and the rise of IoT devices.
- -General-purpose DSPs are the dominant segment due to their versatility across industries like consumer electronics and telecommunications.
- -The Asia Pacific region is expected to see the fastest growth due to the increasing adoption of smart home devices and advanced consumer electronics.

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