Data Center Chip Market Size is projected to reach $45.3 billion by 2032

OREGAON, PORTLAND, UNITED STATES, September 3, 2024 /EINPresswire.com/ -- According to a new report published by Allied Market Research, titled, "Data Center Chip Market By Chip Type, By Data Center Size, By Industry Verticals: Global Opportunity Analysis And Industry Forecast, 2023-2032.",the data center chip market was valued at $11.7 billion in 2022, and is estimated to reach $45.3 billion by 2032, growing at a CAGR of 14.6% from 2023 to 2032.

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Data center chips are integrated circuit (IC) chips built specifically for use in data center servers and other high-performance computing applications. These chips power data centers' processing, storage, and networking activities, which are key components of modern computer architecture. Data center chips are designed to handle enormous amounts of data and severe workloads while also providing fast processing with low power consumption. They include various types of chips, such as processors, memory chips, graphics processing units (GPUs), field-programmable gate arrays (FPGAs), and other specialized chips.

The data center chip industry growth is driven by the surge in use of artificial intelligence (AI) and machine learning (ML) workloads. As artificial intelligence (AI) and machine learning (ML) technologies require massive amounts of data to be processed and analyzed in real-time to train algorithms and enhance performance, which necessitates high-performance computing infrastructure. Data center chips are critical in providing the required computational power for AI and ML workloads. AI and machine learning workloads necessitate the use of specialized chips such as graphics processing units (GPUs) and field-programmable gate arrays (FPGAs) that are optimized for parallel processing and deep learning activities. These processors analyze enormous amounts of data and execute complex computations quickly and efficiently, allowing the construction of powerful AI and ML models.

As the use of AI and ML continues to grow across various industries, such as healthcare, finance, and transportation, the demand for data center chip market growth that supports these workloads is expected to increase significantly. Meanwhile, there is a high cost associated with designing and developing advanced chips. As a result, the cost of designing and producing sophisticated chips is extremely high, potentially limiting their availability and making them prohibitively expensive for some users. This is especially difficult for smaller data center

operators who may not have the resources to invest in advanced chips. These costs further limit the growth and innovation in the industry.

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However, the emergence of 5G technology has created future opportunities for the data center chip market. In addition, data center chips are required to manage the large volumes of data generated by 5G devices, and hence 5G technology will require more powerful and efficient data center chips. 5G technology is intended to provide faster internet speeds, lower latency, and more bandwidth, enabling new applications and services not previously available with earlier generations of cellular technology. For instance, 5G technology is expected to enable the development of new applications such as high-performance computing (HPC), cloud computing, and smart cities, which are expected to generate massive amounts of data that are projected to be processed and analyzed in real-time. This requires advanced data center chips that handle high-bandwidth and low-latency data processing.

The data center chip market size is segmented on the basis of chip type, data center size, industry vertical, and region. By chip type, the market is divided into GPU, ASIC, FPGA, CPU, and others. By data center size, the data center chip market analysis is categorized into small & medium size and large size. By industry vertical, the market is classified into BFSI, manufacturing, government, IT & telecom, retail, transportation, energy & utilities, and others.

Region-wise, the data center chip market trends are analyzed across North America (the U.S., Canada, and Mexico), Europe (the UK, Germany, France, and the rest of Europe), Asia-Pacific (China, Japan, India, South Korea, and rest of Asia-Pacific), and LAMEA (Latin America, Middle East, and Africa).

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The key players profiled in the report include Intel Corporation, GlobalFoundries, Advanced Micro Devices Inc., Taiwan Semiconductor Manufacturing Co. Ltd., Samsung Electronics Co. Ltd., Arm Limited (SoftBank Group Corp.), Broadcom, Qualcomm Technologies, Inc., Huawei Technologies Co. Ltd., and NVIDIA Corporation. Market players have adopted various strategies such as product launch and acquisition to expand their foothold in the data center chip market.

KEY FINDINGS OF THE STUDY
• The data center chip market share is expected to grow significantly in the coming years, driven by the increase in cloud computing and advancements in chip technology.
• The market is expected to be driven by the demand for immersive chip types such as FPGA chips.
• The data center chip market share is highly competitive, with several major players competing for market share. The competition is expected to intensify in the coming years as new players

enter the market. The North America region is expected to be a major market for the data center chip market owing to an increase in investments by hyperscale cloud providers, colocation service providers, and enterprises, which are upgrading their IT infrastructure to support edge computing, 5G, multi-cloud services, big data analytics, and the IoT in the region.

The key players profiled in the data center chip market, such as Intel Corporation, GlobalFoundries, Advanced Micro Devices Inc., Taiwan Semiconductor Manufacturing Co. Ltd., Samsung Electronics Co. Ltd., Arm Limited (SoftBank Group Corp.), Broadcom, Qualcomm Technologies, Inc., Huawei Technologies Co. Ltd., and NVIDIA Corporation. The key strategies adopted by the major players of the data center chip market are product launch, and product development to expand their foothold in the data center chip market.

About Us:

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David Correa
Allied Market Research
+1 800-792-5285
email us here
Visit us on social media:
Facebook
X