A Look into the Competitive Landscape and Regional Analysis of the Global Neural Processor Market

WILMINGTON, NEW CASTLE, DE, UNITED STATES, December 12, 2024 /EINPresswire.com/ -- The report on the global ███████ ██████████ ███████ by Allied Market Research offers impactful insights, detailed statistics, and an in-depth market analysis from 2022 to 2031. It includes top market segments, value chain analysis, and the overall market estimations, highlighting top investment opportunities and successful strategies. Besides, it provides a detailed evaluation of geographical insights and presents a complete assessment of the competitive landscape, guiding businesses in making well-planned decisions to achieve their long-term goals. As per the report, the industry is predicted to exhibit a remarkable CAGR of 18.1% and reach a value of $849.8 million by 2031. The market was estimated at $162.1 million in 2021.

> "The growing surge in applications of neural processors in automotive industry along with rapid adoption of AI to improve consumer services and reduce operational costs drives market growth of market"
>
> *Allied Market Research*

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Neural processors are a set of neurons which act as a structure having a defined input and output function. Neural net processors decrease the requirement for the brain-like computer processing from the whole network of the computers. As a result, neural processors excel in very complex applications like artificial intelligence, computer vision or machine learning down to one multi-cored chip.

Growing demand for adaptive learning to do the tasks based on a given data for initial experience or training in sectors like retail and banking is acting as a major growth driver for the neural processor market. Therefore, the growing need for neural processors in real time operations in case of parallel and special hardware device which are being designed and manufactured for the purpose of taking advantage of system capability is also one of the key factors anticipated to catalyze the growing demand for neural processors during the forecast period. In addition, fault tolerance using the redundant information coding and industrial process control is also anticipated to increase the demand for neural processors in the

upcoming years. In turn this is also projected to affect the market of neural processing unit in a positive manner during the forecast period.

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The research report provides a comprehensive analysis of the top players in the global neural processor market. By thorough evaluation, AMR aims to provide clear insights into the competitive landscape of the top players in the market, presenting details of their key profiles, business performance, product portfolios, geographic expansion, and modern strategies. In addition, it offers complete information about the strategic actions taken by these top organizations to enhance and expand their market presence, including product developments, partnerships, and collaborations. Some notable companies mentioned in the report are:

• Halo Neuroscience

• Bitbrain Technologies

• Applied Brain Research

• BrainCo, Inc.

• HRL Laboratories, LLC

• General Vision, Inc.

• Samsung Electronics Co. Ltd.

• Aspinity, Inc.

• BrainChip, Inc.

• Hewlett Packard Enterprise Development LP

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- By application, the market is fragmented into fraud detection, hardware diagnostics, financial forecasting, image optimization, and other applications.

-The hardware diagnostics segment was the highest revenue contributor to the neural processor market size and is estimated to grow at a CAGR of 14.74%.

- By end user, the market is analyzed across BFSI, healthcare, retail, defense agencies, media, logistics, and others. The BFSI and retail together account for 42.2% of the global neural processor market share in 2021.

According to neural processor market trends, region wise, the market is analyzed across North America, Europe, Asia-Pacific, and LAMEA. North America dominated the market in 2021.

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In April 2022, Synopsys, a global leader in electronic design automation, introduced the DesignWare ARC NPX6 and NPX6FS NPU IP cores, which provide up to 3,500 TOPS to address the increasing AI processing needs in advanced systems-on-chip. These NPUs are capable of supporting real-time neural network computations with ultra-low power consumption, making them suitable for AI applications such as computer vision, audio, and natural language processing. The architecture scales from 4K to 96K MACs, achieving more than 250 TOPS per core or up to 440 TOPS with sparsity optimizations. When used in multi-NPU clusters, their performance can reach up to 3,500 TOPS.

The MetaWare MX development toolkit offers a robust compilation environment that automatically enhances neural network models for the NPX hardware. It also supports various frameworks such as TensorFlow and PyTorch. The NPX6FS variant meets ISO 26262 ASIL D compliance for safety-critical applications, including advanced driver assistance systems. The NPX6 family caters to the needs of AI-powered markets by offering scalability and high efficiency for advanced system-on-chips.

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This comprehensive report explores the market dynamics of the global neural processor market, focusing on revenue developments across different geographic segments. The report divides the global neural processor market into key regions, including North America, Europe, Asia Pacific, Latin America, and the Middle East & Africa. Based on regional analysis, North America held the largest market share in 2021. Europe is expected to maintain its leading position in terms of revenue during the forecast period. On the other hand, the Asia-Pacific region is projected to witness the fastest CAGR of 20.71% from 2022 to 2031.

To sum up, the Allied Market Research report provides a holistic review of the global neural processor market, offering valuable insights into market investment prospects, regional analysis, and the competitive landscape. This information is essential for businesses and stakeholders to make informed decisions, stay ahead of the competition, and take advantage of growth

opportunities to expand their market presence.

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We are in professional corporate relations with various companies, and this helps us in digging out market data that helps us generate accurate research data tables and confirms utmost accuracy in our market forecasting. Each and every data presented in the reports published by us is extracted through primary interviews with top officials from leading companies of domain concerned. Our secondary data procurement methodology includes deep online and offline research and discussion with knowledgeable professionals and analysts in the industry.

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