Neuromorphic Chip Market: Global Industry Analysis and Opportunity Assessment, 2016-2026

Description: North America region to stretch the periphery of the global neuromorphic chip market

The global neuromorphic chip market is expected to witness a significant surge by the end of 2026. The market will record a CAGR of 20.7% within the forecast period (2016 - 2026). The value of the global neuromorphic chip market crossed US$ 1,420 Mn in 2015 and is expected to touch an approximate value of US$ 10,810 Mn by the end of 2026.

The market is likely to showcase an incremental dollar opportunity of more than US$ 9,170 Mn during the period of forecast. In terms of revenue the North America neuromorphic chip market is projected to be the most attractive region. The North America neuromorphic chip market was valued at more than US$ 400 Mn in 2015 and is expected to surpass the value of US$ 2,700 Mn by the end of 2026. The market will expand at a CAGR of 19.7% in terms of value over the forecast period. This booming regional market is expected to represent an incremental dollar opportunity of more than US$ 2,300 Mn during the period of assessment.

Recent trends in North America include convergence of new and advanced technologies with existing technologies to enhance operations in different verticals such as automobiles and aerospace & defence. Neuromorphic chips, built with hundreds of neurons, are being tested for application in unmanned drones. A chip that works on a complex pattern matching algorithm is being developed to be able to identify and store the signal patterns emitted from the surroundings of any defined space. Using this information, the chip will enable the drone to recognise the space the next time it is at the same location.

For applications in the automotive industry, with the help of other technologies such as signal processing etc., the chip is expected to help drivers in taking better informed decisions by offering data and information about their immediate surroundings. In the U.S., the government is taking initiatives to promote research and development of advanced technologies, which can replace or enhance existing non-efficient ones. Moreover, the U.S. government is taking advantage of the presence of established players for conducting research and development studies for neuromorphic chips. Furthermore, companies are focussing on agreements and collaborations in order to develop neuromorphic chips with advanced features. In 2013, DARPA started a project with the objective to develop neuromorphic chips technology, which would be comparable to a mammal's brain. DARPA signed on established players such as IBM Corporation and HRL Laboratories, LLC, for this project.

North America neuromorphic chip market: Segment wise performance report

In terms of value, image recognition segment is estimated to be the most attractive in the North America neuromorphic chip market over the forecast period. In terms of revenue, image recognition segment is projected to be the most lucrative segment in the North America neuromorphic chip market during the forecast period. However, signal recognition segment is expected to register high Y-o-Y growth rates throughout the forecast period. In terms of value, this segment is expected to expand at a CAGR of 21.2% during the forecast period.

In terms of value, the consumer electronics segment is expected to expand at a CAGR of 25.0% during the forecast period. The aerospace & defence segment is expected to be the most attractive segment in the neuromorphic chip market in North America. In 2015 the automotive segment was valued at more than US$ 80 Mn and it is expected to be valued close to US$ 530 Mn by the end of 2026, expanding at a CAGR of 18.4% between 2016 and 2026.

- Leading market players are planning to dominate the global and regional markets through new strategic tie-ups and innovations
- IBM was awarded 7,355 patents in the US in 2015, putting it in the leading position for the 23rd consecutive year
- Intel Corporation invested US$ 12.1 Bn on R&D in 2015. Such high R&D investments allow the company to
develop leading proprietary technologies and attain a strong leadership position.

- In September 2016, General Vision collaborated with Mando-Hella Electronics Corp. - a tier1 South Korean automotive systems manufacturer, to develop advanced driver assistance and monitoring systems integrated with NeuroMem technology, enabling advanced image recognition and multisensory pattern recognition.

- Hewlett Packard Labs focusses on transferring advanced technologies into innovative products in order to propel the company's growth, maintain industry leadership and competitive advantage.

- HRL Laboratories focusses on widening its products portfolio reach into new application areas, which helps the company gain a competitive edge.

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