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CNC Controller Market Research Report - Global Forecast till 2027

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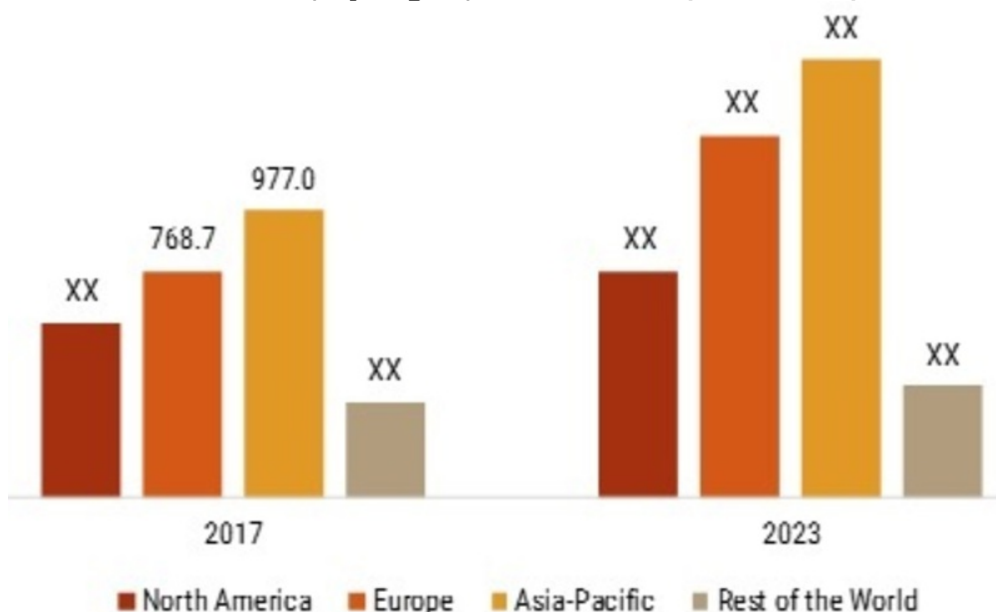
Description:

CNC Controller Market Snapshot

The **CNC Controller Market** is expected to grow to **USD 3.8 billion by 2023**, at a **CAGR of ~6%** during the forecast period of **2017 to 2023**. A CNC controller is a computerized program for the object, programmed with machine language which essentially controls and monitors the features like feed rate, coordination, location, and speed. The computer controls both the positioning and the speed of CNC machining used to manufacture metal as well as plastic parts. With the introduction of Industry 4.0, there has been a significant demand for automation because of the presence of emerging technologies like Internet of Things (IoT), cloud computing, and manufacturing technology across different industry verticals like automotive, construction, and manufacturing, among others, requiring mechanical components and parts to carry out the working process. The increased demand for automation has led to catering to the increased demand for mass production on a commercial scale. The industries these days face a considerable market for precise and quality product as the consumption of products has increased over time. Among the various industries, the automotive industry holds the place for higher automation and increased usage of CNC. CNC machines rely on the instructions provided by the Computer-Aided-Manufacturing (CAM) and Computer-Aided-Design (CAD) and then interprets those designs from the instructions. CNC machines benefit the automotive industry by providing reliability, power, speed, and efficiency. More precise starters are manufactured using CNC, ensuring the vehicle starting every time.

CNC controller is also used for reduction in the cost of the manufacturing process and waste minimization by precise manufacturing of small parts and components. The primary benefit of computer control machining is the ability to repeat the same process over and over again without errors in manufacturing. This helps the manufacturers in the mass production with quality and precision, as the demand for consumables is increasing every day. However, the high cost of implementation and maintenance is expected to hamper the growth of the market.

CNC Controller Market, By Region, 2017 Vs. 2023 (USD Million)



Source: - MRFR Analysis

There are various components of the CNC controller, which include a power supply unit, software, cabling, circuitry protection system, and motor driver, among other small components. The working of a CNC machine depends mostly on the proper functioning of the actuators, and power supply unit plays an essential role in providing the continuous and regulated power supply to the actuators driving the CNC machines. The power supply unit is generally of two types for the CNC—regulated power supply and unregulated power supply. Software is another important component of a CNC controller. It is also termed as the CAD/CAM software. The Computer-Aided Design and Computer-Aided Machining are generally used in the machine tool programming and towards the automation of the manufacturing process. The software typically takes up the drawing (surfaces, solid models, etc.) and converts it into an application program that involves the cutting or machining toolpath and again posts that into the machine language for the machine controller to understand and execute.

Synopsis

The CNC controller market has been segmented based on product, component, axis-type, application, end-user, and region.

Based on the product, the CNC controller market has been segregated into microcontroller-based, DSP-based, motion control chip-based, and others. The microcontroller-based segment accounted for the largest market share in **2017** and is also expected to register the highest CAGR during the forecast period.

Component segmentation of the CNC controller market comprises a power supply unit, software, cabling, circuitry protection system, motor driver, and others. The motor driver segment accounted for the largest market share in **2017**, while the software segment is expected to register the highest CAGR during the forecast period.

Based on the axis type, the CNC controller market has been divided into two-axis, three-axis, four-axis, five-axis, and multi-axis. The three-axis segment accounted for the largest market share in **2017**. Five-axis segment is expected to register the highest CAGR during the forecast period.

Application segmentation of the CNC controller market consists of closed-loop control CNC machine tool, open-loop control CNC machine tool, and semi-closed loop control CNC machine tool. The closed-loop control CNC machine tool segment accounted for the largest market share in 2017, while the semi-closed loop control CNC machine tool segment is expected to register the highest CAGR during the forecast period.

Based on the end-user, the CNC controller market has been bifurcated into healthcare, automobile, aerospace, defense, electronics, metal, and mining. The automobile segment accounted for the largest market share in 2017. Electronics segment is expected to register the highest CAGR during the forecast period.

CNC controller Market Regional Analysis

CNC Controller market, by region, has been segmented into Asia-Pacific, North America, Europe, and rest of the world. Asia-Pacific accounted for the largest market share of in 2017 and is expected to register a high CAGR during the forecast period. Some of the factors that are responsible for the market growth include increasing investments in technological developments, high demand from automotive and defense sectors, substantial presence of electronics industry in China, and adoption of industrial automation in Japan. Europe is expected to be the fastest-growing market in the CNC controller market growing at the highest CAGR due to the growing manufacturing industry, increasing trend of industrial automation, and rising demand from the automotive industry in Germany.

Companies Covered

The key players of global CNC controller market are **Siemens AG (Germany), Mitsubishi Electric Corporation (Japan), Bosch Rexroth AG (Germany), DMG Mori Co Ltd (Japan), Hurco Companies Inc (US), Fagor Automation Corporation (US), Haas Automation, Inc. (US), Wuhan Huazhong Numerical Control Co., Ltd. (China), Yamazaki Mazak Corporation (Japan), FANUC Corporation (Japan), and Okuma Corporation (Japan).**

Market Segmentation

- By Product — Microcontroller-based, DSP-based, motion control chip-based, and others
- By Component— Power supply unit, software, cabling, circuitry protection system, motor driver, and others
- By Axis Type — 2 axis, three-axis, four-axis, five-

axis, and multi-axis

- By Application — Closed-loop control CNC machine tool, open-loop control CNC machine tool, and semi-closed loop control CNC machine tool
- By End-User — Healthcare, automobile, aerospace, defense, electronics, metal, and mining

Key questions addressed by the report

- What was the historic market size (2017)?
- Which segmentation (application/product) is driving market growth?
- What will be the growth rate by 2023?
- Who are the key players in this market?
- What are the strategies adopted by key players?

Infographic Summary:



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