

Global Precision Gearbox Market Size Study & Forecast, By Product (Planetary, Harmonic and Cycloid) By Application (Military & Aerospace, Food & Beverage, Tobacco, Machine Tools, Materials Handling, Packaging, Robotics, Medical, Others), and Regional Analysis, 2023-2030

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Abstracts

Global Precision Gearbox Market is valued at approximately USD 2.70 billion in 2022 and is anticipated to grow with a healthy growth rate of more than 9.90% over the forecast period 2023-2030. A precision gearbox is a mechanical device used to transmit power and torque from a motor to a driven component with high accuracy and precision. This type of gearbox is designed to provide precise control over speed, rotation, and torque, making it suitable for applications where precise positioning and motion control are required. Precision gearboxes typically feature high-quality gears, bearings, and housing materials to ensure minimal backlash, smooth operation, and long-term reliability. The Precision Gearbox market is expanding because of factors such as the rising adoption of industrial robots, the rising adoption of advanced machinery in manufacturing processes, and growing industrialization and infrastructure development.

The rising adoption of industrial robots is significantly driving the growth of the Precision Gearbox Market. As industries increasingly embrace automation to enhance efficiency, productivity, and precision in manufacturing processes, the demand for precision gearboxes, which are integral components of robotic systems, is experiencing a notable surge. According to the International Federation of Robotics, in the year 2022 404,578 units were installed, up 5% from 385,143 units in 2021. Most newly deployed robots, amounting to 73%, were installed in Asia, with 15% in Europe and 10% in the Americas. Moreover, for the second consecutive year, the global record of 500,000 units was

surpassed, indicating a sustained upward trend in robot installations worldwide. Thus, the rising adoption of industrial robots is driving market growth. In addition, the rising adoption of Electric Vehicles (EVs) and growth in the aerospace and defense sector are creating new opportunities for market growth. However, high initial investment and availability of alternative technologies stifle market growth throughout the forecast period of 2023-2030.

The key regions considered for the Global Precision Gearbox Market study include Asia Pacific, North America, Europe, Latin America, and Middle East & Africa. North America dominated the market in 2022 owing to the increasing demand for automation across industries such as automotive, aerospace, and robotics. This surge in automation necessitates the utilization of high-precision gearboxes to ensure precise motion control, driving market growth. Moreover, advancements in technology have led to the development of more efficient and compact gearboxes, enhancing their appeal and adoption rates. North America's thriving industrial sector and focus on innovation further bolster the proliferation of precision gearbox applications, thereby contributing to the expansion of the regional market. Asia Pacific is expected to grow at the fastest rate during the forecast period, owing to factors such as the widespread adoption of precision gearboxes is evident across industries like cement and metallurgy in countries such as China, Japan, India, and South Korea, particularly for material handling applications. Furthermore, the increasing industrialization, and manufacturing sector within the region is poised to unlock fresh avenues of growth for the market.

Major market players included in this report are:

Harmonic Drive LLC

NIDEC-SHIMPO CORPORATION

St?ber Antriebstechnik GmbH and Co. KG

WITTENSTEIN SE

GAM ENTERPRISES, INC.

DieQua Corporation

Neugart GmbH

Apex Dynamics, Inc.

Sumitomo Drive Technologies

Nabtesco Corporation

Recent Developments in the Market:

In October 2023, Schaeffler unveiled an expansion of its precision bearings, motors, and gearbox ranges tailored specifically for machine tool applications. By introducing new automation solutions, Schaeffler addresses the evolving demands of the machine tool industry. These innovative solutions are distinguished by enhanced dynamic characteristics, precision, energy efficiency, and extended machine runtimes, effectively meeting the evolving needs of manufacturers in the sector.

Global Precision Gearbox Market Report Scope:

Historical Data – 2020 - 2021

Base Year for Estimation – 2022

Forecast period - 2023-2030

Report Coverage - Revenue forecast, Company Ranking, Competitive Landscape, Growth factors, and Trends

Segments Covered – Product, Application, Region

Regional Scope - North America; Europe; Asia Pacific; Latin America; Middle East & Africa

Customization Scope - Free report customization (equivalent to up to 8 analysts' working hours) with purchase. Addition or alteration to country, regional & segment scope*

The objective of the study is to define the market sizes of different segments & countries

in recent years and to forecast the values for the coming years. The report is designed to incorporate both qualitative and quantitative aspects of the industry within countries involved in the study.

The report also caters to detailed information about the crucial aspects such as driving factors & challenges that will define the future growth of the market. Additionally, it also incorporates potential opportunities in micro markets for stakeholders to invest along with a detailed analysis of the competitive landscape and product offerings of key players. The detailed segments and sub-segment of the market are explained below:

By Product:

Planetary

Harmonic

Cycloid

By Application:

Military & Aerospace

Food & Beverage, And Tobacco

Machine Tools

Materials Handling

Packaging, Robotics

Medical

Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

Saudi Arabia

South Africa

Rest of Middle East & Africa

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