

Control Moment Gyroscope Market Outlook 2025-2034: Market Share, and Growth Analysis By Product Type(Micro Control Moment Gyroscopes, Macro Control Moment Gyroscopes),By Technology, By Application, By End User

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Abstracts

The global Control Moment Gyroscope Market size is valued at USD 1120 million in 2024 and is projected to reach USD 1890.1 million by 2032, registering a compound annual growth rate (CAGR) of 6.76% over the forecast period.

Control moment gyroscope (CMG) market is growing steadily as aerospace and satellite sectors adopt CMGs for precise attitude control and stabilisation without fuel-based thrusters. CMGs provide high torque output by changing the angular momentum of spinning rotors, enabling efficient satellite orientation adjustments with minimal power consumption. Key manufacturers focus on developing lightweight, compact CMGs with improved reliability, low vibration, and modular designs suitable for small satellite constellations and large spacecraft. Growth is driven by rising satellite launches, space exploration missions, and demand for agile, fuel-efficient attitude control systems. However, challenges include complex mechanical design, high manufacturing costs, and limited supplier base. Recent developments include Honeywell advancing its CMG systems for next-generation satellites, featuring low-mass rotors and advanced torque amplification mechanisms to support agile orbital manoeuvring.

Major trends include increasing use of control moment gyroscopes in satellites and spacecraft for fuel-free, high-torque attitude control enabling agile positioning and orientation adjustments in orbit.

Growth is driven by rising satellite constellation deployments, space exploration

missions, and demand for reliable, power-efficient attitude control systems in aerospace applications.

Key challenges include complex mechanical and control system design requirements, high production costs, and limited availability of specialised CMG suppliers globally.

Companies are innovating with lightweight, modular CMG designs featuring low vibration rotors and enhanced torque amplification to improve agility, reliability, and integration in spacecraft systems.

Recent developments include Honeywell enhancing its CMG product line with advanced low-mass rotor designs and improved torque output to support precise, fuel-free orientation control for next-generation satellites and space platforms.

Control Moment Gyroscope Market Size Data, Trends, Growth Opportunities, and Restraining Factors

This comprehensive Control Moment Gyroscope market report delivers updated market size estimates from 2024 to 2034, offering in-depth analysis of the latest Control Moment Gyroscope market trends, short-term and long-term growth drivers, competitive landscape, and new business opportunities. The report presents growth forecasts across key Control Moment Gyroscope types, applications, and major segments, alongside detailed insights into the current Control Moment Gyroscope market scenario to support companies in formulating effective market strategies.

The Control Moment Gyroscope market outlook thoroughly examines the impact of ongoing supply chain disruptions and geopolitical issues worldwide. Factors such as trade tariffs, regulatory restrictions, production losses, and the emergence of alternatives or substitutes are carefully considered in the Control Moment Gyroscope market size projections. Additionally, the analysis highlights the effects of inflation and correlates past economic downturns with current Control Moment Gyroscope market trends, providing actionable intelligence for stakeholders to navigate the evolving Control Moment Gyroscope business environment with precision.

Control Moment Gyroscope Market Competition, Intelligence, Key Players, winning strategies to 2034

The 2025 Control Moment Gyroscope Market Research Report identifies winning strategies for companies to register increased sales and improve market share.

Opinions from senior executives from leading companies in the Control Moment Gyroscope market are imbibed thoroughly and the Control Moment Gyroscope industry expert predictions on the economic downturn, technological advancements in the Control Moment Gyroscope market, and customized strategies specific to a product and geography are mentioned.

The Control Moment Gyroscope market report is a source of comprehensive data and analysis of the industry, helping businesses to make informed decisions and stay ahead of the competition. The Control Moment Gyroscope market study assists investors in analyzing On Control Moment Gyroscope business prospects by region, key countries, and top companies' information to channel their investments.

The report provides insights into consumer behavior and preferences, including their buying patterns, brand loyalty, and factors influencing their purchasing decisions. It also includes an analysis of the regulatory environment and its impact on the Control Moment Gyroscope industry. Shifting consumer demand despite declining GDP and burgeoning interest rates to control surging inflation is well detailed.

What's Included in the Report

Global Control Moment Gyroscope market size and growth projections, 2024-2034

North America Control Moment Gyroscope market size and growth forecasts, 2024- 2034 (United States, Canada, Mexico)

Europe market size and growth forecasts, 2024- 2034 (Germany, France, United Kingdom, Italy, Spain)

Asia-Pacific Control Moment Gyroscope market size and growth forecasts, 2024- 2034 (China, India, Japan, South Korea, Australia)

Middle East Africa Control Moment Gyroscope market size and growth estimate, 2024- 2034 (Middle East, Africa)

South and Central America Control Moment Gyroscope market size and growth outlook, 2024- 2034 (Brazil, Argentina, Chile)

Control Moment Gyroscope market size, share and CAGR of key products, applications, and other verticals, 2024- 2034

Short- and long-term Control Moment Gyroscope market trends, drivers, challenges, and opportunities

Control Moment Gyroscope market insights, Porter's Five Forces analysis

Profiles of 5 leading companies in the industry- overview, key strategies, financials, product portfolio and SWOT analysis

Latest market news and developments

Key Questions Answered in This Report :

What is the current Control Moment Gyroscope market size at global, regional, and country levels?

What is the market penetration of different types, Applications, processes/technologies, and distribution/sales channels of the Control Moment Gyroscope market?

What will be the impact of economic slowdown/recission on Control Moment Gyroscope demand/sales?

How has the global Control Moment Gyroscope market evolved in past years and what will be the future trajectory?

What is the impact of growing inflation, Russia-Ukraine war on the Control Moment Gyroscope market forecast?

What are the Supply chain challenges for Control Moment Gyroscope?

What are the potential regional Control Moment Gyroscope markets to invest in?

What is the product evolution and high-performing products to focus in the Control Moment Gyroscope market?

What are the key driving factors and opportunities in the industry?

Who are the key players in Control Moment Gyroscope market and what is the degree of competition/Control Moment Gyroscope market share?

What is the market structure /Control Moment Gyroscope Market competitive Intelligence?

Available Customizations

The standard syndicate report is designed to serve the common interests of Control Moment Gyroscope Market players across the value chain, and include selective data

and analysis from entire research findings as per the scope and price of the publication.

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Control Moment Gyroscope Market Segmentation

By Product

Micro Control Moment Gyroscopes

Macro Control Moment Gyroscopes

By Application

Aerospace

Marine

Robotics

Automotive

By End User

Commercial

Military

Research Institutions

By Technology

MEMS

Fiber Optics

Ring Laser

By Geography

North America (USA, Canada, Mexico)

Europe (Germany, UK, France, Spain, Italy, Rest of Europe)

Asia-Pacific (China, India, Japan, Australia, Vietnam, Rest of APAC)

The Middle East and Africa (Middle East, Africa)

South and Central America (Brazil, Argentina, Rest of SCA)

Key Market Players

Honeywell Aerospace

Northrop Grumman Corporation

Kearfott Corporation

Bradford Space

Comtech AeroAstro

Dynetics, Inc.

Blue Canyon Technologies

INNALABS Ltd

MIDE Technology

Moog Inc.

Airbus Defence and Space

Viasat Inc.

Raytheon Technologies

GomSpace

China Aerospace Science and Technology Corporation (CASC)

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