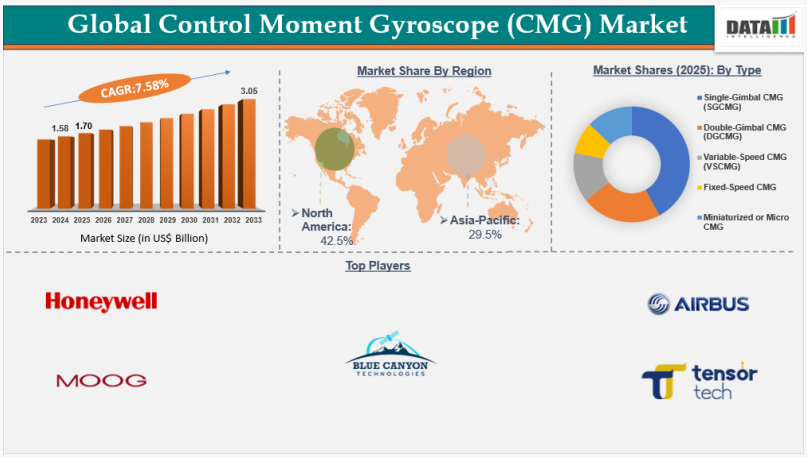
Control Moment Gyroscope (CMG) Market to hit USD$ 3.05 billion by 2033 | Asia-Pacific Holds 29.5% Market Share in (2025)

Control Moment Gyroscope (CMG) Market (2026-2033) | Key Developments, Future Growth, Industry Insights, Investment opportunities



Control Moment Gyroscope (CMG) Market Size 2026

AUSTIN, TX, UNITED STATES, February 18, 2026 /EINPresswire.com/ -- Market Size and Growth (2026)

According to DataM Intelligence, the Global Control Moment Gyroscope (CMG) market was valued at USD 1.58 billion in 2024, increased to USD 1.70 billion in 2025, and is projected to reach USD 3.05 billion by 2033, growing at a robust CAGR of 7.58% during (2026–2033).

> United States Control Moment Gyroscope (CMG) Industry Trends (2026-2033) | Spacecraft & Defense Applications"
>
> *DataM Intelligence 4Market Research LLP*

Rising demand for high-precision satellite attitude control, space exploration missions, and defense satellite programs is fueling growth. CMGs provide torque and precise angular momentum control for spacecraft, enabling rapid and energy-efficient maneuvering without expending propellant.

Advanced CMGs are increasingly integrated with small satellites (smallsats), Earth observation satellites, and deep-space missions, driving innovations in compact, high-torque, and low-vibration gyroscope designs.

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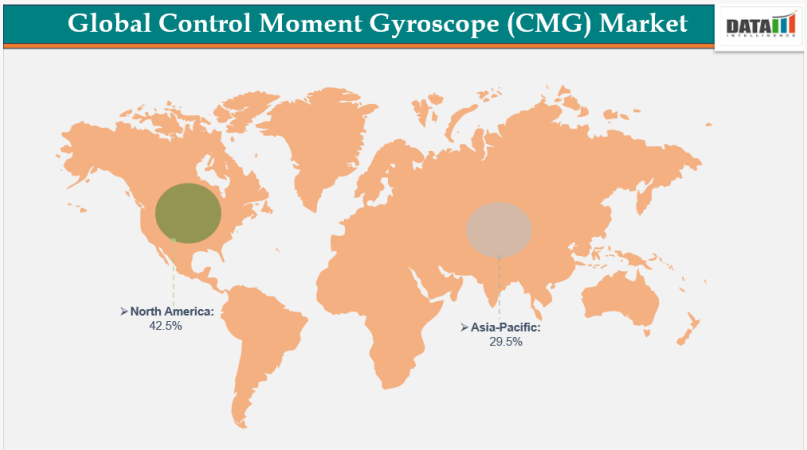
Growth Drivers

1. Global satellite launches exceeded 1,400 units in 2024, with CMG-equipped spacecraft accounting for 12% share, projected to exceed 35% by 2032.



Control Moment Gyroscope (CMG) Market Regional 2026

2. Defense and aerospace investments reached USD 24 billion in 2024, accelerating CMG adoption for precision attitude control in fighter jets, military satellites, and space reconnaissance platforms.

3. Miniaturization of CMGs for CubeSats and LEO constellations enables low-power, high-precision control, supporting expanding commercial satellite networks.

4. Advanced manufacturing technologies, including carbon fiber rotors and magnetic bearings, reduce CMG weight and vibration, increasing efficiency and mission lifespan.

5. Integration with AI-assisted control systems allows predictive torque compensation, enhancing satellite stability and mission reliability.

Market Segmentation Analysis
By Type

By type, the Single-Gimbal CMG is expected to dominate the market, capturing approximately 42.5% share in 2025.

Single Gimbal CMG (SGCMG): 45% share in 2024 (USD 472M), projected to reach USD 1.62B by 2032.

Double Gimbal CMG (DGCMG): 55% share in 2024 (USD 578M), expected to grow to USD 2.22B by 2032.

By Application

Satellites & Spacecraft: USD 715M in 2024, projected to reach USD 2.75B by 2032.

Aerospace & Defense Vehicles: USD 210M in 2024, expected to grow to USD 720M by 2032.

Research & Scientific Missions: USD 125M in 2024, forecasted to reach USD 365M by 2032.

By Deployment

Miniaturized or Micro CMG segment is estimated to hold around 12.5% of the market in 2025.

Onboard Satellites – 70% (USD 735M in 2024), projected to USD 2.7B by 2032.

Ground & Simulation Systems – 30% (USD 315M), supporting aerospace R&D, projected to USD 1.14B by 2032.

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Regional Insights

North America

Market value: USD 520M in 2024 → USD 1.94B by 2032

High adoption across NASA and DoD programs, particularly for Earth observation and defense satellites.

Private aerospace players (e.g., SpaceX, Blue Origin) integrating DGCMG for rapid satellite constellation deployment.

Europe

Market value: USD 210M in 2024 → USD 840M by 2032

ESA and European defense agencies deploying CMGs for LEO satellites and reconnaissance missions.

Key adoption in Airbus Defence & Space and Thales Alenia Space platforms.

Asia-Pacific

Asia-Pacific is the fastest-growing region in the Control Moment Gyroscope market, accounting for a 29.5% market share in 2025.

China, Japan, and India expanding CMG-equipped satellite programs for telecom, navigation, and Earth monitoring.

Rising smallsat and CubeSat launches to drive CMG miniaturization.

Middle East & Africa

Market value: USD 70M in 2024 USD 240M by 2032

Government-funded satellite initiatives in UAE and Saudi Arabia supporting regional defense and Earth observation missions.

South America

Market value: USD 70M in 2024 USD 240M by 2032

Brazil and Argentina launching scientific and environmental satellites integrating CMG systems.

Competitive Landscape

The CMG market is moderately consolidated, with aerospace giants and precision engineering startups competing on torque efficiency, size, weight, and lifespan.

Key Players

Global Leaders:

1. Honeywell Aerospace
2. Moog Inc
3. Blue Canyon Technologies
4. Airbus
5. Northrop Grumman Corporation
6. OHB System AG

Startups & Innovators:

1. Tensor Tech
2. VEOWARE SPACE,
3. GYROMARINE S.r.l.
4. Exail Technologies

Key Highlights

1. Honeywell delivered over 400 DGCMG units for global commercial and defense satellites in 2024.

2. Moog introduced low-vibration, compact CMGs for CubeSat platforms, reducing power consumption by 25%.

3. Northrop Grumman's Astro Aerospace launched high-torque CMGs for geostationary satellites supporting secure communications.

4. OHB System AG specializes in CMG-based satellite pointing and maneuvering solutions.

5. Tensor Tech innovates in lightweight CMG designs for nanosatellites.

6. VEOWARE SPACE develops next-gen CMG for rapid satellite deployment and orbit adjustments.

7. GYROMARINE S.r.l. focuses on high-torque CMG units for aerospace and marine stabilization.

8. Exail Technologies provides modular CMG systems for small spacecraft and space robotics applications.

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Recent Developments

Honeywell signed multi-year CMG supply contracts with NASA for Artemis lunar missions (Jan 2025).

Moog collaborated with European Space Agency for high-precision CMG development for LEO satellites (March 2025).

Northrop Grumman unveiled AI-enabled CMG control software improving satellite stabilization (Feb 2025).

STS Technologies deployed next-gen CMG systems on Asia-Pacific defense satellites (Dec 2024).

Market Outlook and Opportunities

1. DGCMG segment expected to reach USD 2.22B by 2032, accounting for 58% of total revenue.

2. CMG adoption in small satellites projected to grow 3× by 2032, enabling cost-effective constellation deployments.

3. Integration of CMGs with AI-based autonomous control and hybrid reaction wheel systems to unlock additional USD 500M market potential.

4. Asia-Pacific to record the fastest CAGR (17.4%) driven by rising national satellite programs.

Conclusion

The Global Control Moment Gyroscope (CMG) Market is poised for strong growth. CMGs are critical for precise satellite and spacecraft maneuvering, reducing fuel consumption and enhancing mission reliability.

Industry leaders like Honeywell, Moog, and Northrop Grumman, alongside regional innovators, are driving this transformation by developing compact, high-torque, and AI-integrated CMG systems. As satellite constellations, deep-space missions, and defense aerospace programs expand, CMG adoption is expected to become a standard technology for spacecraft attitude control by 2033.

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