SCOTTS INTERNATIONAL

Automotive Brake System - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-06-01 | 120 pages | Mordor Intelligence

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Report description:

Automotive Brake System Market Analysis

The automotive brake system market stood at USD 77.21 billion in 2025 and is forecast to reach USD 92.01 billion by 2030, advancing at a 3.57% CAGR. The market's growth reflects a steady migration from purely hydraulic setups toward electronically governed architectures that coordinate anti-lock, stability, and regenerative functions in software-defined vehicles. Asia Pacific anchors demand through large-scale electric-vehicle (EV) production and outsourcing of electronic brake assemblies, while the Middle East records the quickest expansion as fleet-modernization policies intersect with infrastructure spending. Technology vendors concentrate on brake-by-wire and low-dust friction materials to comply with UNECE R140 and Euro 7 particulate limits, and light commercial vehicle (LCV) operators lift aftermarket volumes via predictive maintenance programs that cut unplanned downtime.

Global Automotive Brake System Market Trends and Insights

Rapid Electrification Driving Regenerative-Compatible Brake Hardware

Electric-vehicle layouts place more braking torque on traction motors, so friction systems must synchronize seamlessly with software-managed energy recovery. A regenerative kit co-developed by Tevva and ZF captures up to four times more energy than standard air brakes, extending a 7.5-ton truck's range to 140 miles. Mercedes-Benz prototypes embed the brake unit inside the e-drive housing, eliminating rust-prone hardware and reducing particulate emissions. Aisin's cooperative regenerative system further balances hydraulic and motor braking to maintain vehicle stability under all load states.

Heightened ADAS Penetration Raising Demand for Brake-by-Wire

Level-2+ assistance and planned Level-4 autonomy require millisecond actuation that hydraulic linkages cannot guarantee. Bosch's upcoming hydraulic brake-by-wire platform removes mechanical pedal paths yet retains dual fluid circuits for redundancy. ZF has already booked almost 5 million vehicles for its electro-mechanical brake technology that combines integrated brake control and software-defined chassis modules. The semiconductor layer follows suit: Renesas' R-Car X5H system-on-chip uses hardware isolation to protect safety-critical braking domains.

Volatility in Rare-Earth Prices Inflating Electronic Brake Actuator Costs

The U.S. Department of Energy lists neodymium, praseodymium, dysprosium, and terbium as critical materials with concentrated processing in China, exposing brake-by-wire actuators to price swings. Suppliers are diversifying magnet chemistries and seeking non-magnetic motor alternatives, yet near-term cost pressures persist across the automotive brake system market.

Other drivers and restraints analyzed in the detailed report include:

Stricter FMVSS 126 & UNECE R140 Mandates Boosting ABS/ESC Installations / Post-COVID E-commerce Surge Increasing LCV Brake Aftermarket / Reduced Wear in Regenerative Braking Curtailing Aftermarket Pad Revenues /

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

Disc brakes accounted for 63.10% of 2024 revenue, their thermal stability keeping them the default choice in passenger cars and light trucks. The automotive brake system market size for electric parking brakes is projected to expand 5.22% by 2030, driven by space savings and electronic integration that complements ADAS. Brakes India introduced its first electric park brake with a global OEM in 2024, signaling cost-optimized uptake in emerging markets. Drum brakes continue on rear axles where cost is king, while regenerative modules carve a share in battery electric vehicles.

NASA-derived lightweight rotors, now licensed to Orbis Brakes, lower unsprung mass by 42% and improve cooling via wave-shaped vents, an innovation likely to debut in high-performance EVs where every kilogram matters. This cascade of innovations helps the automotive brake system market embrace next-generation materials without sacrificing legacy volumes.

Anti-lock systems held 45.10% market share in 2024, anchoring the safety stack. Electronic stability control, however, is growing at 8.65% CAGR and is already mandated in many regions, positioning it to narrow the gap swiftly. Continental produced more than 1 million electronic brake systems in India during 2024, illustrating scalable economics. TCS and EBD remain complementary, optimizing traction and load balance respectively.

Artificial-intelligence layers are now enhancing classical ABS; Brembo's AI-enabled controller launched in late 2024 anticipates grip losses before wheel lock, confirming that software will differentiate what once was a hardware race. As a result, the automotive brake system market continues to pivot from component supply toward algorithm-driven performance gains.

Hydraulic actuation generated 66.25% of 2024 revenue as its supply chain and service base remain entrenched. Yet brake-by-wire solutions, forecast at a 9.50% CAGR, address autonomous-vehicle latency standards. Bosch's hydraulic brake-by-wire hybrid keeps fluid pathways for redundancy while removing mechanical pedals, offering an evolutionary step for cautious OEMs.

Pneumatic systems hold in heavy trucks, and mechanical cables survive in cost-constrained niches.

ZF's bookings for light vehicles confirm the commercial viability of pure electro-mechanical brakes. For the automotive brake system market, this dual track, evolutionary hybrids and revolutionary by-wire, permits staged investment without disrupting existing manufacturing footprints.

The Automotive Brake System Market Report is Segmented by Vehicle Type (Passenger Cars and More), Product Type (Disc Brakes and More), Technology (Anti-Lock Braking System (ABS) and More), Actuation Mechanism (Hydraulic and More), Component (Brake Pads & Shoes and More), Pad Material (Organic and More), Sales Channel, Propulsion, and Geography. The Market Forecasts are Provided in Terms of Value (USD) and Volume (Units).

Geography Analysis

Asia Pacific held 58.55% of 2024 revenue, fueled by China's EV rollout and India's electronics assembly scale. Continental alone produced more than 1 million electronic brake systems in India during 2024. Local joint ventures, such as Brakes India-ADVICS, reinforce indigenous technology capability.

Europe contributes mature yet lucrative demand stemming from mandated particulate caps and rapid ESC retrofits. Euro 7's 7 mg/km brake-dust threshold, effective mid-2025, accelerates copper-free material adoption and low-drag calipers. Nordic nations also post a robust 5% CAGR as EV penetration fosters regenerative-ready systems.

The Middle East leads regional growth at an 8.90% CAGR through 2030, powered by Vision 2030 infrastructure programs in Saudi Arabia and transport diversification in the UAE. Africa follows at 6.90% due to growing assembly hubs in South Africa and Egypt. North America advances at 4.5% as technology refresh cycles replace legacy hydraulic setups; Macomb County alone tallied USD 100.3 million in brake-specific sales in 2024

List of Companies Covered in this Report:

Continental AG / Robert Bosch GmbH / ZF Friedrichshafen AG / Brembo S.p.A / Akebono Brake Industry Co. Ltd / Aisin Corporation / ADVICS Co. Ltd / Knorr-Bremse AG / Hyundai Mobis Co. Ltd / Mando Corporation / Federal-Mogul Motorparts (Tenneco) / Hitachi Astemo, Ltd. / WABCO (ZF CVS) / Meritor Inc. / Nissin Kogyo Co. Ltd / Bendix Commercial Vehicle Systems / Aptiv PLC / Haldex AB / Hella Pagid GmbH / Carlisle Brake & Friction /

Additional Benefits:

The market estimate (ME) sheet in Excel format /
3 months of analyst support /

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