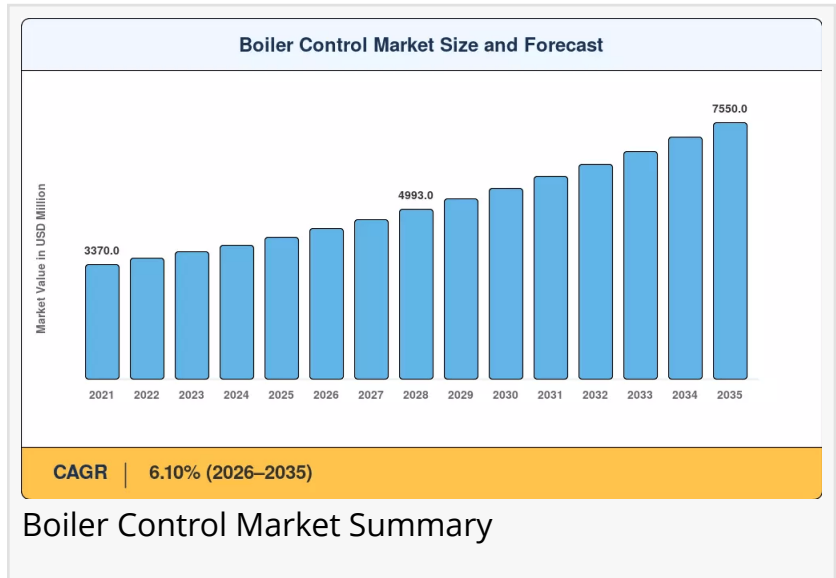


Boiler Control Market Share Estimated To Reach USD 7,550 Million, at a CAGR of 6.10% During the Forecast 2026 To 2035

Hardware accounts for an estimated USD 2,760 million in 2025, reflecting continued investment in sensors, actuators, and controller modules.

NY, CA, UNITED STATES, July 15, 2026 /EINPresswire.com/ -- Boiler control systems are integrated automation solutions designed to monitor, regulate, and optimize the operation of industrial and commercial boilers. These systems manage critical parameters including fuel-air ratios, water levels, steam pressure, temperature, and emissions to ensure safe, efficient, and compliant boiler operation. The systems range from basic on/off controllers to advanced distributed control systems (DCS) with predictive analytics capabilities.



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Water Tube Boiler dominates with approximately 48% of the Boiler Control Market share in 2025, driven by heavy demand in power generation and large-scale process industries.”

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Boiler Control Market Overview

The [Boiler Control Market Share](#) reached an estimated USD 4,180 Million in 2025 and is projected to grow from USD 4,435 Million in 2026 to USD 7,550 Million by 2035, registering a CAGR of 6.10% over the forecast period. Two catalysts underpin this trajectory: tightening emissions regulations under frameworks such as the U.S. EPA's Boiler MACT rule and the EU Industrial Emissions Directive, and a sustained wave of industrial capacity additions across Asia-Pacific's power and process sectors. As facility operators face rising natural-gas prices and carbon-cost exposure,

the economic case for upgrading legacy controls has shifted from optional to urgent.

The market is experiencing robust growth driven by several key factors. Emissions compliance mandates represent the single most powerful accelerant, with the U.S. EPA's Boiler MACT rule requiring major-source industrial boilers to meet particulate-matter and CO emission limits that effectively mandate continuous emissions monitoring and automated trim adjustments. The EU Industrial Emissions Directive tightened NO_x limits for large combustion plants to 200 mg/Nm³, pushing operators toward advanced oxygen-trim and flue-gas recirculation controls. These regulations create a compliance-or-shutdown dynamic that shortens procurement cycles and elevates control-system spend by an estimated 12–18% per affected facility.

Industry trends indicate a shift from aging pneumatic and relay-based control architectures to digitalized platforms integrating distributed control systems, programmable logic controllers, and cloud-connected analytics layers. The U.S. Department of Energy estimates that advanced boiler optimization can cut fuel consumption by 5–15%, translating to annual savings exceeding USD 30,000 per mid-size industrial boiler. Facility owners are channeling this cost-avoidance narrative into capital budgets, accelerating retrofit cycles from 15 years down to 8–10 years.

Technological developments are reshaping the market landscape. Industrial IoT and cloud analytics adoption enables remote diagnostics and predictive maintenance, reducing unplanned downtime by as much as 25%. AI and machine-learning optimization algorithms are learning from historical performance data to auto-tune boiler parameters, achieving efficiency gains that static PID controllers cannot match. Digital-twin platforms simulate boiler thermodynamics in real time, allowing operators to test tuning parameters virtually before deploying changes to live equipment. Edge-computing gateways process high-frequency sensor data locally, enabling sub-second control responses in remote facilities with limited network connectivity.

Policy and regulatory influence continues to shape market dynamics. The EU Fit for 55 legislative package mandates a 55% GHG reduction by 2030 relative to 1990 levels. China's "Blue Sky" program and India's National Clean Air Programme drive rapid conversion of coal-fired boilers to natural-gas operation, each conversion necessitating a complete overhaul of burner management systems. Corporate ESG disclosures under the EU Corporate Sustainability Reporting Directive and SEC climate-risk rules require facility-level emissions data with audit-trail integrity, creating compliance-driven demand for advanced control systems.

North America commands roughly 35% of global revenue, anchored by a mature installed base and stringent air-quality mandates. Asia-Pacific is the fastest-growing region, expanding at a CAGR of 7.40%, propelled by new coal-to-gas switching programs and greenfield manufacturing build-outs in China, India, and Southeast Asia. Europe holds the second-largest share at approximately 27%, driven by the EU Fit for 55 package and district-heating modernization.

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Boiler Control Market Segmentation

By Boiler Type

Water Tube Boiler: Dominates with approximately 48% of market share in 2025, driven by heavy demand in power generation and large-scale process industries

Fire Tube Boiler: Projected to register the fastest CAGR of 6.80% through 2035, supported by expansion in commercial heating and small-to-mid-scale manufacturing

Others: Includes waste-heat recovery and specialty applications

By Component

Hardware: Accounts for an estimated USD 2,760 million in 2025, reflecting continued investment in sensors, actuators, and controller modules

Software: Growing at a CAGR of 7.20%, fueled by demand for predictive analytics platforms and remote-monitoring dashboards

By End User

Industrial: Accounts for majority of market value, spanning oil refining, chemicals, pulp and paper, food and beverage, and power generation

Commercial: Growing at 6.70% CAGR as building-level emissions regulations tighten and facility managers integrate boiler controls into centralized building-management systems

Competitive Landscape / Key Players

The boiler control market is moderately consolidated, with the top five players holding an estimated 40-48% combined revenue share. Scale advantages in software R&D, global service networks, and safety-certification portfolios create meaningful barriers to entry.

Honeywell International (10-14% revenue share): Offers Experion PKS, flame safeguards, and burner management with full-stack automation and cloud analytics capabilities.

Siemens AG (8-12%): Provides SPPA-T3000 and SIMATIC controllers with integrated power-plant automation and strong European TSO relationships.

Emerson Electric (7-11%): Features Ovation DCS, DeltaV, and FLEXIM measurement with process-focused portfolio and recent M&A expansion.

ABB Ltd (6-10%): Offers Ability Symphony Plus and combustion optimization solutions with utility-scale and heavy-industry focus.

Schneider Electric (5-8%): Provides EcoStruxure and Foxboro DCS with energy-management integration capabilities.

Other notable players include Valmet Corporation, Yokogawa Electric, Rockwell Automation,

Mitsubishi Electric, and General Electric. Recent developments include Emerson's acquisition of FLEXIM Flexible Industriemesstechnik GmbH, adding non-invasive flow-measurement technology to its boiler-automation portfolio, and ABB's launch of the Symphony Plus SPR2025 DCS featuring Automation Extended functionality for safe AI-driven analytics deployment.

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Boiler Control Market Regional Analysis

North America

North America commands roughly 35% of global revenue, anchored by a mature installed base and stringent air-quality mandates. The United States accounts for 72% of regional revenue, where over 80% of major-source industrial boilers must comply with updated MACT emission limits by 2026. The U.S. alone is expected to have 163,000 commercial and industrial boilers with an average installed age of more than 20 years, creating significant retrofit opportunities. Canada's oil-sands operations in Alberta are investing heavily in once-through steam-generator controls to reduce water intensity, while Mexico's nearshoring boom drives new boiler installations in automotive and food-processing clusters.

Europe

Europe holds the second-largest share at approximately 27%, driven by the EU Fit for 55 package and district-heating modernization. Germany leads with a 5.90% CAGR, driven by industrial decarbonization and Energiewende targets. The United Kingdom's Clean Heat Market Mechanism rollout supports a 6.20% CAGR. Nordic countries lead in biomass CHP controls integration with a 6.40% CAGR. The EU's Industrial Emissions Directive and Fit for 55 package create a harmonized compliance framework that simplifies procurement across member states.

Asia-Pacific

Asia-Pacific is the fastest-growing region at a 7.40% CAGR, propelled by new coal-to-gas switching programs and greenfield manufacturing build-outs. China holds 38% of regional revenue, driven by the Blue Sky initiative mandating conversion of over 350,000 small coal-fired boilers to gas by 2027. India accounts for 22% of regional revenue, with the National Clean Air Programme and manufacturing growth under Make in India 2.0 supporting an 8.20% CAGR. ASEAN nations, including Vietnam and Indonesia, are experiencing waves of greenfield manufacturing in food processing, textiles, and palm-oil processing, creating new boiler automation demand.

Rest of the World

South America, led by Brazil with a 6.50% CAGR, features over 400 high-pressure bagasse-fired boilers in the sugar-ethanol sector requiring advanced combustion management. The Middle East & Africa region sees Saudi Arabia's Vision 2030 industrial diversification program commissioning new petrochemical complexes and desalination plants, each requiring integrated boiler automation.

Latest Industry News & Developments

Emerson (August 2023): Completed the acquisition of FLEXIM Flexible Industriemesstechnik GmbH, adding non-invasive flow-measurement technology to its boiler-automation portfolio and expanding European service capabilities.

Valmet (Q1 2024): Secured a full EPC contract to deliver a comprehensive recovery boiler upgrade for Sappi Southern Africa's Saiccor Mill, replacing pressure parts, economizer, and rear wall of the magnesium closed-loop MgO1 boiler.

ABB (March 2026): Officially launched the Symphony Plus SPR2025 distributed control system featuring Automation Extended functionality, which physically separates core deterministic process control from a flexible, modular digital environment to safely deploy AI-driven analytics without affecting live system safety logic.

Boiler Control Market Challenges & Opportunities

Key Restraints

High upfront integration costs for a full-scope boiler control upgrade can range from USD 250,000 to 1.2 million, limiting adoption in emerging economies with limited capital budgets. Legacy system interoperability challenges, with a patchwork of proprietary DCS platforms from multiple suppliers, add 20-30% to project duration. A skilled workforce shortage in instrumentation and controls directly constrains installation capacity and after-sales service quality. Cybersecurity vulnerabilities in connected systems and volatile raw material costs for sensors further constrain growth.

Emerging Opportunities

Hydrogen and ammonia co-firing controls for 10-30% hydrogen blending demand advanced flame-stability monitoring, flashback-detection algorithms, and dynamic fuel-air ratio adjustments, representing a premium upgrade tier. Predictive maintenance as a service allows vendors to transition from selling hardware to offering outcome-based service contracts guaranteeing uptime or efficiency targets, unlocking recurring revenue streams worth 30-40% of initial system cost annually. Emerging-market industrialization in Southeast Asia and Sub-

Saharan Africa presents greenfield entry points unburdened by legacy integration costs. Digital-twin integration enables virtual tuning and accelerated optimization cycles. Microgrids and distributed energy integration require control systems managing load-following, grid-islanding, and thermal-electric co-optimization.

Future Potential

AI-driven autonomous boiler operation will enable real-time adjustment of fuel-air mixtures based on steam-demand forecasts, reducing energy waste and capturing incremental efficiency gains. Hydrogen-ready control architectures are already being designed with flame scanners and burner management systems rated for hydrogen concentrations up to 100%. Cybersecurity as a design requirement under NIST Cybersecurity Framework 2.0 and IEC 62443 standards will add a security-architecture layer to every installation. ESG reporting and continuous emissions monitoring will drive the next upgrade cycle across regulated industries, as control systems that natively generate compliance-ready emissions reports command premium pricing.

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The global Boiler Control Market is positioned for sustained growth, with projections indicating expansion from USD 4,435 million in 2026 to USD 7,550 million by 2035 at a 6.10% CAGR. Market dynamics are driven by the convergence of emissions compliance mandates, industrial IoT adoption, and coal-to-gas fuel switching programs. The shift from legacy pneumatic and relay-based architectures to digitalized platforms with cloud analytics and AI optimization is transforming the market landscape.

North America remains the dominant market with 35% share, anchored by EPA compliance and an aging boiler fleet, while Asia-Pacific delivers the fastest regional growth at 7.40% CAGR driven by coal-to-gas switching and greenfield industrialization. Europe follows with 27% share supported by district-heating modernization and EU decarbonization mandates. While challenges including high integration costs and legacy interoperability persist, the long-term industry outlook remains robust, supported by the essential role of boiler control systems in enabling industrial decarbonization, fuel optimization, and emissions compliance across power generation, process industries, and commercial heating. The decade ahead will test how quickly facility operators adopt hydrogen-ready controls, AI-driven optimization, and predictive maintenance platforms to capture efficiency gains and meet tightening emissions standards.

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