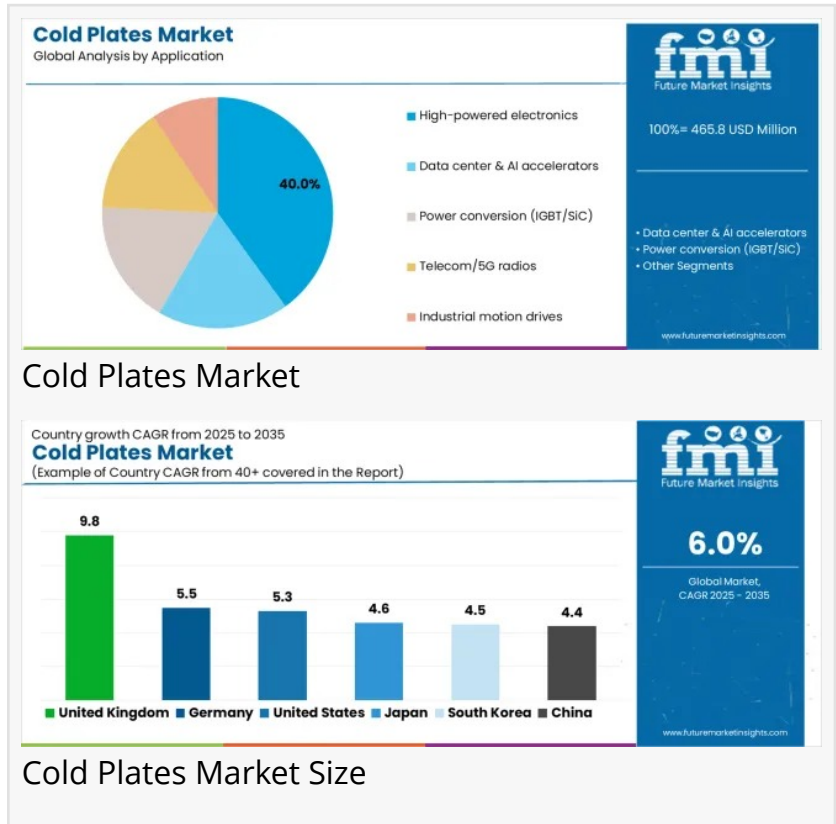


Cold Plates Market to Reach USD 834.2 Million by 2035 Amid Rising Demand from Data Centers, EVs, and AI Infrastructure

Vacuum-brazed cold plates will dominate with a 35.0% market share, while high-powered electronics will lead the application segment with a 40.0% share.

NEWARK, DE, UNITED STATES,
November 11, 2025 /

EINPresswire.com/ -- The global [cold plates market](#) is poised for steady expansion, projected to rise from USD 465.8 million in 2025 to USD 834.2 million by 2035, registering a compound annual growth rate (CAGR) of 6.0% over the forecast period. Growth is driven by the accelerated adoption of advanced liquid cooling systems in electric vehicles (EVs), artificial intelligence (AI) hardware, and high-performance computing (HPC) infrastructure.



As industries intensify focus on heat dissipation efficiency, cold plates—integral to thermal management systems—are witnessing widespread deployment in data centers, renewable energy systems, and aerospace electronics. Their ability to maintain consistent temperature stability under high power densities positions them as essential components in next-generation electronic and mobility platforms.

Market Dynamics and Investment Overview

The global rise in computing power demand, expansion of 5G infrastructure, and EV battery system optimization are key factors supporting the adoption of cold plate technologies. According to FMI analysis, vacuum-brazed cold plates hold the leading share of 35% in 2025, owing to their high thermal conductivity and robust structural reliability for mission-critical

cooling environments.

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Meanwhile, microchannel cold plates are expected to post the fastest CAGR of 6.8% through 2035, driven by increased demand from compact electronic assemblies and next-generation EV inverter systems. FMI's data suggests that 40% of total market revenues in 2025 will originate from high-powered electronics applications, followed by automotive (28%) and renewable energy systems (14%).

Key technological advances—such as additive-manufactured cold plates, two-phase cooling solutions, and smart temperature control integration—are expanding design flexibility and boosting system performance across industries. As OEMs prioritize energy-efficient, recyclable cooling solutions, strategic R&D investments are expected to reshape global market competitiveness.

Regional Insights

Asia-Pacific (APAC): The Global Growth Engine

The APAC region will remain the most dynamic contributor, accounting for over 41% of the global cold plates market by 2035. China, Japan, and South Korea are leading adopters, supported by extensive EV production, semiconductor fabrication, and data center expansion.

- China: Growing AI and HPC investments drive substantial cold plate utilization in chip cooling and EV battery modules.
- Japan: Emphasis on miniaturized, high-efficiency electronics supports strong demand for microchannel cold plates.
- India and ASEAN: Infrastructure digitization and government-backed manufacturing incentives continue to boost local adoption rates.

FMI projects the APAC market to grow at a CAGR of 6.6%, supported by high-volume manufacturing and government programs promoting sustainable electronics and vehicle electrification.

Europe: Sustainability and Thermal Innovation

The European market is forecasted to grow at a CAGR of 5.8% from 2025 to 2035, reaching approximately USD 190 million by the end of the period. The region's focus on energy-efficient data centers, industrial electrification, and green transportation initiatives remains pivotal to long-term growth.

Germany, the UK, and France collectively account for nearly 60% of European revenue, driven by automation, EV adoption, and renewable energy projects. European manufacturers are investing in recyclable aluminum cold plate systems and closed-loop liquid cooling designs, ensuring compliance with REACH and Ecodesign Directive sustainability standards.

FMI highlights a trend of domestic production expansion and cross-industry partnerships supporting regional resilience and supply chain localization.

United States: Accelerating EV and Data Center Deployment

The United States cold plates market is projected to reach USD 148 million by 2035, growing at a CAGR of 5.9%. The expansion is fueled by large-scale investments in EV battery cooling systems, AI-driven data centers, and semiconductor fabrication plants.

Federal and state-level initiatives supporting carbon-neutral mobility and digital infrastructure modernization are accelerating product demand.

- Data Centers: Integration of cold plate liquid cooling systems has become a preferred solution to replace air-based thermal management in hyperscale facilities.
- Automotive Sector: Increasing adoption of cold plate-based liquid thermal management in EV power electronics enhances range, safety, and operational efficiency.

R&D efforts are also underway to integrate bi-metallic cold plate designs optimized for lightweight construction, enhancing compatibility with next-generation EV architectures and aerospace systems.

Saudi Arabia and the GCC: Emerging Center for Advanced Thermal Systems

The Saudi Arabian cold plates market is projected to grow at a CAGR of 6.1%, backed by industrial diversification under Vision 2030, with strong investments in data centers, renewable energy, and high-performance manufacturing.

Government-led smart city projects such as NEOM are creating new avenues for cold plate applications across AI, cloud computing, and electric mobility ecosystems. The integration of advanced heat exchangers into renewable energy installations (solar and hydrogen systems) further enhances demand potential across the Middle East.

FMI forecasts Saudi Arabia to emerge as a strategic hub for regional production and distribution of customized thermal management systems serving the broader GCC electronics and automotive industries.

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Key Growth Drivers

- AI and Semiconductor Boom: Rising computing workloads in AI, edge, and HPC applications are driving liquid cooling adoption.
- EV Thermal Management: Growth in global EV sales and stringent performance requirements are expanding the need for battery and inverter cooling.
- Data Center Efficiency: Cold plates help reduce energy consumption by up to 30%, making them integral to sustainable data center design.
- Renewable Energy Systems: Integration in power electronics for wind, solar, and hydrogen systems supports industry decarbonization efforts.
- Sustainability Mandates: Increasing emphasis on eco-friendly manufacturing and recyclable materials fosters innovation in cooling technologies.

Strategic Recommendations for Stakeholders

- Invest in Next-Generation Cold Plate Manufacturing: Utilize additive and laser sintering methods for lightweight, high-performance designs.
- Expand Regional Production Capabilities: Strengthen supply chain resilience through local assembly in APAC and the Middle East.
- Adopt Bio-Compatible Coolants: Align with regulatory frameworks promoting non-toxic and low-emission fluid systems.
- Collaborate with EV and Data Center OEMs: Engage in strategic partnerships to co-develop customized liquid cooling modules.
- Accelerate R&D in Smart Thermal Systems: Focus on embedded sensors and IoT integration for real-time thermal performance monitoring.

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Sudip Saha

Future Market Insights Inc.

+18455795705 ext.

[email us here](#)

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