

HVAC - INDUSTRY REPORT

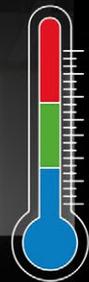


SG Analytics  
A Strative Company

# US HVAC REPORT

Heat Pumps and Smart Tech  
Reshape the Future of US HVAC

OCTOBER 2025



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# Executive Summary



The US heating, ventilation, and air-conditioning (HVAC) market is experiencing transformative growth as smart technologies, electrification, and stricter energy mandates reshape demand. It is projected to hit \$54 billion by 2033, driven by new construction, retrofits, and the replacement of aging systems. Residential installations dominate, while commercial retrofits are expanding fastest. The Inflation Reduction Act (IRA) and federal incentives are accelerating heat pump adoption, with \$8.8 billion allocated for energy-efficient home upgrades and rebates, supporting wider electrification and efficiency improvements. Heat pumps have now outsold gas furnaces for the third consecutive year. Integration of IoT and AI supports predictive maintenance, energy management, and smarter operations, enabling both cost optimization and emissions reduction. However, the industry faces a critical shortage of skilled technicians, prompting increased adoption of automation, digital training platforms, and remote diagnostics. Major private equity deals and ongoing consolidation are strengthening the competitive landscape as firms seek scale advantages and recurring service revenue models. As legacy infrastructure ages and sustainability standards rise, demand for modern, efficient HVAC solutions will remain robust. Overall, the US HVAC industry's future is defined by digital platforms, advanced manufacturing, and technology-driven service models, securing long-term competitiveness and resilience.

## \$8.8 Billion

allocated under the IRA to support energy-efficient home upgrades and heat pump adoption, driving nationwide HVAC electrification incentives

## \$54 Billion

projected size of the US HVAC systems market by 2033, supported by replacement demand, smart technologies, and stricter energy-efficiency standards, as per Grand View Research

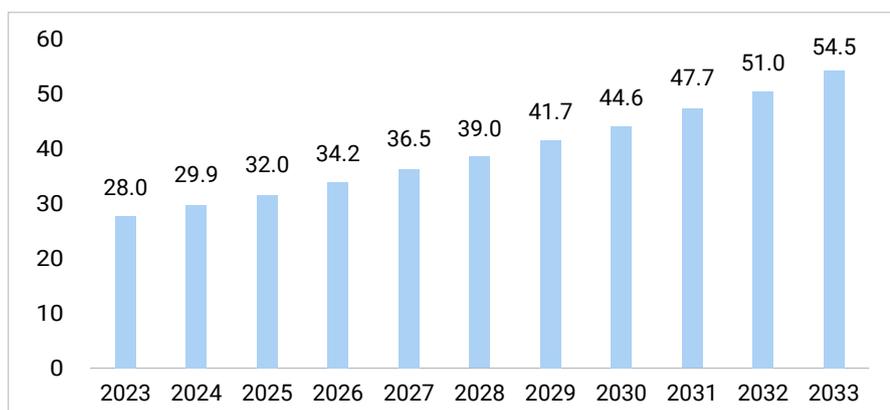
# Market Overview



The US HVAC systems market, valued at \$29.9 billion in 2024, is projected to grow to \$54 billion by 2033 at a 6.9% CAGR, as per Grand View Research. Growth is supported by new construction, large-scale system replacements, rising adoption of smart technologies, and stricter energy efficiency mandates. Moreover, residential construction remains the largest segment, accounting for 39.8% of the US HVAC market. The commercial segment is the fastest growing, expanding at a 7.4% CAGR from 2025 to 2033 as developers retrofit offices, hospitals, and data centers to comply with building codes and ESG goals. Replacement activity is a major driver. Of the 120 million central air systems installed nationwide, over 75% are more than ten years old, creating strong demand for upgrades, as per the Construction Financial Management Association. The IRA and state-level rebate programs are further accelerating system replacements and heat pump adoption. From an investment perspective, consolidation remains active. In 2025, a total of 77 HVAC services deals and 16 HVAC equipment transactions took place worldwide, and private buyers accounted for half of these transactions, as per Capstone Partners. Notable deals include Bosch's \$8 billion acquisition of Johnson Controls' HVAC business and Paloma Rheem Holdings' \$1.8 billion purchase of Fujitsu General.

The US HVAC market is expanding as new construction, equipment replacements, and smart technologies drive demand across residential and commercial spaces. Stricter energy-efficiency standards and government incentives are pushing upgrades and adoption of modern systems. Rising replacement needs, as aging infrastructure reaches end-of-life, are a key growth catalyst. Investor interest remains strong, with continued consolidation and strategic acquisitions shaping the competitive landscape.

**Figure 1: US HVAC Systems Market Size by Equipment (in \$ Billions)**



Source: Grand View Research

# Macro Drivers of HVAC in the US



## Regulatory Policy and Government Incentives

Federal initiatives under the IRA are driving market growth, with \$8.8 billion allocated for energy-efficient home upgrades and tax credits of up to \$2,000 for heat pumps. Nine states and D.C. target 90% heat-pump adoption by 2040.



## Climate Change and Extreme Weather Events

Record-high temperatures in 2024 lifted air-conditioning installations by 24%. With 2024 marked as the hottest year on record as per NASA, long-term HVAC demand is strengthening globally.



## Construction Activity and Real Estate Development

Total US construction spending hit \$2.20 trillion in March 2025, supporting HVAC installation demand in new residential and commercial projects. According to Dell'Oro Group, data-center construction surged 51% YoY globally to \$455 billion in 2024, amplifying demand for advanced cooling systems.



## Replacement and Retrofit Market

Aging infrastructure is fueling replacement demand, as most systems become prone to failure within 12 years. Regulatory refrigerant phase-outs and cost-efficiency thresholds (the "\$5,000 rule") are prompting early replacements, converting maintenance demand into new installations across residential and commercial buildings.



## Building Electrification and Heat Pump Adoption

Heat pumps have outsold gas furnaces for three consecutive years, including a 27% lead over furnace sales in 1H25, as per research by RMI.

# Emerging HVAC Trends



## Increased Heat Pump Adoption

Heat pumps are becoming one of the fastest-growing segments in the US HVAC industry, supported by changing consumer preferences, strong policy incentives, and improved affordability. Since 2021, heat pumps have consistently outpaced gas furnace sales, indicating a clear shift away from fossil fuel-based systems. In 2024, manufacturers shipped 4.1 million heat pumps, 32% more than gas furnaces, as per research by RMI. Additionally, over the past 20 years, heat pump sales have increased by 115%, while gas furnace sales have declined by 11%. The US heat pump market is expected to reach \$33.1 billion by 2033, growing at a CAGR of 9.5% between 2025 and 2033, as per IMARC. This momentum is reinforced by grid decarbonization, rising energy costs, and growing awareness of long-term savings compared to legacy systems.

Government policy remains a major driver of adoption. The IRA provides a federal tax credit of 30%, capped at \$2,000 under the Energy Efficient Home Improvement Credit (25C), available until the end of 2025. From 2025 onward, only ENERGY STAR Most Efficient-certified models will qualify, pushing the market toward high-performance systems. At the state level, California's 2025 Building Energy Efficiency Standards require heat pumps in new residential construction. This regulation alone could lead to 500,000 installations in three years, cut 4 million metric tons of emissions, and save \$4.8 billion in energy costs. With similar policies under review nationwide and utility-backed electrification programs expanding, heat pumps are positioned to become the primary residential HVAC solution.

## 115%

growth in annual US heat pump sales over the past two decades, while gas furnace sales declined 11%, as per research by RMI

## \$33.1 billion

is the projected size of the US heat pump market by 2033, growing at a 9.5% CAGR between 2025 and 2033, as per IMARC

## Workforce Shortage Emerges as a Structural Risk Accelerating Technology Adoption

The US HVAC industry is facing one of its most serious structural challenges, a severe shortage of skilled labor that is now limiting growth and profitability. Nearly 110,000 technician positions remained unfilled, while around 23,000 experienced workers retire or leave the trade each year. This is happening even as demand rises. Employment for HVAC mechanics and installers is expected to grow 8% from 2024 to 2034, as per the US Bureau of Labor Statistics. The financial impact is significant. Around 75% of contractors report major hiring difficulties, and companies lose more than \$250,000 annually due to delayed projects, overtime costs, and rejected service requests. Rising system complexity, including heat pumps, smart systems, and energy-efficient retrofits, is making the shortage even more difficult to manage.

This labor gap is reshaping business decisions and speeding up the industry's shift toward automation and digital solutions. With 42,500 new HVAC job openings expected each year, companies are adopting AI-enabled maintenance tools, remote diagnostics, augmented reality for technician training, and modular plug-and-play systems to reduce labor reliance in the field. Workforce training programs are expanding, but are not closing the gap fast enough. As a result, manufacturers, contractors, and utilities are investing in technology-led operations, predictive service models, and apprenticeships aligned with digital HVAC systems.

## Integration of IoT in HVAC Systems for Greater Efficiency and Control

The US HVAC industry is undergoing a structural shift in 2025 as Internet of Things (IoT) technologies are embedded across residential, commercial, and industrial systems. This transition is enabling smart energy management, predictive maintenance, and autonomous system optimization. HVAC manufacturers are moving beyond equipment sales toward connected platforms that continuously monitor performance, detect failures in advance, and interact dynamically with the power grid. Sensors capturing data on temperature, humidity, vibration, pressure, and occupancy are fed into cloud-based analytics systems for real-time decision-making. For investors, this marks a move from hardware-led income to recurring software, analytics subscriptions, energy-as-a-service models, and utility partnerships.

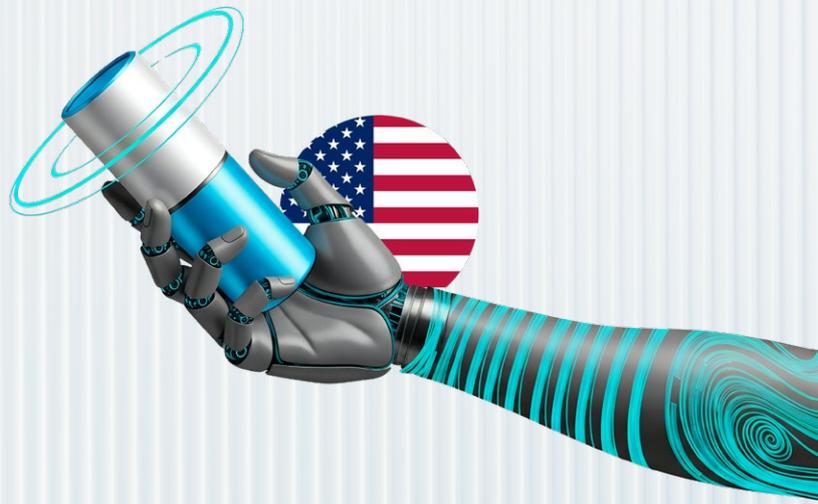
Industry leaders are scaling IoT-enabled solutions. Trane Technologies' Trane Autonomous Control platform uses deep learning to predict energy demand, autonomously adjust system settings, and reduce energy costs by up to 25% and emissions by nearly 40%. Honeywell's Connected Solutions platform, deployed by clients like Verizon and Vanderbilt University, integrates IoT, AI, and cybersecurity to enable remote diagnostics and predictive maintenance. IoT is no longer optional as it has become a defining driver of competitive advantage, enabling smarter operations, lower lifecycle costs, and new revenue streams across the HVAC value chain.

8%

employment growth projected for HVAC mechanics and installers from 2024 to 2034, as per the US Bureau of Labor Statistics



# Operationalizing AI in the US HVAC



## AI Transformation in US Industrial HVAC and Building Systems

AI is transforming the US HVAC industry, reshaping how systems are designed, managed, and serviced across residential, commercial, and industrial markets. In 2025, AI has become a strategic necessity as leading firms are embedding it to improve efficiency, predict failures, enable smart maintenance, and enhance customer experience. From connected homes to autonomous buildings, AI-powered platforms are becoming essential to operational resilience and sustainability.

Carrier Global is at the forefront of this shift. Through its partnership with Google Cloud, it integrates AI into its Home Energy Management System (HEMS), which leverages Google's WeatherNext models to optimize system performance based on weather data, occupancy trends, and grid conditions. Its Abound Insights platform delivers predictive maintenance and AI-enabled energy management for commercial buildings, helping reduce operating costs, prevent breakdowns, and lower emissions.

ServiceTitan is transforming contractor operations with its AI suite, including Titan Intelligence. In 2025, the company launched Atlas, an AI assistant that connects scheduling, dispatch, technician training, and customer communication. Its AI Voice Agents and predictive analytics automate workflows, improving response times, profitability, and workforce productivity. BrainBox AI continues to drive autonomous commercial HVAC control, adjusting systems in real time using building, weather, and energy data to deliver double-digit energy savings.

Other solutions like HVAC Load Genius, PredictHVAC, and MeasureQuick are equipping contractors with faster diagnostics and precise load calculations. By 2025, around 70% of US HVAC contractors have tested AI, and 40% use it regularly, as per the Housecall Pro 2025 AI Industry Report. As AI shifts from advantage to expectation, companies leveraging intelligent automation are leading in energy efficiency, customer satisfaction, and long-term competitiveness.

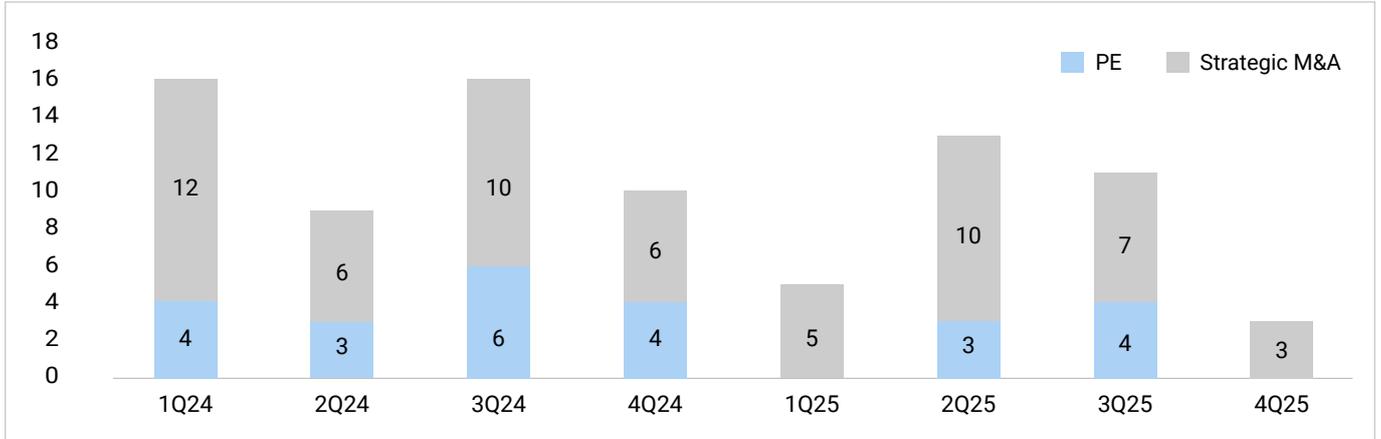
AI is reshaping the US HVAC sector, enabling smarter, more efficient, and predictive systems. Solutions like connected home energy platforms, smart scheduling, and predictive maintenance change how HVAC is designed, managed, and serviced across markets. Advanced automation and connected tools drive better reliability, proactive service, and sustainability, making AI shift from a competitive edge to an essential operational standard throughout HVAC, supporting growth, innovation, and industry leadership.

## 70%

of US HVAC contractors have piloted AI solutions as of 2025, as per Housecall Pro

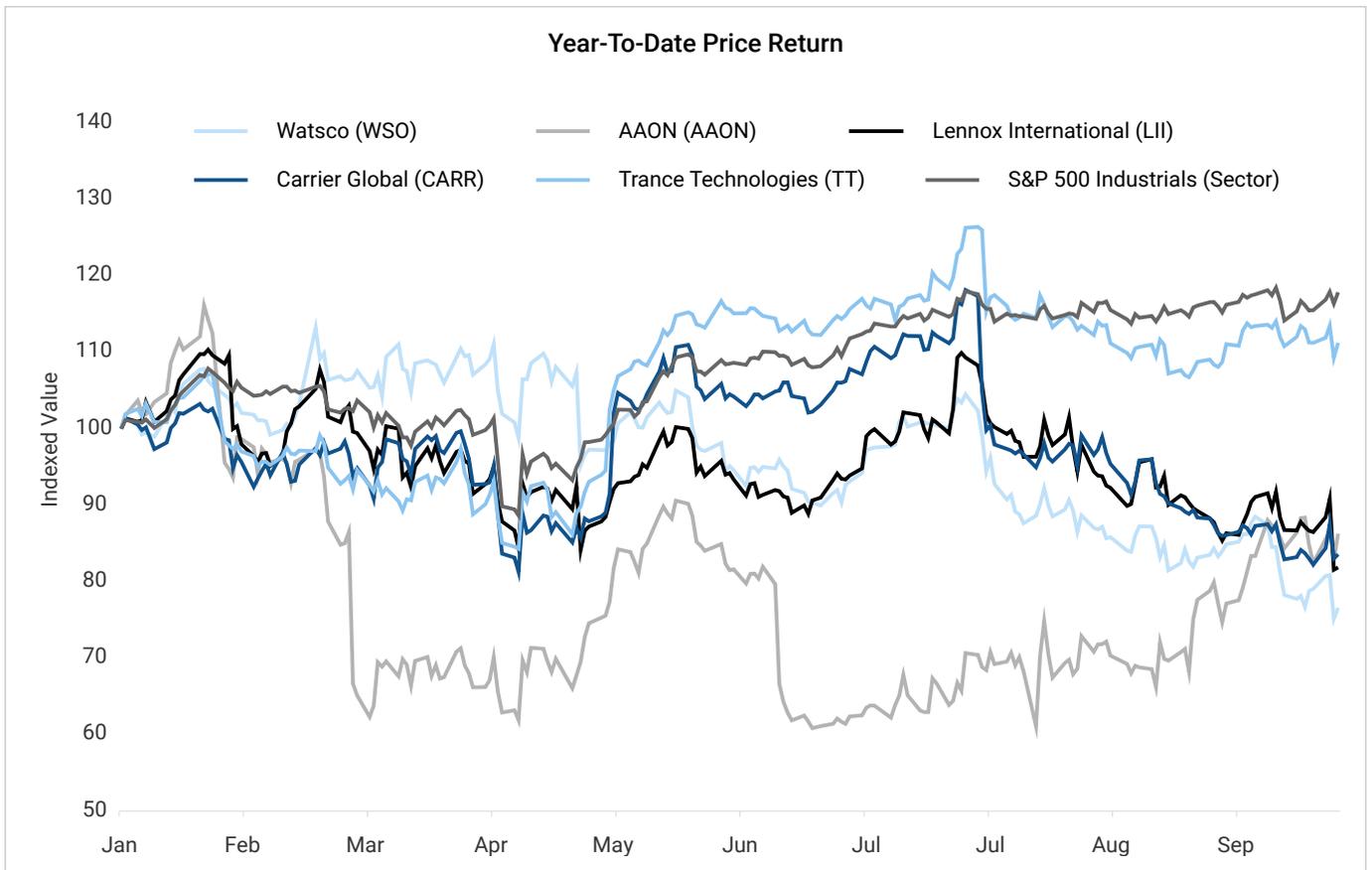
# Key HVAC Deals

**Figure 2: HVAC Lower Middle Market and Middle Market Deal Count**



Source: Capital IQ, data as of October 28, 2025

**Figure 3: HVAC Companies Stock Performance VS S&P 500 Industrial Index**



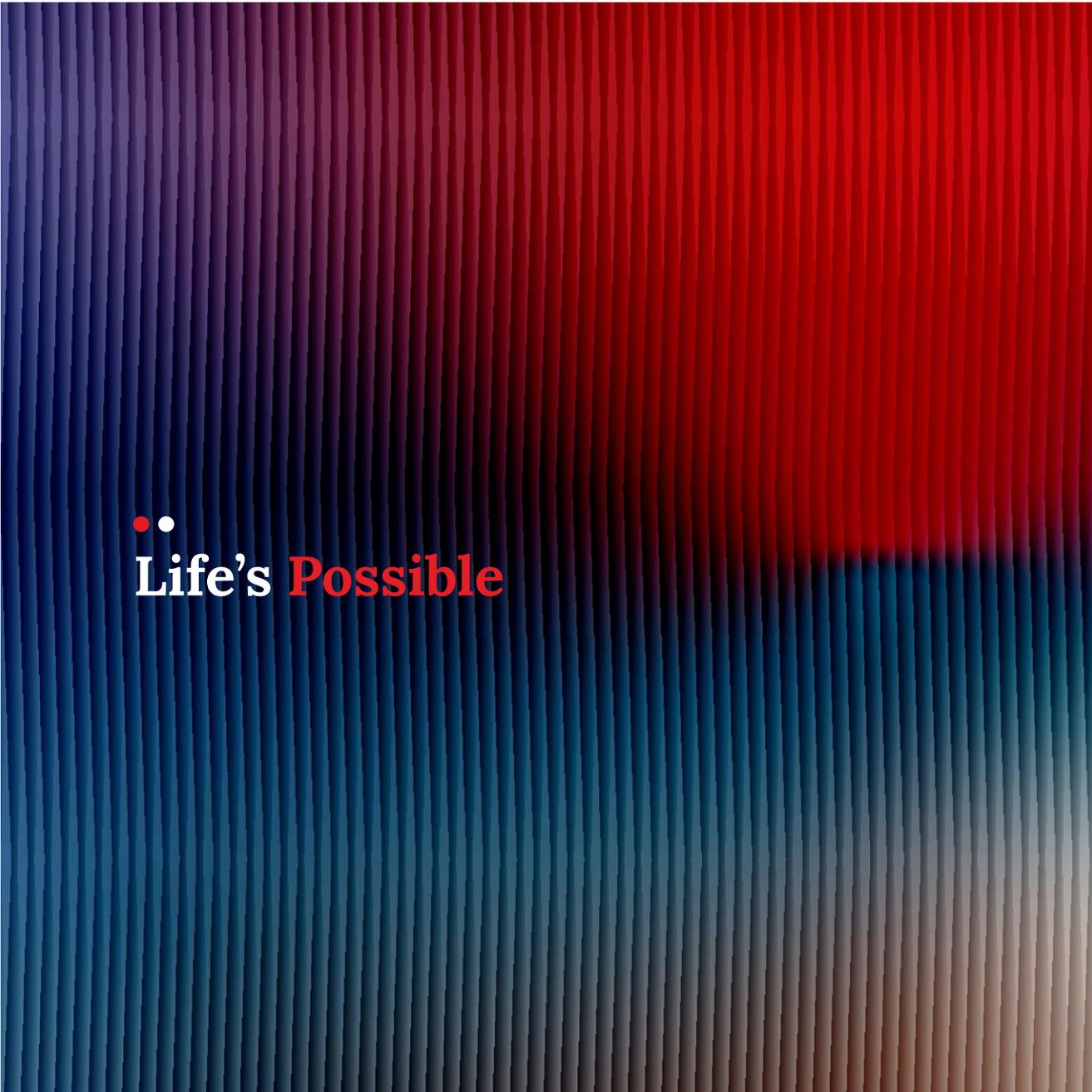
Source: Investing.com, data as of October 23, 2025

# Key Private Equity Deals Tombstones

<p>August 7, 2025</p> <hr/> <p><b>CCMP</b>   GROWTH ADVISORS</p> <p><b>Acquires</b></p> <p></p> <p>a provider of HVAC and plumbing installation services, for an undisclosed amount</p>	<p>August 4, 2025</p> <hr/> <p></p> <p><b>Acquires</b></p> <p></p> <p>a provider of mechanical HVAC and plumbing services, for an undisclosed amount</p>	<p>June 1, 2025</p> <hr/> <p><b>TRINITY HUNT</b> PARTNERS</p> <p><b>Invests (Majority)</b></p> <p></p> <p>a specialty distributor of HVAC parts, for an undisclosed amount</p>
<p>Jun 23, 2025</p> <hr/> <p></p> <p><b>Acquires (Majority Stake)</b></p> <p></p> <p>a specialty mechanical contractor providing HVAC and plumbing services, for an undisclosed amount</p>	<p>September, 2025</p> <hr/> <p>the edgewater funds</p> <p></p> <p><b>Acquires</b></p> <p></p> <p>a commercial HVAC company that provides extensive commercial refrigeration services, for an undisclosed amount</p>	<p>September, 2025</p> <hr/> <p>the edgewater funds</p> <p></p> <p><b>Acquires</b></p> <p><i>The Whitman Co.</i></p> <p>a commercial HVAC service provider, for an undisclosed amount</p>
<p>April, 2025</p> <hr/> <p>the edgewater funds</p> <p></p> <p><b>Acquires</b></p> <p></p> <p>a manufacturer of replacement coils and OEM coils for HVAC systems, for an undisclosed amount</p>	<p>April, 2025</p> <hr/> <p>the edgewater funds</p> <p></p> <p><b>Acquires</b></p> <p></p> <p>a manufacturer of replacement coils and OEM coils for HVAC systems, for an undisclosed amount</p>	<p>April, 2025</p> <hr/> <p>the edgewater funds</p> <p></p> <p><b>Acquires</b></p> <p><i>Emergent Coils</i></p> <p>a distributor of replacement coils and OEM coils for HVAC systems, for an undisclosed amount</p>

# HVAC Upcoming Events

<p></p> <hr/> <p><b>Greenbuild International Conference + Expo</b></p> <hr/> <p><b>IHACI Trade Show</b></p> <hr/> <p><b>US Heat Pump Summit</b></p>	<p></p> <hr/> <p>November 4–7, 2025</p> <hr/> <p>November 13, 2025</p> <hr/> <p>November 18–19, 2025</p>	<p></p> <hr/> <p>Pennsylvania Convention Center, Los Angeles</p> <hr/> <p>Pasadena Convention Center, CA</p> <hr/> <p>Worcester, MA DCU Center</p>
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## Disclaimer —

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