

# Cryogenic Controllers Market is Growing at CAGR of 7.4% by 2035 | Fact.MR Report

*Closed-Loop Cryogenic Controllers segment is projected to grow at a CAGR of 7.7%, whereas another segment Hybrid Systems based is likely to grow at 7.2%.*

ROCKVILLE, MD, UNITED STATES, August 29, 2025 /EINPresswire.com/ -- According to Fact.MR, a market research and competitive intelligence provider, the [cryogenic controllers market](#) was valued at USD 1.3 billion in 2025 and is expected to grow at a CAGR of 7.4% during the forecast period of 2025 to 2035.

Cryogenic Controllers- Developing Precision Cooling: IoT Connectivity and Multi-Industry Demand Fuel Advancement in Cryogenic Performance to Unprecedented Levels

of High Reliability and Energy-Efficiency in the Ultra-Low Temperature Range, States Fact.MR



The market of the cryogenic controllers is rapidly evolving because industries are getting more focused on the precise control of the temperature in critical applications. Formerly limited to the field of such niche research and in laboratory applications, these systems have become a strong component of many industries, such as healthcare, semiconductors, aerospace, and LNG infrastructure, where low temperatures is paramount to stability.

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Improvements in closed-loop feedback, IoT-based monitoring, and automation are driving the accuracy of the control, efficiencies in operations, and predictive maintenance beyond what has been possible. The increasing use of cryopreservation in biobanking, cell therapy, and vaccine

storage, is further promoting the use of healthcare, although the use in research and Quantum computing programs is enhancing scientific usage.

The global trend of using cleaner energy sources also translates into the energy industry, where safe management of cryogenic fuels, in terms of handling and storage, is provided by the controllers. In a bid to address diverse needs in operations, manufacturers are concentrating on incorporating multi-cryogen compatibility, energy-intelligent designs and friendly interface.

Performance and reliability, combined with compliance, mean that even as conditions demand better performance, despite ever tightening regulatory control, the evolution of cryogenic control systems is also giving them an increasingly necessary place as the ubiquitous means of achieving reliable high-value and mission-critical processes across many industry sectors around the globe.

#### Key Takeaways from Market Study:

- The cryogenic controllers market is projected to grow at 7.4% CAGR and reach USD 2.7 billion by 2035
- The market created an absolute \$ opportunity of USD 1.4 billion between 2025 to 2035
- East Asia is a prominent region that is estimated to hold a market share of 28% in 2035
- Predominating market players are Lake Shore Cryotronics, Janis Research, Advanced Research Systems, Cryomech, Oxford Instruments, and LOT-Quantum Design GmbH
- East Asia is expected to create an absolute \$ opportunity of USD 0.5 billion

“Increasing demand for ultra-low temperature precision, expanding applications across healthcare and semiconductors, and ongoing advancements in IoT-enabled control systems will drive the cryogenic controllers market,” says a Fact.MR analyst.

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#### Market Development:

The cryogenic controllers industry is developing due to intelligent cooperation of equipment manufacturers, supplier of materials and research institutions. New technologies, including IoT-based remote monitoring, multicryogen compatibility, and energy-efficient systems are increasing performance levels, reliability, and sustainability. Firms are developing products that focus on high standards on safety and compliance as well as customizing products to fit in a wide range of industries such as aerospace to healthcare. The rising importance is to offer

smooth functionality within mission-critical applications whereby connecting the controllers with the automation platforms and predictive maintenance systems. Competitive differentiation is being shaped by customization, digitalization and design flexibility across the world.

For example, In September 2024, Vienna Scientific Instruments announced CryoSense-X Series cryogenic controllers with ultra-fine temperature resolution of down to 120 mK at a resolution of 0.05 mK. The modular expandable dual-channel closed-loop PID has up to four temperature and two pressure inputs and Ethernet and web-based access that allow real-time monitoring. The system was designed to be used with quantum computing and superconductivity applications and improves stability, downtime and the maximum potential of mission-critical performance.

More Valuable Insights on Offer:

Fact.MR, in its new offering, presents an unbiased analysis of the cryogenic controllers market, presenting historical data for 2020 to 2024 and forecast statistics for 2025 to 2035.

The study reveals essential insights on the basis of the Product Type (Closed-Loop Cryogenic Controllers, Open-Loop Cryogenic Controllers, Hybrid Systems), Cryogen Type (Liquid Nitrogen (LN<sub>2</sub>), Liquid Helium (LHe), Liquid Oxygen (LOX), Liquid Hydrogen (LH<sub>2</sub>) and Other Cryogenics), Application (Medical & Healthcare, Industrial Gas & LNG and Scientific Research), End User Industry (Research Institutions & Laboratories, Semiconductor Manufacturers, Oil & Gas / LNG Operators and others), Control Method (Analog Controllers, Digital Controllers, IoT-Enabled Controllers) across major regions of the world (North America, Latin America, Western Europe, Eastern Europe, East Asia, South Asia & Pacific, and Middle East & Africa).

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[Touch Controller IC Market](#) is expected to grow at a CAGR of 12% during the forecast period, Touch Controller IC Market research report covers detailed information Size, Share, application, competition and growth opportunities till 2028.

[IoT Microcontroller Market](#) is projected to expand from an estimated \$6.40 Bn in 2024 to a substantial \$27.4 billion by 2035, driven by a 14.2% CAGR.

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