

Cryogenic Vessels - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Cryogenic Vessels Market size is estimated at USD 8.50 billion in 2025, and is expected to reach USD 10.95 billion by 2030, at a CAGR of 5.2% during the forecast period (2025-2030).

COVID-19 negatively impacted the market in 2020. Presently, the market has reached pre-pandemic levels.

Key Highlights

- Over the medium term, the increasing demand for liquefied natural gas (LNG) and increasing investments in developing healthcare systems are expected to increase the demand for cryogenic vessels during the forecasted period.
- On the other hand, high operations and maintenance costs are expected to hinder market growth.
- Nevertheless, the increasing technological investments in cryogenic energy storage system development and the increasing deployment of hydrogen as an energy source are expected to create huge opportunities for the cryogenic vessel market.

Cryogenic Vessels Market Trends

Metal Processing Industry To Dominate The Market

- Cryogenic vessels have significant applications in the metal industry due to their ability to handle and store materials at extremely low temperatures. These vessels are utilized in various ways to enhance metal processing and manufacturing processes.

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- In metalworking, cryogenic vessels are used to achieve ultra-low temperatures by circulating liquid nitrogen or other cryogenic fluids. This rapid cooling process improves metals' hardness, strength, and wear resistance. Cryogenic treatment, cryogenic machining, and cryogenic grinding are some of the processes that benefit from this technique.
- Furthermore, cryogenic vessels play a significant role in metal fabrication and welding operations. Cryogenic gases, such as liquid nitrogen or argon, are stored in these vessels as shielding gases during welding processes. By preventing oxidation and providing a controlled environment, these cryogenic gases enhance the quality of welds.
- Furthermore, the metal industry has observed growth in recent years and is expected to continue during the forecasted period due to urbanization, infrastructure development, population growth, and industrial expansion.
- For instance, in September 2022, Nippon Steel Corp. and ArcelorMittal revealed their plans to make an additional investment to expand steel production capacity in India. The Japanese company, the largest steelmaker globally, will construct and expand blast furnaces and associated facilities. Additionally, they are anticipated to acquire port and electric power companies in India as part of their expansion strategy. With this investment, the annual production of crude steel is projected to rise from 9 million tons to 15 million tons by the first half of 2026.
- According to the World Steel Association, in 2022, 188,5026 thousand tons of steel were produced globally, which was more than 3% of the steel production in 2018.
- In summary, the growth of the metal industry is likely to increase the utilization of cryogenic vessels due to the expanding adoption of advanced manufacturing techniques, the demand for improved material performance, and the need for cryogenic gases in fabrication and welding operations.
- Therefore, per the above-mentioned points, the metal industry is expected to dominate the market.

Asia-Pacific to Witness Significant Growth

- Due to several significant factors, the Asia-Pacific region is poised to experience increased demand for cryogenic vessels. One key driver is the region's rapid industrialization across various sectors, including energy, chemicals, electronics, and healthcare. As these industries require cryogenic fluids and processes, the demand for cryogenic vessels for storage and transportation is expected to rise.
- Furthermore, Asia-Pacific's expanding healthcare and medical research sectors contribute to the increased need for cryogenic vessels. These vessels play a vital role in storing and transporting biological samples, vaccines, and other temperature-sensitive materials, ensuring their integrity at ultra-low temperatures.
- Another key factor is the region's focus on energy and power infrastructure development. With significant investments in liquefied natural gas (LNG) terminals and storage facilities, the demand for cryogenic vessels for LNG storage and transportation is expected to surge.
- For instance, in January 2022, the Malaysian State of Sabah and Petronas announced plans for a two million metric tons per year (mmt) liquefied natural gas (LNG) terminal. The new facility planned for the Sipitang Oil and Gas Industrial Park is part of Petronas' collaboration with the state to expand Sabah's distribution of cleaner energy to industrial and commercial businesses.
- Furthermore, due to increasing energy demand, natural gas consumption in the region has been on the rise in recent years. According to the BP statistical review of world energy 2022, natural gas consumption in 2021 was 918.3 bcm, an increase of 6.2% compared to 2020 and a 4% annual growth rate between 2011 and 2021.
- In summary, the Asia-Pacific region is anticipated to see an increase in demand for cryogenic vessels due to its rapid industrialization, expanding healthcare and medical research sectors, energy and power infrastructure development, growth in aerospace and defense applications, as well as its focus on technological advancements and research.

Cryogenic Vessels Industry Overview

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The global cryogenic vessels market is semi-consolidated. Some key players in this market (in no particular order) include Linde plc, Chart Industries Inc, Inox India Ltd, Isisan AS, and FIBA Technologies Inc., among others.

Additional Benefits:

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

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