

Immersion Cooling Market by Type (Single-Phase and Two-Phase), Application (High-Performance Computing, Edge Computing, Cryptocurrency Mining), Cooling Fluid, Components (Solutions, Services), and Geography - Global Forecast to 2030

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Report description:

The immersion cooling market is projected to grow from USD 302 million in 2022 to USD 1,710 million by 2030, at a CAGR of 24.2% from 2021 to 2026. Growing number of data centers for applications such as edge computing, cloud computing and cryptocurrency mining brings need for cost-effective and eco-friendly cooling solutions which is expected to drive immersion cooling market.

Advancements in technologies such as artificial intelligence, Internet of Things (IoT), cryptocurrency mining, machine learning, and increased computing power and performance requirements have led to increased server density. This increased server density causes an upsurge in the amount of heat generated in data centers. However, increased retrofitting costs of existing infrastructure, coupled with the requirement for new specialized infrastructure, act as restraints for the growth of the immersion cooling market.

"Single-phase type segment is projected to lead the immersion cooling market during the forecast period."

Based on type, the single-phase immersion cooling is estimated to grow at the highest CAGR during the forecasted period. In single-phase immersion cooling, the cooling fluid will not change phase and will remain in a liquid form. The cooling fluid gets pumped to a heat exchanger where heat is transferred to a cooler water circuit. Due to this, there are no chances of the cooling fluid getting evaporated. However, in two-phase immersion cooling technique the cooling liquid will change phase and convert to vapor after absorbing the heat. This is expected to drive the single-phase type segment during the forecast period.

"High-performance computing has the second-largest market share, based on application segment immersion cooling market." Based on application, the second largest share is attributed to the high-performance computing segment. This market share can

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be attributed to the adoption of HPC (High Performance Computing) in various industry applications and organisations focusing on expanding their critical applications. This has resulted in increased server rack densities, resulting in making conventional cooling systems less effective. This has encouraged HPC customers to switch from traditional cooling methods and adopt innovative and sustainable cooling solutions such as immersion cooling solutions.

Fluorocarbon-based Fluids, based on cooling fluid segment is projected to have second largest market share in the immersion cooling market."

Based on cooling fluid segment, Fluorocarbon-based Fluids segment has the second largest market share. Fluorocarbon-based fluids are electrically insulated and are mainly used for cooling electronics. These fluids are extremely inert, non-reactive, and do not conduct electricity. These characteristics are said to drive the segment in the immersion cooling market.

Solutions segment is projected to have the largest market share in the immersion cooling market."

Based on components, solutions segment has the largest market share in the forecast period. Based on components the market is segmented into two segments namely, services and solutions. Solutions segment include different components of immersion cooling systems such as tanks, compressors, tubing, and heat exchangers. Various vendors offer these components used to build immersion cooling systems. These components are used for building customized immersion cooling systems. This is said to fuel the segment in the market.

"Asia Pacific is projected to grow the highest CAGR in the immersion cooling market during the forecast period."

Asia Pacific is projected to grow at the highest CAGR in the immersion cooling market from 2022 to 2030. The increasing use of technologies such as high-performance computing, artificial intelligence, edge computing, cloud computing, and cryptocurrency mining in countries such as, China, Japan, India, and South Korea is driving the segment. These technologies has resulted in increased the server rack and chip density. This has driven demand for energy for data center cooling. The market is projected to grow rapidly in the Asia Pacific region, owing to the increased demand for immersion cooling from cryptocurrency miners in the region.

Profile break-up of primary participants for the report:

-□By Company Type: Tier 1 - 20%, Tier 2 - 55%, and Tier 3 - 25%

-□By Designation: C-level Executives - 50%, Directors - 25%, and Others - 25%

-□By Region: Asia Pacific - 10%, Europe - 20%, North America - 60%, the Middle East & Africa- 5%, and South America - 5%

Furthermore, as a part of the qualitative analysis of the immersion cooling market, the research provides a comprehensive review of drivers, restraints, opportunities, and challenges influencing the growth of the market across the globe. It also discusses competitive strategies adopted by the leading market players such as LiquidStack (Netherlands), Fujitsu (Japan), Green Revolution Cooling Inc (US), Submer (Spain), Asperitas (Netherlands), Midas Green Technologies (US), Iceotope Technologies Ltd (US), LiquidCool Solutions (US), DUG Technology (Australia), DCX - The Liquid Cooling Company (Poland), ExaScaler Inc (Japan), SixtyOneC Technology Corporation (Canada), Engineered Fluids (US), TIEMMERS (Netherlands), TMGcore, Inc. (US), GIGA-BYTE Technology Co., Ltd. (Taiwan), Wiwynn (Taiwan), Hypertec (Canada), TAS (US), and Delta Power Solutions (Taiwan).

Research Coverage:

The report defines, segments, and projects the size of the immersion cooling market based on application, type, cooling fluid, components and region. It strategically profiles the key players and comprehensively analyzes their market share and core competencies. It also tracks and analyzes competitive developments such as expansions, product launches, partnerships, collaborations, agreements, and joint ventures undertaken by them in the market.

The report also provides a comprehensive review of market drivers, restraints, opportunities, and challenges in the automotive

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immersion cooling market. The report also covers qualitative aspects in addition to the quantitative aspects of these markets.
Reasons to Buy the Report:

The report is expected to help the market leaders/new entrants in the market by providing them the closest approximations of revenue numbers of the immersion cooling market and its segments. This report is also expected to help stakeholders obtain an improved understanding of the competitive landscape of the market, gain insights to improve the position of their businesses, and make suitable go-to-market strategies. It also enables stakeholders to understand the pulse of the market and provide them information on key market drivers, restraints, challenges, and opportunities.

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