

# Korean rack-mounted immersion liquid cooling



## Overview

Korean firms S-Oil and Global Standard Technology (GST) have teamed up on a new immersion cooling solution for data centers. This article provides an in-depth analysis of how South Korean data centers are tackling this challenge, focusing on the real-world adoption cases of immersion cooling, a technology rapidly emerging as the next-generation solution. The push follows projections that demand for immersion cooling oil will surge as the global artificial intelligence (AI) market. LG Uplus launches cooling demo — The company opens a real-world demo room to test liquid cooling tech for high-density AI workloads at its major data center in Anyang, Korea. The company signed a memorandum of understanding with SNU's College of Engineering and Databean, a firm specializing in. According to Mordor Intelligence, the South Korean data center cooling market size is estimated at US\$ 176. 67 million in 2025 and is expected to reach US\$ 454.



## Article Content

Immersion Cooling Solution for Data Centers

Implement Immersion Cooling in Your IT Deployment Strategy Submerge your server into a bath of non-conductive liquid and allow thermal generated by computer

Liquid Cooling Rack Integration

Direct-to-chip liquid cooled racks enable data centers to support thermal requirements without major data center restructuring, unlike the alternative immersion cooling, which requires a significantly

South Korea Immersion Liquid Cooling Technology Market Size

The South Korea Immersion Liquid Cooling Technology Market market is comprehensively segmented by product type, application, end-use industry, and region, providing a detailed view of

GRC The Immersion Cooling Authority®

GRC's immersion cooling solutions increase the performance, enhance the sustainability, and optimize the TCO of your data center. With a legacy spanning

Liquid and Immersion Cooling Options for Data Centers

Long proven for mainframe and gaming applications, liquid cooling is expanding to protect rack-mounted servers in data centers worldwide. Vertiv has created a

What Is Immersion Cooling and How Does It Work?

What is it? Immersion cooling is a type of liquid cooling method where the servers are directly immersed inside a bath of non-conductive, dielectric liquid. Heat given

Immersion cooling systems: Advantages and

Data center operators aiming for an oil and natural gas-free immersion cooling liquid can use bio-based dielectric liquids as an alternative. These liquids, derived from

Immersion Liquid Cooling: Benefits & Applications

Explore immersion liquid cooling: energy efficiency, space savings, and sustainability for data centers, HPC, and EVs.

Case Study: Evaluating the SSD7540 Suitability for Deployment in ...

Feasibility Analysis Installation and Deployment: Deploying the SSD7540 in immersion-cooled environments involves practical considerations: Unlike a standard rack server, which relies on

Liquid Immersion Cooling: A Deep Dive into the Future

Overall liquid immersion cooling has moved beyond a promising solution to the standard for future development as demand for efficient cooling in

Korea refiners expand immersion cooling oil business as AI data

Korean refiners are stepping up efforts to tap the immersion cooling oil market, which is used to cool heat generated by data centers and energy storage systems (ESS).

Data Centers in the AI Era: Case Study on Liquid Cooling

This article provides an in-depth analysis of how South Korean data centers are tackling this challenge, focusing on the real-world adoption cases of immersion

LG Uplus unveils liquid cooling demo room for AI DCs

In February, the Korean telco noted that the new liquid cooling solution, developed in collaboration with GST and other partners, uses non-conductive fluid immersion to efficiently

Ambitious AI goals making South Korea embrace Liquid

Samsung C& T signed a strategic partnership agreement with Green Revolution Cooling that cut electricity use by nearly 80 percent by using liquid

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A disclosed system and structure relate to providing a hybrid liquid cooling system for at least one rack-mounted immersion case that includes at least one electronic assembly immersed in...

The immersion cooling technology: Current and future development in ...

This method has developed in various types with their respective advantages and disadvantages according to application needs. Therefore, review literature is needed to

South Korea Immersion Liquid Cooling Technology Market Size

Technological innovation is at the core of the South Korean immersion liquid cooling market, with a strong emphasis on automation, AI integration, and real-time analytics.

HD Hyundai Oilbank, SNU join hands to install immersion cooling

By applying the system directly to servers in active use at SNU, HD Hyundai Oilbank said it will be able to verify the stability of immersion cooling technology in a real AI research

Advanced Liquid Cooling Solutions Provider | LiquidStack

LiquidStack - your full service provider of the world's most powerful, sustainable and energy-efficient data center cooling technology Data centers and High

KT Cloud to adopt liquid immersion cooling system for data centers

South Korea's KT Cloud on Tuesday said it signed a deal with Immersion 4, a Swiss provider of liquid cooling solutions, to install next-generation immersion cooling technology at KT Cloud data centers.

Top Liquid and Immersion Cooling Vendors for High

As rack densities rise and concern about the sustainability of data centers grows, data center managers need a way to not only cool their equipment

Immersion Liquid Cooling

The 3M Company is also actively engaged in immersion cooling technology and has developed a passive two-phase immersion cooling system for servers. Figure 3 illustrates the concept of the

Korea's S-Oil and GST team up on immersion cooling system

Korean firms S-Oil and Global Standard Technology (GST) have teamed up on a new immersion cooling solution for data centers. Petrochemical firm S-Oil has developed a cooling fluid,

Liquid Cooling for High-Density Racks: A Guide | DataSpan

3. Immersion Cooling – Complete submersion of components in dielectric fluid Can different cooling methods be used in the same data center?

Immersion Tanks for Full-Scale Liquid Cooling

Unlock the power of efficient cooling with LiquidStack's DataTank™ 48U. Learn how our advanced 2-phase immersion systems can transform your data centre today!

LiquidCool Brings Immersion Cooling to the Server Chassis

The rear view of a rack of servers using the LiquidCool immersion system. Blue lines bring dielectric coolant to the server to cool components, while the red lines

Why Choose LiquidStack Liquid Cooling Technology

Choose LiquidStack's advanced liquid cooling technology for effective thermal management. Boost performance and energy efficiency in

Ambitious AI goals making South Korea embrace Liquid

Future AI and high-density workloads require strategic scalable liquid cooling infrastructures. Liquid Cooling: An investment into South Korea's digital

Immersion cooling systems: Advantages and

Immersion cooling (see Figure 2) is a liquid cooling method in which servers and other rack components are submerged in a thermally conductive

## Immersion & Liquid Cooling for Data Centers

Immersion cooling in data centers, as a form of liquid cooling, involves submerging servers in a non-conductive fluid to dissipate heat.

## Contact Us

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