



Lenovo Enterprise Solutions LLC  
Nidec Corporation  
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## **Lenovo and Nidec Jointly Promote Liquid-Cooling Solution for AI Data Centers**

Combining Lenovo's highly efficient liquid-cooling technology with Nidec's highly reliable Coolant Distribution Units to improve energy efficiency and reduce environmental impact

Lenovo Enterprise Solutions LLC (Headquarters: Chiyoda-ku, Tokyo; President: Ray Zhang; hereinafter referred to as "Lenovo") and Nidec Corporation (Headquarters: Minami-ku, Kyoto; Representative Director, President, and Chief Executive Officer: Mitsuya Kishida; hereinafter referred to as "Nidec") will jointly work on reducing environmental impact by improving cooling efficiency, aiming to reduce power consumption in data centers.

In recent years, with the rapid expansion of AI utilization, AI data centers are becoming higher-performing and larger-scale, with some cases installing thousands of AI servers. Conventional data centers typically use air-cooling systems with air conditioners and fans, but the cooling performance of air-cooling systems is no longer sufficient because the Graphics Processing Units (GPUs) at the core of AI servers generate intense heat – close to 100°C – during advanced computing processes. To address these issues, data centers are increasingly adopting liquid-cooling systems, which circulate coolant through pipes. Liquid-cooling is positioned as a critical element in future data center infrastructure, as it is a technology that can achieve both high cooling efficiency and reduced environmental impact.

In this initiative, Lenovo and Nidec will jointly promote a cooling solution that is energy efficient and contributes to reducing environmental impact by combining Lenovo Neptune, Lenovo's advanced liquid-cooling technology with a high market share in HPC, and Nidec's Coolant Distribution Unit (CDU), which circulates coolant stably and efficiently within the data center.

This jointly verified solution adopts a direct liquid-cooling system that supports the stable operation of AI servers and optimizes power usage, and reduces environmental impact by reusing hot and pure water. The significant improvement in the overall data center cooling efficiency contributes to enhanced stability of the cooling system, reduction the operational burden on facility managers for temperature control and equipment troubleshooting, and the reduction in power consumption. Furthermore, given the high safety and reliability required in data centers, where even the slightest water leak is unacceptable, both companies' cooling systems leverage technical expertise backed by proven results to achieve more precise liquid-cooling control and high robustness.

Taking this initiative as an opportunity, Lenovo and Nidec will strengthen collaboration with eco-partners that introduce liquid-cooled servers and aim to develop new customers in the Japanese market. Moreover, the two companies will contribute to the popularization of sustainable data center operations through the adoption of energy-efficient IT infrastructure that minimizes environmental impact. This solution will first be offered to the Japanese domestic market, with plans to expand it worldwide in the future.

Yoshihisa Kitao, Executive Vice President of Nidec Corporation, stated:

"We are highly honored to jointly promote and work towards deploying a high-efficiency and high-reliability cooling solution essential for the AI era data centers, in collaboration with Lenovo, a provider of high-performance liquid-cooling technology, Lenovo Neptune. Amid the explosive increase in AI computing load due to the expanding AI demand, data centers are required to have higher power efficiency and greater environmental consideration than ever before. By combining Lenovo's advanced liquid-cooling technology (Lenovo Neptune) with Nidec's technology and expertise in In-Rack type CDUs, which boast over 7,000 units shipped and high reliability, we will contribute to maximizing power efficiency and realizing sustainable data center operations."

Ray Zhang, President of Lenovo Enterprise Solutions, stated:

"We are delighted to commence this joint initiative to develop and fully deploy a high-efficiency and high-reliability cooling solution required for the increasingly sophisticated AI era data centers, alongside Nidec, a provider of high-efficiency cooling systems. This collaboration is the first step toward strengthening cooperation with new eco-partners centered on liquid-cooled servers and accelerating the expansion of the liquid-cooling ecosystem in the Japanese market. With the rapid growth in demand for AI and high-performance computing, data centers are increasingly required to operate with high efficiency and environmental consideration. Leveraging our cultivated liquid-cooling technology and extensive track record in providing comprehensive IT infrastructure, Lenovo will contribute to realizing sustainable data center operations through the provision

of next-generation IT infrastructure that balances both power efficiency and high performance. Moving forward, we will continue to provide optimal solutions to a broader range of customers, in collaboration with our partners both domestically and internationally.”

#### About Nidec:

Nidec is a manufacturing company that specializes in solutions centered on the motor business, focusing on “everything that spins and moves.” Leveraging the technological capabilities of approximately 340 group companies in 46 countries worldwide, their wide lineup of products, ranging from precision small to ultra-large sizes, is adopted in various fields including IT equipment, automobiles, two-wheelers, commercial, and industrial sectors. Nidec will continue to provide essential products and solutions to the world with overwhelming speed through its technologies for miniaturization, weight reduction, thinness, and efficiency improvement.

Website: [www.nidec.com](http://www.nidec.com)

Product news: <https://www.nidec.com/jp/product/news/>

#### About Lenovo

Lenovo is a US\$69 billion revenue global technology powerhouse, ranked #196 in the Fortune Global 500, and serving millions of customers every day in 180 markets. Focused on a bold vision to deliver Smarter Technology for All, Lenovo has built on its success as the world’s largest PC company with a full-stack portfolio of AI-enabled, AI-ready, and AI-optimized devices (PCs, workstations, smartphones, tablets), infrastructure (server, storage, edge, high performance computing and software defined infrastructure), software, solutions, and services. Lenovo’s continued investment in world-changing innovation is building a more equitable, trustworthy, and smarter future for everyone, everywhere. Lenovo is listed on the Hong Kong stock exchange under Lenovo Group Limited (HKSE: 992) (ADR: LNVGY). To find out more visit <https://www.lenovo.com>, and read about the latest news via our [StoryHub](#)

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