

Breaking technical barriers: ExxonMobil powers Intel's next-gen immersion cooling solution

Spring, Texas - Intel unveiled a pioneering new tank design along with immersion cooling solutions for data centers, garnering significant attention. This groundbreaking innovation, achieved through the close collaboration of multiple value chain partners, signified a substantial leap in cooling efficiency, heralding a new era of data center cooling technology.



**Image Source: Intel China*

The conference showcased the technical design and validation results of the immersion cooling solution based on Intel's next-generation G-Flow tank design. This tank represents a totally new system design concept that has successfully overcome the current limitations of single-phase immersion cooling efficiency, previously limited to 300-350W with hydrocarbon-based fluids on Xeon processors. The new tank design enables cooling of chips of >800W and potentially >1 kW.

The combination of ExxonMobil's immersion cooling fluid and Intel's new tank design has shown significantly enhanced server performance and stability while substantially reducing energy consumption based upon trials by leading server provider H3C. This breakthrough aids

data center enterprises in achieving energy conservation and emission reduction goals while optimizing physical space for higher-density server deployments. It meets the demands of high-performance computing (HPC) and artificial intelligence (AI) applications, making it a leading technology choice for modern data center operators. Attendees experienced the innovative design advancements through various technology and product demonstrations.



**Image Source: Intel China*

Through its ongoing collaboration with Intel, ExxonMobil's Data center immersion fluids have played a crucial role in enabling Intel's solution to overcome technical limitations showcasing the potential use of hydrocarbon based single phase immersion cooling for future chip designs. "Our long-term collaboration with Intel has proven the significant advantages of our data center immersion cooling fluid products in terms of cooling performance," said Jerry Wang, Asia Pacific product manager for ExxonMobil.

"This technological breakthrough is the result of multi-party cooperation, setting a new benchmark for the data center industry. The multi-party cooperation approach has played a crucial role in Intel's technical support and total solution design, particularly in the validation of the G-Flow tank design, where the application of

immersion cooling technology significantly enhanced processor performance and energy efficiency," said Dr. Du, Director of Thermal and Mechanical Design, Data Center and Artificial Intelligence Business Unit, Intel China.

As the immersion cooling tank provider, Shenzhen Eco-atlas Technology leveraged the strengths of all participants to provide complete immersion cooling solutions, ensuring efficient implementation and reliable deployment of the solutions. "We are committed to providing high-quality products and comprehensive solutions to end-users, ensuring the performance of immersion cooling systems in practical applications," said Shixuan Hu, General Manager, Eco-atlas Technology.

Key to the successful development of this single-phase immersion cooled solution has been the cross-value chain collaboration between chip manufacturer, server provider, tank and fluid suppliers. This collaboration has enabled the efficient and rapid development and deployment of this state-of-the-art cooling solution for the data center industry. This breakthrough fully demonstrates the importance of multi-party cooperation in driving technological progress and indicates the broad application of immersion cooling technology.

[Learn more](#) about ExxonMobil Data center immersion fluids.

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