

MODELON EXPANDS DATA CENTER LIBRARY FOR NEXT-GENERATION AI COOLING

Modelon, a leader in system simulation software, today announced a major expansion of its Data Center Library for Modelon Impact, enabling engineering teams to evaluate and optimize advanced cooling systems for next-generation artificial intelligence (AI) infrastructure.

Growing AI workloads continue to push rack power densities to new levels, accelerating the industry's shift toward liquid cooling and emerging technologies such as two-phase direct-to-chip cooling. Engineering teams must evaluate new or unfamiliar cooling architectures while balancing performance, energy efficiency, reliability, and cost. Most cooling systems are also designed for steady conditions, even though AI workloads cause sudden heat spikes that standard checks miss. The enhanced Data Center Library helps users simulate complete cooling systems before equipment is built, installed, or commissioned, avoiding excess safety margin and enabling faster, more confident engineering decisions.

Developed with the University of Maryland, the expanded library includes validated models for two-phase direct-to-chip cooling. Engineers can compare these models directly with traditional liquid cooling, test performance limits, see how components interact, and try design alternatives across a wide range of operating conditions. This reduces the need for costly physical testing and late design changes.

New reference scenarios reflect changing weather and information technology (IT) workloads, so cooling strategies can be tested under realistic conditions. The library also adds pre-calibrated equipment models, including Computer Room Air Handlers (CRAHs), and a new calibration workflow for cold plates and chillers that cuts model setup time.

By combining facility-level infrastructure with rack- and chip-level cooling systems in a single simulation environment, users can better understand the impact of design decisions on energy consumption, cooling capacity, system reliability, and operational efficiency.

"Cooling has become one of the biggest design decisions in an AI data center," said Pieter Dermont, Chief Revenue Officer at Modelon. "With this release, engineering teams can model two-phase direct-to-chip cooling alongside traditional liquid cooling and test both against changing weather and IT workloads before committing to a design."

"Advanced cooling technologies are becoming increasingly important as data center power densities continue to rise," said Kagan Sears, Ph.D., researcher at the University of Maryland. "System-level simulation gives engineers the ability to assess complex cooling interactions and operating conditions that can be difficult and costly to investigate through physical testing alone."

The Data Center Library is available exclusively in Modelon Impact and supports engineering teams throughout the data center lifecycle, from early architecture studies and equipment design and selection through commissioning, optimization, and future expansion planning. Built on the open Modelica standard, the library offers transparency and flexibility as requirements evolve.

For more information, visit www.modelon.com/library/data-center-library.

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About Modelon

Modelon provides systems modeling and simulation software that accelerates product innovation, development and operations in a range of industries. Modelon's flagship product, [Modelon Impact](#), is a cloud-native, AI-driven system simulation software platform featuring a collaborative browser-based interface and thousands of proven models and components spanning a broad range of applications. Headquartered in Lund, Sweden, and with global reach, Modelon is an expert industry leader in model-based systems engineering with a focus on leveraging open standard technologies.

Modelon AB is listed on Nasdaq First North Growth Market with ticker symbol MODEL. Redeye Nordic Growth AB is appointed the Company's Certified Adviser.

Attachments

[Modelon Expands Data Center Library for Next-Generation AI Cooling](#)