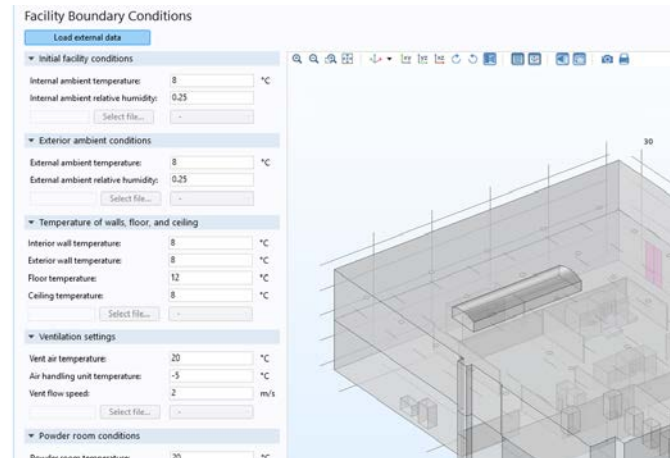


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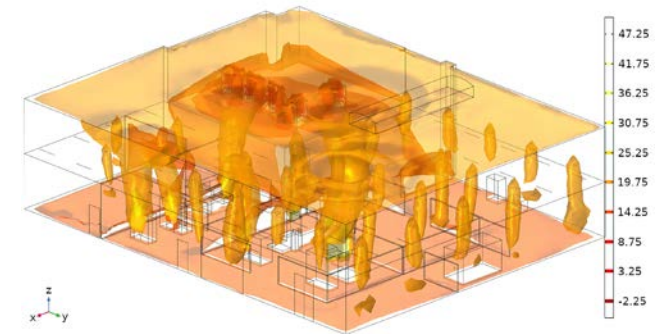
Optimizing Factory Conditions

To fulfill its promise of rapid, precise, and customizable production, additive manufacturing (AM) calls for new approaches to factory operation. MTC's National Centre for Additive Manufacturing (NCAM) developed a simulation model and app to help factory staff make informed decisions about its operation.

The Digital Reconfigurable Additive Manufacturing for Aerospace (DRAMA) project at NCAM created a model of their powder bed fusion facility using CFD to study how environmental conditions would be affected by multiple variables, from the weather outside to the number of machines operating, the positioning of machines, and more.



"The model helps predict how heat and humidity inside a powder bed fusion factory may affect product quality and worker safety," says Adam Holloway, a technology manager within the MTC's modeling team. "When combined with data feeds from our facility, the app helps us integrate predictive modeling into day-to-day decision-making."



"We want to integrate our predictive model into a feedback loop that includes the actual factory and its staff. The goal is to have a holistic system that responds to current factory conditions, uses simulation to make predictions about future conditions, and seamlessly makes self-optimizing adjustments based on those predictions," Holloway says.

By pairing its production line with a dynamic simulation model, the DRAMA project has made the entire operation safer, more productive, and more efficient.