



The Helix Innovation Center Is Open for Business

The relentless pursuit of innovation has always been a staple of Emerson's business model. We are at our best when we're asked to solve tough problems and balance customer requirements within the larger context of industry-wide challenges. With the launch of The Helix Innovation Center in December, our ability to build upon this legacy just got stronger.

Located on the University of Dayton campus in Ohio, this 40,000 square foot facility blends the disciplines of technology and engineering — part academic think tank and part real-world test lab. It's here where we'll take a blank slate approach, utilizing a comprehensive suite of flexible resources to tackle current industry challenges and develop the solutions of tomorrow.

To accomplish this, we've installed five industry modules that simulate the following real-world environments:

- *Residential connected home* — 2,000 square foot, fully functional two-story home built to Department of Energy specifications. Capable of simulating global weather and annual performance conditions, from -20 °F to 120 °F ambient temperature and 20 percent to 90 percent humidity.
- *Light commercial building* — the facility itself serves as the light commercial module, with state-of-the-art HVAC and variable refrigerant flow systems. The facility is LEED certified by the U.S. Green Building Council.
- *Foodservice operations* — 1,500 square foot restaurant features a fully functioning, licensed commercial kitchen capable of servicing up to 150 diners. Like the residential module, allows for complete control of ambient air and humidity for desired comfort levels.
- *Supermarket refrigeration* — utilizes a CO₂ transcritical booster system for refrigeration, HVAC and heat reclamation for hot water. Simulates a 2,500 square foot supermarket or convenience store retailer.
- *Data center* — 1,000 square foot module replicates a data center's precise temperature and humidity control requirements.

Each industry module is a separate entity with isolated power sources to enable discrete measurement of energy consumption in individual modules and their respective equipment. We've also equipped the innovation center with three industry learning labs, where we expect to host up to 600 visitors and trainees each year.

The Helix is under the direction of Dr. Rajan Rajendran, vice president of system innovation center and sustainability, and will reflect the collaborative spirit that's characteristic of our E360 program. Rajan will also be contributing a new column to this publication that will highlight a relevant module, system or project taking place at the center. Look for the first installment of *Helix Highlight* in this edition, where Rajan takes a closer look at the supermarket module's CO₂ transcritical booster system. We look forward to sharing these stories with you and invite you to make use of this new industry hub of innovation.

Don Newlon, Managing Editor, E360 Outlook

V.P./G.M., Refrigeration Marketing, Emerson Climate Technologies

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Publisher

Emerson Climate Technologies

Managing Editor

Don Newlon

Email Us

Email us at e360.climate@emerson.com with any comments or suggestions. We would love to hear from you.

Website

EmersonClimate.com/E360