CCTech Releases Autonomous HVAC CFD

AHC 2023 app predicts IAQ and thermal comfort ratings before you construct

PUNE, INDIA, August 30, 2022 /EINPresswire.com/ -- The Centre for Computational Technologies (CCTech) is thrilled to announce the commercial release of Autonomous HVAC CFD (AHC 2023). The app had one of the most extensive beta testing programs, where hundreds of HVAC engineers worldwide volunteered to test the app with various build spaces and solve their real-world problems.
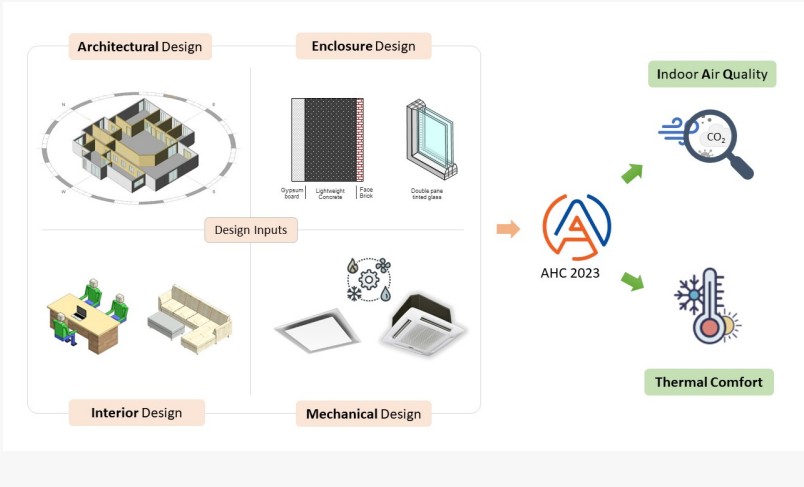
For the HVAC engineer, thermal comfort and indoor air quality are two inter-dependent metrics that rank highly in occupant complaints. Thermal comfort is highly dependent on architecture, enclosures and interior designs, contributing to solar/radiant loads, radiant asymmetry, humidity, drafts and stratification. Mechanical system types selected to compensate for their shortcomings will influence air velocity and relative humidity, and operative temperature. Indoor air quality is partly influenced by enclosure performance, contributing to moisture problems, interior finishes for VOC emissions, particle generation and occupants as a source of CO_2, microbial and odors. Bad indoor air quality has many adverse health effects, including respiratory illnesses, heart disease and cancer.

To solve this problem, the simulationHub team at CCTech invested more than four years of research in developing AHC 2023, the world's most advanced indoor air quality prediction app. Powered by computational fluid dynamics and artificial intelligence technologies, AHC 2023 empowers indoor environmental consultants and HVAC professional engineers with a powerful tool for designing optimum HVAC solutions for their end customers. AHC 2023 can predict results in the early building design stage based on design inputs such as layout, enclosure specification, mechanical systems details, people occupying the space, date/time and activity. With AHC 2023, designers can now be confident that their HVAC designs will meet the needs of their customers.
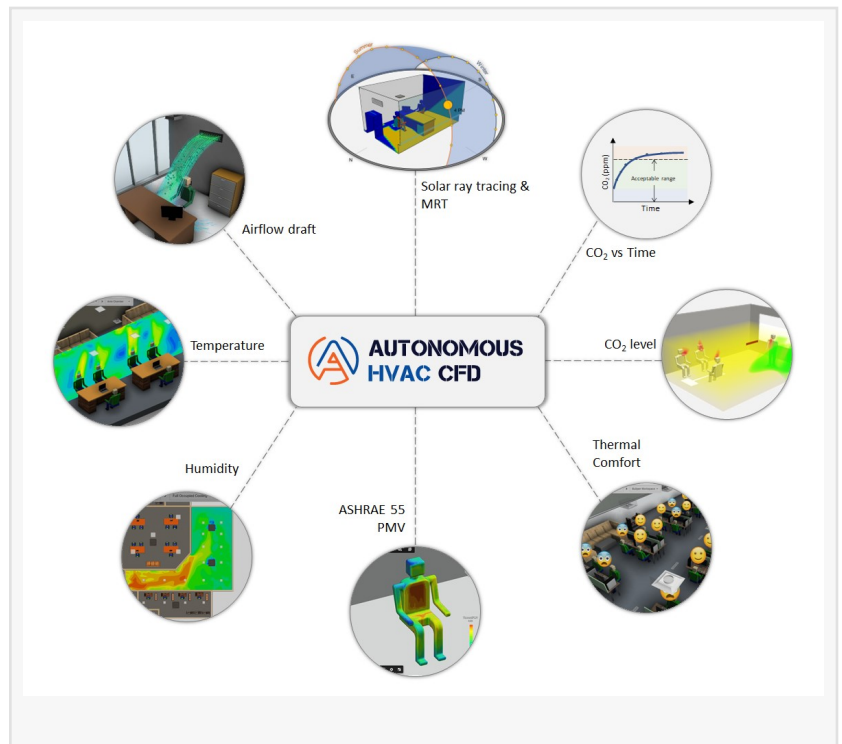
"By helping HVAC professionals at the design stage, we can help them create more efficient, sustainable and cost-effective systems," said Sandip Jadhav, the CEO of CCTech. "This, in turn, benefits the billion people who occupy the spaces served by these systems, as they enjoy better indoor air quality and thermal comfort."

The AHC app is a cutting-edge solution for predicting occupant thermal comfort and IAQ. It is highly accurate, easy to use and fast. The app brings a revolutionary Pay As You Go pricing model to the industry, which means users pay only for how many credits they consume for a project. The AHC app does not require any CFD expertise and can be used by any HVAC professional. It's a browser-based WebApp and does not require any installation.

"There are a number of software tools that can help the design community; many programs are too costly, limited in scope, too complicated and/or clunky. What is needed are tools that are accessible to all and easy to use with outcomes that are useful in influencing projects at the design stage," says Robert Bean, Fellow ASHRAE, Director of Healthy Heating. "For a more thorough and dynamic understanding of environmental ergonomics, I have recently discovered the Autonomous HVAC CFD tool. The app converts the building model to a 'CFD computational model' and facilitates variable placement of occupants, furnishings and HVAC types for predicting compliance with ASHRAE Standard 55. It also does 3D cross-sectional thermal and airflow analysis. Several other outputs help evaluate design options influencing thermal comfort and air quality, enabling an energy-efficient HVAC system. I look forward to introducing this tool to students and practitioners as they solve many of the IEQ problems in buildings."

Rohit Chavan, Head of the simulationHub platform, says, "Our vision is to democratize the world of HVAC simulations. For too long, this type of software has been out of reach for all but the few largest design and build engineering firms. Our new generation app is resolving these challenges effectively, becoming the world's largest indoor air quality data platform."

For more information and to explore the AHC 2023, visit simulationhub.com.

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