CENGN

SMART COCOON INNOVATION HIGHLIGHT

smart COCOON

COMPANY OVERVIEW

SmartCocoon is a Canadian company that has developed an AI-driven micro-climate control solution for forced-air HVAC systems. SmartCocoon utilizes on-device sensors and integration with smart thermostats to detect temperature changes and direct airflow to the rooms that actually need it. With the smart climate system, users have complete control over their home's airflow, so the temperature in every room is always just right. SmartCocoon helps homeowners be energy efficient and save money on their electric bills.

LOCATION: TORONTO, ON

TECHNOLOGY

IoT

Internet of Things

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UNEVEN AIRFLOW COSTS MONEY

When you're at home, you want to be comfortable in whatever room you're in. Currently, most homes have their temperature centralized to one system that controls the entire house's temperature. With this system, uneven airflow distribution makes consistent temperatures across rooms and floor levels unachievable. In response, homeowners often run their thermostats higher for longer to accommodate problem areas, running up their power usage and their bills.

SAVE MONEY AND LIVE COMFORTABLY

To address this all-too-common household problem, SmartCocoon was born. The SmartCocoon system actively and granularly manages airflow in different rooms or areas of houses and intelligently syncs its operation with smart and conventional thermostats or HVAC systems. The smart fan solution installs in existing ductwork and boosts airflow into areas based on either integration with smart thermostats or detection of temperature changes within the ductwork. By using these smart fans, homeowners can improve room comfort as well as reduce HVAC energy consumption by an average of 25%.

SCALE TESTING THE SMART SYSTEM

SmartCocoon deployed their cloud solution in CENGN's test environment and used simulated fans to run an incremental scale test. The company validated that their system could accommodate 10,000 simultaneous simulated fans with no problems. Beyond scale testing, SmartCocoon was able to validate their solution's LoRaWAN connectivity to physical fans. The results from this CENGN project assures SmartCocoon that they are ready to grow their customer base and business development efforts, as they have validated that their solution can handle forecasted scale in growth over the next year and a half.

> "The CENGN engineering team's expertise resulted in us better understanding the metrics we should be mindful of when scaling our product."
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> **Ehsan Mirdamadi**
> CTO, Smart Cocoon