



SOLVING THE PROBLEM

SMC is building the world's highest efficiency internet-connected smart motor for HVAC applications. The motor has the same unit cost as current low-efficiency variable speed motors, and has no rare-earth and other high cost 'premium' materials that are subject to supply chain disruption. This technology uses a patented high-rotor pole "switched reluctance" design demonstrating 30-90 percent potential energy savings in HVAC applications. The motor connects to the internet and can efficiently operate at variable speeds, allowing fine grained remote control.

THE IMPACT:

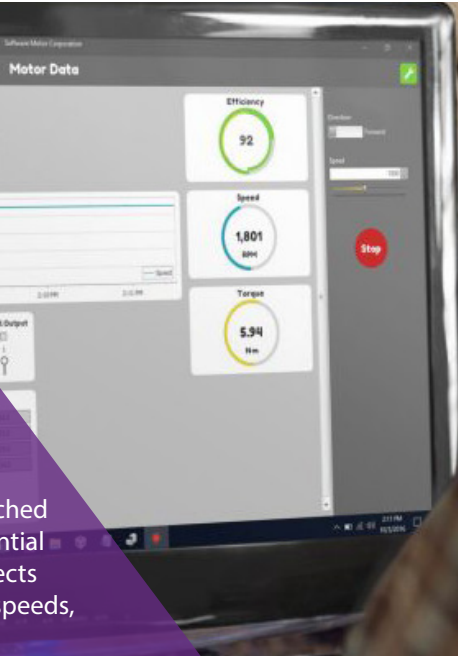
SMC's motor is revolutionary for two reasons; its low-cost design is over 30 percent more efficient than inductance-type motors, saving on electricity. If this was installed in just one percent of currently available applications in the U.S., it would result in \$500 million in electricity savings and one million tons per year of carbon savings. Additionally, it is an internet-connected smart motor, allowing building owners to change the motor operating characteristics in real-time.

HOW IN² IS HELPING:

SMC is in need of independent validation that the motor provides the energy savings benefits established in lab settings. Through the IN² program, SMC will be able to test and demonstrate their technology in a range of operational environments. The IN² program will provide SMC with high-fidelity independent verification of the energy savings their motor represents compared to other motor designs and associated cost savings.

ABOUT THE IN² PROGRAM

IN² is a technology incubator that fosters and accelerates early stage technology companies that provide scalable solutions to reduce the energy impact of buildings. Through a \$30 million program funded by the Wells Fargo Foundation and co-administered by the U.S. Department of Energy's National Renewable Energy Laboratory (NREL), sustainable building technologies are able to evolve and develop, contributing to the overall goal of a Smart and Connected Community that uses energy, water and other resources efficiently, reducing the negative impact on the environment.



TIER 1: Bench Scale

- Concept development stage
- Develop plans for prototyping & testing
- 3 – 5 years to market

TIER 2: Prototype

- Available for testing & validation
- Plans for development of final product
- Less than 2 years to market

TIER 3: Commercially Ready

- Models available in limited quantity
- Integrated demonstration
- Less than 18 months to market testing

