



CASE STUDY

GEORGIA TECH MICROGRID

PowerSecure Distributed
Generation Project
**A one-of-a-kind
Advanced
Urban Microgrid**

ABOUT THE CUSTOMER

The Tech Square Advanced Microgrid is a Georgia Power Company project for Georgia Tech's CODA marquee development in midtown Atlanta. Serving the CODA's High Power Computing Center (HPCC) is a first-of-its-kind urban microgrid, that has been optimized to fit into a confined site footprint.

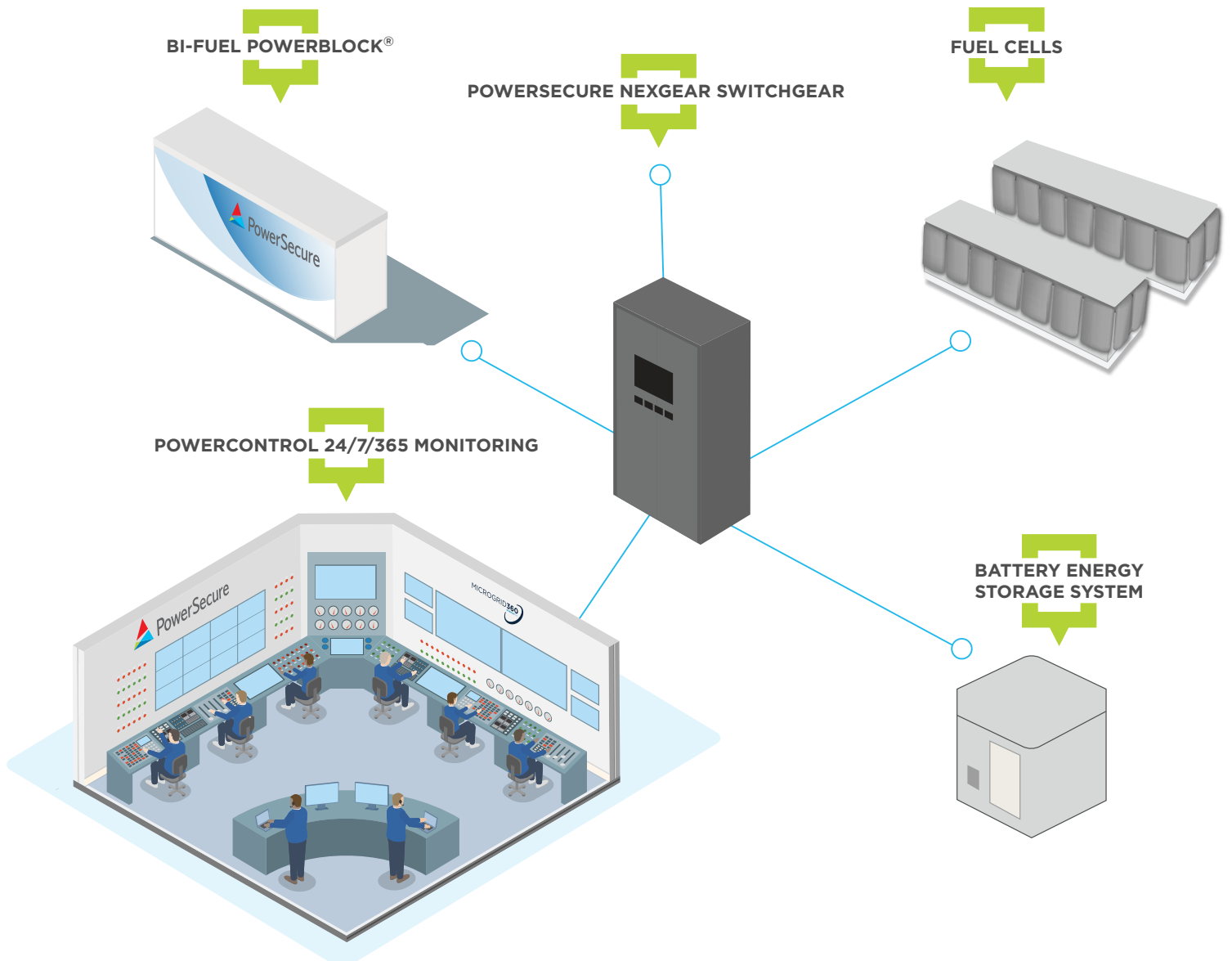


THE CHALLENGE

Georgia Tech took on the challenge of implementing an advanced microgrid in downtown Atlanta to evaluate how a microgrid can effectively integrate and operate as part of the overall electrical grid. Additionally, the microgrid provides insight into the interaction of distributed energy resources and smart energy management systems with the grid for optimal energy utilization while supporting research opportunities for Southern Company and Georgia Tech faculty and students as a living lab. While providing resiliency to the HPCC and utility grid, the advanced microgrid serves as a tool to test reliability, sustainability, and cost of ownership to help develop emerging energy solutions to better serve communities now and in the future.

THE SOLUTION

This PowerSecure 1.5 MW microgrid includes engineering, equipment, installation, commissioning, maintenance, and PowerControl™ 24/7 monitoring. The project integrates Georgia Power's underground network and distribution systems, including building management system integration, with a 225kW Battery Energy Storage System, 200 kW Solid Oxide fuel cell, and a 1,025kW PowerBlock® consisting of one, 625 kW Tier 4 Final diesel generator and two, 200 kW natural gas generators. The advanced microgrid design includes expansion capability, allowing for future deployment of additional types of energy technology, including solar photovoltaics, microturbines, and electrical vehicle charging stations.



BENEFITS TO THE CUSTOMER

With PowerSecure's industry-leading reliability and advanced microgrid capabilities, this distributed generation solution:

- 1 Provides Georgia Power and Georgia Tech's CODA's High-Performance Computing Center with multiple layers of resiliency
- 2 Evaluates the system effectiveness and integration of an advanced microgrid in an urban setting
- 3 Incorporates an unique solution by enabling the microgrid to interact with customer loads while also supporting the underground network and distribution systems
- 4 Ensures seamless transition back to utility power upon outage restoration, and the ability to test technologies that provide automated and secure management of demand through a range of energy resources including smart appliances, electric vehicles and building energy management systems