## Introduction of WBG devices for Solid-State Circuit Breaking at the Medium Voltage Level

### Objectives:

Demonstrate a medium voltage (3.3kV) SiC Solid State Circuit breaker.

### Major Milestones:

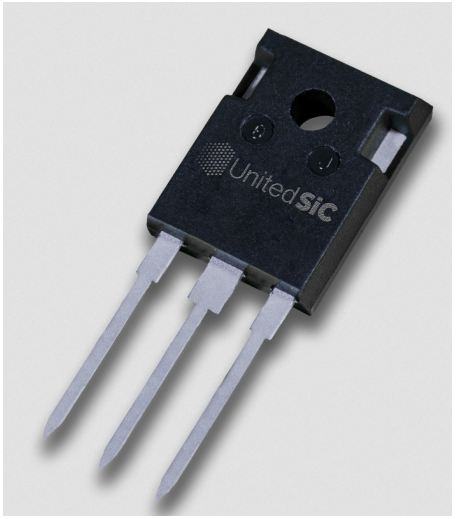
Test a functioning prototype.

### Significant Equipment Acquisition:

Medium Voltage SiC Mosfets and packaging from CREE.

### Deliverables:

Validated design with a precommercial prototype.


PI: Dr. Madhav Manjrekar
Email: mmanjrek@uncc.edu
Phone: 704-687-1003

## WBG Technology Impact

1. Fast turn off capability in the microsecond range or better, and superior efficiency compared to silicon.
2. Market segments impacted: Utility operators of the distribution Network.
3. Timeframe for commercialization: One year after end of project
4. Project competes against traditional mechanical breakers and reclosers

## Additional impacts

1. Value added through device intelligence compared to traditional protection devices.

2. Transformational technology for the current grid infrastructure.

3. Foster ties between UNCC as a Power Engineering educational center and the power industry.

4. US will be the first in demonstrating this technology , starting from the grid-edge and upwards.