InnoCit

Innovation City, Power and Energy Solutions

Smart GaN-Based Inverters for Grid-tied Energy Storage Systems

- Topology: Flying Capacitor
- Semiconductor Technology: GaN
- Input Voltage: 600 V to 900 V
- Output Voltage: 480 V, three-phase
- Power Rating: 75 kW, 100k VA.

Specific Objectives

- Comprehensive market analysis
- Conduction and switching characterization of GaN devices
- Design of the proposed multilevel flying capacitor inverter with auxiliary boosters
- Low power prototyping of a GaN-based multilevel inverter
- Thermal analysis
- Power density optimization using stacked PCB design
- Early stage demonstrations and customer identification
- Project closure, evaluations, and data collection