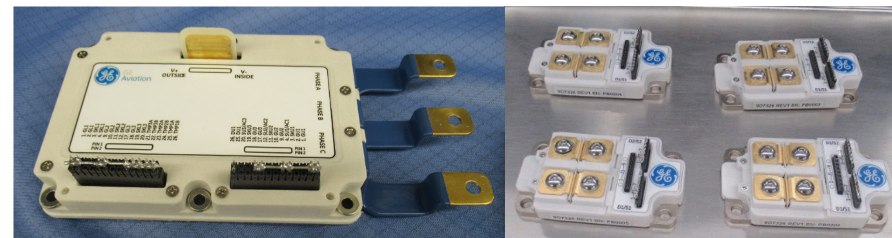
Project Title: **Design and Manufacture of Advanced Reliable WBG Power Modules**

Objectives: Optimize BP4 Ultra Low Inductance, High Temperature Capable, Wire-bond Free WBG Module; Engage Commercial OEMs with cost effective packaging

Major Milestones:
- Successful Design Reviews
- Hardware Deliveries
- Application / System Testing

Significant Equipment Acquisition: None

Deliverables: Switch Reluctance Full Bridge Power Modules to address Rare Earth Magnet concerns of DoD & DoE
Chip Scale Packaging of SiC devices to enable double sided cooling



Low Inductance, High Temp Modules; Six Pack and Duals (Example of deliveries to PA Member for BP3 project.)

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WBG Technology Impact

1. Advanced WBG Modules will enable true Engine Coolant Temperature grade equipment; improving SWaP and reducing overall system costs.
2. Project enables higher density equipment required to support Next Gen Defense Systems and Commercial Transportation, Wind & Solar.
3. Timeframe for commercialization: One(1) year
4. Performance benefits of SiC and GaN Products will “Buy” their way onto future power systems as value of increases in efficiency and power density are recognized by Developers and Industry.

Additional impacts

1. Project will standardize module internals driving up quantities and driving down cost.

2. With limited Module Manufactures in the U.S., the contribution of Next Gen technologies with simplified manufacturing processes will encourage new Players to enter the Market through licensing agreements potentially creating more U.S. Jobs in the Module space.

3. Project will deliver WBG Modules to the Power America device Bank enabling Academia and industry to experiment, test and develop the next wave of Advanced Power Electronics.

4. Improved US Competitiveness through early adoption of delivered WBG Modules with product support provided by team