**PowerAmerica Overview**

**Introduction**

PowerAmerica is a member-driven consortium of more than 70 companies, universities, and national labs accelerating the adoption of energy efficient silicon carbide (SiC) and gallium nitride (GaN) power semiconductor technologies. Our membership network spans the wide-bandgap technology ecosystem, from materials to device developers and fabs to module manufacturers to end users, as well as universities that educate and provide the future workforce. As we continue to grow, so does the diversity of our membership.

PowerAmerica serves its members by collaborating to improve technical capabilities, supporting semiconductor manufacturing, and strengthening the SiC and GaN power electronics supply chain. The member companies in turn, produce new and improved products and services that reduce costs and provide energy savings, while enabling the development of new technologies and businesses, creating high-tech jobs, and strengthening manufacturing in the United States.

Member dues, government agency grants, and North Carolina State University, which serves as the consortium’s headquarters, support PowerAmerica financially. The overall objectives of the organization are established in Bylaws and directed by members through a Member Advisory Committee (MAC) in which all members have a right to be heard and vote, with votes weighted according to membership level. PowerAmerica staff implements the services and activities determined by the members.

Since its inception in early 2015, and based on the ideas and suggestions of PowerAmerica’s members, the organization has developed a value proposition consisting of four on-going initiatives to support the success of its members.

**SiC and GaN Development and Demonstration Projects**

Members define, select, and implement pre-competitive projects, which address challenges identified in the member defined PowerAmerica SiC and GaN roadmaps, and address a wide range of applications. These projects, funded by member dues and performed by members, are typically supplemented by external funding. Over time, the outcomes of these projects have built a valuable portfolio of trade secrets, intellectual property, data learning, and insights for the exclusive use of PowerAmerica members.

Project applications include technology demonstrations and reliability testing related to electric vehicles, motor drives, power grid systems, data center infrastructure, and consumer and personal electronics. Many projects entail semiconductor device design and module insertion that serve multiple applications.

**Industry Events**

PowerAmerica signature events include an **Annual Meeting,** held each winter, and a **Summer Workshop**.  Each event attracts more than 200 attendees from across the U.S. and the world representing the SiC and GaN technology ecosystem, and offers unparalleled opportunities to network and connect with existing and potential business partners.

The events are unique in that they address both technology and business issues – the agenda typically includes updates on technological advances, as well as market trends in the SiC and GaN supply chains and keynote perspectives from senior industry executives. They also afford PowerAmerica’s many university members, including professors and students, the opportunity to showcase their research to industry. In addition, they provide opportunities for students seeking internships or employment to connect with PowerAmerica’s industry members.

Each event is accompanied by comprehensive, expert-led tutorials aimed at helping engineers and business managers become better acquainted with SiC and GaN technology.

In addition to these signature events, PowerAmerica members and staff play leadership roles in U.S. and international conferences with SiC and GaN content such as APEC, ECCE, PCIM, WiPDA, ISPSD, ISCCRM, and ECSCRM to promote SiC/GaN technology and PowerAmerica’s members. This includes developing topics for industry panels and chairing such panels, chairing other sessions and giving keynotes and tutorials.

**Technology Roadmapping**

PowerAmerica’s members-only SiC and GaN technology roadmaps, updated with significant member participation, help members plan for future opportunities and challenges within the SiC and GaN ecosystem. These roadmaps also guide the selection of member-funded projects. PowerAmerica’s roadmapping work also includes participation in IEEE, ITRW and PECTA international power electronics roadmapping activities.

**Education and Workforce Development**

PowerAmerica facilitates Web-based access by members to undergraduate and graduate students being educated in SiC and GaN technology in PowerAmerica’s 18 member universities, to help students and companies establish mutually beneficial relationships including internships and full-time employment after graduation. PowerAmerica offers tutorials in SiC and GaN devices and applications that are held in conjunction with the Annual Meeting and Summer Workshop. In addition, a comprehensive **2 ½ day SiC and GaN Short Course** is offered annually in October/November.