The Next Generation Power Electronics National Manufacturing Innovation Institute will be a game changer for North Carolina and far beyond. This is truly an exciting time for us. We’re already working with our industry, government and academic partners to build America’s leadership in wide bandgap, or WBG, technology for semiconductors.

Innovations in WBG technology have the potential to reshape our energy economy by increasing efficiency and reliability in power electronics, from industrial motors and household appliances to military satellites. WBG semiconductors also will help integrate wind and solar power onto the electricity grid, thus allowing the nation’s energy portfolio to shift toward these renewable sources. And boosting our ability to manufacture electronics domestically will create new jobs in North Carolina and across the country.

Social media uses #NCStatePower to tag links to stories about the new institute. That’s because our expertise in these technologies is second to none, putting us in a unique position to lead the national effort.

NC State inventors have been issued more than 150 patents for WBG semiconductor circuits, devices and materials. In the past 20 years, NC State has attracted a cluster of very talented faculty and invested in specialized tools and equipment to support research excellence in this area.

We will continue to expand undergraduate and graduate programs to help close existing skills gaps in the talent pool. This includes adding a Professional Science Master’s program that provides accelerated training to directly support industry. We are working with partners to ensure the workforce is ready when needed.

NC State is adept at working with industry to address challenges, a heritage of our land-grant history. In recent years, we’ve taken even more steps to make such partnerships easier, as seen in our partnerships group and Springboard Innovation Hub. We're looking forward to using our tremendous experience in leading industry/university/government consortia to help revolutionize power electronics!

Learn more about the Next Generation Power Electronics National Manufacturing Innovation Institute at go.ncsu.edu/nextgen_power.