



# CLAWS

Commercial Leap Ahead for Wide Bandgap Semiconductors

CLAWS brings together the leading regional experts in wide bandgap semiconductors to develop an increase in domestic production and employment.

## Hub Goals

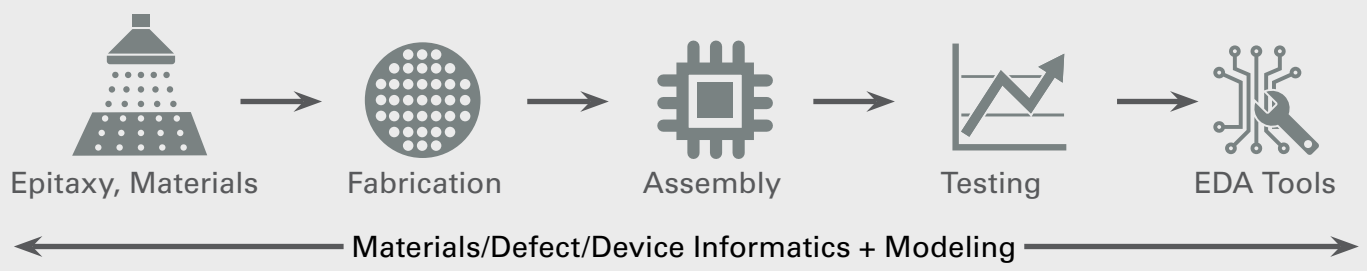
- Enable Leap Ahead Innovation
- Enable Technology Transition
- Workforce Development
- Economic Competitiveness

## Key Hub Capabilities

- Expertise in high voltage Silicon Carbide High Voltage Devices from epitaxy through package
- Expertise in RF Gallium Nitride and UWBG Devices from substrates and epitaxy through packaging
- Expertise in III-Nitride Photonics for LEDs, Lasers, ultra-violet/visible wavelength integrated photonic circuits
- Expertise in UWBG Materials: AlN, AlGaN, Diamond, Gallium Oxide, epitaxy through test and packaging
- Research Development Kit support for technology/manufacturing accessibility, rapid technology transition
- Hub development and engineering and workforce development activities are primarily focused on Wide Bandgap Semiconductors but extend to application areas where WBG semiconductors can be used, including Electronic Warfare, 5G/6G, Sensors, quantum, and other areas of DOD and civilian interest

## Research Foundry

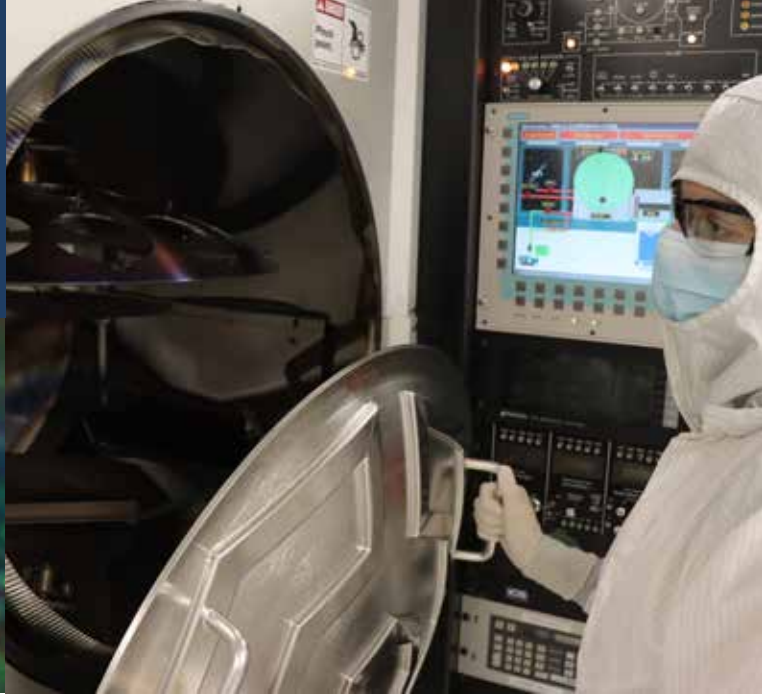
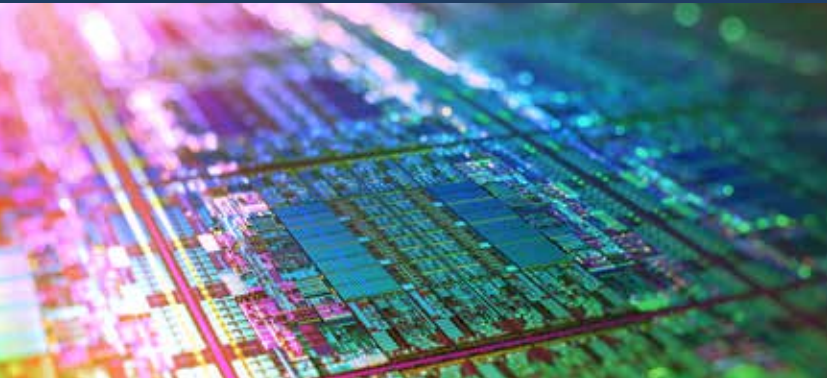
National, open access, trusted semiconductor materials and device fabrication facility for the university community





# CLAWS

Commercial Leap Ahead for  
Wide Bandgap Semiconductors



## CLAWS HUB LEADERSHIP: NC STATE UNIVERSITY

	Bulk Substrate	Epitaxy	Wafer Fabrication	Packaging	Test	Design
<b>SiC Power Electronics</b>	<b>Coherent</b>	<b>Coherent</b>	<b>GE</b>	<b>GE</b>	<b>GE</b>	<b>GE / NC State</b>
<b>III-N RF Electronics</b>	SiC: <b>Purchased</b> III-N: <b>Purchased + Kyma</b>	On SiC: <b>MACOM</b> On III-N: <b>Adroit / NC State</b>	NC State / <b>MACOM</b>	NC State+ GE / MACOM	NC State / MACOM	MACOM / NC State
<b>III-N Photonics</b>	GaN: <b>Purchased + Kyma</b> AlN: <b>Purchased</b>	<b>BluGlass / NC State</b>	NC State / <b>BluGlass</b>	NC State / <b>BluGlass</b>	NC State/ <b>BluGlass</b>	NC State / BluGlass
<b>III-N Power Electronics</b>	GaN: <b>Purchased + Kyma</b> AlN: <b>Purchased</b>	Adroit	NC State	NC State / GE	NC State / GE	NC State
<b>UWB Electronics</b>	Diamond: Coherent Gallium Oxide: Kyma	Diamond: Coherent Gallium Oxide: Kyma	GE	GE	GE	GE / Coherent / NC State
EDA and RDK Tools: Synopsys, Silvaco, Cadence, Keysight, Ansys						
Workforce Development: NC State, NCA&T, Central Carolina Community College (CCCC)						

Increasing TRL/MRL Level

**Core off-ramp in bold**

## Find out more

📍 NC State University, Raleigh, NC

✉️ claws-admin@ncsu.edu

🌐 www.claws.ncsu.edu