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UNIQUE PARTNERSHIP TO DELIVER POWER ELECTRONICS OF THE FUTURE

Australian technology innovator, BluGlass Limited (ASX:BLG) has today announced that it has partnered with *Griffith University* and the *Innovative Manufacturing Cooperative Research Centre* (IMCRC) to deliver a step-change transistor in the power electronics industry.

Key Points:

- Two-year, $600,000 cash investment co-funded research project that will transform the capability of transistors
- BluGlass, Griffith University and the IMCRC are developing next-generation Gallium Nitride (GaN) transistors, called *High Performance Normally OFF GaN High Electron Mobility Transistors (HEMT)*
- Australian technologies leading the way for power electronics manufacturing

With an increasingly connected world, demand for smarter, more powerful and efficient electronics is rising exponentially. BluGlass will be leading a two-year, $600,000 cash investment (inclusive of a $300,000 grant from the IMCRC) research project in partnership with Griffith University to develop next-generation GaN transistors, called *High Performance Normally OFF GaN High Electron Mobility Transistors (HEMT),* that promise a positive and stable threshold voltage, low on-resistance and high breakdown field.

The project aims to deliver and drive adoption of this step-change electronics innovation, that combines two Australian enabling technologies - BluGlass' deposition technology called *Remote Plasma Chemical Vapour Deposition (RPCVD)* a revolutionary low temperature approach for the manufacture of semiconductor materials and Griffith University's Queensland Microtechnology Facility (QMF) *Atomically Smooth SiC on large Si (SiC on Si) wafers.*

"Today, electronics manufacturers face high cost barriers for higher performing materials," said BluGlass Managing Director Giles Bourne. "The research project aims to overcome those industry challenges."

"Silicon is incredibly cheap and traditionally difficult to displace despite the performance advantages of other materials such as GaN. BluGlass' deposition technology, RPCVD operates at temperatures hundreds of degrees cooler than the current industry incumbent technology. This offers electronics manufacturers many advantages, including higher performance, lower cost throughputs and the ability to deposit on lower cost substrate such as silicon."

Mr. Bourne also stated that the ability to produce fail-safe, normally OFF devices will be critical for widespread adoption of GaN transistors.

"Our unique low temperature deposition of the p-GaN gate is required to enable high performance normally OFF devices, and this has significant commercial implications, not only for BluGlass but for the Australian power electronics industry."

Griffith University's QMF atomically smooth SiC on large Si wafers provides a chemical barrier and template for the epitaxial growth of nitride layers that helps to address the challenges of defectivity and long-term device reliability.

Senior Deputy Vice Chancellor Professor Ned Pankhurst said the funding showed Griffith University's expertise in the nanotechnology field and its reputation as international leaders in the industry.

"Griffith welcomes this innovative partnership which highlights the university's commitment to advancing technology through industry collaborations, further establishing us as world-leaders in cutting-edge technology and translational research," he said.

Throughout the project, which is co-funded by IMCRC, BluGlass will work closely with Griffith University's QMF and access their process and test equipment, infrastructure, device knowledge and resources to develop and optimise HEMT devices.

IMCRC Managing Director and CEO David Chuter said that this project has the potential of creating high value IP and industry transformative enabling foundry technologies which could lead to the generation of a local semiconductor wafer economy.

"This project leads the way for power electronics manufacturing. Addressing industry challenges and combining key enabling technologies, we believe this project can boost the commercial value of the sector, and create new opportunities, in Australia and into global value chains."

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About the Innovative Manufacturing CRC

The IMCRC is a not-for-profit, independent cooperative research centre that helps Australian manufacturing companies increase their relevance through collaborative, market-driven research in business models, products, processes, and services. In collaboration with manufacturing businesses, research organisations, industry associations, and government, the IMCRC co-funds broad, multidisciplinary and industry-led research projects that deliver commercial outcomes, and advances the wider cause of manufacturing transformation through industry education and public advocacy. www.imcrc.org

About Griffith University's Queensland Microtechnology Facility

The Queensland Microtechnology Facility is part of the Queensland Micro- and Nanotechnology Centre at Griffith University. It has been supported by the Queensland State Government through the Smart State Research Facilities Fund and the ANFF. The QMF provides a unique integration of research flexibility and processing at semiconductor-industry standards, which is aimed at bridging the gap between University research and Industry. https://www.griffith.edu.au/engineering-information-technology/queensland-microtechnology-facility

About BluGlass

BluGlass Limited (winner of the 2013 Australian Technologies Competition) is an Australian technology company formed to commercialise a breakthrough in the Semiconductor Industry.
BluGlass has invented a new process using Remote Plasma Chemical Vapour Deposition (RPCVD) to grow semiconductor materials such as gallium nitride (GaN) and indium gallium nitride (InGaN), crucial to the production of high efficiency devices such as next generation lighting technology Light Emitting Diodes (LEDs) with advanced performance and low-cost potential. The RPCVD technology, because of its low temperature and highly flexible nature, offers many potential benefits over existing technologies including higher efficiency, lower cost, substrate flexibility including GaN on silicon and greater scalability. www.bluglass.com.au

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