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SUCCESSFUL CUSTOMER PROTOTYPE OF RPCVD p-GaN IN HIGH PERFORMANCE microLED APPLICATIONS

Australian semiconductor technology developer, BluGlass Limited (ASX:BLG) together with its foundry customer, leading micro-transfer printing company, X-Celeprint have implemented BluGlass' unique Remote Plasma Chemical Vapour Deposition (RPCVD) p-GaN technology in high performance microLED display prototypes (pictured).



X-Celeprint 2000 cd/m² microLED display, using RPCVD p-GaN, showing good colour uniformity quantum efficiency and forward voltage

BluGlass' foundry customer, X-Celeprint, is using RPCVD deposition for its unique technology demonstrations. X-Celeprint's *active matrix microLED* displays that use RPCVD p-GaN have demonstrated good luminance with colour uniformity, quantum efficiency and forward voltage that equals current high-performance commercial applications of 2000cd/m².

X-Celeprint is a world leading developer of micro-transfer printing (μ TP) technology. μ TP is a cost-effective and scalable manufacturing platform for integrating microscale devices such as lasers, LEDs or integrated circuits onto non-native substrates. They provide custom design services for micro-transfer printing stamps and printers for a range of customers.

BluGlass is commercialising a breakthrough semiconductor technology called Remote Plasma Chemical Vapour Deposition (RPCVD) in the global LED, microLED and power electronics industries. BluGlass' patented hardware and processes offers manufacturers unique performance advantages due to RPCVD's low temperature and low hydrogen growth conditions.

X-Celeprint has been a long-standing customer of BluGlass' foundry services and were the first adopter of RPCVD for microLED demonstrations.

X-Celeprint's Vice President of Displays, Matt Meitl said today "X-Celeprint works with BluGlass to demonstrate our micro-transfer printing capability for microLED displays. BluGlass' creativity in epi-wafer design, unique capabilities in epitaxial growth, and dedication to continued product improvement make them a valuable development partner. We continue to use these advantages in our micro-LED development."

BluGlass Chief Technology Officer, Dr. Ian Mann said today "It's rewarding after many years of developing RPCVD p-GaN to see our technology being trialed in customer devices, particularly for the emerging microLED display market. This microLED prototype demonstrates good performance and X-Celeprint are seeing the advantage of using RPCVD in their innovative products".

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X-Celeprint continues to use BluGlass' RPCVD foundry services (early stage, fee-for-service revenue) to advance the technical demonstrations of their *active matrix microLED displays*. X-Celeprint continue to actively market their unique, cost effective, high performance display technology in the emerging microLED market.

About BluGlass

BluGlass Limited (ASX: BLG) is a global leader commercialising a breakthrough technology using Remote Plasma Chemical Vapour Deposition (RPCVD) for the manufacture of high-performance LEDs and other devices. BluGlass has invented a new process using RPCVD to grow advanced materials such as gallium nitride (GaN) and indium gallium nitride (InGaN). These materials are crucial to the production of high-efficiency devices such as power electronics and high-brightness light emitting diodes (LEDs) used in next-generation vehicle lighting, virtual reality systems and device backlighting.

The RPCVD technology, because of its low temperature and flexible nature, offers many potential benefits over existing technologies including higher efficiency, lower cost, substrate flexibility (including GaN on silicon) and scalability. BluGlass was spun off from Macquarie University in 2005 and listed in 2006.

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About X-Celeprint

X-Celeprint develops and licenses patented Micro-Transfer Printing (μ TP) and related technology. μ TP is a cost-effective and scalable manufacturing platform for integrating microscale devices such as lasers, LEDs or integrated circuits onto non-native substrates. A wholly owned subsidiary of XTRION N.V., X-Celeprint works globally with partners to adapt its μ TP technology for their specific applications. X-Celeprint is headquartered in Cork, Ireland, with facilities within the Tyndall National Institute, as well as in Research Triangle Park, NC, USA. On request, X-Celeprint will provide custom design services for micro-transfer-printing stamps and printers. Micro-transfer printing and engineering services are also available on request.

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