Kubos Semiconductors Shows First Commercially Compatible Cubic GaN LEDs

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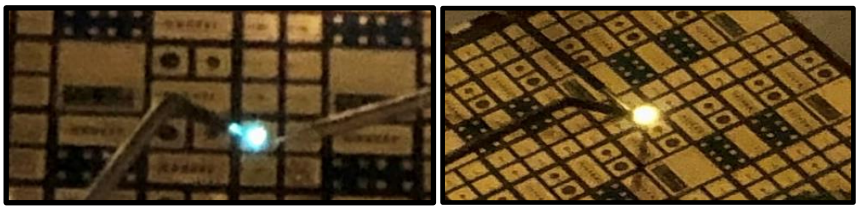
For immediate release: Kubos Semiconductors Ltd, using technology originally spun out of the University of Cambridge, has demonstrated the first commercially compatible LEDs based on the cubic crystal phase of Gallium Nitride (GaN). This is a significant step towards more efficient solid-state lighting.



Kubos has demonstrated its cubic GaN technology can emit in the green gap region (from Turquoise to Amber) and that it can be produced on 150mm diameter substrates by using commercially available manufacturing equipment.

Prof. David Wallis, Technical Director of Kubos stated: “This is a culmination of several years of research and development by Kubos and the Cambridge Centre for Gallium Nitride. Using the cubic crystal phase of GaN overcomes the limitations of conventional GaN LEDs allowing us to ultimately deliver significantly higher efficiency green and amber devices. These devices underline the material’s potential and demonstrate another big step towards achieving full commercialisation”.

Having efficient green and amber LEDs will enable the next stage in the development of Solid State Lighting (SSL) solutions, allowing greater control of the lit environment, further energy savings and carbon impact reduction. Additionally, by translating the performance benefits of cubic GaN in the lighting sector to smaller devices, this technology could also be a game-changer for microLEDs for full colour displays.

Caroline O’Brien, CEO of Kubos added: “Previously cubic GaN has been developed as part of small reach activities. The process that Kubos is developing is fully compatible with large scale, volume manufacturing and Kubos holds the unique IP that makes this ground-breaking technological development possible.”

“As Kubos opens its next round of funding and broadens customer engagements, these devices further strengthen the arguments for cubic GaN to be used in devices across the

visible spectrum and its potential to address both the green gap in LEDs and the current limitations in red microLEDs."

Kubos's technology will enable production of commercial high-end, low cost, highly efficient LEDs by fundamentally solving the long-standing green gap problem in SSL. This technology is applicable to a wide range of applications including general lighting, microLED displays, automotive, street lighting and digital signage.

Notes:

Kubos is a Cambridge based university spin-out formed in 2017 to develop and commercialise its proprietary cubic GaN IP to deliver efficient green and amber LEDs. Kubos plans to license the technology to major LED manufacturers. The 2020 Cambridge Independent Science and Technology awards has shortlisted Kubos as a finalist in the start-up of the year category.

Low Carbon Innovation Funds (LCIF) 1 & 2, both managed by specialist low carbon investor Turquoise International, have backed the company. LCIF2 invests in early and late stage ventures that make measurable reductions to Greenhouse Gas emissions, with the creation of financial return and sustainability as the fund's primary objectives.

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