

PRESS RELEASE

Cambridge GaN Devices debuts first commercial products at APEC with sustainability-driven 650 V ICeGaNTM H1 series

Industry-first ease-of-use eMode 650 V Gallium Nitride (GaN) solutions - powered by the company's patented ICeGaNTM technology - set new efficiency standards and reduce engineers' design-in efforts

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Cambridge, UK – Fabless semiconductor company [Cambridge GaN Devices Ltd.](#) (CGD) has emerged from stealth mode to announce the launch of its first portfolio of products capable of reducing power losses by up to 50%. Marking the company's debut appearance at APEC (Applied Power Electronics Conference), CGD has launched the ICeGaNTM 650 V H1 series comprising four 650 V products that utilise the power of Gallium Nitride-based technology.

Spun out of Cambridge University, CGD was founded by Dr. Giorgia Longobardi and Prof. Florin Udrea with a mission to bring innovation to everyday life by delivering effortless energy efficient GaN technology solutions. The fast-growing company has spent the past six years in R&D to design, develop and commercialise game-changing products that tackle some of the world's most pressing energy consumption challenges.

Since 2016 the company has built a portfolio of 39 patents and applications, 20 of which are distinctive inventions, focused on faster, smaller and more economical devices designed to drive widespread adoption of GaN technology in consumer electronics and beyond. The 650 V H1 product series represents CGD's commercial launch and is an industry first, enabling the use of standard MOSFET drivers and no external components needed for protection. Engineers will be able to use CGD's GaN-based technology in applications currently run with silicon-based devices or with other GaN solutions, while CGD is set to tap into a power semiconductor market estimated to be worth over \$50 billion by 2027.

CGD's patented ICeGaN™ (Integrated Circuit Enhancement Mode GaN) technology merges the ease-of-use benefits seen in Cascode configurations with the simplicity of a single die eMode (normOFF) HEMTs, as well as a number of integrated smart sense and protection features. All of this is embedded in a single die that delivers up to 50% power loss reduction compared to legacy silicon die. The technology is fully scalable on power and voltage for future developments.

ICeGaN™ is an integrated solution based on GaN with an intelligent and self-protecting mechanism that enhances the functionality, the versatility and the reliability of the transistor. This GaN technology can be applied to any system that requires power and operates in the rich 650 V market segment. Initial applications include consumer electronic products such as mobile chargers, adapters for laptops, gaming and AIOs computers and, in general, SMPS for consumer applications. The 650 V H1 Series portfolio is also a first step into segments such as lighting and server power. Further expansion is planned towards high power servers and telecom markets for data centres, PV inverters and renewable energy production, targeting EV/HEV systems in the long term.

CGD's long term product strategy is also supported by several multi-partner U.K. and EU funded projects, the latest being ICeData, an initiative aiming to develop and commercialise highly efficient GaN-based ICs for use in data centre server power supplies. This specific project is funded by the UK Government's Department for Business, Energy and Industrial Strategy (BEIS) within the Energy Entrepreneur Fund which has selected leading UK technologies providing solutions for energy efficiency and reducing CO2 emissions.

 **DR GIORGIA LONGOBARDI | CEO AND FOUNDER, CGD**

"We're excited to be unveiling CGD's first products to the market. Our GaN-based technology makes a difficult engineering challenge easy while operating at a high level of efficiency. This is due to the team's expertise in GaN and our profound knowledge of the material, the device physics, as well as our deep understanding of market requirements. Sustainability is a core tenet of our business and we are always researching innovative solutions with the aim of continuously lowering power losses in the electronic power industry to benefit a wide community of customers and end users. We're extremely committed to not only delivering a green product, but to be a company that has embedded sustainability in its own culture with the entire team dedicated to the journey ahead."

 **PROF. FLORIN UDREA | FOUNDER AND CHIEF TECHNOLOGY OFFICER, CGD**

"I have been working on power semiconductor devices for over three decades. My research at Cambridge University and with various companies has been focused on diverse materials such as silicon, gallium nitride, silicon carbide and diamonds and a variety of devices from HEMTs to IGBTs and

from Superjunctions to FinFETs. There have been many wrong prognostics regarding the development of wide bandgap products. But this time it is different: the time for GaN is now. The uptake in the market will be exponential for at least the next decade.”

ANDREA BRICCONI | VP OF BUSINESS DEVELOPMENT, CGD

“The ICeGaN™ 650 V H1 series is focused on making life easier for all those who have been trying to design-in GaN transistors and have dedicated significant R&D effort to figure out how to drive them. These four products can be seamlessly interfaced with gate drivers which make ICeGaN-based GaN HEMTs easy to use, like a Silicon MOSFET. No additional components are needed to drive ICeGaN™, no clamping diodes for protection, no negative voltages are needed to TurnOFF the power transistor, and still the highest performance levels are guaranteed by GaN intrinsic properties. The wide range of RdsON, from 55 mΩ to 200 mΩ, are offered in two of the most popular SMD packages, DFN5x6 and DFN8x8 which make the portfolio perfectly suited for most low and mid power SMPS applications, while specific IC and packages solutions for high power markets are in preparation.”

CGD at APEC (20-24 March, 2022): CGD will welcome visitors to their booth #1733. The founders and technical team will introduce ICeGaN™ technology and a selection of evaluation boards.

ENDS

About Cambridge GaN Devices

[Cambridge GaN Devices \(CGD\)](#) is a fabless semiconductor company spun-out by Professor Florin Udrea and Dr Giorgia Longobardi from Cambridge University in 2016 to exploit a revolutionary technology in power devices. Our mission is to shape the future of power electronics by delivering the most efficient and easy-to-use transistor. CGD designs, develops and commercialises GaN transistors and ICs enabling a radical step change in **energy efficiency** and **compactness** and is suitable for **high volume production**. CGD’s ICeGaN™ technology is protected by a strong IP portfolio which constantly grows based on the company’s leading innovation skills and ambitions. In addition to the multi-million seed fund and Series A private investments, CGD has so far successfully secured four projects funded by iUK, BEIS and EU (Penta). The technical and commercial expertise of the CGD team combined with an extensive track record in the power electronics market has been fundamental in early market traction of its proprietary technology.

CONTACT INFORMATION

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